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ECOLOGICAL IMPACT ASSESSMENT OF A PROPOSED DEVELOPMENT (SHD) AT AIRTON ROAD, TALLAGHT, DUBLIN 24

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c/o McGill Planning Ltd.
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Dublin 2

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1. INTRODUCTION

1.1 THE AIM OF THE REPORT

This Ecological Impact Assessment (EcoIA) addresses the potential impacts of a proposed development that may occur in the future on the biodiversity of a site on Airton Road, Tallaght, Dublin 24.

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 EU Birds Directive (Council Directive 79/409/EEC) implies that particular protection is given to sites (Special Protection Areas) which support certain bird species listed in Annex I of the Directive and that surveys of development sites should consider the status of such species.

The EU Habitats Directive (92/43/EEC) gives protection to sites (Special Areas of Conservation) which support particular habitats and species listed in annexes to this directive. Articles 6(3) and 6(4) of this Directive call for the undertaking of an Appropriate Assessment for plans and projects likely to have an effect on designated sites.

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 Development Plan 2007-2013, the National Spatial Strategy 2002-2020 and Sustainable Development: A Strategy for Ireland 1997.

Regional

The Regional Planning Guidelines for the Greater Dublin Area 2010 - 2022, adopted by the Dublin and Mid-East Regional Authorities in 2010, provides a planning framework covering the Greater Dublin Area, including parts of Kildare, Meath and Dublin. These guidelines contain a number of policies relevant to ecology, nature conservation and green infrastructure. These guidelines are summarised in Table 1.

Policy Reference	Policy
GIP6	To ensure the protection, enhancement and maintenance of the natural environment and recognise the health benefits as well as the economic, social, environmental and physical value of green spaces through the development of and integration of Green Infrastructure (GI) planning and development in the planning process.
GIR31	GI development should be identified at the initial stages of all planning processes and included as a material consideration in order to inform future development.

Table 1 – Regional Policies Relevant to Ecology and Nature Conservation

Local

Planning policy at the local level is provided by the South Dublin County Council Development Plan 2016 – 2022. This plan contains a number of objectives and policies relevant to ecology, biodiversity and nature conservation. Some of these relevant measures are outlined in Table 2.

Reference	Objective / Policy
G2 Objective 1	To reduce fragmentation of the Green Infrastructure network and strengthen ecological links between urban areas, Natura 2000 sites, proposed Natural Heritage Areas, parks and open spaces and the wider regional Green Infrastructure network.
G2 Objective 2	To protect and enhance the biodiversity value and ecological function of the Green Infrastructure network.
G6 Objective 1	To protect and enhance existing ecological features including tree stands, woodlands, hedgerows and watercourses in all new developments as an essential part of the design process.
G6 Objective 2	To require new developments to provide links into the wider Green Infrastructure network, in particular where similar features exist on adjoining sites.
G6 Objective 3	To require multifunctional open space provision within all new developments that includes provision for ecology and sustainable water management.
HCL12 Objective 1	To prevent development that would adversely affect the integrity of any Natura 2000 site located within and immediately adjacent to the County and promote favourable conservation status of habitats and protected species including those listed under the Birds Directive, the Wildlife Acts and the Habitats Directive.
HCL13 Objective 1	To ensure that any proposal for development within or adjacent to a proposed Natural Heritage Area (pNHA) is designed and sited to minimise its impact on the biodiversity, ecological, geological and landscape value of the pNHA particularly plant and animal species listed under the Wildlife Acts and the Habitats and Birds Directive including their habitats.

Table 2 – Local Policies Relevant to Ecology and Nature Conservation

Heritage and Biodiversity 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 latest South Dublin County Council Heritage Plan 2010-2015 identifies a number of objectives and policies in order to protect the natural heritage and biodiversity of the South County Dublin 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 13 years. Noreen has over 15 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 10-15 km 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 – www.npws.ie
- National Biodiversity Data Centre – www.biodiversitycentre.ie
- Ordinance Survey Ireland – www.osi.ie
- Google Maps & Street View – maps.google.ie
- Bing Maps – www.bingmaps.com
- My Plan – www.myplan.ie
- Environmental Protection Ireland – www.epa.ie
- South Dublin County Council – www.sdcc.ie

2.4 FIELD BASED STUDIES

A visit to the site of the proposed development at Airton Road was conducted on May 21st 2019, when relevant 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. Any bird and mammal and bird activity was also noted

The species nomenclature for vascular plants conforms with *The New Flora of the British Isles'* (Stace, 2010).

A separate bat survey for the site was carried out on the 14th May 2019 by Donna Mullen and Brian Keely of Wildlife Surveys.

2.5 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 UK and Ireland* by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)
- *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)
- District (Tallaght)
- Local/Townland (Airton Road)

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 non-statutory 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.

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. CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

Greenleaf Homes Limited have indicated their intention to shortly apply to An Bord Pleanála for planning permission (Strategic Housing Development) for a mixed use residential development on a site of c. 2.79ha. The proposal consists of:

- Demolition of existing factory/ warehouse buildings on site;
- Construction of 502 residential units comprising of 197 no. 1-Bed; 257 no. 2-Bed; and 48 no. 3-Bed Apartments all with associated private balconies/terraces to the north/south/east/west elevations;
- Construction of 3 no. Retail Units; a creche; and communal facilities;
- The development will take place over 6 no. Blocks (A-F) ranging in height up to 8 storeys;
- The development will have 202 no. car parking spaces located at undercroft level of blocks A, B and C and at basement level of blocks E and F. 584 no. secure bike parking spaces. The site is accessed through 2 no. vehicular access to the north and east of the scheme. There will be a number of pedestrian entrances along Airton Road and Greenhills Road which also provide access for emergency vehicles.
- In addition to all of the new facilities all other site services and works to enable the development of the site will also be provided including bins, ESB substations, boundary treatments and landscaping.
- Additional pedestrian crossing points and road improvements will also be provided along Greenhills Road and Airton Road.

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

Wastewater

Wastewater from the proposed development site will be directed to the existing public sewer.

Proposed Surface Water Drainage

The proposed development will be designed in accordance with the principles of Sustainable Drainage Systems (SuDS) as embodied in the recommendations of the Greater Dublin Strategic Drainage Study (GDSDS) and it will significantly reduce run-off rates and improve the storm water quality discharging to the public storm water system. All rain falling on the site will be dealt with using the SuDs strategy, as outlined in the Civil Engineering Infrastructure Report

prepared by Barrett Mahony Consulting Engineers. Surface water in the southern end of the site currently discharges to the Tymon Stream. The provision of SuDs on the site of the proposed development will intercept much of the flow to the Tymon Stream compared to current rates.

Figure 1 – Landscape masterplan and Site Plan by Mitchell Associates

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 2.5 hectares in area. It is located in Tallaght, approximately 8.2km south-west of Dublin City Centre, on the corner junction of where Airton Road meets the Greenhills Road. It is close to the Tallaght Institute of Technology, to the Tallaght Athletic Club and the Hibernian Industrial Estate. The site is surrounded by the urban areas of Tallaght and Greenhills. These areas mostly consist of mixed commercial, industrial, residential, education and amenity areas. Under the South Dublin County Council Development Plan 2016 – 20222, the site is zoned as Objective REGEN, i.e., to facilitate enterprise and / or residential-led regeneration.

