Whitehill Environmental



Noreen McLoughlin, MSc Environmental Consultant

Whitehill Edgeworthstown Co. Longford & (087) 4127248 / (043) 6672775 ⊠ noreen.mcloughlin@gmail.com

# ECOLOGICAL IMPACT ASSESSMENT OF A PROPOSED DEVELOPMENT AT TEMPLAR PLACE, QUAY ST AND HIGH ST, BALBRIGGAN, CO. DUBLIN



Rhonellen Developments Ltd. c/o McGill Planning Ltd. 45 Herbert Lane Dublin Do2 RR92

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### 1. INTRODUCTION

#### 1.1 THE AIM OF THE REPORT

In May 2021, Whitehill Environmental was commissioned by Rhonellen Developments Ltd to prepare an Ecological Impact Assessment (EcIA) for a proposed development at the old Mall Shopping Centre at Quay St and High St, Balbriggan, Co. Dublin. This EcoIA addresses the potential impacts of this proposed development that may occur in the future on the ecology and biodiversity of the site and its surrounding environs, should the development be allowed to proceed.

This EcIA has been undertaken in accordance with the guidelines issued by the Environmental Protection Agency (EPA) and the Chartered Institute of Ecology and Environmental Management (CIEEM).

It follows a standard approach based upon the description of the existing baseline conditions within the application site. An evaluation of the likely habitats and species currently present within the application site is also given, along with the identification of the potential ecological impacts arising from the construction and operation of the proposed development. An assessment of the likely significance of the identified impacts on valued ecological receptors (VERs), both within and close to the application site is also made. Where a significant negative impact has been identified, then suitable remedial mitigation measures are provided in order to prevent, reduce or offset the impact.

# 1.2 LEGISLATIVE AND POLICY CONTEXT Legislative Context

The Irish Wildlife Act 1976 (and its amendment of 2000) provides protection to most wild birds and animals. Interference with such species can only occur under licence. Under the act it is an offence to "wilfully interfere with or destroy the breeding place or resting place of any protected wild animal". The basic designation for wildlife is the Natural Heritage Area (NHA). This is an area considered important for the habitats present or which holds species of plants and animals whose habitat needs protection. Under the Wildlife Amendment Act (2000) NHAs are legally protected from damage. NHAs are not part of the Natura 2000 network and so the Appropriate Assessment process does not apply to them.

The Flora Protection Order 1999 provides statutory protection in Ireland to a number of rare plant species from being wilfully cut, picked, uprooted or damaged. It is also illegal under this order to alter, damage or interfere with their habitats.

The Birds Directive (Council Directive2009/147/EC) recognises that certain species of birds should be subject to special conservation measures concerning their habitats. The Directive requires that Member States take measures to classify the most suitable areas as Special Protection Areas (SPAs) for the conversation of bird species listed in Annex 1 of the Directive. SPAs are selected for bird species (listed in Annex I of the Birds Directive), that are regularly occurring populations of migratory bird species and the SPA areas are of international importance for these migratory birds.

The EU Habitats Directive (92/43/EEC) requires that Member States designate and ensure that particular protection is given to sites (Special Areas of Conservation) which are made up of or support particular habitats and species listed in annexes to this Directive.

The Water Framework Directive (WFD) (2000/60/EC), which came into force in December 2000, establishes a framework for community action in the field of water policy. The overall sim of the WFD is the eventual achievement of good status in all waterbodies. The WFD was transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003). The WFD rationalises and updates existing legislation and provides for water management on the basis of River Basin Districts (RBDs). RBDs are essentially administrative areas for coordinated water management and are comprised of multiple river basins (or catchments), with cross-border basins (i.e. those covering the territory of more than one Member State) assigned to an international RBD. Ireland is now within the 2nd cycle of the WFD (2015 – 2021), where previous RBDs were merged into one national RBD. This cycle will also facilitate a greater input of communities at the local catchment level.

## **Planning Policies**

### National

Nationally, the Government's commitment to sustainable development is set out in a number of documents including the National Planning Framework and the National Development Plan 2018 – 2027.

### Regional

The Regional Spatial and Economic Strategy for the Eastern and Midlands Regional Assembly (2018) provides a planning framework covering Dublin and its surrounding counties for the period 2010-2022. These guidelines contain a number of policies relevant to ecology and nature conservation. These guidelines are summarised in Table 1.

| Reference | Objective / Policy  |
|-----------|---|
| 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 7.21  | Local authorities shall promote an Ecosystem Services Approach49 in the preparation of statutory land use plans.  |
| RPO 7.22  | Local authority development plan and local area plans, shall identify, protect, enhance, provide and manage Green Infrastructure in an integrated and coherent manner and should also have regard to the required targets in relation to the conservation of European sites, other nature conservation sites, ecological networks, and protected species.   |
| RPO 7.23  | Support the further development of Green Infrastructure policies and coordinate the mapping of strategic Green Infrastructure in the Region.  |

### Table 1 – Regional Policies Relevant to Ecology and Nature Conservation

# Local

Planning policy at the local level is provided by the Fingal Development Plan 2017–2023. This plan contains a number of objectives and policies relevant to ecology, biodiversity, green infrastructure and nature conservation. These are summarised in Table 2.

| Reference | Objective / Policy   |
|-----------|--|
| GI02      | Create an integrated and coherent green infrastructure for the County by requiring the retention of substantial networks of green space in urban, urban fringe and adjacent countryside areas to serve the needs of communities now and in the future including the need to adapt to climate change.   |
| GI03      | Develop the green infrastructure network to ensure the conservation and enhancement<br>of biodiversity, including the protection of European Sites, the provision of accessible<br>parks, open spaces and recreational facilities (including allotments and community<br>gardens), the sustainable management of water, the maintenance of landscape character<br>including historic landscape character and the protection and enhancement of the<br>architectural and archaeological heritage. |
| G104      | Seek a net gain in green infrastructure through the protection and enhancement of existing assets, through the provision of new green infrastructure as an integral part of the planning process, and by taking forward priority projects including those indicated on the Development Plan green infrastructure maps during the lifetime of the Development Plan.   |

