September 2024

# **Ecological Impact Assessment**

Proposed Purpose-Built Student Accommodation Scheme (PBSA) at Goatstown Road, Dublin 14

# On behalf of Orchid Residential Ltd.





### Form ES - 04



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#### **Ecological Impact Assessment**

# Proposed Purpose-Built Student Accommodation Scheme (PBSA) at

#### Goatstown Road, Dublin 14

Orchid Residential Ltd.

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# 1 INTRODUCTION

#### 1.1 Background and Purpose of Report

Malone O'Regan Environmental ('MOR Environmental') was commissioned by Orchid Residential ('the Applicant') to undertake an Ecological Impact Assessment ('EcIA') for the proposed purpose-built student accommodation scheme ('PBSA') and all ancillary works ('the Proposed Development) at Goatstown Road, Dublin 14, D14 (OS ITM 717750 728959).

The Proposed Development is located on a circa ('ca.') 0.34 hectares ('ha') site ca. 600m north of Goatstown town centre and ca. 1km southwest of the University College Dublin ('UCD) Belfield Campus and is shown in Figure 1-1 ('the Site'). The Site is zoned Objective 'A' "*To provide residential development and improve residential amenity while protecting the existing residential amenities*" under the Dún Laoghaire and Rathdown County Development Plan 2022-2028 [1]. Given the zoning objective applicable to the Site, it is considered that the proposed development is acceptable in principle.



#### Figure 1-1: Site Location

The objective of this EcIA was to survey and assess the land within and adjacent to the Site for the presence of any habitats or species that could present a constraint on the Proposed Development or an opportunity for enhancement.

This report will be submitted as part of a planning application for the Proposed Development to Planning Authority. A Stage 1: Appropriate Assessment Screening Report ('AA') has also been submitted in support of the planning application.

#### **1.2 Statement of Authority**

This report was reviewed and approved by Ms. Kathryn Broderick, Principal Consultant - Ecologist. Kathryn has over 7 years' experience working in the ecological consultancy sector. As part of her role, Kathryn is required to undertake habitat surveys and appraisals as well as

specialist-protected species surveys in support of Ecological Impact Assessments and Appropriate Assessments. Kathryn has also completed a diploma in Environmental Law and Planning, which had a focus on EIA and AA assessment, which has provided her with a comprehensive understanding of the legal context and requirements of these types of assessments.

#### **1.3 Legislation and Planning Policy Context**

#### **1.3.1 Legislation Policy Context**

Within Ireland, a number of sites of international or national importance to nature conservation, as well as many species of animal 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 level 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 Nation nature co	onal Parks and Wildlife Service ('NPWS') notifies sites in Ireland that are of international or national importance for onservation (although some sites that are of national importance for certain species have not been so designated).
Internatio	nally 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.
•	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 (209/147/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 sta	tutory site designations relating to nature conservation are:
•	Natural Heritage Areas ('NHAs'): 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 report.
Legally p	protected species
Many spe refers to:	ecies of animal and plant receive some degree of legal protection. For the purposes of this study, legal protection
•	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 [2]; and,
- Other Irish Red Data Book [3] species and Nationally/Regionally/Locally Notable species where appropriate.

#### 1.3.2 Planning Policy Statement

#### 1.3.2.1 Project Ireland 2040, National Planning Framework

Project Ireland 2040 was launched by the Government in February 2018 [4] and incorporates two policy documents - the National Planning Framework and the National Development Plan.

#### National Planning Framework

Under the biodiversity section "*Project Ireland 2040 National Planning Framework*", the National Policy Objective 59 is to:

'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;
- Integrating policies and objectives for the protection and restoration of biodiversity in statutory development plans;
- Developing and utilising licensing and consent systems to facilitate sustainable activities within Natura 2000 sites; and,
- Continued research, survey programmes and monitoring of habitats and species.'

The National Policy Objective 60 in the same document is to:

'Conserve and enhance the rich qualities of the natural and cultural heritage of Ireland in a manner appropriate to their significance.'

#### The National Development Plan

The National Development Plan [5] 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.'

#### 1.3.2.2 Ireland's 4<sup>th</sup> National Biodiversity Action Plan

The 4<sup>th</sup> National Biodiversity Action Plan ('NBAP') sets out a number of strategic objectives that lay out a clear framework for Ireland's approach to biodiversity and demonstrate Ireland's commitment to protect our biodiversity and also halt the decline [6]. The following objective within the current NBAP was considered relevant to the Proposed Development and this report:

Objective 2 of the NBAP aims to:

'Meet urgent conservation and restoration needs.'

The following targeted outcome is listed under this objective which is considered relevant to the Proposed Development. These include the following:

#### Outcome 2A:

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

### **1.3.3 Regional Planning Context**

#### 1.3.3.1 Regional Spatial and Economic Strategy

The Eastern & Midland Regional Spatial and Economic Strategy 2019-2031 ('RSES') [7] recognises the need to conserve and enhance biodiversity through coordinated spatial planning in the eastern and midland region. In regards to Regional Strategic Outcomes for Biodiversity and Natural Heritage, key principle 11 states to: *'Promote co-ordinated spatial planning to conserve and enhance the biodiversity of our protected habitats and species including landscape and heritage protection. (NSO 7, 8)'* 

Under the biodiversity section, the following regional policy objectives relative to the Proposed Development are listed:

#### **RPO 7.16**

'Support the implementation of the Habitats Directives in achieving an improvement in the conservation status of protected species and habitats in the Region and to ensure alignment between the core objectives of the EU Birds and Habitats Directives and local authority development plans.'

#### **RPO 7.17**

'Facilitate cross-boundary co-ordination between local authorities and the relevant agencies in the Region to provide clear governance arrangements and coordination mechanisms to support the development of ecological networks and enhanced connectivity between protected sites whilst also addressing the need for management of alien invasive species and the conservation of native species.'

#### **RPO 10.6**

'Delivery and phasing of services shall be subject to the required appraisal, planning and environmental assessment processes and shall avoid adverse impacts on the integrity of the Natura 2000 network.'

#### 1.3.4 Local Planning Context

#### 1.3.4.1 Dún Laoghaire-Rathdown County Development Plan 2022-2028

The Dún Laoghaire-Rathdown County Development Plan 2022-2028 ('DLRCDP') contains a number of policies and objectives that relate directly to the protection of biodiversity and natural heritage in the context of proposed developments [1]. The policies and objectives of the DLRCDP with regard to the natural environment that are relevant to the Proposed Development are as follows [1]:

#### Policy Objective GIB18:

'It is a Policy Objective to protect and conserve the environment including, in particular, the natural heritage of the County and to conserve and manage Nationally and Internationally important and EU designated sites - such as Special Protection Areas (SPAs), Special Areas of Conservations (SACs), proposed Natural Heritage Areas (pNHAs) and Ramsar sites (wetlands) - as well as non-designated areas of high nature conservation value known as locally important areas which also serve as 'Stepping Stones' for the purposes of Article 10 of the Habitats Directive.'

#### Policy Objective GIB19:

'It is a Policy Objective to ensure the protection of natural heritage and biodiversity, including European Sites that form part of the Natura 2000 network, in accordance with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines.'

#### Policy Objective GIB20

'It is a Policy Objective to support the provisions of the forthcoming DLR County Biodiversity Action Plan, 2021-2025.'

#### **Policy Objective GIB21**

'It is a Policy Objective to protect and preserve areas designated as proposed Natural Heritage Areas, Special Areas of Conservation, and Special Protection Areas. It is Council policy to promote the maintenance and as appropriate, delivery of 'favourable' conservation status of habitats and species within these areas.'

#### **Policy Objective GIB22:**

'It is a Policy Objective to protect and promote the conservation of biodiversity in areas of natural heritage importance outside Designated Areas and to ensure that notable sites, habitats and features of biodiversity importance - including species protected under the Wildlife Acts 1976 and 2000, the Birds Directive 1979, the Habitats Directive 1992, Birds and Habitats Regulations 2011, Flora (Protection) Order, 2015, Annex I habitats, local important areas, wildlife corridors and rare species - are adequately protected. Ecological assessments will be carried out for all developments in areas that support, or have the potential to support, features of biodiversity importance or rare and protected species and appropriate mitigation/ avoidance measures will be implemented. In implementing this policy, regard shall be had to the Ecological Network, including the forthcoming DLR Wildlife Corridor Plan, and the recommendations and objectives of the Green City Guidelines (2008) and 'Ecological Guidance Notes for Local Authorities and Developers' (Dún Laoghaire-Rathdown Version 2014).'

#### Policy Objective GIB23:

'It is a Policy Objective to protect the Ecological Network which will be integrated into the updated Green Infrastructure Strategy and will align with the DLR County Biodiversity Action Plan. Creating this network throughout the County will also improve the ecological coherence of the Natura 2000 network in accordance with Article 10 of the Habitats Directive. The network will also include non-designated sites.'

#### **Policy Objective GIB28:**

'It is a Policy Objective to prepare an 'Invasive Alien Species Action Plan' for the County which will include actions in relation to Invasive Alien Species (IAS) surveys, management and treatment and to also ensure that proposals for development do not lead to the spread or introduction of invasive species. If developments are proposed on sites where invasive species are or were previously present, the applicants will be required to submit a control and management program for the particular invasive species as part of the planning process and to comply with the provisions of the European Communities Birds and Habitats Regulations 2011 (S.I. 477/2011).'

#### **Policy Objective GIB29:**

'It is a Policy Objective to increase the use of Nature-Based Solutions (NBS) within the County, and to promote and apply adaption and mitigation actions that favour NBS, which can have multiple benefits to the environment and communities. NBS has a role not only to meet certain infrastructure-related needs (e.g. flooding management), and development needs, but also to maintain or benefit the quality of ecosystems, habitats, and species.'

# 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, with the objective of ensuring that sufficient data was collected to identify the designated sites, habitat areas 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 of the Proposed Development. The ecological zone of influence is the area that could be affected by the Proposed Development, 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 [8], few projects have a Zone of Influence this large, however, the identification of European sites within 15km and NHAs and pNHAs within 5km has become widely accepted as the starting point. For this reason, all SPAs and SACs in 15km and NHAs and pNHAs in 5km have been identified for consideration. Desk study data were collected for this area (See Section 4.1), whilst field surveys focused on the lands within and adjacent to the Site (See Section 4.2).