Site location maps can be seen in Figures 2 and 3.

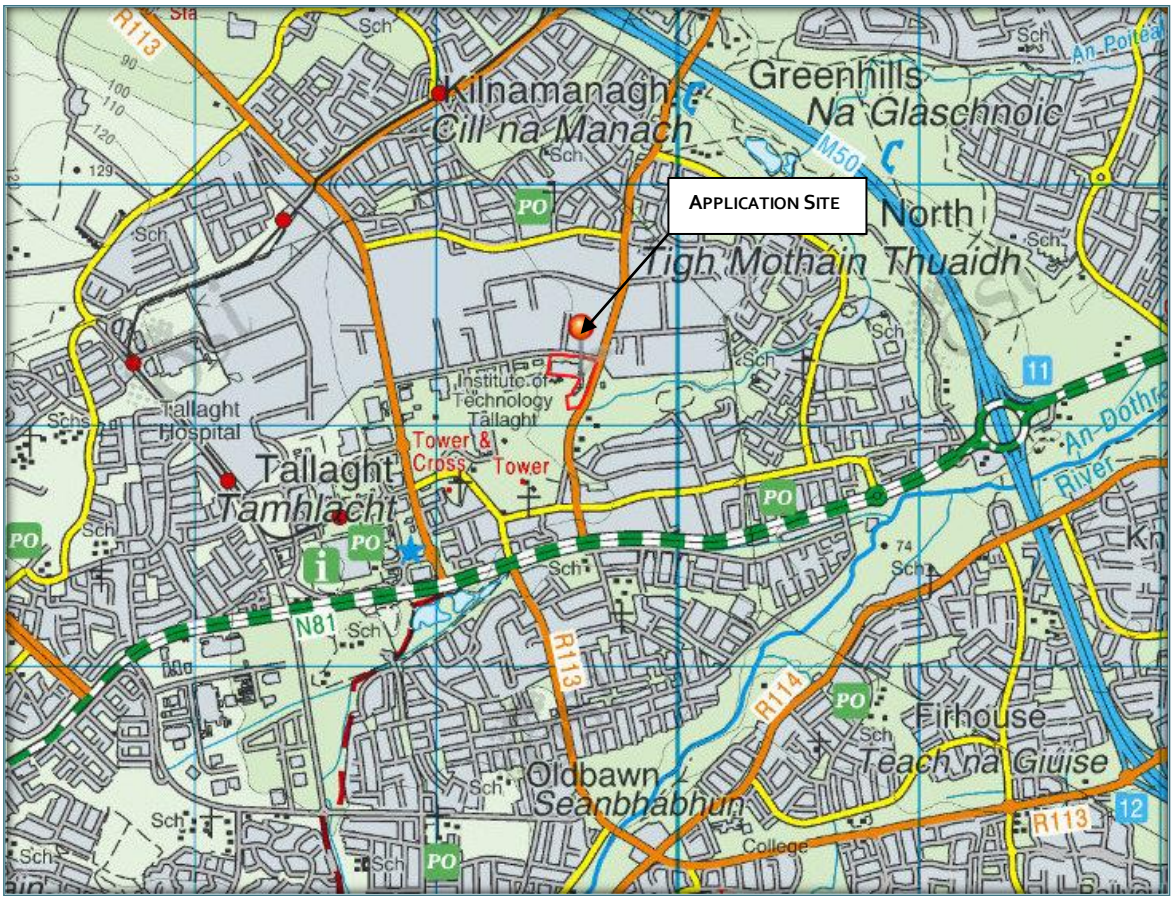

Figure 2 – Site Location Map

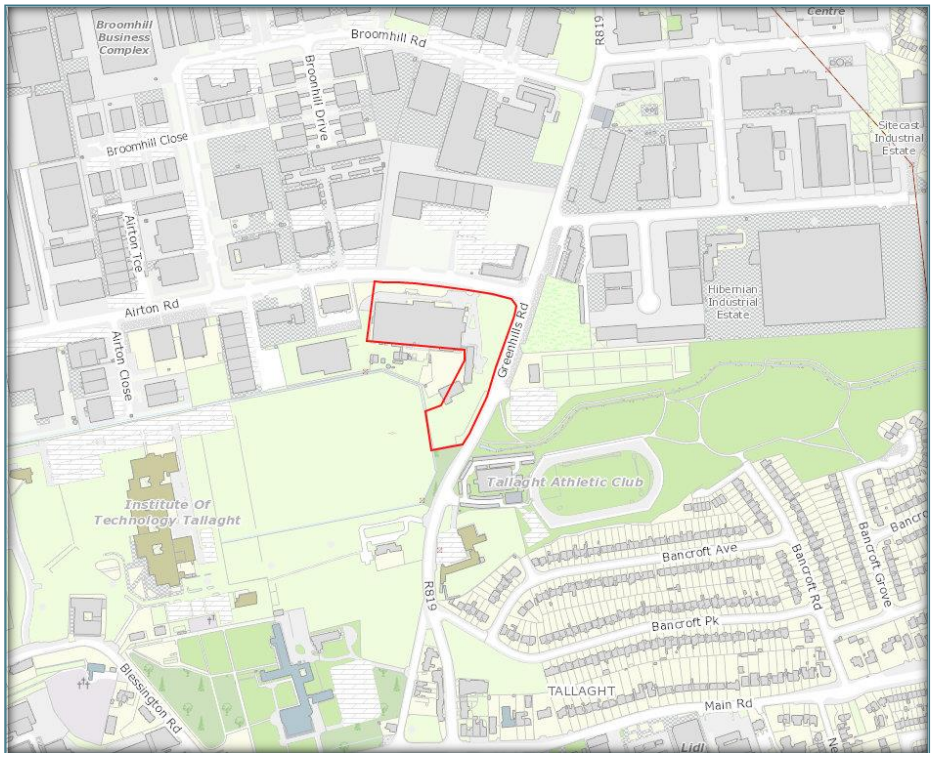

Figure 3 – Site Location Map. Application Site is Outlined in Red

Using up to date aerial photographs, an overview of the habitats surrounding the application site was assessed and noted. The lands are generally urban in nature and they consist mostly of buildings and artificial surfaces, amenity grasslands and gardens and scattered trees and parkland. An overview of these habitats 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 nine Natura 2000 sites within 15km of this proposed development. These sites are summarised in Table 3. 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 from Proposed Development	Qualifying Interests
Glenasmole Valley SAC 001209	3.9km south	• Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) • Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) • Petrifying springs with tufa formation (Cratoneurion)
Wicklow Mountains SAC 002122	6.3km south	• Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) • Natural dystrophic lakes and ponds • Northern Atlantic wet heaths with *Erica tetralix* • European dry heaths • Alpine and Boreal heaths • Calaminarian grasslands of the Violetalia calaminariae • Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) • Blanket bogs (* if active bog) • Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani • Calcareous rocky slopes with chasmophytic vegetation • Siliceous rocky slopes with chasmophytic vegetation • Old sessile oak woods with Ilex and Blechnum in the British Isles • *Lutra lutra* (Otter)