| G105 | Seek to increase investment in green infrastructure provision and maintenance by accessing relevant EU funding mechanisms and national funding opportunities including tourism related funding   |  |  |
|------|--|--|--|
| G106 | Resist development that would fragment or prejudice the County's strategic green infrastructure network.   |  |  |
| GI20 | Require all new development to contribute to the protection and enhancement of existing green infrastructure and the delivery of new green infrastructure, as appropriate  |  |  |
| GI21 | Require all new development to address the protection and provision of green<br>infrastructure for the five GI themes set out in the Development Plan (Biodiversity, Parks<br>Open Space and Recreation, Sustainable Water Management, Archaeological and<br>Architectural Heritage, and Landscape) in a coherent and integrated manner.   |  |  |
| GI22 | Require all proposals for large scale development such as road or drainage schemes, wind farms, housing estates, industrial parks or shopping centres to submit a Green Infrastructure Plan as an integral part of a planning application.   |  |  |
| GI24 | Ensure biodiversity conservation and/or enhancement measures, as appropriate, a included in all proposals for large scale development such as road or drainage scheme wind farms, housing estates, industrial parks or shopping centres  |  |  |
| GI25 | Integrate provision for biodiversity with public open space provision and sustainable water management measures (including SuDS) where possible and appropriate.   |  |  |
| NH10 | Ensure that the Council takes full account of the requirements of the Habitats and I<br>Directives, as they apply both within and without European Sites in the performance of<br>functions.   |  |  |
| NH11 | Ensure that the Council, in the performance of its functions, takes full account of t<br>objectives and management practices proposed in any management or related plans<br>European Sites in and adjacent to Fingal published by the Department of Arts, Heritag<br>Regional, Rural and Gaeltacht Affairs.  |  |  |
| NH13 | Ensure that proposals for development do not lead to the spread or introduction of<br>invasive species. If developments are proposed on sites where invasive species are of<br>were previously present, the applicants will be required to submit a control an<br>management program for the particular invasive species as part of the planning process<br>and to comply with the provisions of the European Communities Birds and Habitat<br>Regulations 2011 (S.I. 477/2011). |  |  |
| NH16 | Protect the ecological integrity of proposed Natural Heritage Areas (pNHAs), Natural Heritage Areas (NHAs), Statutory Nature Reserves, Refuges for Fauna, and Habitat Directive Annex I sites.   |  |  |
| NH17 | Ensure that development does not have a significant adverse impact on proposed Natural<br>Heritage Areas (pNHAs), Natural Heritage Areas (NHAs), Statutory Nature Reserves,<br>Refuges for Fauna, Habitat Directive Annex I sites and Annex II species contained therein,<br>and on rare and threatened species including those protected by law and their habitats.   |  |  |

| NH24 | Protect rivers, streams and other watercourses and maintain them in an open state capable of providing suitable habitat for fauna and flora, including fish.  |
|------|---|
| NH27 | Protect existing woodlands, trees and hedgerows which are of amenity or biodiversity value and/or contribute to landscape character and ensure that proper provision is made for their protection and management. |

Table 2 – Local Policies Relevant to Ecology and Nature Conservation

# **Heritage Plans**

Ireland's National Biodiversity Plan identifies actions that need to be taken in order to understand and protect biodiversity in Ireland. It states that biodiversity and ecosystems in Ireland should be conserved and restored, to deliver benefits that are essential to all sectors of society and that Ireland should contribute to the efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally.

The Fingal Heritage Plan 2018-2023 and the Fingal Biodiversity Action Plan 2010 – 2015 identifies a number of objectives and policies in order to protect the natural heritage and biodiversity of the Fingal area.

# 2. METHODOLOGY

## 2.1 STATEMENT OF COMPETENCE

The site survey and report was carried out by Noreen McLoughlin. Noreen is the owner and main ecologist at Whitehill Environmental. Noreen holds a BA (Hons) in Natural Science (Mod) Zoology and an MSc in freshwater ecology (TCD, Dublin). She has been a full member of the CIEEM (Chartered Institute of Ecology and Environmental Management) for over 15 years. Noreen has over 16 years' experience as a professional ecologist in Ireland.

# 2.2 STUDY AREA

The study area encompasses all the land within the area defined in the plan submitted for planning consent, i.e., the proposed application site. In addition, important ecological habitats and receptors within the zone of influence of the proposed development were also studied.

# 2.3 DESK BASED STUDIES

The desk study involved the examination of aerial photographs, current and historical maps and plans and drawings of the site. In addition, information was collated on designated nature sites within a 15km radius of the proposed site and on protected and rare species within the 1km square of the site.

The following websites were used to access information and data:

- National Parks and Wildlife Service Aerial photographs and maps of designated sites, information on habitats and species within these sites and information on protected plant or animal species, conservation objectives, site synopses and standard data forms for relevant designated sites.
- Environmental Protection Agency (EPA)- Information pertaining to water quality, geology and licensed facilities within the area;
- Myplan.ie Mapped based information;
- National Biodiversity Data Centre (NBDC) Information pertaining to protected plant and animal species within the study area;
- Bing maps & Google Street View High quality aerials and street images;
- McGill Planning, McCauley Daye O'Connell Architects Plans and Information Pertaining to the Development;
- Fingal County Council Information on planning history in the area for the assessment of cumulative impacts.

#### 2.4 FIELD BASED STUDIES

A visit to the site of the proposed application in Balbriggan was conducted on May 26<sup>th</sup> 2021, when field notes, species lists and photographs were taken. The site was surveyed in accordance with the Heritage Council's *Habitat Survey Guidelines* (Smith et al., 2010) and the Institute of Environmental Assessment's *Guidelines for Baselines Ecological Assessment* (IEA, 1995). Habitats within the application site were classified in accordance to Level 3 of *A Guide to Habitats in Ireland* (Fossit, 2000). These habitats are denoted in the text along with their habitat code, e.g., the habitat code for improved agricultural grassland is GA1. A species list was compiled and target notes were made. Mammal and bird activity was also noted.

A desk and field-based assessment of the sites for bats was carried out by Brian Keely of Wildlife Surveys Ireland on the evening / dawn of May 26<sup>th</sup> to May 27<sup>th</sup> 2021. The equipment used included one mini time expansion detector and analysis software, two EM3 handheld time expansion detectors and kaleidoscope analysis software used by two surveyors. Two SM2 mini detectors were left overnight on the windowsills of the outbuildings on the car park roof. The buildings were also accessed and searched for signs of bats, including droppings and staining.

#### 2.5 SEASONAL CONSTRAINTS

Given the habitats on the site, there were no seasonal constraints associated with the habitat assessment element of the field work for this EcIA. The bat assessment, which was undertaken in May, was also conducted at an optimal time.

#### 2.6 Assessment Methodology

#### **Evaluation of Ecological Features**

The methodologies used to determine the value of ecological resources, to characterise the impacts of the proposed scheme, and to assess the significance of impacts and any residual effects are described below. This approach is in accordance with the following guidelines and methodologies:

- *Guidelines for Ecological Impact Assessment in the United Kingdom* by the Chartered Institute of Ecology and Environmental Management (IEEM, 2006)
- Guidelines On the Information to Be Contained In Environmental Impact (EPA, 2002)
- Draft Guidelines on Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA 2017)
- Guidelines for Assessment of Ecological Impacts of National Road Schemes. (NRA, 2009).

CIEEM suggest that to ensure a consistency of approach, ecological features are valued in accordance with their geographical frame of reference, as defined below:

- International
- National (Ireland)
- Regional (East)
- County (Dublin /Fingal)
- District (Balbriggan)
- Local/Townland (Quay St/High St)

The above categories are then applied to the ecological features identified. Ecological features can be defined as:

- Designated sites (i.e., SACs, SPAs, NHAs, pNHAs, National Nature Reserves) or nonstatutory locally designated sites and features.
- Non-designated sites and habitats and features of recognised biodiversity value, such as
  rivers and streams. The features being evaluated can be considered in the context of the
  site and locality and thus a more accurate assessment of the impacts in the locality can
  be made.

