
Ecological Impact Assessment

Proposed residential development at
Collins Avenue, Whitehall, Dublin 9

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Executive Summary

This Ecological Impact Assessment has been prepared by NM Ecology Ltd on behalf of Dublin City Council (the applicant), as part of a planning application for a site at Collins Avenue in Whitehall, Dublin 9. The proposed development will involve the clearance of the Site and the construction of 83 new residential units. The aim of this report is to identify, quantify and evaluate the impacts of the proposed development on ecosystems and their components, including designated sites, habitats, flora and fauna.

The Site is not within or adjacent to any designated sites. Potential indirect impacts on designated sites were considered within a 5 km radius, but no potential pathways for indirect impacts were identified. A *Screening for Appropriate Assessment* report accompanies this application.

The main habitat within the Site is dry meadow, with smaller areas of spoil and bare ground, and short sections of treeline and drainage ditch. All habitats are of Negligible ecological importance. No protected plants or problematic invasive species (e.g. Japanese knotweed) were recorded.

The Site may be used by common bird species, but it is highly unlikely to be used by any rare species. It is also highly unlikely to be used by terrestrial mammals or bats due to the lack of cover and the high levels of artificial lighting in the area.

Therefore, no important ecological features were identified within the Site, and there is no risk of negative ecological impacts. Some potential ecological enhancements are proposed, including the planting of native plant species (to benefit pollinators and birds) and the provision of bird boxes. If the ecological enhancement measures can be implemented, it may be possible to have a positive effect on local biodiversity.

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1 Introduction

1.1 Assessment brief

The aim of this Ecological Impact Assessment (EclA) is to identify, quantify and evaluate the impacts of the proposed development on ecosystems and their components, including designated sites, habitats, flora and fauna. It has been prepared in accordance with the *Guidelines for Ecological Impact Assessment in the UK and Ireland (2019)*, which is the primary resources used by members of the Chartered Institute of Ecology and Environmental Management (CIEEM).

The purpose of this document is to:

- Provide an objective and transparent assessment of the potential ecological impacts of the proposed development for all interested parties, including planning authorities and the general public
- Facilitate objective and transparent determination of the consequences of the development in terms of national, regional and local policies relevant to ecology
- Propose the steps will be taken to adhere to legal requirements relating to designated sites and legally protected species (CIEEM 2019).

Although the above guidelines provide a framework for EclA, many processes rely on the professional judgement of an ecologist, including survey design, the valuation of ecological features, and the characterisation of impacts. An outline of the author's experience, training and accreditation is provided in the following section, which support his competency to make such judgements.

1.2 Statement of authority

All surveying and reporting was carried out by Nick Marchant, the principal ecologist of NM Ecology Ltd. He has thirteen years of professional experience, including ten years as an ecological consultant, one year as a local authority biodiversity officer, and two years managing an NGO in Indonesia. He provides ecological assessments for developments throughout Ireland and Northern Ireland, including wind farms, infrastructural projects (water pipelines, greenways, etc.), and a range of residential and commercial developments.

He has an MSc in Ecosystem Conservation and Landscape Management from NUI Galway and a BSc in Environmental Science from Queens University Belfast. He is a member of the Chartered Institute of Ecology and Environmental Management, and operates in accordance with their code of professional conduct.

2 Methods

2.1 Scoping

The objective of this assessment is to identify any ecological features that may pose a constraint to the proposed development. It involves the following steps:

- Identification of designated sites within an appropriate zone of influence
- A walkover survey incorporating the following elements:
 - Classification and mapping of habitats
 - A search for rare / protected flora, and for problematic non-native plant species (e.g. Japanese Knotweed)
 - A search for field signs of rare or protected fauna (e.g. badgers), and habitat suitability assessments for species that are secretive, nocturnal or seasonal
- Valuation of ecological features, review of legal considerations, and selection of important ecological features
- Assessment of impacts on important ecological features and development of appropriate mitigation strategies

2.2 Data collection and walkover survey

A desk-based scoping study was carried out using data from the following sources:

- Plans and specifications for the proposed development
- Bedrock, soil, subsoil, ground water and surface water maps from the Geological Survey of Ireland webmapping service (www.gsi.ie/mapping.htm), the National Biodiversity Data Centre (<http://maps.biodiversityireland.ie/>), and the Environmental Protection Agency web viewer (<http://gis.epa.ie/Envision/>)
- Maps and details of designated sites from www.npws.ie
- Biological records from the National Biodiversity Data Centre online mapping service
- The *Dublin City Development Plan 2016 - 2022*, and details of permitted or proposed developments from the local authority's online planning records

The following resources were used for the walkover surveys:

- Habitat surveys were carried out in accordance with the *Best Practice Guidance for Habitat Survey and Mapping* (Smith et al 2011), and using the classification system of *A Guide to the Habitats of Ireland* (Fossitt 2000)
- Flora were identified using *Webb's An Irish Flora* (8th edition, Parnell & Curtis 2012), *Grasses, Sedges Rushes and Ferns of the British Isles and northwestern Europe* (Rose 1989) and *The Vegetation Key to the British Flora* (Poland & Clement 2009). Nomenclature follows the plant crib of the Botanical Society of the British Isles (BSBI 2007). The abundance and extent of species is described using the DAFOR scale (Dominant, Abundant, Frequent, Occasional, Rare)

- Fauna surveys followed the methods outlined in the *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes* (NRA 2006), with reference to other species-specific methods as appropriate.

Desktop data from internet resources was accessed between April and June 2021, and a site inspection was carried out on 29th April 2021. The survey was carried out within the boundaries of the Site, and adjacent lands were inspected visually within a 10 – 20 m buffer.

2.3 Valuation of ecological features

Based on the information collected during desktop and walkover surveys, the ecologist assigns an ecological importance to each feature based on its conservation status at different geographical scales (Table 1). For example, a site may be of national ecological importance for a given species if it supports a significant proportion (e.g. 5%) of the total national population of that species.

Table 1: The six-level ecological valuation scheme used in the CIEEM guidelines (2019)

Ecological value	Geographical scale of importance
International	International or European scale
National	The Republic of Ireland or the island of Ireland
Regional	Leinster, and/or the east of Ireland
County	County Dublin or Dublin City
Local	Dublin 9
Negligible	None, the feature is common and widespread

It is accepted that any development will have an impact on the receiving environment, but the significance of the impact will depend on the importance of the ecological features that would be affected. The following is outlined in the CIEEM guidelines: *“one of the key challenges in an EclA is to decide which ecological features (habitats, species, ecosystems and their functions/processes) are important and should be subject to detailed assessment. Such ecological features will be those that are considered to be important and potentially affected by the project. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to impacts from the development, and that will remain viable and sustainable.”*

For the purposes of this report we have only assessed impacts on ecological features that are of local importance or higher (refer to Table 1), or those that receive legal protection. These features are termed ‘important ecological features’ and are listed in Section 4.6. Impacts on features of negligible ecological importance (e.g. amenity grasslands) are not considered to be significant, so they are not included in the impact assessment.

2.4 Ecological Impact Assessment

Potential direct, indirect or cumulative impacts on ecological features can be described in relation to their magnitude, extent, duration, reversibility and timing/frequency, as outlined in the CIEEM (2019) guidelines. Depending on the type of impact and the sensitivities of the important ecological feature, the ecologist may determine that the impact would have a 'significant effect'. The following definitions are provided in the CIEEM guidelines: "A significant effect is simply an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project". "For the purpose of EclA, a 'significant negative effect' is an effect that undermines biodiversity conservation objectives for 'important ecological features', or for biodiversity in general.". Where significant impacts are identified, measures will be taken to avoid, minimise or compensate for impacts (where possible). Based on these measures, any residual impacts are then described.

3 Development proposals

3.1 Characteristics of the proposed development

The proposed development will consist of 83 no. residential units, comprising duplex and apartments of up to three bedrooms. The primary access point will be from Collins Avenue, and it will lead to paved internal roads and parking spaces. Communal outdoor space will be provided.

