September 2026

Ecological Impact Assessment

Proposed Large-Scale Residential Development

at

Old Fort Road, Ballincollig, Cork

On behalf of

O'Flynn Construction Co. Unlimited Company

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Job Number: E2460

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Revision Record

Issue No.	Date	Description	Remark	Prepared	Checked	Approved
01	19/12/2025	EcIA Report	Final	ND	CS	KB
02	19/06/2026	Revised EcIA Report	Final	ED / SL	CS	DH
03	30/06/2026	Revised EcIA Report	Final	EC	CS	CS
04	25/09/2026	Revised EcIA Report	Final	AW	CS	CS

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Ecological Impact Assessment

Proposed Large-Scale Residential Development

O'Flynn Construction Co. Unlimited Company

Old Fort Road, Ballincollig, Cork

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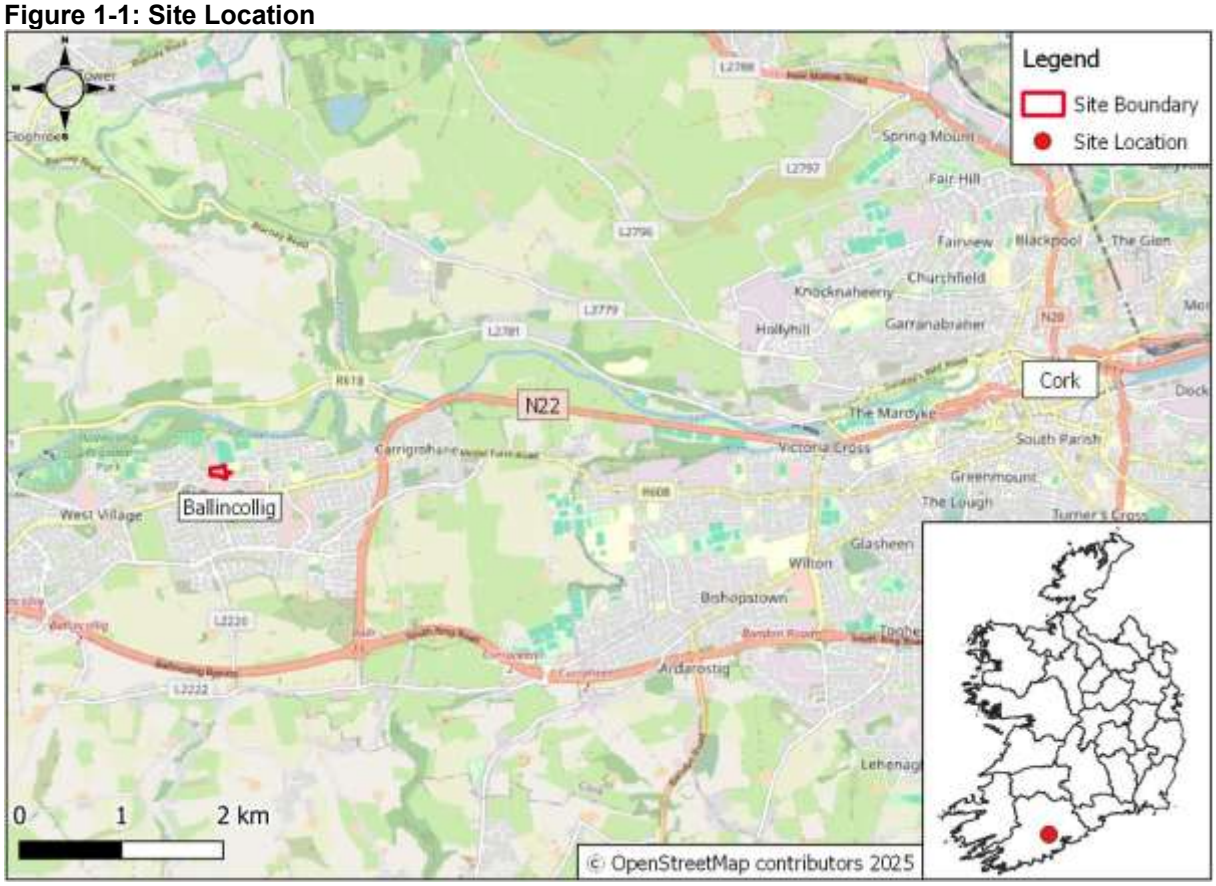
1 INTRODUCTION

1.1 Background and Purpose of Report

Malone O'Regan Environmental ('MOR Environmental') was commissioned by O'Flynn Construction Co. Unlimited Company ('the Applicant') to undertake an Ecological Impact Assessment ('EcIA') for a proposed Large-scale Residential Development ('LRD') and ancillary works ('the Proposed Development') at Old Fort Road, Ballincollig, Co. Cork (ITM OS Reference X 559274 Y 571071).

The Proposed Development will be located on a site that is circa ('ca.') 1.2 hectares ('ha') in size and is located within the townland of Ballincollig, Co. Cork, ca. 7km west of Cork City and is shown in Figure 1-1 (hereafter: 'the Site').

Figure 1-1: Site Location



The objective of this EcIA is as follows:

- Detail the results of ecological surveys undertaken on the Site;
- Identify and assess ecologically important designated sites, habitats or species which could present a constraint to the Proposed Development;
- Detail appropriate and applicable mitigation necessary to facilitate the Proposed Development; and,
- Identify opportunities for enhancement.

This report will be submitted as part of a planning application for the Proposed Development to the Local Planning Authority ('LPA'), in this case, Cork City Council ('CCC'). An Appropriate Assessment ('AA') – Stage 1: Screening Report has also been submitted in support of the planning application.

Following a pre-application consultation under the LRD process in November 2025, CCC issued an opinion under Section 32D, which identified a number of gaps in the baseline ecological data collected at that time. In response, the Client commissioned a programme of additional ecological surveys to be undertaken in 2026 (the '2026 additional ecology surveys'). The 2026 additional ecology surveys were proposed to address the gaps in baseline survey data, as noted by CCC, and to ensure the robustness of the ecological assessment. They consisted of the following:

- Four breeding bird surveys – To be undertaken between March and July;
- Three dusk emergence surveys - To be undertaken between May and September;
- Three Nighttime Bat Walkover ('NBW') surveys - To be undertaken between May and September; and,
- Static detector monitoring for bats to be undertaken monthly between April and August/September.

This EcIA report presents the findings of ecological surveys completed to date. It includes the results of surveys conducted in 2025 prior to the Section 32B process, as well as the results of the 2026 surveys requested by CCC under Section 32D. It outlines the survey methodologies used, evaluates the ecological importance of relevant receptors and assesses the potentially significant effects of the Proposed Development.

1.2 Statement of Authority

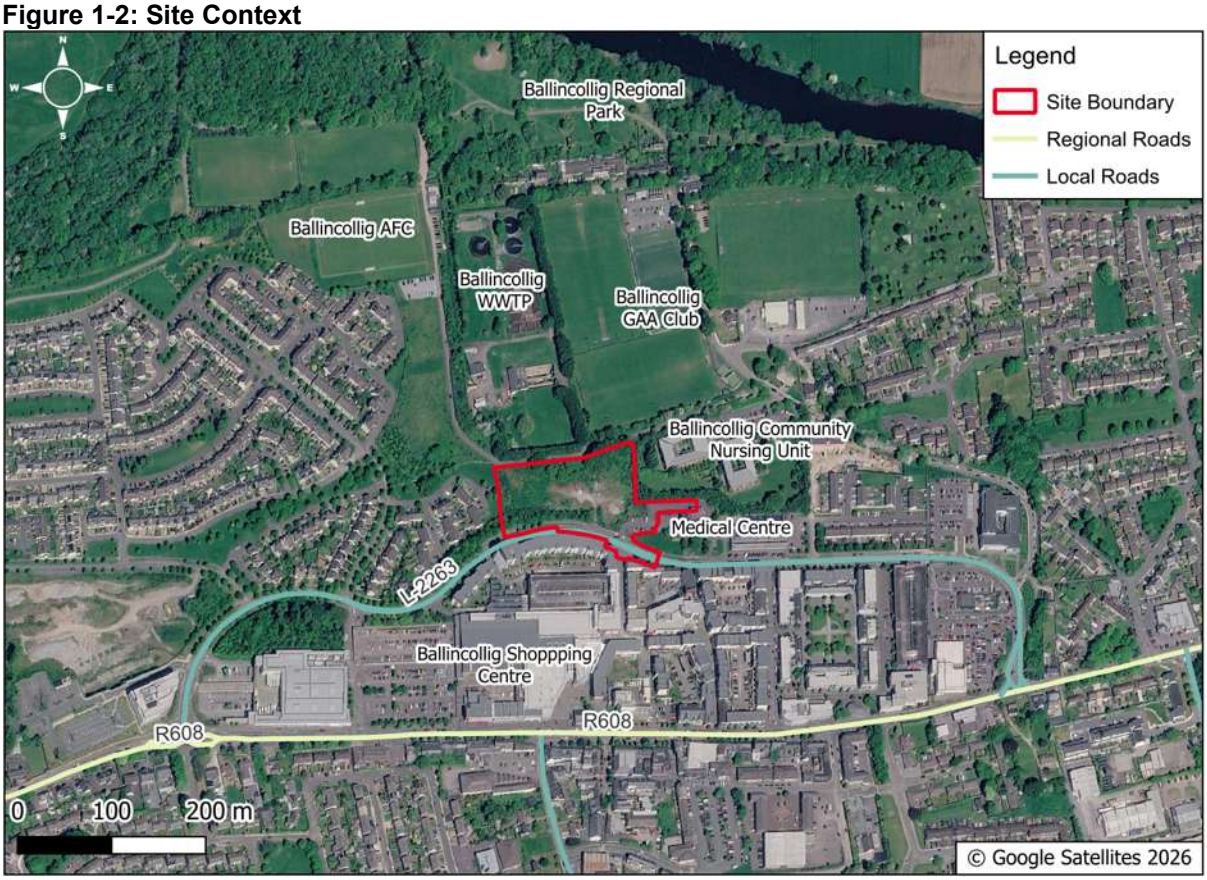
This report was reviewed by Mr Chris Savage – Principal Environmental Consultant (Biodiversity). Chris has over 13 years of experience working in the ecological consultancy sector. As part of his role, Chris is required to undertake habitat surveys and appraisals as well as specialist protected species surveys in support of Ecological Impact Assessments and Appropriate Assessments. Chris holds a BSc (Hons) in Ecology and an MSc in Ecological Assessment. He is a full member of the Chartered Institute of Ecology and Environmental Management.

1.3 Site Context

The Site predominantly comprises areas of spoil and bare ground, recolonising bare ground and scrub, with sections of treelines along the southern and northern boundaries of the Site.

The Site is bordered to the west by an existing housing development, to the east by the Ballincollig Community Nursing Unit, to the north by the Ballincollig Wastewater Treatment Plant, and sports playing fields associated with Ballincollig GAA Club and Ballincollig AFC, beyond which lies the Ballincollig Regional Park. The L2263 / Old Fort Road is located along the southern perimeter of the Site, followed by existing residential apartments. The Site is located ca. 200m to the north of the main street of Ballincollig and is accessed via Old Fort Road / L2263. Refer to Figure 1-2 for the Site context.

Figure 1-2: Site Context



1.4 Watercourses within the Vicinity of the Site

As per the Environmental Protection Agency ('EPA') maps, there is one hydrological feature of note within close proximity of the Site: the River Lee (Cork).

The River Lee (Cork) is located ca. 430m to the north of the Site at its closest point. This river flows in an easterly direction before draining into Cork Harbour. Cork Harbour forms part of the Cork Harbour Special Protection Area ('SPA'), ca. 15km downstream of the Site.

Under the Water Framework Directive ('WFD') 2000/60/EC, as amended, the EPA classifies the status and the risk of not achieving good water quality status of all waterbodies in Ireland [1]. According to the WFD 2019-2024 monitoring events, the most up-to-date data at the time of writing this report, the water quality within the River Lee (Cork) is considered to be '*moderate,'* and the status of this river is considered *'not at risk'* [1].

The Site is situated within the Lee, Cork Harbour and Youghal Bay WFD Catchment [Catchment_ID: 19], which spans two subcatchments: Lee(Cork)_SC_050 subcatchment [Subcatchment_ID: 19_9] and Lee(Cork_SC_060 [Subcatchment_ID: 19_8] [1].

The location of the key surface water features in the vicinity of the Site is illustrated in Figure 1-3.

Figure 1-3: Watercourses in the Vicinity of the Site



1.4.1 Drainage Ditch Network

The Office of Public Works ('OPW') Flood Maps identifies Drainage Districts, Arterial Drainage Schemes and Benefited Areas [2]. Arterial Drainage Schemes were works that were carried out under the Arterial Drainage Act, 1945 to improve land for agriculture and to mitigate flooding. The Benefited land identifies land that was drained as part of the Drainage District with the aim to improve land for agriculture and to mitigate flooding.

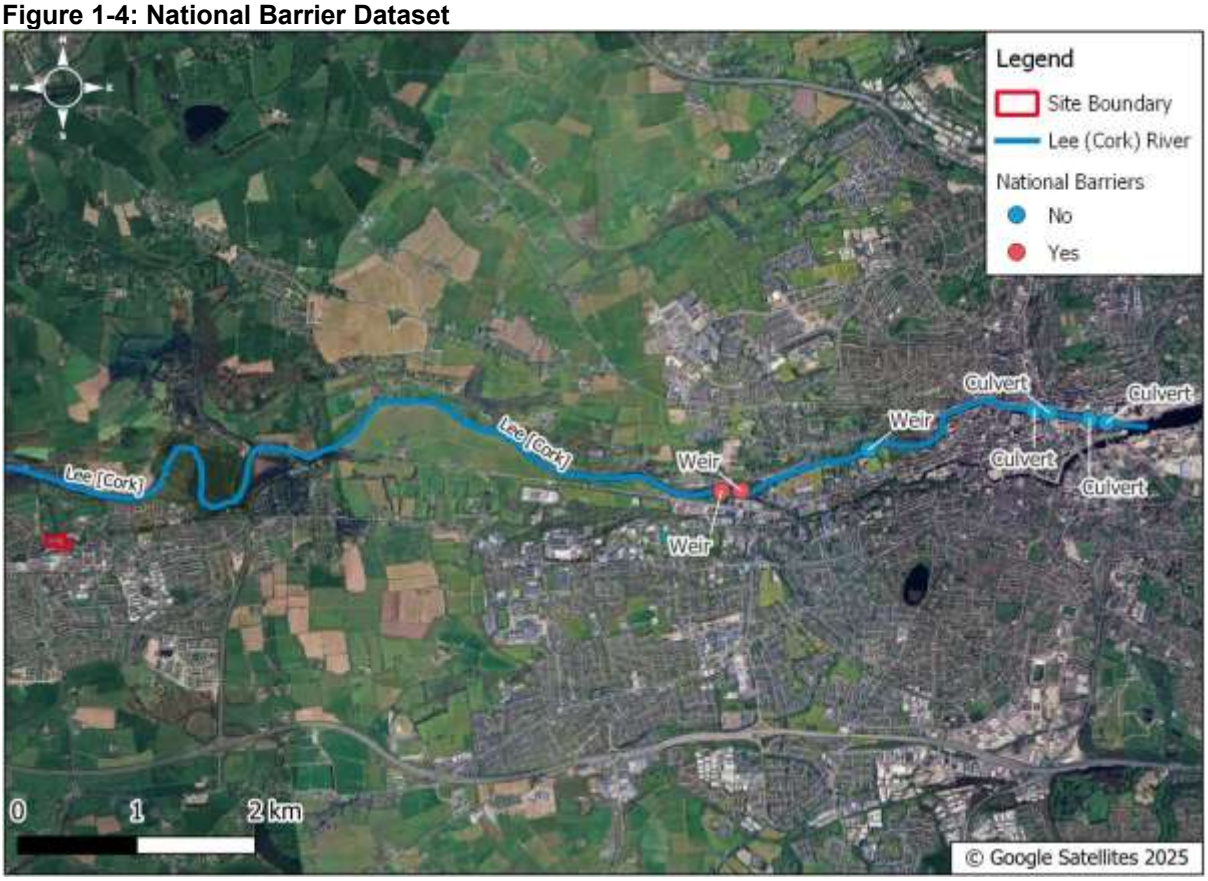
The Site walkover did not identify any drainage ditches within the Site. In addition, the Site does not form part of any of the benefited areas under the Arterial Drainage Schemes [2].

1.4.2 National Barriers Scheme

Irish rivers are heavily fragmented by weirs, dams, sluices, culverts, bridges and other artificial barriers. Therefore, the National Barriers Programme ('NBP') database was created as a national database of potential barriers to fish passage and includes assessing structures which can impact on both fish passage and hydromorphology [3].

As per the NBP Dataset, seven barriers were identified along the River Lee (Cork) river waterbody. Two of these barriers were identified as weirs, which act as barriers. One was identified as a weir, which does not act as a barrier. Four were identified as culverts which do not act as barriers. Please refer to Figure 1-4.

Figure 1-4: National Barrier Dataset



1.5 Legislation and Planning Policy Context

1.5.1 Legislation and Policy Context

Within Ireland, a number of sites of international or national importance to nature conservation, as well as many species of animals and plants are afforded a degree of legal protection, as set out in Box 1 below.

A study of biodiversity-related planning policy at both national and local levels has been undertaken for the Site and locality in order to highlight any potential conflicts with the relevant legislation and guidance documents.

Box 1 Designated Wildlife Sites and Protected and Otherwise Notable Habitats and Species

The National Park and Wildlife Service ('NPWS') notifies sites in Ireland that are of international or national importance for nature conservation (although some sites that are of national importance for certain species have not been so designated).

Internationally important sites may also be designated as:

- Special Areas of Conservation ('SACs') and Candidate Special Area of Conservation ('cSACs'): the legal requirements relating to the designation and management of SACs in Ireland are set out in the European Communities (Birds and Natural Habitats) Regulations 2011-2021 (S.I. No. 477/2011);
- Special Protection Areas ('SPAs') and candidate Special Protected Areas ('cSPAs'): strictly protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (2009/147/EC), also known as the Birds Directive; and,
- Ramsar sites: wetlands of international importance designated under the Ramsar Convention, to which Ireland is a signatory.

Other statutory site designations relating to nature conservation are:

- Natural Heritage Areas ('NHA'): these represent examples of some of the most important natural and semi-natural terrestrial and coastal habitats in the country and are afforded protection under the Wildlife (Amendment) Act 2000. NHAs are legally protected from damage and receive protection from the date they are formally proposed for designation; and,
- Proposed Natural Heritage Areas ('pNHAs'): these sites are not afforded the same protection as NHAs. These sites are proposed by the NPWS but are not statutorily proposed or designated. Prior to statutory designation these are subject to a very limited legal protection. They are, however, sites of significance for wildlife and habitats and are important for the purposes of this EcIA.

Legally protected species

Many species of animal and plant receive some degree of legal protection. For the purposes of this study, legal protection refers to:

- Species included in the Wildlife (Amendment) Act 2000, excluding species that are only protected in relation to their sale, reflecting the fact that the site disposal will not include any proposals relating to the sale of species; and,
- Species afforded protection under the Flora (Protection) Order 2022 (S.I.No.235/2022).

Other notable habitat/species categories

- Biodiversity Action Plan ('BAP') species: those targeted in local or national BAPs as being of particular conservation concern (priority species).
- Red and Amber List birds: those listed as being of high or medium conservation concern as listed by Birdwatch Ireland on the Birds of Conservation Concern in Ireland 2020-2026 [4].
- Other Irish Red Data Book species [5] and Nationally/Regionally/Locally Notable species where appropriate.

1.5.2 National Planning Context

A study of biodiversity-related planning policy at the national and local level has been undertaken for the Site and locality to highlight any potential conflicts with the relevant legislation and guidance documents as outlined in Box 1.

1.5.2.1 Planning Policy Statement

Project Ireland 2040 was launched by the Government in February 2018 [6] and incorporates two policy documents - the National Planning Framework ('NPF') and the National Development Plan ('NDP').

Following a decision of the Government in June 2023, the preparation of a revised NPF [7] commenced to take account of changes that have occurred since it was originally published in 2018. Public consultation took place from 10th July 2024 to 12th September 2024, following which the Government agreed to progress and publish a draft schedule of amendments to the 'First Revision' to the NPF in November 2024. On 8th April 2025, the Government approved the revised NPF following the conclusion of environmental assessments, including a Strategic Environmental Assessment ('SEA'), a Natura Impact Statement ('NIS'), an Appropriate Assessment ('AA') Determination and a Strategic Flood Risk Assessment ('SFRA'). Both houses of the Oireachtas, the Seanad and the Dáil, approved this document as of 30th April

2025. The revised NPF is a direct replacement of the NPF and is summarised in the following section.

Revised National Planning Framework (April 2025)

Objectives under the 'Strategic Planning for Biodiversity' section of this draft framework include the following:

National Policy Objective 84:

'In line with the National Biodiversity Action Plan and European Union Nature Restoration Law, and best available scientific information, regional and local planning authorities shall support the preparation and implementation of the National Restoration Plan.'

National Policy Objective 85:

'In line with the National Biodiversity Action Plan; the conservation, enhancement, mitigation and restoration of biodiversity is to be supported by:

- *Integrating policies and objectives for the protection and restoration of biodiversity, including the principles of the mitigation hierarchy of - avoid, minimise, restore and offset - of potential biodiversity impacts, in statutory land-use plan.*
- *Retention of existing habitats which are currently important for maintaining biodiversity (at local/regional/national/international levels), in the first instance, is preferable to replacement/restoration of habitats, in the interests of ensuring continuity of habitat provision and reduction of associated risks and costs.'*

National Policy Objective 86:

'In line with the objectives of the National Biodiversity Action Plan, planning authorities should seek to address no net loss of biodiversity within their plan making functions.'

National Policy Objective 87:

'Enhance the conservation status and improve the management of protected areas and protected species by:

- *Implementing relevant EU Directives to protect Ireland's environment and wildlife and support the objectives of the National Biodiversity Action Plan;*
- *Developing and utilising licensing and consent systems to facilitate sustainable activities within Natura 2000 sites;*
- *Continued research, survey programmes and monitoring of habitats and species.'*

National Policy Objective 88:

Facilitate the protection and restoration of biodiversity [including in European sites and the habitats and species for which they are selected] through the preparation of national guidance in relation to Planning and Biodiversity to:

- *Plan and manage for integration of biodiversity protection and restoration in future planning and development;*
- *Ensure a consistent and strategic approach to biodiversity protection and restoration across planning authorities and administrative boundaries, and*
- *Support the implementation of the National Biodiversity Action Plan (2023-2030) and the forthcoming National Restoration Plan.*

The National Development Plan (2021-2030)

The National Planning Framework and the National Development Plan will continue to align and form a single vision for Ireland under Project Ireland 2040.

The National Development Plan also lists the following items as strategic investment priorities in relation to National Heritage and biodiversity:

- *'Implementation of the current and future National Biodiversity Action Plan, delivery of National Parks and Wildlife Service Farm Plans and LIFE projects, enhanced wildlife crime investigation capacity and identification and delivery conservation measures at designated sites as identified in the Prioritised Action Framework for Ireland (2021-2027).'*
- *'Investment in nature and biodiversity, to improve the quality of natural habitats and support native plants and animals, including those under threat, and to bolster broader societal wellness and sustainability goals.'*
- *'Future-proofing obligations under the Biodiversity Strategy 2030, including potential national designations and the preparation and delivery of a National Restoration Plan.'*

1.5.2.2 Ireland's 4th National Biodiversity Action Plan 2023 - 2030

The 4th National Biodiversity Action Plan ('NBAP') 2023-2030 [8] sets out a number of strategic objectives, and it lays out a clear framework for Ireland's approach to biodiversity and demonstrates Ireland's commitment to protect our biodiversity and also halt decline [8].

'This National Biodiversity Action Plan 2023-2030 builds upon the achievements of the previous Plan. It will continue to implement actions within the framework of five strategic objectives, while addressing new and emerging issues.' The five objectives are 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; and,
- **Objective 5**: Strengthen Ireland's Contribution to International Biodiversity Initiatives.

The following Objective Outcomes were considered relevant to the Proposed Development and this report:

Outcome 2A:

'The protection of existing designated areas and protected species is strengthened and conservation and restoration within the existing protected area network are enhanced.'

Outcome 2D:

'Biodiversity and ecosystem services in the marine and freshwater environment are conserved and restored.'

Outcome 2H:

'Invasive alien species ('IAS') are controlled and managed on an all-island basis to reduce the harmful impact they have on biodiversity and measures are undertaken to tackle the introduction and spread of new IAS to the environment.'

Outcome 3B:

'The role of biodiversity in supporting wellbeing, livelihoods, enterprise and employment is recognised and enhanced.'

Outcome 3C*:*

'Planning and development will facilitate and secure biodiversity's contributions to people.'

1.5.3 Regional Planning Context

The Regional Spatial and Economic Strategy for the Southern Region ('RSES') 2020-2032 [9] recognises the need to conserve and enhance biodiversity through coordinated spatial planning between the counties within the southern region of Ireland. This strategy came into effect on 31st January 2020.

Under the biodiversity section, Regional Policy Objective 126 states that the Southern Regional Assembly will:

a) *'Promote biodiversity protection and habitat connectivity both within protected areas and in the landscape through promoting the integration of green infrastructure and ecosystem services, including landscape, heritage, biodiversity and management of invasive and alien species in the preparation of statutory and non-statutory land-use plans. The RSES recognises the role of the National Biodiversity Data Centre through its Citizen Science initiatives;*

b) *Support local authorities acting together with relevant stakeholders in implementing measures designed to identify, conserve and enhance the biodiversity of the Region; seek and support the implementation of the All-Ireland Pollinator Plan, National Biodiversity Action Plan and National Raised Bog SAC Management Plan;*

c) *Local Authorities are required to carry out required screening of proposed projects and any draft land-use plan or amendment/ variation to any such plan for any potential ecological impact on areas designated or proposed for inclusion as Natura 2000/ European Sites and shall decide if an Appropriate Assessment is necessary, of the potential impacts of the project or plan on the conservation objectives of any Natura 2000/European Site;*

d) *Support local authorities to carry out, monitor and review biodiversity plans throughout the Region. Planning authorities should set objectives in their land use plans to implement and monitor the actions as set out in the National and County Biodiversity Plans, as the conservation of biodiversity is an essential component of sustainable development. Local authorities should address the issue of fisheries protection and invasive introduced species and encourage the use of native species for landscape planting in rural areas, in the review of their biodiversity plans; and,*

e) *Support local authorities to work with all stakeholders to conserve, manage and where possible enhance the Regions natural heritage including all habitats, species, landscapes and geological heritage of conservation interest and to promote increased understanding and awareness of the natural heritage of the Region.'*

The RSES also contains policies relating to invasive species. Regional Policy Objective 127 states that it is an objective to:

a) *'Support coordination between the Region's local authorities in terms of their measures to survey invasive species in their counties and coordinate regional responses;*

b) *Encourage greater awareness of potential threats caused by invasive species and how they are spread; and,*

c) *Carefully consider and implement the management of invasive species where there is a corridor, such as hydrological connections to European Sites in order to prevent the spread* of invasive to sensitive sites.'

1.5.4 Local Planning Context

1.5.4.1 Cork City Development Plan 2022-2028

The Cork City Development Plan 2022-2028 ('CCDP') contains a number of policies and objectives that relate directly to the protection of biodiversity and natural heritage in the context of proposed developments [10]. These include objectives that involve compliance with the EU Habitats Directives and the Irish Wildlife Acts and that ensure the protection of ecological corridors and habitats.

Strategic Objective 5 – Green and Blue Infrastructure, Open Space and Biodiversity

'Manage and enhance green and blue infrastructure, to protect and promote biodiversity, ecology and habitat connectivity, protect natural areas, enhance landscape character and maritime heritage, and manage access to green and blue spaces that provide recreation, amenity and natural areas.'

Cork City's Green and Blue Infrastructure Objectives – Biodiversity

'The biodiversity of Cork City encompasses all the natural elements in the city and their interaction with each other. New development can create biodiversity-rich green and blue infrastructure by retaining and enhancing existing trees, plants and providing new wildlife corridors, buffer zones, 'stepping stones' or green bridges. This creates connectivity for flora and fauna species and natural movement and migration through the green and blue infrastructure network. The 'Biodiversity and the Natural Environment' section below sets out in more detail how this important consideration will be addressed in Cork City.'

Strategic Biodiversity Goals

1. '*To protect and enhance designated areas of natural heritage and protected species and to adhere to all relevant biodiversity legislation;*
2. *To ensure that sites and species of natural heritage and biodiversity importance in non-designated areas are identified, protected and managed appropriately;*
3. *To create green and blue infrastructure network thereby creating ecological corridors linking areas of biodiversity importance;*
4. *To implement the recommendations of the GBI study and integrate green and blue infrastructure solutions into new developments;*
5. *To ensure all citizens are within 5km of a green and ideally wild space;*
6. *To protect and maintain the integrity and maximise rivers and watercourses within the city;*
7. *To protect and enhance the city's trees and urban woodlands; and,*
8. *To promote best practice guidelines for management, control and eradication of invasive alien species.'*

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

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;

e) To promote the planting of pollinator friendly native deciduous trees and mixed forestry to benefit biodiversity.'

Objective 6.9 – Landscape

c) 'Landscape will be an important factor in all development proposals, ensuring that a proactive view of development is undertaken while maintaining respect for the environment and heritage generally in line with the principle of sustainability;

d) To ensure that new development meets the highest standards of placemaking, siting and design;

e) To discourage proposals necessitating the removal of extensive amounts of trees, hedgerows and historic walls or other distinctive boundary treatments.'

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;

e) Cork City Council will work with communities to enhance existing, and the delivery of new, biodiversity-rich areas throughout the City including individual buildings, streets, public and private spaces by supporting the provision of green roofs and walls, rain gardens, biodiversity-rich parklets, rainwater harvesting, natural banks and naturalised SUDS;

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.*
- *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 6.25 – Non-designated Areas of Biodiversity Importance

'Cork City Council will seek to map the City's ecological networks and corridors of local biodiversity value outside of designated areas, and to work with local stakeholders in supporting the effective management of features which are important for wild flora and fauna and habitats.'

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).'

1.5.4.2 Cork City Heritage and Biodiversity Plan 2021-2026

The Cork City Heritage and Biodiversity Plan 2021-2026 [11] contains a number of objectives and actions that relate to the protection of biodiversity and natural heritage in the context of proposed developments. The policies and objectives of the Cork City Heritage and Biodiversity Plan with regard to the natural environment that are relevant to the Proposed Development are as follows [11]:

Theme 1:

'Promote best practice and encourage heritage and biodiversity conservation and management.'

Objective 1.1

'Implement Cork City Council's commitments to the All-Ireland Pollinator Plan'.

Action 1.3

'Incorporate planning conditions to encourage pollinator friendly and native species plating in new developments.'

Objective 1.6

'Manage and Control Alien Invasive Species in Cork City'.

Action 1.7

'Incorporate planning conditions to manage and control alien invasive species in developments as appropriate.'

Action 1.10

'Protect and promote Designated Habitats & Species'.

Action 1.10

'Identify buffer areas around the designated European sites within Cork City Council area and work with NPWS to protect and enhance these areas.'

Objective 1.15

'Implement relevant actions from the Climate Adaptation Plan (2019-2024)'.

Action 1.15

'Work with various Cork City Council Dept to implement relevant actions from the Climate Adaptation Strategy 2019-2024 especially with respect to Action 9.3 (b): In the development of policy and the planning and provision of green infrastructure, ensure appropriate. Buffer zones are maintained and protected to avoid potential impacts on designated habitats or protected species and habitats and to protect and enhance wider biodiversity. Objective 13 To protect, enhance and restore the natural environment and promote biodiversity.'

Objective 1.26

'Ensure Heritage and Biodiversity is placed at the heart of the activities of Cork City Council'.

Action 1.26

'Liaise with all departments within Cork City Council to ensure that the care and management of heritage is incorporated into the work of all Dept of the City Council and new procedures are put in place to ensure communication between Dept'.

Action 1.27

'Liaise with all departments within Cork City Council to ensure that the care and management of heritage is incorporated into planning applications, Development and Local Area plans & policies, and projects such as Housing, Roads and Parks as appropriate'.

