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D805: HILLCREST ROAD IMPROVEMENT SCHEME

AA SCREENING REPORT

For
Dún Laoghaire-Rathdown County Council

15 April 2025

NOTICE & DOCUMENT CONTROL

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DOCUMENT CONTROL & HISTORY

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1 INTRODUCTION

1.1 PROJECT CONTRACTUAL BASIS & PARTIES INVOLVED

This Appropriate Assessment (AA) Report has been prepared by O'Connor Sutton Cronin & Associates Ltd. (OCSC) at the request of their Client, Dun Laoghaire-Rathdown County Council. The regulatory authority for the site is Leitrim County Council. The site location is shown in Figure 1.1.

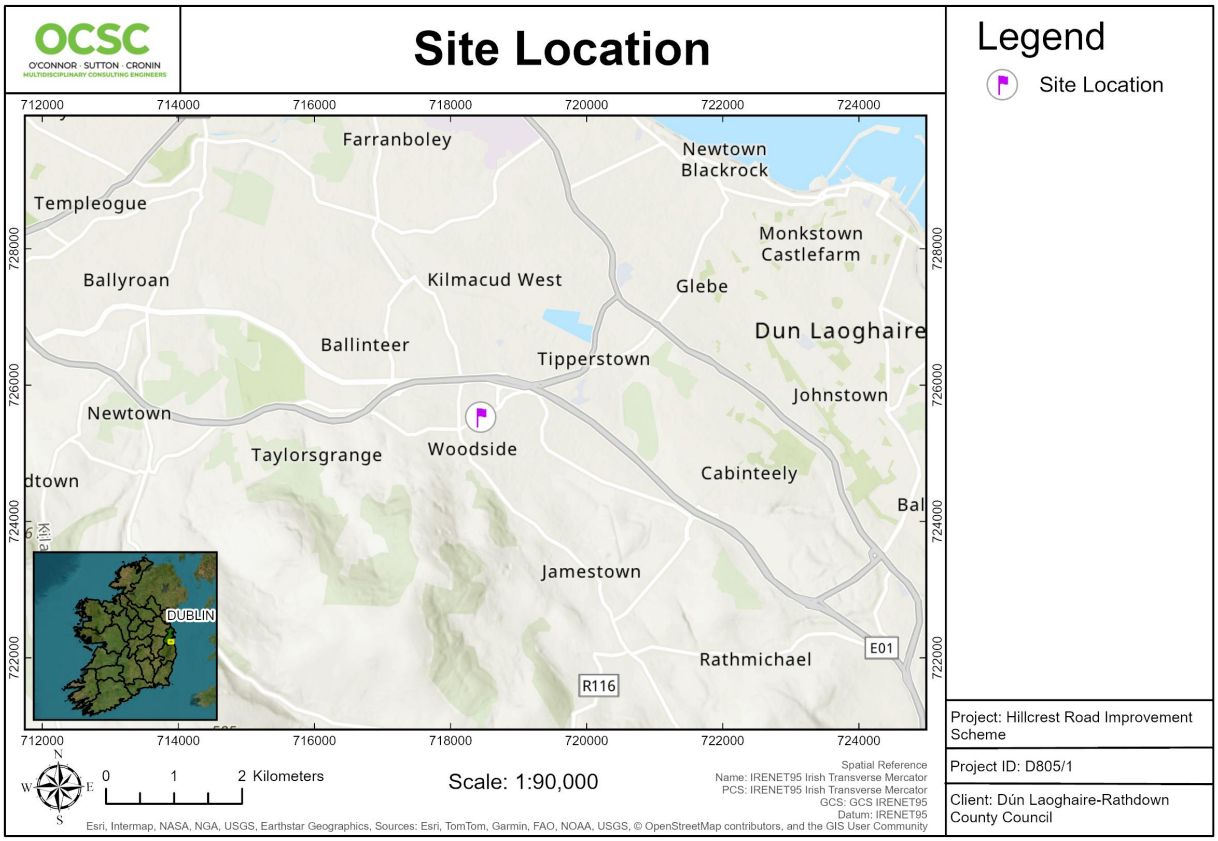

Figure 1.1: Regional Site Location (Source: OCSC, 2025)

1.2 QUALIFICATIONS AND EXPERIENCE

The fieldwork and report were completed by Luis Iemma, BSc, MSc, Ph.D., CEcol, MCIEEM, Associate Ecologist, Consultant Ecologist; Luis is a highly skilled Chartered Ecologist with an excellent knowledge of environmental regulations and best practice. He has extensive expertise in biological control, taxonomy (identifying key species and bioindicators), and aquatic macroinvertebrates; bat, otter, hedgehog, amphibian, and badger surveys; and environmental assessments for a range of activities.; reviewed by Glenda Barry, BSc,

MSc, PGeo, EurGeol, Associate Consultant; and authorised by Eleanor Burke BSc, MSc, DAS, MIEnvSc, CSci, Technical Principal, and the OCSC Environmental Division Manager.

1.3 LEGISLATIVE CONTEXT

The Natura 2000 network is a European network of important ecological sites, as defined under Article 3 of the Habitats Directive 92/43/EEC, which comprises both special areas of conservation and special protection areas.

Special Areas of Conservation (SAC) are natural habitat types listed in Annex I, and habitats of the species listed in Annex II, of the Habitats Directive, and are established under the Habitats Directive itself. Special Protection Areas (SPA) are established under Article 4 of the Birds Directive 2009/147/EC for the protection of endangered species of wild birds. The aim of the network is to aid the long-term survival of Europe's most valuable and threatened species and habitats.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect such sites. Article 6(3) establishes the requirement for AA. These requirements are implemented in the Republic of Ireland by the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) and the Planning Development Act 2000 (as amended). The process of appropriate assessment involves several stages, as discussed below.

Stage One: Screening

The process identifies the likely impacts upon a European site of a project, either alone or in combination with other projects or plans and considers whether these impacts are likely to be significant.

Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3):

i. whether a plan or project is directly connected to or necessary for the management of the site, and
ii. whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a Natura 2000 site in view of its conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, or it the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). Screening should be undertaken without the inclusion of mitigation, unless potential impacts clearly can be avoided through the modification or redesign of the plan or project, in which case the screening process is repeated on the altered plan. The greatest level of evidence and justification will be needed in circumstances when the process ends at screening stage on grounds of no impact.

Stage Two: Appropriate Assessment

This stage considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a Natura 2000 site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects. The proponent of the plan or project will be required to submit a Natura Impact Statement, i.e. the report of a targeted professional scientific examination of the plan or project and the relevant Natura 2000 sites, to identify and characterise any possible implications for the site in view of the site's conservation objectives. This should provide information to enable the competent authority to carry out the appropriate assessment. If the assessment is negative, i.e. adverse effects on the integrity of a site cannot be excluded, then the process must proceed to Stage 4, or the plan or project should be abandoned. The AA is carried out by the competent authority and is supported by the NIS.

Stage Three: Assessment of Alternative Solutions

This stage examines any alternative solutions or options that could enable the plan or project to proceed without adverse effects on the integrity of a Natura 2000 site. The process must return to Stage 2 as alternatives will require appropriate assessment in order to proceed. Demonstrating that all reasonable alternatives have been considered and assessed, and that the least damaging option has been selected, is necessary to progress to Stage 4.

Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain.

Stage 4 is the main derogation process of Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project that will have adverse effects on the integrity of a Natura 2000 site to proceed in cases where it has been established that no less damaging alternative solution exists. The extra protection measures for Annex I priority habitats come into effect when making the IROPI case. Compensatory measures must be proposed and assessed. The Commission must be informed of the compensatory measures. Compensatory measures must be practical, implementable, likely to succeed, proportionate and enforceable, and they must be approved by the Minister.

1.4 METHODOLOGY AND APPROACH

The AA Screening has been prepared taking into account the aforementioned and following legislation and guidance:

- Guidance for EIA and AA screening of active travel projects funded by the NTA, October 2023.
- OPR Guidance Note PN02 Environmental Impact Assessment Screening, June 2021.
- Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, 2009; 11 February 2010 revision.
- Commission Notice: Managing Natura 2000 sites – The provisions of Article 6 of the Habitats Directive 92/43/EEC. European Commission, 2018.

- Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. European Commission Environment DG, 2002.
- Managing Natura 2000 sites: the Provisions of Article 6 of the Habitats Directive 92/43/EEC. European Commission, 2000.
- Appropriate Assessment Screening for Development Management. Office of the Planning Regulator, March 2021.

The above documents have been used to carry out a desktop AA Screening based on the best available guidance and operating within the applicable legislation.

1.5 SCOPE OF WORKS

To meet the project objectives, the following scope of works was completed:

- Present a discussion of the proposed development and its potential effects on its receiving environment;
- Present a discussion of the current site status and key environmental influences around the site;
- Undertake and present a review of European sites in the region of the proposed development;
- Conduct and present a discussion on the screening of the identified European sites in relation to the potential effects arising from the project; and
- Provide a conclusion as to whether or not the proposed development is likely to, either alone or in combination with other plans or projects, have a significant effect on any European site.

1.6 LIMITATIONS

This Appropriate Assessment Screening Report has been prepared for the sole use of Dun Laoghaire-Rathdown County Council ("the Client"). No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by OCSC.

This assessment is based on a review of available historical information, environmental records, consultations, relevant guidance information, and reports from third parties. All information received has been taken in good faith as being true and representative.

This report has been prepared in line with the best industry standards. The methodology adopted and the sources of information used by OCSC in providing its services are outlined in this Report. The assessment was undertaken and described by OCSC in February 2025 and is based on the information available during that period. The scope of this report and the services are accordingly factually limited by these circumstances. Three surveys were carried out by Associate Ecologist Luis Iemma, the first survey was completed on the 18th

of April 2024, the second 9th of May 2024 and the last 16th of January 2025 for the standalone Ecological Impact Assessment (EcIA) completed by OCSC.

OCSC 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 OCSC's attention after the date of the Report. The conclusions presented in this report represent OCSC's best professional judgement based on a review of the relevant information available at the time of writing. The opinions and conclusions presented are valid only to the extent that the information provided was accurate and complete.

2 DESCRIPTION OF THE EXISTING ENVIRONMENT

2.1 PROJECT DESCRIPTION

This Appropriate Assessment (AA) Screening report by O'Connor Sutton Cronin & Associates Ltd. (OCSC) at the request of their Client, Dún Laoghaire-Rathdown County Council. This report has been prepared for the proposed Hillcrest Road Improvement Scheme. The objectives of the scheme are to address the infrastructure deficiencies along Hillcrest Road, with direct benefits of safety and health, such as:

- Improvement for vulnerable road users with the provision of adequate footpaths and cycle lanes along Hillcrest Road;
- Improvement for residents, enabling pedestrian and cycling linkages to commercial premises and connections to DLRCC's cycling network;
- General improvements for drivers with improved lane widths and sightlines; and
- Encouragement of sustainable modes of transport.

The proposed scheme consists of the following:

- Widening of the existing road to 6.50 m.
- Addition of 2.0 m. footpaths on both sides
- Public lighting.
- Surface water drainage
- Provision of utilities and services.
- Road marking and signage.
- Diversion of existing utilities and provision of new utilities.
- Accommodation works to existing properties.
- Walls, retaining walls, fencing and other boundary treatments.
- Associated landscaping works.
- Miscellaneous ancillary works

These proposed works can be referred to in the drawings commissioned by OCSC Civil Team, 2024, drawings D805-OCSC-XX-XX-DR-C-0002-0005. Refer to Appendix A for proposed works drawings.

The completed Scheme will integrate with the upgraded approach to the Lamb's Cross junction (currently under construction) at the western end and the approach to the recently upgraded Kilgobbin Road junction to the east. While the length of Hillcrest Road between the junctions is approximately 660m, it is understood that the length of road to be upgraded is in the order of 540m, as the Hillcrest Road approach to the junctions will have already been upgraded. The study area for the project is shown in Figure 2.1.

2.2 SITE SETTING AND LOCATION

The site is located on Hillcrest Road, in Sandyford, County Dublin. The regional site location is shown in Figure 1.1, and the study area is shown in Figure 2.1.

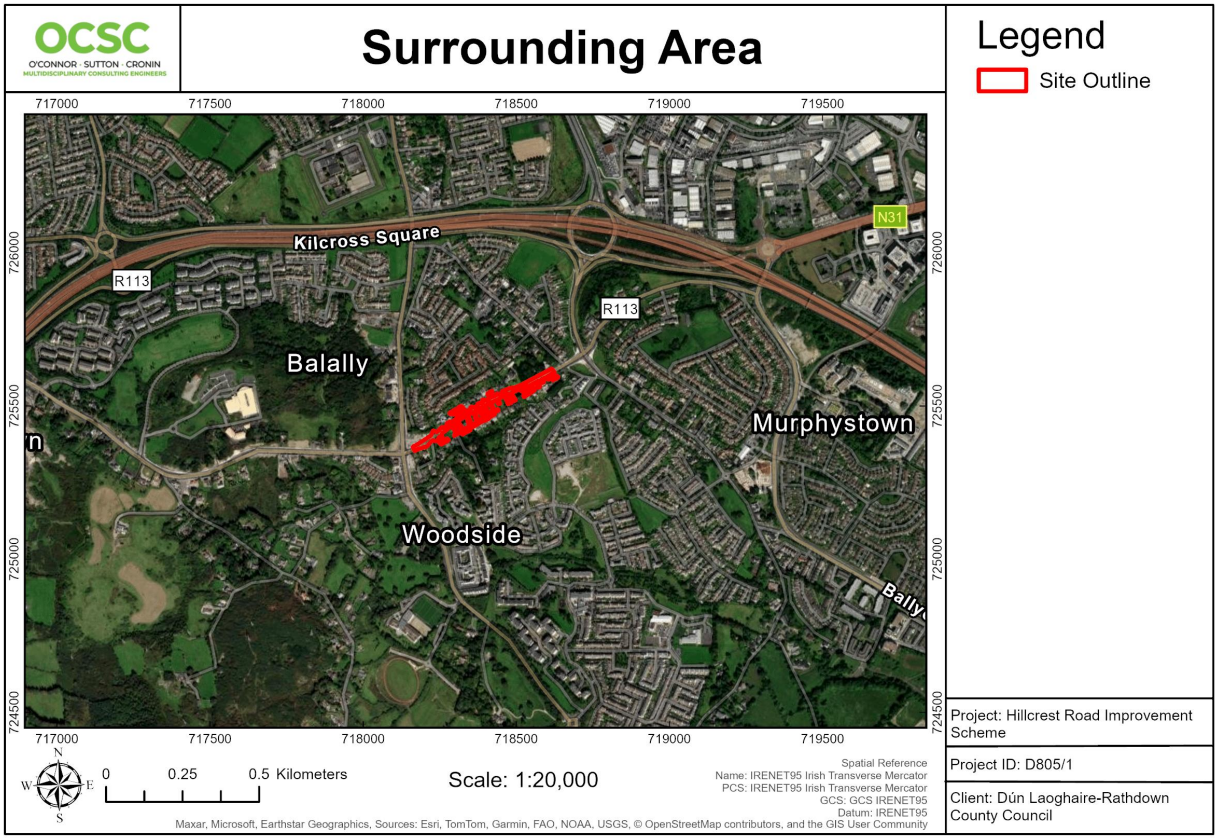

Figure 2.1: Surrounding Area, (Source: OCSC, 2025).