Wicklow Mountains SPA 004040	7.2km south	• Merlin (*Falco columbarius*) • Peregrine (*Falco peregrinus*)
South Dublin Bay / River Tolka Estuary SPA 004024	10km north-east	• Light-bellied Brent Goose (*Branta bernicla hrota)* • Oystercatcher (*Haematopus ostralegus*) • Ringed Plover (*Charadrius hiaticula*) • Grey Plover (*Pluvialis squatarola)* • Knot *(Calidris canutus)* • Sanderling *(Calidris alba)* • Dunlin *(Calidris alpina)* • Bar-tailed Godwit *(Limosa lapponica)* • Redshank *(Tringa totanus)* • Black-headed Gull *(Chroicocephalus ridibundus)* • Roseate Tern *(Sterna dougallii)* • Common Tern *(Sterna hirundo)* • Arctic Tern *(Sterna paradisaea)* • Wetland and Waterbirds
South Dublin Bay SAC 000201	10.4km east	• Mudflats and sandflats not covered by seawater at low tide • Annual vegetation of drift lines • Salicornia and other annuals colonising mud and sand • Embryonic shifting dunes
Rye Water Valley/Carton SAC 001398	11km north-west	• Petrifying springs with tufa formation (Cratoneurion) • *Vertigo angustior* (Narrow-mouthed Whorl Snail) • *Vertigo moulinsiana* (Desmoulin's Whorl Snail)
Knocksink Woods SAC 000725	13.1km south-west	• Petrifying springs with tufa formation (Cratoneurion)* • Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)*
North Bull Island SPA 004006	13.8km north-east	• Light-bellied Brent Goose (*Branta bernicla hrota)* • Shelduck (*Tadorna tadorna*) • Teal (*Anas crecca*) • Pintail (*Anas acuta*) • Shoveler (*Anas clypeata*) • Oystercatcher (*Haematopus ostralegus)* • Golden Plover (*Pluvialis apricaria*) • Grey Plover (*Pluvialis squatarola*) • Knot (*Calidris canutus*) • Sanderling (*Calidris alba*) • Dunlin (*Calidris alpina*)

		• Black-tailed Godwit (*Limosa limosa)* • Bar-tailed Godwit (*Limosa lapponica)* • Curlew (*Numenius arquata*) • Redshank (*Tringa totanus*) • Turnstone (*Arenaria interpres*) • Black-headed Gull (*Chroicocephalus ridibundus*) • Wetland and Waterbirds
North Dublin Bay SAC 000206	13.8km north-east	• Mudflats and sandflats not covered by seawater at low tide • Annual vegetation of drift lines • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows (Glauco-Puccinellietalia maritimae) • Mediterranean salt meadows (*Juncetalia maritimi*) • Embryonic shifting dunes • Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) • Fixed coastal dunes with herbaceous vegetation (grey dunes) • Humid dune slacks • *Petalophyllum ralfsii* (Petalwort)

Table 3 – 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 on Airton Road. This screening report concluded that the proposed development will have no impacts upon any of the Natura 2000 sites identified above.

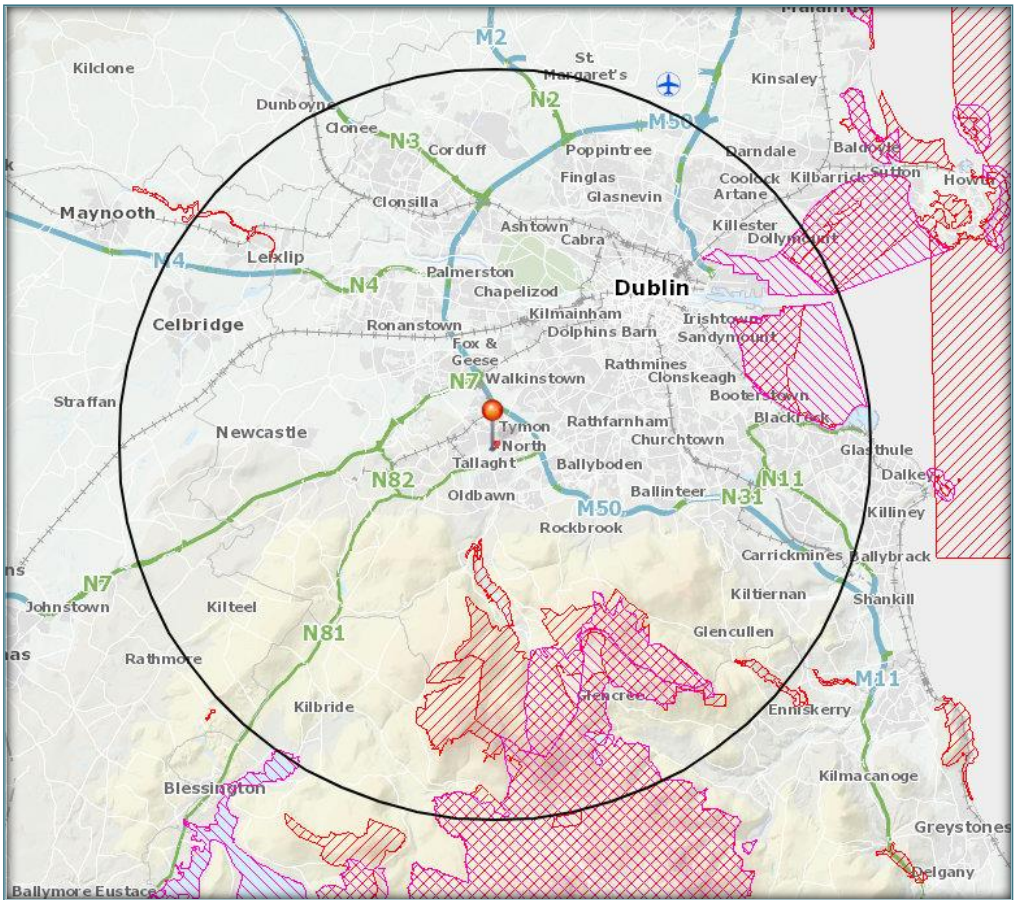

Figure 5 – Designated Sites within 15km of the Application Site (Pinned). SACs – Red Hatching, SPAs – Pink Hatching.

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 seventeen sites that have been designated as proposed Natural Heritage Areas. These are summarised in Table 4 and a map showing their locations relative to the application site is shown in Figure 6.