2 METHODOLOGY

2.1 Assessment Methodology for Prediction of Effects

Desk study data collection and field survey work were carried out as part of the EcIA process to ensure sufficient data were collected to identify the designated sites, habitats and species that could be significantly affected by the Proposed Development. This information then informed the assessment of effects on the potential biodiversity receptors.

The area for which biological data was collected was based on an assessment of the ecological Zone of Influence ('ZoI') of the Proposed Development. The ecological ZoI is the area that could be realistically affected by the Proposed Development, and within which there is the potential for 'significant' ecological effects. All SPAs and SACs within 15km have been considered to assess their ecological pathways and functional links. As acknowledged in the OPR guidelines [12], in reality, few projects have a ZoI this large. However, the identification of European sites within 15km and NHAs and pNHAs within 5km has become widely accepted as the starting points for assessments. For this reason, all SPAs and SACs within 15km and NHAs and pNHAs within 5km have been identified for consideration.

Desk study data were collected for these buffers (See Section 4.1), whilst field surveys focused on the lands within and adjacent to the Site (See Section 4.2). These distances are used as the starting point for the assessment and are based on accepted best practice and professional expertise.

It should be noted that there was the potential for the ZoI to be redefined during the assessment process in response to new design or environmental information, and / or for the geographical extent of field surveys to be extended to cover a greater extent of the desk study area (e.g., if the desk study identified species occurring off-site that could be significantly affected by the Proposed Development). In the end, such an increase in the study area was not required for this assessment.

The next stage of the assessment was to determine which, if any, of the sites, habitats and species within the ZoI (referred to in this report as 'potential biodiversity receptors') had the potential to be 'significantly' affected by the Proposed Development (see Section 5). A high-level 'scoping' assessment was then undertaken (see Section 5.1) to differentiate the following:

- Effects that were sufficiently likely to be 'significant' as to merit more detailed assessment (referred to as 'screened in' effects); and,
- Effects that could be assessed at a less detailed level as they were classified as likely to be 'not significant'.

The assessment of how the potential biodiversity receptors would likely be affected by the environmental changes associated with the Proposed Development was based not only on the results of the desk study and field surveys, but also on published information on the potential biodiversity receptors' status, distribution, sensitivity to these changes, biology and knowledge of ecological processes and functions, as appropriate.

2.2 Desk Study

A desk-based review of information sources was completed, which included the following sources of information:

- Review of aerial maps of the Site and surrounding area;
- The National Parks and Wildlife Service ('NPWS') website was consulted with regard to the most up-to-date details on conservation objectives for the European Designated sites relevant to this assessment [13];

- The CCC Planning Portal to obtain details about existing / proposed developments in the vicinity of the Site [14];
- The Department of Housing, Local Government and Heritage's ('DHLGH') planning portal – the National Planning Application Database to obtain details about existing / proposed developments in the vicinity of the Site [15];
- The National Biodiversity Data Centre ('NBDC') website was consulted on 10th September 2026 with regard to species distributions [16]; and,
- The EPA Maps website was consulted to obtain details about watercourses in the vicinity of the Site [1].

2.3 Field Survey

2.3.1 Habitat Survey

An initial Site walkover was undertaken on 27th August 2021 as part of a previous application.

Updated habitat walkovers were undertaken on 25th September 2025 and on 9th October 2025 using the Heritage Council's '*Guide to Habitats in Ireland'* [17] and conducted in line with the Heritage Council's '*Best Practice Guidance for Habitat Survey & Mapping'* [18]. This is the standard habitat classification system used in Ireland and includes both a desk-based and field-based assessment.

The assessments were extended to also identify the potential for these habitats to support other features of nature conservation importance, such as species afforded legal protection under either Irish or European legislation.

2.3.2 Protected / Notable Species

The methodologies used to establish the presence / potential presence of faunal species are summarised below. These relate to those species / biological taxa that the desk study and habitat types present indicated could occur on-site.

2.3.2.1 Flora

The Site was assessed for the presence of notable / protected flora species in accordance with the following:

- Flora (Protection) Order 2022 (S.I. No. 235/2022); and,
- Ireland Red List No. 10: Vascular Plants [19].

2.3.2.2 Amphibians

The Site was assessed for its potential to provide sheltering, foraging and breeding habitat for amphibians in line with the National Roads Authority ('NRA'), now Transport Infrastructure Ireland ('TII'), '*Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes,*' [20]. These included waterbodies suitable for egg-laying and terrestrial habitats comprising open areas with mixed-height vegetation, such as heathland, rough grassland, open scrub or waterbody margins. Suitable, well-drained and frost-free areas are needed to enable amphibians to survive the winter.

2.3.2.3 Badgers

The survey aimed to identify and examine areas where badgers might occur by noting any evidence of badger activity. This included:

- Mammal paths;
- Badger hairs caught in sett entrances / fences / vegetation;

- Paw prints;
- Evidence of foraging (usually in the form of 'snuffle holes');
- Badger Scat (isolated badger droppings);
- Latrines (shallow pits/holes occurring together comprised of exposed badger droppings); and,
- Badger setts.

A mammal path was assumed to be used by badgers if the character of the path (in terms of size) was appropriate and / or if any other signs were in close vicinity (e.g., a badger sett).

The field survey of the Site was conducted in line with the following relevant guidance for badger:

- Scottish Badgers, '*Surveying for Badgers: Good Practice Guidelines,*' [21];
- The Mammal Society, 'Surveying Badgers,' [22]; and,
- NRA, now TII, '*Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*,' [20].

2.3.2.4 Bats

Full details of the bat survey methodology and results are provided in Appendix A – Bat Report. Note, the bat report contains the results of the surveys undertaken in 2025 and 2026. The main results of the bat surveys and SM4 deployment undertaken in 2026, as well as the methodology associated with the SM4 deployment (undertaken in 2026 only), are included in the current document.

Daytime Bat Walkover

A Daytime Bat Walkover ('DBW') was carried out on 25th September 2025 during the habitat survey to assess the suitability of the habitats on-site to support roosting, foraging, and commuting bats. The assessment was undertaken in line with Table 2-1.

Table 2-1: Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement [24].

Potential Suitability	Description of Roosting habitats in structures	Description of Potential flightpaths and foraging habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevice/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible[1]	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flightpaths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats	Habitat that could be used by small numbers of bats as flightpaths such as a gappy hedgerow or

[1] Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).

Potential Suitability	Description of Roosting habitats in structures	Description of Potential flightpaths and foraging habitats
	opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[2] and/or suitable surrounding habitat to be used regularly or by larger numbers of bats (i.e., unlikely to be suitable for maternity and not a classic cool/stable hibernation site but could be used by individual hibernating bats[3]).	unvegetated stream, but isolated, i.e., not very well connected to the surrounding landscape by another habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats, such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flightpaths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats, such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roost, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats, such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats, such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

Ground-Level Tree Assessment

A ground-level tree assessment ('GLTA') was carried out on the trees on-site during the habitat survey on 25th September 2025. The purpose of the GLTA was to assess the trees for the presence of Potential Roost Features ('PRFs') which could be utilised by roosting bats. Examples of PRF include the following:

- Presence of natural cavities, splits, cracks, loose bark, and rot holes in the trunk or boughs of the tree;
- Presence of dense and woody ivy (*Hedera helix*) growth that could be used by bats for roosting;
- Evidence of bat droppings, which may also be seen as a black streak beneath holes, cracks, branches, etc;
- Presence of smooth edges with dark marks and urine stains at potential entrances to roosts;

[2] For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

[3] Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments [43] (and [42]).Common pipistrelle swarming has been observed in the UK [44] (and [45]) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland [46]. This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.

- Adjoining habitat which are likely to be important to bats, including the river corridor, and hedge / treelines within the survey area that offer a variety of potential foraging, roosting and commuting opportunities for bats; and,
- Adjoining potential roosts / known roosts identified. This raises the likelihood of a tree being of benefit, as bats may move roosts if the roost becomes too hot or cold during roosting, and a nearby alternative roost is highly desirable.

Proximity to the road was also taken into account when determining the suitability of PRFs, as traffic noise can negatively affect bat activity at over 20m away from noise sources [24].

All trees on the Site were assessed in line with Table 2-2 (Table 4.2 in BCT Guidance [23]):

Table 2-2: Guidelines for assessing the suitability of trees on proposed development sites for bats, to be applied using professional judgement

Suitability	Description
NONE	Either no PRFs in the tree or highly unlikely to be any
FAR	Further assessment required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

The potential suitability of any PRFs identified were then categorised as per Table 2-3 below (Table 6.2 in BCT guidance [24]).

Table 2-3: Guidelines for Categorising the Potential Suitability of PRFs

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

Assessment criteria for evaluating the on-site habitats for foraging and commuting bats and the on-site structure for roosting bats were carried out in line with *'Bat Surveys for Professional Ecologists: Good Practice Guidelines – 4th edition.'* [24].

Dusk Emergence Surveys

Given the presence of mature trees which may support roosting bats, dusk emergence surveys were conducted on 15th and 23rd September 2025 and on 14th May 2026, 6th July 2026 and 3rd September 2026. Surveyors were sited at two vantage points ('VP') locations: VP1 and VP2 (see Appendix A), chosen to allow visual coverage of suitable trees. The dusk emergence surveys began 15 minutes before sunset and ended 60 minutes after sunset.

Nighttime Bat Walkover ('NBW')

NBW surveys were conducted on 15th and 23rd September 2025 and on 14th May 2026, 6th July 2026 and 3rd September 2026. NBW surveys involved a pair of surveyors walking a predetermined transect route around the Site while noting bat activity and recording bat calls via bat detection equipment for later analysis. The NBW started upon completion of the dusk emergence survey and lasted for one hour. See Appendix A for NBW routes.

Static Bat Detector Deployment

Two SM4 static bat detectors were deployed at suitable locations at the eastern ('D01') and northern ('D02A') boundaries of the Site, respectively, on the following dates:

- Deployment 1: 21st April 2026; and,

- Deployment 2: 22nd May 2026;

Upon a change in the site condition, D02A had to be moved to a new location in the centre of the Site ('D02B'). The static bat detectors were located at D01 and D02B for the June to August deployments:

- Deployment 3: 18th June 2026;
- Deployment 4: 17th July 2026; and,
- Deployment 5: 25th August 2026.

Following deployment, the detectors were left in situ for at least five suitable nights (where possible) to record bat activity. The purpose of static detector deployment was to provide a snapshot sampling of bat activity across the Site over several consecutive nights by recording bat call "passes". The bat passes can be analysed using specialist software (Kaleidoscope) in order to generate an estimate of overall bat activity in terms of species presence and foraging / commuting activity.

2.3.2.5 Birds

The Site was assessed for its suitability to support important assemblages of rare or notable birds, whether breeding birds or wintering birds. This assessment aimed to identify and examine areas where wintering and breeding birds might occur, and note any activity and potential nesting habitats while on the Site.

Breeding bird transect surveys were undertaken on 17th April, 20th May, 5th June and 10th July 2026 by a suitably qualified MOR Environmental ecologist. The breeding bird survey was conducted in line with the methodology described in:

- British Trust of Ornithology ('BTO') – *A Field Guide to Monitoring Nests* [25]; and,
- Common Bird Census in Bird Monitoring Methods [26].

In order to establish whether any breeding bird species were utilising the habitats on-site or the airspace above the Site, the Common Bird Census ('CBC') methodology was implemented. The transect survey was designed to cover all accessible habitat within and adjacent to the Site and was undertaken by a suitably qualified and experienced MOR Environmental ecologist.

All birds were recorded through sight and sound. Optical equipment, including binoculars, was used to minimise disturbance to potentially breeding birds. Suitable vegetation on-site was examined for the presence of nests. During the survey, the behavioural activity of the recorded birds was noted using the BTO breeding status codes [25]. Birds that displayed non-territorial behaviours were recorded as well (i.e. birds that were flying over the Site, birds that were foraging and not calling, birds that were loafing).

Therefore, birds were classified as non-breeding, possibly breeding and confirmed breeding based on the behaviours exhibited. The criteria for each classification are described below:

- Non-breeding – Birds that were flying over the Site, birds that were foraging and not calling, birds that were loafing;
- Possible Breeding – Birds observed in suitable nesting habitat and displaying either territorial and / or courtship behaviours, nest building behaviours or observed visiting a possible nest; and,
- Confirmed Breeding – Birds observed either on nest or carrying faecal sac or food, sighting of a nest with eggs / chicks, used nests, eggshells or recently fledged young.

The metadata for the breeding bird survey are described in Table 2-4.

Table 2-4: Bird Survey Metadata

Date	Sunrise	Survey Time	Temperature (°C) (Start – End)	Wind (Beaufort Wind Scale)	Rain	Cloud Cover
17/04/2026	6:31	7:00 – 8:10	9-12°C	4	No rain	0-33%
20/05/2026	5:33	5:30 – 7:00	10-13°C	3	No rain	33-66%
05/06/2026	5:18	6:00 – 7:15	8-12°C	2	No rain	10%
10/07/2026	5:11	5:30 – 7:00	16-17°C	2	No rain	100%

2.3.2.6 Hedgehogs and Pygmy Shrews

The habitats within and adjacent to the Site were assessed for their suitability to support hedgehogs (*Erinaceus europaeus)* and pygmy shrews (*Sorex minutus)* in line with the NRA, now TII, '*Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*,' [20].

2.3.2.7 Invasive species

The Site was visually assessed for the presence of any noxious / invasive species that are regulated under the European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374/2024) [27], such as Japanese knotweed (*Reynoutria japonica*) and Himalayan balsam (*Impatiens glandulifera*).

The Site was also assessed for the presence of non-regulated invasive species that have the potential to impact local biodiversity.

2.3.2.8 Other Species

In addition, an assessment was carried out of the potential for the Site to support any other species considered to be of value for biodiversity, including those that were identified as occurring locally based on the findings of the desktop study and professional judgment.

2.3.3 Survey Limitations

There was limited access to the scrub area in the northeast section of the Site. Access to part of the tree line on the northern boundary was also impeded by a steep dip in front of which there was inaccessible scrub habitat. However, given the nature and size of the habitats on-site and its location within an urban setting, it is not considered that this survey limitation will alter the findings of this assessment, and therefore, no further surveys are considered necessary as part of this EcIA.

2.4 Assessment Methodology

The current Guidelines for Ecological Impact Assessment in the UK and Ireland [28] recognise that an ecological assessment cannot consider in detail every individual species or habitat that may potentially be affected by a Proposed Development.

The EcIA process aims to identify those ecological receptors that could be significantly affected by the Proposed Development, i.e., where the effects on the receptor are of sufficient concern that they could influence the planning decision, or for which the development could result in the breach of relevant legislation.

The effects of the Proposed Development on these receptors are then assessed, taking into account the sensitive design measures (avoidance measures) and, where necessary, the mitigation measures incorporated as part of the Proposed Development. The scope of the EcIA is determined iteratively.

2.4.1 Significance Evaluation Methodology

As part of the high-level assessment reported in Section 4.1, the conclusion about whether effects are sufficiently likely to be 'significant' as to merit more detailed assessment is informed by a judgement about whether:

- The Site, habitat or species population is of sufficient quality or size that an effect upon it could be significant; and,
- The environmental changes associated with the development are such that there is the potential for a 'significant' effect to occur (i.e., for the integrity of a site or for the conservation status of a habitat area or species population to be affected).

If the answer to both of these questions is 'Yes', the relevant receptor would be subject to more detailed assessment, and the significance of effects would be evaluated based on the methodology that is outlined below.

2.4.1.1 Negative Effects

For biodiversity receptors, an effect is assessed as being 'significant' if the favourable conservation status of the specified biodiversity receptor is compromised by the Proposed Development. Conservation status is defined by the Chartered Institute of Ecology and Environmental Management ('CIEEM') (2016) as follows:

- "*Habitats – conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area*;" and,
- "*Species – conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area*."

The decision on whether the conservation status of the specified biodiversity receptor has been compromised was made using professional judgement, drawing on the results of the assessment of how each receptor will be affected by the Proposed Development.

A similar procedure has been used for designated sites that could be affected by the Proposed Development, except that the focus is on the effects on the integrity of each site, defined as "*the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and / or the levels of populations of the species for which it was designated*."

2.4.1.2 Positive Effects

A positive effect is assessed as being 'significant' if development activities are predicted to cause:

- An improvement in the condition of a habitat / species population from unfavourable to favourable – condition data are only available for some European sites, but professional judgement and a review of available literature have been used to apply the same principle to habitats / species elsewhere; or,
- Partial or total restoration of a site's favourable condition.

If a species population, habitat or site is already in favourable condition, it is still possible for there to be a 'significant' positive effect. There is, however, no simple formula for determining when such effects are 'significant', given the complexities of assessing these types of effects. In such cases, decisions about significance have therefore been made on a case-by-case basis.

2.5 Identification of Potential Biodiversity Receptors

The assessment of the ecological ZoI of the Proposed Development concluded that the development would be likely to result in changes in the extent and / or condition of the existing land cover on the Site, with potential effects on habitats and species on the Site. There is also the potential for effects on any areas that adjoin the Site, where fauna might make use of the on-site land cover.

In summary, therefore, the ecological ZoI of the Proposed Development is defined as:

- The Site of the Proposed Development (fauna and flora); and,
- Habitats adjoining the Site (fauna).

In the case of designated sites, a precautionary approach has been taken and the search area extended to identify sites outside of the zone of ecological influence. This information was used to further inform the assessment process and to ensure that the on-site habitats are not of importance for either habitats or species for which these sites have been designated.

As a basis for determining which biodiversity receptors need to be assessed within the Zone of Influence of the development, CIEEM's guidelines on EcIA recommend that consideration be given to the biodiversity conservation value of the sites, habitats and species that occur within the zone (as appropriate). The guidelines also refer to the need to consider the legal status that is afforded to some species and habitats (refer to Box 1).

Legal status needs to be considered because all developments must comply with the requirements of the law. By implication, therefore, there cannot be significant effects as a result of non-compliance with the law. However, it should be noted that, notwithstanding legal requirements, there is the potential for some legally protected species to be significantly affected in relation to their biodiversity conservation value.

In relation to biodiversity conservation value, only those designated sites, habitat types and species that fall within one or more of the categories defined in Box 1 are of sufficient importance that they could be significantly affected by the Proposed Development.

Drawing upon the biological data assembled for the purposes of this EcIA (Section 4), the potential receptors in relation to the Proposed Development are discussed in Section 5.1.

3 DESCRIPTION OF THE PROPOSED DEVELOPMENT

3.1 Description of the Proposed Development

The Applicant intends to apply for permission for development at Old Fort Road in Ballincollig town centre. The development will consist of the following components:

- A Large Scale Residential Development ('LRD') located at Old Fort Road, Ballincollig, Cork, comprising the construction of 153 residential apartments (consisting of a mix of one and two bed units), in a development of three blocks ranging in height from two to six storeys;
- One childcare facility; and,
- All associated site development works, including footpaths, cycle lanes, car and cycle parking, drainage, bin stores, lighting, boundary treatment, landscaping / amenity areas, plant rooms and an ESB Substation. The provision of a new tabletop junction and access to the site will be provided along Old Fort Road.

Further details can be found in the Planning and Engineering reports prepared as part of the overall planning application. The drawing 25030-PL-100 Site Plan Ground Floor Plan is presented in Appendix B.

3.1.1 Drainage

The foul and storm drainage network for the Proposed Development will connect to existing services already on the Site.

Surface Water Drainage

There is an existing surface water drainage system on-site, which forms a part of the Ballincollig Town Centre development. The Site will therefore drain to the Ballincollig Town Centre main drainage. There is an existing 900DIA storm pipe which enters the site from the east and flows northwest and ultimately to its discharge point at the River Lee. This existing pipe will be diverted as it runs through apartment blocks B & C. The existing capacity of the storm pipe as it travels through the Site is 3556l/s, but immediately upstream of the Site, the gradient is ~1:350 with a capacity of 1061l/s. The diverted pipe has a decreased capacity from 3556l/s due to a longer run being required to avoid the apartment blocks and existing foul pipe. The main run of the diverted pipe slopes at 1:63 and has a capacity of 2513l/s, which is larger than the upstream pipe and will not have a reduction to the capacity of the overall scheme. An existing way leave is present for the 900DIA pipe, and a 10m way leave is present for the diverted run of pipe.

Refer to JODA Engineering Consultants Drawing 3866-JODA-02-ZZ-DR-C-2001 (Storm Layout) for further details.

Foul Water Drainage

There is an existing foul drainage system at the Site. The existing foul drainage system runs along the eastern boundary (225mm) and along a portion of the northern boundary (300mm) from east to west. It is proposed to add a series of foul manholes on the Site, adjacent to each housing block. This proposed drainage system will run south to north and drain into the existing foul drainage network along the northern boundary.

There is an existing 225mm wastewater gravity sewer located at the southeast corner of the Site, which flows north to an existing manhole within the northern site boundary. The flow direction is west from the existing manhole towards the Ballincollig Wastewater Treatment Plant ('WWTP'), where the discharge point is. There is an existing way to leave on the west-flowing pipe, which will be retained by Uisce Éireann.

Uisce Éireann has issued a Confirmation of Feasibility (CDS25007197) regarding the capacity of the existing infrastructure, a copy of which is included in Appendix 1 of the JODA Engineers Report.

Details on the Drainage Layout can be found in the JODA Engineering Services Report.

3.1.2 Proposed Watermain

The water supply to this development will be taken from an existing 250mm internal diameter HDPE pipe running along the road to the south of the Site, supplied from the Inniscarra water supply reservoir. A 150mm watermain is to connect to the existing 250mm watermain in accordance with the Irish Water Code of Practice for Water Infrastructure and the Irish Water Infrastructure Standards.

Uisce Éireann has issued a Confirmation of Feasibility (CDS25007197) statement for the Proposed Development. Refer to Appendix 2 of the JODA Engineers Report

3.2 Site Access

The Site will be accessed via an existing entrance on the L2263 / Old Fort Road.

3.3 Landscaping

A comprehensive Landscape Design Pack has been prepared by Brady Shipman Martin detailing the landscape design strategy and design principles for the Proposed Development. This pack includes the following documents and drawings:

- Tree Survey;
- Tree Survey and Tree Protection Measures;
- Landscape Plan;
- Landscape Sections;
- Boundary Treatment;
- Planting Schedule, Sustainable Drainage Systems ('SuDS'); and,
- Playground details.

Further details on the proposed landscaping can be found in Section 5.4 and within the above-listed documents and drawings prepared by Brady Shipman Martin and submitted as part of the planning application.

3.4 Construction Procedure

During the Construction Phase, the methods of working will comply with all relevant legislation and best practice guidelines to reduce the potential for adverse environmental effects of the works. Although Construction Phase adverse effects are generally of a short-term duration and are localised in nature, the adverse effects will be reduced as far as practicable through compliance with current construction industry guidelines.

A Construction Environmental Management Plan ('CEMP') has been prepared by JODA Engineering Consultants. The following guidance is referenced in the CEMP and will be referred to and will be followed during the Construction Phase of the Proposed Development to prevent water pollution that may occur within the area:

- C532 – Control of Water Pollution from Construction Sites. Guidance for Consultants and Contractors [29];
- C741- Environmental Good Practice on Site (4th edition) [30];

A construction compound and site offices will be set up at the entrance of the Site.

Working hours will generally be restricted to between 08:00 – 18:00 hours Monday to Friday inclusive and between 08:00 – 14:00 hours on Saturdays. Construction work will not be permitted on Sundays, public holidays or at night-time except where safety concerns necessitate it or if agreed in advance with the Planning Authority.

3.5 Monitoring Works

An Ecological Clerk of Works ('ECoW') will inspect the Site in advance of works commencing and will undertake inspections as required to ensure that the Construction Phase is completed in line with the mitigation measures detailed within this EcIA and the plans submitted in support of this planning application.

4 STUDY RESULTS

4.1 Desk Study

Prior to conducting any field surveys, a desk-based review of information sources was completed. This baseline information provided a valuable insight into the types of flora and fauna that may occur on-site and allowed for the identification of features / habitats located off-site that may require further assessment.

4.1.1 European Sites

In accordance with the European Commission Methodological Guidance [31] and Objective 6.23 of the CCDP [10], a list of European sites that can be potentially affected by the Proposed Development has been compiled. Guidance for Planning Authorities prepared by the Department of Environment, Heritage and Local Government [32] states that defining the likely zone of impact for the screening and the approach used will depend on the nature, size, location and the likely significant effects of the project. The key variables determining whether or not a particular European Designated site is likely to be negatively affected by a project are:

- The physical distance from the project to the European Designated site;
- The presence of impact pathways;
- The sensitivities of the ecological receptors; and,
- The potential for in-combination effects.

There is one European Designated site located within 15km of the Site – this is identified in Figure 4-1 and Table 4-1.

Figure 4-1: European Sites within 15km of the Site

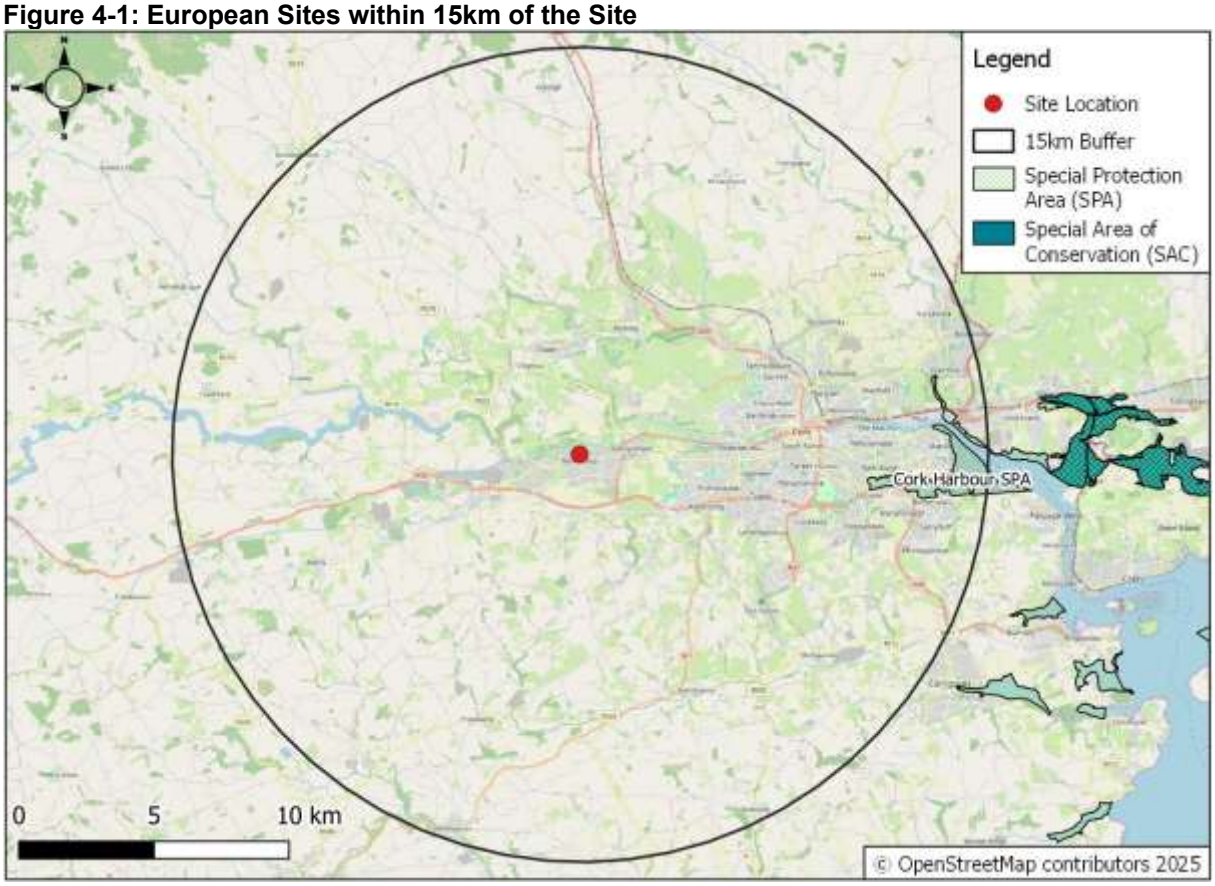


Table 4-1: European Sites within 15km of the Site.

Site Name	Code	Distance (km)	Direction from the Site
Special Protection Area ('SPA')			
Cork Harbour SPA	004030	Ca. 10.6km	East

4.1.2 Nationally Designated Sites

Nationally designated sites within 5km of the Site were investigated as per Objective 6.25 of the CCDP [10].

No Natural Heritage Areas ('NHA') are located within 5km of the Site. Six Proposed Natural Heritage Areas ('pNHA') are located within 5km of the site. Refer to Table 4-2 for details and Figure 4-2 for context.