The criteria used in evaluating ecological habitats follow the NRA (2009) and CIEEM (2006). The site evaluation criteria are detailed in Table 3.

| Ecological Valuation      | Description   |
|---------------------------|---|
| Internationally Important | • Sites designated (or qualifying for designation) as an SAC or SPA under the EU Habitats or Birds Directives.  |
|                           | Undesignated sites that fulfil criteria for designation as a European Site.   |
|                           | • Features essential to maintaining the coherence of the Natura 2000 network.   |
|                           | • Sites containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive.  |
|                           | • Resident or regularly occurring populations of birds listed in Annex I of the Birds Directive and species listed in Annex II and/or Annex IV of the Habitats Directive. |
|                           | Ramsar Sites, World Heritage Sites or Biosphere Reserve.  |
|                           | • Site hosting significant species populations under the Bonn Convention or Berne Convention.   |
|                           | Biogenetic Reserve or European Diploma Site.  |

|                                    | Salmonid waters.  |  |
|------------------------------------|---|--|
| Nationally Important               | • Sites or waters designated or proposed as an NHA*or Statutory Nature Reserve.   |  |
|                                    | Refuge for fauna and flora protected under the Wild life Acts.  |  |
|                                    | National Park.  |  |
|                                    | Undesignated sites fulfilling criteria for designation as a NHA.  |  |
|                                    | Statutory Nature Reserve.   |  |
|                                    | Refuge for Fauna and Flora protected under the Wildlife Act.  |  |
|                                    | <ul> <li>Resident or regularly occurring populations (assessed to be important at<br/>the national level) of species protected under the Wildlife Acts and/or<br/>species listed on the relevant Red Data list).</li> </ul>   |  |
|                                    | • Site containing viable areas of the habitat types listed in Annex I of the Habitats Directive.  |  |
| County Importance                  | Areas of Special Amenity.   |  |
|                                    | Area subject to a Tree Preservation Order.  |  |
|                                    | • Area of High Amenity, or equivalent, designated under the County Development Plan.  |  |
|                                    | • Resident or regularly occurring populations (assessed to be important at the County level) of species of birds listed in Annex I of the Birds Directive, species listed in Annex II and/or IV of the Habitats Directive, species protected under the Wildlife Acts and/or species listed on the relevant Red Data list. |  |
|                                    | • Site containing area(s) of the habitat types listed in Annex I of the Habitats Directive that do not fulfil criteria for valuation as of International or National Importance.  |  |
|                                    | • County important populations of species, or viable areas of semi-natural habitats or natural heritage features identified in the National or local BAP.   |  |
|                                    | • Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness or populations of species that are uncommon within the county.  |  |
|                                    | <ul> <li>Sites containing habitats and species that are rare or are undergoing a<br/>decline in quality or extent at a national level.</li> </ul>   |  |
| Local Importance (higher<br>value) | • Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP.   |  |
|                                    | • Resident or regularly occurring populations (assessed to be important at the Local level) of species of birds listed in Annex I of the Birds Directive, species listed in Annex II and/or IV of the Habitats Directive, species protected under the Wildlife Acts and/or species listed in the relevant Red Data list.  |  |
|                                    | • Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality.  |  |
|                                    | <ul> <li>Sites or features containing common or lower value habitats, including<br/>naturalised species that are nevertheless essential in maintaining links<br/>and ecological corridors between features of higher ecological value.</li> </ul>   |  |

| Local Importance (lower value) | • | Sites containing small areas of semi-natural habitat that are of some local importance for wildlife.      |  |
|--------------------------------|---|---|--|
|                                | • | Sites of features containing non-native species that are of some importance in maintaining habitat links. |  |

#### Table 3 - Conservation Evaluation (after Natura Site Evaluation Scheme, NRA, 2009)

## Assessment of Impacts

The assessment of potential ecological impacts has been carried out using guidelines published by the EPA and the CIEEM. They can be summarised as:

- The identification of the range of potential impacts which can reasonably be expected to occur should the proposed developments receive planning consent;
- The consideration of the systems and processes in place to avoid, reduce and mitigate the possible effects of these impacts;
- The identification of opportunities for ecological enhancement within the site.

Impacts are defined as being positive, negative or neutral. A significant impact is defined as an impact upon the integrity of a defined ecosystem and/or the conservation status of a habitat or species within a given area.

Where a potential negative impact has been identified, mitigation measures have been formulated using best practices techniques and guidance to prevent, reduce or offset the impact.

### 3. **DEVELOPMENT DESCRIPTION**

Rhonellen Developments have indicated their intention to shortly apply to An Bord Pleanála for planning permission (Strategic Housing Development) for a Build to Rent (BTR) housing development on a site of c. 0.42ha at the old Mall Shopping Centre at Templar Place, Quay Street and High Street, Balbriggan, Co. Dublin. The development will comprise of the following:

Demolition of the existing buildings (former shopping centre and associated structures). Construction of 3 no. apartment blocks (Blocks A - C) ranging in height from 3 to 6 storeys (with Block B over 3 no. lower courtyard floors) providing a total of 101 units (19 no. studios, 41 no. 1-beds, 41 no. 2-beds). Provision of Resident Support Facilities/Resident Services and Amenities, 2 no. retail units, car parking (at ground floor), cycle parking, ESB substation/switch room, plant, bin stores, open space, landscaping, boundary treatments, all associated site works and services provision.

An extract from the planning drawings can be seen in Figure 1.



Figure 1 – Extract from Planning Drawing (Prepared by Mc Cauley Daye O'Connell Architects)

#### Foul Water Proposals

ORS have liaised with Irish Water in relation to the proposed water supply and wastewater connections for the proposed development. A pre-connection enquiry was lodged with Irish Water in October 2020 and a confirmation of feasibility letter from Irish Water confirmed that there is sufficient capacity in the existing water and wastewater networks to service the proposed development in its entirety.

It is proposed to make a single wastewater connection to the existing 525mm diameter gravity sewer in Quay Street which will serve the entire development. All internal wastewater drainage will be separate to surface water drainage infrastructure in accordance with Irish Water standards. All wastewater infrastructure shall be designed and constructed in accordance with Irish Water documents "Code of Practice for Wastewater Infrastructure" and "Wastewater Infrastructure Standard Details"

#### Surface Water and Wastewater Proposals

ORS have prepared details regarding the proposed surface water management plans for the site. There is an existing Local Authority owned surface water drainage manhole and dedicated 225mm diameter gravity surface drainage pipe within Quay Street near the northmost point of the subject site. This surface water sewer appears to outfall directly to the Bracken River. The surface water drainage from the existing site does not appear to be attenuated and may be discharging directly into either the dedicated surface water sewer in Quay Street or possibly into a combined sewer.

The proposed surface water drainage strategy for the development will include collection and attenuation of surface water runoff from the developed site via a blue roof system located on a number of the building flat roofs and on the vast majority of the podium slab area. The blue roof systems proposed will be planted where appropriate and will be supplemented by green roof systems which will be provided to all non-accessible roof areas.