Site Name	Distance from Proposed Development
Grand Canal pNHA 002104	4.1km north
Liffey Valley pNHA 000128	6.6km north
Dodder Valley pNHA 000991	1.2km south-east
Royal Canal pNHA 002103	9.7km north
North Dublin Bay pNHA 000206	10.8km north-east
Poulaphouca Reservoir pNHA 000731	14.9km south-west
Fitzsimons Wood pNHA 001753	8.4km south-east
South Dublin Bay pNHA 000210	13.5km east
Glenasmole Valley pNHA 001209	3.7km south
Slade Of Saggart And Crooksling Glen pNHA 000211	6.5km south-west
Santry Demesne pNHA 000178	13.6km north-east
Dingle Glen pNHA 001207	13km south-east
Lugmore Glen pNHA 001212	4km south-west
Kilkeel Wood pNHA 001394	13km south-west
Glencree Valley pNHA 001755	12/7km south-east
Ballybetagh Bog pNHA 001202	12.5km south-east
Knocksink Wood pNHA 000725	12.9km south-east

Table 4 – Nationally Important Sites within 15km of the Proposed Development

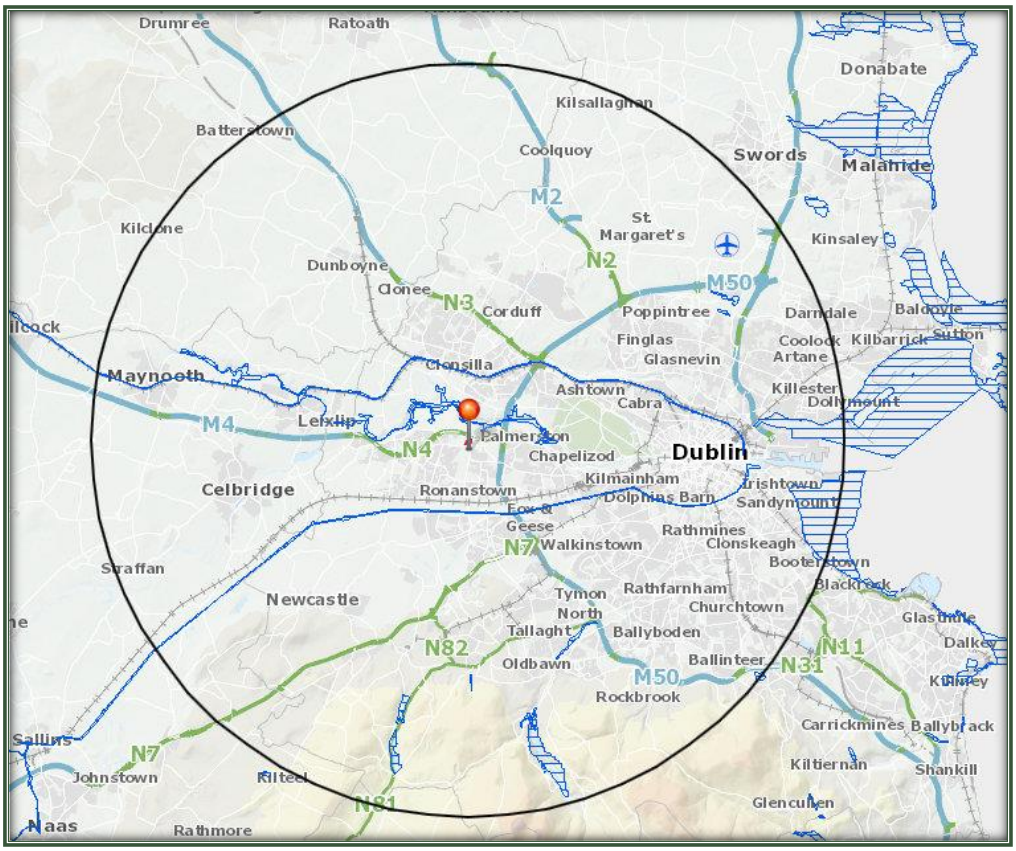

Figure 6 – The Proposed Application Site at Airton Road in Relation to proposed Natural Heritage Areas within 15km (Blue Cross Hatching)

4.3 FLORA

Habitats within the Study Area

No part of the 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 natural habitats within the study area are limited and mainly consist of buildings and artificial surfaces (BL3), recolonising bare ground (ED3) and dry meadows and grassy verges (GS2). All habitats are listed in Table 5 and are described in greater detail below, whilst a habitat map is illustrated in Figure 7. A full list of the plant species recorded from the study area is shown in Appendix I and photos of the site can be seen in Appendix II.

Habitat Name	Habitat Code (Fossit)
Buildings and Artificial Surfaces	BL3
Recolonising Bare Ground	ED3
Dry Meadows and Grassy Verges	GS2
Scattered Trees and Parkland (WD5)	WD5
Scrub	WS1
Treelines / Hedgerows	WL1 / WL2
Drainage Ditch	FW4

Table 5 – Habitats within the Application Site

Buildings and Artificial Surfaces (BL3)

This is the main habitat within the application site and it is comprised off the derelict and burnt out factory within the site, along with the access roads, footpaths and car-parking area. It is largely devoid of vegetation.

Evaluation*:* This habitat has no ecological or biodiversity value, although the old buildings do provide some nesting sites for migrant bird species such as swallows. Wooden structures at the back of the building are also a potential habitat for bats.

Recolonising Bare Ground (ED3)

This habitat is scattered as small and dispersed patches throughout the site., e.g., on the verges where the grassed habitats meet the footpaths and other built surfaces, and it also occurs along the edges of the existing buildings. The species recorded from here are typical ruderal species and include groundsel *Senecio vulgaris*, dandelion (*Taraxacum* sp.), willowherbs (*Epilobium* sp.), sow thistle (*Sonchus arvensis)*, buddleja *Buddleja davidii*, tutsan *Hypericum androsaemum*, herb

Robert *Geranium robertianum* and ribwort plantain *Plantago lanceolata*. In some area, plants have grown to become semi-mature shrubs (tutsan) and trees (silver birch).

Evaluation*:* This habitat is common on a local level and it has no biodiversity value, although some of the flowering plants offer value for pollinating insects such as hoverflies and bees.

Dry Meadows and Grassy Verges GS2

Fossit (2000) describes a dry meadow habitat as one which is rarely fertilised or grazed, and which is only mown once or twice a year. Due to intensive farming practices, this habitat is now rare and it is largely confined to the grassy verges of roadsides, on the margins of fields, on railway embankments, in churchyards and cemeteries and in some neglected fields or gardens. In the eastern and northern section of the site, there are areas of grassland which fall into this category. This habitat has largely developed since management of the site ceased. In 2007, an ecological survey of the site (Scott Cawley 2007) was carried out to accompany an EIA for a previous planning application on this site. This habitat assessment described the grassland at this time as amenity grassland (GA2). In the intervening twelve years, the lack of management has seen this amenity grassland develop into an unmanaged grassland habitat. The sward is high and grass species include cocksfoot *Dactylis glomerata*, fescues *Festuca* sp., meadow grasses *Poa* so, creeping bent *Agrostis stolonifera* and timothy grass *Phleum pratense*. Herbaceous plants were also common throughout the sward and species such as germander speedwell *Veronica chamaedrys*, tufted vetch *Vicia cracca*, meadow buttercup *Ranunculus acris*, red clover *Trifolium pratense*, sheep's sorrel *Rumex acetosella*, hogweed *Heracleum sphondylium* and spear thistle *Cirsium vulgare* were common. Cowslips *Primula veris* were occasional.

