

Dún Laoghaire Central Active Travel Improvements

Preliminary Ecological Appraisal Report

Dún Laoghaire-Rathdown County Council

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Quality information

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1. Introduction

1.1 Background

AECOM was commissioned by Dún Laoghaire-Rathdown County Council (hereafter the 'Applicant') to conduct a Preliminary Ecological Appraisal (PEA) in relation to the Dún Laoghaire Central Active Travel Improvement (hereafter referred to as the 'Proposed Scheme') in Co. Dublin. The Applicant is proposing to improve the current facilities along this 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 above sections of existing road, and other improvements such as cycle protected junctions.

The Proposed Scheme is located along 2.8 km of roadway in Dún Laoghaire, encompassing:

- Kill Avenue;
- Mounttown Road Lower;
- Mounttown Road Upper; and,
- Glenageary Road Upper between the junctions of Oliver Plunkett Road and the Glenageary Roundabout.

1.2 Aims and objectives

Where accessible, AECOM Ecologists conducted an ecological walkover survey of the Proposed Scheme footprint (hereafter 'the site') and areas within 50 m either side of the Proposed Scheme (hereafter the 'survey area').

This Preliminary Ecological Appraisal Report (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 was 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, 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 ecological constraints (if present).

1.3 Quality assurance

This Report, 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.

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 2017-2021 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 – 2025) 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.

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 and species potentially relevant to the Proposed Scheme. A stratified approach was taken during the desk study, based on the likely zone of influence (Zoi) of the Proposed Scheme on different ecological features. The following data sources were used to inform the baseline description of the survey area and surrounding environment:

- mapping of European site boundaries available online at National Parks and Wildlife Service (NPWS) mapper¹;
- protected and invasive species data from the National Biodiversity Data Centre (NBDC)²; and,
- Environmental Protection Agency (EPA) rivers and water quality data and Water Framework Directive (WFD) status at EPA map viewer³.

Accordingly, the desk study identified:

- international nature conservation designations (i.e. SACs, SPAs and Ramsar sites) present within 2 km of the Proposed Scheme, or beyond where a link exists (e.g. hydrological connections);

¹ <https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=8f7060450de3485fa1c1085536d477ba> Accessed April 2022.

² <https://maps.biodiversityireland.ie/Map> Accessed April 2022.

³ <https://gis.epa.ie/EPAMaps/> Accessed April 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). It involved categorising different habitat types and habitat features within the survey area. The information gained from the survey was used to determine the likely ecological value of the survey area, and to direct any more specific survey work which may need to be carried out prior to the development.

The survey was carried out on 12 April 2022 by AECOM Ecologist Laura Cappelli under suitable weather conditions for survey. The survey was conducted within the site and included up to 50 m from the site boundary, where accessible, to search for evidence of protected and notable species or other features such as 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 different habitat types and reflected the conditions at the time of survey. Nomenclature was according to Stace (2019). Data were recorded, and habitats were mapped using a handheld mobile mapping device.

3.3.2 Invasive plant species

A search was made for scheduled⁴ invasive plant species and species listed as invasive in Ireland from the NBDC. Locations of such species were mapped using the mobile mapping device, and notes were made including species, extent, and form.

3.3.3 Potential to support protected and notable species

The standard habitat survey method was extended to identify the potential of habitats to host protected and notable species. An appraisal was made of the potential for the habitats present to support protected and notable species of plants and animals. When encountered, direct sightings and indirect signs (e.g. field signs) of protected species or auditory evidence were recorded. Additionally, assessments of trees 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 within the site were subject to a ground-based Preliminary Roost Assessment (PRA). The PRA was carried out to search for 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.

⁴ Invasive non-native species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011)

Bats can also roost in less obvious places such as under ivy and loose tree bark. The results were used to grade trees within the site, 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 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 on the Proposed Scheme site 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.

There were no other significant limitations to constrain the findings of this Report.