The outlets from the blue roof attenuation storage systems will be flow controlled to limit discharge rates to existing greenfield runoff rates. Following interception and attenuation, surface water will discharge at controlled rates into a piped gravity drainage system which will be installed below the ground floor level carpark and will connect to the existing 225mm diameter surface water drainage sewer in Quay St.

The attenuation storage volume provided has been sized to cater for the runoff from a 1:100-year storm event of critical duration and includes a 20% allowance for climate change. The outlets from the blue roof provide flow control and will ensure discharge off site is restricted to greenfield

runoff rates (circa 2L/sec). It is noted however that due to the quantity of green roof and planting proposed in the development, discharge volumes of surface water from the site are likely to be very low and will only occur following significant rainfall events. The inaccessible roofs that are not proposed as blue roof systems will be fitted with a green roof system. The green roofs and inaccessible blue roofs will have a diverse planting type while the podium level amenity areas are likely to have a more intensive planting.

At present, the surface water runoff from the site which is (except for a small vacant plot to the northeast) entirely covered in impermeable areas, discharges unattenuated flow off site. To reduce and attenuate the flow, the proposed development has been designed in accordance with the principles of Sustainable Urban Drainage Systems (SUDS) as expressed in the recommendations of the Greater Dublin Strategic Drainage Study (GDSDS).

The GDSDS addresses the issue of sustainability by requiring designs to comply with a set of drainage criteria which aim to minimise the impact of urbanisation by replicating the runoff characteristics of a greenfield site. The criteria provide a consistent approach to addressing both rate and volume of run-off as well as ensuring the environment is protected from pollution that is washed off roads and buildings.

The requirements of SUDS are typically addressed by provision of the following:

- Interception storage;
- Treatment storage (not required if interception storage is provided);
- Attenuation storage;
- Long term storage (not required if growth factors are not applied to Qbar when designing attenuation storage).

In the case of the subject site, interception storage will be provided, and growth factors will not be applied to the allowable discharge for the 100-year event. This means that both treatment storage and long term storage (neither of which would be practical on this site) are not required.

# Interception Storage

Interception storage for the development will be provided by the planting on the green and blue roofs which totals approximately 1,350 m2 and the landscaped areas of the podium totalling approximately 500m2. There is a drainage board within the green and blue roof build-ups which stores up to 13.5mm of rainfall, this together with the planting substrate will far exceed the recommendations of GDSDS to intercept the first flush (5 to 10mm).

### Permeable Paving

The paved areas of the ground floor courtyard to the southwest of Block A will be constructed with permeable paving which will be designed for pedestrian loadings only and will consist of selected paving blocks on a 50mm layer of 2/6.3mm laying course, on approved geotextile on a 250mm layer of 4/20mm coarse graded aggregate. The 250mm coarse graded aggregate layer in the permeable paving will provide an attenuation storage. based on the storage provided, the permeable paving would be capable of storing up to 75mm of rainfall in the coarse aggregate layer which would cater for the runoff from a 1:100 year storm event of critical duration. The permeable paving will also be provided with an overflow to accommodate any extreme rainfall events which will connect to the proposed surface water drainage gravity pipe system within the carpark

### Flow Controls and Bypass Interceptor

A number of downpipes will be provided from the blue roofs which will allow discharge to the gravity surface water drainage in the carpark at ground level. Each of the downpipes will be fitted with flow control mechanisms to limit flow to greenfield runoff rates. Although the vast majority of the carpark at ground floor level will be covered, there will be a number of open areas to the podium above for natural ventilation purposes which will allow some rainfall into the carpark. It is proposed to install a number of gullies centrally in the carpark to cater for the low level of surface water drainage required. To prevent possible contamination in the event of an oil spillage a class 1 bypass separator will be provided on the surface water outlet from the ground level carpark.

### Flood Risk

A stage 3 flood risk assessment was carried out on the site by JBA Consulting Engineers. As part of the flood risk assessment a site specific hydraulic model was developed to investigate the flood risk to the site. This model was run for various flooding scenarios and concluded that the key areas of the proposed residential dwellings will not be impacted by any of the modelled flood events.

### 4. **RECEIVING ENVIRONMENT**

This section provides an overview of the existing ecological conditions within the site and the surrounding environment.

#### 4.1 SITE LOCATION & GENERAL DESCRIPTION

The site in question is approximately 0.42ha in area. It is located within the town centre of Balbriggan. It is bounded by High Street to the east and by Quay Street to the north. It is bounded to the west and south by the rear of the properties which front onto Drogheda Street, including the Bracken Court Hotel. Site location maps can be seen in Figures 2 and 3.



Figure 2 – Site Location Map



Figure 3 – Site Location Map. Application Site is Outlined in Red.

# Habitats and Land-Use Surrounding the Site

The site is surrounded by the built up urban and amenity areas of Balbriggan. The dominant habitats locally include buildings and artificial surfaces, amenity grasslands and gardens as well as scattered tress and parkland. The site is approximately 300m west of Balbriggan Bay. The main habitats associated with this area include open water, and tidal mud and sand flats.

An overview of the local habitats surrounding the application site can be seen in the aerial photograph in Figure 4.



Figure 4 – Aerial Photograph Showing Habitats Surrounding the Application Site

# 4.2 DESIGNATED SITES

# Natura 2000 Sites

The proposed application site is not within or immediately adjacent to any site that has been designated as a Special Area of Conservation (SAC) or a Special Protection Area (SPA) under the EU Habitats or EU Birds Directive.

There are eleven Natura 2000 sites within 15km of this proposed development site. These sites are summarised in Table 4. The location of the application site in relation to these designated areas is shown in Figure 5 and a full synopsis of these sites can be read online on the website of the National Parks and Wildlife Service (www.npws.ie).

| Site Name & Code                               | Distance             | Qualifying Interests  | Connectivity  |
|--|----------------------|---|---|
| River Nanny<br>Estuary and Shore<br>SPA 004158 | 5km north            | <ul> <li>Oystercatcher (Haematopus<br/>ostralegus)</li> <li>Ringed Plover (Charadrius<br/>hiaticula)</li> <li>Golden Plover (Pluvialis<br/>apricaria)</li> <li>Knot (Calidris canutus)</li> <li>Sanderling (Calidris alba)</li> <li>Herring Gull (Larus argentatus)</li> <li>Wetlands &amp; Waterbirds</li> </ul> | There are no watercourses on the<br>site, therefore there are no<br>source-pathway-receptor<br>linkages between the application<br>site and this SPA. |
| Skerries Islands<br>SPA 004122                 | 6.4km south-<br>east | <ul> <li>Cormorant Phalacrocorax carbo</li> <li>Shag Phalacrocorax aristotelis</li> <li>Light-bellied Brent Goose Branta<br/>bernicla hrota</li> <li>Purple Sandpiper Calidris<br/>maritima</li> <li>Turnstone Arenaria interpres</li> <li>Herring Gull Larus argentatus</li> </ul>                               | There are no watercourses on the<br>site, therefore there are no<br>source-pathway-receptor<br>linkages between the application<br>site and this SPA. |
| Rockabill to Dalkey<br>Island SAC 003000       | 7.9km east           | <ul> <li>Reefs</li> <li>Phocoena phocoena (Harbour Porpoise)</li> </ul>   | There are no watercourses on the<br>site, therefore there are no<br>source-pathway-receptor<br>linkages between the application<br>site and this SAC. |
| Rockabill SPA<br>004014                        | 8.3km east           | <ul> <li>Roseate Tern (Sterna dougallii)</li> <li>Common Tern (Sterna hirundo)</li> <li>Arctic Tern (Sterna paradisaea)</li> <li>Purple Sandpiper (Calidris maritima</li> </ul>   | There are no watercourses on the<br>site, therefore there are no<br>source-pathway-receptor<br>linkages between the application<br>site and this SPA. |
| Boyne Coast and<br>Estuary SAC 001957          | 10.8km north         | <ul> <li>Estuaries</li> <li>Mudflats and sandflats not covered by seawater at low tide</li> <li>Salicornia and other annuals colonizing mud and sand</li> <li>Spartina swards (Spartinion maritimae)</li> </ul>   | There are no watercourses on the<br>site, therefore there are no<br>source-pathway-receptor<br>linkages between the application<br>site and this SAC. |