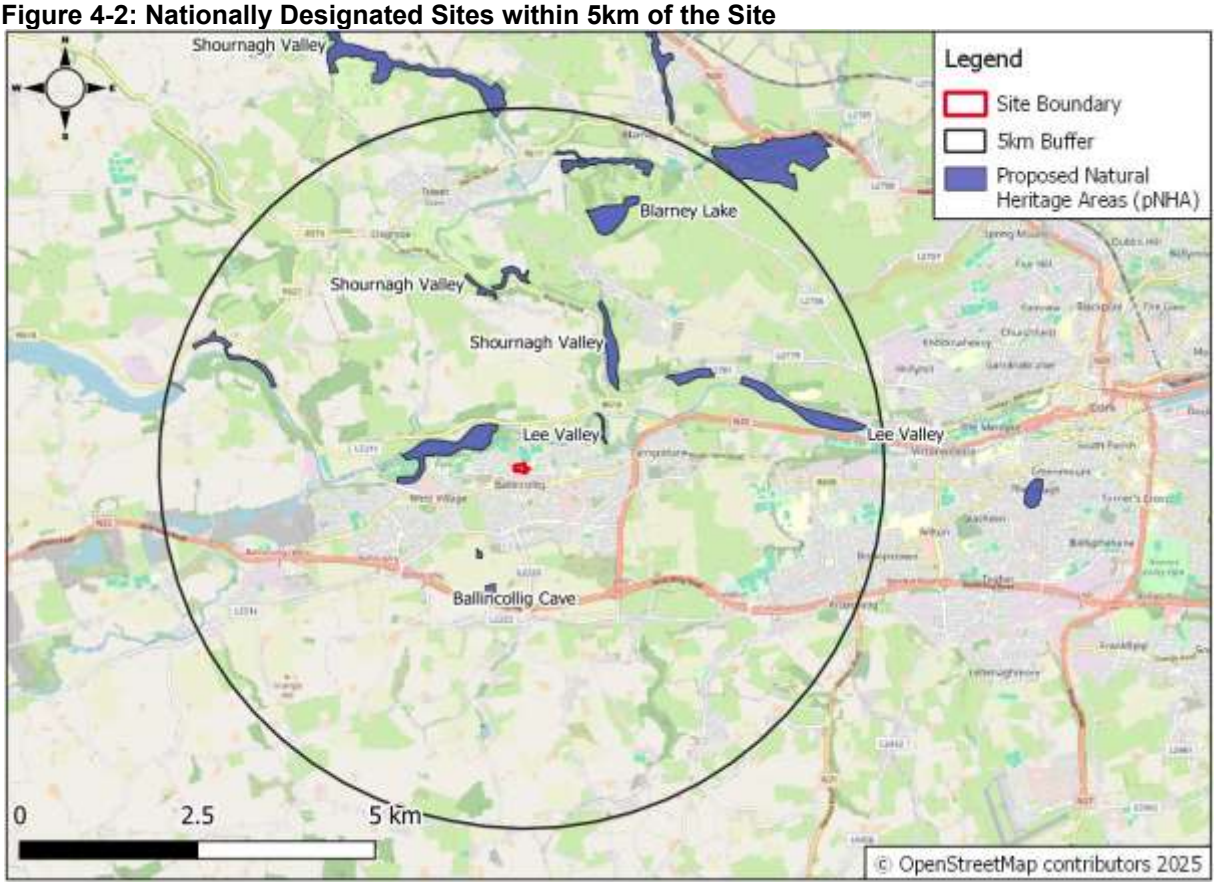
Table 4-2: Proposed Natural Heritage Areas within 5km of the Site

Site Name	Code	Distance (km) & Direction	Qualifying Interest
Proposed Natural Heritage Areas ('pNHA')			
Lee Valley	000094	Ca. 470m	The Lee Valley site represents five separate sections of the river valley. It contains a diverse range of semi-natural habitats, including wet broadleaved woodland, dry broadleaved woodland, wet grassland, unimproved grassland and freshwater marsh habitats. The site provides breeding habitat for wetland bird species such as mallard (*Anas plytyrhynchos*) and heron (*Ardea cinerea*). Lands use at the site consists of cattle-grazing, hay making and recreational use by local communities, particularly within the Ballincollig Regional Park section of the site.
Ballincollig Cave	001249	Ca. 1.2km	This site lies approximately 5 km west of the city of Cork and is located within a limestone-based landscape. The area includes a castle with a cave, and a lower, partially quarried section to the south. The topography, which consists of shallow soils with exposed limestone outcrops, supports a range of semi-natural habitats. The site contains three main habitat types: Dry calcareous grassland is found on slopes, which supports diverse grass and herb species typical of well-drained limestone soils. The lower slopes support occasional areas of scrub of blackthorn *Prunus spinosa*, elder (*Sambucus nigra*), and ash (*Fraxinus excelsior*). The northern slopes support denser woodland and shaded areas, the latter of which support ferns and shade-tolerant herbs, including several species indicative of calcareous woodland. The discussed quarry area supports open limestone vegetation, including early successional and pioneer plant communities, which are adapted to rocky substrates. Ecologically, this site is considered of 'local' ecological importance as it supports a relatively species-rich flora for a limestone area within an urbanised and agriculturally intensified area, providing botanical

Site Name	Code	Distance (km) & Direction	Qualifying Interest
			diversity. The site's biodiversity value is enhanced by the mix of native and non-native species, coupled with uncommon limestone plants. The Site makes a meaningful contribution to local biodiversity and ecological connectivity and combines natural limestone habitats with historical features.
Shournagh Valley	000103	Ca. 1.7km	This site includes two sections of the Shournagh River, which rises in the Boggeragh Mountains and meets the River Lee before it flows through Cork City. The northwest portion of the site contains habitats such as wet woodlands, scrub and old estate woodlands. As the river moves southeast, the habitats include riparian woodland and areas of improved agricultural grassland. The Cloghphilip and Coolymurraghne woodlands form the most important sections of the site, with mature oak (*Quercus rober)* and beech (*Fagus sylvatica)* trees present.
Blarney Lake	001798	Ca. 3.4km	This site is located 1 km southwest of Blarney, near Blarney Castle. It lies on limestone soil, which supports a diverse range of plant and animal life. Blarney Lake is central to the site. This is an artificial lake surrounded by woodland dominated by oak, beech, and fir (Abies sp.), and its outflow is also included. Wetlands near the lake and river host a variety of sedges and tall herb plants, including species such as greater pond-sedge (*Carex riparia*), bladder-sedge (*C. vesicaria*), smooth-stalked sedge (*C. laevigata*) and great fen-sedge (*Cladium mariscus*), tall herb stands of meadowsweet (*Filipendula ulminaria*), great willowherb (*Epilobium hirsutum*) and hemp agrimony (*Eupatorium cannabinum*) and river edge groups of nodding bur-marigold (*Bidens cernua*), blue water-speedwell (*Veronica anagallis-aquatica*) and mints (*Mentha spp.*). Aquatic plants like rigid hornwort (Ceratophyllum demersum) are found in the lake.
Blarney Castle Woods	001039	Ca. 4.1km	This woodland is located 1km southwest of Blarney within Blarney Castle grounds and is bordered by the Blarney River (north) and parklands (south). It sits on exposed limestone and is an ecologically rich site, as are two nearby pNHAs: Blarney Lake (001798) and Ardamadare Wood (001799). The limestone base supports a diverse range of flora and fauna. Tree species that are dominant include oak, ash and sycamore (*Acer pseudoplatanus*). Ground flora includes species such as pignut (*Conopodium Majus*), sanicle (*Sanicula europaea*), and goldilocks buttercup (*Ranunculus auricomus*). The soils are rocky and shallow and support wood melic (*Melica uniflora*) and bearded couch (*Elymus caninus*). Parasitic plants like toothwort (*Lathraea squamaria)* and ivy broomrape (*Orobanche hederae*) are supported by the deeper soils.

Site Name	Code	Distance (km) & Direction	Qualifying Interest
			The woodland is of interest for its birdlife. Woodcock (*Scolopax rusticola*) occurs within the woodlands during winter. Within the site, the main land uses are fishing, shooting, grazing (sheep and cattle) and amenity use. The base-rich woodland is a habitat not widely found in Cork, where acid uplands predominate.
Blarney Bog	001857	Ca. 5km	Located 0.5km west of Blarney Town and 4.5km northwest of Cork City, this pNHA lies in the flat valley floor of the River Blarney and was formed due to natural ponding caused by a bedrock fault near Gothic Bridge. The soil consists mainly of fine silt with some peat, particularly on the south side, where past peat cutting has occurred. The key habitat features are lowland wet grassland (grazed and ungrazed) and freshwater marsh/fen. The dominant vegetations includes reed canary-grass (*Phalaris arundinacea*), soft rush (*Juncus effusus*), creeping bent (*Agrostis stolonifera*), tufted hair-grass (*Deschampsia cespitosa*) and Yorkshire fog (*Holcus lanatus*). The western wetter area hosts species such as pond-sedge (*Carex riparia*), bladder sedge (C. *vesicaria*), yellow loosestrife (*Lysimachia vulgaris*) and purple loosestrife (*Lythrum salicaria*). The drier eastern area hosts mixed grasses and sedges and herbs such as common sorrel (*Rumex acetosa*) and tormentil (*Potentilla erecta*). Willow trees (*Salix spp.*), bogbean (*Menyanthes trifoliata*), devils-bit scabious (*Succisa pratensis*), marsh cinquefoil (*Potentilla palustris*) and purple moor grass (*Molinia caerulea*) are some of the species found south of the river where the land is wetter. The watercourses are not particularly flora-rich but are known for hosting species such as duckweed (*Lemna minor*), floating sweet-grass (*Glyceria fluitans*) and fool's watercress (*Apium nodiflorum*).

Figure 4-2: Nationally Designated Sites within 5km of the Site



4.1.3 NBDC Protected Species

Table 4-3 provides a summary of records of legally protected or otherwise notable species that occurred within 2km of the Site at the time of writing this report [16]. The NBDC records were checked on 16th April 2026, and the following NBDC 2km grids have been checked: W56U, W56Z, W57Q, W57R, W57V, W57W, W66E, W67A and W67B [16].

Only species recorded within the past 10 years were included in Table 4-3. The 10-year parameter was chosen based on habitat adaptation and modification; that is, it is assumed that records older than 10 years are not representative of the current distribution of species populations.

Table 4-3: NBDC Notable / Protected Species within 2km of the Site (W56U, W56Z, W57Q, W57R, W57V, W57W, W66E, W67A and W67B)

Common Name	*Scientific Name*	Date of Last Record *	Designation
Bird Species*			
Barn Owl	*Tyto alba*	24/11/2021	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Red List
Barn Swallow	*Hirundo rustica*	12/07/2025	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Black-headed Gull	*Chroicocephalus ridibundus*	14/02/2023	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Canada Goose	*Branta canadensis*	25/10/2018	Wildlife Acts 1976 / 2000

Common Name	*Scientific Name*	Date of Last Record *	Designation
			EU Habitats Directive Annex II Section I Bird Species
			Invasive Species: High Impact Invasive Species
Common Greenshank	*Tringa nebularia*	25/10/2018	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Green List
Common Kestrel	*Falco tinnunculus*	09/04/2024	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Red List
Common Kingfisher	*Alcedo atthis*	18/08/2024	Wildlife Acts 1976 / 2000
			EU Birds Directive Annex I Bird Species
			Birds of Conservation Concern Amber List
Common Linnet	*Linaria cannabina*	06/05/2024	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Amber List
Common Pheasant	*Phasianus colchicus*	06/05/2024	Wildlife Acts 1976 / 2000
			EU Habitats Directive Annex II Section I and Annex III and Section I Bird Species
			Birds of Conservation Concern Green List
Common Redshank	*Tringa totanus*	15/06/2020	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Red List
Common Sandpiper	*Actitis hypoleucos*	06/02/2023	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Amber List
Common Shelduck	*Tadorna tadorna*	28/04/2020	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Amber List
Common Snipe	*Gallinago gallinago*	28/03/2020	Wildlife Acts 1976 / 2000
			EU Habitats Directive Annex II Section I and Annex III and Section III Bird Species
			Birds of Conservation Concern Red List
Common Starling	*Sturnus vulgaris*	27/05/2024	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Amber List
Common Swift	*Apus apus*	27/05/2024	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Red List
Common Wood Pigeon	*Columba palumbus*	12/07/2025	Wildlife Acts 1976 / 2000
			EU Habitats Directive Annex II Section I and Annex III Section I Bird Species
			Birds of Conservation Concern Green List

Common Name	*Scientific Name*	Date of Last Record *	Designation
Eurasian Curlew	*Numenius arquata*	17/11/2021	Wildlife Acts 1976 / 2000
			EU Habitats Directive Annex II Section II Bird Species
			Birds of Conservation Concern Red List
Eurasian Teal	*Anas crecca*	11/04/2021	Wildlife Acts 1976 / 2000
			EU Habitats Directive Annex II Section I and Annex III Section II Bird Species
			Birds of Conservation Concern Amber List
European Golden Plover	*Pluvialis apricaria*	18/01/2021	Wildlife Acts 1976 / 2000
			EU Habitats Directive Annex I Annex II Section II and Annex III and Section III Bird Species
			Birds of Conservation Concern Red List
European Shag	*Gulosus aristotelis*	11/04/2021	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Amber List
Great Black-backed Gull	*Larus marinus*	04/07/2022	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Green List
Great Cormorant	*Phalacrocorax carbo*	27/05/2024	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Amber List
Herring Gull	*Larus argentatus*	14/02/2023	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Amber List
House Martin	*Delichon urbicum*	16/07/2024	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Amber List
House Sparrow	*Passer domesticus*	23/04/2024	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Amber List
Lesser Black-backed Gull	*Larus fuscus*	06/07/2022	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Amber List
Little Egret	*Egretta garzetta*	12/07/2025	Wildlife Acts 1976 / 2000
			EU Habitats Directive Annex I Bird Species
			Birds of Conservation Concern Green List
Mallard	*Anas platyrhynchos*	27/05/2024	Wildlife Acts 1976 / 2000
			EU Birds Directive Annex II Section I and Annex III and Section I Bird Species
			Birds of Conservation Concern Amber List
Mute Swan	*Cygnus olor*	01/06/2023	Wildlife Acts 1976 / 2000

Common Name	*Scientific Name*	Date of Last Record *	Designation
			Birds of Conservation Concern Amber List
Northern Lapwing	*Vanellus vanellus*	18/01/2021	Wildlife Acts 1976 / 2000
			EU Birds Directive Annex II Section II Bird Species
			Birds of Conservation Concern Red List
Rock Pigeon	*Columba livia*	03/07/2023	Wildlife Acts 1976 / 2000
			EU Habitats Directive Annex II Section I Bird Species
			Birds of Conservation Concern Green List
Sand Martin	*Riparia riparia*	27/05/2024	Wildlife Acts 1976 / 2000
			Birds of Conservation Concern Amber List
Sandwich Tern	*Thalasseus sandvicensis*	04/07/2022	Wildlife Acts 1976 / 2000
			EU Habitats Directive Annex I Bird Species
			Birds of Conservation Concern Amber List
Bat Species			
Leisler's Bat	*Nyctalus leisleri*	20/07/2020	Wildlife Acts 1976 / 2000
			EU Habitats Directive Annex IV
Common Pipistrelle	*Pipistrellus pipistrellus sensu stricto*	21/08/2019	Wildlife Acts 1976 / 2000
			EU Habitats Directive Annex IV
Soprano Pipistrelle	*Pipistrellus pygmaeus*	20/07/2020	Wildlife Acts 1976 / 2000
			EU Habitats Directive Annex IV
Terrestrial Mammals			
Eurasian Badger	*Meles meles*	21/09/2016	Wildlife Acts 1976 / 2000
Eurasian Red Squirrel	*Sciurus vulgaris*	01/03/2023	Wildlife Acts 1976 / 2000
European Otter	*Lutra lutra*	12/05/2017	Wildlife Acts 1976 / 2000
			EU Habitats Directive Annex II and IV
West European Hedgehog	*Erinaceus europaeus*	08/10/2024	Wildlife Acts 1976 / 2000
Invasive species*			
American Mink	*Neogale vison*	12/05/2017	High Impact Invasive Species
			Regulation S.I. 374 (Ireland)
Harlequin Ladybird	*Harmonia axyridis*	15/09/2025	High Impact Invasive Species
			Regulation S.I. 374 (Ireland)
Himalayan Balsam	Impatiens glandulifera	08/06/2025	High Impact Invasive Species
			Regulation S.I. 374 (Ireland)
Japanese Knotweed	*Reynoutria japonica*	14/11/2024	High Impact Invasive Species
			Regulation S.I. 374 (Ireland)
Spanish Bluebell		08/05/2021	Invasive Species

Common Name	*Scientific Name*	Date of Last Record *	Designation
	Hyacinthoides hispanica		Regulation S.I. 374 (Ireland)
Three-cornered Garlic	*Allium triquetrum*	08/05/2021	Medium Impact Invasive Species
			Regulation S.I. 374 (Ireland)

*Table 4-3 only includes invasive species regulated under S.I. 374 of 2024 (Ireland).

4.2 Field Survey

4.2.1 Habitats

The following section provides details of the most up-to-date habitat survey, which was undertaken for the Site on 9th October 2025. A description of the habitats and features of ecological significance is outlined below and illustrated in Figure 4-3.

Buildings and Artificial Surfaces (BL3)

Artificial surfaces were present along the southern boundary of the Site, comprised of existing footpaths and the local road (L2263 / Old Fort Road). This habitat also extended into the Site from the main entrance off Old Fort Road and occupied the southeastern portion of the Site, continuing eastwards towards the Ballincollig Nursing Home. No notable species were identified.

Refuse and Other Waste (ED5)

Stockpiles of dead wood, garden waste and rubbish were located within the central section of the Site. Vegetation had begun to establish within some of these piles, and those species identified included bramble (*Rubus fructicosus*) and various grass species.

Recolonising Bare Ground (ED3)

This habitat was located primarily within the eastern section of the Site, with a small section also recorded in the northwestern corner of the Site. Species recorded included: common fleabane (*Pulicaria dysenterica*), moss species, red clover (*Trifolium pratense*), smooth cat's ear (*Hypochaeris glabra*), dandelion (*Taraxacum officinale*), bramble, ribwort plantain (*Plantain lanceolata*), ground ivy (*Glechoma hederacea*), pussy willow saplings (*Salix caprea*), butterfly bush (*Buddleja davidii*), tansy ragwort (*Jacobaea vulgaris*), hairy willowherb (*Epilobium hirsutum*), common dogwood saplings (*Cornus sanguinea*), common alder saplings (*Alnus glutinosa*), lesser knapweed (*Centura nigra*), virginia creeper (*Parthenocissus quinquefolia*), common gorse (*Ulex europaeus*), wild carrot (*Daucus carota*) and one isolated plant of drooping sedge (*Carex pendula*).

Scrub (WS1)

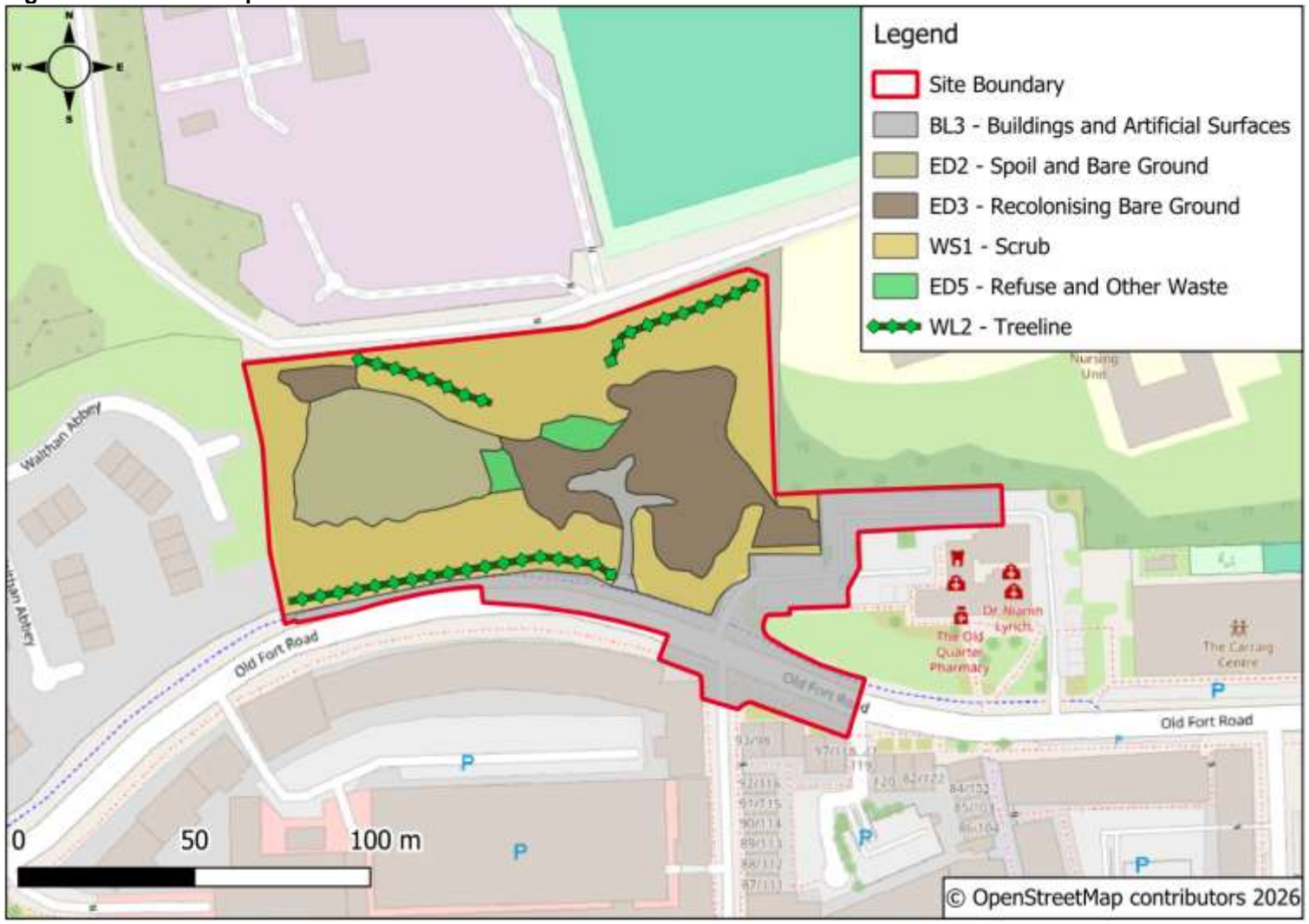
A large portion of the western section of the Site was comprised of stockpiles of rubble and soil that were recolonised with some vegetation. The species present within this habitat included: butterfly bush, winter heliotrope (*Petasites pyrenaicus*), smooth cat's ear, bramble, ribwort plantain, large bindweed (*Calystegia sylvatica*), virginia creeper (*Parthenocissus quinquefolia)*, Yorkshire fog (*Holcus lanatus*), common gorse, red clover, big root geranium (*Geranium macrorrhizum*), red osier dogwood (*Cornus sericea*), common vetch (*Vician sativa*), dandelion, bitter dock (*Rumex obtusifolius*), doves's foot cranesbill (*Geranium molle*), lesser knapweed, greater bird's foot trefoil (*Lotus pedunculatus*), pussy willow saplings, soft shield fern (*Polystichum setiferum*), herb robert (*Geranium robertianium*), horse weed (*Conyza canadensis*), moss spp., slender false garlic (*Allium gracile*) creeping bent (*Agrostis stolonifera*), meadow buttercup (*Ranunculus acris*), rosebay willowherb (*Chamaenerion angustifolium*) sun spurge (*Euphorbia helioscopia*), common nettle (*Urtica dioica*) and pedunculate oak saplings (*Quercus robur*).

Treelines (WL2)

One treeline was located adjacent to the southern perimeter of the Site. Two mature treelines were also present along the northern boundary. Species present within this habitat included: mature pedunculate oak and mature Lawson's cypress (*Chamaecyparis lawsoniana*), pussy willow, downy birch (*Betula pubescens*), sycamore (*Acer pseudoplatanus),* common alder, common dogwood, European ash (*Fraxinus excelsior*) and small-leaved lime *Tilia cordata*.

The understorey comprised of: bramble, holly (*Ilex acquifolium*), red osier dogwood (*Cornus sericea)*, old man's beard (*Clematis vitalba)*, butterfly bush (*Buddleja davidii*), common gorse, hawthorn, horseweed (Conyza canadensis), tansy ragwort (*Jacobaea vulgaris*), smooth cat's ear, hoary willowherb (*Epilobium parviflorum*), harts tongue fern (*Asplenium scolopendrium*), herb robert, hedge woundwort (*Stachys sylvatica*), ivy *(helix hedra*), common vetch, meadow buttercup, red clover, soft shield fern, winter heliotrope, dogrose, elder saplings (*Sambucus nigra*) and large bindweed.

Figure 4-3: Habitat Map



4.2.2 Protected / Notable Species

4.2.2.1 Flora

No plant species protected under the Flora Protection Order were recorded on site.

Invasive Species

The NBDC held records of four high-impact invasive species and three medium-impact invasive species, all of which are regulated under the European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374/2024): American mink, harlequin ladybird, Himalayan Balsam, Japanese knotweed, Himalayan knotweed, Spanish bluebell and three-cornered leek were found within 2km of the Site [16] in the last 10 years.

No high-impact invasive species (including those that are regulated under the European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374/2024) [33]) were recorded within the Site boundary.

Five medium-impact invasive species were identified on the Site, namely butterfly bush, winter heliotrope, sycamore, Virginia creeper and Himalayan honeysuckle. These species are non-regulated.

4.2.2.2 Amphibians

The NBDC held no records for amphibians within 2km of the Site over the last 10 years [16]. In addition, no evidence of amphibians was recorded during the field surveys undertaken.

The areas of scrub recorded on the Site have the potential to provide suitable habitat for amphibians during the terrestrial phase of their lifecycle; however, these habitats are considered to be suboptimal due to their highly disturbed nature. Additionally, there are no suitable waterbodies capable of supporting breeding amphibians located on site or within the immediate vicinity of the Site.

Overall, it was considered unlikely that the Site is of significant value to amphibians due to the lack of breeding habitat and the surrounding habitats.

4.2.2.3 Badgers

The NBDC held records for badgers within 2km of the Site within the last 10 years [16].

However, no evidence of badgers was noted within the Site during the walkover, such as setts, latrines or footprints. The Site was considered suboptimal for this species due to the urban landscape and adjacent anthropogenic activities. In addition, the Site is bound to the south by Old Fort Road, which may act as a barrier to movement. It should be noted that Ballincollig Regional Park is located ca. 330m north of the Site and provides habitat suitable for badger, including a mosaic of woodlands, scrub and hedgerows.

As badgers are common and widespread across Ireland, it is considered possible that badgers may commute through the Site. However, it is considered unlikely that the Site is of value to this species due to high levels of human activity within the surrounding area.

4.2.2.4 Bats

NBDC Records and Landscape Suitability

As per Table 4-3, the NBDC held records for three bat species within 2km of the Site over the last 10 years: common pipistrelle, Leisler's bat and soprano pipistrelle. In addition, as per the NBDC landscape suitability metric, the Site and surrounding area is considered to be of 'High' suitability for bats (Landscape Suitability Metric Score: 36 – 58) [16].

Please note that the landscape suitability metric is calculated using a desk-based model only and is a regional-scale assessment. The metric is not tailored to local site-specific ecological

features or conditions but rather averages over a much larger landscape. The metric is an average score; it does not guarantee that the Site itself is of 'high' bat suitability.

The predictor layers are constructed from this database, ranging in scale from 0.5km to 20.5km, which shows suitable regions for each species to exist, but makes large generalisations of species occurrence rather than site-specific detail obtained during field surveys. This metric is not a substitute for a Site visit to assess bat suitability by a suitably qualified and experienced ecologist following the current best practice guidelines [34].

Following the Site visit, it was concluded that the suitability metric reflects the current site conditions, as the Site provides green space and habitat connectivity to the wider area.

Daytime Bat Walkover

The existing treelines inside the northern, eastern (outside the Site boundary) and southern boundary of the Site provide suitable foraging habitat and connectivity to the wider landscape for commuting bats. The Ballincollig Regional Park lies ca. 330m further to the north, which provides suitable bat habitat. However, it should be noted that the majority of the surrounding habitats comprise urban areas, including residential and commercial areas and sporting facilities with flood lights.

Ground-Level Tree Assessment / Preliminary Roost Assessment

Four trees assessed as PRF-I were identified within the Site along the northern boundary and were surveyed via dusk emergence surveys for the presence of roosting bats. Note, as per the latest Bat Conservation Trust guidance with respect to PRF-I trees, a further survey was not strictly necessary [23]. However, as a precautionary approach, these additional surveys were undertaken.

No buildings were identified on site.

Dusk Emergence Survey Results

Update dusk emergence surveys undertaken in May, July and September 2026 identified four bats roosting in two trees along the northern boundary of the Site.

See Appendix A – Bat Report for full details of the results of the bat surveys.

Nighttime Bat Walkover

Low-moderate levels of activity were recorded during the NBW surveys on the Site, primarily along the northern boundary of the Site.

Common pipistrelle, soprano pipistrelle, Leisler's bat, brown long-eared bat and *Myotis* species were recorded foraging and commuting within the Site.

See Appendix A – Bat Report for full details of the results of the bat surveys.

SM4 Detector Deployment

Common pipistrelle was the most frequently recorded species on the Site at both SM4 detectors across all months surveyed, followed by soprano pipistrelle and Leisler's bat. Compared to the levels of activity recorded from these three species, very low levels of brown long-eared bat, *Myotis* species and Nathusius' pipistrelle were recorded. The lesser horseshoe bat was not recorded on the Site.

July had the highest levels of bat activity during the SM4 detector deployment, followed by April, June, August and May.

See Appendix A – Bat Report for full details of the results of the bat surveys.

4.2.2.5 Birds

The NBDC held records of a number of protected bird species within 2km of the Site [16]. However, no notable or protected bird species were identified on-site during the habitat survey; only common countryside birds such as blackbirds (*Turdus merula*) were recorded. However, the on-site hedgerows / treelines are considered suitable for a range of nesting birds.

The Site is not considered to provide any suitable habitat for foraging for wintering birds. Additionally, there are no waterbodies onsite or wet grassland areas that wintering birds typically utilise.

In addition, the Site is small in nature and also surrounded by mature trees to the north and Ballincollig town centre to the south. These features further reduce the suitability of larger waterbirds, such as swans and geese, which require open areas and adequate space in order to take flight. As such, the Site is not considered suitable for supporting wintering bird assemblages.

As agreed with CCC, additional surveys for birds were undertaken on 17th April, 20th May, 5th June and 10th July 2026. The results of surveys are summarised below in Table 4-4.

A total of 28 species were recorded on-site. This includes birds noted flying over the Site and immediately adjacent fields. Of these species, 18 were observed displaying territorial behaviours and were classified as '*Possible Breeding*', and one species, wren, was identified as '*Confirmed Breeding*.'