4. Results

4.1 Desk study

4.1.1 Designated sites

There are four sites with statutory designation for nature conservation within 2 km of the site. These are detailed in Table 4.1.

Table 4.1: Statutory designated sites within 2 km of the Proposed Scheme

Designated site	Reasons for designation	Distance from Proposed Scheme
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>	0.6 km north. No hydrological connection.
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	0.7 km northwest. No hydrological connection.
South Dublin Bay pNHA [000210]	Coincides with South Dublin Bay SAC. Reasons for designation as described above in South Dublin Bay SAC section.	0.7 km north. No hydrological connection.
Dalkey Coastal Zone and Killiney Hill pNHA [001206]	The site is a fine example of a coastal system with habitats ranging from sublittoral 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.	1.2 km northeast. No hydrological 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>	54	WA
	Smooth newt	<i>Lissotriton vulgaris</i>	10	WA
Bird	Arctic tern	<i>Sterna paradisaea</i>	1	BirdsDir A1, WA, BoCCI Amber List
	Barn owl	<i>Tyto alba</i>	2	WA, BoCCI Red List
	Barn swallow	<i>Hirundo rustica</i>	8	WA, BoCCI Amber List
	Black guillemot	<i>Cephus grylle</i>	26	WA, BoCCI Amber List
	Black-headed gull	<i>Larus ridibundus</i>	50	WA, BoCCI Amber List
	Black-legged kittiwake	<i>Rissa tridactyla</i>	21	WA, BoCCI Red List
	Black-necked grebe	<i>Podiceps nigricollis</i>	2	WA, BoCCI Red List
	Brent goose	<i>Branta bernicla</i>	18	WA, BoCCI Amber List
	Common coot	<i>Fulica atra</i>	3	WA, BoCCI Amber List
	Common guillemot	<i>Uria aalge</i>	25	WA, BoCCI Amber List
	Common kingfisher	<i>Alcedo atthis</i>	2	BirdsDir A1, WA, BoCCI Amber List
	Common linnet	<i>Carduelis cannabina</i>	7	WA, BoCCI Amber List
	Common redshank	<i>Tringa totanus</i>	25	WA, BoCCI Red List
	Common sandpiper	<i>Acitis hypoleucos</i>	1	WA, BoCCI Amber List
	Common scoter	<i>Melanitta nigra</i>	4	WA, BoCCI Red List
	Common snipe	<i>Gallinago gallinago</i>	3	WA, BoCCI Red List
	Common starling	<i>Sturnus vulgaris</i>	17	WA, BoCCI Amber List
	Common swift	<i>Apus apus</i>	7	WA, BoCCI Red List
	Common tern	<i>Sterna hirundo</i>	5	WA, BoCCI Amber List
	Dunlin	<i>Calidris alpina</i>	4	BirdDir A1, WA, BoCCI Red List
	Eurasian curlew	<i>Numenius arquata</i>	10	WA, BoCCI Red List
	Eurasian oystercatcher	<i>Haematopus ostralegus</i>	35	WA, BoCCI Red List
	Eurasian teal	<i>Anas crecca</i>	5	WA, BoCCI Amber List
	Eurasian wigeon	<i>Anas penelope</i>	1	WA, BoCCI Amber List
	European shag	<i>Gulosus aristotelis</i>	46	WA, BoCCI Amber List
	Great cormorant	<i>Phalacrocorax carbo</i>	43	WA, BoCCI Amber List
	Great crested grebe	<i>Podiceps cristatus</i>	6	WA, BoCCI Amber List
	Great northern diver	<i>Gavia immer</i>	7	BirdsDir A1, WA, BoCCI Amber List
	Greater scaup	<i>Aythya marila</i>	1	WA, BoCCI Red List
	Herring gull	<i>Larus argentatus</i>	47	WA, BoCCI Amber List
	House martin	<i>Delichon urbicum</i>	2	WA, BoCCI Amber List
	House sparrow	<i>Passer domesticus</i>	16	WA, BoCCI Amber List
Lesser black-backed gull	<i>Larus fuscus</i>	3	WA, BoCCI Amber List	