It should be noted that there was the potential for the Zone of Influence 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 offsite 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 Zone of Influence (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 effects that were sufficiently likely to be significant as to merit more detailed assessment, from those that could be assessed at a less detailed level as they were classified as not likely to be significant (referred to as 'screened out' effects).

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 detail on conservation objectives for the Natura 2000 sites relevant to this assessment [9];
- The Dún Laoghaire-Rathdown County Council Planning Portal to obtain details about existing/proposed developments in the vicinity of the Site [10];

- The Department of Housing, Local Government and Heritage's planning portal the National Planning Application Database to obtain details about existing/proposed developments in the vicinity of the Site [11];
- The National Biodiversity Data Centre ('NBDC') website was consulted with regard to species distributions [12]; and,
- The Environmental Protection Agency ('EPA') Maps website was consulted to obtain details about watercourses in the vicinity of the Site [13].

#### 2.3 Field Survey

#### 2.3.1 Habitat Survey

A habitat survey of the Site was undertaken on 23<sup>rd</sup> September 2022 by two suitably qualified and experienced MOR Environmental Ecologists. The survey was undertaken for the Site in line with the Heritage Council's – 'A *Guide to Habitats in Ireland*' [14]. This is the standard habitat classification system used in Ireland and includes both a desk-based and field-based assessment.

A follow-up survey was conducted on 12<sup>th</sup> March 2024 to ensure any changes to the habitats within or adjacent to the Site were recorded and reflected in this assessment. All the surveys were conducted in line with the Heritage Council's '*Best Practice Guidance for Habitat Survey* & *Mapping*' [15].

The assessment was 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 onsite.

#### 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 [16].

#### 2.3.2.2 Amphibians

During the habitat survey, the Site was assessed for its potential to provide sheltering, foraging, and breeding habitat for amphibians in line with the NRA, now TII, '*Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*,' [17]. 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

During the habitat survey, the Site was investigated for evidence of potential badger activity. This search 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,' [18];
- The Mammal Society, 'Surveying Badgers,' [19]; and,
- NRA, now TII, 'Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes [17],'.

#### 2.3.2.4 Bats

A ground assessment was carried out on the Site to determine the suitability of the habitats within the Site to support bat roosting, foraging and commuting.

The existing car showroom was inspected for the presence of features suitable for roosting bats. An external building inspection was undertaken to determine if there were any signs of bat activity using the following criteria:

- Evidence of bat droppings/urine splashes below the potential access points;
- Evidence of feeding remains, (insect wings on the ground below potential access point); and,
- Evidence of fur-oil staining on walls leading into potential access points.

A dusk emergence bat survey was undertaken for the Site on 23<sup>rd</sup> September 2021 to confirm if the building was being used by roosting bats. A follow up dusk emergence survey was also undertaken for the Site on 12<sup>th</sup> May 2024.

The bat survey was conducted in line with the methodology described in:

- Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes [20];
- A Conservation Plan for Irish Vesper Bats Irish Wildlife Manual No. 20 [21];
- *Bat Mitigation Guidelines for Ireland*. Irish Wildlife Manuals, No. 25 [22] a publication by the NPWS; and,
- Bat Surveys for Professional Ecologists Good Practice Guidelines (4<sup>th</sup> ed.). London: The Bat Conservation Trust [23].

A combination of the visual observations taken during the survey and the number of bat passes identified on the recordings were used to determine bat activity levels within the area.

The metadata for the bat surveys is described in Table 2-1.

Date	Survey Type	Sunset / Sunrise	Survey Times (Start-End)	Weather	Temperature (°C) Start - End
23/09/2021	Dusk	19:23	19:05 – 21:25	Moderate breeze and no rain	17°C-15°C
14/05/2024	Dusk	21:19	21:04-23:19	Dry, light breeze	12°C-11°C

#### Table 2-1: Bat Survey Metadata

Full details of the survey methodology are provided in Appendix A – Bat Report.

#### 2.3.2.5 Birds

During the habitat survey, the Site was assessed for its potential to support important assemblages of birds of rare or notable species and to identify and examine areas where wintering and breeding birds might occur. Any activity and potential nesting habitats onsite were noted.

#### 2.3.2.6 Invasive species

The Site was visually assessed for the presence of any noxious/invasive species that are regulated under Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) [24] such as Japanese knotweed (*Fallopia 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.

#### 2.3.2.7 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

No survey limitations were encountered.

#### 2.4 Assessment Methodology

The current Guidelines for Ecological Impact Assessment in the UK and Ireland [25] 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 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 as to whether the conservation status of the specified biodiversity receptor has been compromised has been made using professional judgement, drawing upon 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 are 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 Zone of Influence 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 land cover onsite.

In summary, therefore, the ecological Zone of Influence 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 onsite 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 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 Site Context

The Proposed Development is located within the townland of Roebuck, within a predominately urban and residential landscape. The Proposed Development is on a ca. 0.34 ha site ca. 600m north of Goatstown town centre and ca. 1km southwest of the UCD Belfield Campus. The Site currently comprises an existing car showroom building and a hard surface parking area.

The Site is accessed off the R825 regional road which is located immediately to the west of the Site boundary.

The Site is bordered to the north, east and west by apartment complexes and residential estates, while directly to the south of the Site are retail outlets (Refer to Figure 3-1).



#### Figure 3-1: Site Context

3.2 Watercourses within the Vicinity of the Site

The Site is located within the Liffey and Dublin Bay catchment [Catchment\_ID: 09] and the Dodder\_SC\_010 sub-catchment [Subcatchment\_ID: 09\_16] [26].

As per EPA Maps, no watercourses were identified within 500m of the Site, and no hydrological connection was identified between the Site and any identified watercourse.

The nearest hydrological feature to the Site is an unmarked watercourse ca. 580m northwest at its closest point. However, there is no hydrological connection between the Site and this watercourse. This watercourse appears to be culverted in sections, flowing for ca. 1.5km into a feature named 'The Lake' within the UCD Belfield Campus. This feature appears to discharge into the Elm Park Stream via an underground connection. The Elm Park Stream flows for a further 1.3km before discharging directly into Dublin Bay.

Under the Water Framework Directive ('WFD') 2000/60/EC, the EPA classifies the status and the risk of not achieving good water quality status for all waterbodies in Ireland [26]. According to the river waterbody WFD 2016-2021, the most up-to-date data at the time of writing this assessment, the Elm Park Stream belongs to the Brewery\_Stream\_010 WFD surface waterbody. The Elm Park Stream has a '*Poor*' Status according to the river waterbody WFD 2016-2021 and the water quality within the Elm Park Stream is '*Under Review*' [26].

The River Slang is located ca. 900m west of the Site. This river discharges into the River Dodder ca.1.5km downstream, which flows in a north-easterly direction for ca. 5.1km before joining the River Liffey. The River Liffey then flows in an easterly direction for approximately 5.7km before discharging into Dublin Bay. As above, there is no hydrological connection to this waterbody from the Site.

According to the river waterbody WFD 2016-2021, the water quality within the River Dodder and River Slang is considered to be '*moderate*,' and the status of these rivers are considered to be '*at risk*' [26].

The location of the key surface water features in the vicinity of the Site are illustrated in Figure 3-2 below.



#### Figure 3-2: Watercourses in the Vicinity of the Site

#### 3.2.1 Drainage Ditches

No drainage ditches were identified onsite or within the immediate vicinity of the Site.

#### 3.3 Proposed Development

The Proposed Development will involve the demolition of the existing onsite structures and hardstanding in order to facilitate the construction of the proposed PBSA and associated site works. The Proposed Development will comprise the following elements:

- 220 no. student bedspaces (including 10 no. studios), all within a part single storey, part 4 no. storey and part 6 no. storey 'U'-Shaped building;
- The building is single to 4 no. storeys along the southern boundary (with a roof terrace at 4th floor level) and part 5 and 6 storeys along Goatstown Road (with setbacks) and boundary to the north (with roof terrace at 5th floor level fronting onto Goatstown Road);
- Amenity space equating to c. 1,785 sqm is provided across the site consisting of c. 1,247 sqm of external amenity in the form of a central courtyard at ground level and roof terraces at 4th and 5th floor levels;
- Internal amenity space equating to c. 538 sqm is provided in the form of 2 no. ground floor lounge/study areas, kitchen/tearoom, laundry, and concierge/office space;
- Provision of 218 no. bicycle parking spaces distributed within the central courtyard, north of the site and adjacent to the front boundary;
- Provision for 6 no. carparking spaces comprising 2 no. disabled parking spaces and 4 no. set down parking spaces adjacent to the front entrance to the site;
- Vehicular access to the site is via Goatstown Road from 2 no. entrance points [reduction from 3 no. entrances currently];
- Ancillary single storey ESB substation and switch room and refuse store are provided at ground level; and,
- Provision of surface water and underground attenuation and all ancillary site development works including site wide landscaping works, lighting, planting and boundary treatments.

#### 3.3.1 Drainage

#### Existing Surface Water Drainage System

There is an existing car showroom to the north of the site, with the remaining area consisting of tarmac surfacing. Surface water drains via a series of gullies and surface drains to the existing public sewer under the Goatstown road to the west of the site. There is no evidence of flow control devices restricting discharge rates from the site. As the existing site consists entirely of impermeable surfaces the unattenuated outflow has been calculated as follows for a 50mm/hr storm: 47.8 l/s.

As will be discussed in Section 2.3.2 below, the proposed drainage system will restrict the peak flow rate during the 100-year storm event to 1.57l/s, representing a very significant improvement on the current situation.