Evaluation*:* This habitat is of limited to moderate biodiversity value on a local level. However, it should be noted that cowslips are no longer widespread in the greater Dublin area. The flowering plants also provide a source of nectar for local populations of pollinating insects.

Scattered Trees and Parkland (WD5)

Throughout the site, there are a number of scattered trees and shrubs. Most of these are non-native and consist of species such as lilac *Syringia vulgaris*, Pyracanthia, buddleia *Buddleia davidii*, tutsan *Hypericum androsaemum* and Rhododendron. There are some native immature species scattered throughout the site, including ash *Fraxinus excelsior* and silver birch *Betula pendula.* There is a line of trees just outside of the application site, along Airton Road. The dominant tree species along this line is Norway maple *Acer platanoides,* whitebeam *Sorbus* sp., and sycamore *Acer pseudoplantatus.*

Evaluation*:* This habitat is of limited biodiversity value. Some of the trees and shrubs would provide a source of pollen for insects, whilst they also provide suitable nesting and perching sites for small passerine birds.

Scrub (WS1)

Fossit (2000) describes scrub as being an area that is dominated by at least 50% cover of shrubs, stunted trees or bramble. Scrub frequently develops as a precursor to woodlands and it is often found in inaccessible locations.

There is an area of scrub behind the old factory building, near to the southern boundary of the application site. This area of scrub consists of immature birch *Betula*, poplar *Populus* and buddleia.

Evaluation*:* This habitat is of limited biodiversity value. Some of the trees and shrubs would provide a source of pollen for insects, whilst they also provide suitable nesting and perching sites for small passerine birds.

Hedgerow (WL1) / Treelines (WL2)

Fossit defines the treeline (WL2) as a narrow row or single line of trees that is greater that 5m in height that typically occurs along field or property boundaries, whilst a hedgerow (WL1) is described as a linear feature less than 5m in height. Often, these habitats grade into and out of each other along liner boundaries, making it difficult to map accurately or clearly on a habitat map.

Within the application site, there is a hedgerow along the eastern boundary of the application site, along the Greenhills Road. This hedgerow is dense, and it has a good mixture of native species including hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, hazel *Corylus avellana*, ash *Fraxinus excelsior* and dog rose *Rosa canina*.

There is a treeline dominated by tall specimens of black poplar *Populus nigra* along the southern and south-western site boundaries. Other species present here include weeping willow *Salix x pendula*. Suckers from the poplar are encroaching onto the site, coming up through the tarmacadam of the existing car park.

Evaluation*:* This habitat is of moderate biodiversity value, as it provides an unbroken ecological corridor in a relatively urban area that is largely devoid of these habitats. The trees would provide suitable nesting and perching sites for small passerine birds, whilst small mammals might also use the shelter provided by the trees.

Arboricultural Assessment

A Tree Survey report has been prepared to accompany this application (Tree Management Services). Within the site area, the individual trees were assessed, described and plotted. This report classified these trees into four different tree condition categories. These categories and the numbers of trees within the application site falling into these categories are listed below.

- Category A: Trees of high value and quality
- Category B: Trees of moderate value and quality
- Category C: Trees of low quality and value
- Category U: Trees of very low value which should be removed

A total of 47 trees on the site were assessed as part of this survey. A summary of the tree condition categories of these trees is presented below.

- Category A: 34%
- Category B: 38%
- Category C: 15%
- Category U: 13%

Drainage Ditch (FW4)

There is a watercourse (drainage ditch) flowing along the southern and western boundary of the application site. This ditch is heavily shaded and overgrown by the poplar treeline (described above). Aquatic and riparian vegetation in this stream is limited.

Evaluation*:* Although this ditch is heavily shaded and more than likely polluted, all watercourses should be considered of ecological value.

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 (O0928) of the proposed application sites. No protected species were found within the application site.

Invasive Species

No non-native invasive species that are listed in Schedule Three of the Birds and Habitats Regulations (2011) were recorded from within the study area. Particular attention was paid to the potential presence of Japanese knotweed *Fallopia japonica*, which is very common throughout the Greater Dublin Area.

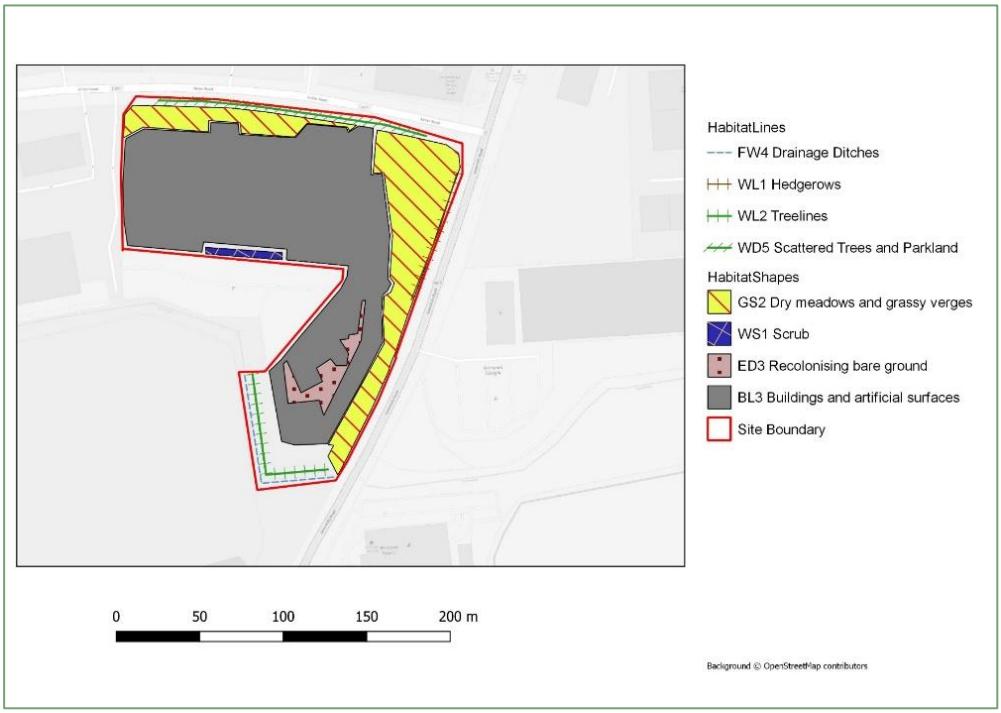

Figure 7 – Map Showing the Main Habitats within the Site

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 (O02) of this proposed application site:

- Badger *Meles meles**
- European Hedgehog *Erinaceus europaeus*
- Otter *Lutra lutra*
- Irish Hare *Lepus timidus subsp. Hibernicus*
- Irish stoat *Mustela 24rmine subsp. 24uratus24n*
- Pine martin *Martes martes*
- Red squirrel *Sciurus vulgaris*

- Red deer *Cervus elaphus*
- Daubenton's bat *Myotis 25uratus25niid*
- Natterer's bat *Myotis nattereri*
- Pygmy shrew *Sorex minutes*
- Pipistrelle *Pipistrellus pipistrellus sensu lato*
- Lesser Noctule *Nyctalus leisleri*
- Soprano *Pipistrelle Pipistrellus pygmaeus*
- Brown long-eared bat *Plecotus auritus*

** Relates to presence with the 1km square of this development, i.e., the northern section of this site is within O0635. This record for the badger pertains to the habitats of the parklands and amenity areas approximately 300m east of the site.*

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 are no suitable habitats for the otter within or adjacent to the application site.