	Little egret	<i>Egretta garzetta</i>	6	BirdsDir A1, WA
	Mallard	<i>Anas platyrhynchos</i>	14	WA, BoCCI Amber List
	Manx shearwater	<i>Puffinus puffinus</i>	1	WA, BoCCI Amber List
	Mediterranean gull	<i>Larus melanocephalus</i>	80	BirdsDir A1, WA, BoCCI Amber List
	Mew gull	<i>Larus canus</i>	21	WA, BoCCI Amber List
	Mute swan	<i>Cygnus olor</i>	1	WA, BoCCI Amber List
	Northern gannet	<i>Morus bassanus</i>	9	WA, BoCCI Amber List
	Northern lapwing	<i>Vanellus vanellus</i>	2	WA, BoCCI Red List
	Northern wheatear	<i>Oenanthe oenanthe</i>	2	WA, BoCCI Amber List
	Peregrine falcon	<i>Falco peregrinus</i>	1	BirdsDir A1, WA
	Razorbill	<i>Alca torda</i>	15	WA, BoCCI Red List
	Red-breasted merganser	<i>Mergus serrator</i>	4	WA, BoCCI Amber List
	Red-necked phalarope	<i>Phalaropus lobatus</i>	1	BirdsDir A1, WA, BoCCI Red List
	Red-throated diver	<i>Gavia stellata</i>	10	BirdsDir A1, WA, BoCCI Amber List
	Ringed plover	<i>Charadrius hiticula</i>	3	WA, BoCCI Amber List
	Roseate tern	<i>Sterna dougallii</i>	1	BirdsDir A1, WA, BoCCI Amber List
	Sandwich tern	<i>Sterna sandvicensis</i>	14	WA, BoCCI Amber List
	Skylark	<i>Alauda arvensis</i>	2	WA, BoCCI Amber List
	Tufted duck	<i>Aythya fuligula</i>	2	WA, BoCCI Amber List
Fish	Basking shark	<i>Cetorhinus maximus</i>	3	Endangered
Invertebrate	Field cuckoo bee	<i>Bombus (Psithyrus) campestris</i>	1	Vulnerable
	Gipsy cuckoo bee	<i>Bombus (Psithyrus) bohemicus</i>	1	Near threatened
	Large red-tailed bumble bee	<i>Bombus (Melanobombus) lapidarius</i>	24	Near threatened
	Marsh fritillary	<i>Euphydryas aurinia</i>	1	HabDir, Vulnerable
	Moss carder bee	<i>Bombus (Thoracombe) muscorum</i>	4	Near threatened
	Tawny mining bee	<i>Andrena (Andrena) fulva</i>	4	Regionally extinct
Invasive species	American skunk-cabbage	<i>Lysichiton americanus</i>	2	Sch Inv, Medium-impact
	Australian flatworm	<i>Australoplana sanguinea</i>	1	Medium-impact
	Brown rat	<i>Rattus norvegicus</i>	8	Sch Inv, High-impact
	Budapest slug	<i>Tandonia budapestensis</i>	2	Medium-impact
	Butterfly-bush	<i>Buddleja davidii</i>	16	Medium-impact
	Cherry laurel	<i>Prunus laurocerasus</i>	1	High-impact
	Common broomrape	<i>Orobanche minor</i>	1	Medium-impact
	Common garden snail	<i>Cornu aspersum</i>	2	Medium-impact