Of the 28 species that were recorded:

- 21 Green Birds of Conservation Concern Ireland ('BoCCI') listed species;
- Six Amber BoCCI listed species: barn swallow, cormorant, greenfinch, house sparrow, starling and willow warbler; and
- One Red BoCCI listed species: meadow pipit

Table 4-4: Birds recorded within/adjacent to the Site during the surveys

BoCCI Status	Species	Latin Name	Number Recorded				Notes	Breeding Status
			Visit 1 17/04/26	Visit 2 20/05/26	Visit 3 05/06/26	Visit 4 10/07/26		
Green-listed	Blackbird	*Turdus merula*	3	3	5	2	Visit 1: Two blackbirds were heard singing from hedgerow / treeline inside the eastern and northern Site boundaries. One individual was observed perched on hedgerow / treeline on the southern Site boundary. Visit 2: Three blackbirds were heard singing within the Site, from the hedgerow / treelines along the southern, western and northern boundaries. Visit 3: Five blackbirds were observed on site. There were three males and 1 female present in the hedgerow/treeline of the Site. One individual was not seen but heard in song. Visit 4: Two female blackbirds were observed perched in the hedgerow / treeline in the southern portion of the Site.	Possible breeding.
	Blue tit	*Cyanistes caeruleus*	1	0	1	0	Visit 1: One individual was observed singing from hedgerow / treeline inside the northern Site boundary. Visit 2: No individuals were observed Visit 3: One individual was seen perched on a treeline and calling. Visit 4: No individuals were observed	Possible breeding

BoCCI Status	Species	Latin Name	Number Recorded				Notes	Breeding Status
			Visit 1 17/04/26	Visit 2 20/05/26	Visit 3 05/06/26	Visit 4 10/07/26		
	Bullfinch	*Pyrrhula pyrrhula*	1	0	2	2	Visit 1: One individual was observed perched in the treeline inside the northern Site boundary. Visit 2: No individuals were observed Visit 3: There were two bullfinches observed on site. One male was seen perched on a conifer tree, calling. The other individual was not seen but heard calling. Visit 4: A pair of bullfinch, comprised of one male and one female, were observed flying around the Site whilst singing throughout the survey period.	Possible breeding.
	Chaffinch	*Fringilla coelebs*	2	0	3	0	Visit 1: Two individuals were heard singing from hedgerow / treelines inside the northern Site boundary. Visit 2: No individuals were observed Visit 3: One female and one male chaffinch were flushed together from the hedgerow/treeline to the other side of the site. One chaffinch was not seen but heard in song. Visit 4: No individuals were observed	Possible breeding
	Chiffchaff	*Phylloscopus collybita*	1	0	1	1	Visit 1: One individual was heard calling from the hedgerow / treeline on the northern Site boundary. Visit 2: No individuals were observed Visit 3: One chiffchaff was observed in song onsite.	Possible breeding

BoCCI Status	Species	Latin Name	Number Recorded				Notes	Breeding Status
			Visit 1 17/04/26	Visit 2 20/05/26	Visit 3 05/06/26	Visit 4 10/07/26		
	Coal tit	*Periparus ater*	0	1	0	1	Visit 1: No individuals were observed Visit 2: One individual was heard calling from the hedgerow / treeline present along the northern boundary of the Site. Visit 3: No individuals were observed. Visit 4: One individual was heard singing from the hedgerow / treeline present onsite.	Possible breeding
	Dunnock	*Prunella modularis*	1	0	1	0	Visit 1: One individual was heard singing from treeline and scrub located inside the eastern Site boundary. Visit 2: No individuals were observed. Visit 3: One individual was heard calling onsite. Visit 4: No individuals were observed	Possible breeding
	Eurasian blackcap	*Sylvia atricapilla*	0	0	3	0	Visit 1: No individuals were observed. Visit 2: No individuals were observed.. Visit 3: Three blackcaps were heard singing on site. None were seen. Visit 4: No individuals were observed	Possible breeding
	Eurasian goldfinch	*Carduelis carduelis*	0	0	10	2	Visit 1: No individuals were observed. Visit 2: No individuals were observed. Visit 3: There were 10 sightings of goldfinch on site. They were all observed perched or in flight through the site. Visit 4: Two individuals were heard singing on-site.	Non-breeding

BoCCI Status	Species	Latin Name	Number Recorded				Notes	Breeding Status
			Visit 1 17/04/26	Visit 2 20/05/26	Visit 3 05/06/26	Visit 4 10/07/26		
	Great Tit	*Parus major*	1	0	0	1	Visit 1: One individual was heard singing from hedgerow / treeline located inside the northern Site boundary. Visits 2, 3 & 4: No individuals were observed	Possible breeding
	Jackdaw	*Coloeus monedula*	0	0	3	2	Visit 1: No individuals were observed. Visit 2: No individuals were observed. Visit 3: There were three jackdaws observed on site. One sighting was a call of a jackdaw that was not seen, the other sighting was two individuals perched on the nearby house. Visit 4: Two individuals were observed flying over the Site	Non-breeding
	Hooded Crow	*Corvus cornix*	2	0	4	1	Visit 1: One individual was observed carrying food over the hedgerow / treeline on the eastern Site boundary. One hooded crow was observed perched. Visit 2: No individuals were observed. Visit 3: There were four sightings of a hooded crow on site, perched or flying through the site. Visit 4: One individual was observed flying over the Site	Possible breeding
	Long-tailed tit	*Aegithalos caudatus*	0	0	1	0	Visit 1: No individuals were observed. Visit 2: No individuals were observed. Visit 3: There was one long-tailed tit flying through the Site. Visit 4: No individuals were observed.	Non-breeding

BoCCI Status	Species	Latin Name	Number Recorded				Notes	Breeding Status
			Visit 1 17/04/26	Visit 2 20/05/26	Visit 3 05/06/26	Visit 4 10/07/26		
	Magpie	*Pica pica*	0	0	1	0	Visit 1: No individuals were observed. Visit 2: Calling in vegetation at east of Site. Not seen. Visit 3: One magpie was heard calling on site but not seen. Visit 4: No individuals were observed.	Possible breeding
	Mistle Thrush	*Turdus viscivorus*	1	0	0	0	Visit 1: One individual was identified singing within the scrub on the southern Site boundary. Visits 2, 3 & 4: No individuals were observed	Possible breeding
	Robin	*Erithacus rubecula*	3	0	3	1	Visit 1: Three individuals were observed singing and calling from treeline and scrub on the southern Site boundary. Visit 2: No individuals were observed. Visit 3: three sightings of robins were recorded on site. They were perched, singing and on the ground, foraging. Visit 4: One individual was heard singing on-site	Possible breeding
	Rook	*Corvus frugilegus*	0	3	4	4	Visit 1: No individuals were observed. Visit 2: Three individuals were observed flying in a southerly direction over the Site. They did not land in or interact with the Site. Visit 3: There were four rooks observed on site. Two individuals were perched on the apartment complex and foraging on the ground. Visit 4: Four rooks were observed flying over the Site during the survey period.	Non-breeding

BoCCI Status	Species	Latin Name	Number Recorded				Notes	Breeding Status
			Visit 1 17/04/26	Visit 2 20/05/26	Visit 3 05/06/26	Visit 4 10/07/26		
	Song Thrush	*Turdus philomelos*	0	2	0	0	Visit 1: No individuals were observed. Visit 2: Two individuals were heard singing from hedgerow / treelines on-site. Visits 3 & 4: No individuals were observed	Possible breeding
	Stonechat	*Saxicola rubicola*	0	1	0	0	Visit 1: No individuals were observed. Visit 2: One individual was heard calling from the hedgerow / treeline on-site. Visits 3 & 4: No individuals were observed	Possible breeding
	Woodpigeon	*Columba palumbus*	1	1	6	10	Visit 1: One individual was flushed from hedgerow / treeline on the western Site boundary. Visit 2: One individual was heard calling from the hedgerow / treeline present on the southern boundary of the Site. Visit 3: There were six sightings of woodpigeon on site. There were seen perched on the machinery and on the conifer trees, singing and foraging on the ground. Visit 4: 10 individuals were observed calling from trees onsite, perched in trees or flying over the Site.	Possible breeding

BoCCI Status	Species	Latin Name	Number Recorded				Notes	Breeding Status
			Visit 1 17/04/26	Visit 2 20/05/26	Visit 3 05/06/26	Visit 4 10/07/26		
	Wren	*Troglodytes troglodytes*	2	5	6	1	Visit 1: Two individuals were observed singing from treeline and scrub inside the southern and northern Site boundaries. Visit 2: Five individuals were heard singing from the hedgerow / treelines on-site. Visit 3: There were three juveniles observed with one adult, begging. This confirms breeding on site for wren. There were two additional sightings of wren calling and perched while singing on site. Visit 4: One wren was heard singing from a tree onsite.	Confirmed breeding
Amber-listed	Barn swallow	*Hirundo rustica*	0	0	0	6	Visits 1, 2 & 3: No individuals were observed Visit 4: Six individuals were observed foraging, in flight around the Site or calling during the survey period.	Possible breeding
	Cormorant	*Phalacrocorax carbo*	0	0	7	0	Visit 1: No individuals were observed. Visit 2: No individuals were observed. Visit 3: There was a flock of seven cormorants that flew overhead on site during the visit. This could indicate a possible commuting site for cormorant. Visit 4: No individuals were observed.	Non-breeding
	Greenfinch	*Chloris chloris*	0	0	2	0	Visit 1: No individuals were observed. Visit 2: No individuals were observed. Visit 3: There were two individuals seen flying through the site from the buildings. Visit 4: No individuals were observed	Non-breeding

BoCCI Status	Species	Latin Name	Number Recorded				Notes	Breeding Status
			Visit 1 17/04/26	Visit 2 20/05/26	Visit 3 05/06/26	Visit 4 10/07/26		
	House sparrow	*Passer domesticus*	0	0	1	0	Visits 1 & 2: No individuals were observed. Visit 3: One individual was flushed from its perch on a tree. Visit 4: No individuals were observed	Non-breeding
	Starling	*Sturnus vulgaris*	0	1	6	0	Visit 1: No individuals were observed Visit 2: Perching adult noted within scrub at eastern edge of site. Three more individuals noted perching in and around tall ruderal at centre of the Site. Visit 3: There were six sightings of starlings on site. There were all seen perched on trees on site or on the buildings, two of the sightings were seen in flight. Visit 4: No indiviauls were observed	Non-breeding
	Willow Warbler	*Phylloscopus trochilus*	1	0	0	1	Visit 1: One individual was heard singing from treeline and scrub inside the southern Site boundary. Visit 2: No individuals were observed. Visit 3: No individuals were observed. Visit 4: One individual was observed perched in a tree onsite.	Possible breeding
Red-listed	Meadow pipit	*Anthus pratensis*	0	0	1	0	Visit 1: No individuals were observed. Visit 2: No individuals were observed. Visit 3: There was one meadow pipit flushed from its perch on a house on site. Visit 4: No individuals were observed	Non-breeding

4.2.2.6 Hedgehogs and Pygmy Shrews

Hedgehogs and pygmy shrews are common and widespread species that typically occur in scrub, woodland, and rank grassland habitats. The NBDC held records of hedgehogs within 2km of the Site [16] within the past 10 years. No records of pygmy shrew were recorded by the NBDC within 2km of the Site [16].

The treelines bounding the sports fields adjacent to the Site have the potential to support foraging and commuting hedgehogs. The scrub on-site has the potential to support these species. Although no direct evidence of this species was recorded on-site, it should be noted that a number of small mammal paths were identified that may be utilised by this species.

4.2.2.7 Other Species

The NBDC held records of Eurasian red squirrel and otter within 2km of the Site within the past 10 years [16]. No evidence of red squirrel was identified on-site in the form of dreys, scratch marks on the bark of trees or feeding remains. Additionally, no evidence of otter was noted on site, and the Site and the surrounding habitats were considered suboptimal for otters.

No other species of conservation concern were noted on site or were contained in the NBDC records in the past 10 years.

5 CHARACTERISTICS AND POTENTIAL EFFECTS OF THE PROPOSED WORKS AND MITIGATION MEASURES

5.1 Sensitive Design

Specialist ecological input was a key element of the proposed design, to ensure that the design layout of the Proposed Development is sensitive to valued ecological features that occur or may occur within the Site and the surrounding landscape.

In order to minimise the adverse effects of the Proposed Development on biodiversity and, where possible, enhance the ecological value of the Site, a range of environmental measures have been incorporated into the project at the design stage. The key measures relevant to biodiversity for this project have been detailed below:

- A comprehensive Landscape Plan has been developed for the Proposed Development, which includes ecological enhancement measures. For full details refer to Section 5.4.1 below;
- All vegetation removal required on-site will be undertaken in accordance with relevant legislation to avoid potential disturbance to nesting birds. These works will be undertaken outside the period of 1st March to 31st August; and,
- All boundary trees and hedgerow / treelines that are to be retained will be protected from unnecessary damage.

5.2 Identification of Potentially Significant Effects on Identified Receptors

Based on the methodology that is set out in Section 2.4, Table 5-1 sets out the findings of the evaluation of important and legally protected receptors. Each receptor is assessed, and a scoping justification for each receptor is provided for the Construction and Operational Phases of the Proposed Development.

Table 5-1: Valuation of Potential Ecological Receptors

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
Protected Sites				
European Sites	European Communities (Natural Habitats) Regulations 1997 (as amended)	Internationally designated sites for conservation.	A Stage One AA Screening Report has been prepared as part of the overall planning application in line with objective 6.23 of the CCDP [10]. The AA concluded that the Proposed Development would not cause any adverse effects on any European sites or any of their designated features. Therefore, progression to Stage Two – Natura Impact Statement was not considered necessary. For full details on the assessment of effects on European sites, refer to the AA submitted as part of planning.	European Sites have been screened out from further consideration. Refer to the AA report submitted as part of planning for further details.
Nationally Designated Sites	Wildlife Act 2000 (as amended)	Nationally designated sites for conservation.	Nationally designated conservation sites within 5km of the Site were investigated as per Objective 6.23 of the CCDP. There are no NHAs within 5km of the Site. There are six pNHAs within 5km of the Site. Impacts on the pNHAs can be discounted given the intervening urban land, the lack of impact pathways and the distance separating these sites from the Proposed Development.	Nationally Designated Sites have been screened out from further consideration
Habitats				
Buildings and Artificial Surfaces (BL3)	N/A	Low Local Value	This is a common habitat type throughout Ireland. This habitat did not contain any species of interest. Overall, these habitats are of low ecological value and are not of significant conservation value. The Proposed Development includes the alteration and removal of this habitat. However, this habitat is not of significant conservation value, and the loss is not considered significant. Therefore, the impact of the Proposed Development on this habitat is not significant, and this receptor has been screened out from further consideration.	Buildings and Artificial Surfaces have been screened out from further consideration.
Refuse and other Waste (ED5)	N/A	Low Local Value	The Proposed Development includes the removal of this habitat, which is not considered to be of ecological importance. Therefore, the impact of the Proposed Development on this habitat is not significant and this receptor has been screened out from further consideration.	Refuse and other Waste has been screened out from further consideration.

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
Recolonising Bare Ground (ED3)	N/A	Low Local Value	This habitat will be removed in order to facilitate the Proposed Development. However, no protected / notable species were identified within this habitat. This habitat is not of significant conservation value, and the loss is not considered significant. Therefore, the impact of the Proposed Development on this habitat is not significant and this receptor has been screened out from further consideration.	Recolonising Bare Ground have been screened out from further consideration
Spoil and Bare Ground (ED2)	N/A	Low Local Value	In order to facilitate the Proposed Development, this habitat will be removed. However, no protected / notable species were identified within this habitat, with the stockpiles colonised by common plant species along with medium-impact invasive species such as butterfly bush and winter heliotrope. This habitat is not of significant conservation value, and the loss is not considered significant. It should also be noted that the invasive species on-site will be removed in an appropriate manner to prevent the spread of invasive species. Therefore, the impact of the Proposed Development on this habitat is not significant, and this receptor has been screened out from further consideration.	Spoil and Bare Ground has been screened out from further consideration
Scrub (WS1)	Wildlife Act 2000 (as amended)	Low Local Value	This is a common habitat type throughout Ireland and provides suitable habitat for a variety of species. This habitat will be removed to facilitate the Proposed Development; however, this habitat is not of significant conservation value, and the loss is not considered significant due to disturbances on-site. This habitat does, however, have the potential to support nesting birds. Therefore, restrictions apply with regard to the time of year in which vegetation can be cut (see Nesting Birds below). Additional planting as part of the Proposed Development will be undertaken to compensate for the loss of vegetation removed, see Section 5.4 and Appendix C for further details.	Scrub habitats have been screened in for further consideration.
Treelines (WL2)	Wildlife Act 2000 (as amended)	Low Local Value	Hedgerows / treelines are a common habitat throughout Ireland, and a review of aerial imagery surrounding the Site shows that this habitat is common within the vicinity of the Site. In order to facilitate the Proposed Development, two category U trees are recommended for immediate removal and 10 Category B1 trees are recommended for remedial works, as per the Tree Survey Report – Appendix D.	Treelines have been screened in for further consideration.

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
			As outlined in the Landscape Pack prepared by Brady Shipman Martin, as part of the mitigation and compensation measures, along with onsite enhancement, it is proposed to plant the following: • Semi-mature Trees; • Multistem Small Trees / Shrubs for Podiums; • Clipped Hedge Planting; • Groundcover Shrub Planting; • Vegetated Retaining Wall Groundcover Planting; • SuDS Biofiltration Planting; • Herbal planting mixes; • Climbers; • Woodland native sub-canopy shrub planting; • Woodland edge shrub/groundcover planting; and, • Low maintenance mix with clover. This compensatory planting is proposed along the borders of the newly built section of the Site, in line with Objective 6.5 of the CCDP [10]. The proposed tree planting will greatly increase species diversity on the Site to provide a more resilient tree population in the local landscape. The vegetation onsite has been designed to maintain a degree of connectivity to the wider landscape (where possible) through the retention of the hedge/treeline and additional planting. There will be no net biodiversity loss on-site due to additional planting. As part of construction works, a Tree Impact and Protection Plan has been prepared with the purpose of providing a system of working to ensure retained trees are protected at all times during construction, see Section 5.3 below. Restrictions apply with regard to the time of year in which vegetation can be cut (see Nesting & Breeding Birds below). Therefore, any vegetation clearance works will need to take account of protected species.	

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
			Appropriate mitigation measures will be implemented considering notable / protected species. These mitigation measures will also be implemented for any vegetation removal onsite; refer to Section 5.3 for further details.	
Flora and Fauna				
Flora	Flora (Protection) Order 2022 (S.I. No. 235/2022)	N/A	No plant species protected under the Flora Protection Order were noted on-site. Overall, the impact of the Proposed Development on protected flora is considered unlikely to be significant. Therefore, this receptor has been screened out from further consideration.	Flora species have been screened out from further consideration
Amphibians	Wildlife Act 2000 (as amended) EU Habitats Directive Annex V	Low Local Value	The NBDC held no records for amphibians onsite. Amphibians are commonly associated with agricultural grassland habitats. It should be noted that these species are relatively widespread and abundant in Ireland; however, they are of conservational interest and are protected under Schedule V of the Wildlife Act. The Site is not considered to be of significant value to amphibians, given the fact that no amphibians were identified on-site and no suitable waterbodies / drainage ditches for breeding amphibians were recorded. Overall, the Site is considered sub-optimal for this species. Nonetheless, should any amphibians be discovered on-site during the construction works, the ECoW will be consulted for advice, and any works that have the potential to impact on amphibians will cease until appropriate mitigation measures are in place. However, no species-specific mitigation is required at this stage, and this receptor has been screened out from further consideration.	Amphibians have been screened out from further consideration
Bats	Wildlife Act 2000 (as amended) EU Habitats Directive Annex IV	High Local Value	The NBDC contained records of four bat species within 10km of the Site in the last 10 years. <u>Roosting Bats</u> Four bats were confirmed to be roosting in two trees along the northern boundary of the Site. These bat species could not be confirmed but based on the levels of activity and species composition recorded, it is likely that this was a *Pipistrellus* species. A derogation licence will be required from the NPWS to facilitate the Proposed Development.	Bats have been screened in for further consideration

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
			In order to facilitate the Proposed Development, a number of trees will be removed or managed (thinned, have thick ivy and deadwood removed). Tree T1 is proposed to be felled as part of the Proposed Development. The Proposed Development would therefore result in the loss of bat roosting habitat. Mitigation measures will be implemented during the tree management works to ensure that there is no loss of bat roost provision on-site, and that no bats are harmed or killed as a result of construction works associated with the Proposed Development. <u>Commuting and Foraging</u> During the site inspection, the existing hedgerows and trees that could potentially act as foraging or commuting routes for bats were assessed. It was established that: • The hedgerows / treelines onsite provide suitable foraging habitat and connectivity to the wider landscape for commuting bats; and, • The areas of scrub are also suitable foraging habitats for bats. Bat activity recorded thus far via the static detectors has shown a 'moderate' level of activity. However, when considered with the results of the NBW, it is clear that these bat passes are being generated from multiple passes by low numbers of bats, as opposed to originating from a large number of bats making a few passes. The vast majority of foraging and commuting bat activity was by common and soprano pipistrelles, with the majority of this taking place along the northern Site boundary over the hedgerow / treelines in this area. Of the trees in this area of the Site, two will be fully removed, and ten will be managed (thinned, have thick ivy and deadwood removed). Furthermore, the overall suitability of these habitats is considered to be reduced due to the close proximity of anthropogenic activities. Noise associated with anthropogenic activities, such as traffic, is known to negatively impact bat activity and feeding behaviour within 20m of the noise source. Given the close proximity to the L2263 / Old Fort Road, existing residential properties and Ballincollig town, high traffic levels would be expected. In addition, the Landscape Plan will include measures in order to maintain connectivity between the Site and the wider landscape. The proposed new vegetative habitats will provide opportunities for commuting bats, while scrub planting will also be introduced onsite alongside native hedgerows and trees to thicken out boundary features. These habitats will attract insects and therefore will provide suitable foraging habitats for bats.	

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
			Furthermore, to provide an additional roosting resource, at least three bat boxes will be installed on the Site. Please refer to Section 5.4. <u>Lighting Impacts</u> The foraging and roosting behaviour of bats could be adversely affected by luminance. Inappropriate lighting can result in delayed emergence and, subsequently, bats missing peak insect levels at dusk. The foraging behaviour of bats can also be altered by short-wave frequency ('UV') light, causing insect populations to congregate around the light and increasing the chances of bats being preyed on. Excess luminance can also cause bats to desert roosts due to light spillage on roost exit points. There is currently no lighting on-site, but it should be noted that the areas bordering the Site were lit up, and this light was observed to be spilling onto the Site. Temporary lighting will be required during the Construction Phase of the Proposed Development and permanent lighting will be installed for the Operational Phase of the Proposed Development. A Public Lighting Report has been prepared by Joda Engineering Consulting (henceforth referred to as the 'Lighting Plan'), and has been submitted as part of the overall planning application. The majority of the lighting installed on-site will be adjacent to roadways and car parks, for safety and security. The Lighting Plan shows that there will be light spillage onto the retained trees along the northern boundary. The lighting along this northern boundary starts at 5Lux and drops towards 1.5Lux over the trees on this boundary. A derogation licence will need to be obtained from the NPWS prior to the installation of lighting, as it is an offence to undertake any activity that an impact a bat roost, including installing lighting adjacent to a known roost, without a licence to derogate from Regulation 54 of the Habitats Regulations 1997. As mitigation measures are required to protect bats from inappropriate lighting strategies during the Construction and Operational Phases of the Proposed Development, bats have been screened in for further consideration.	
Badgers	Wildlife Act 2000 (as amended)	Low Local Value	The NBDC held records for badger within 2km within the last ten years. However, following the badger suitability assessment, no badger evidence was recorded within the Site. Furthermore, no signs of badger setts were noted during the field survey within any sections of hedgerow / treeline.	Badgers have been screened in for further consideration

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
			However, given the close proximity of the Site to Ballincollig Regional Park and considering the nature of the intervening lands between the park and the Site, there is potential for badger to utilise the Site. Therefore, on a precautionary basis, mitigation measures for badgers and terrestrial mammals will be implemented into the Construction Phase of the Proposed Development. See Section 5.3.1.2 below.	
Birds	<u>Nesting Birds</u> Wildlife Act 2000 (as amended)	High Local Value	<u>Disturbance / Habitat Loss</u> Studies have shown that traffic noise can result in acoustic interference or masking of bird songs and that bird abundance, occurrence and species richness is reduced near roads. Based on the data obtained thus far, birds are not favouring the treeline within close proximity to Old Fort Road for breeding purposes. The loss of these hedgerows / treelines is not considered to be significant [35] [36] [37]. It is considered that any birds using the Site would be habituated to high levels of noise. In addition, it should be noted that there are alternative / more suitable habitats within the wider are which would provide an alternative resource for any birds affected by the proposed works. Nonetheless, precautionary mitigation will be implemented to avoid any potential effects to breeding birds; refer to Section 5.3.1.2 below for further details. <u>Nesting Birds</u> The scrub throughout the Site and mature treeline on the northern perimeter of the Site provide suitable nesting habitat for bird species. As per the Tree Survey Report, two trees are recommended to be removed to facilitate the Proposed Development and enhance the remaining good quality, and 10 trees are to be managed. Any vegetation to be removed will be removed outside of nesting bird season. Additional planting and enhancements will take place as part of the Proposed Development. See details on the Landscape Plan in Section 5.3.1.1 below. <u>Wintering / Wetland Birds and Flight Collision</u> The Site is located ca. 10.5km from the nearest SPA – Cork Harbour SPA. However, birds are highly mobile and have the potential to fly inland from coastal foraging and roosting areas. The Site is not considered to be suitable for any of the species designated under the SPA.	Birds have been screened in for further consideration

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
			The Proposed Development will comprise apartment blocks up to six storeys high. The Site is located in a built-up town, and the building on the other side of Old Fort Road comprises apartment blocks ca. four storeys high. Additionally, there are multiple apartment blocks in Ballincollig that are multiple storeys high. Therefore, the Proposed Development is unlikely to pose any additional collision risk to bird species based on the height of the surrounding buildings. Artificial lighting can also pose a collision risk to bird species, as birds are known to sometimes aggregate around and occasionally collide with illuminated objects. The Site is located in an urban environment and is in close proximity to illuminated residential and commercial properties, roads and streetlights. Overall, it is not considered that the Proposed Development will stand out in the landscape and thus will not impact patterns of birds flying over the Site.	
Hedgehogs and Pygmy Shrews	Wildlife Act 2000 (as amended)	Low Local Value	Given the presence of suitable habitats on-site and within the wider area for hedgehogs, pygmy shrew and other nocturnal and terrestrial species, standard protection measures for these species will be incorporated into the construction works. Refer to Section 5.3.1.2 below.	Hedgehogs and Pygmy Shrews have been screened in for further consideration
Invasive Species	N/A	N/A	Butterfly bush, winter heliotrope, Virginia creeper, Himalayan honeysuckle and sycamore were recorded across the Site. These species are non-regulated invasive species. These species will be removed from the Site during the Construction Phase of the Proposed Development. Additionally, standard measures will be implemented in order to ensure no invasive species are introduced on-site during the Construction Phase (see Section 5.2.1.2). This is in compliance with Objective 6.26 of the CCDP [10] and Objective 1.6 of the Cork City Heritage and Biodiversity Plan [11].	Invasive Species have been screened in for further consideration
Other Species	N/A	N/A	The NBDC held records of red squirrel and otter within 2km of the Site in the last 10 years [16]. No evidence of either of these species or of any other species of conservation interest were noted on-site. However, given the presence of suitable habitats on-site and within the adjacent lands for common species such as foxes, rabbits and other terrestrial mammals, standard protection measures for these species will be incorporated into the works.	Other Species have been screened in for further consideration

5.2.1 Summary of Potential Effects

Following a detailed assessment, the following receptors were identified as having the potential to be impacted by the Proposed Development and were brought forward for further consideration:

- Scrub (WS1);
- Treelines (WL2);
- Bats;
- Badgers;
- Birds;
- Hedgehogs and Pygmy Shrews;
- Invasive Species; and,
- Other species.

As per the scoping justification outlined in Table 5-1, further consideration was required for each of the receptors listed above in order to develop appropriate mitigation to protect these receptors and avoid effects arising from the Proposed Development.

5.3 Mitigation Measures

5.3.1 Construction Phase

During the Construction Phase, all works will comply with all relevant legislation and best practice to reduce any potential environmental effects. A CEMP will be prepared based on the CEMP prepared with this planning application by the appointed main contractor and will be submitted to the planning authority in advance of works commencing, as detailed in Section 3.6.

The following mitigation measures will be incorporated and adhered to in order to ensure that the proposed works do not result in any contravention of wildlife legislation:

- All activities will comply with all relevant legislation and best practice to reduce any potential environmental effects. The mitigation measures detailed within this EcIA will be fully adhered to;
- The Site manager shall ensure that all personnel working on-site will be trained and made aware of the mitigation measures detailed within this EcIA;
- An ECoW will be appointed for the construction works and will be available as required. If protected or notable species are encountered during operations at the Site, the ECoW will be contacted for advice; and,
- In advance of works, all Site personnel will receive a toolbox talk regarding notable and protected species. Everybody working on-site must understand the role and authority of the ECoW.

5.3.1.1 Protection Measures for Trees and Root Systems

The Proposed Development will require the removal of a number of on-site trees and sections of hedgerow/scrub, as outlined in the Tree Assessment Report prepared as part of the planning submission. All other hedgerows and trees that will be retained as part of the Proposed Development will be protected from any damage or impacts. Mitigation measures outlined in the Tree Assessment Report will be adhered to and implemented throughout the Construction Phase.

During the Construction Phase, any boundary hedgerows / treelines to be retained will be protected for the duration of the construction activities on site and in accordance with British Standards BS 5837:2012 [38]. All retained hedgerows / treelines will be protected from unnecessary damage, and care will be taken to protect these features from both direct and indirect disturbance, as per the measures outlined in the Tree Protection Measures and the Landscape Pack. As outlined in the Tree Survey Report, the following protection measures will be adhered to:

- The removal of Lawson Cypress trees (0623) and (0632) should be undertaken in accordance with BS39982010 by a reputable and insured tree surgery company;
- All remedial works as recommended in the Tree Survey Report should also be carried out by a reputable and insured tree surgery company;
- Compaction of the ground adjacent to the trees must be avoided. Accordingly, heavy equipment should not encroach on the root plates; and,
- Protection should be afforded to the remaining trees with fit-for-purpose barriers in accordance with the root protection areas.

Following the completion of the construction works, the project ECoW will assess the retained trees and hedgerow to ensure that the above mitigation measures have been complied with. As part of the Landscape Plan prepared for the Proposed Development, additional planting will take place throughout the Site.

5.3.1.2 Protection Measures for Species

Protection measures for Bats

Lighting

Temporary lighting will be required during the Construction Phase of the Proposed Development. However, it should be noted that temporary lighting will only be required during construction in the winter months when there is insufficient daylight (08:00 – 18:00 hours Monday to Friday inclusive and between 08:00 – 14:00 hours on Saturdays). As bats enter torpor and have significantly reduced activity levels during winter, this limits the potential effects of Construction Phase lighting on bats.

Regardless, the lighting for the Construction Phase of the Proposed Development will include the following measures:

- Avoidance of excessive lighting;
- Light Emitting Diodes ('LEDs') will be used, and the brightness will be set as low as possible;
- Lighting height should be kept to a minimum while remaining in accordance with lighting standards to reduce lateral light intrusion into adjacent vegetation; and,
- Directional lighting focused only where needed, helping to maintain darker zones along retained treelines and woodland edges and reducing upward lighting.

Roosting Bats

As there are bats confirmed to be roosting in two trees (T1 and T2) on the Site, a derogation licence will be obtained from the NPWS prior to any construction works taking place on the Site. As part of this licence application, a mitigation plan will be devised which will ensure bat are not harmed/killed as a result of development works, and that there is no net loss of roost provision in the area due to the Proposed Development.

The key elements of mitigation will be the completion of tree felling/works at the relevant sensitive time periods (see next section) and the provision of alternative roost opportunities (see Section 5.4.1.1).

Tree Works

On a precautionary basis, the following mitigation measures will be implemented during the tree works on-site:

- Where possible, all trees will be felled on mild days during the autumn months of October – November or during spring months of February-March (felling during the spring or autumn avoids the periods when bats are most active). If Tree T1 must be felled outside the above period, a pre-works dusk survey the night before works are scheduled may be necessary, together with supervision by a bat ecologist during the felling;
- When T1 is cut down, it will be left in place for 24-48 hours on the ground to allow any bats present to potentially escape; and,
- If any bats are identified inside trees during the tree trimming on-site, all works will cease immediately, and the Project Ecologist will be contacted for advice, who will consult with the NPWS as required.

Protection measures for Nesting & Breeding Birds

In order to ensure that no disturbances occur to breeding birds that may potentially use the Site or the adjacent lands, the following mitigation measures will be put in place:

- As per Section 40 of the Wildlife Act 1976, as amended by Section 46 of the Wildlife (Amendment) Act 2000, the cutting, grubbing, burning or destruction by other means of vegetation growing on uncultivated land or ditches will be restricted during the nesting and breeding season for birds and wildlife, from 1st March to 31st August. Therefore, any vegetation clearance required within the Site will take place outside of the nesting bird season (1st March to 31st August);
- In the event that works need to be undertaken within the main breeding season, the following measures will be implemented:
    - The Ecological Clerk of Works will contact the NPWS for consultation on an appropriate construction strategy;
    - Prior to any vegetation removal, the ECoW will inspect the area; and,
    - All vegetation clearance works will be undertaken in a systematic way under the direction of the ECoW.
- Prior to vegetation removal, the ECoW will inspect the Site. The management and removal of vegetation on-site will be undertaken in a systematic way, under the direction of the ECoW, to ensure that the retained hedgerows / treelines are not damaged by the works; and,
- Should a bird's nest be found within the active working area during the Construction Phase, work within the area will stop until the project ECoW is consulted.

Protection Measures for Terrestrial Mammals

As outlined in Section 4.2, the on-site habitats have features that have the potential to support sheltering, foraging and commuting mammals such as badger and hedgehogs. Therefore, in order to ensure that the works in relation to the Proposed Development will not have significant effects on terrestrial mammals, general construction procedures and mitigation measures will be undertaken. These include the following measures:

- Should construction works be required outside of daylight hours, the appointed project ECoW will be consulted as required;
- All vegetation clearance will be undertaken in a systematic way to allow any potential species that may be utilising these areas to disperse naturally as works progress;
- New drainage infrastructure will be laid in sections and backfilled;
- Waste will be kept contained in a designated area to avoid animals becoming trapped in litter;
- Where deep excavations will be required on-site, appropriate measures to protect mammals from ingress will be installed; and,
- If unidentified burrows are identified within the works area during construction, the project ECoW will be contacted for advice.

The construction works will be short-term, and as terrestrial mammals are highly mobile, it is likely that they will move away from any temporary disturbances. However, to reduce the potential for disturbance to wildlife from noise, the following mitigation measures will be implemented during the Construction Phase:

- Avoid unnecessary revving of engines and switch off equipment when not required;
- Minimise the drop height of materials;
- Start-up plant and vehicles sequentially rather than all together;
- Review planting equipment on-site to ensure that they are the quietest versions available for the required purpose; and,
- Noise construction works will be limited to 8am to 6pm on weekdays.

Invasive Species

Medium impact, non-regulated invasive species were noted on-site: Butterfly bush, winter heliotrope, sycamore, Virginia creeper and Himalayan honeysuckle.

To mitigate against the unintentional introduction of invasive species during construction, the following biosecurity measures will be implemented. These measures are in line with NRA (now TII) *Guidance for the Management of Noxious Weeds and Non-Native Invasive Plant Species* [39]:

- Prior to works commencing as part of the Proposed Development, an Alien Invasive Species Management Plan will be prepared and submitted to CCC;
- All vehicles, machinery and any other equipment that may be used for the works will be washed prior to its use on-site to prevent the import of plant material and seeds;
- Before machinery or equipment is unloaded at the Site, equipment will be visually inspected to ensure that all adherent material and debris have been removed;
- Any vehicles and machinery that are not clean will not be permitted entry to the Site;
- All materials to be imported to the Site, including additional planting, will be sourced from a reputable supplier and records of all material / supplies to the Site will be maintained; and,
- In advance of works, all site personnel will receive an induction regarding invasive species.

5.3.2 Operational Phase

5.3.2.1 Protection of Fauna

Nocturnal Species

Nocturnal species, such as bats, are impacted by lighting. Therefore, it is important that lighting installed onsite is completed with sensitivity for local wildlife whilst still providing the necessary lighting for human usage.