|                                     |                       | <ul> <li>Atlantic salt meadows (<i>Glauca Puccinellietalia maritimae</i>)</li> <li>Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</li> <li>Embryonic shifting dunes</li> <li>Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)</li> <li>Fixed coastal dunes with herbaceous vegetation (grey dunes)</li> </ul>   |   |
|-------------------------------------|-----------------------|---|---|
| Rogerstown<br>Estuary<br>SAC 000208 | 11.2km south          | <ul> <li>Estuaries</li> <li>Mudflats and sandflats not covered by seawater at low tide</li> <li>Salicornia and other annuals colonizing mud and sand</li> <li>Spartina swards (Spartinion maritimae)</li> <li>Atlantic salt meadows (Glauco-Puccinellietalia maritimae)</li> <li>Mediterranean salt meadows (Juncetalia maritimi)</li> <li>Shifting dunes along the shoreline with Ammophila arenaria (white dunes)</li> <li>Fixed coastal dunes with herbaceous vegetation (grey dunes)</li> </ul> | There are no watercourses on the<br>site, therefore there are no<br>source-pathway-receptor<br>linkages between the application<br>site and this SAC. |
| Rogerstown<br>Estuary<br>SPA 004015 | 11.2km south          | <ul> <li>Light-bellied Brent Goose (Branta<br/>bernicla hrota)</li> <li>Grey Plover (Pluvialis squatarola)</li> <li>Greylag Goose (Anser anser)</li> <li>Knot (Calidris canutus)</li> <li>Ringed Plover (Charadrius<br/>hiaticula)</li> <li>Oystercatcher (Haematopus<br/>ostralegus)</li> <li>Shelduck (Tadorna tadorna)</li> <li>Shoveler (Anas clypeata)</li> <li>Dunlin (Calidris 21etanu)</li> <li>Redshank (Tringa tetanus)</li> <li>Black-tailed Godwit (Limosa<br/>limosa)</li> </ul>       | There are no watercourses on the<br>site, therefore there are no<br>source-pathway-receptor<br>linkages between the application<br>site and this SPA. |
| The Boyne Estuary<br>SPA 004080     | 12.7km north          | <ul> <li>Shelduck (Tadorna tadorna)</li> <li>Oystercatcher (Haematopus ostralegus)</li> <li>Golden Plover (Pluvialis apricaria)</li> <li>Grey Plover (Pluvialis squatarola)</li> <li>Lapwing (Vanellus vanellus)</li> <li>Knot (Calidris canutus)</li> <li>Sanderling (Calidris alba)</li> <li>Black-tailed Godwit (Limosa limosa)</li> <li>Redshank (Tringa totanus)</li> <li>Turnstone (Arenaria interpres)</li> <li>Little Tern (Sterna albifrons)</li> <li>Wetlands &amp; Waterbirds</li> </ul> | There are no watercourses on the<br>site, therefore there are no<br>source-pathway-receptor<br>linkages between the application<br>site and this SPA. |
| The River Boyne<br>and River        | 14.7km north-<br>west | River lamprey (Lampetra fluviatilis)  | There are no watercourses on the site, therefore there are no   |

| Blackwater SAC<br>002299       |              | <ul> <li>Salmon (Salmo salar)</li> <li>Otter (Lutra lutra)</li> <li>Alkaline fens</li> <li>Alluvial forests with alder Alnus glutinosa and ash Fraxinus excelsior</li> </ul>  | source-pathway-receptor<br>linkages between the application<br>site and this SAC.   |
|--------------------------------|--------------|---|---|
| Malahide Estuary<br>SAC 000205 | 14.9km south | <ul> <li>Mudflats and sandflats not<br/>covered by seawater at low tide</li> <li>Salicornia and other annuals<br/>colonising mud and sand</li> <li>Atlantic salt meadows (Glauco-<br/>Puccinellietalia maritimae)</li> <li>Mediterranean salt meadows<br/>(<i>Juncetalia maritimi</i>)</li> <li>Shifting dunes along the<br/>shoreline with Ammophila<br/>arenaria (white dunes)</li> <li>Fixed coastal dunes with<br/>herbaceous vegetation (grey<br/>dunes)</li> </ul>  | There are no watercourses on the<br>site, therefore there are no<br>source-pathway-receptor<br>linkages between the application<br>site and this SAC. |
| Malahide Estuary<br>SPA 004025 | 14.9km south | <ul> <li>Great Crested Grebe (Podiceps cristatus)</li> <li>Light-bellied Brent Goose (Branta bernicla hrota)</li> <li>Shelduck (Tadorna tadorna)</li> <li>Pintail (Anas acuta)</li> <li>Goldeneye (Bucephala clangula</li> <li>Red-breasted Merganser (Mergus serrator)</li> <li>Oystercatcher (Haematopus ostralegus)</li> <li>Golden Plover (Pluvialis aquatarola)</li> <li>Knot (Calidris canutus)</li> <li>Dunlin (Calidris alpine alpina)</li> <li>Black-tailed Godwit (Limosa lapponica</li> <li>Redshank (Tringa totanus)</li> </ul> | There are no watercourses on the<br>site, therefore there are no<br>source-pathway-receptor<br>linkages between the application<br>site and this SPA. |

Table 4 – Natura 2000 Sites of Relevance to the Proposed Development

The generic conservation objectives of the SACs are:

To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.

The generic conservation objectives of the SPAs are:

To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.

The favourable conservation status of a habitat is achieved when:

- Its natural range and area it covers within that range is stable or increasing and the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future;
- The conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- The population dynamics data on the species concerned indicate that it is maintaining itself on a long -term basis as a viable component of its natural habitats;
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future;
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

An Appropriate Assessment Screening Report as required under Article 6(3) of the EU Habitats Directive has been prepared in relation to this proposed application in Balbriggan. This screening report concluded that the proposed development will have no significant effects upon any of the Natura 2000 sites identified above.



Figure 5 – Designated Sites within 15km of the Application Site (Pinned).



