

Rochestown Avenue Active Travel Improvements

Preliminary Ecological Appraisal Report

Dún Laoghaire-Rathdown County Council

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Quality information

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Revision	Revision date	Details	Authorized	Name	Position
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The methodology adopted and the sources of information used by AECOM in providing its services are outlined in this Report. The work described in this Report was undertaken in August 2022 and is based on the conditions encountered and the information available during the said period of time. The scope of this Report and the services are accordingly factually limited by these circumstances. AECOM disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to AECOM's attention after the date of the Report.

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1. Introduction

1.1 Background

AECOM was commissioned by Dún Laoghaire-Rathdown County Council (hereafter the 'Client') to conduct a Preliminary Ecological Appraisal (PEA) in relation to the Rochestown Avenue Active Travel Improvement (hereafter referred to as the 'Proposed Scheme') in Dun Laoghaire, Co. Dublin. The extent of the Proposed Scheme is hereafter referred to as 'Site' and the area surveyed for the Proposed Scheme is hereafter referred to as the 'Survey Area' as shown in Figure 1.

A small section (approximately 70 m in length) of existing vegetation clearance is proposed along the north-east side of Rochestown Avenue beside Sefton Road during the pre-construction phase of the Proposed Scheme to allow surveyor access (hereafter referred to as the 'Proposed Clearance'). The approximate centre point of the Proposed Clearance is ITM 723314, 726645. Both the Proposed Scheme and Proposed Clearance will be assessed in this Preliminary Ecological Appraisal Report (PEAR).

The Proposed Scheme seeks to improve the current facilities along a busy cycling and walking route to provide an enhanced environment to cater for the increasing cycling and walking demand, and to provide improved connections to other key cycling routes. This will be achieved by providing a new cycle track along the sections of existing road listed below, and other improvements such as cycle protected junctions. The Proposed Scheme will also incorporate lighting along a new path in Pearse Park and may also incorporate lighting along the new footpaths, although no specific lighting design is available at the time of writing.

The Proposed Scheme is located along approximately 2.17 km of roadway in Dún Laoghaire, encompassing (Figure 1):

- Rochestown Avenue; and,
- Pottery Road.

1.2 Aims and objectives

This PEAR sets out the survey methods, results, potential ecological constraints associated with the Proposed Scheme and recommendations for further survey work and/or mitigation, where these are deemed necessary. The approach applied when carrying out the desk study generally accords with the Guidelines for Preliminary Ecological Appraisal published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017). This PEAR addresses relevant wildlife legislation and planning policy as summarised in Section 2.

The purpose of the PEA is to:

- identify and categorise all habitats present within the Survey Area and any areas immediately outside of the Survey Area where there may be potential for direct or indirect effects;
- carry out an appraisal of the potential of the habitats recorded to support protected, notable, or invasive species of flora and fauna;
- provide advice on ecological constraints and opportunities where relevant, including the identification (where relevant) of any requirements for additional habitat and species surveys and / or requirements for ecological mitigation; and,
- provide a map showing the habitats identified in the Survey Area and location of identified or potential ecological constraints.

1.3 Quality assurance

This PEAR, and the desk study and field survey described within it, has been completed in accordance with the AECOM Integrated Management System (IMS). Our IMS places great emphasis on professionalism, technical excellence, its quality as well as covering all aspects of environmental and Health and Safety management. All staff members are committed to establishing and maintaining

our accreditation to the relevant international standards namely BS EN ISO 9001:2008 and 14001:2004 and BS OHSAS 18001:2007. In addition, our IMS requires careful selection and monitoring of the performance of all sub consultants and contractors.

As per the quality information section at the beginning of this PEAR, both the reviewer (Susanne Dunne) and the verifier (Clare McIlwraith) hold current CIEEM memberships at the time of writing this Report.

2. Relevant legislation and planning policy

2.1 Wildlife legislation

The following wildlife legislation is potentially relevant to the Proposed Scheme and was considered as part of this PEA:

- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the 'Habitats Directive');
- Directive 2009/147/EC on the conservation of wild birds (the 'Birds Directive');
- Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (as amended) (the 'Water Framework Directive');
- Regulation 1143/2014 on the prevention and management of the introduction and spread of invasive alien species (the 'Invasive Alien Species Regulations');
- Convention on Wetlands of International Importance ('Ramsar Convention');
- The Planning and Development Acts 2000 to 2020 (collectively referred to as the 'PDA');
- The Wildlife Acts 1976 to 2018 and the Wildlife (Amendment) Act 2000 (collectively referred to as the 'Wildlife Acts');
- The European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) (as amended) (the 'Habitats Regulations');
- Fisheries Consolidation Act 1959 (No. 14 of 1959) (as amended) (the 'Fisheries Consolidation Act');
- The Inland Fisheries Act 2010 (No. 10 of 2010) (as amended) (the 'Inland Fisheries Act');
- Flora (Protection) Order 2015 S.I 356/2015 (the 'Flora Protection Order');
- EC Environmental Objectives (Surface Waters) Regulations 2009 (SI 272 of 2009); and,
- Local Government (Water Pollution) Acts 1977-1990, as amended (the 'Water Pollution Acts')

Note that compliance with legislation may require the attainment of relevant protected species derogation licences prior to implementing works.

2.2 National planning policy

2.2.1 Project Ireland 2040 National Planning Framework

The Project Ireland 2040 National Planning Framework (NPF) sets out the Government's planning policies for Ireland and how these should be applied. NPF sets out that to achieve sustainable development, the planning system must incorporate an environmental objective, which should include:

- integrated planning for green infrastructure and ecosystem services;
- enhancing the conservation status and improve the management of protected areas and protected species;
- using natural resources prudently;
- minimising waste and pollution; and,
- mitigating and adapting to climate change, including moving to a low carbon economy.

There is a presumption in favour of sustainable development in NPF.

2.2.2 National Biodiversity Action Plan 2017-2021

The National Biodiversity Action Plan 2017-2021¹ for Ireland outlines seven main objectives to meet commitments under the Convention on Biological Diversity (CBD) and EU Biodiversity Strategy.

These objectives include:

- mainstream biodiversity into decision-making across all sectors;
- strengthen the knowledge base for conservation, management, and sustainable use of biodiversity;
- increase awareness and appreciation of biodiversity and ecosystem services;
- conserve and restore biodiversity and ecosystem services in the wider countryside;
- conserve and restore biodiversity and ecosystem services in the marine environment;
- expand and improve management of protected areas and species; and,
- strengthen international governance for biodiversity and ecosystem services.

2.3 Regional and local planning policy

The planning policies in this section including regional and local planning policy such as the Dún Laoghaire-Rathdown Biodiversity Plan 2009 - 2013 (draft version 2021 – 2025²) have been considered when assessing potential ecological constraints and opportunities identified by this PEA and when assessing requirements for further survey, design options and ecological mitigation, as described in Section 5.