#### Proposed Surface Water Drainage System

The Proposed Development will receive rainfall onto a mix of surfaces, such as green roofing, harvested roofing, permeable paving and soft landscaping. Infiltration tests carried out onsite show that the Site is underlain by boulder clay of insignificant permeability and so soakaways are not considered feasible. Further soakaway tests will be carried out prior to construction of the drainage infrastructure and if infiltration is found to be available in certain areas it will be utilised as appropriate to minimise the volume of run-off discharged from the site. Run-off generated will be partially intercepted by the various surface finishes and the overflow will discharge to a concrete attenuation tank or lined Stormtech system, with a hydrobrake manhole restricted to the QBAR value for the Site. Discharge from the tank will subsequently fall via gravity to the existing public surface water pipe running along the Goatstown Road to the west of the Site.

#### Existing Foul Sewer Infrastructure

There is an existing 225mm diameter sewer running along the western boundary of the site, falling northwards along the Goatstown Road.

#### Proposed Foul Sewer System

It is proposed to connect the foul water network to the existing foul sewer using a 225mm pipe. All foul effluent will leave the site via gravity. As this site is intended solely for student accommodation the wastewater produced per person is reduced to 100l/day.

#### Foul Sewer Network Pipe Sizes

A 225 mm diameter foul pipe at 1:200 minimum fall has a capacity = 34 l/s, which is sufficient for all foul pipework. The Foul Drainage system will be in accordance with UE Standard Details & Code of Practice.

For further details please refer to the Civil Engineering Infrastructure Report & Flood Risk Assessment for Planning prepared by Barrett Mahony Civil & Structural Consulting Engineers submitted as part of the overall planning application.

#### 3.3.1.1 Site Access

Vehicular access to the Site will be via two access and egress points on the Goatstown Road (R825) along the western boundary. Two designated pedestrian access points and one cyclist access point will also be provided from the footpath that runs along the R825 on the western boundary of the Site.

Detailed drawings of the Site access layout can be found in the Vehicle Tracking and Sightlines Analysis prepared by Barrett Mahony Civil & Structural Consulting Engineers submitted as part of the overall planning application.

#### 3.3.1.2 Landscaping

Landscape planting will be undertaken as part of the Proposed Development. Landscape planting will include:

- Planting of semi-mature trees;
- Creation of amenity grassland;
- Planting of shrubs; and,
- Ornamental planting.

Tree selection has taken into account location, orientation, and weather exposure. The trees proposed are mainly native and well-suited for the Irish climate. Trees near the site boundary will be planted in grassy areas alongside a mixture of shrubs in order to provide screening for the Site.

The Proposed Development will also include the creation of green roofs on both the 4<sup>th</sup> and 5<sup>th</sup> floors comprising areas of pavement, ornamental bamboo, garden plants, trees, and seating.

For further details please refer to the Landscape Rationale Report prepared by Ronan MacDiarmada Landscape Architects and Consultants submitted as part of the overall planning application.

#### 3.4 Construction and Demolition Procedures

During the construction and demolition phase, the methods of working will comply with all relevant legislation and best practice guidelines in reducing the environmental adverse effects of the works. Although construction phase adverse effects are generally of 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.

All potential construction and demolition phase environmental impacts have been addressed through the following reports prepared by AWN and submitted as part of the overall planning application: Operational Waste Management Plan (OWMP), Construction Environmental Management Plan (CEMP) and Resource Waste Management Plan (RWMP). These plans detail how during the demolition stage of the Proposed Development, the existing structure and hardstanding onsite will be removed. This will involve four distinct elements:

- Checking for hazards;
- Removal of Components;
- Removal of Roofing; and,
- Excavation of Services, Demolition of Walls and Concrete.

These stages are discussed further in Section 3.4.1 below.

These reports also detail the measures to be followed should hazardous or non-hazardous wastes be produced onsite. Materials will also be stored and managed in ways that reduce the risk of pollution events, such as storing liquid materials in bunded containers and removing waste materials regularly from the Site. These measures should be followed during the construction phase of the Proposed Development to minimise the risk of pollution events onsite.

The following guidance will be referred to and will be followed during the construction phase of the Proposed Development to prevent pollution that may occur within the area:

- Construction and Demolition Waste Management a handbook for Contractors and Site Managers [27];
- The National Waste Management Plan for a Circular Economy 2024 2030 [28];
- Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects [29];
- BS 6187 Code of Practice for Full and Partial Demolition [30]; and
- C741 Environmental Good Practice on Site (4<sup>th</sup> edition) [31] [31].

The proposed works will aim to be completed in approximately 24 months from the grant of planning conditions. Working hours will generally be restricted to between 08:00 and 18:00 hours Monday to Friday inclusive and between 08:00 and 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.

#### 3.4.1 Demolition

The existing structures on site will be demolished as an enabling works contract prior to the construction of the proposed development. As the existing building was constructed and in use over a period when asbestos was widely used in buildings, a detailed asbestos survey will be carried out prior to the commencement of demolition works. The demolition shall be in full compliance with BS 6187 '*Demolition in Buildings*' [30] and all measures necessary will be taken to protect the adjoining buildings from damage and persons from injury.

Prior to the demolition works a RWMP will be produced in compliance with 'Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects' by the EPA [29]. This RWMP will be prepared/updated by the appointed Demolition Contractor include any subsequent planning conditions.

The demolition will commence with the removal of any hazardous materials by an appropriately qualified contractor for disposal at an appropriate licensed waste collection facility. All non-structural items will then be removed and segregated for re-use or re-cycling

where possible. The remainder of the building structure will be removed in an approved sequence outlined in a Method Statement prepared by the Demolition Contractor's Structural Engineer.

#### 3.4.2 Construction (Base)

Ground works will be required to clear the Site and to facilitate the construction of an additional basement level, building foundations and utilities. The site investigation report produced by Causeway Geotech provides a summary of the anticipated stratigraphy of the soil beneath the site. It concluded that the Site is underlain mostly by made ground, gravel and boulder clay.

It is not anticipated that the development site works, or excavation works will be deep enough to impact the underlying bedrock geology.

#### 3.4.3 Excavation

The project excavations will involve excavations for new foundations, site levelling and excavations for roads and services. The RWMP prepared by AWN Consulting Ltd. (247501.0135WMR01) for the Proposed Development will be updated by the main contractor and will be in compliance with the requirements of the 'Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects' [29], which will identify and categorise any waste arising from the Proposed Development.

It has been calculated by the project engineers that ca. 3,300m<sup>2</sup> of topsoil, made ground, gravel & clay will be excavated to facilitate the construction of the proposed ground level other ancillary works. It is envisioned that all excavated material arising on the Site will be removed from the site.

#### 3.4.4 Removal and Storage of Excavated Material

The majority of construction waste materials generated will be soil from excavation works. Material will be removed from the site regularly to ensure there is minimal need for stockpiling.

The RWMP contains the proposals for the minimisation, re-use and re-cycling of waste generated at the Site in compliance with the provisions of the '*Waste Management Act 1996*' [32] as amended, and associated regulations, the '*Litter Pollution Act 1997*' [33], as amended and the '*Eastern-Midlands Region Waste Management Plan 2015* – 2021' [34]. As part of this plan, separate storage areas will be designated on the Site for various types of material in order to maximise the re-use and re-cycling potential. Procedure will also be put in place to ensure that all sub-contractors fulfil the requirements of the RWMP.

The main waste storage area will be located in a compound at the Site. A dedicated and secure area containing bins, and/or skips, and storage areas, into which all waste materials generated by construction activities will be established within the Proposed Development.

Waste materials generated will be segregated at the site compound, where it is practical. Where the on-site segregation of certain wastes types is not practical, off-site segregation will be carried out. There will be skips and receptacles provided to facilitate segregation at the source. All waste receptacles leaving the site will be covered or enclosed. The appointed waste contractor will collect and transfer the wastes as receptacles are filled. There are numerous waste contractors in the Dún Laoghaire Region that provide this service.

The site Resource Manager will ensure that all staff are informed of the requirements for the segregation of waste materials by means of clear signage and verbal instruction. Appointed employees will be made responsible for ensuring good site housekeeping.

#### **Backfilling**

Excavated material will be reused as part of the Site development works where possible to minimise truck movements to and from the Site (e.g. use as non-structural fill under green areas).

#### 3.4.5 Construction Timeline

The proposed works will aim to be completed in ca. 24 months from the grant of planning conditions. Working hours will generally be restricted to between 08:00 and 18:00 hours Monday to Friday inclusive and between 08:00 and 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

A suitably qualified and experienced Ecological Clerk of Works (ECoW) will inspect the Site in advance of works commencing.

# 4 STUDY RESULTS

#### 4.1 Desk Based 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 onsite and allowed for the identification of features/habitats located off-site that may require further assessment.

#### 4.1.1 European Designated Sites

In accordance with the European Commission Methodological Guidance [35] and policy objectives GIB18, GIB19, GIB20, GIB21, GIB22, GIB23, GIB28 and GIB29 of the DLRCPD [1], a list of European Designated 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 [36] 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.

All SPAs and SACs within 15km have been considered to assess their ecological pathways and functional links. As acknowledged in the OPR guidelines [8], few projects have a zone of influence this large, however, the identification of European-designated sites within 15km has become widely accepted as the starting point for the screening process. For this reason, all SPAs and SACs in 15km have been identified for consideration as part of the screening.

The Proposed Development is not located within or directly adjacent to any Natura 2000 sites, however, 16 European Designated sites were identified within 15km of the Site - Please refer to Figure 4-1 and Table 4-1.





Table 4-1: Natura 2000 Sites within 15km of the Site				
Site Name	Code	Distance (km)	Direction from the Site	
Special Areas of Conservation (SAC)				
South Dublin Bay	000210	2.8km	NE	
Wicklow Mountains	002122	7.5km	S	
North Dublin Bay	000206	7.7km	NE	
Rockabill to Dalkey Island	003000	9.5km	E	
Knocksink Wood	000725	9.7km	S	
Glenasmole Valley	001209	10km	SW	
Ballyman Glen	000713	11km	S	
Howth Head	000202	12.4km	NE	
Baldoyle Bay	000199	13.1km	NE	
Bray Head	000714	14.9km	SE	
Special Protection Area (SPA)				
South Dublin Bay and River Tolka Estuary	004024	2.7km	NE	

Site Name	Code	Distance (km)	Direction from the Site
North Bull Island	004006	6.1km	NE
Wicklow Mountains	004040	7.8km	S
Dalkey Island	004172	9.5km	E
Baldoyle Bay	004016	13km	NE
Howth Head Coast	004113	14km	NE

Given the localised nature of the construction works, lack of impact pathways and distance separating the Site from all European Sites within 15km of the Proposed Development, all sites listed in Table 4-1 have been screened out from further consideration on the basis that there are no likely significant adverse effects. A Stage 1 AA Screening report was prepared and has been submitted as part of the overall planning application.