# **Nationally Important Sites**

The application site is not within or immediately adjacent to any nationally designated site, such as a Natural Heritage Area or a proposed Natural Heritage Area. It is within 15km of nine sites that have been designated as proposed Natural Heritage Areas. These are summarised in Table 5 and a map showing their locations relative to the application site is shown in Figure 6.

| Site Name                               | Distance from Proposed Development |
|---|------------------------------------|
| Bog of the Ring pNHA 001204             | 4.1km south-west                   |
| Laytown Dunes/Nanny Estuary pNHA 000554 | 6.9km north                        |
| Boyne Coast and Estuary pNHA 001957     | 11km north                         |
| Rockabill pNHA 000207                   | 11.5km east                        |
| Skerries Islands NHA 001218             | 6.4km south-east                   |
| Loughshinny Coast pNHA 002000           | 8 km south-east                    |
| Knock Lake 001203                       | 2.7km south-west                   |
| Rogerstown Estuary pNHA 000208          | 11.1km south                       |
| Cromwells Nush Fen pNHA 001576          | 10km west                          |

Table 5 – Nationally Important Sites within 15km of the Proposed Development



Figure 6 – The Proposed Application Site in Balbriggan in Relation to proposed Natural Heritage Areas (Blue Cross Hatching)

#### 4.3 FLORA

#### Habitats within the Study Area

#### Overview

No part of the application site lies within any area that is designated for nature conservation purposes. All proposed development works within the application site will take place on areas of low biodiversity value. The habitats within the study area are limited and mainly consist of buildings and artificial surfaces (BL3), with some areas of scattered trees and shrubs along with pockets of recolonising bare ground. These habitats are described in greater detail below, whilst a habitat map is illustrated in Figure 7. Photos of the site can be seen in Appendix II.

There are few features of biodiversity value on the site. The defining characteristic of the site is the old shopping centre that dominates the site. The majority of the site therefore falls into the <u>Buildings and Artificial Surfaces BL3</u> category. Access to the roof of this buildings is provided by High Street and there is an existing car park and bicycle repair business in this roof area. Small pockets of the roof area have been colonised by plant species such as the ubiquitous red valerian *Centranthus ruber*, buddleia *Buddleia* davidii and pellitory of the wall *Parietaria judaica*.

At street level there is a small, enclosed yard and access to this yard is just off Quay St. There are areas of Recolonising Bare Ground (ED3) in this small yard. The main plant species noted here included red valerian, nettles *Urtica diocia*, cleavers *Galium aparine*, hawksbeard *Crepis capillaris*, bramble *Rubus fruticosus agg* with stonecrop *Sedum acre* growing in some of the cracks in the concrete.

There is a steep embankment rising from the southern corner of this yard and along the eastern perimeter of the application site. This habitat is described as <u>Scrub</u> WS1 and the dominant species noted here included hawthorn *Crataegus monogyna*, elder *Sambucus nigra* and buddleia. Ivy *Hedera helix* also grows prolifically in this area. Also noted here was evidence of previous growth of Japanese knotweed *Fallopia japonica*. Evidence remains as dead and hollow canes and no new growth was apparent. In late May, if this species was alive then growth would be very obvious. This plant was obviously treated with herbicide in the past.

There are also some scattered trees along the northern boundary of the application site, behind the existing bicycle shop and behind the dwellings that front onto High St. Species noted here included ash *Fraxinus excelsior*, hawthorn, buddleia and elder.

#### Overall Evaluation of Habitats within the Site

Overall, the biodiversity of the application site can be considered as low. There are no botanical features on the site of any scientific interest and there are no habitats of biodiversity value in the site.

### Rare and Protected Plant Species

An examination of the website of the National Parks and Wildlife Service, the National Biodiversity Data Centre and the Online Atlas of Vascular Plants for Ireland revealed that there are no records for any plant species protected under the Flora Protection Order from within the 1km square (O2063) of the proposed application sites. No protected species were found within the application site.

#### **Invasive Species**

Invasive species are those that are listed in Schedule Three of the Birds and Habitats Regulations (2011). As mentioned in the habitats section, Japanese knotweed *Fallopia japonica* once occurred on this site, but this stand has been successfully treated as no new growth was evident.



Figure 7 – Habitat Map of the Site.

# 4.4 FAUNA

### **Protected Mammals**

Records from the National Biodiversity Data Centre reveal the presence of the following protected mammals from within the 10km square (O22) of this proposed application site:

- Badger Meles meles
- European Hedgehog Erinaceus europaeus
- Otter Lutra lutra
- Irish Hare Lepus timidus subsp. Hibernicus
- Pipistrelle Pipistrellus pipistrellus sensu lato
- Lesser Noctule Nyctalus leisleri
- Soprano Pipistrelle Pipistrellus pygmaeus
- Brown long-eared bat Plecotus auritus

All these species are protected under the Irish Wildlife Acts. In addition, the otter *Lutra lutra* is protected under Annex II of the European Habitats Directive.

There was no evidence that the site us used by any of the above mammal species (bats discussed below) and there are no habitats within the site suitable for use by any of these protected species.

#### Bats

A bat survey of the site was carried out by Brian Keeley of Wildlife Surveys Ireland. During the survey no signs of bats were found. The roof of the shopping centre is a car park with roof materials consisting of concrete and steel, which has low potential for bat usage. The roof of the pet shop and building beside it are tiles and torched-on felt and while they have higher potential for bat use, they are in a very poor state of repair.

Two species of bats were seen feeding and commuting around the building - a Leisler's bat was recorded flying over the carpark, and a common pipistrelle was also recorded flying over the car park. The bat report concluded that there are low levels of bat activity in the area. No bats were found to be roosting within the buildings.

#### Birds

A very limited range of birds were seen / heard within proposed development site during the site survey, these species included:

- Blackbird Turdus merula
- Herring gull *Larus argentatus*
- Hooded crow *Corvus cornix*
- Jackdaw Corvus monedula
- Magpie *Pica pica*
- Pigeon Columba livia domestica
- Robin Erithacus rubecula
- Swallow Hirundo rustica<sup>1</sup>
- Swift Apus apus<sup>2</sup>
- Wren Troglodytes troglodytes

Overall, given the paucity of habitats on the site and low availability of vegetated nesting habitats, the site is not of high value for any bird species.

However, at the moment there are five pairs of nesting herring gulls on the roof of the building. On the day of the survey, the birds were actively sitting on the nests and care was taken to ensure the birds were not frightened or disturbed. Herring gulls are listed in Annex I of the EU Birds Directive. They are also a red listed species under the Birds of Conservation Concern in Ireland list. This means that they are off high conservation concern in Ireland and Europe.

There are is also a swallows nest in one of the buildings on the car park roof.

### Amphibians, Reptiles and Invertebrates

There are no wetland habitats within the site suitable for the common frog *Rana temporaria*, the smooth newt *Lissotriton vulgaris* or the viviparous lizard *Lacerta vivipara*. These species are unlikely to occur within the site.

During the summer months, a low range of common aerial insects are likely to occur in association with the flowering plants in the site, e.g., bees, butterflies, moths and hoverflies.

<sup>&</sup>lt;sup>1</sup> Noted by Brian Keeley. Swallows are nesting on the roof of the building.