Bats

An evaluation of the lands within the application site for potential bat roosts was carried out by Donna Mullen and Brian Keeley on May 14th 2019. This survey was carried out in accordance with relevant guidelines. The inside of the existing buildings were checked and the site was monitored using two EM3 time expansion detectors and one SM2 detector which were placed overnight in the south western part of the building by the wooden panelling.

It was determined that as much of the buildings are in poor repair, that they offer little by way of suitable habitat for bats. However, at the rear of the building there is some timber panelling with suitable cracks and crevices. This was determined as suitable for bats, and both common pipistrelles and Leisler's bats were seen feeding in this area. Soprano pipistrelles were also recorded in the south-western part of the site.

Overall, based on previous surveys of lands close to the application site in Tallaght IT, it was determined that the most likely species to occur roost / commute within the application site include:

- Pipistrelle *Pipistrellus pipistrellus sensu lato*
- Soprano *Pipistrelle Pipistrellus pygmaeus*
- Leisler's bat *Nyctalus leisleri*

Birds

Few species were observed or heard on the day. Traffic noise made it difficult to hear any birds that were there. Those seen / heard included:

- Magpie *Pica pica*
- Swallow *Hirundo rustica*
- Jackdaw *Corvus monedula*
- Blackbird *Turdus merula*
- Pigeon *Columba livia domestica*
- Robin *Erithacus rubecula*

Amphibians, Reptiles and Invertebrates

No frogs *Rana temporaria,* smooth newts *Lissotriton vulgaris* or viviparous lizards *Lacerta vivipara* were observed during the course of the survey. There are few habitats within the application site that are suitable for these species.

There were a range of aerial invertebrates recorded from the site during the survey, including the small white butterfly *Pieris rapae* and the common blue butterfly *Polyommatus Icarus.* Bee species observed included *Bombus lucorum, Bombus pascuorum* and *Bombus terrestris.*

4.5 AQUATIC ENVIRONMENT

Water Features and Quality

The application site lies within the Liffey and Dublin Bay Hydrometric Area and Catchment, the Dodder Sub-Catchment and the Poddle Sub-Basin. There is a small stream / drain occurring along the western and southern site boundaries. This watercourse is referred to by the EPA as the Tymon Stream (referred to as the River Poddle / Tymon throughout the remaining planning documents). It comes from the west and it flows past the site in an easterly direction. It flows through the amenity areas of Bancroft Park to the east of the site whereupon it flows in a westerly and then northerly direction. The EPA refer to it at this stage as the Poddle. This river continues its complex and altered journey through South suburban and urban Dublin, until its confluence with the River Liffey. Much of the later stages of the Poddle though south Dublin city is underground through culverts. The confluence of the Poddle and the Liffey is visible at low tide at a grated opening in the Liffey walls at Wellington Quay.

The EPA have not classified the ecological status of the Poddle River in any area. However, it is generally considered to be At Risk of not achieving good ecological status within the required time frame. Under the requirements of the Water Framework Directive, this is unsatisfactory, and all waterbodies must achieve good status by 2021.

The application site in relation to the course of the River Poddle is shown in Figure 8 (courtesy EPA maps / Bing Maps).

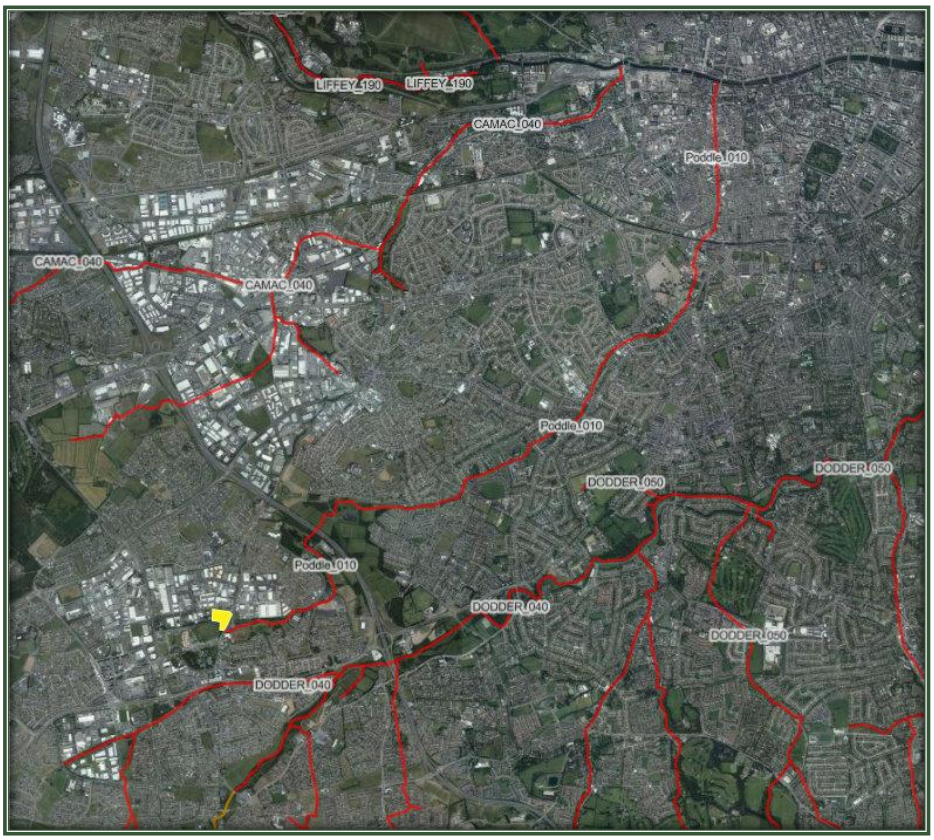

Figure 8 – The Proposed Application Site (Highlighted in Yellow) and the Course of the River Poddle (Highlighted in Red).

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 Airton Road is within 15km of nine sites designated under the Natura 2000 network. A screening report was completed for this proposed development as required under Article 6 (3) of the Habitats Directive. This report concluded that the proposed development would not have any impacts upon any site designated under the Natura 2000 network.

- The site is also within 15km of seventeen sites designated as Natural Heritage Areas (NHAs and pNHAs). There are no potential impacts upon these sites arising from the proposed development.

- Within the application site itself, biodiversity is generally of low to moderate value, and the site is characterised by buildings and artificial surfaces and old grassland habitats. There are some scattered trees in the site, along with a treeline dominated by black poplar. Bats potentially use the wooden timbers at the back of the site. The site has limited potential for birds and other mammals. The baseline noise and human activity level is very high.