¹ <https://www.npws.ie/sites/default/files/publications/pdf/National%20Biodiversity%20Action%20Plan%20English.pdf>. Last accessed September 2022

² https://dlrcoco.citizenspace.com/community/dlr-county-biodiversity-action-plan-2021-2025-draf/supporting_documents/Consultation%20doc%20for%20DLR%20Biodiversity%20Action%20Plan.pdf. Last accessed September 2022,

3. Methods

3.1 Protected and notable ecological features

For the purposes of this PEAR, protected and notable habitats and species included:

- habitats and species listed on Annexes I and II, respectively, of the Habitats Directive, which listing indicates importance in a European context and affords protection if designated as Qualifying Interests (QI) of Special Areas of Conservation (SAC);
- species listed on Annex IV of the Habitats Directive, which are known as European Protected Species and are subject to strict protection anywhere they occur;
- bird species listed on Annex I of the Birds Directive, which listing indicates importance in a European context and affords protection where designated as Special Conservation Interest (SCI) of Special Protection Areas (SPA);
- species listed on the Wildlife Acts;
- fish species and habitats protected under the Fisheries Consolidation Act, the Inland Fisheries Act, and the Water Pollution Acts;
- plant species listed on the Flora Protection Order;
- species and habitats listed on the National Biodiversity Action Plan 2017-2021;
- species that are Nationally Rare, Nationally Scarce or listed in Red Data Lists, which are published by NPWS in collaboration with relevant Northern Irish agencies (e.g. Gilbert *et al.*, 2021; King *et al.*, 2011; Lockhart *et al.*, 2012; Marnell *et al.*; 2019; Nelson *et al.*, 2011; Nelson *et al.*, 2019; Regan *et al.*, 2010; Wyse-Jackson *et al.*, 2016); and,
- invasive non-native species of plants and animals listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) (as amended) (hereafter 'scheduled invasive species'), those of EU concern under the EU Invasive Alien Species Regulation, and those listed by the National Biodiversity Data Centre as invasive in Ireland.

Other species or habitats, that may be rare, scarce, or otherwise notable, are included where deemed appropriate through available information and/or professional judgement.

3.2 Desk study

A desk study was carried out to identify nature conservation designations and records of protected and notable habitats / species potentially relevant to the Proposed Scheme. A stratified approach was taken during the desk study, based on the likely zone of influence (Zol)³ of the Proposed Scheme on different ecological features. The following data sources were used to inform the baseline description:

- mapping of European site boundaries available online at National Parks and Wildlife Service (NPWS) mapper⁴;
- protected and invasive species data from the National Biodiversity Data Centre (NBDC)⁵; and,
- Environmental Protection Agency (EPA) rivers and water quality data and Water Framework Directive (WFD) status at EPA map viewer⁶.

Accordingly, the desk study identified:

- international nature conservation designations (i.e. SACs and SPAs and Ramsar sites) within the Zol of the Proposed Scheme);

³ The 'zone of influence' for a project is the area over which ecological features may be affected by biophysical changes as a result of the proposed project (or Scheme) and associated activities.

⁴ <https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=8f7060450de3485fa1c1085536d477ba> Accessed August 2022.

⁵ <https://maps.biodiversityireland.ie/Map> Accessed August 2022.

⁶ <https://gis.epa.ie/EPAMaps/> Accessed August 2022.

- national nature conservation designations (i.e. Natural Heritage Areas (NHAs) and Proposed NHAs (pNHAs)) within 2 km or beyond where a link exists; and,
- records of protected and notable habitats and species within 2 km.

3.3 Field survey

3.3.1 Habitat survey

A habitat survey was carried out in accordance with *A Guide to Habitats in Ireland* (Fossitt, 2000) and *Best Practice Guidance for Habitat Survey and Mapping* (Smith *et. al.*, 2011). The survey comprised categorising habitat types and habitat features within the Survey Area (i.e. within 50 m of the Site). The information gained from the survey was used to determine the likely ecological value of the Survey Area, and to necessitate any specific survey work which may be required prior to the development of the Proposed Scheme.

The survey was carried out on 4th August 2022 by an AECOM Ecologist under suitable weather conditions. The survey was conducted within the Site and included up to 50 m either side of the Site boundary (i.e. the Survey Area), where accessible, to search for evidence of protected and notable species or invasive non-native species. All habitats present within the Survey Area were mapped, along with any observed relevant ecological constraints. Where ecological constraints were present, Target Notes were recorded and the position of these noted on the Fossitt habitat map. Typical and notable plant species were recorded for each key habitat type and reflected the conditions at the time of survey. Nomenclature was according to Stace (2019). Data were recorded, and habitats were mapped using Esri Field Maps application on a handheld mobile mapping device.

3.3.2 Invasive plant species

During the habitat survey, a search was made for scheduled⁷ invasive plant species and species listed as invasive in Ireland by the NBDC⁸. Locations of such species were mapped and notes were made including species, extent, and maturity.

3.3.3 Potential to support protected and notable species

The standard habitat survey method was extended to identify the potential of habitats or features (i.e. built features) to support protected and notable species. When encountered, direct sightings and indirect signs (e.g. field signs) of protected species or auditory evidence were recorded. Additionally, assessments of trees and public structures for roosting bats were carried out during the PEA, using the methods described in the following Section.

3.3.3.1 Bat preliminary roost assessment

During daylight hours, trees and public structures within the Survey Area were subject to a visual ground-based Preliminary Roost Assessment (PRA). The PRA was carried out to assess the potential of the trees and public structures to support roosting bats and to determine the presence of potential roost features (PRF), such as knotholes, cavities, or tear-outs. External signs that bats are using a tree as a roost include:

- entry points such as suitably sized gaps in tree cracks and crevices;
- bat droppings: black droppings, 5-10 mm long that crumble to a fine dust when crushed and may be located on the ground or stuck to tree trunks or branches;
- staining: secretions from bat fur, which can cause oily brown stains in the vicinity of roost entrances. Urine stains which may be present below the entrance to the roost;
- audible squeaking from within the roost site;
- odour, which may be indicative of a large roost; and,
- flies around the entrance of a roost, attracted by the smell of bat droppings.

⁷ Invasive non-native species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011)

⁸ Species which are classified as high, medium or low impact by the NBDC

Bats can also roost in less obvious places such as under ivy and loose tree bark. Trees and public structures were categorised within the Survey Area as having Negligible, Low, Moderate, or High suitability for roosting bats in accordance with Bat Conservation Trust (BCT) guidelines (Collins, 2016).

Additionally, habitat features suitable for use by non-roosting bats such as trees for flight lines and foraging areas were also assessed across the Survey Area.

3.4 Limitations

Desk study information is dependent on records having been submitted for the area of interest. As such, a lack of records for particular habitats or species does not necessarily mean they are absent from the area of interest. Similarly, the presence of records for particular habitats and species does not automatically mean they still occur within the area of interest or are relevant in the context of the Proposed Scheme.

Where habitat boundaries coincide with discernible boundaries on recent aerial photography (where available) the resolution is as determined by the accuracy and clarity of the aerial photography. Otherwise, habitat mapping is as estimated in the field. Where areas of habitat are given, they are approximate and should be verified by measurement to the Proposed Scheme where required for design or construction.