Foul water will be discharged to a local authority foul sewer on High Park and conveyed to the Ringsend Waste Water Treatment Works. Surface water runoff from roofs and paved surfaces will be discharged to a storm sewer on Collins Avenue, from which it will subsequently be discharged to a local watercourse.

3.2 Other developments in the area (potential in-combination effects)

The Site is in a suburban setting. It is included in zone Z12: 'Institutional Land (Future Development Potential)' of the *Dublin City Council Development Plan 2016 – 2022*, for which the planning objective is "To ensure that existing environmental amenities are protected in the predominantly residential future use of these lands". Most surrounding land is zoned for residential use, and has already been developed. Therefore, it is unlikely that the area will be subject to substantial development pressure in the near future.

Live and recently approved planning applications in the vicinity of the Site were reviewed on the online planning records of Dublin City Council (DCC). Permission was granted in 2011 for a large development comprising 402 no. apartments, a creche and commercial units (planning reference 3269/10, amended by 3405/19 and 3766/20) at a location immediately to the south of the Site. At the time of the site inspection in April 2021, the construction of

the development had recently commenced. Two recent applications were also identified at the adjacent sports grounds: approval for the installation of floodlights (4190/18) and a live application for a sports skills wall (2536/21).

With these exceptions, all other nearby applications were for small-scale works such as residential modifications / extensions, or changes of use.

4 The Receiving Environment

4.1 Environmental setting

Site location and surroundings

The Site is located in a suburban setting in Whitehall, Dublin 9. It currently consists of dry meadow / unmanaged grassland, and a regularly-disturbed area used for storage of building materials.

The northern boundary is formed by Collins Avenue, the western boundary by the N1 road, and the eastern boundary by the Whitehall GAA pitch. Land to the south also currently consists of dry meadow, but this area will soon be cleared and developed (refer to Section 3.2). The broader surroundings consist mainly of housing estates and community facilities. The Dublin Port Tunnel passes directly underneath the Site.

History of the site

Between 2001 and 2006 the Site and surrounding area (including the GAA pitch and dry meadow to the south of the Site) formed one of the main site compounds for the construction of the Dublin Port Tunnel. All areas were cleared and surfaced in gravel. After the completion of construction works in 2006, the Site continued to be used as a construction compound for various other developments, including the adjacent GAA pitch. Historical aerial photography on Google Earth shows that the Site was unvegetated and disturbed until at least 2013. Since 2016, the northern part of the Site continues to be used for temporary storage (and thus consisted of bare earth and/or gravel), whereas activity ceased in the southern part of the Site, allowing it to be colonised by vegetation.

Geology and soils

The Site is underlain by dark limestone and shale, which is a locally-important aquifer. Due to the history of disturbance at the Site (see above), all subsoils and soils are made ground.

Hydrology

There are no watercourses in the vicinity of the Site. The closest is the River Tolka, which is approx. 1.6 km to the south-west. Considering the distances involved, it is concluded that the Site has no relationship with this or any other watercourse.