<sup>&</sup>lt;sup>2</sup> Noted by Brian Keeley. Swifts are using another building close to the site to nest.

### 4.5 AQUATIC ENVIRONMENT

# Water Features and Quality

The application site lies within the Nanny Delvin Hydrometric Area (08) and Catchment (09), the Palmerstown Sub-Catchment (010) and the Matt Sub-Basin (010). There are no drains or streams within or adjacent to the applicant site. The Bracken River is 15m north of the application site, and it flows behind the buildings which front onto the north side of Quay Street. This stream rises in lands to the south of Balbriggan. It flows in a north-easterly direction towards Balbriggan, through the town and the park and under the Balbriggan Bridge, where it discharges to Balbriggan Harbour, approximately 162m north-east of the site. There is no connectivity between the application site and this stream.

The EPA have not classified the ecological status of the Bracken River or its tributaries. However, it is generally considered to be At Risk of not achieving good ecological status as required under the Water Framework Directive. The ecological status of the Balbriggan Harbour and the sea around it is high. Under the requirements of the WFD, all watercourses must achieve good status within a specified time frame.

## 4.6 ECOLOGICAL EVALUATION

# Summary of the Value of the Application Site

An evaluation of the ecological features that were identified through desk and field based studies are summarised below:

- The site at Balbriggan is within 15km of eleven sites designated under the Natura 2000 network. There is no ecological or hydrological connectivity between the application site and any site designated as an SAC / SPA. A screening report was completed for this proposed development as required under Article 6 (3) of the Habitats Directive. This report concluded that due to the lack of connectivity, that the proposed development is unlikely to have any significant impacts upon any site designated under the Natura 2000 network. No mitigation measures are required as part of this development to specifically protected the integrity of any Natura 2000 site.
- The site is also within 15km of nine sites designated as Natural Heritage Areas (NHAs and pNHAs) and there is no connectivity between the application site and any designated area. It can be considered that the proposed development will have no impacts upon any site designated as a pNHA or NHA.
- Within the application site itself, the dominant habitat is that associated with the existing shopping mall, i.e., buildings and artificial surfaces. There are some scattered trees and areas of scrub on the site and these areas are of some value to nesting birds. The roof of the building is also being used by nesting herring gulls and swallows.

The NRA guidelines on the Assessment of Ecological Impacts on National Road schemes (NRA, 2009) provides a rationale for the evaluation of ecological receptors within a site. Table 6 lists the habitats that have been described within the site and their associated ecological value, based on the NRA guidelines.

| Habitat  | Rating                          | Criteria   |
|--|---------------------------------|--|
| <ul><li>Buildings and Artificial Surfaces</li><li>Recolonising Bare Ground</li></ul> | No Value                        | No Biodiversity Value                                  |
| Scrub / Scattered Treelines  | Local Importance<br>(Low Value) | Provides value for local populations of nesting birds. |

# 5. IMPACT ASSESSMENT

# 5.1 INTRODUCTION

The information gathered as part of the desk study and field survey for this proposed application has been used to complete an Ecological Impact Assessment (EcIA). This EcIA has been undertaken following the latest guidelines set out by CIEEM (2018) and the EPA.

The identification of potential impacts and the assessment of their significance typically requires the identification of the type and magnitude of the impacts. For example, will the impacts be short term or long term, direct, indirect or cumulative and will they occur during construction or operation. This section will establish whether ecological impacts of the proposed development in Balbriggan are likely to occur and whether or not they are significant. These potential impacts will be examined with respect to the ecological receptors identified in the previous section.

The emphasis in EcIA is on "significant" effects, rather than all ecological effects (CIEEM, 2018). For the purpose of EcIA, a "significant effect" is an effect that either supports or undermines biodiversity conservation objectives for important ecological features for biodiversity in general. Conservation objectives may be specific (e.g., for a designated site) or broad (e.g., national / local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local.

A significant effect is an effect that if sufficiently important to require assessment and reporting so that the decision maker (i.e., Local Authority) is adequately informed of the environmental consequences of permitting the project. In broad terms, significant effects encompass impacts on structures and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution). (CIEEM, 2018).

# 5.2 IMPACTS UPON DESIGNATED SITES

The Appropriate Assessment Screening report submitted with the planning application concluded that the proposed development in Balbriggan will have no direct, indirect or cumulative impacts upon any site designated as a Special Area of Conservation or Special Protection Area. It is also considered unlikely that the proposed development will have any impacts upon sites designated as a proposed Natural Heritage Areas. There will be no impacts upon these sites, their habitats or species arising from habitat loss or habitat fragmentation.

## 5.3 IMPACTS WITHIN THE APPLICATION SITE

### **Development Phase**

Should the developments at the application site in Balbriggan be allowed to proceed then the following impacts will / may occur during the site preparation and construction of the proposed development.

- Habitat loss and fragmentation The site preparation and construction of the buildings and the associated hard surfaces and landscaping will lead to the loss and fragmentation of the majority of the habitats within the site. Overall, these habitats are artificial and of low biodiversity value. There may be small impacts upon local populations of birds and small mammals as some nesting sites in the existing trees will be lost but overall, these impacts will be negligible.
- Disturbance to local wildlife During site preparation and construction, local populations of birds and mammals may be disturbed by the increase in noise, traffic and human activity. However, there is already an existing level of background level of noise on the site from traffic etc and the impacts upon wildlife locally are likely to be negligible, given the low level of wildlife that use the site. The bat report concluded that there is low potential for bat roosts within the buildings, and therefore impacts upon bats will be negligible. There will be negligible impacts upon bats arising from loss of feeding opportunity, given the paucity of habitats on the site.

Herring gulls are currently nesting on the roof of the shopping centre. Demolition of the building could lead to direct mortality of these birds and loss of eggs or chicks if done at an appropriate time. However, the overall the loss of this building won't have a significant effect upon these birds when done at an appropriate time. There is a high availability of similar nesting sites for gulls in the Balbriggan area.

 Pollution – There are no water bodies on site that are likely to be impacted upon from runoff from the site. However, best practice measures will be undertaken on site during all phases of construction.

The following impacts on local habitats / wildlife may occur during the operation of the development.

# **Operational Phase**

The majority of impacts will occur during the development phase of this development. However, certain ongoing impacts on local habitats / wildlife may occur during the operation of the development.

- Disturbance to local wildlife Once operational, the development in Balbriggan will facilitate replacement buildings, all of which will be associated with increased human activity. This will deter wildlife from the site. In addition, the new lighting schemes associated with the development may disturb the feeding habits of bats and other nocturnal mammals. However, given the existing habitats in the site and the overall existing baseline level of noise and light in the area, this impact will not be significant.
- Landscaping Inappropriate landscaping of the application site may inadvertently result in the introduction of non-native and invasive plant species. However, appropriate landscaping could also provide beneficial habitats for wildlife if it is done with suitable trees and shrubs that provide nesting and foraging opportunities for birds. The management of the green areas for wildlife would also be beneficial for local pollinators.