2.3 SURROUNDING LAND USE

The site and its surroundings are set in a primarily residential area with some nearby commercial/retail, public amenity, and educational land uses as well as undeveloped land and forestry as shown in Figure 2.1. The site consists of Hillcrest Road, its junctions at Lamb's Cross to the west and Kilgobbin Road to the east, and land along its length which is currently in use as footpaths and gardens associated with houses adjoining the site, primarily to the south. To the north and east of the study area are residential neighbourhoods, open space used for public amenity, and road infrastructure associated with the M50 motorway. To the south are residential neighbourhoods and undeveloped land. To the west and south-west to the site are Sandyford Community Centre, St. Mary's National School, several shops, residences, and a pitch and put course. To the northwest are primarily undeveloped open space and forestry with the National Sport and Science Centre further to the northwest. See Table 2.1 for adjacent land uses.

Table 2.1. Adjacent Land Uses

Boundary	Land Use
North	Residential and public amenity areas and the M50
South	Residential properties and undeveloped land
East	Residential and public amenity areas and the M50
West	Residential properties, several shops, Sandyford Community Centre, St. Mary's National School, a pitch and put course, undeveloped land, forestry, and the National Sport and Science Centre.

2.4 HYDROLOGY

The Carrickmines Stream (Carrickmines_010 (IE_EA_10C040350)) transects the site near its western end and on the east side of the junction of Hillcrest Road and Hillcrest Downs. The Carrickmines Stream flows south to north in the western portion of the site. It them flows in an easterly direction until it merges with Shanganagh_010 (IE_EA_10S010600) River before discharging into the Irish Sea between Killiney and Shankill. See Figure 2.2 and Figure 2.3 for waterbody locations.

Based on the most recent water quality information (2016-2021), the Carrickmines Stream has an overall Water Framework Directive (WFD) status of 'Good' as shown in Figure 2.3.

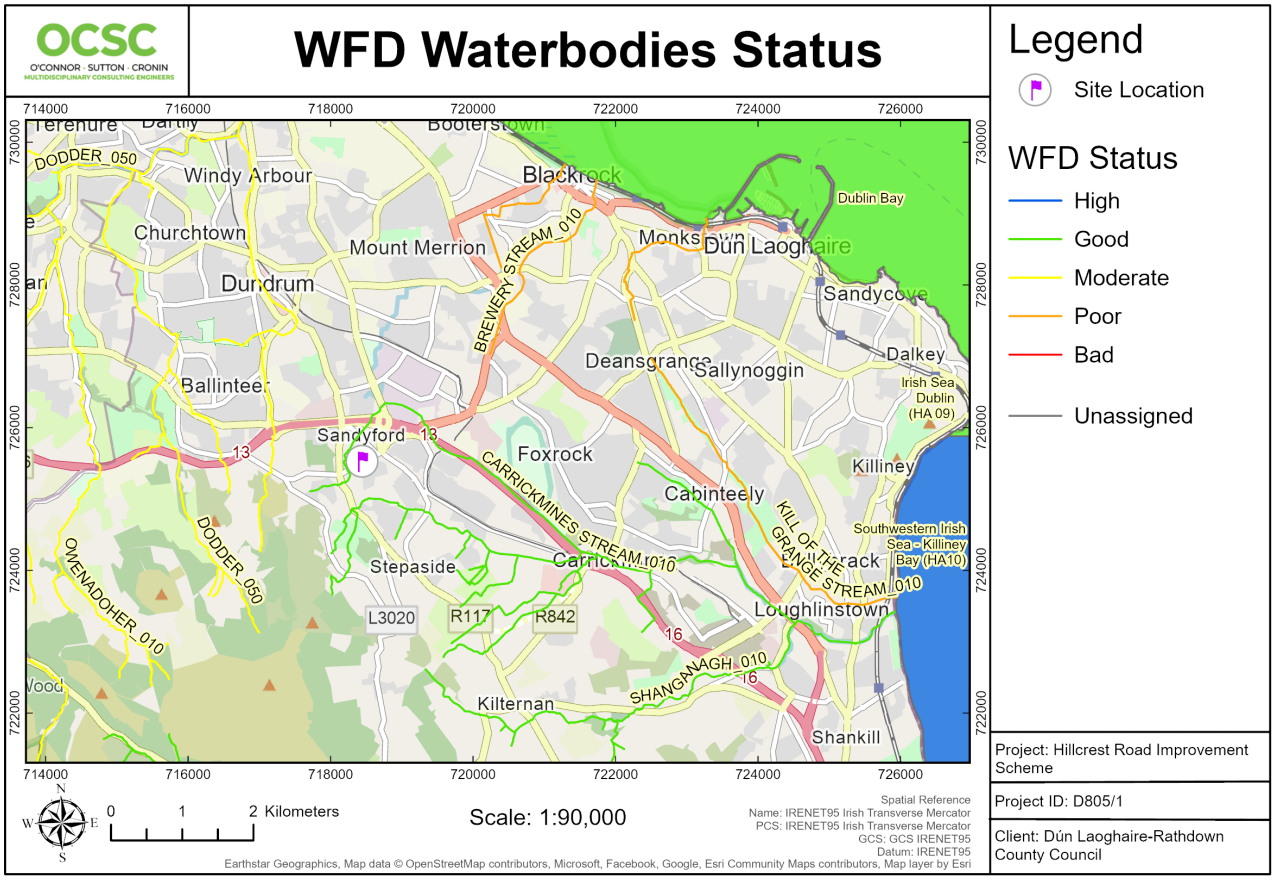

Figure 2.2: River Waterbodies Status, (Source: OCSC, 2025)

The EPA spatial dataset indicates that the Muckalee Stream 2027 is 'Not at risk' of failing to meet its WFD objectives by (EPA 2025) as shown in Figure 2.4. WFD information for these waterbodies is summarised in Table 2.2.

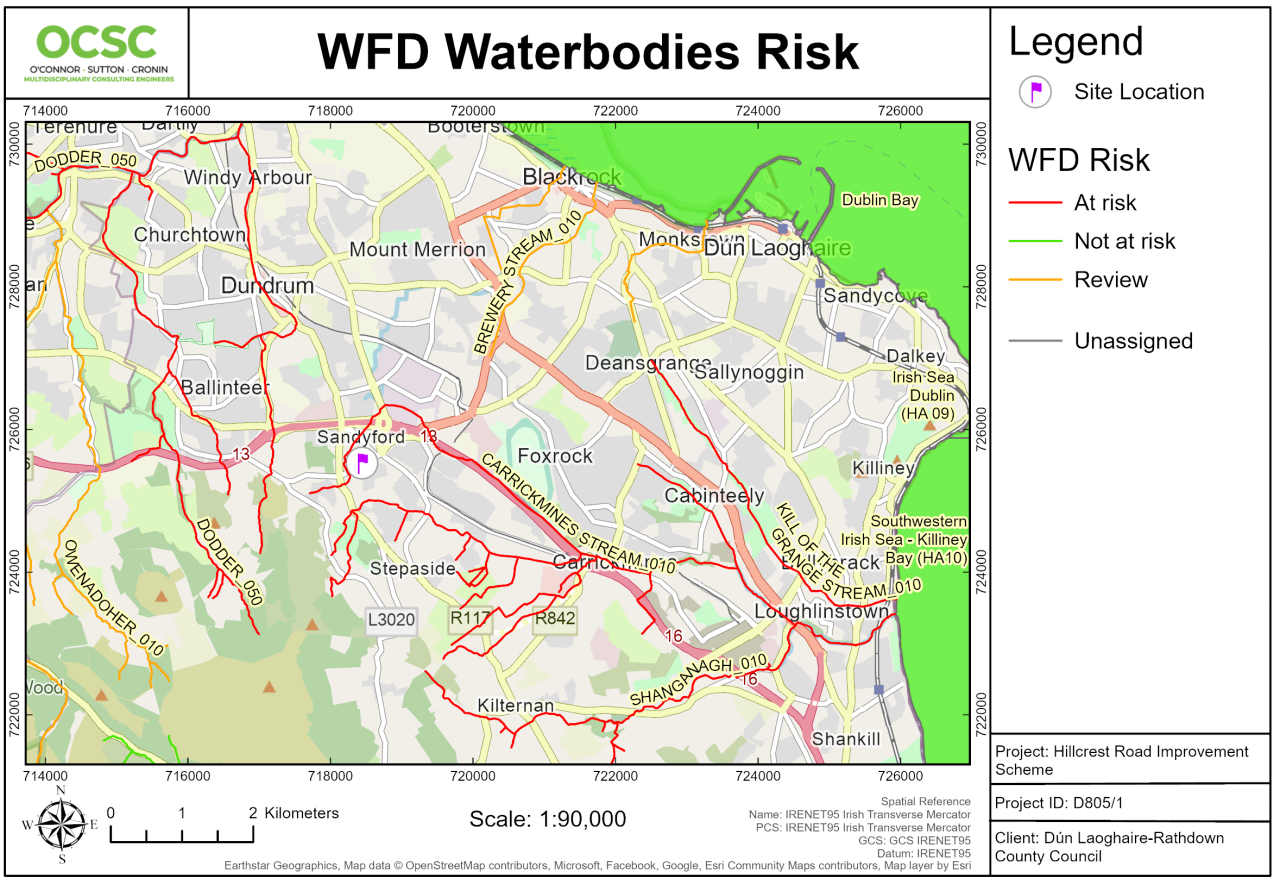

Figure 2.3: River Waterbodies Risk, (Source: OCSC, 2025).

Table 2.2. WFD Summary Information

WFD Summary Information	
Name	Carrickmines Stream
Waterbody Code	IE_EA_10C040350
Waterbody Name	Carrickmines_010
Waterbody Type	River
Iteration	SW 2016-2021
Status	Good
Risk	Not at Risk

3 SCREENING FOR APPROPRIATE ASSESSMENT

3.1 SCREENING PROCESS

This stage of the process identifies any likely significant effects to European sites from a project or plan, either alone or in combination with other projects or plans. The screening phase was progressed in stages during which a series of questions were asked to determine:

- Whether a plan or project can be excluded from AA requirements because it is directly connected with or necessary to the management of a European Site.
- Whether the project will have a potentially significant effect on a European Site, either alone or in combination with other projects or plans, in view of the site's conservation objectives or if residual uncertainty exists regarding potential impacts.

An important element of the AA process is the identification of the "'conservation objectives", "Qualifying Interests" (QIs), and/ or "Special Conservation Interests" (SCIs) of European sites requiring assessment. QIs are the habitat features and species listed in Annexes I and II of the Habitats Directive for which each European Site has been designated and afforded protection. SCIs are wetland habitats and bird species listed within Annexes I and II of the Birds Directive. It is also vital that the threats to the ecological/environmental conditions that are required to support QIs, and SCIs are considered as part of the assessment.

Site-Specific Conservation Objectives (SSCOs) have been designed to define favourable conservation status for a particular habitat or species at that site. Paragraph 4.6(3) of the European Commission interpretation document 'Managing Natura 2000 sites: The provisions of Article 6 of the Habitats Directive 92/43/EEC' states:

> *"The significant effects on any European Site, in view of the site's conservation objectives, involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives."*

Favourable conservation status of habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and

- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

This AA screening is based on the best scientific knowledge and has utilised ecological and hydrological expertise. In addition, a detailed online review of published scientific literature and 'grey' literature was conducted. This included a detailed review of the National Parks and Wildlife Service (NPWS) website, including mapping and available reports for relevant sites and, in particular, sensitive qualifying interests/ special conservation interests described and their conservation objectives. The EPA EnVision map viewer (EPA 2024) and available reports were also reviewed, as was the NPWS (2019) publication "The Status of Protected EU Habitats and Species in Ireland".

3.2 IDENTIFICATION OF RELEVANT EUROPEAN SITES

Appropriate Assessment screening of potential effects on European sites is conducted following a standard source-pathway-receptor model where all three elements of this mechanism must be in place for an effect to be established. The absence or removal of one of the elements of the mechanism is sufficient to conclude that a potential effect is not of any relevance or significance. The elements of this model consist of the following:

Source(s)

Identify the characteristics of the proposed development such as the nature, size and location and the type of impacts

Examples:

Direct Impacts:

- Direct emissions (water, air, noise or light).
- Loss of habitat (including breeding or foraging habitat).

Indirect Impacts:

- Loss of breeding or foraging habitat outside the European site.
- Impact on a non-QI habitat or species within the European site that is ecologically linked to the conservation objectives/QI.
- Barriers to movement e.g. aquatic species, otter, bats, bird species.
- Collision risk.
- Loss of breeding or foraging for a prey species.

Pathway(s)

Identify the existence and characteristics of the pathways that could link European sites and their Qualifying Interests to the proposed development.

Examples:

Direct Pathways:

Indirect Pathways:

- Proximity (i.e. location within the European site).
- Water bodies (rivers/streams, marine, lakes, groundwater).
- Air (for both air emissions and noise impacts).
- Disruption to migratory paths, e.g. bird species, aquatic species, bats.
- 'Sightlines' where noisy or intrusive activities may result in disturbance to shy species.

Receptor(s)

Qualifying species and habitats which may be linked to sources of impact via identified pathways. The location, nature, and sensitivities of these potential receptors must be established along with the ecological conditions underpinning their survival and the conservation objectives specified to maintain or restore favourable conservation status.

Examples:

- Freshwater Pearl Mussels' extreme sensitivity to siltation in water.
- Lesser Horseshoe Bats' sensitivity to noise and light.
- Turloughs' sensitivity to changes in groundwater levels.

Screening for Appropriate Assessment is comprised of the following steps:

(a) Describe the details of the proposed development and the characteristics of the receiving environment
(b) Identify all the potential impacts of the proposed development
(c) Define the zone of influence using the Source-Pathway-Receptor model.
(d) Identify the European site(s) within the zone of influence of the proposed development along with their Qualifying Interests and conservation objectives
(e) Determine whether the proposed development is directly connected with, or necessary to the conservation management of, any European site(s)
(f) Assess the potential effects on European sites
(g) Assess the likely significant direct and indirect effects on the conservation objectives of the site(s) in relation to project alone, and in-combination with other plans and projects.
(h) Conclusions of screening assessment process. Determine if the project, in the absence of mitigation measures will undermine the conservation objectives of the site(s) and give rise to likely significant effects.

Conservation objectives that have been considered by this assessment are included in the following NPWS documents:

- NPWS (2013) Conservation Objectives: Rockabill to Dalkey Island SAC 003000. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2013) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

- NPWS (2015) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2015) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht
- NPWS (2016) Conservation Objectives: Howth Head SAC 000202. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
- NPWS (2013) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2021) Conservation Objectives: Glenasmole Valley SAC 001209. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
- NPWS (2017) Conservation Objectives: Wicklow Mountains SAC 002122. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
- NPWS (2022) Conservation objectives for Wicklow Mountains SPA [004040]. Generic Version 9.0. Department of Housing, Local Government and Heritage.
- NPWS (2021) Conservation Objectives: Knocksink Wood SAC 000725. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
- NPWS (2019) Conservation Objectives: Ballyman Glen SAC 000713. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.
- NPWS (2017) Conservation Objectives: Bray Head SAC 000714. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
- NPWS (2022) Conservation objectives for Dalkey Islands SPA [004172]. Generic Version 9.0. Department of Housing, Local Government and Heritage.
- NPWS (2023) Conservation Objectives: North-west Irish Sea SPA 004236. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

The locations of relevant European sites are shown on Figure 3.1 and Figure 3.2. Natura sites within 15km of the site and details and distances of these from the site are included in Table 3.1.