#### 4.1.2 Nationally Designated Sites

Nationally designated sites within 5km of the Site were investigated as per Policy Objective GIB18, GIB19 and GIB21 of the DLRCDP [1].

No NHAs are located within 5km of the Site. However, four pNHAs are located within 5km of the Site (Table 4-2). Refer to Figure 4-2 for context.

Site Name	Code	Distance (km) & Direction	Qualifying Interests				
Proposed Natural Her	Proposed Natural Heritage Areas						
Booterstown Marsh	h 001205	2.7 NE	Booterstown Marsh ca. 5km south of Dublin City is separated from Merrion Strand to the east by an embankment which carries the Dublin to Wexford railway, and to the west, it is bounded by the road from Dublin to Blackrock. This is the only salt marsh in south Dublin and overlies glacial tills which in turn lie on Black Limestone. Two streams run through the site; the culverted Trimelston stream along the north of the site, with some seepage into the marsh helping prevent the marsh from drying out. The Nutley stream runs parallel to the railway along the eastern side of the site. Almost the entire marsh may be flooded at irregular intervals and salinity fluctuates throughout the site under the influence of rainfall and tidal cycles. Consequently, the site exhibits an interesting gradient from freshwater plant communities in the northwest to a more saline-tolerant flora in the southeast. Some species of interest occurring here include the				
			protected plant Borrer's Saltmarsh grass ( <i>Puccinellia fasciculata</i> ), and a variety of waders and gulls such as Oystercatcher, Redshank and Black-headed Gull. Mallard, Teal and Snipe are regularly seen in autumn and winter. Other species which frequent the marsh include EU Birds Directive Annex 1 species Kingfisher, and Grey Heron.				
South Dublin Bay	000210	2.8km NE	This site extends from the South Wall to the west pier in Dun Laoghaire and supports an array of habitats and species protected under the E.U. Habitats Directive –				

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

Site Name	Code	Distance (km) & Direction	Qualifying Interests
			particularly waterfowl. The South Dublin Bay pNHA contains the largest stand of eelgrass ( <i>Zostera noltii</i> ) on the east coast and forms part of an SAC and an SPA.
Fitzsimon's Wood	001753	3.1km S	Fitzsimon's Wood occupies an area of ca. 8ha near Lamb's Cross in Sandyford, Co. Dublin. The woodland consists of mature birch (Betula spp.) with some oak (Quercus spp.), together with a well-developed understorey of Holly ( <i>llex aquifolium</i> ). Natural regeneration is occurring and there is a profuse growth of young birch, Ash ( <i>Fraxinus excelsior</i> ), oak and other species. Some marshy areas also occur within the woodland. An area of heath, dominated by Gorse ( <i>Ulex europaeus</i> ) scrub is also included in the site. The underlying rock of the area is granite and where this outcrops it is often covered with ferns and mosses. The basic woodland structure remains intact and as birch woodland is very rare in Co. Dublin, Fitzsimon's Wood continues to be of ecological importance.
Grand Canal	002104	4km N	This pNHA is a man-made canal that links the River Liffey with the River Shannon and the River Barrow. There are several different habitats found along the canal boundaries including hedgerows, reef fringe, open water, scrub, calcareous grassland, and woodland. Otter spraints are commonly found along towpaths, particularly near rivers and streams. A range of species and habitats are supported both within and along the canal's banks such as otters, smooth newt and most notably the rare opposite-leaved pondweed ( <i>Groenlandia densa</i> ) which is protected under the Flora Protection Order 1987. The ecological value of the Grand Canal is particularly high due to the diversity of species present along the linear habitats. This pNHA is threatened by agricultural practices as it crosses through farmland.





#### 4.1.3 Protected Species

Table 4-3 provides a summary of records of legally protected or otherwise notable species that occur within a 2km grid square of the Site boundary (Grid Ref: O12T, O12U, O12Y, O12Z, O13Q, O13V) [12]. The parameter of 10 years was chosen on the basis of habitat and modification, it is considered that any records over 10 years old are not representative of the current distribution of species populations. In addition, CIEEM's guidelines recommend that consideration be given to the biodiversity conservation value of the species that occur within this zone of influence (as appropriate) [37].

Common Name	Scientific Name	Date of last record	Designation	
Amphibians				
Common Frog	Rana temporaria	08/05/2018	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex V	
Smooth Newt	Lissotriton vulgaris	06/10/2020	Wildlife Acts 1976 / 2000	
Bird Species				
Barn Swallow	Hirundo rustica	17/05/2019	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List	

Table 4-3: NBDC Species within 2km of the Site

Common Name	Scientific Name	Date of last record	Designation
Black-headed Gull	Larus ridibundus	01/03/2023	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Red List
Brent Goose	Branta bernicla	29/12/2022	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Common Coot	Fulica altra	01/03/2023	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II and III Section I and II Bird Species Birds of Conservation Concern Amber List
Common Linnet	Carduelis cannabina	29/03/2022	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Common Kestrel	Falco tinnunculus	26/02/2019	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Common Kingfisher	Alcedo atthis	03/07/2019	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Common Redshank	Tringa totanus	29/12/2022	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Red List
Common Snipe	Gallinago gallinago	28/01/2017	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II and III Section I and III Bird Species Birds of Conservation Concern Red List
Common Shelduck	Tadorna tadorna	15/03/2023	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Common Starling	Sturnus vulgaris	01/03/2023	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Common Swift	Apus apus	08/07/2023	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Red List

Common Name	Scientific Name	Date of last record	Designation
			Wildlife Acts 1976 / 2000
Common Wood Pigeon	Columba palumbus	30/01/2023	EU Birds Directive Annex II Section I and Annex III Section I Bird Species
			Wildlife Acts 1976 / 2000
Eurasian Curlew	Numenius arquata	29/12/2022	EU Birds Directive Annex II Section II Bird Species
			Birds of Conservation Concern Red List
			Wildlife Acts 1976 / 2000
Eurasian Oystercatcher	Haematopus ostralegus	24/11/2018	EU Birds Directive Annex II Section II Bird Species
			Birds of Conservation Concern Red List
			Wildlife Acts 1976 / 2000
Gadwall	Anas strepera	30/01/2023	EU Birds Directive Annex II Section I Bird Species
			Birds of Conservation Concern Amber List
			Wildlife Acts 1976 / 2000
Great Cormorant	Phalacrocorax carbo	30/01/2023	Birds of Conservation Concern Amber List
Great Black-backed		40/00/0040	Wildlife Acts 1976 / 2000
Gull	Larus marinus	12/03/2016	Birds of Conservation Concern Green List
			Wildlife Acts 1976 / 2000
Herring Gull	Larus argentatus	01/03/2023	Birds of Conservation Concern Amber List
			Wildlife Acts 1976 / 2000
House Sparrow	Passer domesticus	11/02/2023	Birds of Conservation Concern Amber List
Lessen Dissiskessing			Wildlife Acts 1976 / 2000
Lesser Black-backed Gull	Larus fuscus	30/09/2016	Birds of Conservation Concern Amber List
			Wildlife Acts 1976 / 2000
Little Egret	Egretta garzetta	20/02/2023	EU Birds Directive Annex I Bird Species
			Birds of Conservation Concern Green List
			Wildlife Acts 1976 / 2000
Mallard	Anas platyrhynchos	01/03/2023	EU Birds Directive Annex II Section I and Annex III and Section I Bird Species

Common Name	Scientific Name	Date of last record	Designation
Mew Gull	Larus canus	11/10/2018	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Mute Swan	Cygnus olor	01/03/2023	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Peregrine Falcon	Falco columbarius	06/06/2014	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex I Bird Species
Rock Pigeon	Columba livia	01/03/2023	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II Section I Bird Species
Sand Martin	Riparia riparia	03/08/2016	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Snowy Owl	Bubi scandiaca	04/08/2016	Wildlife Acts 1976 / 2000 EU Birds Directive Annex I Birds of Conservation Concern Amber List
Tufted Duck	Aythya fuligula	13/03/2022	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II Section I and Annex III and Section II Bird Species Birds of Conservation Concern Amber List
Invasive species			
Black Currant	Ribes nigrum	24/05/2015	Invasive Species: Medium Impact Species
Brown Rat	Rattus norvegicus	30/09/2016	Invasive Species: High Impact Invasive Species
Butterfly Bush	Buddleja davidii	30/01/2023	Invasive Species: Medium Impact Invasive Species
Canadian Fleabane	Conyza canadensis	30/09/2016	Invasive Species: Medium Impact Invasive Species
Canadian Waterweed	Elodea canadensis	30/09/2016	Invasive Species: High Impact Invasive Species

Common Name	Scientific Name	Date of last record	Designation
Cherry Laurel	Prunus laurocerasus	04/04/2023	Invasive Species: High Impact Invasive Species
Common Garden Snail	Lutraria lutraria	07/03/2020	Invasive Species: Medium Impact Species
Eastern Grey Squirrel	Sciurus carolinensis	08/01/2023	Invasive Species: High Impact Invasive Species
European Rabbit	Oryctolagus cuniculus	27/08/2017	Invasive Species: Medium Impact Invasive Species
Giant Hogweed	Heracleum mantegazzianum	04/06/2020	Invasive Species: High Impact Invasive Species
Giant-rhubarb	Gunera tinctoria	24/05/2020	Invasive Species: High Impact Invasive Species
Harlequin Ladybird	Harmonia axyridis	31/04/2024	Invasive Species: High Impact Invasive Species
Himalayan Honeysuckle	Leycesteria formosa	04/09/2021	Invasive Species: Medium Impact Invasive Species
House Mouse	Mus musculus	30/06/2014	Invasive Species: High Impact Invasive Species
Indian Balsam	Impatiens glandulifera	06/07/2023	Invasive Species: High Impact Invasive Species
Japanese Knotweed	Fallopia japonica	13/05/2023	Invasive Species: High Impact Invasive Species
Japanese Rose	Rosa rugosa	29/07/2023	Invasive Species: Medium Impact Species
Jenkins' Spire Snail	Potamopyrgus antipodarum	30/09/2016	Invasive Species: Medium Impact Invasive Species
New Zealand Flatworm	Arthurdendyus triangulatus	11/03/2015	Invasive Species: High Impact Invasive Species
Spanish Bluebell	Hyacinthoides hispanica	30/03/2021	Invasive Species: Medium Impact Species
Sycamore	Acer pseudoplatanus	09/05/2018	Invasive Species: Medium Impact Invasive Species
Three-cornered Garlic	Allium triquetrum	13/05/2023	Invasive Species: Medium Impact Invasive Species
Traveller's-joy	Clematis vitalba	08/07/2022	Invasive Species: Medium Impact Invasive Species