Private dwellings and premises (including gardens) were inaccessible during the survey. However, where possible, these areas were viewed from the nearest publicly accessible location using binoculars. This PEA has been conducted as robustly as possible in the context of these restrictions. None of the restrictions mentioned above are considered to be significant for the purposes of this assessment.

4. Results

4.1 Desk study

4.1.1 Designated sites

There are four statutory designated sites located within the potential Zol of the Site. These are detailed in Table 4-1.

Table 4-1: Statutory designated sites within potential Zol of the Proposed Scheme

Designated site [site reference]	Reasons for designation	Distance from Proposed Scheme
Dalkey Coastal Zone and Killiney Hill pNHA [001206]	The NHA is a fine example of a coastal system with habitats ranging from sub-littoral to coastal heath. The flora is well developed and includes some scarce species. The islands are also important for bird species. Especially noteworthy for the assemblage of invertebrates.	0.75 km northeast. No hydrological or other ecological connection.
South Dublin Bay and River Tolka Estuary SPA [0040240]	Arctic tern <i>Sterna paradisaea</i> , bar-tailed godwit <i>Limosa lapponica</i> , black-headed gull <i>Chroicocephalus ridibundus</i> , common tern <i>Sterna hirundo</i> , dunlin <i>Calidris alpina</i> , grey plover <i>Pluvialis squatarola</i> , knot <i>Calidris canutus</i> , light-bellied brent goose <i>Branta bernicla hrota</i> , oystercatcher <i>Haematopus ostralegus</i> , redshank <i>Tringa totanus</i> , ringed plover <i>Charadrius hiaticula</i> , roseate tern <i>Sterna dougallii</i> , sanderling <i>Calidris alba</i>	1.7 km north. No pathways for use by SPA designated birds within the Survey Area.
South Dublin Bay SAC [000210]	Mudflats and sandflats not covered by seawater at low tide, annual vegetation of drift lines, <i>Salicornia</i> and other annuals colonising mud and sand, embryonic shifting dunes	1.7 km northwest. No hydrological or other ecological connection.
South Dublin Bay pNHA [000210]	Coincides with South Dublin Bay SAC. Reasons for designation as described above in South Dublin Bay SAC section.	1.7 km north. No hydrological or other ecological connection.

4.1.2 NBDC data search

Following a data search, NBDC provided a dataset of records of species within 2 km of the Proposed Scheme footprint. Records of species of conservation are provided in Table 4-2.

Table 4-2: Notable species records returned by NBDC within 2 km of the Proposed Scheme

Taxon	Species	Scientific name	Number of record(s)	Conservation designation(s)
Amphibian	Common frog	<i>Rana temporaria</i>	47	WA
	Smooth newt	<i>Lissotriton vulgaris</i>	7	WA
Reptiles	Common lizard	<i>Zootoca vivipara</i>	1	WA
Bird	Barn owl	<i>Tyto alba</i>	2	WA, BoCCI Red List
	Greater scaup	<i>Aythya marila</i>	1	WA, BoCCI Red List
	Grey wagtail	<i>Motacilla cinerea</i>	16	WA, BoCCI Red List
	Kingfisher	<i>Alcedo atthis</i>	1	BirdsDir A1, WA, BoCCI Amber List
	Meadow pipit	<i>Anthus pratensis</i>	2	WA, BoCCI Red List
	Oystercatcher	<i>Haematopus ostralegus</i>	2	WA, BoCCI Red List
	Peregrine falcon	<i>Falco peregrinus</i>	1	BirdsDir A1, WA, BoCCI Green List
	Redwing	<i>Turdus iliacus</i>	8	WA, BoCCI Red List
Invertebrate	Marsh fritillary	<i>Euphydryas aurinia</i>	1	Vulnerable
	Wall brown	<i>Lasiommata megera</i>	1	Endangered, Red List
Invasive species	Grey squirrel	<i>Sciurus carolinensis</i>	23	Sch Inv, High impact
	House mouse	<i>Mus musculus</i>	4	High impact
	Jenkins' spire snail	<i>Potamopyrgus antipodarum</i>	3	Medium impact
	Raccoon	<i>Procyon lotor</i>	1	High impact
	Rabbit	<i>Oryctolagus cuniculus</i>	7	Medium impact
	Yellow-bellied slider	<i>Trachemys scripta scripta</i>	2	Medium impact
Marine mammal	Common dolphin	<i>Delphinus delphis</i>	1	WA
	Common porpoise	<i>Phocoena phocoena</i>	1	HabitatsDir Annex II, WA
Terrestrial mammal	Badger	<i>Meles meles</i>	1	HabDir, WA
	Hedgehog	<i>Erinaceus europaeus</i>	33	WA
	Pygmy shrew	<i>Sorex minutus</i>	1	WA
	Red squirrel	<i>Sciurus vulgaris</i>	4	WA
Terrestrial mammal - bats	Brown long-eared bat	<i>Plecotus auritus</i>	2	HabDir, WA
	Daubenton's bat	<i>Myotis daubentonii</i>	1	HabDir, WA
	Lesser noctule	<i>Nyctalus leisleri</i>	5	HabDir, WA
	Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>	6	HabDir, WA
	Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	3	HabDir, WA

HabDir – Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora ('Habitats Directive');

BirdsDir A1– Annex 1 of the Directive 2009/147/EC on the conservation of wild birds ('Birds Directive').

WA – The Wildlife Acts 1976 to 2018 and the Wildlife (Amendment) Act 2000 ('Wildlife Acts').

BoCCI Red List – Birds of Conservation Concern in Ireland on the Red List.

BoCCI Amber List – Birds of Conservation Concern in Ireland on the Amber List.

Irish Red List status (CR - Critically Endangered, EN - Endangered, VU - Vulnerable, NT - Near Threatened, DD - Data deficient).

Sch Inv - Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) (as amended).

High-impact – high-impact invasive species in Ireland; Medium-impact – medium-impact invasive species in Ireland.

Due to the small scale and highly urbanised location of the Proposed Scheme, a majority of the species identified in Table 4-2 are not considered to be a constraint for the Proposed Scheme.

Any notable or protected species determined to be potentially relevant to the Proposed Scheme have been considered further in Section 4.2.3.

4.2 Field survey

4.2.1 Habitats

4.2.1.1 Within the Survey Area

The Site is highly urbanised and is dominated by existing roads and buildings. Areas of open space are scattered throughout the Survey Area and comprise amenity grassland, scattered trees and parkland, treelines, ornamental shrubs and flower beds. Other habitats present in the Survey Area include mixed broadleaved woodland. No protected or notable species of plants were identified during the field survey. Broad habitats identified within the Survey Area are detailed in the following paragraphs and shown in Figure 1.

BL3 Buildings and artificial surfaces

Buildings and artificial surfaces dominate the Survey Area, and include paved roads, footpaths, residential, commercial, and industrial premises. Buildings and artificial surfaces are frequently associated with small areas of amenity grassland, scrub, ornamental shrubs and flower beds. Buildings and artificial surfaces are of negligible ecological value.

BC4 Flower beds and borders

Formal flower beds are present in the Survey Area, typically bordering footpaths and roads. Flower beds are planted with species such as *Hydrangea Hydrangea* sp.