A Lighting Plan has been prepared by Kelliher's Electrical and submitted as part of the overall planning application. This Lighting Plan shows light spillage of 1.5Lux – 5Lux onto the northern hedgerow / treeline, where the majority of bat activity was recorded during the NBW surveys, and where compensatory planting will take place (see Section 5.4.1 below). These lighting levels may impact foraging and commuting bat species. However, it is worth noting that the lighting plan does not show any light spillage in the far northeastern corner of the Site, thereby keeping this connective corridor running north-south in place. This area will remain suitable for foraging and commuting bats. It is also the case that the vast majority of on-site bat activity is from common and soprano pipistrelle bats, which are fairly light-tolerant species, and that the Site is in a semi-urban and well-lit location already.

The following measures should also be taken into consideration during the lighting layout design:

- Avoidance of excessive lighting;
- Light Emitting Diodes ('LEDs') will be used, and the brightness will be set as low as possible;
- Lighting height will be kept to a minimum while remaining in accordance with lighting standards to reduce lateral light intrusion into adjacent vegetation; and,
- Directional lighting focused only where needed, helping to maintain darker zones along retained treelines and woodland edges and reducing upward lighting.

5.4 Ecological Enhancement Measures

A number of ecological enhancement measures will be incorporated into the overall Site and include:

- Provision of artificial roosting sites;
- Lighting Restrictions;
- Bird Boxes.

5.4.1 Fauna

The recommendations proposed below detail measures that will enhance the attractiveness of the Site to wildlife in the surrounding areas. The locations and quantity of the following measures are indicative and are to be specified by an ecologist following the completion of works.

5.4.1.1 Bats

Provision of artificial roosting sites

It is proposed to install artificial bat boxes (at least three) within the Site (See BSM landscape plan).

Artificial bat boxes will be erected on suitable mature trees within the Site. Artificial bat boxes can provide vital roosting places in habitats devoid of natural roosting opportunities. Bat boxes can also provide additional suitable roosting habitats for bats in an area.

Bat boxes should be placed in a position sheltered from strong wind and exposed to the sun for part of the day. The boxes will be located in / close to linear features, such as the hedgerow / treelines, and will be placed a minimum of 2m above the ground. Figure 5-1 below shows suitable bat roost box examples, including a Pole Mounted Bat Box, Bat Box Schwegler 1FF and Vivara Small Bat Box.

The exact location of the bat boxes will be determined by an experienced ecologist after the completion of the Construction Phase of the Proposed Development. Provisional locations and numbers can be found in the Landscape Plan prepared by Brady Shipman Martin. This is to allow the ecologist to assess the exact conditions that have been created and thus to ensure that the bat boxes are sited in the most appropriate location possible.

Figure 5-1: Suitable Bat Boxes



5.4.1.2 Lighting Restrictions

Many bats are averse to light and will avoid areas with high-intensity lighting. Therefore, in order to minimise any potential impacts from light spillage, consideration should be given to the lighting strategy on-site.

A Lighting Plan has been prepared by JODA Engineering Consultants. Lighting will be installed.

Where lighting is essential, i.e., for security reasons, low-pressure sodium lamps would be preferable to high-pressure sodium or mercury lamps in order to keep the brightness as low as possible. The lighting should also be directional, aimed only where it is needed (with no upward lighting).

5.4.2 Bird Boxes

A variety of bird nest boxes (at least three) designed to attract a variety of nesting bird species will be erected on suitable trees within the Site. The creation of a nesting habitat, along with the creation of a species-rich habitat, will encourage an abundance of invertebrate life (a potential food source) and will be beneficial to local birds. General bird boxes designed to cater for a variety of species will be used, the number and location of which will be specified by an ecologist. Refer to the examples provided in Figure 5-2.

An example is the 1B Schwelger Nest Box - This nest box will attract a wide range of species and is available with different entrance hole sizes to prevent birds from competing with each other for the boxes.

Different bird species require different entrance sizes as outlined below:

- The circular 26mm entrance hole suits blue, marsh, coal and crested tit and possibly wren. All other species are prevented from using the nest box due to the smaller entrance hole;
- The circular 32mm entrance hole will attract great, blue, marsh, coal and crested tit, redstart, nuthatch, collared and pied flycatcher, wryneck, tree and house sparrow;
- The 45mm entrance hole will attract starlings; and,
- Open-fronted nest boxes will attract robins, wrens, pied and grey wagtail, song thrush and blackbirds.

The exact location of the bird boxes will be determined by an experienced ecologist after the completion of the proposed works. This is to allow the ecologist to assess the exact conditions that have been created and thus to ensure that the bird boxes are sited in the most appropriate location possible. However, it is recommended that bird boxes face between north and southeast to avoid strong winds, rain and sunshine. In addition, bird boxes should be tilted slightly forward to ensure that rain runs off the top, and there should be a clear flight path to access the nestbox hole. Also, bird boxes with a hole should be placed ca. 2-4m off the ground, whereas open-fronted bird boxes should be placed lower than 2m among dense vegetation where predators will not easily see it.

It should be noted that the distance between nest boxes can vary. Species such as house sparrow and starling have a preference for nesting in colonies, and therefore the bird boxes should be placed closer to each other, whereas species such as robins and tits can be highly territorial and therefore the nest boxes should be separated by a greater distance.

Figure 5-2: Bird Box Examples



6 CONCLUSIONS

Based on the findings of a detailed desk-based study, a review of all the ecological information available for the Site and wider area and field surveys conducted by suitably qualified MOR Environmental Ecologists, it is considered reasonable to conclude the following:

- The Site is currently considered to be of Local importance (higher value) in terms of ecological importance. This is based on its suitability to support protected species (specifically breeding birds and foraging / commuting bats) rather than the intrinsic value of its habitats, which are assessed as Local importance (Lower value);
- The Site supports a relatively low number of common species of bats which utilise the Site for foraging and commuting, predominantly along the northern boundary. Provided mitigation with respect to lighting and habitat creation is delivered, the Site will remain a foraging and commuting resource for local bats, and there will be no significant effects on the local bat assemblage;
- Four bats were observed to be roosting in two trees along the northern boundary of the Site. A derogation licence will be obtained from the NPWS prior to any works commencing on the Site;
- The Site is not considered to be of high suitability or a site of importance for any Annex I or Annex II species or Red-listed birds, though a small number of amber and red species currently utilise the site for foraging and/or breeding. Mitigation measures will ensure no significant effects on nesting birds or local bird assemblages;
- The Proposed Development will not result in any significant effects on ecological receptors identified both on-site and in the surrounding area following the implementation of appropriate mitigation measures; and,
- The proposed Landscape Plan has been designed to compensate for any vegetation removed during Site clearance works and ensure the Site continues to support biodiversity.

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APPENDICES

APPENDIX A

September 2026

Bat Report

Proposed Large-scale Residential Development

O’Flynn Construction Co. Unlimited Company

Old Fort Road, Ballincollig, Co. Cork

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Revision Record

Issue No.	Date	Description	Remark	Prepared	Checked	Approved
01	17/12/25	Report	Final	SL	KB	KB
02	25/09/26	Report	Final	SL	CS	CS

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Bat Report

Proposed Large-scale Residential Development

O'Flynn Construction Co. Unlimited Company

Old Fort Road, Ballincollig, Co. Cork

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1 INTRODUCTION

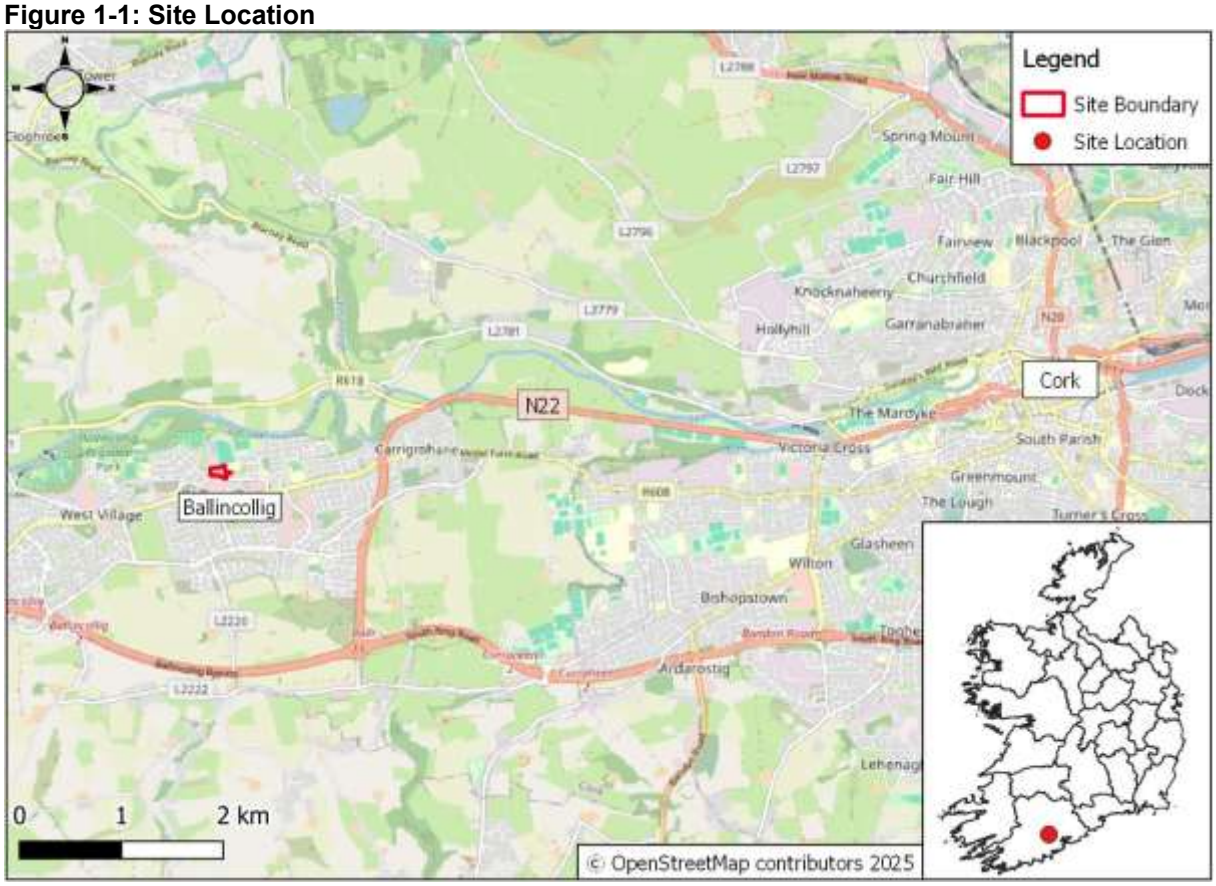
This Bat Report has been prepared by Malone O'Regan Environmental ('MOR Environmental') on behalf of O'Flynn Construction Co. Unlimited Company ('the Applicant'), to present the findings of bat surveys undertaken at a site at Old Fort Road, Ballincollig, Co. Cork ('the Site') (OSI Reference ITM X 559274 Y 571071). This Bat Report is an Appendix to the Ecological Impact Assessment Report ('EcIA'), prepared by MOR Environmental to inform a planning application for the Large-scale Residential Development ('LRD') and associated site works (the 'Proposed Development') at Old Fort Road, Ballincollig, Co. Cork. This Bat Report should be read in conjunction with the EcIA.

The Site is located within a predominantly urban landscape and comprises areas of spoil and bare ground, recolonising bare ground and scrub with sections of treeline on the southern and northern boundaries. The Site is bordered to the west by housing developments and to the north by a grass field and sports playing fields. It is bordered to the south by Old Fort Rd and to the east by a community nursing home and medical centre. The Site is ca. 1.189 hectares ('ha') in size.

Bat surveys were deemed necessary based on the previous survey effort undertaken (see Section 2.1.1 below).

The location of the Site is shown in Figure 1-1.

Figure 1-1: Site Location



1.1 Relevant Legislation

All Irish bat species are protected by law under the Wildlife Act 2000 (as amended) and its subsequent amendments. They are afforded full protection under this act, which makes it a criminal offence for anyone without a licence to:

- Kill, injure or handle a bat;
- Possess a bat (whether alive or dead);
- Disturb a roosting bat; and,
- Damage, destroy or obstruct access to any place used by bats for shelter, whether they are present or not.

In addition to domestic legislation, bats are also protected under the EU Habitats Directive (92/43/EEC). All Irish bats are listed in Annex IV of the Habitats Directive, and the lesser horseshoe bat is further listed under Annex II, which make it an offence to:

- Deliberately capture, injure or kill any bat; or,
- Deliberately disturb a bat, in particular any disturbance which is likely;
    (a) To impair their ability:
        (i) To survive, to breed or reproduce, or to rear or nurture their young; or,
        (ii) To hibernate or migrate.
    (b) To affect significantly the local distribution or abundance of the bat species; or,
- Damage or destroy a breeding site or resting place of a bat.

Therefore, the destruction, alteration or evacuation of a known bat roost is a notifiable action under current legislation and a derogation license must be obtained from the National Parks and Wildlife Service ('NPWS') before works can commence.

Furthermore, it should also be noted that any works interfering with bats and especially their roosts, including, for instance, the installation of lighting in the vicinity of the latter, may only be carried out under a license to derogate from Regulation 54 of the Habitats Regulations 1997 (which transposed the EU Habitats Directive into Irish law) issued by NPWS.

1.2 Statement of Authority

The bat inspection surveys and report were undertaken under the guidance of the following MOR Environmental personnel: Stephanie Lonergan and Chris Savage.

Stephanie Lonergan, Environmental Consultant, who has a B.A. (Mod) (Hons) in Environmental Science. Stephanie is a qualifying member of the Chartered Institute of Ecology and Environmental Management ('CIEEM') with a particular interest in bat ecology and conservation. Stephanie has completed courses on bat ecology, identification, handling, biometrics and mitigation with CIEEM and Bat Conservation Ireland. Stephanie has undertaken training run by Wildlife Acoustics for analysis of bat calls in Kaleidoscope Pro Software and regularly uses this programme within her role at MOR Environmental. Stephanie also holds a certificate of Bat Acoustic Analysis from Batability. Stephanie has experience undertaking bat surveys and tree / building assessments and regularly attends events held by local bat groups.

This report was reviewed and approved by Mr Chris Savage – Principal Environmental Consultant (Biodiversity). Chris has over 13 years of experience working in the ecological consultancy sector. As part of his role, Chris is required to undertake habitat surveys and

appraisals as well as specialist protected species surveys in support of Ecological Impact Assessment. Chris holds a BSc (Hons) in Ecology and an MSc in Ecological Assessment. He is a full member of the Chartered Institute of Ecology and Environmental Management. Chris has extensive experience managing bat-related projects both in the UK and Ireland, and is a holder of a Level 2 Bat Survey Licence from Natural England.

1.3 Species Background

Bats in Ireland feed exclusively on insects, and in the summer months (May – September) they generally emerge from their roosts around sunset to feed. Bats are known to use a number of different foraging sites in the same night and move between them to locate areas of high insect concentrations. They are also known to exhibit site loyalty and will return to the same foraging sites night after night [1].

There are eleven recorded bat species in Ireland, nine of which are considered resident and two of which are considered vagrants (Please see Table 1-1).

Table 1-1: Status of Irish Bat Species [2]

Bat Species	*Latin Name*	Irish status	European Status
Resident Bat Species			
Brown Long-eared Bat	*Plecotus auritus*	Least Concern	Least Concern
Common Pipistrelle	*Pipistrellus pipistrellus*	Least Concern	Least Concern
Daubenton's Bat	*Myotis daubentonii*	Least Concern	Least Concern
Leisler's Bat	*Nyctalus leisleri*	Least Concern	Least Concern
Lesser Horseshoe Bat	*Rhinolophus hipposideros*	Least Concern	Near Threatened
Nathusius' Pipistrelle	*Pipistrellus nathusii*	Least Concern	Least Concern
Natterer's Bat	*Myotis nattereri*	Least Concern	Least Concern
Soprano Pipistrelle	*Pipistrellus pygmaeus*	Least Concern	Least Concern
Whiskered Bat	*Myotis mystacinus*	Least Concern	Least Concern
Vagrants			
Brandt's Bat	*Myotis brandtii*	Data Deficient	Least Concern
Greater Horseshoe Bat	*Rhinolophus ferrumequinum*	Data Deficient	Near Threatened

1.4 Types of Bat Roosts

Bats were originally cave and tree-dwelling animals, but many now use buildings to roost within. Buildings are highly important as roosting sites for all Irish bat species as they use buildings for all roost types. Most significant in terms of roosts in buildings are maternity roosts, but cellars and attics can serve as hibernation sites for bats. Roosts within buildings can far exceed the numbers encountered in trees, bridges, caves or cliffs and roosts of over 1,000 bats have been recorded in buildings [3].

Bats are social animals, and most species congregate in large colonies during the late spring / summer. These colonies consist mostly of females, with some juvenile males from the previous year. Male bats normally roost individually or in small groups, meeting up with the

females in the late autumn, when it is time to mate. In summer, bats seek warm dry buildings in which they can give birth and suckle their young. In winter, they seek out places with a constant low temperature and high humidity where they can become torpid and hibernate during adverse weather conditions. However, bats do not hibernate continuously during winter and will awake and hunt during mild nights when there are insects available and it is energetically advantageous to forage [4].

One purpose of daytime tree or building inspections is to determine the potential of bat roosts within the survey area. Due to the transient nature of bats and their seasonal life cycle, there are a number of different types of bat roosts. Where possible, one of the objectives of the surveys is to be able to identify the types of roosts present, if any.

Table 1-2 below shows an excerpt of the definitions of the types of bat roosts taken from the Bat Conservation Trust's '*Bat Surveys for Professional Ecologists - Good Practice Guidelines* (4th ed.) [4]. It should be noted that there is no equivalent Irish guidance and that this guidance is applicable to the bat roost types found in Ireland. Additionally, all bat species found within Ireland are also present in the UK, so Irish bat species have been fully assessed as part of this Bat Conservation Trust guidance.

Table 1-2: Bat roost types. (definitions written by the Natural England Earned Recognition Project). [4]

Roost Type	Natural England Definition
Day Roost	A place where individual bats or small groups, rest or shelter in the day during the summer.
Night Roost	A place where bats rest or shelter in the night but are not found in the day. May be used by a single individual on occasion, or it could be used regularly by the whole colony.
Feeding Roost	A place where individual bats, or few individuals, rest or feed for short periods during the night but are not present by day.
Transitional Roost	A place used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.
Maternity Site	A place where female bats give birth and raise their young to independence. In some species males may also be present in the maternity roost.
Hibernation Site	A place where bats may be found individually or together during winter. They have a constant cool temperature and high humidity.
Satellite Roost	An alternative roost found in close proximity to the main nursery colony used by a few individuals to small groups of breeding females throughout the breeding season.

1.5 Purpose of Survey Work

The implication of these legislative policies is that the Proposed Development needs to take account of the potential effects on bats. Survey work is necessary to establish whether the species are currently present in areas where suitable habitat exists and in areas where bats have previously been recorded. Survey work also enables appropriate mitigation measures to be incorporated into the design of the project and ensures that there are no adverse effects on the conservation status of the species.

Survey work was deemed necessary based on desktop surveys and suitable habitat for roosting, foraging and commuting bats being identified during the initial walkover of the Site.

2 METHODOLOGY

The methodologies used to establish the presence / potential presence of bats are summarised below.

2.1 Desk-Based Studies

A desk-based study was undertaken to identify records of bats within the survey area. The following sources of information were reviewed:

- Aerial mapping was reviewed to identify any habitats and features likely to be used by bats. Maps and images of the Site and general landscape were examined for suitable foraging or commuting habitats, including woodlands and forestry, hedgerows, treelines, and watercourses;
- The NPWS website was consulted to obtain the most up-to-date details on conservation objectives for the European sites relevant to this assessment [5];
- The National Biodiversity Data Centre ('NBDC') website was consulted with regard to bat species distributions and the bat habitat suitability index [6];
- The National Bat Database of Ireland dataset on the NBDC website was consulted to investigate the nearest known roosts within the vicinity of the Site [7];
- A review of an Arborist Report prepared by South of Ireland Tree Surveys was also undertaken; and,
- A review of the Bat Survey Report prepared by MOR Environmental in May 2022 (see Section 2.1.1).

2.1.1 Review of Previous Surveys undertaken On-site

MOR Environmental undertook the following surveys in 2021 on-site in support of a Strategic Housing Development ('SHD') (ABP-323642-22):

- Ground-level tree inspection;
- One dusk emergence bat survey; and,
- One dawn re-entry survey.

These surveys were undertaken in line with Bat Conservation Trust's '*Bat Surveys for Professional Ecologists – Good Practice Guidelines'* (3rd edition) [8], which was the most up-to-date guidance at the time.

According to CIEEM Advice Note on the Lifespan of Ecological Reports and Surveys, survey data that is 12-18 months old can still remain valid following an updated survey by a professional ecologist and an updated desk-based assessment to confirm that the Site has not experienced significant change, and the local distribution of species in the wider area around the Site has not changed [9]. While the above survey data is over four years old at the time of writing this report, it is still considered that a review of these survey results can provide additional insight into the potential importance of the Site for bat species. Additionally, as updated surveys were undertaken in 2025, it was considered that the 2021 surveys could supplement the findings of the updated surveys.

2.2 Field-Based Studies

The survey design was informed by previous experience and the following publications:

- *Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes* [3];

- *A Conservation Plan for Irish Vesper Bats* Irish Wildlife Manual No. 20 [10];
- *UK Bat Mitigation Guidelines: A guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.2.* [11]*;*
- *Bat Mitigation Guidelines for Ireland – V2*. Irish Wildlife Manuals, No. 134 [12] a publication by the NPWS; and,
- *Bat Surveys for Professional Ecologists - Good Practice Guidelines* (4th ed.). London: The Bat Conservation Trust [4].

2.2.1 Daytime Bat Walkover and Identification of Bat Habitats

The Site was assessed during a Daytime Bat Walkover ('DBW') survey on 15th September 2025 to assess the Site for its suitability to support roosting, foraging and commuting bats. Bat habitats and commuting routes identified were considered in relation to the wider landscape to determine connectivity for local bat populations, and through the examination of aerial mapping.

Assessment criteria for evaluating the potential suitability of the Site for bats were carried out in line with *'Bat Surveys for professional Ecologists: Good Practice Guidelines'* [4].

Table 2-1: Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement [4]

Potential Suitability	Description of Roosting habitats in structures	Description of Potential flight-paths and foraging habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevice/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or forging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible[1]	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats, however a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[2] and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e., unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats[3]).	Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated, i.e., not very well connected to the surrounding landscape by another habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.

[1] Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).

[2] For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

[3] Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments [15] ((and [16]).Common pipistrelle swarming has been observed in the UK ([17] and [18]) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland ([19]). This phenomenon requires some research in the UK,

Potential Suitability	Description of Roosting habitats in structures	Description of Potential flight-paths and foraging habitats
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

2.2.2 Ground Level Tree Assessment

As part of the walkover, all trees within the Site were subject to a Ground Level Tree Assessment ('GLTA'). The purpose of the GLTA was to assess for the presence of Potential Roosting Features ('PRF') that could be utilised by roosting bats, using close-focusing binoculars and a powerful focused-beam light source. Examples of PRF include:

- Presence of natural cavities, splits, cracks, loose bark and rot holes in the trunk or boughs of the tree;
- Presence of dense and woody ivy (*Hedera helix*) growth that could be used by bats for roosting;
- Evidence of bat droppings, which may also be seen as a black streak beneath holes, cracks, branches, etc;
- Presence of smooth edges with dark marks and urine stains at potential entrances to roosts;
- Adjoining habitats which are likely to be important to bats, including the river corridor, and hedge / treelines within the survey area that offer a variety of potential foraging, roosting and commuting opportunities for bats; and,
- Adjoining potential roosts / known roosts identified, as this raises the likelihood of a tree being of benefit, as bats may move roosts if a roost becomes too hot / cold.

Proximity to the road was also taken into account when determining the suitability of PRFs, as traffic noise can negatively affect bat activity at over 20m away from noise sources [13].

All trees on-site were assessed in line with Table 2-2 (Table 4.2 in BCT Guidance [4]).

Table 2-2: Guidelines for assessing the suitability of trees on proposed development sites for bats, to be applied using professional judgement

Suitability	Description
NONE	Either no PRFs in the tree or highly unlikely to be any
FAR	Further assessment required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

Where trees with PRFs were identified, they were then categorised as per Table 2-3 (Table 6.2 in BCT guidance [4]).

but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.

Table 2-3: Guidelines for Categorising the Potential Suitability of PRFs

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

Following the DBW survey and the GLTA, it was deemed necessary to undertake dusk emergence and nighttime bat walkover surveys and static monitoring surveys.

2.2.3 Dusk Emergence and Nighttime Bat Walkover (NBW) Surveys

Two dusk emergence and NBW surveys took place at the Site in 2025, on:

- 15th September; and,
- 23rd September.

Three further dusk emergence and NBW surveys took place at the Site in 2026, on:

- 14th May;
- 6th July; and,
- 3rd September.

The surveys commenced 15 minutes before sunset and ended two hours after sunset, therefore encompassing the typical emergence times of Irish bat species.

The emergence survey took place using night vision aids ('NVAs'), and by surveyors at vantage points ('VPs'). Each surveyor used one HIKMICRO Lynx 2.0 Pro Thermal Monocular as a night vision aid during the emergence surveys to aid in monitoring the trees within the Site for bat emergence. See Plate 2-1 for the viewshed from VP1 and Plate 2-2 for the viewshed from VP2.

Plate 2-1: NVA Viewshed at VP1

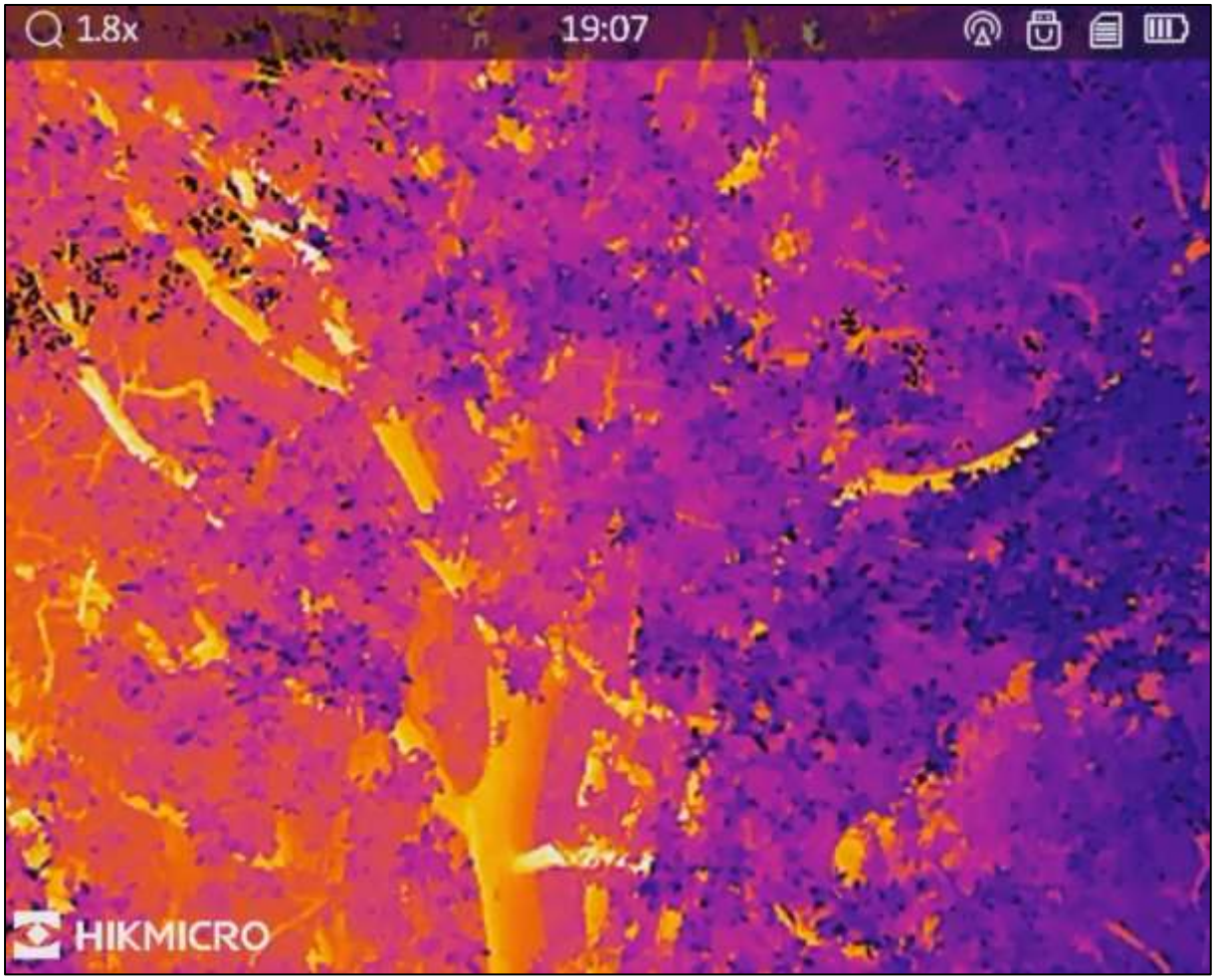


Plate 2-2: NVA Viewshed at VP2

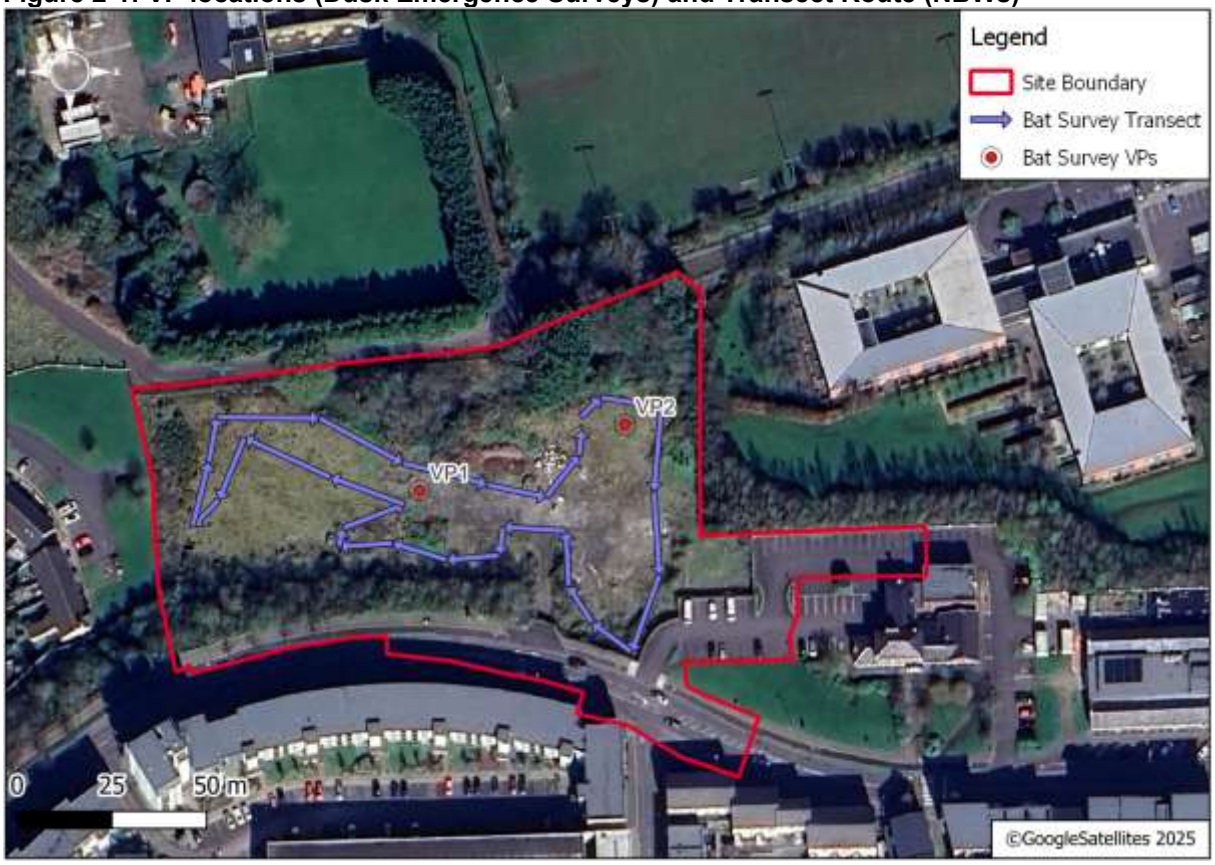


The emergence surveys took place for one hour and fifteen minutes and were designed to incorporate all trees identified as having PRF.