Common Name	Scientific Name	Date of last record	Designation			
Mammals	Mammals					
Eurasian Badger	Meles meles	04/09/2018	Wildlife Acts 1976 / 2000			
Eurasian Pygmy Shrew	Sorex minutus	30/06/2014	Wildlife Acts 1976 / 2000			
Eurasian Red Squirrel	Sciurus vulgaris	15/09/2018	Wildlife Acts 1976 / 2000			
European Otter	Lutra lutra	28/09/2017	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II and Annex IV			
Eurasian Red Squirrel	Sciurus vulgaris	15/09/2018	Wildlife Acts 1976 / 2000			
Pine Marten	Martes martes	31/05/2021	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex V			
West European Hedgehog	Erinaceus europaeus	14/05/2023	Wildlife Acts 1976 / 2000			

\*Note that only species recorded within the past 10 years were included in this table. Also, Table 4-3 only includes invasive species regulated under S.I. 477 (Ireland).

#### 4.2 Field Survey

#### 4.2.1 Habitats

The following section provides details of the field-based assessments that were undertaken at the Site on 23<sup>rd</sup> September 2022 and 12<sup>th</sup> March 2024. A description of the habitats and features of ecological significance are outlined below and illustrated in Figure 4-3.

#### Buildings and Artificial Surfaces (BL3)

The majority of the Site is comprised of an existing carpark, hard surfacing, concrete walkways/walls and the existing car showroom/garage buildings.

The car showroom/garage building is roofed and partially cladded with large metal corrugated sheets. The west side (showroom) is partially cladded by large glass windows. The south side (garage) is an exterior wall and large metal shutters.

#### Ornamental / Non-native Shrub (WS3)

Ornamental / Non-native Shrub was recorded within the Site and\_comprised of a raised triangular planter with ornamental shrubs and is located beside the central entrance. Bordering the Site was a wall along an adjacent footpath, which was lined with linear strips of ornamental shrubs and hedging plants, however, these lie outside the boundary of the Site.

#### Stonewalls (BL1)

The Site is bound by a concrete block wall to the east toward the rears of adjacent residential properties. To the south, this wall merges into a rubble stone set on the boundaries to the rear of residential properties in Willowfield Park. A strand of butterfly bush (*Buddleja davidii*) was identified along the south wall.

#### Recolonising Bare Ground (ED3)

A small area of recolonising bare ground was present in the southeast corner of the Site. The only species present in this stockpile was butterfly bush (*Buddleja davidii*).



#### 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 onsite.

#### 4.2.2.2 Amphibians

The NBDC holds records for common frog and smooth newt within 2km of the Site over the last 10 years [37].

Amphibians require static or slow-moving water bodies in order to successfully lay their eggs and tend to favour shallow areas where they are less susceptible to being preyed on by fish.

However, no waterbodies or drainage ditches were identified onsite or within the immediate vicinity of the Site. In addition, the onsite habitats are comprised primarily of areas of hardstanding and therefore are not considered suitable for amphibians during the terrestrial phase of their life cycle.

#### 4.2.2.3 Badgers

The NBDC holds records for badger within 2km of the Site over the last 10 years [37].

However, no evidence of badgers were identified onsite in the form of mammal paths, badger prints or spraints, setts or latrines. Additionally, the onsite habitats are considered to be unsuitable for breeding, foraging and commuting badgers.

#### 4.2.2.4 Bats

The Site is located within an urban landscape with extensively illuminated areas of hardstanding and buildings. As per the NBDC landscape suitability metric, the Site and surrounding area is considered to be of Low suitability for bats (Landscape Suitability Metric Score: 13 - 21) [12].

During the initial ground inspection carried out at the Site, it was determined that the building onsite had low bat roosting potential. During the dusk emergence surveys undertaken at the Site on 23<sup>rd</sup> September 2021 and 14<sup>th</sup> May 2024 no bats were observed emerging from or reentering the building surveyed. It was also noted during the survey that lighting from the buildings on-site and the R825 spills onto the Site, making it sub-optimal for roosting bats. There was also no evidence of bat activity found during the external inspection of the building and the building itself was deemed sub-optimal for roosting bats due to the high levels of light surrounding the building at night.

Based on the low levels of activity and movement of the bats recorded during the surveys, it is considered that the Site is of Low Local Value to bats.

Please see the accompanying Bat Survey Report attached as Appendix A to this report for details of the full survey.

#### 4.2.2.5 Birds

Given the Site is comprised of hardstanding, the Site was considered to provide limited suitability for nesting or foraging birds. Additionally, no evidence of birds were recorded during the Site surveys.

#### 4.2.2.6 Otters

The NBDC holds records for Otter within 2km of the Site over the last 10 years [37].

However, no evidence of otter was identified within the Site and no suitable habitats for otter were found onsite or the surrounding area. Given the nature of the onsite habitats, it is considered unlikely that the Site is of any value to otter.

#### 4.2.2.7 Invasive Species

No high impact invasive species or plant species listed on the Third Schedule of the 2011 European Communities (Birds and Natural Habitats) Regulations (i.e., species of which it is an offense to disperse, spread or otherwise cause to grow in any place) were identified within the Site.

Butterfly bush was identified in a small area of recolonising bare ground and along a stonewall in the South of the Site. This is considered to be a medium-impact invasive species in Ireland but is not regulated under Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) [24].

#### 4.2.2.8 Other Species

No other notable or protected species were identified on the Proposed Development or are considered likely to occur given the nature of the habitats and activities at the Site.

## 5 CHARACTERISTICS AND POTENTIAL IMPACTS OF THE PROPOSED WORKS AND MITIGATION MEASURES

#### 5.1 Sensitive Design

The Site as it currently exists, comprised predominately of buildings and areas of hardstanding, is of minimal ecological value.

In order to 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 are detailed further in the Landscape Rationale Report submitted as part of the overall planning application and are summarised below:

- It is proposed that a variety of evergreen and flowering shrubs and over 50
  predominately native, semi-mature trees will be planted throughout the Site. These
  shrubs and trees will provide a source of food and shelter for pollinators and other
  invertebrate species which in turn, provide a source of food for a number of bird and
  bat species, increasing the overall biodiversity of the Site which is currently comprised
  of hardstanding, ornamental planting and butterfly bush. The trees will also provide
  suitable nesting habitat for birds; and,
- The proposed roof gardens will comprise a mixture of semi-mature trees, shrubs and other flowering plants, as well as extensive *Sedum* blankets. Both of these measures will create a valuable source of food for pollinators and other invertebrates, which in turn, will provide potential food sources for a variety of bird and bat species that may utilise the Site.

#### 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.
Potential Biodiversity Receptor Relevant Legislation Valuation		Valuation	Scoping Justification	Screening Result		
Protected Sites						
Natura 2000 Sites	European Communities (Natural Habitats) Regulations 1997 (as amended)	Internationally designated sites for conservation.	An Appropriate Assessment Screening Report (AA) has been prepared and concluded that the Proposed Development is not likely to significantly impact the conservation objectives of any European designated sites or any of their designated features of interest. The selection of this Site is in line with policies GIB18 and GIB19 of the DLRCDP [1] which refers to the avoidance of impacts on Natura 2000 sites.	Natura 2000 sites have been scoped out for further consideration.		
Natural Heritage Areas (NHAs)	Wildlife Act 2000 (as amended)	Nationally designated sites for conservation.	Natural Heritage Areas (NHA) were assessed in compliance with policy GIB21 of the DLRCDP [1]. There are no NHAs within 5km of the Site. However, there are four proposed Natural Heritage Area (pNHA) within 5km of the Site. Impacts on the pNHAs can be discounted given the lack of impact pathways and intervening road infrastructure separating these sites from the Proposed Development.	Natural Heritage Areas have been scoped out from further consideration.		
Habitats						
Stonewalls (BL1)	N/A	Low Local Value	This habitat provides limited ecological value. Any alteration or loss of this habitat is not considered to be significant.	Stonewalls have been screened out from further consideration		
Buildings and Artificial Surfaces (BL3)	N/A	Low Local Value	This is a common habitat throughout Ireland and provides limited ecological value. Any alteration or loss of this habitat is not considered to be significant	Buildings (BL3) have been scoped out from further consideration.		
Ornamental Planting (WS3)	N/A	Low Local Value	All ornamental planting onsite will be removed as part of the Proposed Development. This habitat provides limited ecological value. The loss of these habitats are not considered to be significant.	Ornamental Planting has been scoped out from further consideration.		