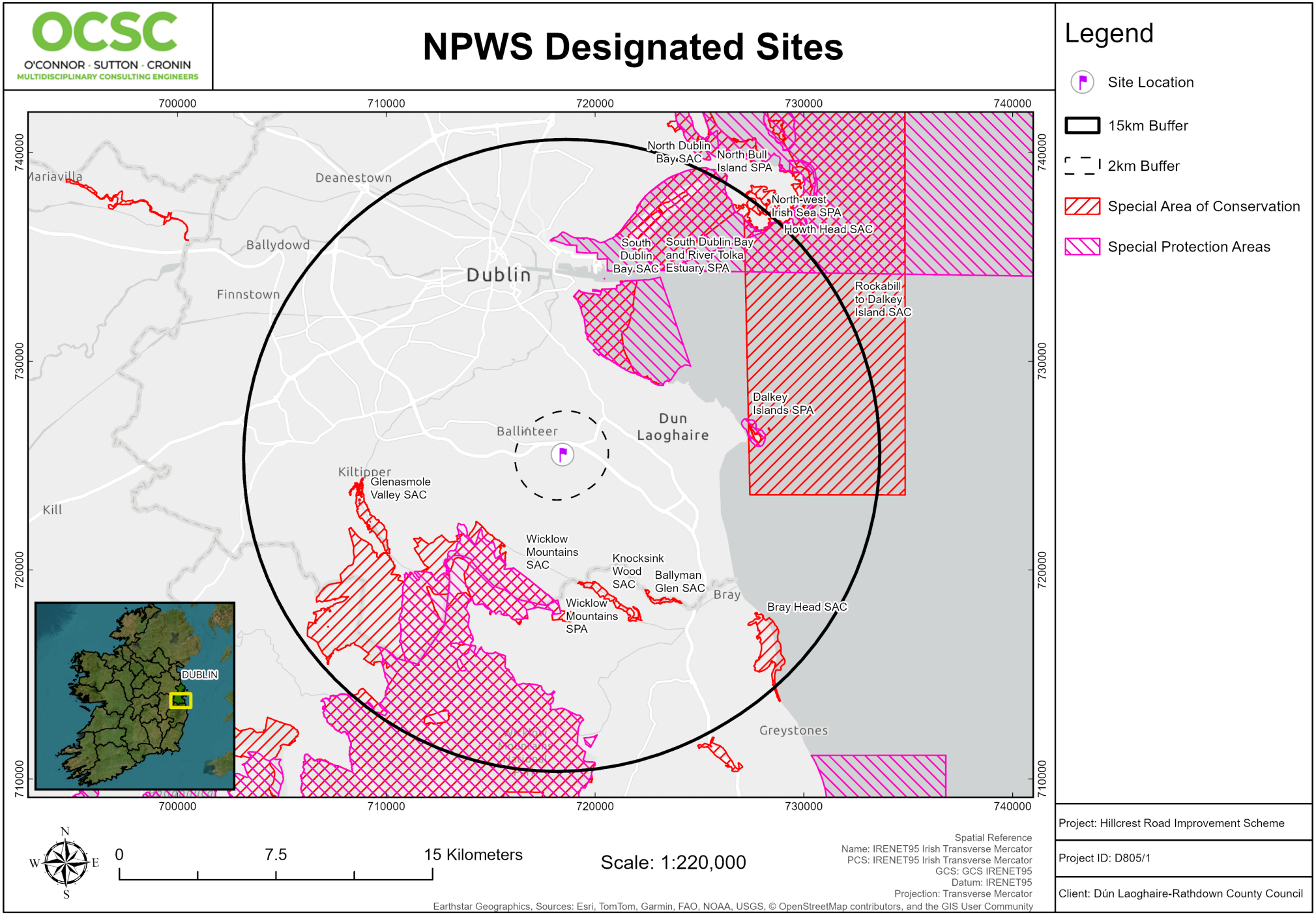

Figure 3.1: NPWS Designated Sites, (Source: OCSC, 2025)

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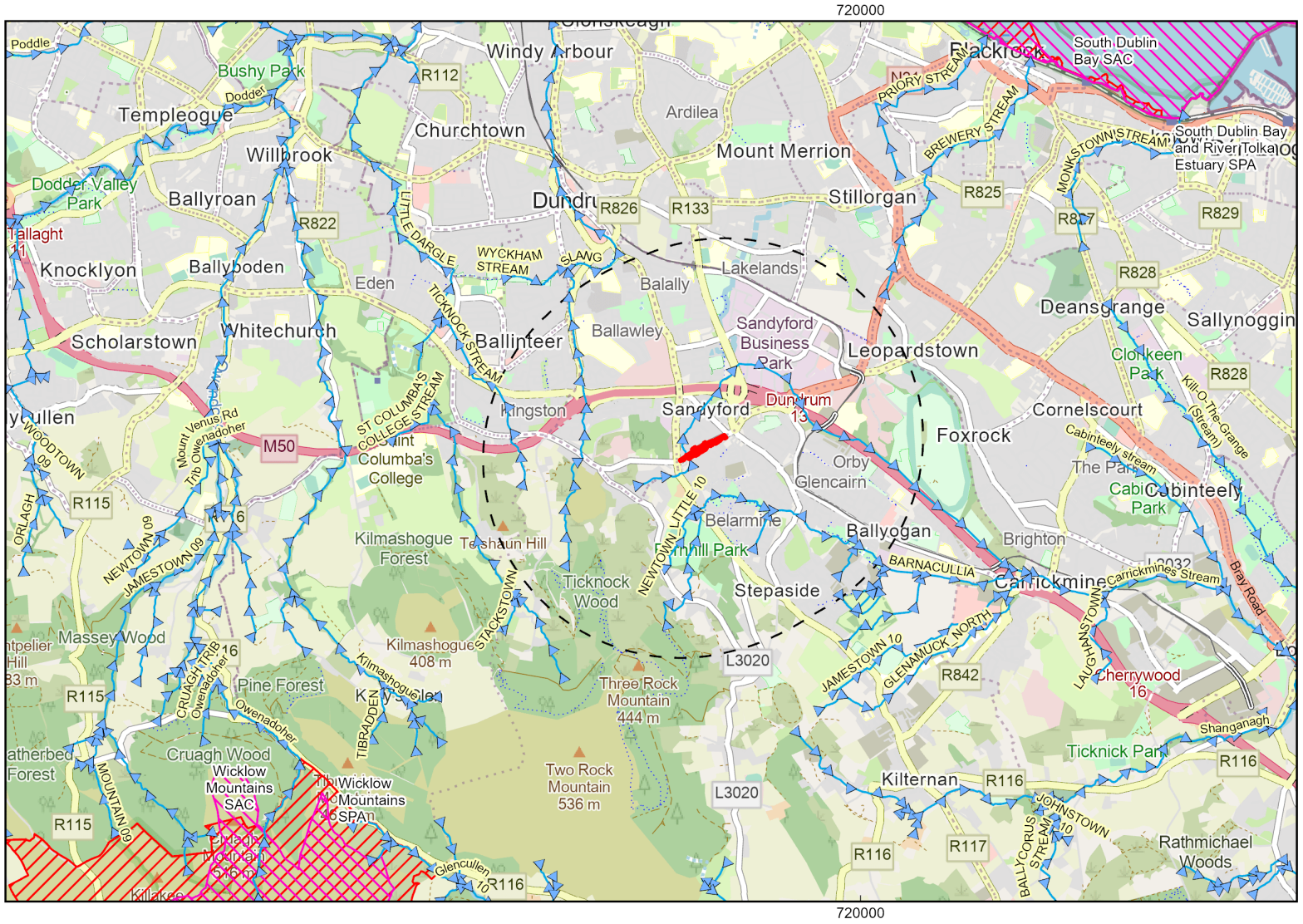
Flow Network NPWS Designated Sites



Scale: 1:60,000

Spatial Reference
Name: IRENET95 Irish Transverse Mercator
PCS: IRENET95 Irish Transverse Mercator
GCS: GCS IRENET95
Datum: IRENET95
Projection: Transverse Mercator

Legend

- 15km Buffer
- 2km Buffer
- Site Outline
- Special Area of Conservation
- Special Protection Areas
- Flow Network
- Flow Network

Project: Hillcrest Road Improvement Scheme

Project ID: D805/1

Client: Dún Laoghaire-Rathdown County Council

Figure 3.2: Flow Network and NPWS Designated Sites, (Source: OCSC, 2025)

Table 3.1. European Sites Within 15 km of the Proposed Works

Site Code	Site Name	Distance (km)	Sensitive Receptors	Site Synopsis	Potential Pathway
002122	Wicklow Mountains SAC	4.8 SW	[3110] Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3160] Natural dystrophic lakes and ponds [4010] Northern Atlantic wet heaths with *Erica tetralix* [4030] European dry heaths [4060] Alpine and Boreal heaths [6130] Calaminarian grasslands of the *Violetalia calaminariae* [6230] Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [7130] Blanket bogs (* if active bog) [8110] Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) [8210] Calcareous rocky slopes with chasmophytic vegetation [8220] Siliceous rocky slopes with chasmophytic vegetation [91A0] Old sessile oak woods with Ilex and Blechnum in the British Isles [1355] *Lutra lutra* (Otter)	Wicklow Mountains SAC is a complex of upland areas in Counties Wicklow and Dublin, flanked by the Blessington reservoir to the west and Vartry reservoir in the east, Cruagh Mountain in the north and Lybagh Mountain in the south. Most of the site is over 300 m, with much ground over 600 m. The highest peak is 925 m at Lugnaquilla. The Wicklow uplands comprise a core of granites flanked by Ordovician schists, mudstones and volcanics. The form of the Wicklow Glens is due to glacial erosion. The topography is typical of a mountain chain, showing the effects of more than one cycle of erosion. The massive granite has weathered characteristically into broad domes. Most of the western part of the site consists of an elevated moorland, covered by peat. The surrounding schists have assumed more diverse outlines, forming prominent peaks and rocky foothills with deep glens. The dominant topographical features are the products of glaciation. High corrie lakes, deep valleys and moraines are common features of this area. The substrate over much of the area is peat, usually less than 2 m deep. Poor mineral soil covers the slopes, and rock outcrops are frequent. The Wicklow Mountains are drained by several major rivers including the Dargle, Liffey, Dodder, Slaney and Avonmore. The river water in the mountain areas is often peaty, especially during floods. The vegetation over most of Wicklow Mountains SAC is a mosaic of heath, blanket bog and upland grassland (mostly on peaty soil, though some on mineral soil), stands of dense Bracken (*Pteridium aquilinum*), and small woodlands mainly along the rivers. Mountain loughs and corrie lakes are scattered throughout the site. The Red Data Book fish species Arctic Char has been recorded from Lough Dan, but this population may now have died out. Mammals and birds which occur are typical of the uplands. Deer are abundant, mainly hybrids between Red and Sika Deer. Other mammals include Hare, Badger and Otter, the latter being a species listed on Annex II of the E.U. Habitats Directive. Pine Marten has recently been confirmed as occurring within the site. Among the birds, Meadow Pipit, Skylark, Raven and Red Grouse are resident throughout the site. Wheatear, Whinchat and the scarce Ring Ouzel are summer visitors. Wood Warbler and Redstarts are rare breeding species of the woodlands. Dipper and Grey Wagtail are typical riparian species. Merlin and Peregrine, both Annex I species of the E.U. Birds Directive, breed within the site. Recently, Goosander has become established as a breeding species. Large areas of the site are owned by the National Parks and Wildlife Service (NPWS) and are managed for nature conservation based on traditional land uses of upland areas. The most common land use is traditional sheep grazing, but others include turf cutting, mostly hand-cutting but some machine-cutting also occurs. These activities are largely confined to the Military Road, where there is easy access. Large areas which had been previously hand-cut and are now abandoned are regenerating. In the last 40 years, forestry has become an important land use in the uplands and has affected both the wildlife and the hydrology of the area. Amenity use is very high, with Dublin city close to the site. Peat erosion	N

Site Code	Site Name	Distance (km)	Sensitive Receptors	Site Synopsis	Potential Pathway
				is frequent on the peaks. This may be a natural process but is likely to be accelerated by activities such as grazing. Wicklow Mountains is important as a complex, extensive upland site. It shows great diversity from a geomorphological and a topographical point of view. The vegetation provides examples of the typical upland habitats with heath, blanket bog and upland grassland covering large, relatively undisturbed areas. In all, twelve habitats listed on Annex I of the E.U. Habitats Directive are found within the site. Several rare or protected plant and animal species occur, adding further to its value.	
000210	South Dublin Bay SAC	4.8 NE	[1140] Mudflats and sandflats not covered by seawater at low tide [1210] Annual vegetation of drift lines [1310] Salicornia and other annuals colonising mud and sand [2110] Embryonic shifting dunes	This site lies south of the River Liffey in Co. Dublin and extends from the South Wall to the west pier at Dun Laoghaire. It is an intertidal site with extensive areas of sand and mudflats. The sediments are predominantly sands but grade to sandy muds near the shore at Merrion Gates. The main channel which drains the area is Cockle Lake. The bed of Dward Eelgrass (*Zostera noltii*) found below Merrion Gates is the largest stand on the east coast. Green algae (*Enteromorpha spp. And Ulva lactuca*) are distributed throughout the area at a low density. Fucoid algae occur on the rocky shore in the Maretimo to Dún laoghaire area. Species include *Fucus spiralis, F. Vesiculosus, F. Serratus, Ascophyllum nodosum* and *Pelvetia canaliculata*. South Dublin Bay is an important site for waterfowl. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. The principal species are Oystercatcher (1215), Ringed Plover (120), Sanderling (344), Dunlin (2628) and Redshank (356) (average winter peaks 1996/97 and 1997/98). Up to 100 Turnstones are usual in the south bay during winter. Brent Geese regularly occur in numbers of international importance (average peak 299). Bar-tailed Godwit (565), a species listed on Annex I of the E.U. Birds Directive, also occur. Large numbers of gulls roost in South Dublin Bay, e.g. 4,500 Black-headed Gulls in February 1990; 500 Common Gulls in February 1991. It is also an important tern roost in the autumn, regularly holding 2000-3000 terns including Roseate Terns, a species listed on Annex I of the E.U. Birds Directive. South Dublin Bay is largely protected as a Special Protection Area.	N
004040	Wicklow Mountains SPA	4.9 SW	[A098] Merlin (*Falco columbarius*) [A103] Peregrine (*Falco peregrinus*)	This is an extensive upland site, comprising a substantial part of the Wicklow Mountains. Most of the site is in Co. Wicklow, but a small area lies in Co. Dublin. The underlying geology of the site is mainly of Leinster granites, flanked by Ordovician schists, mudstones and volcanics. The area was subject to glaciation and features fine examples of glacial lakes, deep valleys, and moraines. Most of site is over 300 m, with much ground being over 600 m; the highest peak is Lugnaquillia (925 m). The substrate over much of site is peat, with poor mineral soil occurring on the slopes and lower ground. Exposed rock and scree are features of the site. The predominant habitats present are blanket bog, heaths, and upland grassland. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Merlin and Peregrine. A series of surveys of the Wicklow Mountains	N