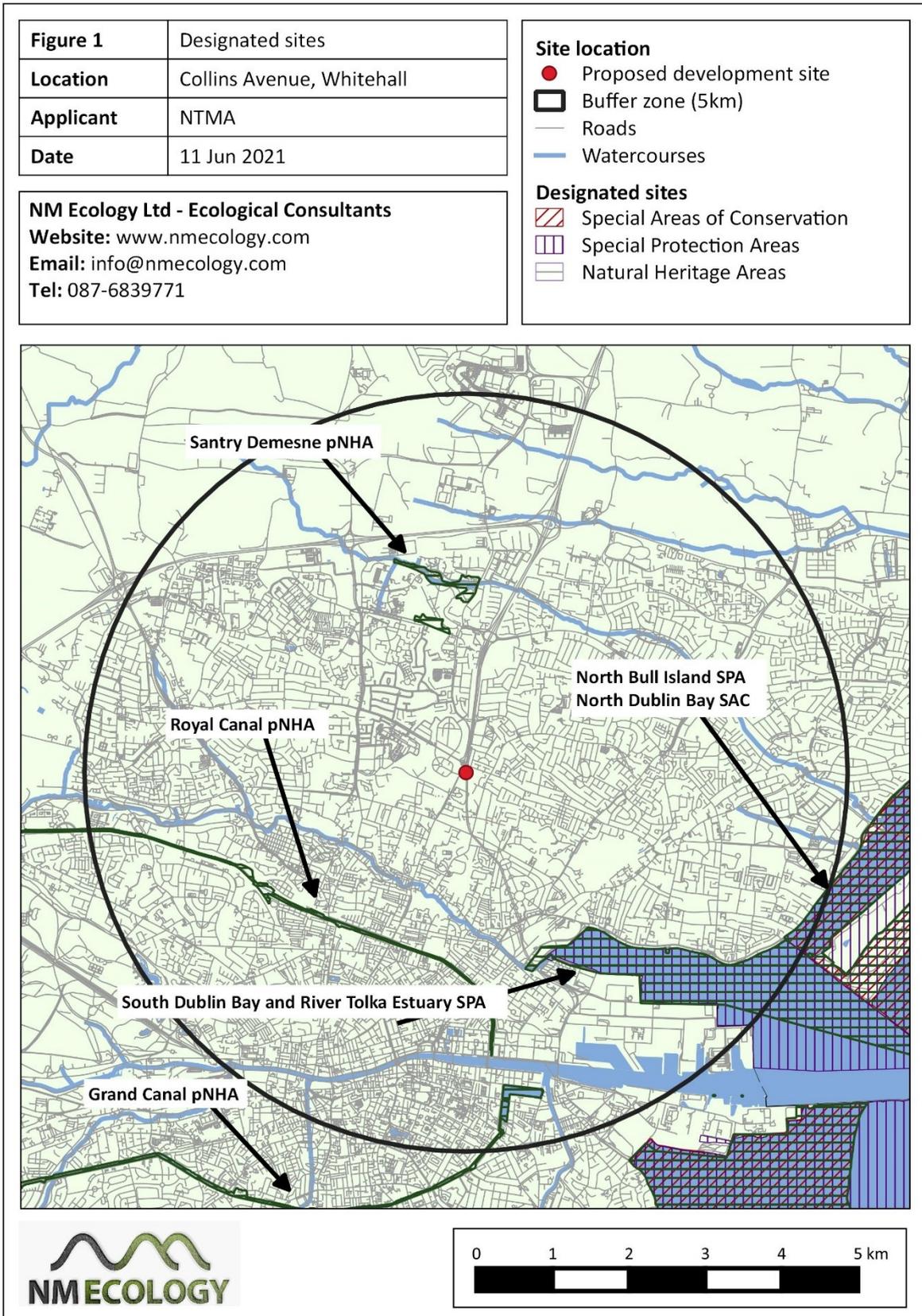
4.2 Designated sites

The proposed development is not located within or adjacent to any designated sites. Potential indirect impacts were considered within a potential zone of influence of 5km¹. Their locations are shown in Figure 1, and details are provided in Table 2.

Table 2: Designated sites within 5 km of the Site

Site Name	Distance	Reasons for designation
Santry Demesne pNHA (178)	1.8 km north	Former demesne woodland which contains a protected plant species: Hairy St-John's Wort
Royal Canal pNHA (site code 2103)	2.4 km south-west	Extensive freshwater feature of value to a range of biodiversity, and with value as an ecological corridor
South Dublin Bay and River Tolka Estuary SPA (4024)	2.6 km south-east	Habitats: tidal / coastal wetlands Special conservation interests: light-bellied brent goose, oystercatcher, ringed plover, grey plover, knot, sanderling, dunlin, bar-tailed godwit, redshank, black-headed gull (over-wintering populations), arctic tern, roseate tern (passage migrants), and common tern (breeding populations)
Grand Canal pNHA (2104)	4.1 km south	Extensive freshwater feature of value to a range of biodiversity, and with value as an ecological corridor
North Dublin Bay SAC, pNHA (206)	4.7 km south-east	Annex I habitats: inter-tidal mudflats / sandflats (including patches of <i>Salicornia</i> and other annuals), <i>Spartina</i> swards, salt marshes, annual vegetation of drift lines, embryonic shifting dunes, white dunes, grey dunes, dune slacks Annex II species: petalwort <i>Petalophyllum ralfsii</i>
North Bull Island SPA (4006)	4.7 km south-east	Habitats: tidal / coastal wetlands Special conservation interests: light-bellied brent goose, shelduck, teal, pintail, shoveler, oystercatcher, golden plover, knot, sanderling, dunlin, black-tailed godwit, bar-tailed godwit, curlew, redshank, turnstone, black-headed gull (all are over-wintering populations)

¹ Considered the moderate scale of the proposed development and its suburban setting, we considered 5 km to be a proportionate zone of influence.