#### Table 5-1: Valuation of Potential Ecological Receptors

Potential Biodiversity Receptor Relevant Legislation		Valuation	Scoping Justification	Screening Result
			Furthermore, as part of the Proposed Development, a proposed landscaping plan will be implemented and result in an overall gain of planting onsite.	
Recolonising Bare Ground (ED3)	N/A	Low Local Value	This is a common habitat throughout Ireland and provides limited ecological value. Any alteration or loss of this habitat is not considered to be significant	Recolonising Bare Ground has been scoped out from further consideration.
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 onsite. Overall, the impact of the Proposed Development on protected flora is considered unlikely to be significant.	Flora species have been screened out from further consideration
Amphibians Wildlife Act 2000 (as amended) EU Habitats Directive Annex V		Low Local Value	No signs of amphibians were recorded onsite. Furthermore, no terrestrial habitats or waterbodies suitable for amphibians were identified on or within the immediate vicinity of the Site. It is reasonable to conclude that this Site is not of importance to this species.	Amphibians have been scoped out from further consideration.
Badgers	Wildlife Act 2000 (as amended)	Low Local Value	No signs of badger were recorded onsite. No suitable habitats were recorded onsite or in the immediate vicinity for sett construction, foraging and commuting, and there is no potential for this Site to be used by badgers for this purpose. It is reasonable to conclude that this Site is not of importance to this species.	Badgers have been scoped out from further consideration.
Bats	Wildlife Act 2000 (as amended) EU Habitats Directive Annex IV	Low Local Value	Following examination of the onsite buildings and surrounding available habitats, the Site was considered sub-optimal for roosting, and it is considered unlikely that bats will be impacted by the demolition of the buildings and the areas of hardstanding on the Site. Additionally, the dusk emergence surveys did not identify any evidence of bats roosting within the building onsite. Only low levels of bat activity were noted during the surveys. The Site is of low value for bats under the NBDC's habitat suitability index [12], and it is considered that the Site is of low local value for bats.	Bats have been scoped in for further consideration.

Potential Biodiversity Receptor	Relevant Legislation	Valuation		Scoping Justification	Screening Result
				A Site Lighting Plan has been prepared by RMCE as part of the planning application for the Proposed Development. The proposed lighting is broadly in keeping to that of the surrounding area, and therefore it is considered that bats who commute over the Site and within the vicinity of the Site are adapted to a certain level of lighting. Additionally, mitigation measures have been included in the Site Lighting Plan to reduce potential significant impacts on bats and other nocturnal species (see Section 5.3.1.1 below). However, to ensure that there are no significant impacts on bats as a result of the Proposed Development, bats have been scoped in for further consideration.	
				Disturbance / Habitat loss	Birds have been
				Birds are highly mobile and therefore will move away from disturbances. Therefore, during the Proposed Development, should any birds be disrupted during any of the works it is considered that these birds will move to a suitable area elsewhere given the abundance of similar and suitable habitat within the vicinity of the Site.	further consideration.
				Nesting Birds	
				No nesting habitats were identified onsite and the Site is not considered of importance to this species. Additional planting of trees, shrubs and planters will provide supplementary foraging opportunities for common birds on the Site.	
	Wildlife Act			Flight Collision	
Birds	2000 (as amended)	amended) Low Local Value	This Site is located within a residential built-up urban area. There are no SPAs adjacent to the Site or within the in the immediate vicinity of the Site, the closest SPA is South Dublin Bay and River Tolka Estuary located ca. 2.7km. However, birds are highly mobile and have the potential to fly inland from coastal foraging and roosting areas.		
				The Site itself is not considered to be suitable for foraging and roosting bird species given the fact that the current use for the Site is as a car dealership, comprised of a large warehouse and a carpark. The wider area is predominantly built-up, however there are some green areas for recreational activity close by.	
			The Proposed Development will be comprised of a five-storey student accommodation building. Within the vicinity of the Site, specifically to the northeast of the Site, there are several residential buildings of a similar height (i.e. approximately 4-5 storeys tall). The external building style and materials are similar to the architecture and landscape in the neighbourhood.		

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
			It is considered unlikely that the Proposed Development will result in a significant collision risk to local bird species. This is based on the fact that the birds currently fly over and around the buildings within the vicinity of the Site and these buildings are of a similar height to those proposed as part of the Proposed Development.	
			Although birds are known to sometimes aggregate around and occasionally collide with illuminated objects, the Proposed Development is located within an urban environment and is surrounded by residential properties roads and other infrastructure which are illuminated. Furthermore, a Lighting Plan has been prepared and for the development. The proposed lighting is broadly in keeping to that of the surrounding area and will therefore not create any kind of significant collision hazard. Overall, it is considered that the Proposed Development will not stand out in its landscape and thus should not impact the flight patterns of bird flying over the Site.	
			No high impact invasive species or plant species listed on the Third Schedule of the 2011 European Communities (Birds and Natural Habitats) Regulations (i.e., species of which it is an offense to disperse, spread or otherwise cause to grow in any place) were noted on the Site during the field surveys.	Invasive species have been screened in for further
Invasive Species	N/A	N/A	However, a single invasive species – butterfly bush– was identified in two sections in the south of the Site. This species is a medium-impact species and is not regulated under Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) [28].	consideration.
			However, due to the prolific nature of invasive species mitigation measures are deemed necessary in line with the policy objectives RPO 7.17 of the Eastern & Midland RSES 2019 - 2031 [7] and GIB28 of the DLRCPD [1].	
Other Species	N/A	N/A	No other species of conservation interest were noted onsite. Overall, it is not considered that the Proposed Development will give rise to any significant impacts to other fauna, given the nature of the and limited value of the Site.	Other Species been scoped out from further consideration.

#### 5.2.1 Summary of Potential Impacts

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:

- Nocturnal Species; and,
- Invasive 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 impacts arising from the Proposed Development refer to Section 5.3 below for further details.

#### 5.3 Mitigation Measures

General mitigation / best practice measures have been included for the Proposed Development. Also, specific mitigation measures will be implemented for nocturnal species and invasive species. It is considered that the operational phase of the Proposed Development is unlikely to have significant ecological impacts.

The following mitigation measures will be incorporated and adhered to during the Construction and Operation Phases of the Overall Development to ensure that the works do not result in contravention of wildlife legislation.

#### 5.3.1 Construction and Operational Phase

Disturbance to fauna during the construction stage may potentially arise as a result of an increase in human presence onsite and additional construction noise and lighting within the Site. However, all construction works will be localised and short-term in nature.

Nonetheless, during the construction and operational phase, all works will comply with all relevant legislation and best practice to reduce any potential environmental impacts. All potential construction phase environmental impacts have been addressed through the following reports prepared by AWN and submitted as part of the overall planning application: Operational Waste Management Plan (OWMP), Construction Environmental Management Plan (CEMP) and Resource Waste Management Plan (RWMP). These plans include measures that will be followed during the demolition and construction phases of the Proposed Development to reduce the risk of pollution events.

The following mitigation measures will be incorporated and adhered to during the construction and operational phases of the Proposed Development to ensure that the works do not result in contravention of wildlife legislation:

- All activities will comply with all relevant legislation and best practice to reduce any
  potential environmental impacts. The mitigation measures detailed within this EcIA will
  be fully adhered to;
- The Site manager shall ensure that all personnel working onsite 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;
- Protected and notable species posters will be erected on the Site notice board and maintained throughout the duration of the works;
- In advance of works, all Site personnel will receive a toolbox talk regarding notable and protected species. Everybody working onsite must understand the role and authority of the ECoW; and,
- In the unlikely event that protected or notable species are encountered during operations at the Site, works will cease and the ECoW will be contacted for advice.

#### 5.3.1.1 Protection Measures for Nocturnal Species

The foraging and commuting behaviour of bats can also be adversely affected by artificial lighting. 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.

However, as mentioned in Section 4.2.2.4 above, no bat roosts were found onsite, and low levels of foraging and commuting bats were recorded during the bat survey. There is also lighting already onsite and within the vicinity of the Site, suggesting that bats within the area are already adapted to certain levels of lighting.

A Site Lighting Plan has been prepared by RMCE as part of the Proposed Development. This plan details how the lighting installed onsite will be a warm white light source (<2700 Kelvin), which is in line with the Bat Conservation Trust and Institute of Lighting Professionals '*Bats and Artificial Lighting At Night*' guidance [38]. Additionally, the following mitigation measures have been incorporated into the lighting plan to reduce impacts on nocturnal species:

- Light fittings shall have a 0% upward light ratio with no upward tilt;
- Baffles and louvres will be fitted to light fittings to direct light only to pedestrian and trafficable areas;
- Lighting will be installed with lighting controls to allow movement detection to ensure lighting if off when not required. Light scheduling will also allow light output to be dimmed from 100% to 0% based upon available daylight.

#### 5.3.1.2 Measures for Invasive Species

It should be noted that any medium invasive species to be removed onsite such as butterfly bush, although currently unregulated, must be treated with the necessary precautions.

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]:

- Everybody working onsite must understand the role and authority of the ECoW managing the issues of non-native species;
- All vehicles, machinery and any other equipment that may be used for the works will be washed and cleaned as required prior to being used on the 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 has 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.

#### 5.3.1.3 Flora and fauna

No significant impacts on other flora and fauna are expected, therefore, no mitigation additional to the ones specified above are required.

#### 5.3.1.4 Potential Noise Disturbance

During the operational phase, vehicle activity will be the predominant source of noise emissions. This road experiences a high volume of traffic, however, no changes will be made to the speed limit in this area, and therefore it is not expected that traffic noise will be elevated beyond current existing levels. Therefore, it can be concluded that there will be no adverse effects or significant disturbance from elevated noise emissions to local wildlife during the operational phase of the Proposed Development.

Nonetheless, the use of low-noise road surfacing such as stone-mastic material is recommended to further reduce noise emissions.

#### 5.3.2 Operational Phase

It is not anticipated that any operational phase of the Proposed Development will result in any impacts to species onsite or within the vicinity of the Site, and as such no operational phase, mitigation measures will be required.

#### 5.4 Ecological Enhancement Measures

#### Tree Planting

As mentioned in Section 3.3.1.2, trees will be planted throughout the Site as part of the Proposed Landscaping plan. The Landscape Plan drawing number 01 (A0) shows planting locations and includes a schedule of proposed ornamental planting and trees.

#### Bird Boxes

A variety of bird nest boxes designed to attract a variety of nesting bird species will be erected on suitable trees within the Site. The creation of nesting habitat, along with the creation of species-rich habitat will encourage an abundance of invertebrate life (a potential food source) 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 5-1 below.

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 starling.
- 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 be facing between north and south-east 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 robins and tits can be highly territorial and therefore the nest boxes should be separated by a greater distance.