Site Code	Site Name	Distance (km)	Sensitive Receptors	Site Synopsis	Potential Pathway
				SPA indicates that up to 9 pairs of Merlin breed within the site in any one year. Traditionally a ground-nesting species, Merlin in the Wicklow Mountains are usually found nesting in old crows' nests in conifer plantations. The open peatlands provide excellent foraging habitat for Merlin with small birds such as Meadow Pipit being their main prey. The cliffs and crags within the site also provide ideal breeding locations for Peregrine (20 pairs in 2002). Other birds of the open peatlands and scree slopes that have been recorded within the site include Ring Ouzel and Red Grouse. The Wicklow Mountains SPA is of high ornithological importance as it supports nationally important populations of Merlin and Peregrine, both species that are listed on Annex I of the E.U. Birds Directive. Part of Wicklow Mountains SPA is a Statutory Nature Reserve.	
004024	South Dublin Bay and River Tolka Estuary SPA	4.9 NE	[A046] Light-bellied Brent Goose (*Branta bernicla hrota*) [A130] Oystercatcher (*Haematopus ostralegus*) [A137] Ringed Plover (*Charadrius hiaticula*) [A141] Grey Plover (*Pluvialis squatarola*) [A143] Knot (*Calidris canutus*) [A144] Sanderling (*Calidris alba*) [A149] Dunlin (*Calidris alpina*) [A157] Bar-tailed Godwit (*Limosa lapponica*) [A162] Redshank (*Tringa totanus*) [A179] Black-headed Gull (*Chroicocephalus ridibundus*) [A192] Roseate Tern (*Sterna dougallii*) [A193] Common Tern (*Sterna hirundo*) [A194] Arctic Tern (*Sterna paradisaea*)	The South Dublin Bay and River Tolka Estuary SPA comprises a substantial part of Dublin Bay. It includes the intertidal area between the River Liffey and Dun Laoghaire, and the estuary of the River Tolka to the north of the River Liffey, as well as Booterstown Marsh. A portion of the shallow marine waters of the bay is also included. In the south bay, the intertidal flats extend for almost 3 km at their widest. The sediments are predominantly well-aerated sands. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates, while some bedrock shore occurs near Dun Laoghaire. The landward boundary is now almost entirely artificially embanked. There is a bed of Dwarf Eelgrass (*Zostera noltii*) below Merrion Gates which is the largest stand on the east coast. Green algae (*Ulva spp*.) are distributed throughout the area at a low density. The macroinvertebrate fauna is well-developed and is characterised by annelids such as Lugworm (*Arenicola marina*), *Nephthys spp*. and Sand Mason (*Lanice conchilega*), and bivalves, especially Cockle (*Cerastoderma edule*) and Baltic Tellin (*Macoma balthica*). The small gastropod Spire Shell (*Hydrobia ulvae*) occurs on the muddy sands off Merrion Gates, along with the crustacean *Corophium volutator*. Sediments in the Tolka Estuary vary from soft thixotrophic muds with a high organic content in the inner estuary to exposed, well-aerated sands off the Bull Wall. The site includes Booterstown Marsh, an enclosed area of saltmarsh and muds that is cut off from the sea by the Dublin/Wexford railway line, being linked only by a channel to the east, the Nutley stream. Sea water incursions into the marsh occur along this stream at high tide. An area of grassland at Poolbeg, north of Irishtown Nature Park, is also included in the site. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Oystercatcher, Ringed Plover, Grey Plover, Knot, Sanderling, Dunlin, Bar-tailed Godwit, Redshank, Black-headed Gull, Roseate Tern, Common Tern and Arctic Tern. The E.U. Birds Directive pays particular attention to wetlands, and as these form part of the SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. South Dublin Bay is an important staging/passage site for a number of tern species in the autumn (mostly late July to September). The origin of many	

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				of the birds is likely to be the Dublin breeding sites (Rockabill and the Dublin Docks) though numbers suggest that the site is also used by birds from other sites, perhaps outside the state. This site is selected for designation for its autumn tern populations: Roseate Tern (2,000 in 1999), Common Tern (5,000 in 1999) and Arctic Tern (20,000 in 1996). The South Dublin Bay and River Tolka Estuary SPA is of ornithological importance as it supports an internationally important population of Light-bellied Brent Goose and nationally important populations of a further nine wintering species. Furthermore, the site supports a nationally important colony of breeding Common Tern and is an internationally important passage/staging site for three tern species. It is of note that four of the species that regularly occur at this site are listed on Annex I of the E.U. Birds Directive, i.e. Bar-tailed Godwit, Common Tern, Arctic Tern and Roseate Tern. Sandymount Strand/Tolka Estuary is also a Ramsar Convention site.	
000725	Knocksink Wood SAC	6 S	[7220] Petrifying springs with tufa formation (*Cratoneurion*) [91A0] Old sessile oak woods with Ilex and Blechnum in the British Isles [91E0] Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)	Knocksink Wood is situated in the valley of the Glencullen River, just north-west of Enniskerry in Co. Wicklow. The fast-flowing Glencullen River winds its way over granite boulders along the valley floor. The steep sides of the valley are mostly covered with calcareous drift and support extensive areas of woodland. This site contains a substantial area of potentially ancient woodland. It has one of the most diverse woodland invertebrate faunas in Ireland, including some wet woodland organisms which are threatened at an international level. Vertebrates noted in the vicinity, either by tracks, set or sight, include Red Squirrel, Badger, Rabbit, and Deer. The woodland supports large populations of birds, including many common passerines (Robin, Blackbird, Song Thrush, Wren, Chaffinch) and crows, such as Rook, Hooded Crow, Magpie, Jackdaw and Raven. Buzzard have been recorded in the area and Dipper are occasionally seen on the river. The importance of this site lies in the diversity of woodland habitats which occur. Three habitats listed in Annex I of the E.U. Habitats Directive, two of which have priority status (petrifying springs and alluvial woodland), occur at this site. The presence of rare or threatened plants and invertebrates adds to the interest. Much of this site has been designated a Statutory Nature Reserve.	N
000713	Ballyman Glen SAC	7.6 SE	[7220] Petrifying springs with tufa formation (Cratoneurion) [7230] Alkaline fens	Ballyman Glen is situated approximately 3 km north of Enniskerry and straddles the County boundary between Dublin and Wicklow. It is orientated in an east-west direction with a stream running through the centre. The glen is bounded mostly by steeply sloping pasture with Gorse (*Ulex europaeus*) and areas of wood and scrub. Ballyman Glen contains a small strip of alkaline fen which is associated with petrifying spring/seepage areas that have given rise to thick deposits of marl. The vegetation of the main part of the fen is dominated by Greater Tussock-sedge (*Carex paniculata*), Tall Fescue (*Festuca arundinacea*), butterworts (*Pinguicula vulgaris and P. lusitanica*), Black Bog-rush (*Schoenus nigricans*) and Broad-leaved Cottongrass (*Eriophorum latifolium*). The site is particularly notable for its orchids, with species including Early Marsh-orchid (*Dactylorhiza incarnata*), Narrow-leaved Marsh-orchid (*D. traunsteineri*)	N

Site Code	Site Name	Distance (km)	Sensitive Receptors	Site Synopsis	Potential Pathway
				and Marsh Helleborine (*Epipactis palustris*) occurring. In addition, twenty species of sedge have been recorded in the area, including the scarce Longstalked Yellow-sedge (*Carex lepidocarpa*). The fen area is being invaded by Downy Birch (*Betula pubescens*). An area of land that slopes towards the fen has been used as a landfill site for domestic refuse. The site is also used for a clay pigeon shoot and shattered clay pigeons are scattered throughout the area. The fen vegetation at this site is well developed, with an unusually large number of sedge species present. The presence of alkaline fen and of petrifying spring/seepage areas is also particularly notable, as these habitats are listed, the latter with priority status, on Annex I of the E.U. Habitats Directive. Fens are rare in Wicklow and Dublin, and this is one of only two sites in Wicklow for the Narrow-leaved Marsh orchid.	
004172	Dalkey Islands SPA	8.4 E	[A192] Roseate Tern (*Sterna dougallii*) [A193] Common Tern (*Sterna hirundo*) [A194] Arctic Tern (*Sterna paradisaea*)	The site comprises Dalkey Island, Lamb Island and Maiden Rock, the intervening rocks and reefs, and the surrounding sea to a distance of 200 m. Dalkey Island, which is the largest in the group, lies c. 400 m off Sorrento Point on the Co. Dublin mainland from which it is separated by a deep channel. The island is low-lying, the highest point of which (c. 15 m) is marked by a Martello Tower. Soil cover consists mainly of a thin peaty layer, though in a few places there are boulder clay deposits. Vegetation cover is low-growing and consists mainly of grasses. Dense patches of Bracken (*Pteridium aquilinum*) and Hogweed (*Heracleum sphondylium*) occur in places. Lamb Island lies to the north of Dalkey Island, and at low tide is connected by a line of rocks. It has a thin soil cover and some vegetation, mainly of grasses, Nettles (*Urtica dioica*) and Hogweed. Further north lies Maiden Rock, a bare angular granite rock up to 5 m high that is devoid of higher plant vegetation. The site, along with other parts of south Dublin Bay, is used by the three tern species as a major post-breeding/pre-migration autumn roost area. The site is linked to another important post-breeding/pre-migration autumn tern roost area in Dublin Bay. Birds are present from about late-July to September, with c. 2,000 terns, comprising individuals of all three species, recorded in 1998. The origin of the birds is likely to be the Dublin breeding sites (Rockabill and Dublin Docks) though the numbers recorded suggests that birds from other sites, perhaps outside the State, are also present. Dalkey Islands SPA is of particular importance as a post-breeding/pre-migration autumn roost area for Roseate Tern, Common Tern and Arctic Tern. The recent nesting by Roseate Tern is highly significant. All three tern species using the site are listed on Annex I of the E.U. Birds Directive.	N
003000	Rockabill to Dalkey Island SAC	8.7 E	[1170] Reefs [1351] Phocoena phocoena (Harbour Porpoise)	This site includes a range of dynamic inshore and coastal waters in the western Irish Sea. These include sandy and muddy seabed, reefs, sandbanks and islands. This site extends southwards, in a strip approximately 7 km wide and 40 km in length, from Rockabill, running adjacent to Howth Head, and crosses Dublin Bay to Frazer Bank in south Co. Dublin. Reef habitat is uncommon along the eastern seaboard of Ireland due to prevailing geology and hydrographical conditions. Expansive surveys of the Irish coast have indicated that the	N

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				greatest resource of this habitat within the Irish Sea is found fringing offshore islands which are concentrated along the Dublin coast. A detailed survey of selected suitable islands has shown areas with typical biodiversity for this habitat both intertidally and subtidally. Species recorded in the intertidal included *Fucus spiralis*, *Fucus serratus*, *Pelvetia canaliculata*, *Ascophyllum nodosum*, *Semibalanus balanoides* and *Necora puber*. Subtidally, a wide range of species include *Laminaria hyperborea*, *Flustra folicacea*, *Alaria esculenta*, *Halidrys siliquosa*, *Pomatocereos triqueter*, *Alcyonium digitatum*, *Metridium senile*, *Caryophyllia smithii*, *Tubularia indivisa*, *Mytilus edulis*, *Gibbula umbilcalis*, *Asterias rubens*, and *Echinus esculentus*. These reefs are subject to strong tidal currents with an abundant supply of suspended matter resulting in good representation of filter feeding fauna such as sponges, anemones and echinoderms. The site encompasses Dalkey, Muglins and Rockabill islands. The area selected for designation represents a key habitat for the Annex II species Harbour Porpoise within the Irish Sea. Population survey data show that porpoise occurrence within the site boundary meets suitable reference values for other designated sites in Ireland. The species occurs year-round within the site and comparatively high group sizes have been recorded. Porpoises with young (i.e. calves) are observed at favourable, typical reference values for the species. Casual and effort-related sighting rates from coastal observation stations are significant for the east coast of Ireland and the latter appear to be relatively stable across all seasons. The selected site contains a wide array of habitats believed to be important for Harbour Porpoise including inshore shallow sand and mudbanks and rocky reefs scoured by strong current flow. The site also supports Common Seal and Grey Seal, for which terrestrial haul-out sites occur in immediate proximity to the site. Bottlenosed Dolphins has also occasionally been recorded in the area. A number of other marine mammals have been recorded in this area including Minke, Fin and Killer Whales and Risso's and Common Dolphins. The coastal environment of Co. Dublin is a very significant resource to birds with some nationally and internationally important populations. Of particular note in this site are the large number of terns (Arctic, Common and Roseate) known to use Dalkey Island as a staging area (approx. 2,000) after breeding. Other seabirds commonly seen include Kittiwake, Razorbill, Guillemot, Puffin, Fulmar, Shag, Cormorant, Manx Shearwater, Gannet and gulls. This site is of conservation importance for reefs, listed on Annex I, and Harbour Porpoise, listed on Annex II, of the E.U. Habitats Directive.	
001209	Glenasmole Valley SAC	8.9 SW	[6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6410] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)	Glenasmole Valley in south Co. Dublin lies on the edge of the Wicklow uplands, approximately 5 km from Tallaght. The River Dodder flows through the valley and has been impounded here to form two reservoirs which supply water to south Dublin. The non-calcareous bedrock of the Glenasmole Valley has been overlain by deep drift deposits which now line the valley sides. They are partly covered by scrub and woodland, and on the less precipitous parts, by a herb-rich grassland. There is much seepage through the deposits, which brings to the surface water	N