	European rabbit	<i>Oryctolagus cuniculus</i>	4	Medium-impact
	Floating pennywort	<i>Hydrocotyle ranunculoides</i>	1	Sch Inv, High-impact
	Grey squirrel	<i>Sciurus carolinensis</i>	35	Sch Inv, High-impact
	Harlequin ladybird	<i>Harmonia axyridis</i>	2	Sch Inv, High-impact
	Himalayan honeysuckle	<i>Leycesteria formosa</i>	1	Medium-impact
	Hottentot-fig	<i>Carbobrotus edulis</i>	1	Sch Inv, High-impact
	House mouse	<i>Mus musculus</i>	6	High-impact
	Japanese knotweed	<i>Fallopia japonica</i>	7	Sch Inv, High-impact
	Japanese skeleton shrimp	<i>Caprella mutica</i>	3	Sch Inv, Medium-impact
	Jenkin's spire snail	<i>Potamopyrgus antipodarum</i>	3	Medium-impact
	New Zealand flatworm	<i>Arthurdendyus triangulatus</i>	10	High-impact
	New Zealand pygmyweed	<i>Crassula helmsii</i>	1	Sch Inv, High-impact
	Nuttall's waterweed	<i>Elodea nuttallii</i>	1	Sch Inv, High-impact
	Sycamore	<i>Acer pseudoplatanus</i>	4	Medium-impact
	Three-cornered garlic	<i>Allium triquetrum</i>	7	Sch Inv, Medium-impact
	Traveller's joy	<i>Clematis vitalba</i>	2	Medium-impact
	Wakame	<i>Unfaria pinnatifida</i>	1	Sch Inv, High-impact
	Wireweed	<i>Sargassum muticum</i>	4	Sch Inv, High-impact
Marine mammal	Bottle-nose dolphin	<i>Tursiops truncatus</i>	16	WA
	Common dolphin	<i>Delphinus delphis</i>	4	WA
	Common seal	<i>Phocoena phocoena</i>	109	WA
	Grey seal	<i>Halichoerus grypus</i>	28	WA
Terrestrial mammal	Eurasian badger	<i>Meles meles</i>	1	WA
	Eurasian red squirrel	<i>Sciurus vulgaris</i>	4	WA
	European otter	<i>Lutra lutra</i>	3	HabDir, WA
	Hedgehog	<i>Erinaceus europaeus</i>	38	WA
Terrestrial mammal - bats	Leisler's bat	<i>Nyctalus leisleri</i>	6	HabDir, WA
	Common pipistrelle	<i>Pipistrellus pipistrellus</i>	5	HabDir, WA
	Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	1	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

4.2 Field survey

4.2.1 Habitats

The site of the Proposed Scheme 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 noted during survey.

Broad habitats noted within the survey area are detailed in the following paragraphs. Habitats are presented in Figure 1.

BL3 Buildings and artificial surfaces

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

BC4 Flower beds and borders

Flower beds are present in the survey area, typically bordering footpaths and roads. Flower beds are planted with bulbs such as daffodil *Narcissus* sp.

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, managed by mowing. Areas of amenity grassland are typically grass dominated, including perennial ryegrass *Lolium perenne*, with infrequent herbs noted.

WD1 (Mixed) broadleaved woodland

Three small parcels of broadleaved woodland are present in the survey area, associated with private premises. Woodland parcels were largely inaccessible due to walls and a lack of access to private dwellings, however, were assessed from the boundary, as far as possible. Canopy trees within parcels are uniform in age, indicative of planting, and vary in height from 10 – 20 m. Canopy trees are dominated by beech *Fagus sylvatica* and ash *Fraxinus excelsior*, with horse chestnut *Aesculus hippocastanum*, and sycamore *Acer pseudoplatanus*. The understorey is typically limited, and where present, includes holly *Ilex aquifolium* and cypress *Cupressus x leyandii*. The understorey and ground flora in the parcel of woodland to the south of the Glenageary Road Upper was noted to support an abundance of ornamental and non-native species, such as barberry *Berberis* sp., and the scheduled Spanish bluebell *Hyacinthoides hispanica*.

WD5 Scattered trees and parkland

Scattered trees and parkland occur throughout the survey area, comprising both individual trees and parkland. Scattered individual trees are typically young, and are found on roadside verges, roundabouts, and private premises, with species noted including cherry *Prunus* sp.