ED1 Exposed sand, gravel or till

A single small parcel of exposed sand and gravel is present within the Survey Area. This parcel is located in the centre of the Proposed Scheme next to the improved agricultural grassland containing horses and is likely used as an outdoor riding paddock. No vegetation was noted within the parcel.

ED3 Recolonising bare ground

There is a small parcel which is consistent with recolonising bare ground located within the Survey Area. This parcel is dominated by willowherb *Epilobium* sp., ragwort *Senecio* spp., and the medium impact invasive non-native species butterfly bush *Buddleja davidii*. There is also a small area of ornamental species present.

GA1 Improved agricultural grassland

A single improved grassland parcel is present within the Survey Area. This improved agricultural grassland field is currently grazed by livestock with a species-poor, short sward composed of perennial ryegrass *Lolium perenne* with other frequent grass species including Yorkshire-fog *Holcus lanatus*. Occasional herb species include broad-leaved dock *Rumex obtusifolius*, ragwort and willowherbs.

GA2 Amenity grassland (improved)

Areas of amenity grassland are present within the Survey Area and are typically associated with areas of public open space, verges along the existing roads, and private dwellings. Amenity grassland was recorded to form a short sward height, managed by mowing. Dominant grassland species include perennial ryegrass, with infrequent herbs such as red clover *Trifolium pratense* noted.

WD1 (Mixed) broadleaved woodland

Three small parcels of broadleaved woodland are present in the centre of the Survey Area. The westernmost parcel (located also with the Proposed Clearance area, Figure 1) and central parcel are

associated with private premises, and the easternmost parcel is located within a public park. Woodland parcels located within private premises were largely inaccessible due to walls and a lack of access to private dwellings. However, they were assessed from the boundary as far as possible.

Canopy trees within the westernmost and central parcel are uniform in age, indicative of planting, and vary in height from approximately 8-10 m. Canopy trees are dominated by mature ash *Fraxinus excelsior* and sycamore *Acer pseudoplatanus*. The understorey and ground flora in these two parcels could not be fully accessed, however, they were noted to support ivy *Hedera hibernica* and bramble *Rubus fruticosus* agg. A single stand of a low impact invasive non-native species snowberry *Symphoricarpos albus* was also noted growing behind the fence adjacent to the footpath.

The easternmost woodland parcel was uniform in age, indicative of planting and comprised mature trees approximately 20 m in height. Canopy trees are dominated by beech *Fagus sylvatica*, horse chestnut *Aesculus hippocastanum* and oak *Quercus* sp. The understorey is typically limited, and where present includes perennial ryegrass, thistle *Cirsium* sp. and willowherb.

WD3 (Mixed) conifer woodland

One small parcel of mixed conifer woodland is located within private land in the centre of the Survey Area. The canopy of this conifer woodland is uniform in age and is approximately 15 m in height. Canopy trees are dominated by cedar species *Cupressus* sp. The understorey and ground flora in this mixed conifer woodland could not be fully accessed, however, the trunks of trees were noted to support ivy.

WD5 Scattered trees and parkland

Scattered trees and parkland occur throughout the Survey Area, comprising both individual trees and parkland. The majority of the scattered individual trees are young, with species present including sycamore, cherry *Prunus* sp. and lime *Tilia* sp.

Parkland occurs in amenity areas along the existing Grangewood Road. Parkland trees were typically immature with species present including immature ash and beech and a single mature oak. Parkland ground was limited but the ground layer consisted of short, grass-dominated sward managed by frequent mowing. Species present are Yorkshire-fog, broadleaved dock *Rumex obtusifolius* and dandelion *Taraxacum officinale* agg. The low impact invasive non-native species winter heliotrope *Petasites fragrans* was also noted.

WL1 Hedgerows

Hedgerows are infrequently present in the Survey Area, forming the curtilages of residential properties and commercial premises. Hedgerows are typically short species poor, uniform structures and well managed. Hedgerows typically lack a distinct ground flora. The low impact invasive non-native species snowberry was noted in a hedgerow adjacent to Ruby Hall Road.

WL2 Treelines

Treelines are found throughout the Survey Area. Treelines typically comprise lines of planted street trees, although are occasionally found in parkland or bordering residential dwellings. Treelines in residential dwellings and streets were generally noted to be immature, whilst in parkland were more mature. Treelines bounding residential dwellings are frequently composed of conifer species (e.g. cedar species), whilst parkland treelines are predominantly broadleaved species. Treeline species recorded include beech, rowan *Sorbus aucuparia*, field maple *Acer campestre*, silver birch *Betula pendula*, horse chestnut and cherry.

WS1 Scrub

Scattered scrub is present within the Survey Area. Species recorded include bramble, common nettle *Urtica dioica* and elder *Sambucus nigra*. The medium impact invasive non-native species butterfly-bush and low impact non-native species winter heliotrope were also noted in scrub.

WS3 Ornamental/non-native shrub

Small parcels of ornamental and non-native shrubs are found in the Survey Area, typically planted along footpaths and in residential gardens. Invasive non-native species were frequently noted amongst ornamental planting, including the low-impact invasive non-native species montbretia *Crocsmia x crocosmiiflora*.

BL3/GA2/WS3 /WD5 mosaic (Buildings and artificial surfaces/ Amenity grassland (improved)/ Ornamental/non-native scrub/ Scattered trees and parkland)

There are also several gardens of private residences outside of the Site within the Survey Area that comprise a mosaic of BL3/GA2/WS3 /WD5 habitats similar to the individually described habitats above.

4.2.1.2 Within the Proposed Clearance area

The Proposed Clearance area comprises a small area of scrub and woodland habitat as described below and shown on Figure 1.

WD1 (Mixed) broadleaved woodland

A small parcel of broadleaved woodland was identified in the Proposed Clearance area (this particular parcel is referred to as the westernmost parcel in Section 2.1.1. WD1 (mixed) the broadleaved woodland habitat description. As mentioned above in Section 2.1.1, the canopy trees within this parcel are uniform in age, indicative of planting, and vary in height from approximately 8-10 m. Canopy trees are dominated by ash and sycamore. The understorey and ground flora in these two parcels could not be fully accessed, however, they were noted to support ivy and bramble and is of limited ecological value.

WS1 Scrub

A small parcel of scrub was noted along the north-western side of the Proposed Clearance. The medium impact invasive non-native species butterfly-bush was the dominant species in this scrub parcel. Other species recorded include bramble, common nettle and low impact non-native species winter heliotrope.

4.2.2 Invasive non-native species

Indicative locations and extents of invasive species present within/adjacent to the Survey Area are displayed in Figure 2. Note, sycamore is present typically as mature trees and is widespread throughout the Survey Area and is therefore not displayed on Figure 2.

4.2.2.1 Within the Survey Area

Eight invasive non-native species were identified scattered throughout the Survey Area. No scheduled invasive⁹ species were identified. The non-scheduled invasive non-native species identified were:

- cherry laurel *Prunus laurocerasus* (high impact invasive non-native species);
- butterfly-bush (medium impact invasive non-native species);
- sycamore (medium impact invasive non-native species);
- traveller's joy *Clematis vitalba* (medium impact invasive non-native species);
- cotoneaster *Cotoneaster sp.*, (low impact invasive non-native species);
- snowberry (low impact invasive non-native species);
- montbretia (low impact invasive non-native species); and,
- winter heliotrope (low impact invasive non-native species).