Potential pathways for indirect impacts on designated sites

Indirect impacts can occur if there is a viable pathway between the source (the Site) and the receptor (the habitats and species for which a site has been designated). The most common pathway for impacts is surface water, e.g. if a pollutant is washed into a river and carried downstream into a designated site. Other potential pathways are groundwater, air (e.g. airborne dust or sound waves), or land (e.g. flow of liquids, vibration). The zone of effect for hydrological impacts can be several kilometres, but for air and land it is rarely more than one hundred metres.

As there are no watercourses in the vicinity of the Site, there is no possibility of a surface water pathway to any designated sites. As the closest designated site is 1.8 km from the Site, there is no possibility of indirect impacts via groundwater. Therefore, there are no potential pathways to any of the designated sites in Table 2.

4.3 Phase 1 Habitat Survey

Habitats within the Site were classified using *A Guide to Habitats in Ireland* (Fossitt 2000). A habitat map is not provided, as the extent of habitat can clearly be seen on aerial photographs of the Site.

Dry meadow (GS2)

This habitat has formed in the south of the Site in areas that have not been disturbed for a number of years. Abundant species include Yorkshire-fog *Holcus lanatus*, perennial rye-grass *Lolium perenne*, common bent *Agrostis capillaris* and white clover *Trifolium repens*, and frequent species include false oat-grass *Arrhenatherum elatius*, ribwort plantain *Plantago lanceolata*, cock's-foot *Dactylis glomerata* and dandelion *Taraxacum officinale*. Hard-rush *Juncus inflexus* is locally abundant. Occasional species include bush vetch *Vicia sepium*, common mouse-ear *Cerastium fontanum*, common ragwort *Senecio jacobaea*, broad-leaved dock *Rumex obtusifolius*, meadow buttercup *Ranunculus acris* and creeping buttercup *Ranunculus repens*. Rare species (in the context of the DAFOR scale) include nipplewort *Lapsana communis* and pendulous sedge *Carex pendula*. There are also some saplings of willow *Salix* cf. *cinerea* and alder *Alnus glutinosa* of up to 3 m height scattered through the grassland. There is some bramble *Rubus fruticosus*, nettle *Urtica dioica*, butterfly-bush *Buddleja davidii* and colt's-foot *Tussilago farfara* alongside walls on the northern and western boundaries of the Site. There is also a patch of winter heliotrope *Petasites fragrans* in the south-western corner of the Site.

There is a separate patch of dry meadow in the north-west of the Site, which appears to have been cleared and recolonised more recently. It has abundant black medick *Medicago lupulina*, false oat-grass and creeping bent *Agrostis stolonifera*, frequent cock's-foot and herb-Robert *Geranium robertianum*, and occasional silverweed *Potentilla anserina* and barren brome *Anisantha sterilis*.

Dry meadows are common in urban areas, and all species listed above are common and widespread in Ireland. Therefore, the habitat is considered to be of Negligible ecological importance.

Spoil and bare ground (ED2)

The northern part of the Site is used as a storage yard by Dublin City Council, and is regularly disturbed by vehicle movements. Parts have been surfaced with gravel, and others consist of bare earth. The majority of the area is unvegetated, but there are some occasional ruderal species (less than 5% cover) including prickly sow-thistle *Sonchus asper*, smooth sow-thistle *Sonchus oleraceus*, oil-seed rape *Brassica napus*, dandelion, creeping thistle *Cirsium arvense*, common ragwort, fumitory *Fumaria* sp., long-headed poppy *Papaver dubium*, red dead-nettle *Lamium purpureum* and petty spurge *Euphorbia peplus*.