Parkland occurs in amenity areas along existing roads, and on the grounds of private premises. Parkland trees were typically mature, with species present including cypress, beech, lime *Tilia* sp., horse chestnut, and sycamore. Parkland ground was limited, forming a short, grass-dominated sward managed by frequent mowing, with species recorded including Yorkshire-fog *Holcus lanatus*, broadleaved dock *Rumex obtusifolius* and dandelion *Taraxacum officinale* agg. The low-impact invasive species winter heliotrope *Petasites fragrans* was also noted.

WL1 Hedgerows

Hedgerows are infrequently found in the survey area, forming the curtilages of residential properties and commercial premises. Hedgerows are typically short, uniform structures, managed for screening. Hedgerows typically lack a distinct ground flora.

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 young, whilst in parkland were more

mature. Treelines bounding residential dwellings are frequently composed of conifer species, whilst parkland treelines are predominantly broadleaved. Treeline species recorded include beech, rowan *Sorbus aucuparia*, field maple *Acer campestre*, silver birch *Betula pendula*, horse chestnut, yew *Taxus baccata*, and cherry.

WS1 Scrub

Small parcels of scattered scrub are found in the survey area. Species recorded include bramble *Rubus fruticosus* agg. and willow *Salix* sp. The medium-impact invasive species butterfly-bush *Buddleja davidii* was 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 scheduled Spanish bluebell and three-cornered leek *Allium triquetrum*, and the medium-impact invasive species butterfly-bush.

4.2.2 Invasive non-native species

Five invasive species were confirmed as present within the survey area. Two scheduled invasive species were identified: Spanish bluebell and three-cornered leek. The non-scheduled invasive species butterfly-bush (medium-impact invasive species), sycamore, (medium-impact invasive species; note that these individuals are typically mature trees in these areas) and winter heliotrope (low-impact invasive species) were also identified, scattered throughout the survey area.

In addition, barberry *Berberis* sp. was noted in the understorey of a woodland parcel at the east of the survey area, however, this was not identified to species level due to access constraints. Two species of the *Berberis* genus (Japanese barberry *Berberis thunbergia* and barberry *Berberis vulgaris*) are listed as medium-impact invasive species, and as a precaution, it is assumed that the species noted within the survey area is a listed medium-impact 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. Indicative locations of invasive species are displayed in Figure 3.

4.2.3 Potential to support protected and notable species

4.2.3.1 Bats

A preliminary roost assessment of trees within the survey area identified two trees with Low suitability to host roosting bats, both located within an area of parkland to the north of Kill Avenue. Details of trees assessed to have suitability to host roosting bats are presented in

Table 4.3 and locations are shown in Figure 2. In the absence of potential roost features, all other trees in the survey area have been assessed as having Negligible suitability to host roosting bats.

Table 4.3: Trees with bat roosting suitability within the survey area

Reference	Species	PRF(s)	Photograph(s) of PRF	Suitability
T01 (tag no.0429)	Sycamore	Large knothole on trunk, c. 4 m up.		Low
T02 (tag no. 6416)	Sycamore	Knothole on main trunk, c. 10 m up.		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 external street lighting. The survey area lacks 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 Development and are not considered further in this Report.

4.2.3.2 Badger

No evidence of badger *Meles meles* was identified in the survey area. The survey area offers limited suitable habitat for foraging badger, and where present (e.g. woodland), it is limited by its small extent, and isolated nature, 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. Badger is not considered to pose a constraint to the Proposed Development, and is not considered further in this Report.

4.2.3.3 Other terrestrial mammals

No evidence of hedgehog *Erinaceus europaeus* 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 occurs within the survey area.

No evidence of, or suitable habitat for, any other protected terrestrial mammal (e.g. otter *Lutra lutra*, red squirrel *Sciurus vulgaris*, pine marten *Martes martes*, Irish hare *Lepus timidus hibernicus*, pygmy shrew *Sorex minutus*) was noted during the survey. These species are not considered further in this Report.