Invasive species are typically located amongst non-native ornamental shrub planting along roadsides, but are also found in amenity grassland, scrub, parcels of woodland and parkland.

4.2.2.2 Within the Proposed Clearance area

Two invasive non-native species were identified within the Proposed Clearance area. No scheduled invasive species were identified within the Proposed Clearance area. The non-scheduled invasive non-native species identified were butterfly-bush (medium impact invasive non-native species) and winter heliotrope (low impact invasive non-native species). These species were located within the

• ⁹ Invasive non-native species of plants and animals listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) (as amended) (hereafter 'scheduled invasive species'), those of EU concern under the EU Invasive Alien Species Regulation, and those listed by the National Biodiversity Data Centre as invasive in Ireland.

scrub habitat with butterfly-bush dominating this habitat. The constraints and recommendations associated with these invasive species identified are discussed further in Section 5.2.3.



4.2.3 Protected and notable species

4.2.3.1 Bats

Within the Survey Area

A PRA of suitable trees and public structures located within the Survey Area identified one tree with Low suitability to support roosting bats (according to the definition provided by the BCT (Collins, 2016)) as summarised in Table 4-3. The oak tree is located within an area of parkland to the corner of the junction between Rochestown Avenue and Grangewood Road as shown in Figure 3. Due to the absence of PRFs or that the trees were too immature/unsuitable, all other trees in the Survey Area have been assessed as having Negligible suitability to support roosting bats.

Table 4-3: Trees with bat roosting suitability within the Survey Area

Reference	Species	PRF(s)	Photograph of tree	Photograph(s) of PRF	Suitability
T1	Oak sp.	knothole, at c. 5 m (facing south-east), tear-out 10 m (facing south-east)			Low

The Survey Area is highly urbanised and dominated by hardstanding and buildings. Where habitats are present which offer opportunities for foraging bats such as scrub and woodland, their value is limited by their small extent and illumination by street lighting. The Survey Area lacks significant linear habitat commuting corridors and is not connected to high value habitat for foraging and commuting bats, albeit residential gardens may offer limited opportunities. Foraging and commuting bats are not considered to pose a constraint to the Proposed Scheme and are not considered further in this PEAR.

Within the Proposed Clearance area

A PRA of trees within the Proposed Clearance area did not identify any with PRFs or suitability to support roosting bats. Therefore, there is no constraint from roosting bats to the Proposed Clearance.

Furthermore, as mentioned above, the surrounding area is highly urbanised and dominated by hardstanding and buildings. While the scrub and woodland habitats present within the Proposed Clearance area offer opportunities for foraging bats, their value is limited by their small extent and illumination by street lighting. The Proposed Clearance area lacks commuting corridors and is not connected to high value habitat for foraging and commuting bats, albeit residential gardens may offer limited opportunities. Removal of non-roosting bat habitat is not considered to pose a constraint to the Proposed Clearance area and are not considered further in this PEAR.

4.2.3.2 Badger

Within the Survey Area and Proposed Clearance area

No evidence of badger was identified in the Survey Area and Proposed Clearance area. The Survey Area offers limited suitable habitat for foraging badger given its small extent and isolated nature as it is surrounded by the built environment. The substrate across the majority of the Survey Area (i.e. hardstanding) is unsuitable for badger sett creation. It is considered that the highly urbanised nature of the Site, coupled with the lack of habitat for sett creation and foraging, likely precludes badger from

the Survey Area and Proposed Clearance area. Badger is not considered to pose a constraint to the Proposed Scheme or the Proposed Clearance and is not considered further in this PEAR.

4.2.3.3 Other terrestrial mammals

Within the Survey Area and Proposed Clearance area

No evidence of hedgehog was noted during the survey however, field signs are less frequently observed for this species than for other mammals. Habitats within the Survey Area, including parkland, woodland and residential gardens provide some limited foraging and sheltering opportunities for hedgehog. It is therefore considered likely that hedgehog could occur in small numbers within the Survey Area.

No evidence of or suitable habitat for any other protected terrestrial mammals (e.g. otter *Lutra lutra*, red squirrel, pine marten *Martes martes*, Irish hare *Lepus timidus hibernicus* and pygmy shrew) was noted during the survey. These species are not considered to pose a constraint and are not considered further in this PEAR.

4.2.3.4 Birds

Within the Survey Area

Habitats in the Survey Area are largely unsuitable for breeding bird and non-breeding species, being dominated by hardstanding and buildings. However, some suitable habitat is present, particularly parkland and treelines which may provide nesting, shelter and foraging opportunities for a variety of common terrestrial and coastal bird species.

Within the Proposed Clearance area

The small area of scrub and woodland habitat within the Proposed Clearance area may provide nesting, shelter, and foraging opportunities for a variety of common terrestrial bird species. However, no signs of nesting birds were noted in the Proposed Clearance area during the field survey.

Given the small size of the Proposed Clearance area and habitats present (i.e. dense scrub and woodland), the Proposed Clearance area does not provide suitable foraging or roosting habitat for any SCI birds and therefore is not considered further in this PEAR.

4.2.3.5 Other protected and notable species

Within the Survey Area and Proposed Clearance area

No evidence of or suitable habitat for any other protected or notable species (i.e. amphibians, fish, invertebrates and reptiles) was noted during the survey, and these species are not considered further in this PEAR.

5. Identification of ecological constraints and recommendations

5.1 Approach to the identification of ecological constraints

The Proposed Scheme should seek to follow the mitigation hierarchy where there is potential for impacts on identified ecological receptors:

1. avoid features where possible;
2. minimise impact by design, method of working or other measures (mitigation) (e.g. by enhancing existing features); and,
3. compensate for significant residual impacts (e.g. by providing suitable habitats elsewhere on the client-owned parts of the wider Site).

This hierarchy requires the highest level to be applied where possible. Only where this cannot reasonably be adopted should lower levels be considered. The rationale for the proposed mitigation and/or compensation should be provided, including sufficient detail to show that these measures are feasible and would be provided.

The likelihood of the relevant ecological features constraining the Proposed Scheme has been assessed with reference to the scale described in Table 5-1. The higher the importance of the ecological feature for the conservation of biodiversity at national and local scales, the more likely it is to be a material consideration during determination of the planning application for the Proposed Scheme.