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 corresponding associated ecological value, based on the NRA guidelines. It should be noted that this is the lowest rating provided in this evaluation, however habitats within this site would have no ecological value on any level.

Habitat	Rating	Criteria
Buildings and Artificial Surfaces Recolonising Bare Ground	Not Rated / No Ecological Value	Not rated
Dry Meadows and Grassy Verges Treelines Scattered Treelines	Local Importance (Lower Value)	Limited biodiversity value although may provide some small habitat opportunities for invertebrates and birds

Drainage Ditch (Tributary of the Poddle)	County Importance	Any watercourse needs to be considered on a county wide basis due to connectivity to other watercourses locally. The Poddle is a tributary of the River Liffey.

Table 6 – Ecological Features and their Evaluation

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 at Airton Road 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 concluded that the proposed development at Airton Road 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 Airton Road, Tallaght 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 of low biodiversity value. However, the loss and fragmentation of these habitats will reduce open habitats locally and it may also impact upon local populations of birds and small mammals as some nesting sites and ground cover habitats will be lost. Sources of nectar for local populations of pollinators will also be reduced.

- Impacts on pollinators – The grassland habitats of the site currently offer some resources for local pollinators. These habitats will be lost and fragmented during the construction of the development.

- 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. Bird nesting sites, including the loss of buildings for swallows, may also be lost. Bats also potentially roost in the timbers at the back of the building. Overall, the loss of the open land and any treelines/hedgerows may reduce the loss of nesting, roosting and foraging areas for some bird species.

- Pollution – The upper course of the River Poddle occurs along the western and southern site boundaries. The preparation and development of the site will will involve the excavation of soil and the pouring of concrete for foundations and other hard surfaces. This has the potential to generate run-off into local watercourses. If appropriate mitigation measures are not taken during the construction of the proposed development, then there is the possibility that water quality in this stream may be negatively impacted upon. Possible direct impacts include the pollution of the waters during construction with silt, oil, cement, hydraulic fluid etc. This would directly affect the habitat of protected species by reducing water quality. These substances would also have a toxic effect on the ecology of the water in general, directly affecting certain species and their food supplies. In addition, an increase in the siltation levels of local waterbodies could result in the smothering of fish eggs, an increase in the mortality rate in fishes of all ages, a reduction in

the amount of food available for fish and the creation of impediments to the movement of fish. Pollution of the water with hydrocarbons, cement and concrete during the construction phase of this proposed development could also have a significant negative effect on the fish and aquatic invertebrate populations.

5.4 OPERATIONAL PHASE

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

- Disturbance to local wildlife – Once operational, the development at Airton Road will facilitate new buildings, all of which are associated with human activity. This will deter wildlife from the site. However, if suitable habitats are provided within the site for birds and pollinators, this will encourage a greater baseline level of biodiversity within the site.

- 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 verges for wildlife would also be beneficial for local pollinators.

5.5 POTENTIAL CUMULATIVE IMPACTS

Cumulative impacts or effects are changes in the environment that result from numerous human-induced, 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 housing developments within the South Dublin County area. 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 Dublin City 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 Dublin City 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 and

the retention and protection of treelines, will provide local ecological corridors and networks that will reduce the overall cumulative impact of this development in the Dublin City area.

5.6 IMPACT SUMMARY

Overall, the impacts of the proposed development are summarised in Table 7, whilst Table 8 attempts to quantify these impacts in terms of magnitude, extent and likelihood *in the absence of any mitigation.*

Impact Description	Duration	Reversible?	Positive / Negative / Significance
Habitat Loss and Fragmentation (all phases)	Permanent	No	Neutral – Negative
Habitat Disturbance (all phase)	Permanent	No	Neutral – Negative
Pollution to Watercourses	None	N/A	Negative
Disturbance to Wildlife	Temporary	No	Negative
Landscaping	Permanent	No	Negative / Positive
Impacts on Designated Sites	None	N/A	Neutral
Cumulative Impacts	Permanent	No	Negative

Table 7 – Predicted Impacts

Impact Description	Magnitude and Extent	Likelihood
Habitat Loss, Disturbance and Fragmentation	~100% of habitats Loss of Treeline / Scattered Trees	Certain Probable
Pollution of Watercourse	Pollution during site works with silt, oil, cement etc	Possible
Disturbance to Wildlife	Loss of all badger commuting routes Loss of all bird nesting sites	Possible

	Loss of all bat habitats	
Landscaping	Introduction of Invasive / Non Native Species Use of Plants that are Beneficial for Wildlife	Possible Possible
Impacts on Designated Sites	None	Certain

Table 8 – Quantification of Impacts

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 techniques of SUDs (Sustainable urban Drainage Systems) should be applied to all hydrological engineering aspects of this proposed development.

- In accordance with the policies and objectives of the County Development Plan, the existing green infrastructure of the site, i.e., the existing treelines and hedgerows, should be incorporated into the development in so far as possible.

- Habitat fragmentation should be avoided where possible, especially in the treelines within the site. These areas should be cordoned off during all site preparation and construction activities on the site. There must be no dumping or storage of construction waste or machinery in these areas during construction.

- Any natural verges along treelines or hedgerows should be retained and managed appropriately for the benefit of wildlife. They should not be sprayed with herbicide and a low intensity mowing or strimming regime should be incorporated. This will benefit local pollinators.

- Tree removal should only take place outside of the bird nesting season and for the protection of bats, in late autumn.

- Tree removal must only occur under guidance of a consultant arborist and with regard to the tree constraints plan that has been prepared for the site.

- It is vital that there is no deterioration in water quality in any watercourse in the vicinity of the development. This will protect both habitats and species that are sensitive to pollution. Therefore, strict controls of erosion, sediment generation and other pollutants associated with the construction process should be implemented, including the provision of attenuation measures, silt traps or geotextile curtains to reduce and intercept sediment release into any local watercourses.

- 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.

- Stockpile areas for sands and gravel should be kept to a minimum size, well away from the drains and watercourses.

- All waste associated with the development should be disposed of in an environmentally friendly manner. Registered contractors should only be used.

- The recommendations in the accompanying bat report should be followed, including:

    - ✓ The wooden panels at the rear of the building should be removed by hand prior to any demolition of the building. This should be supervised by an ecologist.

    - ✓ Two 2F and Two 1FF Schwegler bat boxes with built in timber panels should be distributed throughout the site. These should be paced on trees or posts, at least 3m high with a clear drop below (as bats need to drop to start their flight). They should be placed in a dark area of the site.

    - ✓ To mitigate against the loss of food sources for local bat populations, native species should be used when landscaping with trees and shrubs.

    - ✓ If bats are discovered at any stage of the development, building work should cease and a bat expert should be consulted immediately.

    - ✓ If the building is not demolished within 12 months, it should be resurveyed for bats prior to demolition.

6.2 OPERATIONAL PHASE

- The future landscaping of the site should adhere to the following recommendations:

    - o Only native trees and shrubs should be used in the landscaping.