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			[7220] Petrifying springs with tufa formation (*Cratoneurion*)	rich in bases, which induces local patches of calcareous fen and, in places, petrifying springs. At this site, examples of calcareous fen and flush occur between the two reservoirs, where sedges (including *Carex flacca* and *C. panicea*) are joined by such species as Grass-of-parnassus (*Parnassia palustris*), Few-flowered Spike-rush (*Eleocharis quinqueflora*), Zig-zag clover (*Trifolium medium*) and the scarce Fen Bedstraw (*Galium uliginosum*). Tufa depositing springs are long known from the site, along the valley sides, and some have substantial tufa mounds and banks. Tufa formation is also known from small streams within the woodland at the site. Within the hazel woods, and associated with the springs and flushes, a distinctive flora with Marsh Hawk'sbeard (*Crepis paludosa*) and luxuriant stands of Great Horsetail (*Equisetum telmateia*) has developed. Orchid-rich grassland occurs in the drier parts of this site and in places grades into Molinia meadow. The areas of Molinia meadows at the site occur associated with the grasslands on the valley sides, and in particular in seepage and flushed areas. The site provides excellent habitat for bats, with at least four species recorded: Pipistrelle, Leisler's, Daubenton's and Brown Long-eared. Otter occurs along the river and reservoirs. The site supports Kingfisher, an Annex I species under the E.U. Birds Directive. Glenasmole Valley contains a high diversity of habitats and plant communities, including three habitats listed on Annex I of the E.U. Habitats Directive. The presence of four Red Data Book plant species further adds to the value of the site, as does the presence of populations of several mammal and bird species of conservation interest.	
004236	North-West Irish Sea SPA	9.8 NE	[A001] Red-throated Diver (*Gavia stellata*) [A003] Great Northern Diver (*Gavia immer*) [A009] Fulmar (*Fulmarus glacialis*) [A013] Manx Shearwater (*Puffinus puffinus*) [A017] Cormorant (*Phalacrocorax carbo*) [A018] Shag (*Phalacrocorax aristotelis*) [A065] Common Scoter (*Melanitta nigra*) [A177] Little Gull (*Larus minutus*) [A179] Black-headed Gull (*Chroicocephalus ridibundus*) [A182] Common Gull (*Larus canus*) [A183] Lesser Black-backed Gull (*Larus fuscus*) [A184] Herring Gull (*Larus argentatus*) [A187] Great Black-backed Gull (*Larus marinus*) [A188] Kittiwake (*Rissa tridactyla*) [A192] Roseate Tern (*Sterna dougallii*) [A193] Common Tern (*Sterna hirundo*) [A194] Arctic Tern (*Sterna paradisaea*) [A195] Little Tern (*Sterna albifrons*)	The North-west Irish Sea cSPA constitutes an important resource for marine birds. The estuaries and bays that open into it along with connecting coastal stretches of intertidal and shallow subtidal habitats, provide safe feeding and roosting habitats for waterbirds throughout the winter and migration periods. These areas, along with more pelagic marine waters further offshore, provide additional supporting habitats (for foraging and other maintenance behaviours) for those seabirds that breed at colonies on the north-west Irish Sea's islands and coastal headlands. These marine areas are also important for seabirds outside the breeding period. This SPA extends offshore along the coasts of counties Louth, Meath and Dublin, and is approximately 2,333km2 in area. This SPA is ecologically connected to several existing SPAs in this area. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Common Scoter, Red-throated Diver, Great Northern Diver, Fulmar, Manx Shearwater, Shag, Cormorant, Little Gull, Kittiwake, Black-headed Gull, Common Gull, Lesser Black-backed Gull, Herring Gull, Great Black-backed Gull, Little Tern, Roseate Tern, Common Tern, Arctic Tern, Puffin, Razorbill and Guillemot. The breeding seabird species listed for those SPAs, which abut the North-West Irish Sea SPA are: Fulmar (Lambay Island SPA); Cormorant (Skerries Island SPA; Ireland's Eye SPA; Lambay Island SPA); Shag (Skerries Island SPA; Lambay Island SPA); Lesser Black-backed Gull (Lambay Island SPA); Herring Gull (Skerries Island SPA; Ireland's Eye SPA; Lambay Island SPA);	N

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			[A199] Guillemot (*Uria aalge*) [A200] Razorbill (*Alca torda*) [A204] Puffin (*Fratercula arctica*)	Kittiwake (Lambay Island SPA; Ireland's Eye SPA; Howth Head SPA); Roseate Tern (Rockabill SPA); Common Tern (Rockabill SPA;); Arctic Tern (Rockabill SPA); Little Tern (Boyne Estuary SPA); Guillemot (Lambay Island SPA, Ireland's Eye SPA); Razorbill (Lambay Island SPA, Ireland's Eye SPA); and Puffin (Lambay Island SPA). The Common Tern population that is listed for the nearby South Dublin Bay and River Tolka Estuary SPA is also likely to use this SPA as a foraging resource. Informed by two surveys of the western Irish Sea region in 2016 an estimated 120,232 and 34,626 individual marine birds occurred in this SPA during autumn and winter respectively. Those marine bird species whose estimated abundances equalled or exceeded 1% of the total estimated size of the winter assemblage are: Red-throated Diver (538), Fulmar (506), Little Gull (391), Kittiwake (944), Black-headed Gull (508), Common Gull (2,866), Herring Gull (6,893), Great Black-backed Gull (2,096), Razorbill (4,638) and Guillemot (13,914). The estimated 2016 summer abundance of Manx Shearwater in the North West Irish Sea SPA is 13,010 and is of international importance. The estimated 2016 autumn and winter abundances of Great Northern Diver in the North West Irish Sea SPA is 248 and 230 respectively and are of international importance. The estimated abundances of Common Scoter over parts of this SPA can reach significant numbers (e.g. 14,567 in December 2018) which is also of international importance.	
004006	North Bull Island SPA	9.8 NE	[A046] Light-bellied Brent Goose (*Branta bernicla hrota*) [A048] Shelduck (*Tadorna tadorna*) [A052] Teal (*Anas crecca*) [A054] Pintail (*Anas acuta*) [A056] Shoveler (*Anas clypeata*) [A130] Oystercatcher (*Haematopus ostralegus*) [A140] Golden Plover (*Pluvialis apricaria*) [A141] Grey Plover (*Pluvialis squatarola*) [A143] Knot (*Calidris canutus*) [A144] Sanderling (*Calidris alba*) [A149] Dunlin (*Calidris alpina*) [A156] Black-tailed Godwit (*Limosa limosa*) [A157] Bar-tailed Godwit (*Limosa lapponica*) [A160] Curlew (*Numenius arquata*) [A162] Redshank (*Tringa totanus*) [A169] Turnstone (*Arenaria interpres*) [A179] Black-headed Gull (*Chroicocephalus ridibundus*) [A999] Wetland and Waterbirds	This site covers all of the inner part of north Dublin Bay, with the seaward boundary extending from the Bull Wall lighthouse across to Drumleck Point at Howth Head. The North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5 km long and 1 km wide and runs parallel to the coast between Clontarf and Sutton. Part of the interior of the island has been converted to golf courses. Saltmarsh extends along the length of the landward side of the island and provides the main roost site for wintering birds in Dublin Bay. The island shelters two intertidal lagoons which are divided by a solid causeway. These lagoons provide the main feeding grounds for the wintering waterfowl. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. Green algal mats (*Ulva spp.*) are a feature of the flats during summer. These sediments have a rich macro-invertebrate fauna, with high densities of Lugworm (*Arenicola marina*) and Ragworm (*Hediste diversicolor*). The North Bull Island SPA is a regular site for passage waders, especially Ruff, Curlew Sandpiper and Spotted Redshank. These are mostly observed in single figures in autumn but occasionally in spring or winter. The site formerly had an important colony of Little Tern but breeding has not occurred in recent years. Several pairs of Ringed Plover breed, along with Shelduck in some years. Breeding passerines include Skylark, Meadow Pipit, Stonechat and Reed Bunting. The island is a regular wintering site for Short-eared Owl, with up to 5 present in some winters. The North Bull Island SPA is an excellent example of an estuarine complex and is one of the top sites in Ireland for wintering waterfowl. It is of international importance on account of both the total	N

Site Code	Site Name	Distance (km)	Sensitive Receptors	Site Synopsis	Potential Pathway
				number of waterfowl and the individual populations of Light-bellied Brent Goose, Black-tailed Godwit and Bar-tailed Godwit that use it. Also of significance is the regular presence of several species that are listed on Annex I of the E.U. Birds Directive, notably Golden Plover and Bar-tailed Godwit, but also Ruff and Short-eared Owl. North Bull Island is a Ramsar Convention site, and part of the North Bull Island SPA is a Statutory Nature Reserve and a Wildfowl Sanctuary.	
000206	North Dublin Bay SAC	9.8 NE	[1140] Mudflats and sandflats not covered by seawater at low tide [1210] Annual vegetation of drift lines [1310] Salicornia and other annuals colonising mud and sand [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1410] Mediterranean salt meadows (*Juncetalia maritimi*) [2110] Embryonic shifting dunes [2120] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2130] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2190] Humid dune slacks [1395] *Petalophyllum ralfsii* (Petalwort)	This site covers the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head. The North Bull Island is the focal point of this site. North Bull Island is a sandy spit which formed after the building of the South Wall and Bull Wall in the 18th and 19th centuries. It now extends for about 5 km in length and is up to 1 km wide in places. A well-developed and dynamic dune system stretches along the seaward side of the island. Various types of dunes occur, from fixed dune grassland to pioneer communities on foredunes. Marram Grass (*Ammophila arenaria*) is dominant on the outer dune ridges, with Lyme-grass (*Leymus arenarius*) and Sand Couch (*Elymus farctus*) on the foredunes. Behind the first dune ridge, plant diversity increases with the appearance of such species as Wild Pansy (*Viola tricolor*), Kidney Vetch (*Anthyllis vulneraria*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Common Restharrow (*Ononis repens*), Yellow-rattle (*Rhinanthus minor*) and Pyramidal Orchid (*Anacamptis pyramidalis*). In these grassy areas and slacks, the scarce Bee Orchid (*Ophrys apifera*) occurs. The invertebrates of the North Bull Island have been studied and the island has been shown to contain at least seven species of regional or national importance in Ireland (from the Orders Diptera, Hymenoptera and Hemiptera). The main land uses of this site are amenity activities and nature conservation. The North Bull Island is the main recreational beach in Co. Dublin and is used throughout the year. Much of the land surface of the island is taken up by two golf courses. Two separate Statutory Nature Reserves cover much of the island east of the Bull Wall and the surrrounding intertidal flats. The site is used regularly for educational purposes. North Bull Island has been designated a Special Protection Area under the E.U. Birds Directive and it is also a statutory Wildfowl Sanctuary, a Ramsar Convention site, a Biogenetic Reserve, a Biosphere Reserve, and a Special Area Amenity Order site. This site is an excellent example of a coastal site with all the main habitats represented. The site holds good examples of nine habitats that are listed on Annex I of the E.U. Habitats Directive; one of these is listed with priority status. Several of the wintering bird species have populations of international importance, while some of the invertebrates are of national importance.	N
000714	Bray Head SAC	11.8 SE	[1230] Vegetated sea cliffs of the Atlantic and Baltic coasts [4030] European dry heaths	This costal site is situated in the north-east of Co. Wicklow between the towns of Bray and Greystones. The bedrock geology is Cambrian quartzites and shales (with mudstones and greywackes). Bray Head consists of a plateau of high ground, with five prominent quartzite knolls and has a maximum height of 241 m. The more exposed higher ground has a covering	

Site Code	Site Name	Distance (km)	Sensitive Receptors	Site Synopsis	Potential Pathway
				of shallow acidic soils, with protruding bedrock and scree. Elsewhere, deeper soils are formed by drift deposits and are calcareous in character. Dry heath is the principal habitat over much of Bray Head. The vegetation of the upper plateau area is dominated by dwarf shrubs, mainly Heather (*Calluna vulgaris*), Bell Heather (*Erica cinerea*) and gorse (*Ulex europaeus* and *U. gallii*). Broom (*Cytisus scoparius*) also occurs, and associated with the gorse and broom is the Red Data Book species Greater Broomrape (*Orobanche rapum-genistae*). In the areas where the shrubs are less dense Tormentil (*Potentilla erecta*), Common Milkwort (*Polygala vulgaris*), Heath Bedstraw (*Galium saxatile*) and a variety of grasses (e.g. *Aira praecox*, *Agrostis tenuis*, *Deschampsia flexuosa*) are present. Where rock outcrops occur species such as English Stonecrop (*Sedum anglicum*) and Sheep's-bit (*Jasione montana*) are found. Bracken (*Pteridium aquilinum*) is dominant in some areas. Bray Head has an important seabird colony. A census in 1999 gave the following populations: Fulmar (55 pairs), Shag (8 pairs), Kittiwake (781+ pairs), Guillemots (286 individuals), Razorbills (191 individuals) and Black Guillemots (123 individuals). A few pairs of gulls also breed. Both the Kittiwake and Black Guillemot populations are of national importance. Peregrine Falcon, an Annex I species of the E.U. Birds Directive, breeds at the site, as do Raven and Kestrel. Characteristic bird species of the heath areas include Stonechat, Whitethroat, Linnet, and Skylark. The heath and grassland habitats at this site are threatened by reclamation for agriculture and also by frequent burning. The site is a popular recreational area and is especially used by walkers. Bray Head is of high conservation importance as it has good examples of two habitats (sea cliffs and dry heath) listed on Annex I of the E.U. Habitats Directive. It also supports a number of rare plant species and has ornithological importance.	
000202	Howth Head SAC	14 NE	[1230] Vegetated sea cliffs of the Atlantic and Baltic coasts [4030] European dry heaths	Howth Head is a rocky headland situated on the northern side of Dublin Bay. The peninsula is composed of Cambrian slates and quartzites, joined to the mainland by a post-glacial raised beach. Limestone occurs on the north-west side while glacial drift is deposited against the cliffs in places. A mosaic of heathland vegetation occurs on the slopes above the sea cliffs and in the area of the summit. This is dominated by Western Gorse (*Ulex gallii*), Heather (*Calluna vulgaris*), Bell Heather (*Erica cinerea*) and localised patches of Bracken (*Pteridium aquilinum*). In more open areas species such as English Stonecrop (*Sedum anglicum*), Wood Sage (*Teucrium scorodonia*) and Navelwort (*Umbilicus rupestris*) occur, along with some areas of bare rock. The site is of national importance for breeding seabirds. A census in 1985-87 recorded the following numbers: Fulmar (105 pairs), Shags (25 pairs), Herring Gulls (70 pairs), Kittiwake (c. 1,700 pairs), Guillemot (585 birds), Razorbill (280 birds). In 1990, 21 pairs of Black Guillemot were counted. A number of rare invertebrates have been recorded from the site: the fly *Phaonia exoleta* (Order Diptera) occurs in the woods at the back of Deerpark and has not been seen anywhere else in Ireland, while the ground beetle *Trechus rubens* (Order Coleoptera) is found on storm beaches on the eastern cliffs. A hoverfly, known from only a few	N

Site Code	Site Name	Distance (km)	Sensitive Receptors	Site Synopsis	Potential Pathway
				Irish locations, *Sphaerophoria batava* (Order Diptera), is present in the heathland habitat within the site. The main land use within the area is recreation, mostly walking and horse-riding, and this has led to some erosion within the site. Fires also pose a danger to the site. There may also be a threat in some areas from further housing development. Howth Head displays a fine range of natural habitats, including two Annex I habitats, within surprisingly close proximity to Dublin city. The site is also of scientific importance for its seabird colonies, invertebrates and lichens. It also supports populations of at least two legally protected plant species and several other scarce plants.	

3.3 ASSESSMENT CRITERIA

3.3.1 EXCLUSION FROM APPROPRIATE ASSESSMENT

As set out in the provisions of the Habitats Directive, plans or projects that are directly connected with or necessary to the management of a European Site do not require AA. For this exception to apply, management is required to be interpreted narrowly as nature conservation management in the sense of Article 6(1) of the Habitats Directive. This refers to specific measures to address the ecological requirements of annexed habitats and species (and their habitats) present on a site(s). The relationship should be shown to be direct and not a by-product of the plan, even if this might result in positive or beneficial effects for a site(s).