Table 5-1: Scale of constraint / opportunity to the Proposed Scheme

Scale of constraint / opportunity	Definition
Major	<p><u>Constraint</u></p> <p>Without further action and/or mitigation on this issue, the project is unlikely to obtain consent (planning application or otherwise, where this is required), and will cause or risk legal offence(s) or non-compliance with policy. Further action could include survey and/or assessment of ecological features known or deemed likely to occur in the zone of influence. The issue is a material consideration to the consenting process (where required) and the action and/or mitigation required to address it is likely to be significant and/or not straightforward.</p> <p><u>Opportunity</u></p> <p>An opportunity exists to deliver significant ecological enhancement on or close to the Site for the ecological feature(s) in question, which singly or together are of high conservation value. The feature(s) are known to be present within the likely zone of influence or could reliably be predicted to move into it following enhancement. The overall nature conservation benefit of the enhancement(s) is likely to be high.</p>
Moderate	<p><u>Constraint</u></p> <p>Further action and/or mitigation on this issue is likely to be required for the project to obtain consent (planning application or otherwise, where this is required) or may be stipulated by a condition of consent, and without such action there may be legal offence(s) or non-compliance with policy. Further action could include survey and/or assessment, including of ecological features whose status is not yet sufficiently well known within the zone of influence. The action and/or mitigation required to address the issue is however likely to be moderate, and at this stage it is considered unlikely that it would pose a significant consenting risk to the project.</p> <p><u>Opportunity</u></p> <p>An opportunity exists to deliver ecological enhancement on or close to Site for the ecological feature(s) in question, which are of moderate conservation value. The feature(s) are known to be present within the likely zone of influence or could reliably be predicted to move into it following enhancement. The overall nature conservation benefit of the enhancement(s) is likely to be moderate.</p>
Minor	<p><u>Constraint</u></p> <p>The project is expected to obtain consent (planning application or otherwise, where this is required) without any further survey or assessment of this issue. However, a basic action is still required pre-construction or during construction, which may be stipulated by a condition of consent, in order to avoid possible legal offence(s) or non-compliance with policy. This is likely to involve ecological features that are not subject to special protection and are common and widespread. The action and/or mitigation required to address the issue is expected to be minimal and is unlikely to hinder the project (for example, clearance of vegetation during specified seasons).</p> <p><u>Opportunity</u></p> <p>An opportunity exists to deliver ecological enhancement likely to benefit relatively common and/or widespread species (e.g. provision of bird nest boxes) or to create or enhance a small area of habitat which is not of very high biodiversity value.</p>
None	<p>There is no constraint on the project because the ecological feature is absent from the Site and zone of influence, or if present then it is not subject to protection and/or it can clearly be determined that there is no possibility of a significant adverse effect.</p>

5.2 Constraints and recommendations

5.2.1 Statutory designations

There are two European sites within the potential ZoI, comprising South Dublin Bay and River Tolka Estuary SAC and South Dublin Bay SPA. Due to the presence of these European sites, an AA Screening has been carried out in parallel with this PEAR (AECOM, 2022). The AA Screening Report concluded that the Proposed Scheme has no possibility of Likely Significant Effects (LSE's) on any European site, either alone or in-combination with other plans or projects.

In addition to the European sites, there are two nationally designated sites partially located within 2 km of the Proposed Scheme, comprising Dalkey Coastal Zone and Killiney Hill pNHA and South Dublin Bay pNHA. The Site is well separated from these designations by existing development in the urban environment of Dún Laoghaire. In addition, there are no terrestrial or hydrological pathways between the Site and these designations, therefore no adverse effects to these national statutory sites are predicted and are not considered to pose a constraint to the Proposed Scheme.

5.2.2 Habitats

5.2.2.1 Within the Survey Area

The Site is highly urbanised and is dominated by buildings and hardstanding. Where other habitats are present, these comprise a low diversity of common and widespread species typical of the urban environment. Therefore, the habitats within the Site and the wider Survey Area are generally not considered to be high-quality or ecologically significant habitats. In addition, invasive non-native species are frequently found in habitats throughout the Survey Area which further reduces the botanical value of the habitats present.

The majority of construction works associated with the Proposed Scheme will occur within existing areas of hardstanding. The majority of existing habitats will be retained, with only minor habitat losses to facilitate the Proposed Scheme such as removal of trees. Where habitats such as street trees are to be lost, these are to be replaced with extensive landscaping above the current situation including new tree planting, shrub and ornamental flower planting, particularly along Rochestown Avenue.

It is recommended that wildflower grassland and new trees are planted within parklands and/or proposed landscaped areas to enhance the existing habitats. It is also recommended that the opportunity is taken to manage a proportion of the retained and proposed habitats in an ecologically sensitive manner, such as parkland in Pearse Park. Proposed wildflower grassland should comprise native species of local provenance. Mowing of these areas should occur twice a year, with one cut in mid-autumn and a second in late winter. This will allow for later flowering species to produce seeds to establish for the next year. Arisings should be left for a few days after cutting before being removed. This will allow for seeds to drop and allow invertebrates to escape whilst preventing nutrient enrichment. It is also recommended that proposed shrub planting incorporates native species, in particular berry producing species such as elder, guelder-rose *Viburnum opulus*, honeysuckle *Lonicera periclymenum* and holly *Ilex aquifolium*. In addition, proposed street or park trees should comprise native species such as oak *Quercus robur* or *Quercus petraea*, hazel *Corylus avellana* or rowan. Cherry such as the native wild cherry *Prunus avium* also produces attractive blossom in spring.

Habitat loss is therefore considered to be of minor ecological significance and poses a **Minor constraint** to the Proposed Scheme. Indeed, with the implementation of the above recommendations, the opportunity exists for the Proposed Scheme to deliver enhancements to habitats.

5.2.2.2 Within the Proposed Clearance area

A small section of scrub and mixed broadleaved woodland is proposed to be cleared during the Proposed Clearance to allow access for surveyors. The area of habitat to be removed is not considered to be high quality or particularly ecologically significant. Additionally, the Proposed Clearance area contains invasive non-native flora species (butterfly-bush and winter heliotrope) which are considered further in Section 3.2.2.

Habitat loss is therefore considered to be of minor ecological significance and poses a **Minor constraint** to the Proposed Clearance area.

5.2.3 Invasive plant species

5.2.3.1 Within the Survey Area

No scheduled invasive species were identified within the Site or Survey Area. Other non-scheduled invasive non-native species identified within the Survey Area and within the Proposed Scheme footprint include cherry laurel, butterfly-bush, montbretia, snowberry, travellers joy, cotoneaster and winter heliotrope. Any disturbance to these species during construction works poses a risk of causing their spread.

As non-scheduled invasive species, there is no specific legal requirement to manage or control these species. However, the Wildlife Acts addresses invasive non-native species by stating that “*anyone who plants or otherwise causes to grow in a wild state in any place in the State any species of (exotic) flora or the flowers, roots, seeds or spores of (exotic) flora shall be guilty of an offence*” in Sections 52(7) and (8). As good practice, it is therefore recommended that biosecurity measures (i.e. prevention of spread) are implemented to reduce the risk of spread of these invasive non-native species. This can include isolating (e.g. fencing) and signing the infested areas. In addition, all contractors and Site operatives should receive a toolbox talk when works commence in the vicinity of the infested areas, for all recorded invasive non-native species including cherry laurel and butterfly-bush identification and site practices. Non-scheduled invasive species pose a **Minor constraint** to the Proposed Scheme.