    - o A proportion of the grass areas should be maintained through methods that mimic traditional grassland management (low level grazing and mowing regimes). This will benefit local pollinators. Locally sourced wildflower seed would also be beneficial;

    - o When planting flowers, shrubs and trees native species should be used, ideally from a local source;

- Allow some areas to go 'wild' where bramble and scrub, etc. can develop;
- Garden plants that have the potential to become invasive must be avoided;
- Water features, e.g., attenuation ponds, could be incorporated into the development as additional wildlife features.

6.3 DO NOTHING SCENARIO

In the absence of the development, some trees and habitats on site may further mature to provide greater suitability for bats, inertebrates and other breeding birds. Without site management, grassland habitats on the site are likely to succeed into a scrub habitat, which would also provide additional nesting and feeding sites for small birds.

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. Potential bat habitats could be lost and bats could be directly impacted upon through habitat loss and disturbance. Pollution of the River Poddle could occur without appropriate mitigation whilst further opportunities for ecological enhancement within the site following development would be lost.

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. However, any bat boxes that are erected within the site should be monitored for bat usage.

6.6 DIFFICULTIES IN COMPILING INFORMATION

All surveys were carried out at an appropriate time of the year and there were no difficulties present in the compiling of information for this report.

6.7 RESIDUAL IMPACTS AND CONCLUSIONS

With the recommended mitigation measures, it can be concluded that the proposed development at Airton Road, Tallaght, Dublin 24 will have a negative to 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.

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Appendix I: SPECIES LIST

Common Name	Scientific Name
Ash	*Fraxinus excelsior*
Autumn hawkbit	*Scorzoneroides autumnalis*
Barberry	*Berberis*
Black medick	*Medicago lupulina*
Bramble	*Rubus fruticosus agg.*
Broadleaved Dock	*Rumex obtusifolius*
Butterfly bush	*Budleia*
Cat's ear	*Hypochaeris radicata*
Cleavers	*Galium aparine*
Cock's-foot	*Dactylis glomerata*
Coltsfoot	*Tussilago farfara*
Common chickweed	*Stellaria media*
Cow parsley	*Anthriscus sylvestris*
Cowslip	*Primula veris*
Common ragwort	*Senecio jacobaea*
Bearberry	*Cotoneaster*
Blackthorn	*Prunus spinosa*
Creeping buttercup	*Ranunculus repens*
Creeping cinquefoil	*Potentilla* reptans
Creeping thistle	*Cirsium arvense*
Cuckoo flower	*Cardamine pratensis*
Daisy	*Bellis perennis*
Dandelion	*Taraxacum officinale*
Dog rose	*Rosa canina*
Dogwood	*Cornus sp.*
Firethorn	*Pyracantha*
Germander speedwell	*Veronica chamaedrys*
Groundsel	*Senecio vulgaris*
Hairy bittercress	*Cardamine hirsuta*
Hawthorn	*Crategus monogyna*
Hazel	*Corylus avellana*
Herb Robert	*Geranium robertianum*
Hogweed	*Heracleum sphondylium*
Honeysuckle (ornamental)	*Lonicera periclymenum*
Ivy	*Hedera helix*
Lilac	*Syringa vulgaris*
Meadow buttercup	*Ranunculus acris*
Meadow grasses	*40Poa sp*
Mouse ear	*Cerastium fontanum*
Nettle	*Urtica dioica*
Norway maple	*Acer platanoides*
Oak	*Quercus sp*
Red clover	*Trifolium pratense*
Red fescue	*Festuca rubra.*
Rhododendron	*Rhododendron*
Rye grasses	*40Lolium sp.*
Ribwort plantain	*Pantago lanceolate*
Self-heal	*Prunella vulgaris*
Sheep's sorrel	*Rumex acetosella*
Silver birch	*Betula pendula*
Smooth sow thistle	*Sonchus oleraceus*
Spear thistle	*Cirsium vulgare*
Sycamore	*Acer pseudoplatanus*
Timothy grass	*Phleum pratense*

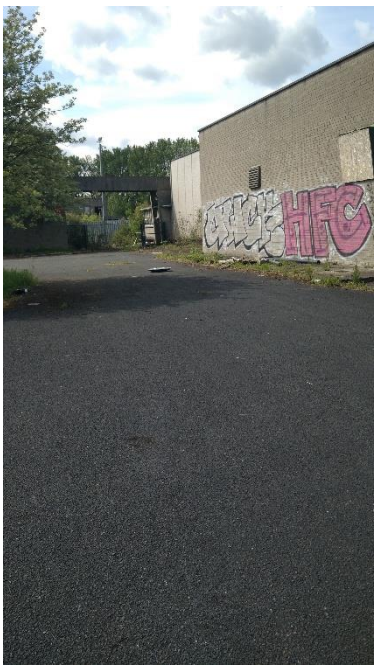
Tufted vetch	*Vicia cracca*
Tutsan	*Hypericum*
Whitebeam	*Sorbus sp*
White clover	*Trifolium repens*
Weeping willow	*Salix babylonica*
Willow (Sally)	*Salix cinerea*
Willowherb	*Ebilobium sp*
Vetches	*Vicia sp*
Vibernum	*Vibernum*
Yarrow	*Achillea millefolium*
Yorkshire fog	*Holcus lanatus*

APPENDIX II – PHOTOGRAPHS

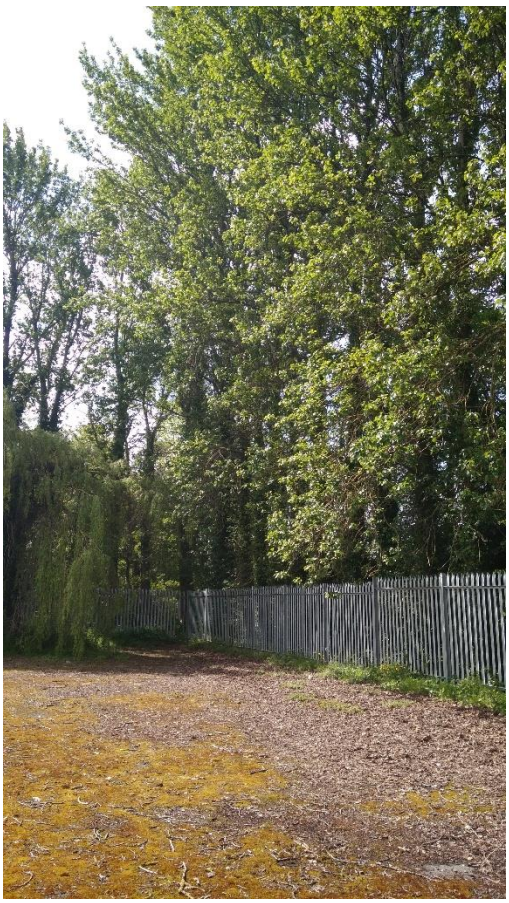
Buildings and Surfaces to the West of the Site

Fence and Scattered Trees at the Front of the Site

Grassland Habitat Within the Site



The Existing Building on the Eastern Side of the Site



Black Poplar Treeline

Driveway and Grassy Verge Habitat