The NBW portion of the survey involved walking a predetermined transect ('T') for one hour after the dusk emergence survey. It was designed to incorporate all treelines, linear features and other areas of the Site identified during the DBW as providing suitable habitats for foraging and commuting bats. The transect aimed to capture bat activity levels within the wider survey area and to determine what areas within the Site are important habitats for bats. During both the emergence and NBW portions of the survey, the surveyors used an Echo Meter Touch2 Pro to listen for bat calls. These bat calls were recorded using this Echo Meter Touch2 Pro and stored on the EchoMeter App. A combination of visual observation and listening to ultrasonic bat calls was used during the dusk emergence and NBW survey.

See Figure 2-1 for full details of the locations of the NVAs, VPs and transects walked during the surveys.

Figure 2-1: VP locations (Dusk Emergence Surveys) and Transect Route (NBWs)



2.2.4 Automated Bat Monitoring ('SM4')

Two passive bat detectors, Wildlife Acoustics Song Meter 4-BAT ('SM4s'), were placed at distinct locations within the Site, for five periods of static monitoring. The SM4s were deployed on the Site on the following dates:

- 21st – 27th April 2026,
- 22nd – 29th May 2026;
- 18th June – 23rd June 2026;
- 17th July – 21st July 2026; and,
- 25th August– 3rd September 2026.

Figure 2-2 below shows the locations where the SM4s were placed within the Site during the April and May deployments, and Figure 2-3 shows where the SM4s were placed within the Site during the June-September deployments.

During the June-August deployments, one detector (D02A) had to change locations as the treeline where this detector had been placed in the previous months became inaccessible. As such, this detector was deployed on a pole in the centre of the Site, and will henceforth be referred to as D02B.

Figure 2-2: SM4 Locations During April – May Deployment

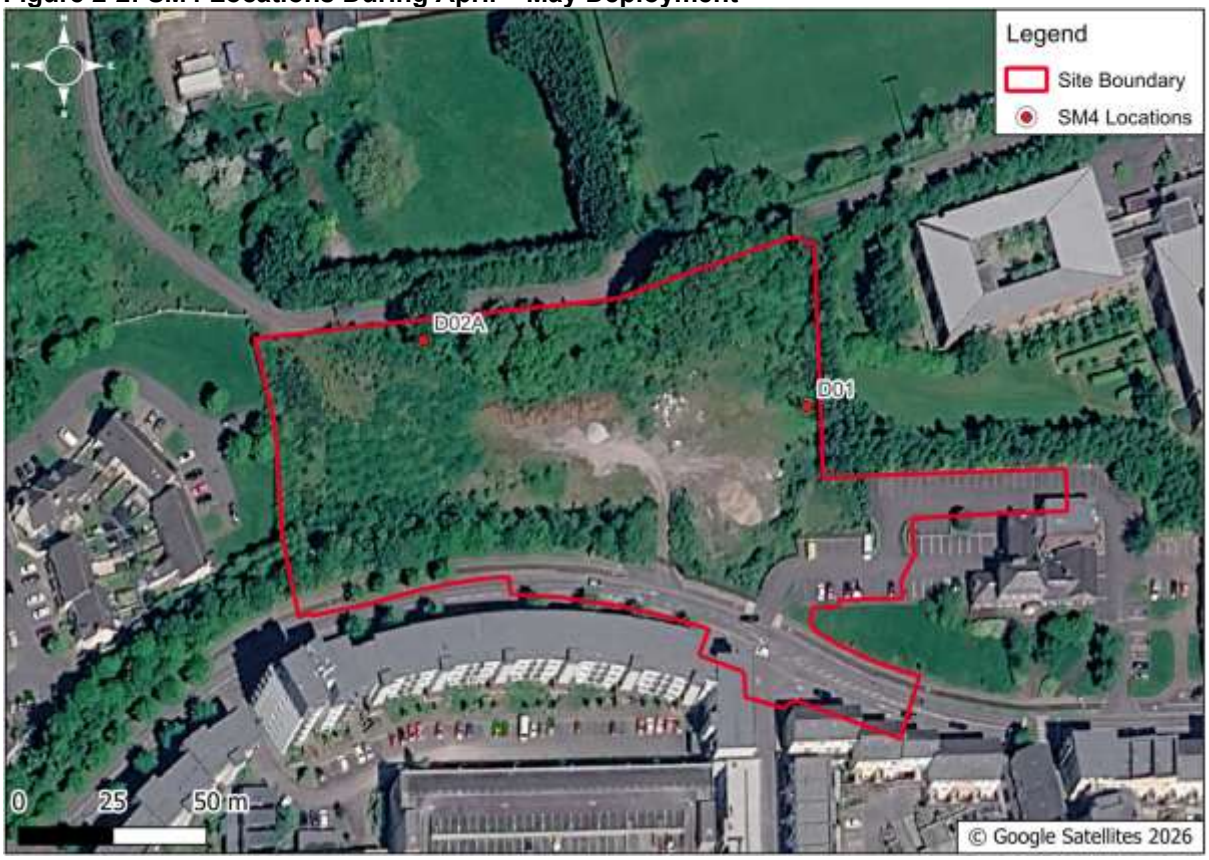
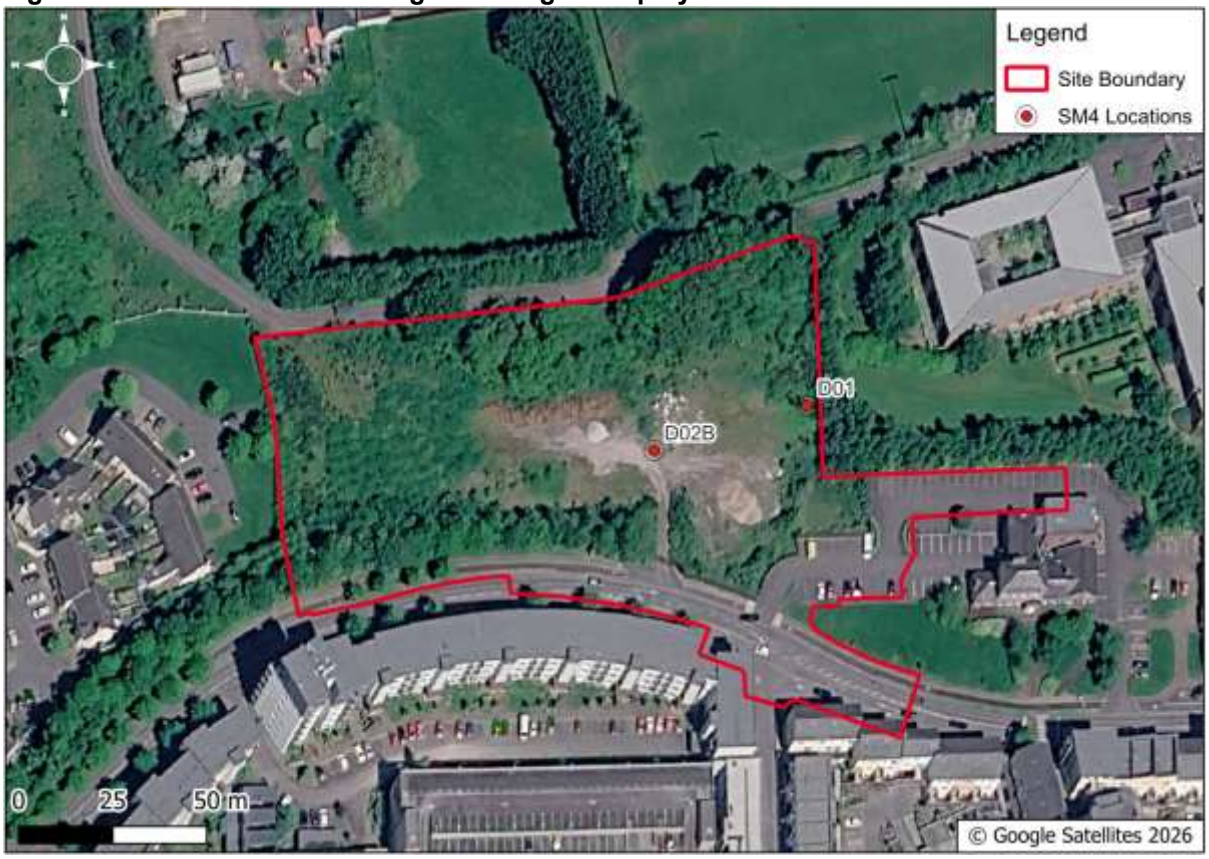


Figure 2-3: SM4 Locations during June-August Deployment



The SM4s were equipped with ultrasonic microphones and were left in specific locations for a specified period of time. The SM4s were used as bat activity data loggers because no surveyor was present. Bats that passed near the SM4 unit were recorded, and their calls were stored for analysis after the monitoring period. This resulted in a far greater sampling effort over a shorter period of time.

The SM4s and ultrasonic microphones were positioned in open spaces and locked in secure boxes to prevent interference during the monitoring period. The SM4 bat loggers used real-time recording to capture bat echolocation calls, and specific software identified the calls. It was these sonograms of the bat calls (2-D sound graphs) that were digitally stored in the SD cards within the SM4s that were then downloaded for analysis.

These results were depicted in a table detailing the number of bat passes per species / per hour / night. Each bat pass did not correlate to an individual bat but was representative of the bat activity levels within the area. For example, some bat species, such as the *Pipistrellus* species, will continuously fly around a habitat; therefore, it is likely that a series of bat passes within a similar timeframe could be the same pipistrelle bat. However, other bat species, such as Leisler's bats, tend to travel through an area quickly and therefore an individual bat pass is more indicative of the actual number of individual bats.

The total number of bat passes recorded per night, divided by the number of hours of recording, provides a figure for this analysis. The bat activity levels were determined as follows:

- None = 0 passes;
- Low = 1 - <10 passes per hour;
- Moderate = >10 - < 50 passes per hour; and,
- High = > 50 passes per hour.

All sound file data downloaded from the SM4s was analysed using Kaleidoscope Pro Software. The 'auto-ID' function was used to batch assign the top auto-ID species for each sound file. This approach allowed identification of bats to genus level for *Myotis* species, and to species level for other bats found in Ireland. Separation of *Myotis* species is complicated by the high degree of overlap between call characteristics. This software can also automatically sort sound files that contain only noise ('non-bat') from sound files that contain bat passes.

Following the batch analysis, all non-pipistrellus calls (excluding Nathusius' pipistrelle) and no ID calls were manually checked by a capable bat acoustic analyst. Auto-ID calls from common pipistrelle and soprano pipistrelle were not manually checked, as it is accepted that, due to the lack of complexity within these species' calls, the auto-ID function is sufficient.

2.2.5 Data Analysis

The bat recordings taken during the surveys were analysed using the software KaleidoscopePro to aid the identification of bat species present. A combination of the visual observations taken during the survey and the number of bat passes [4] identified on the recordings were used to determine bat activity levels within the area.

All non-noise recordings taken on the surveys were manually checked by a capable bat acoustic analyst.

[4] It is important to acknowledge that bat calls provide a measure of bat activity rather than the number of individuals in a population. In practice, bat activity (as, for example, represented by 100 recordings) could be from 100 bats passing the detector or one bat passing 100 times [4].

2.3 Validity of Survey Data

Bat surveys are a snapshot of the bat activity within an area at the time of surveying. It is therefore important that bat surveys comprise a number of surveys designed to provide as much information on the species and levels of bats using an area. Therefore, a combination of surveys was used to determine the potential importance of the Site for bats.

All survey work was conducted in accordance with current best practice guidelines, which dictate that bat surveys should be undertaken when there is no wind and the temperature is above 10°C.

During the dusk bat surveys, temperatures were between 14°C - 10°C (see Table 2-4). See Table 2-5 for metadata associated with the automated detector surveys.

Table 2-4: Bat Survey Metadata

Date	Survey Type	Sunset	Survey Times (Start-End)	Weather	Temperature (°C) Start - End
15/09/2025	Dusk Emergence & NBW	19.50	19:35-21:50	Light drizzle from: 19:58 – 20:13 and 20:53 – 20:57	14°C -13°C
23/09/2025	Dusk Emergence & NBW	19.32	19:17-21:32-	Dry with light breeze	12°C -10°C
14/05/2026	Dusk Emergence & NBW	21:19	21:04-23:19	Dry, moderate breeze	10°C-8°C
06/07/2026	Dusk Emergence & NBW	21:53	21:41-23:56	Dry, light breeze	19°C-14°C
03/09/2026	Dusk Emergence & NBW	20:16	20:01 – 22:01	Light rain from: 20:21 – 21:00 and 21:30 – 22:01.	18°C-17°C

Table 2-5: Metadata associated with 2026 SM4 Detector Deployment Visits

Survey Period	Night Number	Date	Average Overnight Rain* (mm/hr)	Average Overnight Wind‡ (m/s)	Average overnight Temp (^{0}C)	Condition suitability
April 2026	1	21	0	33	8.5	Unsuitable
	2	22	0	24	9.7	Unsuitable
	3	23	0	24	10.5	Unsuitable

Survey Period	Night Number	Date	Average Overnight Rain* (mm/hr)	Average Overnight Wind‡ (m/s)	Average overnight Temp (^{0}C)	Condition suitability
	4	24	0.12	14	9.8	Suitable
	5	25	0	9	10.6	Suitable
	6	26	0	18	9.9	Suitable
	7	27	0	10	10.2	Suitable
May 2026	1	22	0	12	11	Suitable
	2	23	0.1	7	10	Suitable
	3	24	0.1	6	12	Suitable
	4	25	0	7	15	Suitable
	5	26	0	15	16	Suitable
June 2026	1	18	1.5	20	15	Unsuitable
	2	19	0	11	11	Suitable
	3	20	0	5	12	Suitable
	4	21	0	7	14	Suitable
	5	22	0	9	18	Suitable
	6	23	0	11	16	Suitable
July 2026	1	17	0	5.8	16.7	Unsuitable
	2	18	0	5.2	14.9	Unsuitable
	3	19	0	2.3	14.5	Suitable
	4	20	0	4	15.1	Suitable
	5	21	0	4.7	15	Suitable
	6	22	0	3.4	16.2	Suitable
	7	23	0	4.1	15.6	Suitable
August / September 2026	1	25	0	2.9	15	Suitable
	2	26	0	5.1	16.2	Unsuitable
	3	27	0	1.9	15	Suitable
	4	28	1.1	3.2	15.4	Suitable
	5	29	0	2.7	14.4	Suitable

Survey Period	Night Number	Date	Average Overnight Rain* (mm/hr)	Average Overnight Wind‡ (m/s)	Average overnight Temp (^{0}C)	Condition suitability
	6	30	0	5	13.4	Unsuitable
	7	31	0	2.7	12.8	Suitable
	8	1	0.5	4.1	15.5	Suitable
	9	2	0	4	15.8	Suitable
Notes	**All weather data is from://www.visualcrossing.com/weather-history/** **All results are an average, calculated from the totals recorded hourly between sunset and sunrise.** *** Bats will forage during dry spells between rain showers.** **‡ Strong winds can interrupt bat activity. Consistent winds above 20km/h can disrupt bat foraging and commuting activity.** **Typically, temperatures above 10 °C are considered suitable for bat activity.**					

2.3.1 Survey Limitations

During the first dusk emergence and NBW survey on 15th September 2025, there was light drizzle from 19:58 – 20:13 and from 20:53 – 20:57. This was not considered to be a significant survey limitation, as this drizzle did not significantly deter bat activity onsite, and surveys were repeated during the optimum season and weather conditions in 2026.

2.4 Evaluation of the Importance of the Site for Bat Species

The value of the importance of the Site for bat species was evaluated using the ecological evaluation guidance given in the Transport Infrastructure Ireland ('TII'), formerly known as National Roads Authority ('NRA'), guidance on assessment of ecological impacts of National Road Schemes [14]. This guidance provides ratings for resources based primarily on geographic context and allows for resources at the following levels:

- International Importance;
- National Importance;
- County Importance (or vice-county in the case of plant or insect species);
- Local Importance (Higher Value); and,
- Local Importance (Lower Value).

3 RESULTS

3.1 Desk-Based Results

Prior to conducting the field surveys, a desk-based review of information sources was completed.

Three of the nine resident bat species found in Ireland have been recorded within 2km of the Site within the past 10 years at the time of writing this report [6]: Leisler's bat, common pipistrelle and soprano pipistrelle. The NBDC records were checked on 10th September 2026. The following NBDC 2km grids have been reviewed: W56U, W56Z, W57Q, W57R, W57V, W57W, W66E, W67A and W67B [6]. Only records over the past 10 years were included in this report. The parameter of 10 years was chosen on the basis of habitat adaption and modification, and it is considered that any records over 10 years old are not representative of the current distribution of bat species populations.

A review of The National Bat Database of Ireland did not show any known roosts within 3km of the Site [7].

Table 3-1 provides details of the habitat suitability index for the Site [6]. The habitat suitability index identifies the geographical areas that are suitable for individual species. The index ranges from 0 to 100, with 100 being the most favourable to bats. The index presented is for all species combined, in addition to the individual species indices within the Site.

From the indices, it can be established that the Site has an overall very high habitat suitability index range of 36-58. The habitat suitability for Irish bats within the area ranges from very high to low. Excluding the lesser horseshoe bat, which has a 'very low' habitat suitability for the Site, all of the other listed species are likely to occur within the area.

Table 3-1: Habitat Suitability Index

Bat Species	Latin Name	Suitability Index Range	Suitability Index Level
All Bat Species	-	36-58	Very High
Brown Long-eared Bat	*Plecotus auritus*	50-79	Very High
Leisler's bat	*Nyctalus leisleri*	47-71	Very High
Soprano Pipistrelle	*Pipistrellus pygmaeus*	46-64	Very High
Whiskered Bat	*Myotis mystacinus*	45-69	Very High
Common Pipistrelle	*Pipistrellus pipistrellus*	39-47	High
Daubenton's Bat	*Myotis daubentonii*	30-38	High
Natterer's Bat	*Myotis nattereri*	37-48	Moderate
Nathusius' Pipistrelle	*Pipistrellus nathusii*	6-15	Low
Lesser Horseshoe Bat	*Rhinolophus hipposideros*	0-4	Very Low

3.1.1 Review of Previous Surveys undertaken Onsite

No bats were roosting in the trees surveyed on-site during the 2021 surveys. Low bat activity was recorded from the following species: common pipistrelle, soprano pipistrelle and Leisler's

bat. Foraging and commuting bat activity was recorded along the north of the Site where there are hedgerow / treelines.

3.2 Field-Based Results

3.2.1 Daytime Bat Walkover Survey

The existing treelines inside the northern, eastern (outside the Site boundary) and southern boundary of the Site provide suitable foraging habitat and connectivity to the wider landscape for commuting bats. The Ballincollig Regional Park lies ca. 330m further to the north, which provides suitable bat habitat. However, it should be noted that the majority of the surrounding habitats comprise urban areas, including residential and commercial areas and sporting facilities with flood lights.

3.2.2 Ground Level Tree Assessment

Four trees within the Site were considered suitable for roosting bats (see Table 3-2 below). In line with '*Bat Surveys for Professional Ecologists - Good Practice Guidelines* (4th ed.)', it was concluded that all trees provided '*PRF-I suitability – PRF* is only suitable for individual bats or very small numbers of bats, either due to size or lack of suitable surrounding habitats' [4].

Table 3-2: Ground Level Tree Assessment Results

Tree No.	Species	Latin Name	Description	PRF-I or PRF-M
1	Oak	*Quercus robur*	• Loose bark; • Cracks and crevices; and, • Ivy present.	Individual
2	Willow	*Salix sp.*	• Loose bark; • Cracks and crevices; and, • Ivy present.	Individual
3	Oak	*Quercus robur*	• Loose bark; and, • Cracks and crevices.	Individual
4	Oak	*Quercus robur*	• Ivy present.	Individual

It should be noted that T1 is scheduled for removal to facilitate the Proposed Development, while Trees T3-T4 would require management (thinning crown, removal of lower limbs, etc.) in line with the Tree Survey Report prepared by South of Ireland Tree Surveys and submitted as part of the overall planning application.

3.2.3 Dusk Emergence and NBW Survey Results

The surveyors identified bats foraging and commuting onsite. The majority of bat activity was recorded in the northeast of the Site, where bats were observed foraging and commuting over vegetation and trees.

3.2.3.1 Dusk Emergence 1 - 15/09/2025

Sunset was at 19.50.

VP1

At VP1, the first bat recorded and observed was a Leisler's bat at 19:58. It was seen foraging over the centre of the Site. This bat was recorded passing over the Site multiple times until 20:03. This was the only bat recorded at VP1.

Overall, there was 'low' bat activity at VP1, with ca. eight bat passes recorded per hour. Leisler's bat was the only bat species recorded at VP1.

VP2

At VP2, the first bat recorded and observed was a soprano pipistrelle at 19:57. It was seen foraging and commuting over the northeast of the Site. Shortly afterwards, from 19:58 – 19:59, a total of three bats were observed foraging and commuting over the northeast of the Site. Bat calls from soprano pipistrelle, common pipistrelle and Leisler's bat were recorded during this time, so it was considered that the bats observed were a combination of these.

At 20:04, one soprano pipistrelle was observed foraging and commuting along the hedgerow / treeline along the northern boundary of the Site. Common pipistrelle and soprano pipistrelle were recorded infrequently for the remainder of the dusk emergence survey and were observed foraging and commuting over the hedgerow / treeline in the northeast of the Site. The last bat recorded at VP2 was a common pipistrelle at 20:30.

Overall, there was 'high' bat activity recorded at VP2 with ca. 44 bat passes recorded per hour. Common pipistrelle had ca. 20 passes per hour, soprano pipistrelle had ca. 18 passes per hour and Leisler's bat had ca. six passes per hour.

NBW 1

Considerably less activity was recorded during the transect. Only two bat passes were recorded during the hour-long transect - one common pipistrelle at 21:30 and one soprano pipistrelle at 21:23 when the surveyors were walking along the southern hedgerow / treeline.

3.2.3.2 Dusk Emergence 2 - 23/09/2025

Sunset was at 19.32.

VP1

At VP1, the first bat recorded and observed was a soprano pipistrelle at 19:42. It was seen commuting over the northern hedgerow / treeline. At 19:43, a possible soprano pipistrelle emergence was noted from an oak tree along the northern hedgerow / treeline. It should be noted that neither the surveyor nor the NVA could confirm if this bat emerged from this tree due to the presence of dense foliage at the top of the tree.

Further possible soprano pipistrelle emergences from this same tree were noted by the surveyor at 19:47 and 19:49. Possible re-entries into this tree by two soprano pipistrelle were also observed at 19:55. The only other bats recorded at VP1 were one Leisler's bat at 20:15 and one common pipistrelle at 20:17, neither of which were observed by the surveyor.

Overall, there was 'moderate' bat activity recorded at VP1, with ca. 16 bat passes recorded per hour. Soprano pipistrelle had ca. 14 passes per hour, common pipistrelle had ca. one pass per hour and Leisler's bat had ca. one pass per hour.

VP2

At VP2, the first bat recorded was a common pipistrelle at 19:39, but not observed by the surveyor. The first bats observed at VP2 were three bats at 19:45, seen commuting over the

northern hedgerow / treeline. Bat calls from soprano pipistrelle and common pipistrelle were recorded at this time, so it is likely that the bats observed were a combination of these species. No other bats were observed at VP2, but calls from common pipistrelle and soprano pipistrelle continued to be recorded infrequently for the remainder of the dusk emergence survey. The last bat recorded was a soprano pipistrelle at 20:28.

Overall, there was 'moderate' bat activity recorded at VP2 with ca. 21 bat passes recorded per hour. Common pipistrelle had ca. 12 passes per hour and soprano pipistrelle had ca. nine passes per hour.

NBW 2

Only one bat was recorded during the transect – a soprano pipistrelle at 21:23 when the surveyors were walking along the western boundary of the Site.

3.2.3.3 Dusk Emergence 3 - 14/05/2026

Sunset was at 21:19.

VP1/NBW3

The first bat recorded at VP1 was a soprano pipistrelle at 21:40.

The surveyor observed bats foraging and commuting in the northeastern corner of the Site during this survey.

Overall, there was high bat activity at VP1 and the combined NBW, with ca. 70 bat passes recorded per hour. Soprano pipistrelle had ca. 50 passes per hour, common pipistrelle had ca. 16 passes per hour, soprano pipistrelle had ca. Leisler's bat had ca. four passes per hour.

No bats were observed to be roosting in the trees surveyed.

VP2

The first bat recorded at VP2 was a Leisler's bat at 21:05.

The surveyor observed bats foraging and commuting along the northern boundary of the Site during this survey.

Overall, there was 'moderate' bat activity at VP2, with ca. 15 bat passes recorded per hour. Common pipistrelle had ca. nine passes per hour, soprano pipistrelle had ca. four passes per hour and Leisler's bat had ca. two passes per hour.

No bats were observed to be roosting in trees surveyed.

3.2.3.4 Dusk Emergence 4 - 06/07/2026

Sunset was at 21:53.

VP1/NBW4

The first bat recorded at VP1 was a Leisler's bat at 22:02.

No bats were observed by the surveyor during the dusk emergence survey, but activity from foraging and commuting bats was recorded. During the transect, bats were recorded foraging and commuting along the northern boundary of the Site.

Overall, there was 'moderate' bat activity recorded at VP1 and the NBW, with ca. 23 bat passes recorded per hour. Common pipistrelle had ca. eight passes per hour, Leisler's bat had ca. eight passes per hour, soprano pipistrelle had ca. five passes per hour, brown long-eared bat had ca. one pass per hour and *Myotis* species had ca. one pass per hour.

No bats were observed to be roosting in the trees surveyed.

VP2

The first bat recorded at VP2 was a Leisler's bat at 21:41.

The only bat observed during this VP was a Leisler's bat commuting west at height over the Site.

However, a review of the NVA footage from this survey identified bat emergences from two trees within the Site:

- One bat emerged from Tree 1 at 22:28. No bat calls were recorded on the echometer at this time;
- One bat emerged from Tree 2 at 22:50. No bat calls were recorded on the echometer at this time;
- One bat emerged from Tree 2 at 22:53. No bat calls were recorded on the echometer at this time; and,
- One bat emerged from Tree 1 at 22:58. No bat calls were recorded on the echometer at this time.

While these bat species could not be confirmed, based on the levels of activity and species composition recorded, it is likely that this was a *Pipistrellus* species bat roost.

Overall, there was very low bat activity recorded at VP2, with ca. three bat passes recorded per hour. Leisler's bat had ca. one pass per hour, common pipistrelle had ca. one pass per hour and soprano pipistrelle had ca. one pass per hour.

3.2.3.5 Dusk Emergence 5 - 03/09/2026

Sunset was at 20:16.

VP1/NBW 5

The first bat recorded at VP1 was a common pipistrelle at 20:57. No bats were observed by the surveyor during this survey.

Overall, there was 'very low' bat activity recorded at VP1, with three bat passes from common pipistrelle recorded during the survey.

No bats were observed to be roosting in the trees surveyed.

VP2

The first bat recorded at VP2 was a Leisler's bat at 20:26. No bats were observed by the surveyor during this survey.

Overall, there was 'very low' bat activity recorded at VP1, with six bat passes from common pipistrelle and two passes from Leisler's bat recorded during the survey.

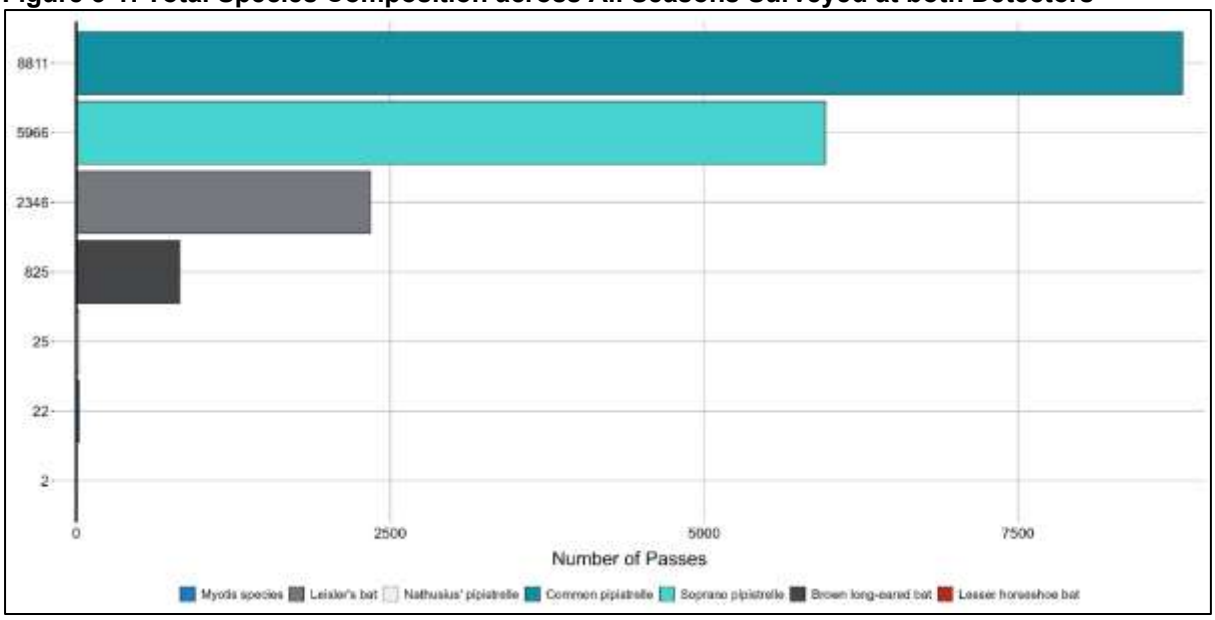
No bats were observed to be roosting in the trees surveyed.