In this case, however, the Hillcrest Road Improvement Scheme at Sandyford in County Dublin is neither necessary for, nor directly connected with the management of a European Site. As such, the development cannot be excluded from AA.

3.3.2 ELEMENTS OF WORK WITH POTENTIAL TO GIVE RISE TO EFFECTS

The construction and operational phases of the proposed development have the potential to introduce effects such as indirect disturbance due to noise/vibrations and surface water run-off and sedimentation. These effects are examined in detail in relation to the sensitive receptors of each of the European sites identified with regard to the conservation objectives and the potential pathways for effects.

3.3.3 IDENTIFICATION OF POTENTIAL EFFECTS AND SCREENING OF SITES

This section documents the final stage of the screening process. It uses the information collected on the sensitivity of each European Site and describes any impact to have likely significant effects on any European Site, in view of the site's conservation objectives, resulting from the proposed works. This assessment assumes the absence of any controls, conditions, or mitigation measures. In determining the potential for effects, a number of factors have been considered including the sensitivity and reported threats to the European Site and the individual elements of the proposed works and the potential effect they may cause to the site.

Sites are screened out based on one or a combination of the following criteria:

- Where it can be shown that there are no significant pathways such as hydrological links between activities of the proposed works and the site to be screened;
- Where the site is located at such a distance from proposed works that effects are not foreseen; and/ or

- Where it is that known threats or vulnerabilities at a site cannot be linked to potential impacts that may arise from the proposed works.

3.4 ASSESSMENT OF SIGNIFICANCE OF POTENTIAL EFFECTS

Assessment is the process of evaluating the importance or significance of project/plan effects (whether negative or positive). The following parameters are described when characterising impacts (following guidance from the Chartered Institute of Ecology and Environmental Management, the Environmental Protection Agency, and Transport Infrastructure Ireland/ National Roads Authority):

Direct and Indirect Impacts – An impact can be caused either as a direct or as an indirect consequence of proposed development.

Magnitude - Magnitude refers to size, amount, intensity, and volume. It should be quantified if possible and expressed in absolute or relative terms (e.g., the amount of habitat lost, percentage change to habitat area, percentage decline in a species population). Magnitude measures the size of an impact which is described as high, medium, low, very low, or negligible.

Extent - The extent is the spatial or geographical area over which the impact/effect may occur under a suitably representative range of conditions (e.g. noise transmission underwater).

Duration - The time for which the effect is expected to last prior to recovery or replacement of the resource or feature.

- Temporary: the effects would take up to 1 year to be mitigated;
- Short Term: the effects would take 1-7 years to be mitigated;
- Medium Term: the effects would take 7-15 years to be mitigated;
- Long Term: the effects would take 15-60 years to be mitigated; and
- Permanent: the effects would take 60+ years to be mitigated.

Likelihood – The probability of an impact/effect occurring taking into account all available information.

- Certain/Near Certain: >95% chance of occurring as predicted;
- Probable: 50-95% chance as occurring as predicted;
- Unlikely: 5-50% chance as occurring as predicted; and
- Extremely Unlikely: <5% chance as occurring as predicted.

The document 'Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, European Commission Environment DG, 2001' outlines the types of effects that may impact European sites. These include effects from the following activities:

- Land take

- Resource requirements (drinking water abstraction, etc.)
- Emissions (disposal to land, water, or air)
- Excavation requirements
- Transportation requirements
- Duration of construction, operation, decommissioning

In addition, the guidance outlines the following likely changes that may occur at a designated site which may result in significant effects on any European Site and its function, in view of its conservation objectives:

- Reduction of habitat area
- Disturbance to key species
- Habitat or species fragmentation
- Reduction in species density
- Changes in key indicators of conservation value (water quality, etc.)
- Climate change

The elements detailed above were considered with reference to each of the European sites identified within the ZoI of the site (Table 3.1).

3.4.1 LAND TAKE/HABITAT LOSS

As there is no spatial overlap between the site and any European site, there is no anticipated land take or habitat loss posed to European sites from the proposed works.

3.4.2 RESOURCE REQUIREMENTS

There are no resource requirements (i.e. mineral/drinking water abstractions, etc.) for the proposed improvement scheme which will be additional to existing requirements. Therefore, there will be no interactions with resources necessary for the maintenance of the ecological integrity of any European sites.

3.4.3 DURATION OF WORKS

The construction phase of the proposed works is anticipated to be short term. Given the relatively small-scale and short-term nature of the construction works, the duration of the works is extremely unlikely to have any impact on nearby European sites.

3.4.4 EMISSIONS (DISPOSAL TO LAND, WATER OR AIR)

Construction phase:

Potential water quality impacts during construction phase include increased siltation and turbidity to surface runoff as well as pollution from surface runoff due to accidental spillages of oils or fuels from machinery,

concrete/cement, etc. Due to the presence of the Carrickmines Stream within the site and the discharge of storm water via the storm sewer system into the stream on the north side of Hillcrest Road and within the site, these possible construction phase impacts may create a potential risk to water quality in the stream. However, this stream is not directly hydrologically connected to any European sites within the ZOI. The Carrickmines Stream eventually flows to the Irish Sea 9.8km from the site. The nearest European site to this point is the Rockabill to Dalkey Island SAC located 1.5km to the north.
Based on the small-scale and short duration of the works and the absence of a direct hydrological pathway between the project site and any designated European sites, impacts to these sites relating to the proposed works are predicted to be extremely unlikely and not significant.

Construction phase elements of the plan may give rise to increased temporary site effects such as noise or dust. Due to the scale and short-term nature of the project, these impacts are extremely unlikely to result in significant effects to any European sites within the ZOI. Considering the small-scale nature of the development, these effects are determined to be negligible.

Operational Phase:
The proposed project involves the installation of a surface water drainage system which will discharge to Carrickmines Stream. This drainage system will be designed in accordance with all best practice requirements, including design in accordance with the Greater Dublin Strategic Drainage Study and CIRIA C753 The SuDS Manual. The surface water design should be carried out so that all rainfall runoff is restricted to a maximum that is equal to, or less than, the natural greenfield runoff equivalent and that an oil water interceptor is located prior to discharge. The magnitude of discharge is likely to be small and will not contribute to additional surface water discharge to the stream above existing volumes. Therefore, due to the distance (minimum of 11.3km downgradient to the Rockabill to Dalkey Island SAC) between the proposed project and the nearest European site, it is considered that the surface water drainage from the proposed works will not have a significant impact on nearby European sites.

3.4.5 EXCAVATION REQUIREMENTS/EROSION/SEDIMENTATION

The proposed works does not require significant excavation works. Therefore, given short duration and the scale of the proposed works and the distance to the nearest European designated sites, the impacts arising from excavation, erosion, and sedimentation are considered to be temporary, unlikely, and negligible.

3.4.6 TRANSPORTATION REQUIREMENTS

There will be a small, short-term increase in traffic during the construction phase. These effects are considered not significant with regard to European sites due to the small scale and short duration of the construction works.

3.4.7 DURATION OF CONSTRUCTION, OPERATION, DECOMMISSIONING

The proposed project duration is short term. The Hillcrest Road Improvement Scheme will be a permanent feature with no decommissioning phase. Given the duration of the construction, the distance to the nearest European sites, and the lack of connectivity pathways between the Carrickmines Stream and the aforementioned European sites, impacts to these sites is considered extremely unlikely and negligible.

3.4.8 HABITAT REDUCTION

There are no supporting habitats identified within the site footprint for any Annex I or Annex II species. The nearest European sites or qualifying habitat features are located 4.8 km from the site. As such, there will be no reduction of habitat of European sites resulting from the proposed development.

3.4.9 SPECIES DISTURBANCE

Of the protected species and habitats identified, the closest ones, the South Dublin Bay SAC and the Wicklow Mountains SAC, are located 4.8 km from the proposed development. Considering the distance to these sites as well as the scale and duration of the proposed works, disturbance from noise, vibrations, lighting, etc. impacting on these SACs is extremely unlikely.

3.4.10 HABITAT OR SPECIES FRAGMENTATION

Given the scale, timeline, and distance from the European sites, the proposal is considered to have no potential effects on any European site with regard to habitat or species fragmentation.

3.4.11 CHANGES IN KEY INDICATORS OF CONSERVATION VALUE

Given the distance to the nearest European sites from the proposed works (4.8 km) and the lack to a direct hydrological connection to any European sites, no direct pathways for impact to these sites were identified. As such, changes in key indicators of conservation value on these sites resulting from the proposed works are considered to be extremely unlikely and negligible.

3.4.12 CLIMATE CHANGE

Due to the nature and scale of the proposed work, the effects of the proposed development on climate and Ireland's obligations under the Kyoto Protocol are predicted to be not significant.

3.4.13 COMBINATION EFFECTS WITH OTHER PROJECTS

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects can occur where a proposed development results in individually insignificant impacts that, when considered in-combination with impacts of other proposed or permitted plans and projects, can result in significant effects.

The effects of the proposed construction are likely to be confined to the immediate area of the site and will be limited to habitat loss and habitat degradation of commonly occurring and widespread habitats as well as temporary disturbance and displacement of species within the immediate surroundings of the site. These effects are not thought to be significant subject to the implementation of design and construction phase mitigation measures.

Proposed and granted planning applications within 1km of the site and dating back to 2019 were reviewed to identify works of a significant scale which may produce in-combination effects with the proposed works. Grants of planning in the vicinity of the site were reviewed to identify works of a significant scale which may produce in-combination effects with the proposed works. The following planning grants of larger than single domestic scale were identified:

- **D23A/0456 (Blathas Property Ltd.):** Development on a site of approx. 0.77 ha at Crohamhurst, Sandyford Road, Dublin 18, (D18W9Y5) and adjoining lands at the junction of Sandyford Road and Blackglen Road, Lamb's Cross, Dublin 18. The development will consist of the demolition of the existing single storey dwelling, garage, boiler house, 2 no. dwarf block walls and associated structures at 'Crohamhurst' (approx. 209.8 sq. m) and the construction of a new Neighbourhood Centre and Residential Development in 3 no. new build Blocks A, B and C ranging between 3 - 6 storeys in height over par 1 and part 2 storey basement level. The development consists of 80 no. residential apartment units (22 no. 1 bed units; 41 no. 2 bed units; and 17 no. 3 bed units) and associated residential amenity space; a supermarket and associated off licence; a restaurant / bar and associated winter garden; 2 no. retail units (a pharmacy and a beauty/hair salon); an ATM area; a health centre; and a café.
- **D21A/0595 (Ultra Dawn Limited):** Permission for development. The development will principally consist of the demolition of the single storey dwelling known as 'The Pastures' and ancillary garage (241 sq. m) and the construction of a residential development comprising 33 no. apartments (10 no. one bedroom units, 20 no. two bedroom units and 3 no. three bedroom units) in 2 no. apartment blocks ranging in height from part 3 no. to part 5 no. storeys. The development proposes a total gross floor area of 3,112 sq. m.
- **D19A/0744 (Sandyford House Redevelopment Ltd.):** Permission for development. The development will consist of the construction of 15 no. dwellings comprising 1 no. 1.5 storey 3-bedroom detached dwelling.
- **ABP31344322 Permission (SHD) (Midsal Homes Limited):** Permission for a strategic housing development. The residential development site, pedestrian connection, entrance works, water

services and road works area will provide a total application site area of 0.92 Ha. The proposed development principally consists of the demolition of the existing dwelling and ancillary buildings known as 'Glenina', the existing dwelling known as 'Karuna' and the existing boundary wall fronting Sandyford Road, and the construction of a residential development principally comprising 137 No. apartments (32 No. 1-bed units, 78 No. 2-bed units and 27 No. 3-bed units) in 4 No. blocks ranging in height from part-1 No. storey to part6 No. storeys with a part-basement/part-under croft level (at Blocks B, C and D).

- **ABP31166921 (Bridgeclip (Developments) Limited):** Permission for a strategic housing development consisting of the construction of 112 No. Build to Rent Apartments (72 No. one-bedroom apartments; and 40 No. two-bedroom apartments) arranged in 2 No. Apartment Blocks. Block A is principally 4 No. stories in height with a 6 No. storey element, Block B is principally 4 No. stories in height with a 5 No. storey element.
- **ABP31454622 (Ironborn Real Estate Limited):** The development will consist of 436 no 'Build-to-Rent' apartment units (154 no. 1. bedroom units & 284 no. 2 bedroom units) arranged in 9 no blocks ranging in height from 2-8 storeys over 2no. independent single level basements. Private patios/terraces and balconies are provided for some apartment units (not all units have a patio, terrace or balcony). Upper-level balconies are proposed on elevations of all multi-aspect apartment buildings.
- **D20A/0427 (SDR Property Development Ltd.)**: Permission. The development will consist of the following: Construction of a Build to Rent (BTR) apartment development comprising a 3-5 storey block with 50 no. apartments (11 no. 1-bed studios, 21 no. 1-bed units, 17 no. 2-bed units, and 1 no. 3-bed unit).
- **ABP31332122 (Heronbrook Properties Limited):** Permission for Strategic Housing Development consists of demolition of the existing, derelict, former residential structures on the site and construction of 101no. residential units and a creche (13,127 sq. m gross floor area in total). The residential element comprises a mix of houses (9no. 2-beds, 16no. 3beds, 6no. 4 beds and 1 no. 5 beds); duplexes (3no. 2 beds and 10no. 3 beds) and apartments (14no. 1 bed, 35no. 2 beds and 7no. 3 beds).
- **PC/H/02/24 (Dún Laoghaire-Rathdown County Council):** Dún Laoghaire-Rathdown County Council proposes a development at Lambs Cross, Dublin 18. This is in accordance with Part 8, Article 81 of the Planning and Development Regulations, 2001 (as amended). The proposal is for 37 no. apartment units in a 3-5 storey building over undercroft area and includes: 29 no. one bed units, 8 no. two bed units, 1 no. communal space at ground floor of 171 square meters, An energy centre at 1st floor, An external plant area set back at 3rd floor level. The undercroft area at lower ground level would comprise of 2 no. ESB substations, Car, bicycle and motorcycle parking, Bin storage, Bulk storage area, Supporting mechanical, electrical and water infrastructure. Landscaping works would include Communal open space, Public realm area fronting onto Sandyford Road and Hillcrest Road. All associated site development works include Vehicular access off Hillcrest Road, Public lighting, Varied site boundary treatment comprising walls and fencing, Temporary construction signage.
- **PC/07/07 (Dún Laoghaire-Rathdown County Council):** Blackglen Road/Harolds Glen Road Improvement Scheme.

- **PC/17/06 (Dún Laoghaire-Rathdown County Council):** Upgrade (a) Murphystown Road from its junction with Leopardstown Road roundabout to its junction with Ballyogan Road/Kilgobbin Road (b) Kilgobbin Road from its junction with Ballyogan Road to its junction with Mount Eagle Way.

Other granted planning permissions in the vicinity of the site pertain primarily to small-scale constructions, change of use, or retention of works. There were nine planning grants of the smaller scale within 1km of the proposed area. However, these larger grants and the smaller scale grants of planning, and existing businesses and amenities in the vicinity of the site are unlikely to produce significant in-combination effects with the proposed development.