#### Figure 5-1: 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 itself is currently considered to be of low local ecological value;
- During the bat dusk emergence surveys carried out at the Site in 2021 and 2024, no bats were observed emerging from the building onsite. The Site is heavily illuminated and is considered to be of low local value to bats;
- 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;
- The Proposed Development will not result in any significant impacts on ecological receptors identified both onsite and in the surrounding area following the implementation of appropriate mitigation measures; and,
- The proposed Landscape Plan has been designed to increase the amount of vegetation onsite, enhancing overall biodiversity levels onsite.

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# **APPENDICES**

# **APPENDIX A**

September 2024

# **Bat Report**

# **Proposed Purpose-Built Student Accommodation Scheme (PBSA)**

On behalf of Orchid Residential Ltd

# **Goatstown Road, Dublin 14**





### Form ES - 04



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#### Bat Report

# Proposed Purpose-Built Student Accommodation Scheme (PBSA) Orchid Residential Ltd Goatstown Road, Dublin 14

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## **1 INTRODUCTION**

This Bat Survey Report has been prepared by Malone O'Regan Environmental (MOR Environmental) on behalf of Orchid Residential ('the Applicant'), to present the findings of bat surveys undertaken at the Site at Goatstown, Dublin 14 ('the Site') (OSI Reference ITM 717750 728959). The proposed purpose-built student accommodation scheme ('PBSA') works (the 'Proposed Development') will comprise of the demolition of the existing onsite structures and hardstanding in order to facilitate the construction of the proposed PBSA and associated site works. This Bat Survey Report is an Appendix to the Ecological Impact Assessment Report ('EcIA') prepared by MOR Environmental as part of the overall planning application. This bat report should be read in conjunction with the EcIA.

The Site currently comprises an existing car showroom building and a hard surface parking area. The Site is bordered to the north, east and west by apartment complexes and residential estates, while directly to the south of the Site are retail outlets. The Site is circa ('ca.') 0.34 hectares ('ha') in size.

A baseline ecological survey of the Site was undertaken on the 23<sup>rd</sup> September 2021 by two suitably qualified and experienced MOR Environmental ecologists to assess the extent and the quality of habitats present onsite and to identify any potential ecological receptors associated with the European sites. An updated Site walkover was also undertaken on 12<sup>th</sup> March 2024 to assess any potential changes in the habitats onsite.

The baseline ecological survey highlighted the potential for bats to use the building onsite for roosting purposes. Additionally, the trees in gardens surrounding the Site were identified as providing potential foraging and commuting routes for bats. It was therefore deemed necessary for further survey work to be carried out to determine whether or not bats would be negatively impacted by the works associated with the Proposed Development. Bat surveys were undertaken at the Site on 23<sup>rd</sup> September 2021 and 14<sup>th</sup> May 2024.

The location of the Site 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 1976 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 23 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 survey and subsequent report were undertaken and prepared by the following MOR Environmental personnel: Ms Stephanie Lonergan and Mr. Dyfrig Hubble.

Stephanie Lonergan, Environmental Consultant, 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 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. Dyfrig Hubble, Associate Director – Ecologist. Dyfrig has a B.Sc. (Hons) in Tropical Environmental Science and an M.Sc. in Environmental Forestry. Dyfrig is a full member of the Chartered Institute of Ecology and Environmental Management. Dyfrig has over 18 years' experience working in the ecological consultancy sector including habitat appraisals and specialist species specific surveys. Dyfrig has extensive experience in undertaking a variety of bat surveys including dawn / dusk surveys, transects, static monitoring, harp trapping, Lesser Horseshoe roost counts. Dyfrig has also worked on numerous projects that have required supervision of building demolition and tree removal works under licence. These projects have included work both in the UK and Ireland.

#### 1.3 Species Background

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

Bat Species	Irish status	European Status
Resident	t Bat Species	
Soprano Pipistrelle (Pipistrellus pygmaeus)	Least Concern	Least Concern
Brown Long-eared Bat ( <i>Plecotus auritus)</i>	Least Concern	Least Concern
Common Pipistrelle (Pipistrellus pipistrellus)	Least Concern	Least Concern
Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> )	Least Concern	Near Threatened
Whiskered Bat (Myotis mystacinus)	Least Concern	Least Concern

#### Table 1-1: Status of Irish Bat Species

Daubenton's Bat (Myotis daubentonii)	Least Concern	Least Concern			
Leisler's Bat <i>(Nyctalus leisleri)</i>	Least Concern	Least Concern			
Nathusius' Pipistrelle (Pipistrellus nathusii)	Least Concern	Least Concern			
Natterer's Bat (Myotis nattereri)	Least Concern	Least Concern			
Vagrants					
Brandt's bat ( <i>Myotis brandtii</i> )	Data Deficient	Least Concern			
Greater Horseshoe Bat ( <i>Rhinolophus ferrumequinum</i> )	Data Deficient	Near Threatened			

#### 1.3.1 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 [1].

Bats are social animals, and most species congregate in large colonies during the later 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 [2].

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 type 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.

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 [3].

Table 1-2 below defines the various types of bat roosts and which time of year they are utilised.

Roost Type	NE 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.

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

Roost Type	NE Definition
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.

#### 1.4 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:

- The National Parks and Wildlife Service (NPWS) website was consulted to obtain the most up to date detail on conservation objectives for the European sites relevant to this assessment [5];
- Aerial mapping was reviewed to identify any habitats and features likely to be used by bats. Maps and images of the Study Area and general landscape were examined for suitable foraging or commuting habitats including woodlands and forestry, hedgerows, treelines, and watercourses;
- The National Biodiversity Data Centre (NBDC) website was consulted with regard to bat species distributions and bat habitat suitability index [6]; and,
- A review of the previous bat surveys and Bat Survey Report undertaken at the Site by MOR Environmental in 2022.

#### 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 [1];
- A Conservation Plan for Irish Vesper Bats Irish Wildlife Manual No. 20 [7];
- UK Bat Mitigation Guidelines: A guide to impact assessment, mitigation and compensation for developments affecting bats [8];
- Bat Mitigation Guidelines for Ireland V2. Irish Wildlife Manuals, No. 134 [3] a publication by the NPWS; and,
- Bat Surveys for Professional Ecologists Good Practice Guidelines (4<sup>th</sup> ed.). London: The Bat Conservation Trust [9].

#### 2.2.1 Walkover and Identification of Bat Habitats

The Site was assessed during the daytime walkover survey on 23<sup>rd</sup> March 2022 and 12<sup>th</sup> March 2024 in relation to potential bat roosting potential, foraging habitat and potential commuting routes. 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<sup>th</sup> ed)' [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	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	

Potential Suitability	Description of Roosting habitats in structures	Description of Potential flight-paths and foraging habitats
	(i.e. a complete absence of crevice/suitable shelter at all ground/underground levels).	continuous lines of shade/protection for flight- lines, or generate/shelter insect populations available to foraging bats).
Negligible <sup>1</sup>	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 <sup>2</sup> 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 <sup>3</sup> ).	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.
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.
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.

<sup>&</sup>lt;sup>1</sup> 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).

<sup>&</sup>lt;sup>2</sup> For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

<sup>&</sup>lt;sup>3</sup> 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 (Korsten *et al.*, 2016 and Jansen *et al.*, 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). 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.

#### 2.2.2 External Building Inspection

An external inspection of the buildings onsite was undertaken by one MOR Ecologist on 12<sup>th</sup> March 2024. As part of the walkover, all buildings that are due to be impacted by the Proposed Development area were assessed for the presence of features that could be utilised by roosting bats, using close-focusing binoculars, a powerful focused-beam light source and an endoscope. Additionally, all buildings with safe attic / roof void spaces were inspected for the presence of roosting bats.

The inspection aimed to assess these buildings for the presence of features suitable for roosting bats. These features include:

- Windowsills;
- Windowpanes;
- Lifted rendering;
- Hanging tiles;
- Weatherboarding eaves;
- Soffit boxes;
- Fascias;
- Lead flashing;
- Gaps under felt; and,
- Gaps in brickwork or stonework.

Signs of roosting bats searched for included:

- Evidence of bat droppings / urine splashes;
- Bat specimens (live or dead);
- Evidence of feeding remains, (insect wings on the floor); and,
- Evidence of fur-oil staining.

Assessment criteria for evaluating the potential suitability of the Site for bats was done in concurrence with 'Bat Surveys for Professional Ecologists: Good Practice Guidelines (4<sup>th</sup> ed)' [9].

#### 2.2.3 Dusk Emergence and Nighttime Bat Walkover (NBW) Survey

One dusk emergence and NBW survey took place at the Site on 14<sup>th</sup> May 2024. The surveys commenced 15 minutes before sunset and ended two hours after sunset, therefore encompassing the typical emergence times of Irish bat species. The vantage points (VPs) took place for one hour and fifteen minutes and were designed to observe the building onsite for bat emergence. The NBW portion of the survey involved walking predetermined transects for one hour after the VPs, and were designed to incorporate all treelines, linear features and other areas of the Site and surrounding area that the initial site visit identified as providing suitable habitats for foraging and commuting bats. The transects aimed to capture bat activity levels within the wider survey area and to determine what areas within the Site are important habitats for bats.

Two MOR Environmental ecologists surveyed separate locations of the Site- see Figure 2-2 below for full details of the VPs and transects walked during the surveys.

A combination of visual observation and listening to ultrasonic bat calls were used during the emergence and activity survey. Each surveyor used one HIKMICRO LH19 Lynx 2.0 Pro

Thermal Monocular as a night vision aid (NVA) during the emergence survey to aid in monitoring the building onsite for bat emergence. See Plate 2-1 below for the viewshed from VP1 and Plate 2-2 below for the viewshed from VP2.

Plate 2-1: Viewshed from NVA at VP1



#### Plate 2-2: Viewshed from NVA at VP2



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.





#### 2.2.4 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 <sup>4</sup> identified on the recordings were used to determine bat activity levels within the area.

All sound file data recorded during the bat surveys 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 allows 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.

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

#### 2.3 Survey Limitations

Bat surveys are a snapshot of the bat activity within an area at the time of surveying. It is therefore important that bat surveys are comprised of 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 importance of the survey area on local bat populations.