3.2.4 Automated Bat Monitoring ('SM4')

Species Composition

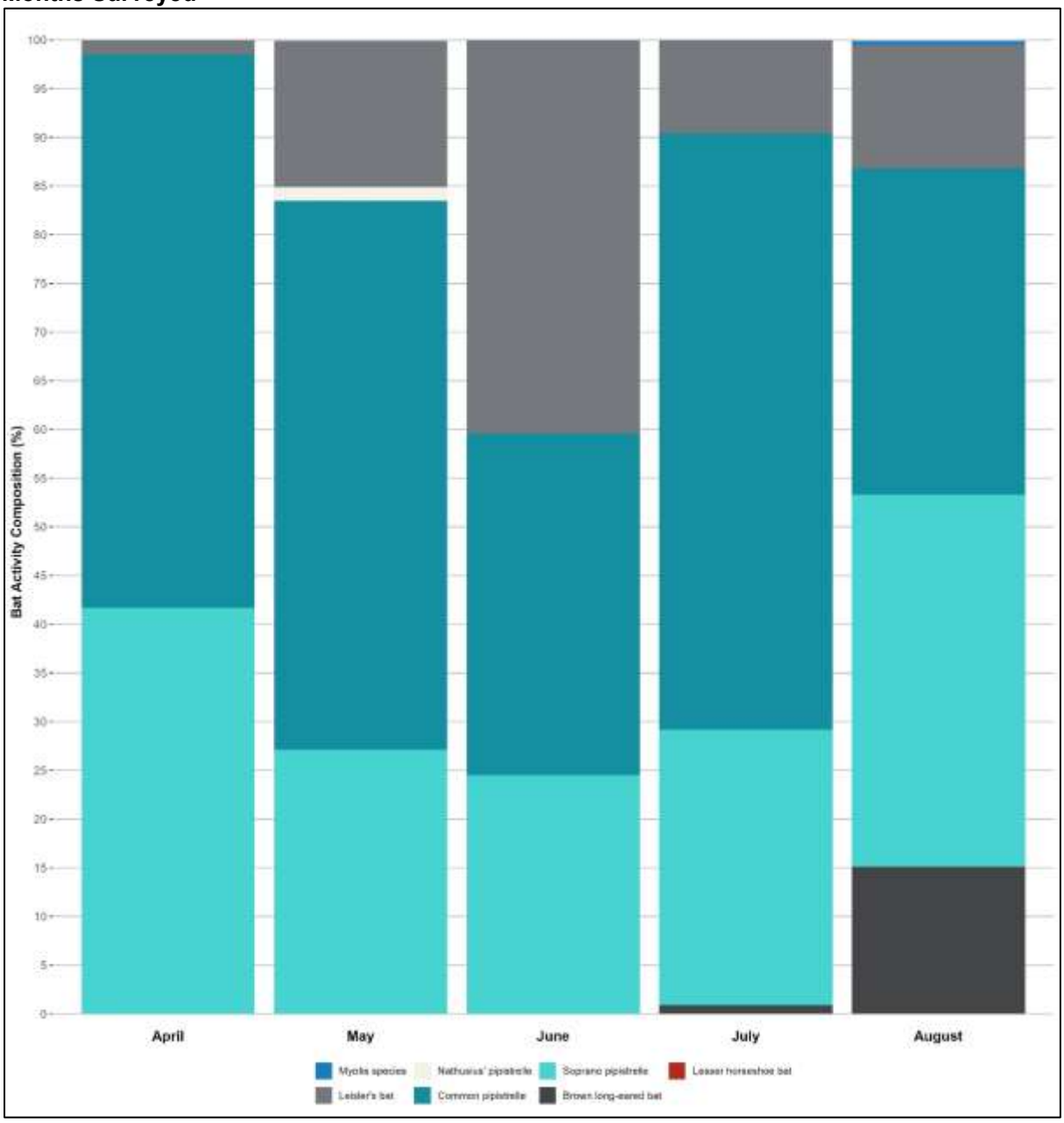
Figure 3-1 shows the species composition recorded at both detectors across all five months of automated bat monitoring.

Figure 3-1: Total Species Composition across All Seasons Surveyed at both Detectors



Common pipistrelle was the most frequently recorded species on the Site, followed by soprano pipistrelle and Leisler's bat. Compared to the levels of activity recorded from these three species, very low levels of brown long-eared bat, *Myotis* species and Nathusius' pipistrelle were recorded. The lesser horseshoe bat was not recorded on the Site.

Figure 3-2: Percentage of Bat Activity Composition by Season at Both Bat Detectors across All Months Surveyed



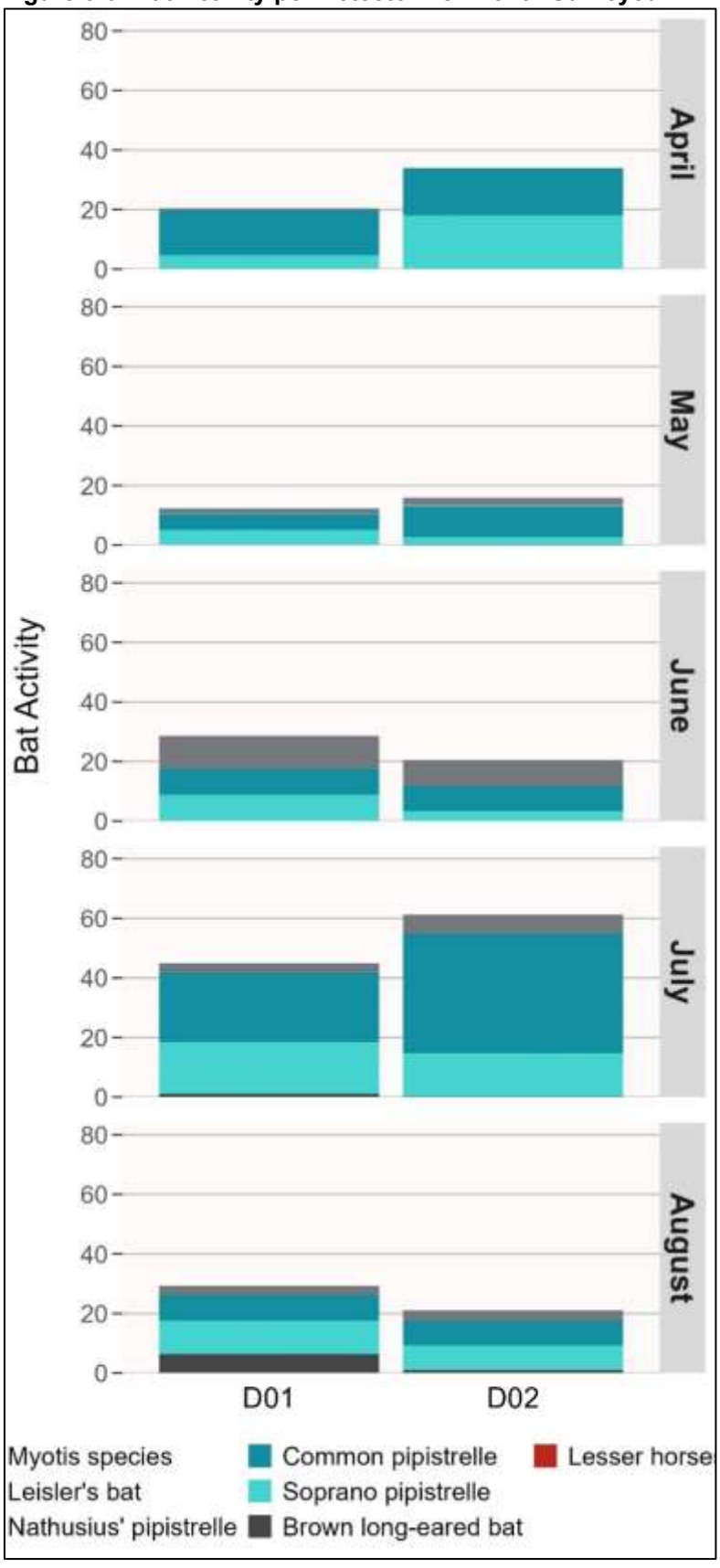
Common pipistrelle was the most frequently recorded bat species across all seasons, followed by soprano pipistrelle and Leisler's bat. Brown long-eared bat had high levels of activity recorded in August compared to the levels of activity recorded during the other months surveyed. Based on the life cycle of bats, it was concluded likely that brown long-eared bats may be using the Site as a swarming site later in the season.

Very low levels of Nathusius' pipistrelle and *Myotis* species were recorded across all seasons at both detectors.

Levels of Activity

Figure 3-3 shows the levels of bat activity per detector per month surveyed.

Figure 3-3: Bat Activity per Detector Per Month Surveyed



July had the highest levels of bat activity, followed by April, June, August and May. July had optimum weather conditions for bats, and it is likely that bats exploited these conditions and used the Site as a foraging and commuting hub.

The levels of bat activity recorded are in line with what would be expected from a greenfield Site that is dark at night and has good quality hedgerow / treelines.

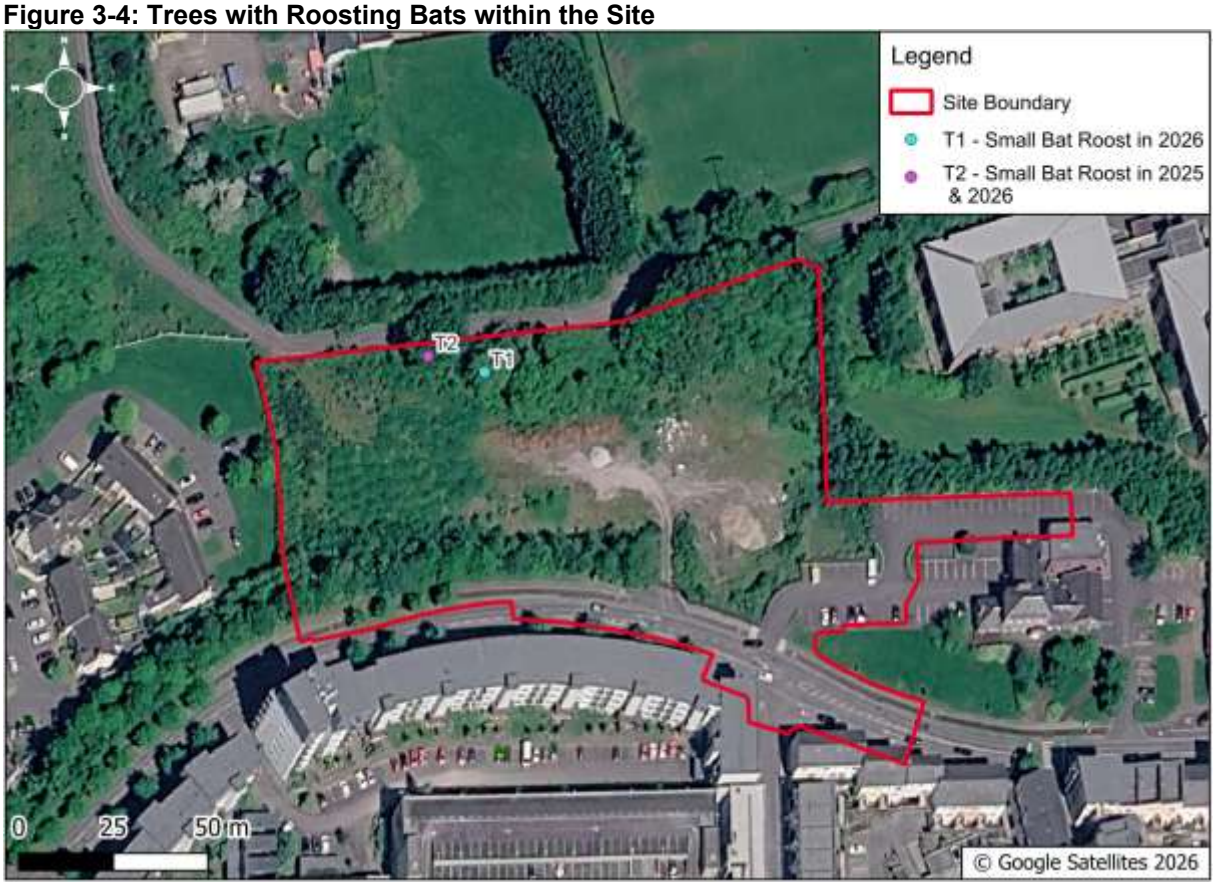
3.3 Overall Results

The following is a summary of the bat activity recorded at the Site during the 2025/2026 surveys:

- Common pipistrelle, soprano pipistrelle, Leisler's bat, brown long-eared bat and *Myotis* species were recorded commuting / foraging within or above the Site during the bat surveys and automated bat monitoring surveys in 2025 and 2026. Of these, the most frequently recorded species were common pipistrelle, followed by soprano pipistrelle and Leisler's bat. All three of these species are relatively widespread and the most commonly encountered species within Ireland;
- Four bat emergences were recorded emerging two trees: T1 and T2; along the northern boundary of the Site in 2026 – two bats from T2, and two bats in T1; and,
- The majority of bat activity was recorded along the northern boundary of the Site.

Based on the levels of activity and movement of the bats recorded during the surveys, it is considered that the Site is of Local Importance (higher value) to foraging / commuting bats, and Local Importance (lower value) to roosting bats. Figure 3-4 shows the locations of the trees where bats were observed to be roosting within the Site in 2025 and 2026.

Figure 3-4: Trees with Roosting Bats within the Site



4 IMPACT ASSESSMENT AND MITIGATION

The following bat species were recorded during the dusk emergence and NBW surveys: common pipistrelle, soprano pipistrelle and Leisler's bat. This represents three of the nine resident bat species known to Ireland, all of which are common Irish bat species. All bat species recorded during the bat surveys are Annex IV species under the EU Habitats Directive, and all have a favourable status in Ireland.

Bat species using the Site have the potential to be affected by both the Construction and Operational Phases of the Proposed Development. The impact assessment and mitigation will be undertaken in relation to the three main bat species recorded within the Site and the surrounding area: common pipistrelle, soprano pipistrelle and Leisler's bat.

4.1 Potential Impacts on Bats

Principal impacts of the Proposed Development, in general, on bat fauna may be summarised as follows:

4.1.1 Loss of Roosting Habitat

During the dusk emergence survey on 6th July 2026, four bat emergences were confirmed from analysis of the NVA footage – two bats from T1 and two bats from the adjacent tree T2; also, along the northern boundary. No bats were echolocating at the time of these emergences, so the bat species could not be confirmed. That said, based on the previous recordings obtained at these locations as well as the noted emergence times, it is considered highly likely that the roosting bats are Pipistrelle species; either common or soprano pipistrelle.

T1 will require felling to facilitate the Proposed Development. T2 will be retained and protected during the Construction and Operational Phases of the Proposed Development. Given the proximity of T2 to the Proposed Development means that effects from disturbance are highly likely during construction phase of the Development.

As such, a **derogation licence from the NPWS will be required prior to any works commencing to or near Trees T1 and T2**, within the Site. Other mitigation measures will also be implemented to ensure no loss of bat roosts on-site.

4.1.2 Loss of Flight-Path and Foraging Habitat

The majority of bat activity was recorded along the northern boundary of the Site, where bats were observed foraging and commuting over the hedgerow / treelines. Of the trees in this area, two will be fully removed, and ten will be managed (thinned, have thick ivy and deadwood removed) and otherwise protected and retained for the lifetime of the Proposed Development. There will also be root-protection fencing installed adjacent to the retained trees in this area, as well as other mitigation measures to ensure the protection of these trees.

A Landscape Design Report has also been prepared for the Site by Brady Shipman Martin and will be submitted as part of the overall planning application.

However, mitigation measures are required to ensure that the Proposed Development does not result in a loss of bat foraging and flight path habitat.

4.1.3 Lighting of the General Area (street lighting, security lighting, etc.)

Lighting for the Proposed Development will potentially impact on bat species in relation to commuting and foraging potential within the Site and the wider area. The degree of this impact is dependent on the sensitivity of the bat species, as some bats are more tolerant of lighting. Pipistrelles will tolerate higher levels of lighting, while brown long-eared bats and Myotis species are very sensitive to lighting and require the light levels to be below 1lux.

While no lighting was present on-site, it was noted during the bat surveys that areas surrounding the Site were significantly lit up, and this lighting could be seen from the Site and also spilling onto the southwest of the Site.

Brown long-eared bat and *Myotis* species were recorded on the Site. As these are considered to be some of the most light-sensitive bat species, the lighting strategy for the Site must be designed to ensure that bats can still use the on-site habitats for foraging and commuting.

In the absence of an appropriate lighting scheme, it is considered that the Proposed Development could have a Negative Impact on foraging and commuting bats.

4.2 Mitigation and Enhancement Measures

Comprehensive mitigation measures will be implemented to reduce the potential impact of the Proposed Development on local bat populations as outlined in the EcIA. In addition, ecological clerk of works ('ECoW') monitoring will be undertaken as required, as outlined in the ER.

Furthermore, as outlined in the Landscape Plan submitted as part of the overall planning application, enhancement measures will be implemented that will provide foraging, commuting and potential roosting opportunities for bats. These include the provision of a minimum of 3 artificial roosting sites (bat boxes) and planting of scrub, hedgerows and treelines on-site.

5 CONCLUSIONS

The bat surveys undertaken for the Proposed Development included a walkover of the Site; a review of previous on-site bat surveys, dusk emergence and NBW activity surveys in 2025 and 2026 and automated bat monitoring surveys conducted monthly from April to August 2026, with the final August deployment running into September.

Two small bat roosts were identified within two trees: T1 and T2, located along the northern boundary of the Site. Each tree contained a roost of two bats, likely to be Pipistrelle species based on previous bat calls recorded at those locations. T1 is proposed to be felled to facilitate the Proposed Development. T2 will be retained and protected during the Construction Phase, however bats using the tree may be subject to disturbance during the construction Phase of the Proposed Development. Based on the above, a derogation licence from the NPWS is required to facilitate the Proposed Development.

Moderate to low bat activity was recorded during the dusk emergence and NBW surveys undertaken on-site. Common pipistrelle, soprano pipistrelle, Leisler's bat, brown long-eared bat and *Myotis* species were recorded foraging and commuting within the Site. The majority of foraging and commuting bat activity was recorded along the northern boundary of the Site, where vegetation removal is proposed. However, as per the Landscape Plan, the northern boundary, along with the eastern and northern boundaries, will be planted to compensate for the vegetation removal and provide suitable foraging and commuting habitat. Additionally, the lighting plan shows minimal light spillage onto the northern boundary.

Overall, the Site is considered to be of Local importance (higher value) for commuting and foraging bats and Local importance (lower value) for roosting bats. However, it is considered that if the mitigation measures presented within this report are followed, the potential impacts on bats will be reduced and the overall impact from the Proposed Development on bats will be Low-Negligible.

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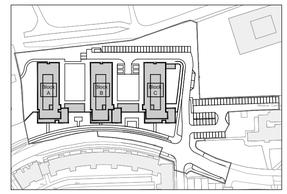
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APPENDIX B

NOTE:
- DO NOT SCALE. USE FIGURED DIMENSIONS ONLY
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS AND DRAWINGS.
- ALL DIMENSIONS TO BE CHECKED ON SITE.
- IN THE EVENT OF ANY DISCREPANCIES BETWEEN DRAWINGS THE CONTRACTOR IS TO INFORM THE ARCHITECT IMMEDIATELY

REV.	DATE	DESCRIPTION	DRWN	CHKD.	APP'RD
A	23.09.2025	Issued for 247 Meeting	COC	PH	PH
B	10.12.2025	Issued for 328 Meeting	COC	PH	PH
C	17.04.2026	Issued for Info	COC	PH	PH
D	15.06.2026	Issued for Planning	COC	PH	PH
E	14.09.2026	Issued for Planning RFI	COC	PH	PH



N

Key Plan
Scale 1:2500@A1

NOTES
1. ALL DIMENSIONS IN MILLIMETERS
2. FURNITURE AND FITTINGS SHOWN ARE INDICATIVE

LEGEND-
- 1-Bed Units Min
- 1-Bed Units +10%
- 2-Bed (3-person) Units Min
- 2-Bed (3-person) Units +10%
- 2-Bed (4-person) Units Min
- 2-Bed (4-person) Units +10%
- SITE BOUNDARY
- ADJOINING SITE ALSO IN CONTROL OF THE APPLICANT
- RIGHTS OF WAY / WAYLEAVES
- INDICATES FINISHED FLOOR LEVEL

Reference Index:
Map Series | Map Sheets
1:1,000 | 6380-20
1:1,000 | 6380-19

CAR PARKING

	Regular	Disabled
New Spaces	48	5
Repurposed Spaces	38	0
TOTAL	91	
Car Space to Unit Ratio	0.6	

UNIT SUMMARY

	1-Bed		2-Bed (3-Person)		2-Bed (4-Person)		Total
	Min	+10%	Min	+10%	Min	+10%	
	28	45	3	5	70	2	
TOTAL	73		8		72		153
Unit Mix %	47.7 %		5.2 %		47.1 %		

UNIT TYPES		Description	Number	Area	1-Bed	2-Bed (3P)	2-Bed (4P)		+10%
1921_1B-01		1-Bed	28	45.6 m²	28				
1921_1B-02		1-Bed	34	49.5 m²	34				34
1921_1B-03		1-Bed	8	49.7 m²	8				8
1921_1B-04		1-Bed	3	50.6 m²	3				3
1921_2B-01		2-Bed (3P)	3	63.4 m²		3			
1921_2B-02		2-Bed (3P)	5	70.6 m²		5			5
1921_2B-03		2-Bed (4P)	62	73.2 m²			62		
1921_2B-04		2-Bed (4P)	3	73.2 m²			3		
1921_2B-06		2-Bed (4P)	2	81.8 m²			2		2
1921_2B-07		2-Bed (4P)	1	78.2 m²			1		
1921_2B-08		2-Bed (4P)	4	74.2 m²			4		
Totals					73	8	72		52
					47.7%	5.2%	47.1%		34.0%
Total Units					153				
Net Site Area					1.206 Ha				
Net Density					126.9 per Ha				

WILSON ARCHITECTURE
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Apartment Development
Ballincollig
O'Flynn Construction

Site Plan
Ground Floor Plan

SCALE	DATE	DRAWN BY	CHECKED	REVISION No.	DRAWING NO.
1:1000@A3 1:500@A1	Sept 2026	COC	PH	E	2530 - PL - 100

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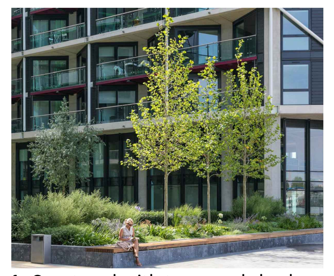
N

Site Plan - Ground Floor Plan
Scale 1:500@A1

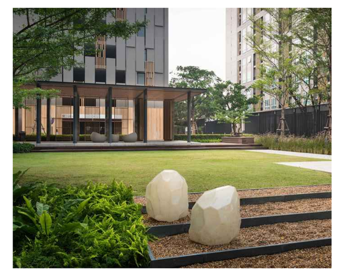
APPENDIX C



Concept Images:



1. Courtyard with trees and shrub planting



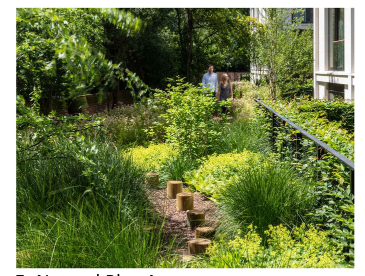
2. Grass Areas with Pergola and Tree Planting Framing Space



3. Transitional Perennial Planting Beds adjacent to Ground Floor Apartments



4. Feature Pergolas



5. Natural Play Areas



6. Indicative photo of Stainless steel powder coated Anthracite Grey raised planters



7. Structural planting to dark shade



8. Northern Boundary - Shared Surface



9. Eastern Boundary - Parkland with Native Tree Planting and Meadows



10. Indicative photo of clipped/ trained screen trees with clipped hedge underneath

Material palette:



11. Indicative images of Jakob Rope System climber wire support



12. Sample of Addaset Resin Bound colour Honey swatch



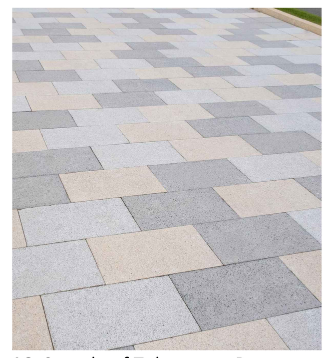
13. Indicative photo of Tobermore Fusion laid in strecher bond, colours: silver, mid grey and graphite



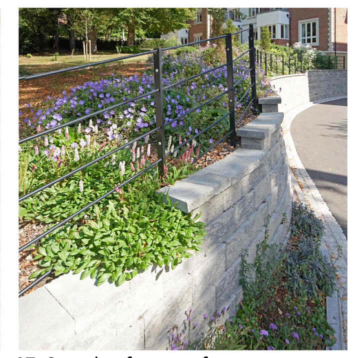
14. Indicative photo of Tobermore Fusion laid in herringbone pattern, colours: silver and mid grey



15. Sample of Tobermore Fusion colour Silver with Graphite contrast banding laid as demarcation lines to car parking bays



16. Sample of Tobermore Braemar paving, colours: Arran Stone, Jura Grey and Alto Silver



17. Sample of mortar free concrete textured blocks retaining wall with safety railing to top, Tobermore Secura Grand or equivalent, colour Slate



18. Omos v49 Seat or equivalent, aluminium frame powder coated in warm colour to Client approval, e.g. Coral Red RAL 3016, or Corten (imitates corten), with Iroko hardwood microporous coated finish timber slats



19. Omos v56 Hardwood & Steel Seat, and v56 Hardwood & Steel Stool or equivalent.



20. Children size benches - MMCité Vera Baby LVB150 with backrest or equivalent, galvanised and powder coated steel structure with Jatoba FSC timber slats.



Powder coating colours samples: Lemon Yellow RAL 1012, Bright Red Orange RAL 2008, Grass Green RAL 6010

Jatoba FSC timber sample

21. Stool seat for children - MMCité Radium Baby LRB410 or equivalent, galvanised and powder coated sheet steel. Perforated top finished with round ribbed caps (Citépin) in Dark Grey colour to provide better comfort of seating.

HARDSCAPE LEGEND:

- Section lines (Refer to drawing 301 for Detail)
- x55.78 — Existing levels
- +17.895m — Proposed levels to Architects and Engineer's drawings

Existing:

- ExLp — Existing street lighting column (*ExLp*) retrofitted with LED, refer to Joda drawing and specification for more details
- Existing 2.4m high palisade fence to northern and eastern boundary, colour black, to be retained, made good where necessary
- Existing concrete footpath
- Existing cycle path
- Existing concrete block paving footpath to Medical Centre retained and protected

Proposed:

Proposed Paving:

- P1 — **Paving Type 1** - concrete blocks laid in herringbone pattern to shared surface/access road, Tobermore Fusion 200 x 100 x 80mm deep, mix of colours: 30% Silver, 50% Mid Grey, 20% Graphite or equivalent, with Graphite contrast banding Tobermore Fusion 200x100x80mm depth (see photo 14)
- P2 — **Paving Type 2** - concrete blocks laid in herringbone pattern to car parking bays, Tobermore Fusion 200 x 100 x 80mm deep, Colour Silver, or equivalent, with Graphite contrast banding laid as demarcation lines to car parking bays, and access zone to disable parking bays, Tobermore Fusion 200x100x80mm depth (see photo 15)
- P3 — **Paving Type 3** - Concrete blocks to public pedestrian areas laid in stretcher bond random pattern, Tobermore Fusion (300x200mm, 200x100mm, 80mm deep, mix of colours: 50% Silver and 50% Mid Grey) with Graphite bands 200x100x80mm deep, or equivalent (see photo 13)
- P4 — **Paving Type 4**- Concrete blocks to private entrances laid in stretcher bond random pattern, Tobermore Fusion 200x100x80mm, mix of colours: 40% Silver, 30% Oat and 30% Mid Grey with Graphite bands 200x100x80mm deep, or equivalent
- P5 — **Paving Type 5** - **Reinforced grass** to cherry picker access route. 40mm deep UV-stabilised High Density Polyethylene (HDPE) honeycomb grass paver slabs typ.640x330x38mm depth, Geosynthetics Gopla Grass Paving Cell or equivalent
- P6 — **Paving Type 6** - Safety rubber surface to Play Area, Tiger mulch or equivalent
- P7 — **Paving Type 7** - Concrete footpath to match existing
- P8 — **Paving Type 8**- Cycle Path surface to match existing
- P9 — **Paving Type 9** - Bitumen macadam to access road to engineer detail with upstanding road kerb
- P10 — **Paving Type 10 - Section of car park within the Tree Root Protection Area (RPA)** constructed using 'No dig' cellular confinement system (Geosynthetic Cellweb TRP or equivalent approved), overlaid with permeable recycled HDPE heavy duty paving system units 800x140mmx60mm deep, filled with paving blocks 80x80x45mm depth (Geosynthetic Total Traffic Exopave and TTE Blocks colour Natural, or equivalent)
- P11 — **Paving Type 11 - Concrete blocks to Courtyard and Creche** laid in stretcher bond random pattern, Tobermore Braemar 300x200x80mm, Ground Textured finish, mix of colours: 50% Arran Stone (light beige), 30% Alto Silver and 20% Jura Grey, with Innis Black bands/ trim 200x100x80mm deep, or equivalent (see photo 16)
- P12 — **Paving Type 12** - **Resin Bound Surfacing to Courtyard** internal paths /seating area. Addagrip Addaset Honey (light beige colour) 6mm or equivalent, smooth, hard wearing, low maintenance, porous SuDS compliant surface, natural and recycle aggregates bound in clear UV stable resin, with Kinley ResinEdge aluminium edging 18mm high, powder coated to resemblance corten (see photo 12)
- **Raised Table** - buff coloured resin and red chip asphalt to ramps (Refer to Engineers drawing)
- **Buff Blister Tactile Paving** - to uncontrolled pedestrian crossing, Tobermore concrete flags, colour Buff, 400x400x50mm depth, or equivalent
- **Corduroy Hazard Warning paving** - to bottom and top of steps, Tobermore concrete flags, in contrasting colour to paving Natural (Grey) / Buff, 400x400x50mm depth, or equivalent
- **Cycleway Paving Slabs,** colour Buff, 400x400x50mm depth, or equivalent
- ST — **Concrete step slabs with contrasting nosing**, exposed granite aggregate finish, colour silver, with black contrasting nosing, 400x400x40mm deep slab, 400x170x40 riser, Tobermore Mayfair Step Slabs with Contrasting Nosing or equivalent

Proposed Street Furniture:

- **Proposed pergola** - hardwood timber (see photo 2 & 4)
- **Proposed Raised Planters to Store Building roof** , Grade 316 steel, polyester powder coated RAL 7016 (Anthracite Grey). Kinley RAAFT or equivalent (see photo 6)
- **Proposed lighting** - refer to Joda Engineer's drawings
- S1 — **Proposed benches** - Omos v49 Seat or equivalent, aluminium frame powder coated in warm colour to to resemblance corten to Client approval, e.g. Coral Red RAL 3016, or Corten (imitates corten), with Iroko hardwood microporous coated finish timber slats. Dimensions: 600mm (w) x 2750 mm (l) x 831mm overall height, 450mm seat height (see photo 17)
- S2 — **Proposed children size benches to Creche** - MMCité Vera Baby LVB150 with backrest or equivalent, galvanised and powder coated steel structure with Jatoba FSC timber slats. Steel frame colours to Client approval: e.g. Lemon Yellow RAL 1012, Bright Red Orange RAL 2008, Grass Green RAL 6010, dimensions: 470mm (w) x 1000mm (l) x 553mm overall height, 300mm seat height (see photo 20)
- S3 — **Proposed stool seat for children to Play Areas** - MMCité Radium Baby LRB410 or equivalent, galvanised and powder coated sheet steel, various colours matching Vera Baby benches: e.g. Lemon Yellow RAL 1012, Bright Red Orange RAL 2008, Grass Green RAL 6010 (for Client approval). Perforated top finished with round ribbed caps (Citépin) in Dark Grey colour to provide better comfort of seating. Dimensions: 270 x 290 x 290mm high (see photo 21)
- S4 — **Proposed seat and stool** to pocket park/ seating area - Omos v56 hardwood and steel seat (1800x432x450mm height) and v56 stool (500x432x450mm height), see photo 19.