This habitat has very low vegetation cover, and consists of common and widespread species, so it is of Negligible importance.

Treeline (WL2)

A short line of semi-mature trees is located in the south-western corner of the Site, comprising two ash and three sycamores. All had a dense covering of ivy *Hedera helix*, but there was no ground flora of note.

Treelines are common in suburban areas. As the habitat within the Site is fragmented, of low maturity, and includes a non-native species (sycamore), it is of Negligible importance.

Drainage ditches (FW4)

Some shallow drainage ditches have recently been excavated in the north-east of the Site near the entrance. At the time of survey in April 2021 there was approx. 5cm of standing water in the drains, due to high rainfall in previous days. The bases of the drains were bare, suggesting that they had recently been excavated or cleared. There was no aquatic vegetation.

As these habitats are fragmented, have no vegetation, and would not be suitable for fauna (e.g. amphibians), they are considered to be of Negligible importance.

Rare or protected flora

No rare or protected plants were encountered during field surveys.

Invasive plant species

No Japanese knotweed or any other restricted invasive species (as listed on the third schedule of the *European Communities (Birds and Natural Habitats) Regulations 2011*) were recorded during the site inspection.

4.4 Protected fauna

Birds

Passerine birds likely to use the Site

Some birds were observed during the survey: jackdaw, rook, magpie, hooded crow and feral pigeon. It is likely that some other common urban birds will use the Site on occasion, including finches, tits and other common passerine species. However, urban areas rarely support significant populations of endangered birds. No nests were observed during the site inspection, and the only trees suitable for nesting would be some the semi-mature ash and sycamore trees in the south-western corner of the Site. Overall, the Site is considered to be of Negligible importance for common bird species.

Birds associated with SPAs

The Site is approx. 2.6 km from the *South Dublin Bay and River Tolka Estuary SPA*, which has been designated to protect overwintering populations of a range of bird species. The population of brent geese is of particular note, because this species often feeds on agricultural land and amenity grasslands, most of which would be outside the SPA boundary. They favour grasslands / crops that are rich in protein and carbohydrate, and that are easily digestible; such conditions are often met in grasslands with abundant young growth, either as a result of regular mowing / grazing or high fertiliser application (Riddington et al 1997, McKay et al 2001).

The habitats within the Site is not considered to be suitable in this regard, because the dry meadow is overgrown and has negligible young growth. There is no evidence of any recent fertilisation, ploughing or other intensive management. No goose droppings were observed during the site inspection. On this basis, the Site is of Negligible importance for brent geese or any other bird species associated with nearby SPAs.

Terrestrial mammals

No terrestrial mammals were observed during field surveys, nor any characteristic field signs of protected species (e.g. badger setts). Due to the lack of vegetation, there is no suitable habitat for badgers, hedgehogs or other common protected mammals. It is unsuitable for otters due to the lack of watercourses. On this basis, the Site and its surroundings are considered to be of Negligible value for terrestrial mammals.

Bats

There are five semi-mature trees in the south-western corner of the Site, none of which have any crevices or cavities suitability for roosting bats. There are no buildings or any other potential roost features within the Site.

Common bat species such as common pipistrelles and soprano pipistrelles may occasionally forage within the Site. However, there are streetlights along the N1 road and Collins Avenue, which indirectly illuminate the majority of the Site. Bats typically avoid brightly-lit areas, so the extensive lighting substantially reduces the suitability of the Site for foraging bats.

On this basis, the Site is considered to have Negligible importance for roosting, foraging or commuting bats.

Reptiles and amphibians

No reptiles or amphibians were observed during the site inspection. The drainage ditches are unvegetated and shallow, and are likely to dry out during periods of dry weather, so they would not be suitable for breeding amphibians. Therefore, the Site is considered to be of Negligible importance for these taxa.

Terrestrial invertebrates

The habitats within the Site are common in urban landscapes in Ireland, so the Site is considered to be of Negligible importance for invertebrates.

4.5 Potential limitations and information gaps

The site inspection was carried out in the ideal survey season for most flora and fauna, so this assessment is not considered to have any information gaps.