<sup>&</sup>lt;sup>4</sup> 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].

All survey work was conducted in accordance with current best practice guidelines, which dictate that bat surveys should be undertaken when there is no rain or wind and the temperature is above  $10^{\circ C}$ . During the dusk bat survey, temperatures were between  $12^{\circ C} - 11^{\circ C}$  (see Table 2-1 below).

#### Table 2-2: Bat Survey Metadata

Date	Survey Type	Sunset / Sunrise	Survey Times (Start-End)	Weather	Temperature (°C) Start - End
14/05/2024	Dusk	21:19	21:04-23:19	Dry, light breeze	12°C-11°C

#### 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 National Roads Authority (NRA) guidance on assessment of ecological impacts of National Road Schemes [10]. 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 a 2km radius of the Proposed Development within the past 10 years -Natterer's bat, soprano pipistrelle and Daubenton's bat [6].

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 study area has an overall low habitat suitability index range of 13-21. The habitat suitability for Irish bats within the area ranges from very low to moderate. Common pipistrelle and Lesiler's bat are the species most likely to occur within the Site.

#### Table 3-1: Habitat Suitability Index

Bat Species	Suitability Index Range	Suitability Index Level
All Bat Species	13-21	Low
Soprano Pipistrelle (Pipistrellus pygmaeus)	18-30	Low
Brown Long-eared Bat (Plecotus auritus)	17-28	Low
Common Pipistrelle (Pipistrellus pipistrellus)	31-38	Moderate
Lesser Horseshoe Bat (Rhinolophus hipposideros)	0-4	Very Low
Whiskered Bat (Myotis mystacinus)	10-20	Low
Daubenton's Bat <i>(Myotis daubentonii)</i>	0-12	Very Low
Leisler's bat (Nyctalus leisleri)	30-37	Moderate
Nathusius' Pipistrelle (Pipistrellus nathusii)	6-15	Low
Natterer's Bat (Myotis nattereri)	0-13	Very Low

#### 3.1.1 Previous Bat Surveys Undertaken at the Site

As mentioned in Section 2.1 above, MOR Environmental carried out a dusk emergence and activity survey at the Site in 2022. This survey did not identify any bats roosting within the building onsite. Additionally, this survey identified low activity levels of bats commuting and foraging within the Site. The species recorded during this survey included Leisler's bat, soprano pipistrelle, common pipistrelle and *Myotis* spp.

#### 3.2 Field Based Results

#### 3.2.1 External Building Inspection

The building onsite was a flat-roofed single-storey structure with sheet metal cladding over two different roof heights. The building onsite was identified to provide low suitable roosting habitat for bats, and was surveyed on a precautionary basis. In line with the 'Bat Surveys for professional Ecologists: Good Practice Guidelines (4<sup>th</sup> ed)' [4], one dusk emergence survey should be carried out for structures with 'low roost suitability'.

It was also concluded that the trees from gardens surrounding the Site provide potential foraging and flight path habitats for bats.

However, it should be noted that during the dusk emergence survey at the Site, it was observed that the Site was heavily illuminated at night and subject to the light spillage from the R825 to the west of the Site. Additionally, lighting was present onsite which illuminated both the building and the Site in general (see Plates 3-1 and 3-2 below).



Plate 3-1: Existing Lighting Onsite



#### Plate 3-2: Light Spillage from the R825 onto the Site

#### 3.2.2 Dusk Emergence and NBW Survey Results

No bats were identified roosting within the building onsite. Additionally, only one bat was recorded commuting through the Site.

#### 3.2.2.1 Dusk 14/05/2024

Sunset was at 21:19.

No bats were recorded or observed at VP2/T2. Additionally, no bats were observed or recorded at VP1.

At 23:01, a Leisler's bat was recorded at T1. This bat was not observed by the surveyor, but was recorded when the surveyor was walking from south to north along T1. Shortly afterwards at 23:02, a Leisler's bat was recorded foraging, but this was picked up on one of the trees in a private residential property outside of the Site boundary (see Figure 3-1 below). Analysis of the recordings taken during the survey at this time also recorded calls from brown long-eared bats, but these were not within the Site boundary and not observed by the surveyor. These were the last bat calls recorded during the survey.



Figure 3-1: Bat Activity from the Bat Survey

#### 3.3 Overall Results

The following bats were recorded as a result of the dusk emergence and NBW survey:

- One singular recording from a Leisler's bat was recorded during the dusk emergence and NBW survey. Calls from Leisler's bats and brown long-eared bats were also taken during the survey, but these bats were recorded foraging outside of the Site boundary; and,
- No bats were observed roosting in the building onsite.

Based on the levels of activity and movement of the bats recorded during the surveys, it is considered that the Site is of no value to roosting bats and low local value to foraging and commuting bats.

# 4 IMPACT ASSESSMENT AND MITIGATION

The following bat species were recorded within the Site boundary during the dusk emergence and NBW survey: Leisler's bat. This represents one of the nine resident bat species known to occur in Ireland. Leisler's bats are a common Irish bat species, are an Annex IV species under the EU Habitats Directive and have a favourable status in Ireland.

As no bats were recorded roosting within the building onsite, the Proposed Development will not impact roosting bats. Additionally, no bats were observed foraging or commuting within the Site boundary, but one Leisler's bat was recorded during the NBW survey when the surveyor was walking a transect within the Site.

#### 4.1 Potential Impacts on Bats

The Proposed Development will involve the demolition of the building onsite and the installation of lighting.

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

- Loss of Habitat / Disturbance; and,
- Lighting of the General Area.

#### 4.1.1 Loss of Habitat / Disturbance

The surveys did not identify any bat roosts within the Site, so the Proposed Development will not result in the loss of any roosting habitat onsite.

Only one bat was recorded within the Site boundary, and this is considered to be very low bat activity. This bat was recorded when the surveyor was walking towards the north of the Site, where there are trees and ornamental planting outside of the Site boundary. The habitats outside of the Site boundary will not be affected by the Proposed Development. Additionally, no habitats important for foraging and commuting bats will be removed as part of the Proposed Development, as the onsite habitats are currently comprised of buildings and artificial surfaces, recolonising bare ground and ornamental planting.

#### 4.1.2 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 survey area 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. *Pipistrellus* species and Leisler's bats will tolerate low 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 *Myotis* species and brown long eared bats were recorded within the Site, brown longeared bats were recorded foraging to the west of the Site boundary. Therefore, it is important to ensure that the lighting installed as part of the Proposed Development does not spill outside of the Site boundary.

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 Measures

The following mitigation measures are recommended to reduce the potential impact of the Proposed Development on local bat populations.
## 4.2.1 Landscaping Plan

A Landscape Rationale Report has been prepared by RMDA and submitted as part of the overall planning application. The soft landscape treatments proposed include tree planting, screen planting, raised planter and shrub planting, grassed areas and rooftop garden planting. It should be noted that the only vegetation currently onsite is a small area of ornamental planting and butterfly bush (*Buddleja davidii*) in an area of recolonising bare ground. When the landscape rational report has been implemented onsite, the Proposed Development will result in an overall increase in the amount of vegetation onsite, increasing the overall biodiversity of the Site.

Due to the installation of lighting onsite around the areas of the Proposed Landscaping Plan, it is unlikely that bats will use these areas for foraging and commuting. However, the overall increase in vegetation onsite will attract additional insects, providing increased foraging opportunities for bats.

## 4.2.2 Lighting Plan

Bats are averse to excessive lighting, subsequently, impacts could occur as a result of an inappropriate lighting strategy. 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.

However, no bat roosts were identified onsite. Additionally, as discussed in Section 3.2, there is already lighting and light spillage onsite.

A Site Lighting Plan has been prepared by RMCE as part of the Proposed Development. This plan has been designed to minimise potential impacts on foraging and commuting bats within the area, and in line with the Bat Conservation Trust and Institute of Lighting Professionals *Bats and Artificial Lighting At Night* guidance [11]. The following mitigation measures have been incorporated into the lighting plan to reduce impacts on nocturnal species:

- The lighting installed onsite will be a warm white light source (<2700 Kelvin) with peak wavelengths no higher than 550nm to avoid light disturbance to bats;
- Light fittings shall have a 0% upward light ratio with no upward tilt;
- Baffles and louvres will be fitted to light fittings to direct light only to pedestrian and trafficable areas;
- Lighting will be installed with lighting controls to allow movement detection to ensure lighting if off when not required. Light scheduling will also allow light output to be dimmed from 100% to 0% based upon available daylight;
- Type C light fittings will have daylight and movement sensing to ensure energising of lights is limited only lights necessary for lighting in the vicinity of detected movement. Light output of these fittings will reduce to 25% between dusk and dawn and increase to 100% upon presence detection for 20min duration;
- Type A light fittings will have a celestial time clock and be controlled to be off from dawn to dusk; and,
- Lighting control sensors to have motion detection field limited to movement areas only and shall not extend to detect movement beyond the Site boundary.

## 5 CONCLUSIONS

The bat surveys undertaken for the Proposed Development included a walkover of the lands within the Site, external building inspection, and bat surveys in 2022 and 2024. It was concluded that building onsite provided low roost suitability for bats, and was surveyed on a precautionary basis. The surveys in both 2022 and 2024 did not identify any bats roosting within the existing structure onsite. No derogation licence is required with regards to bats to facilitate the Proposed Development. Bat activity and species diversity was lower during the 2024 survey than the 2022 survey, and it was concluded that the Site is of low local value to foraging and commuting bats. The Proposed Development will not result in the loss of any roosting, foraging or commuting habitat for bats.

The Site and surrounding area is subject to lighting and light spillage at night, suggesting that bats within the area are adapted to certain levels of lighting. However, mitigation measures were still required to ensure that excessive light spillage from the Site does not deter foraging and commuting bats within the areas surrounding the Site.

The Site Lighting Plan has been designed in line with guidance from the Bat Conservation Trust and Institute of Lighting Professionals, and lighting installed for the Proposed Development will not spill onto surrounding habitats that bats may use as flight paths and for foraging.

Overall, the Site is considered to be of low local importance for commuting and foraging bats. 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.

## 6 REFERENCES

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