4.2.3.4 Birds

Habitats in the survey area are largely unsuitable for breeding bird 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 bird species.

The Appropriate Assessment (AA) Screening Report for the Proposed Scheme (AECOM, 2022) considered the potential for non-breeding birds occurring within the site or surrounding area. At Mounttown Road Upper there is an area of amenity grassland at Monkstown Castle, and amenity playing pitches in a school 70 m from the road. There is also one small area with open amenity grass located beside the Proposed Scheme at Kill Avenue; others are at minimum 130 m away with intervening houses/gardens or other buildings. These could theoretically be used by SCI birds. However, given that a) the works for this Proposed Scheme will be minor, b) these roads are in central Dún Laoghaire and are subject to existing disturbance, and c) the amenity grassland/playing pitches at Mounttown Road Upper, and small amenity grassland area by Kill Avenue would also experience a high degree of disturbance by people, SCI birds would most likely not occur near the Proposed Scheme, and if they did they would be already habituated to significant disturbance and there are many alternative larger and likely less disturbed parks in the area.

4.2.3.5 Other protected and notable species

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

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 2 km of the Proposed Scheme, 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 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 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. No adverse impacts to any national statutory site are likely. Designated sites pose **no constraint** to the Proposed Scheme.

5.2.2 Habitats

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. Though holding value in their own right, the habitats within the site, and the wider survey area, are generally not considered to be high-quality or ecologically significant habitats. In addition, non-native invasive species are frequently found in habitats throughout the survey area, which reduces their biodiversity importance.

The majority of construction works associated with the Proposed Scheme will occur within existing areas of hardstanding. The majority of habitats will be retained, with only minor losses to facilitate the Proposed Scheme, such as to street 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 street trees, and shrub and ornamental flower planting, particularly along Kill Avenue. Wildflower grassland and new trees are proposed within parkland, which will enhance the existing habitats.

It is recommended that the opportunity is taken to manage a proportion of the retained and proposed habitats, such as parkland north of Kill Avenue, in an ecologically sensitive manner. 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 *Sambucus nigra*, guelder-rose *Viburnum opulus*, honeysuckle *Lonicera periclymenum* and holly. 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 **no 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.

5.2.3 Invasive plant species

Two scheduled invasive species were identified within the survey area, comprising Spanish bluebell and three-cornered leek. No scheduled invasive species were identified within the site itself, however, both scheduled species, occur approximately 2 – 6 m from the Proposed Scheme footprint. Any disturbance to these species during construction works poses a risk of spreading these species. It is therefore recommended that biosecurity measures (i.e. prevention of spread) are implemented to reduce the risk of spread of these 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, including Spanish bluebell and three-cornered leek identification and site practices. Scheduled invasive species are therefore considered to pose a **minor constraint** to the Proposed Scheme.

Other non-scheduled invasive species identified within the survey area, and within the Proposed Scheme footprint, include butterfly-bush, barberry, sycamore, and winter heliotrope. As non-scheduled invasive species, there is no specific legal requirement to manage or control these species. However, the Wildlife Acts address 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, the measures to be implemented for the scheduled species should be adopted for these non-scheduled invasive species as well. Non-scheduled invasive species pose a **minor constraint** to the Proposed Development.

5.2.4 Protected and notable species

5.2.4.1 Roosting bats

Two trees (T01, T02) with Low bat roosting suitability were identified within the boundary of the Proposed Scheme. However, both trees will be retained. No impacts are anticipated to roosting bats, and roosting bats pose **no constraint** to the Proposed Development.

5.2.4.2 Other terrestrial mammals

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 Development given the ease of implementing the above measures.