5.2.3.2 Within the Proposed Clearance area

The small section of scrub and mixed broadleaved woodland within the Proposed Clearance area contains butterfly-bush and winter heliotrope. These species should be avoided and biosecurity measures as mentioned above should be implemented to reduce the risk of their spread. However, if these species cannot be avoided then a Method Statement should be prepared by an appropriately qualified contractor which details how the spread of these species will be controlled. Specific measures will include cleaning of all footwear, equipment and machinery, and then the material generated will be left in-situ or taken to a licensed landfill site. Non-scheduled invasive species pose a **Minor constraint** to the Proposed Clearance.

5.2.4 Protected and notable species

5.2.4.1 Roosting bats

Within the Survey Area

A single tree (T1) with Low bat roosting suitability was identified within the Site. However, this tree will be retained and provided there is no light spill directly at the tree, no impacts are anticipated to roosting bats. The Proposed Scheme may incorporate lighting along new footpaths; however, no specific lighting design is available at the time of writing. It is therefore unclear if T1 will be subject to additional illumination. In the case that lighting is installed near T1 the following generic recommendations (following BCT 2009, ILP 2011) are proposed:

- Lighting should be minimised wherever possible in terms of number of lights and the power of lights (lux level).
- Light spill must be minimised on tree T1 and should not be subject to light spill greater than one lux.
- Directional lighting, facing and located away from tree T1 should be used.
- Lighting should be turned off when not in use except to meet the minimum requirements for Health and Safety.

Roosting bats pose a **Minor constraint** to the Proposed Scheme.

5.2.4.2 Other terrestrial mammals

Within the Survey Area and Proposed Clearance area

Hedgehog is potentially present within the Site and/or wider Survey Area. On a precautionary basis, general measures to prevent entrapment of animals overnight should be implemented for hedgehog i.e., provision of a means of escape from excavations (e.g. mammal ladder or ramps), covering or fencing off any excavations at the end of each working day, and capping of open pipes overnight.

Hedgehog are considered to pose a **Minor constraint** to the Proposed Scheme given the ease of implementing the above measures.

5.2.4.3 Birds

Within the Survey Area

Although the habitats within the Site and wider Survey Area are largely unsuitable for breeding birds, some suitable habitat is present. Approximately seventeen street and park trees are proposed to be removed to facilitate the Proposed Scheme. However, most of these trees are immature and the

majority of suitable habitat including mature parkland trees will be retained and will ensure foraging and nesting opportunities remain for breeding birds at the Site. Accordingly, whilst a variety of common bird species may use the Site for nesting or feeding, they are unlikely to be significantly affected by the Proposed Scheme.

All bird species are protected under the Irish Wildlife Acts from intentional killing or injury and disturbance during the breeding season (March 1st to August 31st, inclusive). This protection extends to the eggs, young and nests of birds. Therefore, removal of woody vegetation (including scrub) to facilitate the Proposed Clearance and the main works associated with the Proposed Scheme should not be undertaken during the bird breeding season (March to August, inclusive), where possible. If vegetation removal cannot be avoided during the breeding season, and as a last resort for small areas of vegetation removal only, a suitably experienced ecologist should check for active bird nests prior to the works taking place. Where active nest(s) are found, the ecologist would establish exclusion zone(s) of appropriate size from which machinery, personnel and materials will be excluded until the nesting attempt(s) have finished. Note that the latter method of checking for active nests may result in project delays, therefore the preferred method is to carry out vegetation clearance outside the bird breeding season. Nesting birds are considered to pose a **Minor constraint** to the Proposed Scheme.

To compensate for the limited loss of potential nesting habitat, it is recommended that alternative nesting opportunities for birds are provided by the Proposed Scheme. This could include the provision of replacement planting of native scrub species and the installation of bird nesting boxes. Bird boxes should be installed on retained mature trees in parkland in a north to north-easterly direction.

An Appropriate Assessment (AA) Screening Report for the Proposed Scheme (AECOM, 2022) has been produced in tandem with this PEAR. The AA Screening Report considered the potential for non-breeding birds which are the Special Conservation Interests (SCI) of SPAs to occur within the Site or surrounding area. Areas of amenity grassland within the Survey Area such as Pearse Park and open amenity grassland located south of Sallynoggin Park could theoretically be used by SCI birds. However, the AA Screening Report concluded given that a) the works for this Proposed Scheme will be minor and b) the amenity grassland in Pearse Park and small amenity grassland area by south of Sallynoggin Park will be subject to a high degree of existing disturbance by people and already have existing levels of artificial lighting, SCI birds would most likely not occur near the Proposed Scheme, and if they did, they would be already habituated to significant disturbance. There are also many alternative larger and likely less disturbed parks and areas of suitable grassland habitat for SCI species in the wider area.

Within the Proposed Clearance

Some habitat loss is required during the Proposed Clearance. While, no signs of nesting birds were noted in the Proposed Clearance area during the habitat survey, this area contains a small area of scrub and woodland which is considered suitable nesting habitat.

As mentioned above, removal of woody vegetation (including scrub) to facilitate the Proposed Clearance should not be undertaken during the bird breeding season (March to August, inclusive) unless first checked by a suitably experienced ecologist. It is recommended that alternative nesting opportunities for birds are provided by the Proposed Scheme.

Nesting birds are considered to pose a **Minor** constraint to the Proposed Clearance.

6. Summary

AECOM was commissioned by Dún Laoghaire-Rathdown County Council to conduct an ecological walkover survey and provide a PEAR for the Dún Laoghaire Central Active Travel Improvements. Table 6-1 summarises the findings of the ecological walkover survey and recommendations for further work or specific mitigation relative to the Proposed Scheme and the Proposed Clearance. Further details on the constrains and/or specific mitigation can be found in Section 5.

Table 6-1. Summary of the ecological constraints and recommendations relative to the Proposed Scheme and Proposed Clearance.

Identified Ecological constraint	Proposed Clearance	Proposed Scheme	Constraint scale	Action required
Habitats	Habitats within the Proposed Clearance area comprise a small area of scrub and broadleaved woodland. The small area of habitats within the Proposed Clearance are therefore not considered to be high-quality or particularly ecologically significant and additionally contains invasive non-native flora species (butterfly-bush and winter heliotrope).	Habitats within the Site are dominated by existing roads and buildings. Other habitats present within the Survey Area are typical of the urban environment, and include scattered trees and parkland, non-native shrubs, amenity grassland and small parcels of woodland. The majority of works will occur within existing areas of hardstanding, and only a small amount of habitat loss is required to facilitate the Proposed Scheme.	Minor constraint	Any losses should be compensated for by landscape planting. In general, landscaping should incorporate native species of local provenance providing habitats for birds, mammals and invertebrate species. Proposed wildflower grassland in areas of open space should be managed in an ecologically sensitive manner.
Invasive species	No scheduled invasive species were identified within the Proposed Clearance area. However, non-scheduled invasive non-native species including butterfly-bush and winter heliotrope were identified within the Proposed Clearance area.	No scheduled invasive species were identified within the Site or wider Survey Area. However, eight species of non-scheduled invasive species including butterfly-bush and winter heliotrope were identified within the Site.	Minor constraint	As good practice, it is recommended that biosecurity measures are implemented as practicable to prevent the further spread of these species. These measures must be clearly set out in a Method Statement for the works.
Bat roost suitability	Habitats within the Proposed Clearance area are not considered to be important to roosting bats.	A single tree with Low suitability (T1) to support roosting bats was identified within the Survey Area (outside of the Site). This tree is proposed to be retained. Existing lighting is located in the vicinity, which is proposed to be retained. If new lighting is required, this will be in a similar location to ensure no additional light spill onto T1.	Minor constraint.	There must not be light spill directly at T1. A number of generic recommendations are proposed in respect of lighting, including use of directional lighting no greater than one lux and minimising lighting where possible.