# 5.4 POTENTIAL CUMULATIVE IMPACTS

Cumulative impacts or effects are changes in the environment that result from numerous humaninduced, small-scale alterations. Cumulative impacts can be thought of as occurring through two main pathways: first; through persistent additions or losses of the same materials or resource, and second,-through the compounding effects as a result of the coming together of two or more effects (Bowers-Marriott, 1997).

There are a number of other proposed developments within the North County Dublin / Fingal. These developments combined will reduce the open spaces and habitat availability of the area, thereby cumulatively impacting on local bird and mammal populations. The loss of the habitats within the current application site is considered to be insignificant.

In the larger context of the Fingal area, there are a number of other proposed developments, some of which are proposed for previously undeveloped, green field sites. These developments combined will reduce the open spaces and habitat availability of the Fingal area as a whole, thereby cumulatively impacting on local bird and mammal populations. However, the creation of new areas of biodiversity within the application site will reduce the overall cumulative impact of this development in the Fingal area.

# 6. MITIGATION MEASURES

# **6.1 CONSTRUCTION PHASE**

In order to mitigate against the impacts listed above, then the following mitigation measures should be adhered to during all phases of the development.

- All works associated with the development should be confined to the proposed development site. All site development works should adhere to best practice.
- The removal of the existing vegetation on site should only take place outside of the bird nesting season (March August).
- The demolition of the building must only be done upon confirmation that there are no nesting gulls on the roof. Nesting times for gulls extends from March-August, therefore the building should not be demolished in this period unless it can be confirmed that gulls are not nesting.
- Prior to demolition, the location of the Japanese knotweed dead canes should be checked once again for any new growth.
- As recommended in the bat report prepared by Brian Keeley, four 1FF Schwegler bat boxes with built-in timber panel bat boxes must be put in place. These should be placed on the building, at least 3m high, with a clear drop below (as bats need to drop to start their flight). These can be purchased from www.nhbs.com. They must be placed in a dark area.
- All bats are sensitive to light pollution. Dark skies areas (under 3 Lux) must be maintained to the north and south of the buildings.

Lighting design will be in accordance with

- Bats and Lighting Guidance Notes for Planners, Engineers, Architects, and Developers (Bat Conservation Ireland, 2010).
- Bats and Lighting in the UK Bats and the Built Environment Series (Institute of Lighting Professionals, September 2018).
- Guidance Notes for the Reduction of Obtrusive Light GN01 (Institute of Lighting Professionals, 2011).
- In addition, two swift boxes should be placed on the new building or outbuildings. These can be purchased from https://birdwatchireland.ie/shop/.

- During construction, run-off from construction and demolition must not be allowed to emit onto the streets or into gullies on the streets.
- During construction, fuels, oils, greases and hydraulic fluids must be stored in bunded compounds. Refuelling of machinery, etc., should be carried out in bunded areas. Any bulk fuel storage tank should be properly bunded with a bund capacity of at least 110% of that of the fuel tank.
- All waste associated with the development should be disposed of in an environmentally friendly manner. Registered contractors should only be used.
- Fuels, oils, greases and hydraulic fluids must be stored in bunded compounds well away from local watercourses / drains. Refuelling of machinery, etc., should be carried out in bunded areas.
- Any bulk fuel storage tank should be properly bunded with a bund capacity of at least 110% of that of the fuel tank.

# 6.2 OPERATIONAL PHASE

- The future landscaping of the site should adhere to the following recommendations where space allows:
  - Native trees and shrubs should be used in the landscaping where possible, followed by non-native plants that are of benefit to pollinators. Planting should follow the guidelines within the All-Ireland Pollinator Plan, available at https://www.biodiversityireland.ie/wordpress/wp-content/uploads/Pollinator-friendlyplanting-code-temporary-draft.pdf

# 6.3 DO NOTHING SCENARIO

In the absence of the development, some trees and recolonising ruderal habitats on site may further mature to provide greater suitability for bats, invertebrates and other breeding birds. However, given the extent of concreted surfaces on the site this process would not be significant.

# 6.4 WORST CASE SCENARIO

The worst-case scenario would see the development of the site without any mitigation to reduce and lessen ecological impacts. However, given the paucity of habitats and lack of biodiversity value within the site, these impacts, even without mitigation, would not be of significance. The most significant effect that could happen would be the demolition of the building when the herring gulls were nesting. This would result in the direct mortality of chicks and possibly adult gulls.

# 6.5 MONITORING AND RE-INSTATEMENT

Monitoring is generally required where there may be significant residual impacts despite the implementation of the mitigation measures. No significant residual impacts are envisioned for this site upon completion of the development to its operation stage.

# 6.6 RESIDUAL IMPACTS AND CONCLUSIONS

With the recommended mitigation measures, it can be concluded that the proposed development in Balbriggan will have a neutral impact upon local ecological receptors. The creation of new habitats on the site will be a positive benefit to local ecology and with proper management of the site and its green areas, then local areas of biodiversity will be allowed to develop.

# APPENDIX I - PLANT SPECIES LIST

Species recorded as part of the separate tree survey (Tree Management Services) have also been listed here.

| Common Name           | Scientific Name         |  |
|-----------------------|-------------------------|--|
| Alexanders            | Smyrnium olusatrum      |  |
| Ash                   | Fraxinus excelsior      |  |
| Biting stonecrop      | Sedum acre              |  |
| Bramble               | Rubus fruticosus agg.   |  |
| Broadleaved Dock      | Rumex obtusifolius      |  |
| Butterfly bush        | Buddleia davidii        |  |
| Cleavers              | Galium aparine          |  |
| Cock's-foot           | Dactylis glomerata      |  |
| Common chickweed      | Stellaria media         |  |
| Common ragwort        | Senecio jacobaea        |  |
| Couch grass           | Elymus repens           |  |
| Creeping buttercup    | Ranunculus repens       |  |
| Dandelion             | Taraxacum officinale    |  |
| Elder                 | Sambucus nigra          |  |
| Hawksbeard            | Crepis sp.              |  |
| Hawthorn              | Crataegus monogyna      |  |
| Herb Robert           | Geranium robertianum    |  |
| Hoary willowherb      | Epilobium parviflorum   |  |
| lvy                   | Hedera helix            |  |
| Nettle                | Urtica dioica           |  |
| Pellitory of the Wall | Parietaria judaica      |  |
| Red clover            | Trifolium pratense      |  |
| Red valerian          | Centranthus ruber       |  |
| Ribwort plantain      | Pantago lanceolate      |  |
| Rosebay willowherb    | Chamerion angustifolium |  |
| Self-heal             | Prunella vulgaris       |  |
| Smooth hawksbeard     | Crepis capillaris       |  |
| Spear thistle         | Cirsium vulgare         |  |
| Tufted vetch          | Vicia cracca            |  |
| White clover          | Trifolium repens        |  |
| Willowherb            | Ebilobium sp            |  |
| Vetches               | Vicia sp                |  |

# **APPENDIX II – PHOTOGRAPHS**





The Yard at the Site of the Site, with Scrub Habitat

A View of the Building from Quay St



View of the Yard



**Dead Japanese Knotweed** 





The Roof of the Building

Herring Gull Protecting its Nest

### APPENDIX III - REFERENCES

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