4.6 Identification of important ecological features

Table 3 provides a summary of all ecological features identified on the Site, including their importance and legal / conservation status. For the purposes of this impact assessment, any features that are of Local ecological importance, or that receive legal protection, are considered to be 'important ecological features', and will be addressed in the impact assessment.

Table 3: Important ecological features within the Site

Ecological feature	Valuation	Legal status*	Important feature?
Designated sites	International	HR / WA	No
Dry meadow (GS2)	Negligible	-	No
Spoil and bare ground (ED2)	Negligible	-	No
Treeline (WL2)	Negligible	-	No
Drainage ditches (FW4)	Negligible	-	No
Rare and protected flora	Negligible	-	No
Invasive species	Negligible	-	No

Ecological feature	Valuation	Legal status*	Important feature?
Birds	Negligible	WA	No
Terrestrial mammals	Negligible	-	No
Bats	Negligible	HR, WA	No
Reptiles and amphibians	Negligible	-	No
Invertebrates	Negligible	-	No

* HR – EC (*Birds and Natural Habitats*) Regulations 2011; WA – Wildlife Act 1976

In summary, no important ecological features were identified at the Site.

5 Predicted Impacts of the Proposed Development

As there are no important ecological features at the Site, there is no risk of negative ecological impacts. However, there are some opportunities to improve the ecological value of the Site, as outlined in the following section.

6 Opportunities for Ecological Enhancement

6.1 Planting native vegetation

The proposed development will have some landscaped areas, including in public areas and private enclosed space. If these areas can be planted with a diverse mixture of predominantly native plants, there will be an opportunity to increase the number of plant species on the Site, and thus to increase its ecological value. The planting of native vegetation is also likely to increase the value of the Site for fauna, particularly pollinators and birds.

Comprehensive guidance on landscaping schemes of greatest value for native invertebrates is outlined in the *All-Ireland Pollinator Plan 2015-2020*. The plan includes a ‘Pollinator-friendly Planting Code’², with recommendations for trees, shrubs, climbers and herbaceous plants that are of greatest value to Irish pollinators. Most species are native to Ireland, but selected non-native flowering plants of value to pollinators are also included. Appropriate species could be selected from this list by the landscape architects for the development, with advice from the project ecologist as required.

If the landscaping scheme resulted in an increase in the number of species at the Site, it may be possible to achieve a net positive effect on the value of the Site for habitats and flora. To

² Pollinator-friendly Planting Code, available online at pollinators.ie/app/uploads/2018/04/Planting-Code-2018-WEB.pdf

achieve maximum value, the species composition should include a significant proportion of native Irish plant species, and species from the 'Pollinator-friendly Planting Code'.

6.2 Installation of nesting boxes

At present the Site has negligible value for nesting birds. If some nesting boxes are installed in landscaped areas, some birds may start to nest on the Site. Nest boxes for common urban birds such as robins, finches and tits are widely available. Nest boxes for swallows and house martins could also be attached to the exterior of new buildings.

One innovative option for this development would be to provide nesting boxes for Swifts. Swift populations have declined by more than 40% in Ireland in the last twenty years, and they are included on the amber list of *Birds of Conservation Concern in Ireland*. They nest in urban areas, typically in the eaves of old buildings; the main reason for their decline is the lack of suitable nesting sites in modern buildings. Swift nesting boxes can be purchased in a range of designs, which can be incorporated into brickwork, or bolted to the exterior of a structure. Swifts produce little waste, and the boxes do not need to be maintained. Swifts have been recorded in the area in recent years, so it is likely that they would be attracted to the new development if nest boxes were provided.

In either case, the installation of nesting boxes provides opportunities to attract new fauna to the Site, and to increase the overall number of species above the baseline levels.

7 Residual Impacts

No important ecological features were identified at the Site, so there is no risk of negative ecological impacts. However, there are some opportunities to improve the ecological value of the Site, including the planting of native plant species, and the provision of nesting boxes for birds. If the ecological enhancement measures can be implemented, it may be possible to have a positive effect on local biodiversity.

8 References

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