Landscape Elements Supporting Biodiversity:

(Types and location to Ecologist's recommendations/ approval)

- **Proposed Bat Box** (Schwegler) indicative location
- **Proposed Bird Box** (Schwegler) indicative location
- **Proposed Insect Hotels** indicative location

Proposed walls and boundary:

- **Proposed Retaining Wall** - mortar free concrete textured blocks Tobermore Secura Grand or equivalent. Dimensions: 400 (l)x 230 (w) x 200mm(h), coping: 300/235 (l) x 330(w) x 70mm (h), corner units: 430 (l) x 230(w) x 200mm (h), colour Slate, installed to manufacture's recommendations and Engineers drawings (see photo 17)
- **Section of Retaining Wall** supported on piles with ground beam within the Trees RPA's to Engineers drawings and specification
- **Proposed 2m high** galvanised, powder coated (colour anthracite grey) railing to the boundary
- **Proposed 1.2m high** galvanised, powder coated (colour anthracite grey) safety railing to retaining walls
- **Proposed 1.6m high** galvanised, powder coated (colour anthracite grey) railing to pedestrian entrances
- **Proposed climber training system** - selected stainless steel wire rope structures (Jakob Rope System or equivalent, see photo 11)

SOFTSCAPE LEGEND:

Existing:

- Existing tree retained
- Existing Caucasian lime *(Tilia × euchlora)* trees in grass verge along Old Fort Road to be retained and protected
- Existing tree to be removed (Refer to Tree Survey dwg 6752-101)
- Existing grass verge along Old Fort Road
- Existing Bay laurel *(Laurus nobilis)* hedge planted along existing residential building

Proposed Planting:

- TRS — **Clipped/ trained small-leaved lime** *(Tilia cordata 'Rancho')* **screen tree planting**, 4m high, 1.8m width, 20-25cm girth, clear stem 2.2m, RB, forming green boundary to the residential buildings
- **Street trees - columnar with a narrow crown,** cultivars of native species and/or non-invasive introduced species. Semi-mature 20-25cm girth, 5-5.5m high, 2m clear stem, RB: *Platanus orientalis 'Minaret', Corylus colurna, Acer campestre 'Elsrijk', Liquidambar styraciflua 'Worplesdon', Magnolia kobus, Prunus × yedoensis*
- **Screen Woodland Planting to Public Open Space and Boundaries.** Native irish species and/ or cultivars of native species.. Deciduous trees: Semi-mature 20-25cm girth, 5-5.5m high, 2m clear stem and feathered, RB: *Quercus robur, Betula utilis var. jacquemontii, Sorbus aucuparia 'Sheerwater seedling'*; Conifers 2.5-3m high, feathered, BR: *Pinus sylvestris*
- **Multistem Small Trees to Courtyards** (tolerates shade) - cultivars of native species and/or non-invasive introduced species. 2.5-3m hig, multistem, RB: *Amelanchier x grandiflora 'Autumn brilliance', Prunus × subhirtella 'Autumnalis Rosea', Magnolia 'Galaxy', Acer palmatum 'Osakazuki'*
- H1&2 — **Clipped screen boundary hedges (Bay Laurel H1 & Fagus H2):** *Laurus nobilis* 0.8-1m high, 5-10L C, planted @0.45m ctrs, single row; *Fagus sylvatica* 1.2-1.5m high, 1+2, planted @0.45m ctrs, double staggered row
- H3 — **Clipped hedge (Japanese Holly H3)**, *Ilex crenata ´Dark Green´*, 30-40cm high, 3L, planted 5/lin.m. single row
- NH — **Native boundary hedgerow (Hawthorn and Holly mix NH)** *60% of Crataegus monogyna, 90-120cm, 1+1, BR and 40% of Ilex aquifolium, 40-60cm, P9,* planted double staggered row @0.45m ctrs.
- GS1 — **Groundcover shrub planting (Mix 1)**, for shaded position, 20-30 and 30-40cm high, 2L, planted 5/ sq.m.
- GS2 — **Groundcover shrub, perennial, herbaceous planting (Mix 2)** for semi-shade/ shaded position, 30-40 and 40-60cm, 2L, planted various density from 5/sq.m. to 7/sq.m
- GS3 — **Groundcover shrub planting (Mix 3)** to shade and dark shade, 15-20cm high, 2L, planted 7/sq.m.
- GS4 — **Low groundcover planting** (Ivy) (Mix 4), *Hedera helix 'Hibernica'* 40-60cm high, 2L, planted 7/sq.m.
- GS5 — **Groundcover planting (Mix 5)**, mix of evergreen climbers (Ivy) ferns, shrubs and perennials, 2L pot, planted 5-7/sq.m
- PS1 — **Shrub, perennial, herbaceous planting mix (PS1)** to SuDS biofiltration beds, to screen private apartments, give filtrated views; 20-30 and 30-40cm high, 2L, planted 5-7/sq.m
- PS2 — **Shrub, perennial, herbaceous planting mix (PS2)** to SuDS feature biofiltration planting beds, various sizes from 15-20 to 30-40cm high, 2L, planted 5-7/sq.m.
- PS3 — **Shrub, perennial, herbaceous planting mix (PS3)** to SuDS feature biofiltration planting beds for shade locations, to screen private apartments, give filtrated views, various sizes from 15-20 to 30-40cm high, 2L, planted 3-7/sq.m.
- STP — **Shade Tolerant Structural Planting to Courtyard SuDS biofiltration beds,** shrub, perennial, herbaceous planting mix, suitable for partial to deep shade, species selected to provide all year round interests, (evergreen, with white flowers, white/ yellow margined/ speckled leaves), various sizes from 10-20 to 40-60cm high, 2L, planted 3-7/sq.m.
- HP — **Herbal/ Vegetable planting mix** in raised planters to Creche, P9, full pot, planted 5-7sq.m.
- C — **Self- supporting Climbing screen planting** planted along retaining walls, 60-80 and 80-100cm high, 2L, planted 1m ctrs.
- WSP — **Woodland native sub-canopy shrub planting,** whip planting 60-90cm high, 1+1, BR, planted 3-4/sq.m.
- WEP — **Woodland edge shrub/groundcover planting,** mix of evergreen low groundcover, perennials, ferns, grasses, full pot and 20-30cm high, 2L, planted 5-7/sq.m
- **Low maintenance grass seeding mix,** hard wearing, shade tolerant, drought tolerant, suitable for cellular paving system
- **Sedum roof** to Architects details and specification

NOTE:

- **Refer to Tree Survey and Tree Protections Measures drawing 6752-100 and Tree Survey Report 2025 prepared by South of Ireland Tree Surveys**
- **For Landscape Sections refer to drawings 6752-301 & 302**
- **Refer to drawing 6752-303 for Boundary Treatment details**
- **For Planting Schedule, SuDS and Playground details refer to drawing 6752-304**
- **For Development Boundary refer to Architect's drawings**
- **Refer to Joda Engineer's Public Lighting Layout drawing 3866-02-JODA-ZZ-ZZ-DR-E-2000 for more details**
- **For proposed levels refer to Architect's and Engineer's drawings**
- **For SuDS and drainage refer to Engineer's drawings**

Rev	Date	Drawn	Checked	Description
03	11/09/2026	AK	DB	RFI Planning - Revised to amended Site Plan
02	18/06/2026	AK	DB	Planning
01	17/12/2025	AK	DB	Planning
00	01/10/2025	AK	DB	Preliminary Planning (S.247)

Notes

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Project: Apartment Development, Ballincollig O'Flynn Construction		Project No. 6752	
Drg. Landscape Plan		Drawing No. 300	Rev. 03
Scales 1:250@A0	Status RFI PLANNING	Date 11/09/2026	
Penrose Wharf Business Centre, Penrose Wharf, Cork Tel: +353(0) 21 242 5620	mail@bradyshipmanmartin.com www.bradyshipmanmartin.com	Drn. AK	Chd. DB	Passed

BSM Est. 1968

APPENDIX D

TREE SURVEY

OWEN O'CALLAGHAN
SOUTH OF IRELAND TREE SURVEYS
1 WESTBOURNE TERRACE
THE LOUGH
CORK

(MOBILE): 086 – 3470487

09/10/2025

CONTENTS:

Summary

1. Introduction.
2. Description of existing Trees.
3. Arboricultural Impact Assessment.
4. Recommendations – AMS.
5. Photographs x 4

(Aerial view and drawing included)

Limitations and References.

Appendix 1: Tree Survey Schedule.

1. INTRODUCTION

Terms of Reference:

South of Ireland Tree Surveys have been instructed by O'Flynn Construction to conduct an updated tree survey of those trees identified by the site survey drawing provided prior to the master planning of the site for a proposed development.

South of Ireland Tree Surveys considered those tree and tree groups that might potentially be impacted upon by a proposed development and produced a subsequent Tree Survey Report presenting our findings in accordance with BS 5837:2012, together with recommendations for their best practice management in relation to the proposed development.

South of Ireland Tree Surveys carried out an assessment of the arboricultural implications of the proposed development, giving recommendations for the protection of retained trees and highlighting where the removal of other trees will be necessary. This involved a survey of the principle trees and tree groups concerned, together with an assessment of the arboricultural impact of the proposed development in accordance with BS 5837:2012.

Documents supplied to South of Ireland Tree Surveys for the purpose of conducting a Tree Survey included:

- Precise Control Ltd. Surveyors Dwg No. 19074d-1 (Updated 04/12/2025)
- Wilson Architecture Dwg. No. 1921-103.

Site Inspection and Methodology:

The site was originally surveyed on 16th November 2019 by a qualified Arborist. The site has been resurveyed on October 7th, 2025, with a view to retaining as many trees as possible for screening purposes.

A visual inspection from the ground was performed on all existing trees on site. Measurements were then taken and observations made.

A description was recorded of each tagged tree, group of trees, their species, age class, all relevant measured dimensions (height, stem diameter, crown spread, radii and crown clearance height) and an assessment of the tree health / vitality, structural form, life expectancy and quality categorisation. Recommended remedial works required were outlined in this Report.

The findings of the survey are recorded and presented in:

- Tree Schedule (Appendix 1).

This report is subject to the scope and limitations as given at the end of the report.

Accompanying Drawings:

The Tree Survey report should be read in conjunction with:

- Precise Control Ltd. Surveyors Dwg No. 19074d-1.

Site Location:

The site is an open site located to the north of Ballincollig and adjacent to the west of the former Officers' Mess.



Fig 1: Aerial photograph of site.

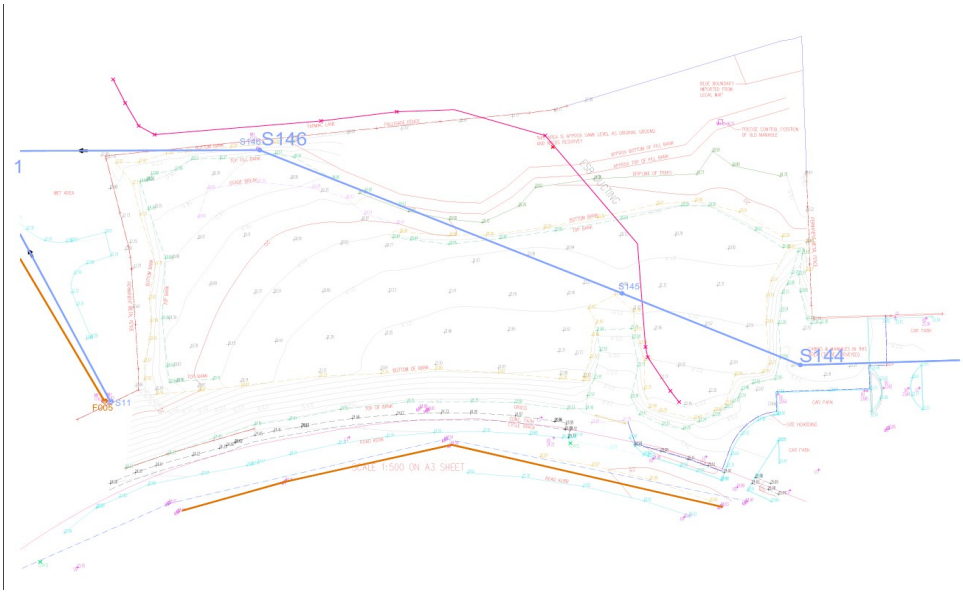


Fig.2 :Drawing No.19074d-1

2. DESCRIPTION OF EXISTING TREES.

The site area is currently an undeveloped site, located to the north of Ballincollig. Site levels appear to have been raised by 3m approximately over the years.

2.1 A total of seventeen trees, predominantly Lawson Cypress and Oak, were inspected. See Precise Control Ltd. Surveyors Dwg No. 19074d-1

2.2 The quality of trees on the site may be described as a mixture of Oak and Lawson Cypress (6 Oak, 6 Lawson Cypress) with self-seeded Pussy Willow, Hawthorn x 1, Birch x 1. The quality of the trees in the overall is good.For a more detailed information see **Appendix 1 – Tree Survey Schedule**.

2.3 It is immediately apparent that while the Oak and Lawson Cypress are providing a screen to the north at this section of the site, the Lawson Cypress is impeding the development of the high-value Oak trees. However, these Lawson Cypress trees provide screening.

2.4 The Lawson Cypress are also highly prone to wind throw.

2.5 The Pussy Willow are self-seeded varieties and are not high value trees. However, they also provide screening at this site.

2.6 The Hawthorn, similarly, is a self-seeded variety.

2.7 One multi-stemmed Birch appears out of place and may have been planted in an incorrect position.

2.8 Accordingly, it is recommended that the Lawson Cypress be retained for the purpose of screening at this site.

2.8 One Oak tree (0629) has an internal cavity so post remedial works as recommended in the Legend need to be carried out. Biannual inspection is recommended going forward.

Further Information:

- A large Lawson Cypress is present on the eastern edge of the boundary and it is not within the boundary of the site.

- The southern boundary adjacent to the roadway has been planted with mixed variety deciduous trees.

- A mature Lawson Cypress hedgerow is present and screens the water treatment plant at this location. These trees are approximately 40 years old. Whilst the owners of the proposed development site O'Flynn Construction benefit from these trees, it is to be recognised that they have no control over their retention long-term.

3. ARBORICULTURAL IMPACT ASSESSMENT

3.1 Category U trees (2) are recommended for immediate removal. Category B1 trees (9) are recommended for remedial works.

4. RECOMMENDATIONS – Arboricultural Method Statement

4.1 Removal of the Lawson Cypress trees (0623) and (0632) should be undertaken in accordance with BS39982010 by a reputable and insured tree surgery company.

4.2 All remedial works as recommended in the Legend should also be carried out by a reputable and insured tree surgery company.

4.3 Compaction of the ground adjacent to the trees must be avoided. Accordingly, heavy equipment should not encroach on the root plates.

4.4 Protection should be afforded the remaining trees with fit for purpose barriers in accordance with the root protection areas.

4.5 It is **STRONGLY** recommended that root protection measures be undertaken before proposed site works commence in conjunction with the arborist.

NOTE:

The report covers those trees individually inspected and reflects the condition of the trees at the time of inspection.

Inspection is limited to visual examination only.

The trees were not climbed.

There is no warranty implied that deficiencies may not arise in the future.

The currency of this survey and recommendations is one year.



1. **Photograph of (0620) Oak**



2. **Photograph of (0615) Oak**



3. **Photograph of (0623) Lawson Cypress with extensive decay**



4. **Photograph of (0622) Lawson Cypress showing fire damage at base**

Appendix 1 – Tree Survey Schedule

Tree No.	Species	Ht (m)	Crown spread ((m)	Trunk Dia @ 1.5m (mm) RPA circle radius (m) RPA sqm.	Ht of lowest branch (m) & direction of growth	Life stage (years)	Estimated remaining contribution (years)	General Observations: (Physical Condition)	Preliminary management recommendation	Catagory of retention + Sub Catagory
0615	Oak Quercus.	18 m	9m N 9m S 10.5m E 8m W	850mm 10m 314m	3.5m N	M	40	Broad Crown No decay visible Good	Nill	B
0616	Pussy Willow Salix	10 m	6m N 6m S 5m E 4m W	Multi-stemmed @ G/L	_	M	10+	Self-seeded. Extensive ivy Water pocket at base Fair	Retain for screening purposes	B
0617 0618 0619	Pussy Willow	9 m	3mN 3mS 3mE 2mW	Multi-stemmed @G/L	_	Y	40+	Self- seeded Sparse crowns forming one canopy Fair	Retain for screening purposes	B x 3
0620	Oak	17 m	7m N 10m S 7m E 9m W	900mm 10.8 366m	0.5m W	M	40+	Limb loss to east Twin-stemmed Good	Retain for screening purposes	B
0621	Oak	18 m	6m N 5m S 4m E 10.5m W	70mm0 8.4 222m	0.5 W	M	40+	Raised bank position Extensive ivy	Remove lower limbs and flush cut stumps Remove ivy	B1
0622	Lawson Cupressus	16 m	3m N 9m S 8m E 8m W	1400mm 17m	All @ G/L	M	20+	Encroaching on Oak, southern side (0621) Fire damage @ base Fair	Thin crown Retain for screening purposes	B1
0623	Lawson	15 m	3m N 4m S 5m E 5.5m W	800mm	1.2m S/W	M	<5	Extensive decay Poor	Remove	U
0624	Lawson	17 m	4.5m N 0 S 3m E 7m W	700mm 8.4m	Twin-stemmed @ 1.4 from G/L	M	30+	Crown liable to split Fair	Thin crown Retain for screening purposes	B1

Tree No.	Species	Ht (m)	Crown spread ((m)	Trunk Dia @ 1.5m (mm) RPA circle radius (m) RPA sqm.	Ht of lowest branch (m) & direction of growth	Life stage (years)	Estimated remaining contribution (years)	General Observations: (Physical Condition)	Preliminary management recommendations	Catagory of retention + Sub Catagory
0625	Lawson	17 m	5m N 7.5m S 3m E 3.5m W	650mm 9m	2m S	M	30+	Liable to wind throw Understory of Hawthorn (0626) on eastern side Fair	Retain for screening purposes	B
0626	Hawthorn	5m	1.5m N 1.5m S 1.5m E 1.5m W	M/S	All @ G/L	Y	20+	Multi-stemmed Extensive ivy Good	Remove ivy	B1
0627	Oak	17 m	8m N 0m S 7m E 5m W	T/S @ 1m g/l. 700mm 8.4m	2.5m 5	M	40+	Deadwood and broken limbs Good	Remove deadwood and broken limbs Thin crown	B1
0628	Lawson	15 m	5m N 7.8m S 5m E 3.5m W	700mm 8.4m	1m W	M	30+	Exposed root plate liable to wind throw Fair	Thin crown Retain for screening purposes	B1
0629	Oak	14 m	2m N 7.5m S 0m E 4m W	T/S @ 1.3m from ground level.	1.8 S/W	E/M	40+	Internal cavity on western side Fair	Drain cavity Remove ivy Thin crown	B1
0630	Oak	15 m	6m N 9m S 4m E 6m W	530mm 6.4m	2.3 N/W	E/M	40+	Small broken limbs Good	Lift lower growth Remove ivy to facilitate inspection Flush cut broken limbs	B1
0631	Birch Betula	7m	1.5m N 1.5m S 1.5m E 1.5m W	200mm x 2 150mm x 2	M/S x 4 All @ G/L	Y	20+	Insignificant tree Self-seeded Fair	Retain in medium term	B
0632	Lawson	16 m	7m N 9.5m S 7m E 4m W	800mm	1m S	M	<10	Extreme lean to the south Damaged crown Poor	Remove	U

△

559150e 559200e 559250e 559300e 559350e

571100n 571050n 571000n

GRID NORTH

ROOT PROTECTION FENCING

METAL PALISADE FENCE 2m HIGH

MH STORM Ø=414.42

BOTTOM OF BANK

TOP OF BANK

CONCRETE POST & CHAINLINK FENCE

800x

BOTTOM OF BANK

800x APPROX

MH STORM Ø=417.37

METRES OF TOP OF BANK

SO-WE CHAMBER

16.50 of 800x

ORDNAC DRP

METAL PALISADE FENCE 2m HIGH

TOP OF BANK

BOTTOM OF BANK

KERB

MH Ø=23.09

MH Ø=23.51 E=17.21 APPROX

PORTACABIN

IC Ø=23.69

TARMAC

RG

KERB

EXPO=27.27

RIDGE=24.84

DWELLING

TOP OF BANK

BOTTOM OF BANK

TIMBER FENCE

FOOTPATH/CYCLE LANE

EDGE OF GRASS

POST BOX

TARMAC ROAD

BOTTOM OF KERB

MH Ø=24.24

MH Ø=24.52

MH Ø=24.57

LS

SV

PARAPET =39.02

PARAPET =44.95

PARAPET =50.57

STATION 3
X:559325.526
Y:571020.826
Z:25.052

MH Ø=25.00

MH Ø=24.95

PARAPET =38.99

PARAPET =38.83

FFL =25.64

APPARTMENT

MH Ø=25.15

EAVES=35.23

FFL =25.69

RIDGE=37.38

DWELLING

KERB

EAVES=23.01

RIDGE=25.72

FFL =23.82

OFFICES

PARAPET =23.59

TREE PROTECTIVE FENCING TO BE 1.8m HIGH.
STEEL HERAS FENCING FIXED IN PLACE BY
MEANS OF DRIVEN TIMBER STAKES DURING
THE CONSTRUCTION PERIOD IN ACCORDANCE
WITH THE ROOT PROTECTION AREAS OF THE
OF THE ACCOMPANYING RPA DRAWING NAME 19074d-1.dwg

Survey Notes:

GRID:
THIS SURVEY IS RELATED TO ORDNANCE SURVEY GRID. IRISH TRANSVERSE MERCATOR (OSGM02).

DATUM:
LEVELS ARE RELATED TO ORDNANCE SURVEY DATUM. (MALIN HEAD, OSGM02 ADJUSTMENT).

SURVEY ABBREVIATION LIST.

AV : WATER MAIN AIR VALVE
BH : BENCH
BL : BOLLARD
BS : BUS STOP
CL : COVER LEVEL
C/L : CENTRE LINE
DP : DOWN PIPE
EIC : ESB INSPECTION COVER
EM : ESB MARKER
EP : ESB POLE
EPL : ESB PILLAR
ER : EARTH ROD
ESB : ELECTRICITY SUPPLY BOARD
FFL : FINISHED FLOOR LEVEL
FH : FIRE HYDRANT
FHR : FIRE HYDRANT RISER
FP : FLAG POLE
GM : GAS MARKER
GUY : GUY WIRE TO POLE
GV : GAS VALVE
IC : INSPECTION COVER
IL : INVERT LEVEL
LP : LIGHT POST
LS : LIGHT STANDARD
LT : LIGHT TOWER
MH : MANHOLE
O/H : OVERHEAD
OSBM : O.S. BENCH MARK
PB : POST BOX
RG : ROAD GULLY
SAP : TREE SAPLING
SC : WATER MAIN STOP COCK
SH : SHORE
SN : SIGN
STN : SURVEY STATION
SV : WATER MAIN SLUICE VALVE
TBM : TEMPORARY BENCH MARK
TFL : LEVEL AT DOOR THRESHOLD
TIC : TELECOM INSPECTION COVER
TK : TELEPHONE KIOSK
TL : TRAFFIC LIGHT
TM : TELECOM MARKER
TOF : TOP OF FENCE LEVEL
TOT : TOP OF TREE LEVEL
TOW : TOP OF WALL LEVEL
TP : TELECOM POLE
TPL : TELECOM PILLAR
TRIC : TRAFFIC INSPECTION COVER
U/G : UNDERGROUND
UM : UTILITY MARKER
UP : UTILITY PILLAR
VL : VALVE
VP : VENT PIPE
WM : WATER MAIN METER
WV : WATER MAIN VALVE

NOTES:
FURTHER LEVELS ARE SHOWN ON FROZEN LAYERS WITHIN THE AUTOCAD DRAWING. ((LAYERS PRECEDED WITH 'Z')

EVERY EFFORT HAS BEEN MADE TO OBTAIN ALL DETAIL, HOWEVER SOME DETAIL MAY HAVE BEEN HIDDEN AT THE TIME OF THE SURVEY DUE TO PARKED CARS OR OTHER OBSTRUCTIONS.

TREE PROTECTIVE FENCING TO BE 1.8m HIGH.
STEEL HERAS FENCING FIXED IN PLACE BY
MEANS OF DRIVEN TIMBER STAKES DURING
THE CONSTRUCTION PERIOD IN ACCORDANCE
WITH THE ROOT PROTECTION AREAS OF THE
OF THE ACCOMPANYING RPA DRAWING NAME 19074d-1.dwg

Rev.	Drn.	Date.	Description.
1	md	04-12-25	Tree Tags & Tree Protection areas

PRECISE CONTROL
LAND AND ENGINEERING SURVEYORS
Unit 11, Eastgate Way, Eastgate, Little Island, T45 TD77, Co. Cork.
t: 021 4351050 – e: info@precisecontrol.com – w: www.precisecontrol.com

Job Title:
Old Fort Road, Ballincollig. Cork.

Survey:
2d Topographic Survey

For:
O' Flynn Group

Plot Scale: 1:250	Surveyed by : md
Date : 24-06-19	Drawn by : md
Job Nr. : 19074/25127	Checked by : hme
Drg. Nr.: 19074d-1.dwg	Rev.: 1

APPENDIX E

LEGEND:

CATEGORY SYSTEM (BS5837:2012 TREES IN RELATION TO CONSTRUCTION)

NOTE:
THE CATEGORY SYSTEM IS INTENDED TO PROVIDE A RAPID REFERENCE AS TO THE PARTICULAR TREE(S) SUITABILITY FOR RETENTION AND CAN BE DEFINED AS FOLLOWS.

CATEGORY A TREES
TREES OF A HIGH QUALITY AND VALUE, THESE ARE TREES THAT ARE PARTICULARLY GOOD EXAMPLES OF THEIR SPECIES WHICH ALSO PROVIDE LANDSCAPE VALUE.

CATEGORY B TREES
TREE OF A MODERATE QUALITY AND VALUE, TREES THAT MIGHT BE INCLUDED IN THE HIGH CATEGORY BUT ARE DOWNGRADED BECAUSE OF IMPARED CONDITION. THESE TREES ARE IN SUCH A CONDITION TO MAKE A SIGNIFICANT CONTRIBUTION

CATEGORY C TREES
TREES OF LOW QUALITY AND VALUE, TREES THAT ARE IN ADEQUATE CONDITION TO REMAIN UNTIL NEW PLANTING COULD BE ESTABLISHED.

CATEGORY U TREES
TREES OF SUCH A CONDITION THAT ANY EXISTING VALUE WOULD BE LOST WITHIN 10 YEARS AND WHICH SHOULD IN THE CONTEXT BE REMOVED FOR THE REASONS OF SOUNDS ARBORICULTURAL MANAGEMENT.

TREES TO BE RETAINED

ROOT PROTECTION AREA (RPA)
CONSTRUCTION EXCLUSION ZONE

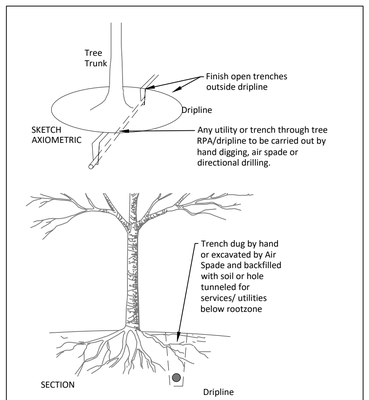
TREES TO BE REMOVED DUE TO THEIR CONDITION AS RECOMMENDED BY THE TREE SURVEYOR

TREES TO BE REMOVED DUE TO DEVELOPMENT PROPOSALS

TREE PROTECTION FENCE TO BE ERECTED PRIOR TO ANY CONSTRUCTION WORKS COMMENCING ON SITE. REFER TO DETAIL A.

PRECAUTIONARY ZONE
CONSTRUCTION EXCLUSION ZONE ('NO DIG'). WHERE EXCAVATIONS MUST BE UNDERTAKEN WITHIN THIS ZONE THE USE OF MECHANICAL EXCAVATION PLANT SHOULD BE PROHIBITED. PRECAUTIONS SHOULD BE UNDERTAKEN TO PROTECT ANY EXPOSED ROOTS. MATERIALS, PLANT AND SPOIL SHOULD NOT BE STORED WITHIN THIS ZONE.

NOTE:
THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE TREE SURVEY REPORT PREPARED BY SOUTH OF IRELAND TREE SURVEYS, 09/10/2025



DETAIL B - TREE ROOT PROTECTION
Scale 1:50

General notes tree protection fencing

- Tree protection fencing to be erected prior to commencement of main site works.
- Fence must remain, and be maintained for duration of construction period.
- Any damage to Tree Protection Fencing to be communicated to Project Arborist immediately.
- No works to be carried out within Tree Protection Zone without prior consultation and permission of project arborist.
- Tree Protection to BS5837-2012

TEMPORARY FENCING DETAILS

DETAIL A - TREE PROTECTION FENCING

NOTES

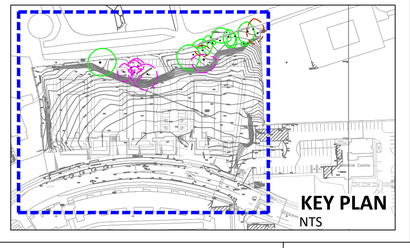
1. PRIOR TO THE COMMENCEMENT OF ANY WORK, OR ANY MATERIALS BEING BROUGHT ON SITE, EXISTING TREES TO BE RETAINED ARE TO BE PROTECTED FROM DAMAGE BY A 2.0M HIGH WELD MESH/HERAS FENCE OR SIMILAR APPROVED. THIS SHALL BE MAINTAINED IN GOOD AND EFFECTIVE CONDITION UNTIL THE WORK IS COMPLETED. ALLOW FOR STABILISER STRUTS TO SECURE FENCE FOR DURATION OF CONSTRUCTION.

2. THE PROTECTIVE FENCING IS TO COINCIDE, AS FAR AS IS PRACTICAL, WITH THE ROOT PROTECTION AREA (RPA), UNLESS OTHERWISE AGREED. ALL WEATHER NOTICES SHALL BE SECURELY FIXED TO THE FENCE WORDS SUCH AS 'CONSTRUCTION EXCLUSION ZONE - NO ACCESS'.

3. THE FOLLOWING MEASURES ARE PARTICULARLY IMPORTANT:
   A) MATERIALS ARE NEVER TO BE STACKED WITHIN THE ROOT SPREAD OF THE TREE;
   B) NO OIL, TAR, BITUMEN, CEMENT OR OTHER MATERIAL IS TO BE ALLOWED TO CONTAMINATE THE GROUND;
   C) NO FIRES SHALL BE LIT BENEATH OR IN CLOSE PROXIMITY TO THE TREE CANOPY;
   D) TREES TO BE RETAINED SHOULD NOT BE USED AS ANCHORAGES FOR EQUIPMENT OR FOR REMOVING STUMPS, ROOTS OR OTHER TREES, OR FOR OTHER PURPOSES;
   E) NO NOTICES, TELEPHONE CABLES OR OTHER SERVICES SHOULD BE ATTACHED TO ANY PART OF THE TREE;
   F) CEMENT MIXING SHOULD NOT BE CARRIED OUT WITHIN THE CANOPY/PROTECTED AREA OF THE TREE;
   G) SOIL LEVELS ARE TO BE MAINTAINED AS EXISTING WITHIN THE ROOT SPREAD OF THE TREE. ANY ALTERATION TO SOIL LEVELS IN AN AREA UP TO ONE AND A HALF TIMES THE DIAMETER OF THE TREE CANOPY MUST BE AGREED WITH THE LANDSCAPE ARCHITECT.

CONSTRUCTION NOTES

MESH WIRE TO BE GALVANISED CHAIN LINK FENCE, MESH TO BE 50MM, WIRE TO BE3.15/2.24MM GAUGE.
SCAFFOLD POSTS TO BE MACHINE DRIVEN TO A MINIMUM DEPTH OF 1METRE, AT A MAXIMUM OF 4 METRE CENTRES.
C SCAFFOLD RAILS TO BE CLAMPED SECURELY TO POSTS.
CHAIN LINK WIRE TO BE TIED TO POSTS AND RAILS USING 200MM LENGHTS OF FLEXIBLE WIRE.



Category B1 trees in good condition to be protected.
Category B trees to remove for proposed development.
NORTHERN BOUNDARY
Category B1 Birch tree retained in medium term.
Category U tree advised for removal by Arborist. Refer to Tree survey schedule
Category B1 tree to remove for proposed development.
Tree Protective Fence (Refer to Detail A)
EASTERN BOUNDARY
Category B1 Oak*(Quercus robur)* tree in good condition to be protected.
Tree Protective Fence (Refer to Detail A)
Precautionary Zone: Construction Exclusion Zone ('No Dig'). where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. materials, plant and spoil should not be stored within this zone.
DEVELOPMENT SITE
Precautionary Zone: Construction Exclusion Zone ('No Dig'). where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. materials, plant and spoil should not be stored within this zone.
WESTERN BOUNDARY
OLD FORT ROAD
SITE ENTRANCE
STATION 3
X:559325.526
Y:574020.826
Z:25.052
615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632

					Notes
00	17/12/2025	AK	DBos	Planning	
Rev	Date	Drawn	Checked	Description	

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THIS DRAWING TO BE READ IN CONJUNCTION WITH RELEVANT CONSULTANT'S DRAWINGS.

0 10 20 30m

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Project	Apartment Development, Ballincollig O'Flynn Construction	Project No.	6752
Drg.	Tree Survey and Tree Protection Measures	Drawing No.	100
		Rev.	00
Scales	1:250@A1	Status	PLANNING
		Date	17/12/2025
Drn.	AK	Chd	DB
Passed			

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BSM Est. 1968