5.2.4.3 Birds

Habitats within the site and wider survey area are largely unsuitable for breeding birds, albeit, some suitable habitat is present. Some habitat loss is required to facilitate the Proposed Development; however, this is small in extent, being limited to a small number of street and park trees. The majority of suitable habitat including mature parkland trees will be retained, and combined with new landscape planting, will ensure foraging and nesting opportunities remain for breeding birds at the site. Accordingly, whilst a variety of common bird species may frequent 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 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 suitable for smaller areas of vegetation 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 species and the erection of bird nesting boxes. Bird boxes should be installed on retained mature trees in parkland, in a north to north-easterly direction.

6. Summary

AECOM was commissioned by Dún Laoghaire-Rathdown County Council to conduct a PEA for the Dún Laoghaire Central Active Travel Improvements. The following summarises the findings of the PEA and recommendations for further work or specific mitigation:

- There are two European sites within 2 km of the Proposed Development. An AA Screening Report, prepared in parallel with this PEA Report, concluded that the Proposed Scheme has no possibility of likely significant effects on any European sites.
- There are two nationally designated sites within 2 km of the Proposed Scheme. The Proposed Scheme is separated from these designated sites by existing development, and there are no terrestrial or hydrological pathways to these sites or any other nationally designated site.
- 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. Any losses will 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.
- The scheduled invasive species three-cornered leek and Spanish bluebell were identified outwith but adjacent to the site boundary. It is recommended that biosecurity measures are implemented to prevent the further spread of these species. A number of medium-impact and low-impact invasive species were identified within the survey area. As good practice, the measures to be implemented for the scheduled species should be adopted for these non-scheduled invasive species as practicable.
- Two trees with Low suitability to support roosting bats were identified. Both trees are to be retained. Habitats within the survey area are not considered to be important to foraging and commuting bats. No impacts to bats are predicted as a result of the Proposed Scheme.
- There is no 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. Mitigation measures for hedgehog have been provided, involving construction safeguards.
- Vegetation onsite offers limited potential nesting habitat for common bird species only. Vegetation clearance / maintenance should take place outwith the bird breeding season (March to August inclusive), unless first checked by a suitably experienced ecologist..
- There is no potential habitat for any other protected or notable species (e.g. badger, otter, amphibians, common lizard, invertebrates) within the survey area. No further surveys are recommended.