Breeding birds	Vegetation within the Proposed Clearance area offers limited potential nesting habitat for common bird species only.	Vegetation on Site offers limited potential nesting habitat for common bird species only.	Minor constraint	Proposed Clearance works are to be carried out outside of the bird breeding season (March to August inclusive), unless first checked by a suitably experienced ecologist.
Other notable or protected species	There is very limited suitable habitat within the Proposed Clearance area for badger, thus badger is not considered to pose a constraint to the Proposed Clearance. Other protected mammals, such as hedgehog may be present within the Proposed Clearance area.	There is very limited suitable habitat within the Survey Area for badger, and badger is not considered to pose a constraint to the Proposed Scheme. Other protected mammals, such as hedgehog may be present within the Survey Area.	Minor constraint	On a precautionary basis, general measures to prevent entrapment of animals overnight should be implemented for hedgehog i.e., provision of a means of escape from excavations (e.g. mammal ladder or ramps), covering or fencing off any excavations at the end of each working day, and capping of open pipes overnight.

7. References

- AECOM (2022). Rochestown Avenue Active Travel Improvements. Appropriate Assessment Screening. Report to Dún Laoghaire – Rathdown County Council.
- Bat Conservation Trust (2009). Bats and lighting in the UK, Version 3, Bat Conservation Trust.
- CIEEM (2017). Guidelines for Preliminary Ecological Appraisal (2nd Edition). Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins, J. (ed.) (2016). *Bat Surveys: Good Practice Guidelines (3rd edition)*. Bat Conservation Trust, London.
- Fossitt, J. A. (2000). *A Guide to Habitats in Ireland*. The Heritage Council, Ireland.
- Gilbert, G., Andrew, S., and Lewis, L. (2021). *Birds of Conservation Concern in Ireland 4: 2020–2026*. Irish Birds 43 1-22.
- Hayden, T. and Harrington, R. (2001). *Exploring Irish Mammals*. Town House, Dublin.
- Institute of Lighting Professionals (IPL) (2011). Guidance notes for the reduction of obtrusive light. Institute of Lighting Professionals, GN01:2011.
- King, J.L., Marnell, F., Kingston, N., Rosell, R., Boylan, P., Caffrey, J.M., FitzPatrick, Ú., Gargan, P.G., Kelly, F.L., O’Grady, M.F., Poole, R., Roche, W.K. and Cassidy, D. (2011). *Ireland Red List No. 5: Amphibians, Reptiles and Freshwater Fish*. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.
- Lockhart, N., Hodgetts, N., and Holyoak, D. (2012). *Ireland Red List No. 8 Bryophytes*. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.
- Marnell, F., Kingston, N., and Looney, D. (2009) *Ireland Red List No. 3: Terrestrial Mammals*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.
- Nelson, B., Ronayne, C., and Thompson, R. (2011). *Ireland Red List No.6: Damselflies and Dragonflies (Odonata)*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.
- Nelson, B., Cummins, S., Fay, L., Jeffrey, R., Kelly, S., Kingston, N., Lockhart, N., Marnell, F., Tierney, D., and Wyse-Jackson, M. (2019). *Checklists of protected and threatened species in Ireland*. Irish Wildlife Manuals, No. 116. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland
- Regan, E.C., Nelson, B., Aldwell, B., Bertrand, C., Bond, K., Harding, J., Nash, D., Nixon, D., and Wilson, C.J. (2010). *Ireland Red List No. 4 – Butterflies*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Ireland.
- Stace, C. (2019). *New Flora of the British Isles (4th edition)*. CandM Floristics, Middlewood Green.
- Smith, G.F., O’Donoghue P., and Delaney, E. (2011). *Best Practice Guidance for Habitat Survey and Mapping*. The Heritage Council, Ireland.
- Wyse-Jackson, M., FitzPatrick, Ú., Cole, E., Jebb, M., McFerran, D., Sheehy Skeffington, M. and Wright, M. (2016). *Ireland Red List No. 10: Vascular Plants*. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, Dublin, Ireland.

8. Figures



PROJECT
 Rochestown Avenue Active
 Travel Improvements

CLIENT
 Dún Laoghaire-Rathdown
 County Council

CONSULTANT
 AECOM Limited
 Adelphi Plaza
 George's Street Upper
 Dublin, Ireland
 www.aecom.com

LEGEND

- Site
- Proposed Clearance
- Survey Area (50m Buffer)
- Habitat Type (Fossitt)**
- X BC4 Flower beds and borders
- BL3 Buildings and artificial surfaces
- ED1 Exposed sand, gravel or till
- ED3 Recolonising bare ground
- I GA1 Improved agricultural grassland
- A GA2 Amenity grassland (improved)
- WD1 (Mixed) broadleaved woodland
- WD3 (Mixed) conifer woodland
- WD5 Scattered trees and parkland
- WS1 Scrub
- WS3 Ornamental/non-native shrub
- Mosaic of BL3 / GA2 / BC4 / WS3 / WD5
- WL1 Hedgerows
- WL2 Treelines
- WD5 Scattered trees and parkland

NOTES
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ISSUE PURPOSE

FINAL

PROJECT NUMBER

60661468

FIGURE TITLE

Habitats

FIGURE NUMBER

Figure 1



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PROJECT
Rochestown Avenue Active
Travel Improvements

CLIENT
Dún Laoghaire-Rathdown
County Council

CONSULTANT
AECOM Limited
Adelphi Plaza
George's Street Upper
Dublin, Ireland
www.aecom.com

LEGEND

- Site
 - Proposed Clearance
 - Survey Area (50m Buffer)
- Invasive Species**
- Butterfly-bush (non-scheduled, medium-impact)
 - Cherry laurel (non-scheduled, high-impact)
 - Montbretia (non-scheduled, low-impact)
 - Snowberry (non-scheduled, low-impact)
 - Traveller's joy (non-scheduled, medium-impact)
 - Winter heliotrope (non-scheduled, low-impact)
 - Cotoneaster (non-scheduled, low-impact)

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PROJECT NUMBER

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FIGURE TITLE

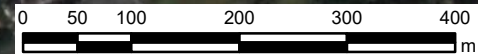
Invasive Non-native Species

FIGURE NUMBER

Figure 2



1:7,000 @ A3



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1:400,000 @ A3
 0 1 2 4
 km



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- LEGEND**
- Site
 - Proposed Clearance
 - Survey Area (50m Buffer)
 - ◆ Trees with low bat roost suitability (T1)

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FIGURE TITLE
 Trees with Bat Roost Suitability

FIGURE NUMBER
 Figure 3



1:7,000 @ A3
 0 50 100 200 300 400
 m

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