Proposed plans within the site location were reviewed to identify works of a significant scale which may produce in-combination effects with the proposed works. Two development plans in the vicinity of the site were reviewed to identify works of a significant scale which may produce in-combination effects with the proposed works. The following plans were identified:

Dún Laoghaire-Rathdown County Development Plan 2022-2028:

- The proposed development lays within four objectives of the County Development Plan. The 6 Year Road Objectives/Traffic Management/Active Travel Upgrades, the Objective A Land Use Zoning, To protect and preserve Trees and Woodlands and the Objective NC.
- "The majority of DLR's 6 Year road proposals primarily consist of safety and facilities improvements for pedestrians and cyclists. All road projects listed and unlisted in this Plan will consider all modes (walking, cycling and, if appropriate, bus) in accordance with DMURS and the National Cycle Manual. All roads, streets and footbridges, including footpaths and cycle tracks, will be designed in accordance with best practice guidelines and will consider the needs of all road users. To secure the implementation of the policy objectives, it is the intention of the Council to reserve any necessary lands free from development and to designate building lines, where required" (Dún Laoghaire-Rathdown County Council 2022). Further detail on the objective can be found in Section 5.8 of Chapter 5 Transport and Mobility of the County Development Plan.
- Objective A is "to provide residential development and improve residential amenity while protecting the existing residential amenities" (Dún Laoghaire-Rathdown County Council 2022). Further detail on the objective can be found in Section 13. 1in Chapter 13 Land Use Zoning Objectives of the County Development Plan.
- The objective "To protect and preserve Trees and Woodlands is part of Chapter 9 Open Space, Parks and Recreation of the County Development Plan. As part of the plan the Council aim to prioritise the making of Tree Preservation Orders (TPOs) based on the judicious selection of trees that meet objective criteria, in accordance with best landscape and arboricultural practices. Criteria will include a significant contribution to local amenity and to the environment (e.g. by providing Ecosystem Services). It is a Policy Objective to implement the objectives and policies of the Tree Policy and the forthcoming Tree Strategy

for the County, to ensure that the tree cover in the County is managed, and developed to optimise the environmental, climatic and educational benefits, which derive from an 'urban forest', and include a holistic 'urban forestry' approach" (Dún Laoghaire-Rathdown County Council 2022). See Chapter 9 for further information on the objective.

- Th Objective NC is part of Chapter 13 Land Use Zoning Objectives of the County Development Plan. The objective's aim is "to protect, provide for and/or improve mixed-use neighbourhood centre facilities" (Dún Laoghaire-Rathdown County Council 2022). Further detail on the objective can be found in Section 13. 1in Chapter 13 Land Use Zoning Objectives of the County Development Plan.

Dún Laoghaire-Rathdown County Biodiversity Action Plan 2021-2025:

- As part of the EU Biodiversity Strategy 2030, "Dún Laoghaire-Rathdown County Council are committed to reversing the decline of biodiversity through the actions of the Biodiversity Action Plan. Some actions have already commenced, with the development of the pollinator areas and 'Slow to Mow' campaign, which are aimed at addressing the loss of the local pollinators. Other actions noted in this plan are aimed at the recovery of the local ecosystems, such as habitats, rivers, wetlands and marine areas, including recovery of habitats and species that may not have seen for many years" (Dún Laoghaire-Rathdown County Council 2021). See the Biodiversity Action Plan 2021-2025 for further information.

These two development plans are unlikely to produce any negative in-combination effects to the site. The proposed development will likely provide positive in-combination effects to the two development plans within the vicinity of the site to help achieve their objectives and goals.

Table 3.2. Screening assessment of the potential effects arising from the proposed works

Site Code	Site Name	Distance (km)	Sensitive Receptors	Characterisation of Potential Effects	Potential Significant Effects	Potential In-Combination Effects
002122	Wicklow Mountains SAC	4.8 SW	[3110] Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3160] Natural dystrophic lakes and ponds [4010] Northern Atlantic wet heaths with *Erica tetralix* [4030] European dry heaths [4060] Alpine and Boreal heaths [6130] Calaminarian grasslands of the *Violetalia calaminariae* [6230] Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [7130] Blanket bogs (* if active bog) [8110] Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) [8210] Calcareous rocky slopes with chasmophytic vegetation [8220] Siliceous rocky slopes with chasmophytic vegetation [91A0] Old sessile oak woods with Ilex and Blechnum in the British Isles [1355] *Lutra lutra* (Otter)	Threats to the site include: F04.02 (collection (fungi, lichen, berries etc.)); A05.02 (stock feeding); G01.02 (walking, horse riding and non-motorised vehicles); A04 (grazing); G01.04 (mountaineering, rock climbing, speleology); G01 (Outdoor sports and leisure activities, recreational activities); K04.05 (damage by herbivores (including game species); G05.04 (Vandalism); G04.01 (Military manoeuvres); G05.07 (missing or wrongly directed conservation measures); I01 (invasive non-native species); G05.06 (tree surgery, felling for public safety, removal of roadside trees); E03.01 (disposal of household / recreational facility waste); C01.03 (Peat extraction); G02.09 (wildlife watching); B06 (grazing in forests/ woodland); F03.02.02 (taking from nest (falcons); D01.01 (paths, tracks, cycling tracks); J01.01 (burning down); E01 (Urbanised areas, human habitation); G01.03.02 (off-road motorized driving). There is a negligible risk of significant effect on the SAC. There is no spatial overlap or direct hydrological link between the site and the protected area. Construction phase effects such as dust are known to persist over a short distance (less than 250 meters); all other effects from the sites are identified to be localised.	Unlikely	Unlikely
000210	South Dublin Bay SAC	4.8 NE	[1140] Mudflats and sandflats not covered by seawater at low tide [1210] Annual vegetation of drift lines [1310] Salicornia and other annuals colonising mud and sand [2110] Embryonic shifting dunes	Threats to the site include: G01.01 (nautical sports); D01.02 (roads, motorways); D01.01 (paths, tracks, cycling tracks); K02.02 (accumulation of organic material); H03 (Marine water pollution); E01 (Urbanised areas, human habitation); F02.03.01 (Hunting); G01.01.02 (non-motorized nautical sports); E02 (Industrial or commercial areas); G01.02 (walking, horse riding and non-motorised vehicles); J02.01.02 (reclamation of land from sea, estuary or marsh). There is a negligible risk of significant effect on the SAC. There is no spatial overlap or direct hydrological link between the site and the protected area. Construction phase effects such as dust are known to persist over a short distance (less than 250 meters); all other effects from the sites are identified to be localised.	Unlikely	Unlikely
004040	Wicklow Mountains SPA	4.9 SW	[A098] Merlin (*Falco columbarius*) [A103] Peregrine (*Falco peregrinus*)	Threats to the site include: G01.02 (walking, horse riding and non-motorised vehicles); B (Sylviculture, forestry); A04 (grazing); C01.03 (Peat extraction); D01.01 (paths, tracks, cycling tracks).	Unlikely	Unlikely

Site Code	Site Name	Distance (km)	Sensitive Receptors	Characterisation of Potential Effects	Potential Significant Effects	Potential In-Combination Effects
				There are no sources for effect to the terrestrial habitats of the SAC. There is no hydrological link given the site's location downstream of the protected area. Construction phase effects such as dust are known to persist over a short distance (less than 250 meters); all other effects from the sites are identified to be localised		
004024	South Dublin Bay and River Tolka Estuary SPA	4.9 NE	[A046] Light-bellied Brent Goose (*Branta bernicla hrota*) [A130] Oystercatcher (*Haematopus ostralegus*) [A137] Ringed Plover (*Charadrius hiaticula*) [A141] Grey Plover (*Pluvialis squatarola*) [A143] Knot (*Calidris canutus*) [A144] Sanderling (*Calidris alba*) [A149] Dunlin (*Calidris alpina*) [A157] Bar-tailed Godwit (*Limosa lapponica*) [A162] Redshank (*Tringa totanus*) [A179] Black-headed Gull (*Chroicocephalus ridibundus*) [A192] Roseate Tern (*Sterna dougallii*) [A193] Common Tern (*Sterna hirundo*) [A194] Arctic Tern (*Sterna paradisaea*)	Threats to the site include: G01.01 (nautical sports); F02.03 (Leisure fishing); F02.03.01 (bait digging / collection); K02.03 (eutrophication (natural)); J02.01.02 (reclamation of land from sea, estuary or marsh); E01 (Urbanised areas, human habitation); E02 (Industrial or commercial areas); D01.02 (roads, motorways); E03 (Discharges); G01.02 (walking, horseriding and non-motorised vehicles). There is a negligible risk of significant effect on the SPA. There is no spatial overlap or direct hydrological link between the site and the protected area. Construction phase effects such as dust are known to persist over a short distance (less than 250 meters); all other effects from the sites are identified to be localised.	Unlikely	Unlikely
000725	Knocksink Wood SAC	6 S	[7220] Petrifying springs with tufa formation (*Cratoneurion*) [91A0] Old sessile oak woods with Ilex and Blechnum in the British Isles [91E0] Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)	Threats to the site include: B01.02(artificial planting on open ground (non-native trees); G02.08 (amping and caravans); G05.04 (Vandalism); G05.07 (missing or wrongly directed conservation measures); I01 (invasive non-native species); B02.03 (removal of forest undergrowth); D01.02 (roads, motorways); E01.02 (discontinuous urbanisation); G03 (Interpretative centres); A04 (grazing); B01 (forest planting on open ground); D01.01 (paths, tracks, cycling tracks); D05 (Improved access to site); E03.01 (disposal of household / recreational facility waste); G01.02 (walking, horse riding and non-motorised vehicles). There is a negligible risk of significant effect on the SPA. There is no spatial overlap or direct hydrological link between the site and the protected area. Construction phase effects such as dust are known to persist over a short distance (less than 250 meters); all other effects from the sites are identified to be localised.	Unlikely	Unlikely
000713	Ballyman Glen SAC	7.6 SE	[7220] Petrifying springs with tufa formation (Cratoneurion) [7230] Alkaline fens	Threats to the site include: A01 (Cultivation); D01.02 (roads, motorways); E01.01 (continuous urbanisation); A04 (grazing); A08 (Fertilisation); A10.01 (removal of hedges and copses or scrub); B01 (forest planting on open	Unlikely	Unlikely

Site Code	Site Name	Distance (km)	Sensitive Receptors	Characterisation of Potential Effects	Potential Significant Effects	Potential In-Combination Effects
				ground); E01.02 (discontinuous urbanisation); E03.01 (disposal of household / recreational facility waste); H01.03 (other point source pollution to surface water); H02.01 (groundwater pollution by leakages from contaminated sites). There is a negligible risk of significant effect on the SPA. There is no spatial overlap or direct hydrological link between the site and the protected area. Construction phase effects such as dust are known to persist over a short distance (less than 250 meters); all other effects from the sites are identified to be localised.		
004172	Dalkey Islands SPA	8.4 E	[A192] Roseate Tern (*Sterna dougallii*) [A193] Common Tern (*Sterna hirundo*) [A194] Arctic Tern (*Sterna paradisaea*)	Threats to the site include: G01.01 (nautical sports); E01 (Urbanised areas, human habitation); A04 (grazing); G01.02 (walking, horse riding and non-motorised vehicles). There is a negligible risk of significant effect on the SPA. There is no spatial overlap or direct hydrological link between the site and the protected area. Construction phase effects such as dust are known to persist over a short distance (less than 250 meters); all other effects from the sites are identified to be localised.	Unlikely	Unlikely
003000	Rockabill to Dalkey Island SAC	8.7 E	[1170] Reefs [1351] Phocoena phocoena (Harbour Porpoise)	Threats to the site include: D03.02 (Shipping lanes); E03 (Discharges); F02.02 (Professional active fishing); H06.01 (Noise nuisance, noise pollution); J02.02 (Removal of sediments); J02.11 (Siltation rate changes, dumping, depositing of dredged deposits); D02 (Utility and service lines). There is a negligible risk of significant effect on the SPA. There is no spatial overlap or direct hydrological link between the site and the protected area. Construction phase effects such as dust are known to persist over a short distance (less than 250 meters); all other effects from the sites are identified to be localised.	Unlikely	Unlikely
001209	Glenasmole Valley SAC	8.9 SW	[6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6410] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [7220] Petrifying springs with tufa formation (*Cratoneurion*)	Threats to the site include: J02 (human induced changes in hydraulic conditions); A03 (mowing / cutting of grassland); B01.01 (forest planting on open ground (native trees); B01.02 (artificial planting on open ground (non-native trees); C01.03 (Peat extraction); D01.03 (car parcs and parking areas); F02.03 (Leisure fishing); A03.03 (abandonment / lack of mowing); A04 (grazing); A04.02.01 (non-intensive cattle grazing); A04.02.02 (non-intensive sheep grazing); A04.02.03 (non-intensive horse grazing); A08 (Fertilisation); B02.01.02 (forest replanting - non-native trees); B02.02 (forestry clearance);	Unlikely	Unlikely

Site Code	Site Name	Distance (km)	Sensitive Receptors	Characterisation of Potential Effects	Potential Significant Effects	Potential In-Combination Effects
				D01 (Roads, paths and railroads); E01.02 (discontinuous urbanisation); H01.05 (diffuse pollution to surface waters due to agricultural and forestry activities); H01.08 (diffuse pollution to surface waters due to household sewage and waste waters); H02.07 (diffuse groundwater pollution due to non-sewered population); I01 (invasive non-native species). There is a negligible risk of significant effect on the SPA. There is no spatial overlap or direct hydrological link between the site and the protected area. Construction phase effects such as dust are known to persist over a short distance (less than 250 meters); all other effects from the sites are identified to be localised.		
004236	North-West Irish Sea SPA	9.8 NE	[A001] Red-throated Diver (*Gavia stellata*) [A003] Great Northern Diver (*Gavia immer*) [A009] Fulmar (*Fulmarus glacialis*) [A013] Manx Shearwater (*Puffinus puffinus*) [A017] Cormorant (*Phalacrocorax carbo*) [A018] Shag (*Phalacrocorax aristotelis*) [A065] Common Scoter (*Melanitta nigra*) [A177] Little Gull (*Larus minutus*) [A179] Black-headed Gull (*Chroicocephalus ridibundus*) [A182] Common Gull (*Larus canus*) [A183] Lesser Black-backed Gull (*Larus fuscus*) [A184] Herring Gull (*Larus argentatus*) [A187] Great Black-backed Gull (*Larus marinus*) [A188] Kittiwake (*Rissa tridactyla*) [A192] Roseate Tern (*Sterna dougallii*) [A193] Common Tern (*Sterna hirundo*) [A194] Arctic Tern (*Sterna paradisaea*) [A195] Little Tern (*Sterna albifrons*) [A199] Guillemot (*Uria aalge*) [A200] Razorbill (*Alca torda*) [A204] Puffin (*Fratercula arctica*)	Threats to the site include: N/A There is a negligible risk of significant effect on the SPA. There is no spatial overlap or direct hydrological link between the site and the protected area. Construction phase effects such as dust are known to persist over a short distance (less than 250 meters); all other effects from the sites are identified to be localised.	Unlikely	Unlikely
004006	North Bull Island SPA	9.8 NE	[A046] Light-bellied Brent Goose (*Branta bernicla hrota*) [A048] Shelduck (*Tadorna tadorna*) [A052] Teal (*Anas crecca*) [A054] Pintail (*Anas acuta*) [A056] Shoveler (*Anas clypeata*) [A130] Oystercatcher (*Haematopus ostralegus*)	Threats to the site include: G01.01(nautical sports); E01.04 (other patterns of habitation); F02.03.01 (bait digging/collection); D03.02 (Shipping lanes); G01.02 (walking, horse riding and non-motorised vehicles); E03 (Discharges); D01.02 (roads, motorways); D01.05 (bridge, viaduct); G02.01 (golf course); E01.01 (continuous urbanisation); E02 (Industrial or commercial areas).	Unlikely	Unlikely