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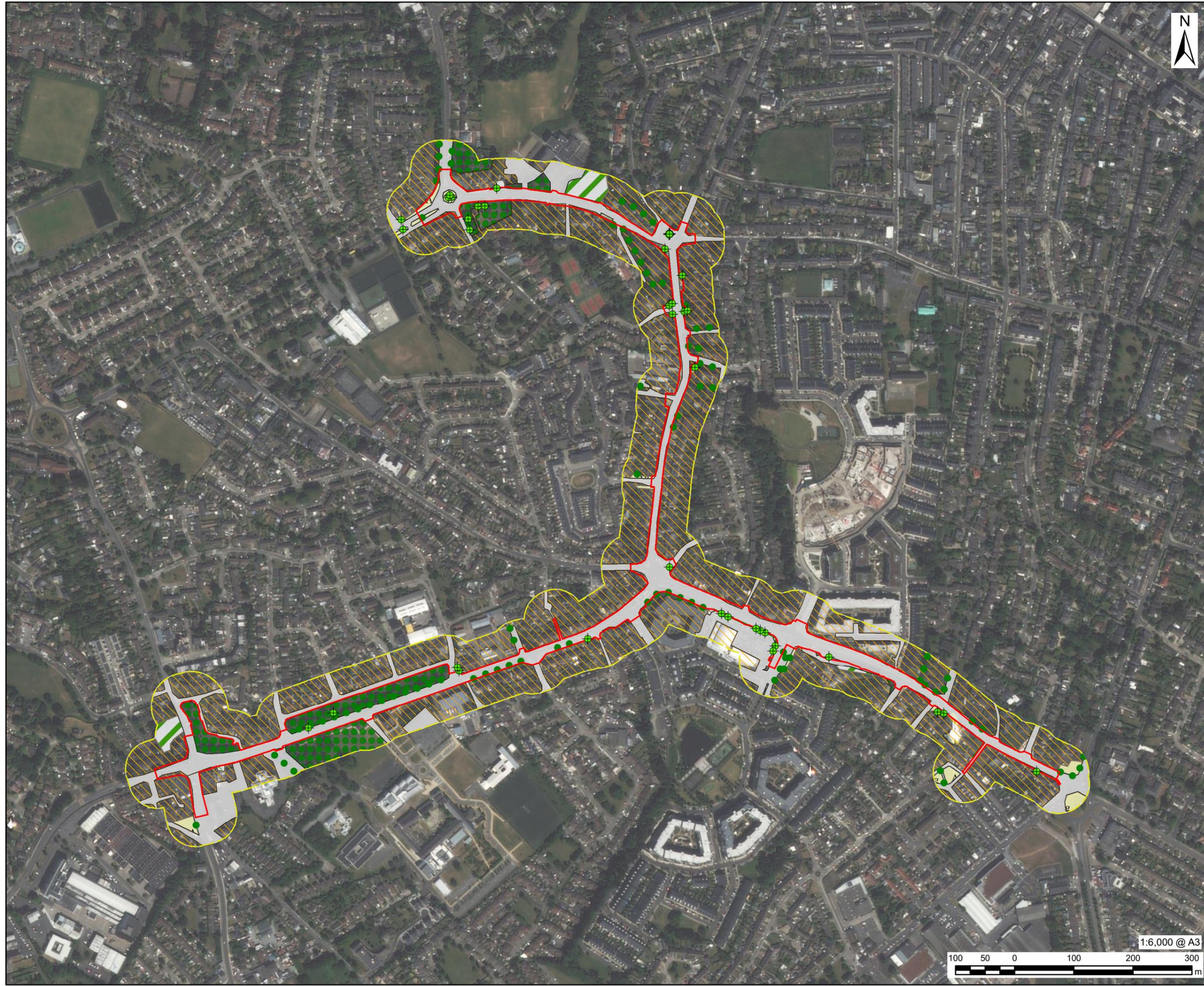
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8. Figures



PROJECT
 Dún Laoghaire
 Central Active
 Improvements

CLIENT
 Dún Laoghaire-Rathdown
 County Council

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

- LEGEND**
- Site Boundary
 - 50m Buffer
 - Habitat Type (Fossitt)**
 - BC4 Flower beds and borders
 - BL3 Buildings and artificial surfaces
 - GA2 Amenity grassland (improved)
 - WD1 (Mixed) broadleaved woodland
 - WD5 Scattered trees and parkland
 - WS1 Scrub
 - WS3 Ornamental/non-native shrub
 - BL3 / GA2 / BC4 / WS3 / WD5
 - WL1 Hedgerows
 - WL2 Treelines
 - WD5 Scattered trees and parkland

NOTES

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ISSUE PURPOSE
 DRAFT

PROJECT NUMBER
 60661468

FIGURE TITLE
 Habitats

FIGURE NUMBER
 Figure 1



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LEGEND

- Site Boundary
- 50m Buffer

Trees with low bat roost suitability

- ◆ T01
- ◆ T02

NOTES

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FIGURE TITLE
 Trees with bat roost suitability

FIGURE NUMBER
 Figure 2

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LEGEND

- Site Boundary
- 50m Buffer

Invasive Species

- Barberry (non-scheduled, medium-impact)
- Butterfly-bush (non-scheduled, medium-impact)
- Spanish bluebell (scheduled)
- Sycamore (non-scheduled, medium-impact)
- Three-cornered leek (scheduled)
- Winter heliotrope (non-scheduled, low-impact)

NOTES

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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

Note on basemap: The basemap has an error on the South-East side and should not be mistaken for a feature on the figure.

ISSUE PURPOSE

DRAFT

PROJECT NUMBER

60661468

FIGURE TITLE

Invasive Non-Native Species

FIGURE NUMBER

Figure 3



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