Site Code	Site Name	Distance (km)	Sensitive Receptors	Characterisation of Potential Effects	Potential Significant Effects	Potential In-Combination Effects
			[A140] Golden Plover (*Pluvialis apricaria*) [A141] Grey Plover (*Pluvialis squatarola*) [A143] Knot (*Calidris canutus*) [A144] Sanderling (*Calidris alba*) [A149] Dunlin (*Calidris alpina*) [A156] Black-tailed Godwit (*Limosa limosa*) [A157] Bar-tailed Godwit (*Limosa lapponica*) [A160] Curlew (*Numenius arquata*) [A162] Redshank (*Tringa totanus*) [A169] Turnstone (*Arenaria interpres*) [A179] Black-headed Gull (*Chroicocephalus ridibundus*) [A999] Wetland and Waterbirds	There is a negligible risk of significant effect on the SPA. There is no spatial overlap or direct hydrological link between the site and the protected area. Construction phase effects such as dust are known to persist over a short distance (less than 250 meters); all other effects from the sites are identified to be localised.		
000206	North Dublin Bay SAC	9.8 NE	[1140] Mudflats and sandflats not covered by seawater at low tide [1210] Annual vegetation of drift lines [1310] Salicornia and other annuals colonising mud and sand [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1410] Mediterranean salt meadows (*Juncetalia maritimi*) [2110] Embryonic shifting dunes [2120] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2130] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2190] Humid dune slacks [1395] *Petalophyllum ralfsii* (Petalwort)	Threats to the site include: E02 (Industrial or commercial areas); E03 (Discharges); F02.03.01 (Hunting); K03.06 (antagonism with domestic animals); F02.03 (Leisure fishing); G01.01 (nautical sports); H01.09 (diffuse pollution to surface waters due to other sources not listed); J01.01 (burning down); G02.01 (golf course); E01 (Urbanised areas, human habitation); G05.05 (intensive maintenance of public parcs /cleaning of beaches); A04 (grazing); I01 (invasive non-native species); G01.02 (walking, horseriding and non-motorised vehicles); H01.03 (other point source pollution to surface water). There is a negligible risk of significant effect on the SPA. There is no spatial overlap or direct hydrological link between the site and the protected area. Construction phase effects such as dust are known to persist over a short distance (less than 250 meters); all other effects from the sites are identified to be localised.	Unlikely	Unlikely
000714	Bray Head SAC	11.8 SE	[1230] Vegetated sea cliffs of the Atlantic and Baltic coasts [4030] European dry heaths	Threats to the site include: A10.01 (removal of hedges and copses or scrub); G01.03 (motorised vehicles); E01 (Urbanised areas, human habitation); J01.01 (burning down); D01.01 (paths, tracks, cycling tracks); K02.01 (species composition change (succession)); K01.01 (Erosion); G05.04 (Vandalism). There is a negligible risk of significant effect on the SPA. There is no spatial overlap or direct hydrological link between the site and the protected area. Construction phase effects such as dust are known to persist over a short distance (less than 250 meters); all other effects from the sites are identified to be localised.	Unlikely	Unlikely

Site Code	Site Name	Distance (km)	Sensitive Receptors	Characterisation of Potential Effects	Potential Significant Effects	Potential In-Combination Effects
000202	Howth Head SAC	14 NE	[1230] Vegetated sea cliffs of the Atlantic and Baltic coasts [4030] European dry heaths	Threats to the site include: I01 (invasive non-native species); C01.01.01 (); A04.03 () E01(Urbanised areas, human habitation); G01.02 (walking, horse riding and non-motorised vehicles); J01.01 (burning down): G05.04 (Vandalism); C01 (Mining and quarrying). There is a negligible risk of significant effect on the SPA. There is no spatial overlap or direct hydrological link between the site and the protected area. Construction phase effects such as dust are known to persist over a short distance (less than 250 meters); all other effects from the sites are identified to be localised.	Unlikely	Unlikely

4 SUMMARY AND CONCLUSION

4.1 SUMMARY

The Habitats Directive provides legal protection for habitats and species of European importance and establishes the requirement for an AA. This AA screening is based on best scientific knowledge and has utilised ecological and hydrological expertise. In addition, a detailed online review of published scientific literature and 'grey' literature was conducted.

This AA has been prepared for the Hillcrest Road Improvement Scheme in Sandyford, Co. Dublin. There is no spatial overlap between the study area and the closest Natura Sites. The nearest European designated site is the Wicklow Mountains SAC located 4.8km southwest of the site. Due to the small scale and short duration of the proposed construction works, the nature of the site operations, the distance to these designated sites, and the lack of hydrological connectivity, impact to European sites within the ZOI is predicted to be unlikely and not significant.

No changes are predicted to occur at any designated sites which may result in effects on the conservation objectives of those sites with regard to the following:

- habitat or species fragmentation
- climate change
- disturbance to key species
- reduction in species density
- changes in key indicators of conservation value
- reduction of habitat area

4.2 CONCLUSION

This stage 1 screening for AA of the Hillcrest Road Improvement Scheme in Sandyford, Co. Dublin has considered potential effects which may arise during the construction and operational phases as a result of the implementation of the project.

The AA screening process has considered potential effects which may arise during the construction and operational phases as a result of the implementation of the project. Through an assessment of the pathways for effects and an evaluation of the project characteristics, taking into account the processes involved and the distance of separation from European sites, it has been evaluated that there are no likely significant adverse effects on the qualifying interests, special conservation interests, or the conservation objectives of any designated European site. The ecological integrity of the European sites is not foreseen to be significantly affected by the project.

On the basis of objective information and in view of best scientific knowledge and applying the precautionary principle, the proposed development, either individually or in combination with other plans or projects, and without relying on any mitigation measures, is not likely to have a significant effect on any European Site(s), in view of the sites' conservation objectives, and there is no reasonable scientific doubt in relation to this conclusion. Consequently, a Stage Two Appropriate Assessment is not required for the project.

5 VERIFICATION

This report was compiled by Luis Iemma, BSc, MSc, Ph. D, CEcol, MCIEEM, Associate Ecologist, reviewed by Glenda Barry, BSc, MSc, PGeo, EurGeol, Associate Consultant; and approved by Eleanor Burke, BSc, MSc, DAS, MIEnvSc, CSci, OCSC Director (Environmental).

Luis Iemma BSc, MSc, Ph. D, CEcol, MCIEEM

Associate Ecologist

O'Connor Sutton Cronin & Associates

APPENDIX A

Image No.01 – Hillcrest Road Proposed Stormwater Drainage Key plan

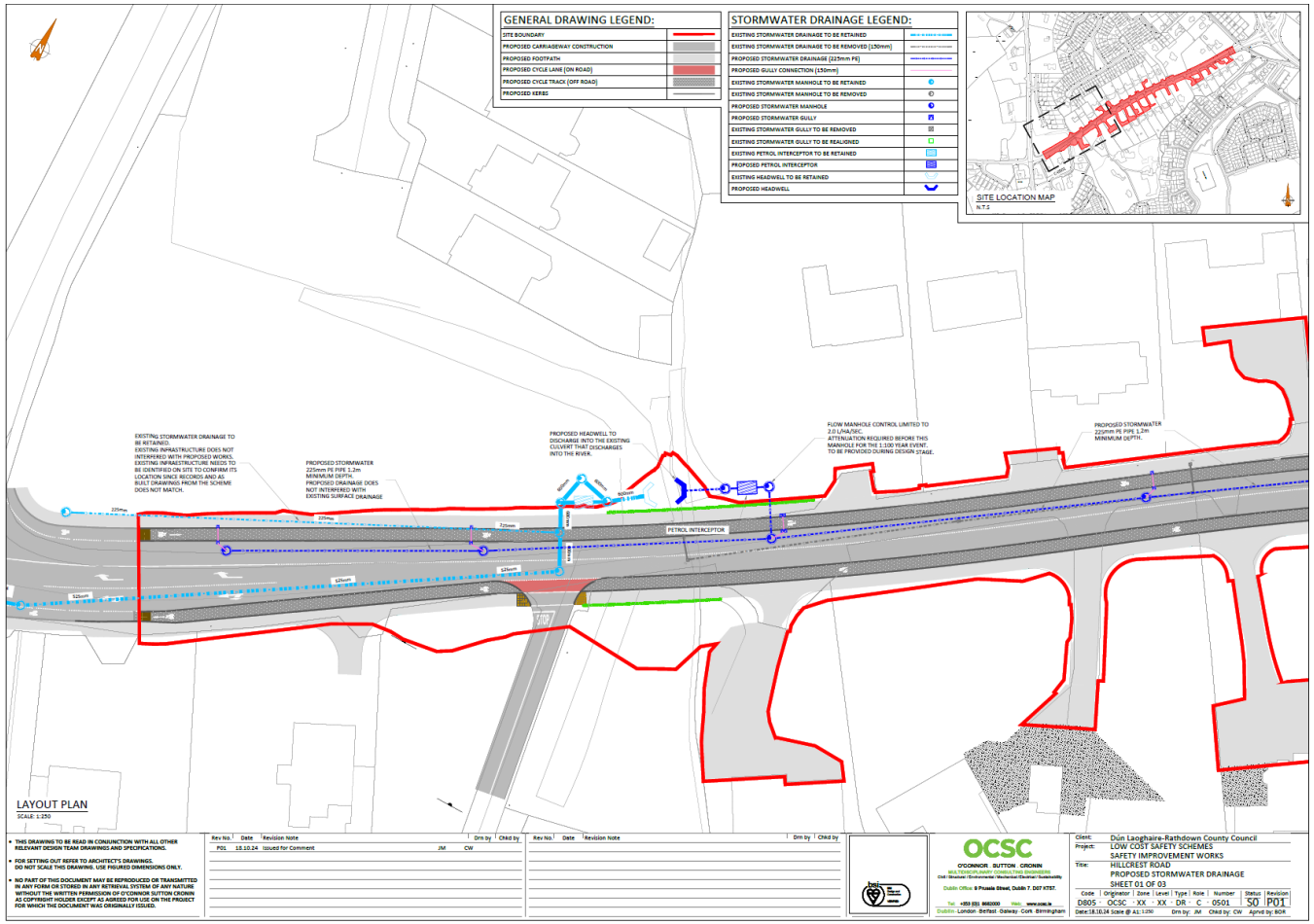

Image No.02 – Hillcrest Road Proposed Stormwater Drainage Section C-0501

Image No.03 – Hillcrest Road Proposed Stormwater Drainage Section C-0502

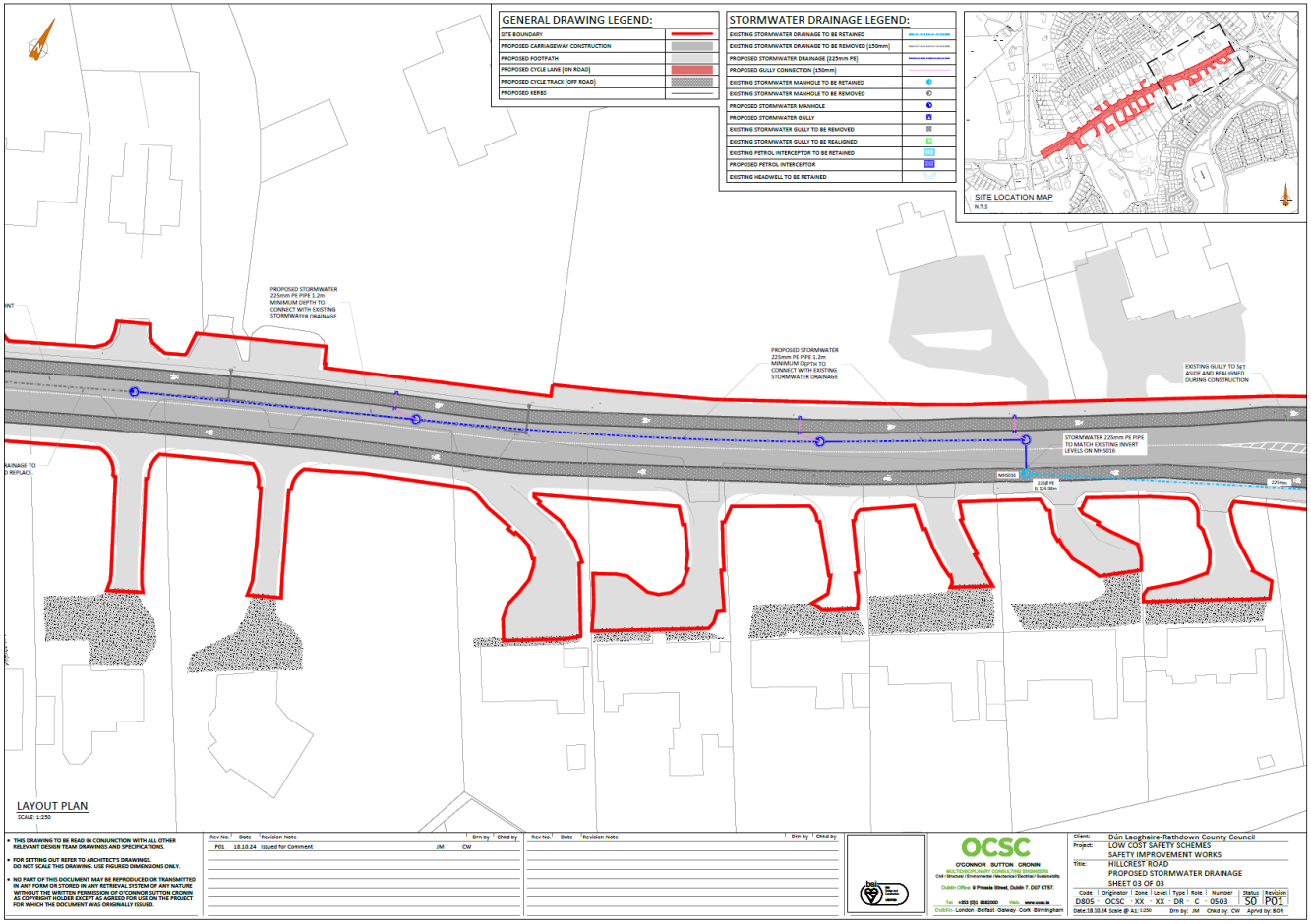

Image No.04 – Hillcrest Road Proposed Stormwater Drainage Section C-0503

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