

**Ringsend to  
City Centre Core  
Bus Corridor Scheme**

**Appropriate  
Assessment  
Report**

**BUS  
CONNECTS**

SUSTAINABLE TRANSPORT FOR A BETTER CITY.

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**Screening  
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## 1 Introduction

- 1 This report, which contains information to assist the competent authority to undertake a screening for Appropriate Assessment (AA), in respect of the Ringsend to City Centre Core Bus Corridor Schemes (hereafter referred to as the Proposed Scheme), has been prepared by Scott Cawley Ltd. on behalf of the National Transport Authority. It provides information on and assesses the potential in view of best scientific knowledge for, the Proposed Scheme to have significant effects, either individually or in combination with other plans and projects on the Natura 2000 network (hereafter referred to as European sites)<sup>1</sup>. The Proposed Scheme aims to provide enhanced walking, cycling and bus infrastructure on this key access corridor in the Dublin region, which will enable and deliver efficient, safe, and integrated sustainable transport movement along the corridor between Ringsend and the City Centre.
- 2 Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (as amended) (the '**Habitats Directive**') requires that, any plan or project not directly connected with or necessary to the management of European sites, but likely to have significant effects thereon, either individually or in combination with other plans or projects, shall be subject to Appropriate Assessment of its implications for the European sites in view of their conservation objectives. The requirements of Article 6(3) of the Habitats Directive have been transposed into Irish law by Part XAB of the Planning and Development Act 2000 (as amended) and the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended) (the '**2011 Birds and Habitats Regulations**').

For the reasons set out in detail in this AA Screening Report, a Stage Two **Appropriate Assessment of the Proposed Scheme is required in this instance** as it cannot be concluded, in view of best scientific knowledge and on the basis of objective information, that the Proposed Scheme, either individually or in combination with other plans or projects, will not have a significant effect on the following European site(s): **North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC, Lambay Island SAC, Wicklow Mountains SAC, Skerries Islands SPA, Lambay Island SPA, Ireland's Eye SPA, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Dalkey Island SPA, Rockabill SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, the Murrough SPA and Wicklow Mountains SPA.**

## 2 Methodology

### 2.1 Guidance

- 3 This Appropriate Assessment Screening Report has been prepared with regard to the following guidance documents, as relevant:
  - *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities.* (Department of Environment, Heritage and Local Government, 2010 revision);

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<sup>1</sup> 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 conservation areas are sites hosting the 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 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.

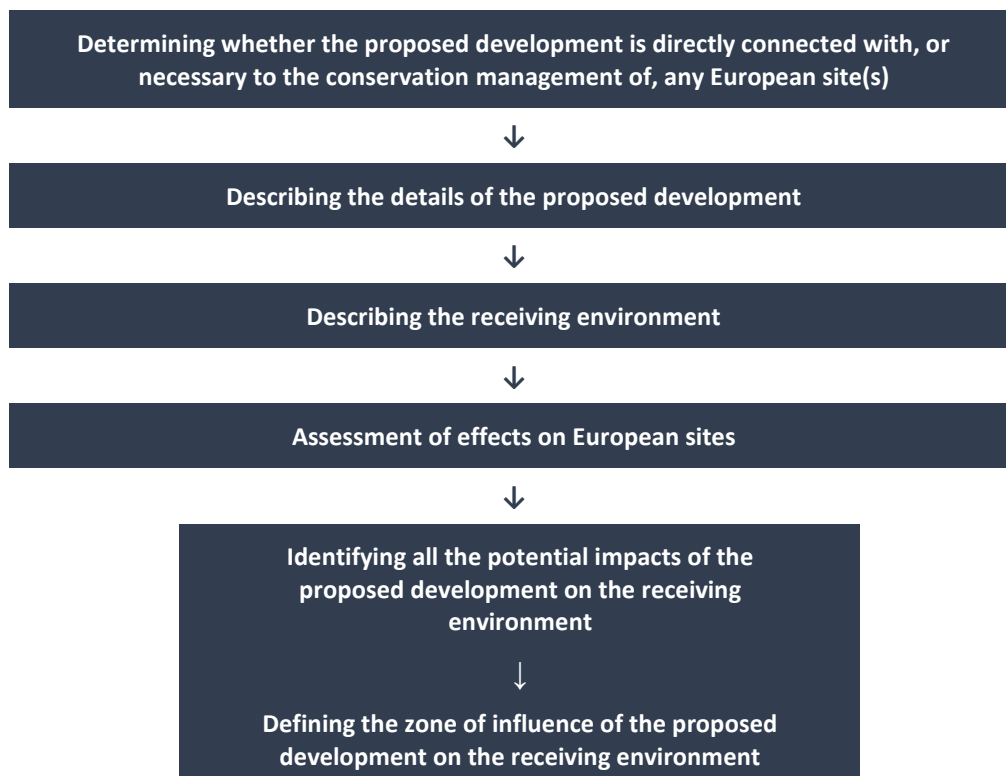
In Ireland these sites are designed as *European sites* - defined under the Planning Acts and/or the Birds and Habitats Regulations as (a) a candidate site of Community importance, (b) a site of Community importance, (c) a candidate special area of conservation, (d) a special area of conservation, (e) a candidate special protection area, or (f) a special protection area. They are commonly referred to in Ireland as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

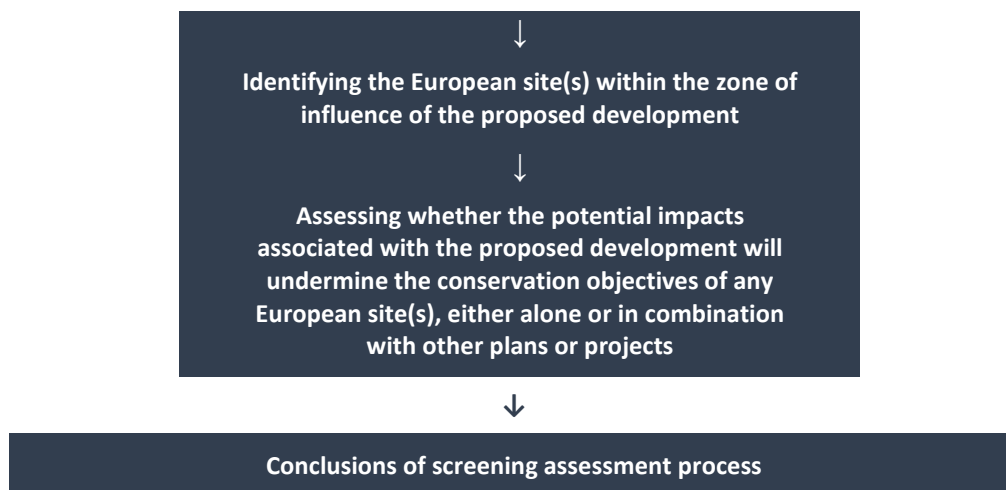
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities*. Circular NPW 1/10 & PSSP 2/10;
- *Assessment of Plans and Projects in Relation to Natura 2000 sites: Methodological Guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission, 2021) *Communication from the Commission on the precautionary principle* (European Commission, 2000);
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC* (European Commission, 2019);
- Interpretation Manual of European Union Habitats. Version EUR 28. (European Commission, 2013); and,
- OPR Practice Note PN01. Appropriate Assessment Screening for Development Management (Office of the Planning Regulator, 2021).

## 2.2 Assessment Methodology

- 4 The above referenced guidance sets out a staged process for carrying out Appropriate Assessment. To determine if an Appropriate Assessment is required, documented screening is required. Screening identifies the potential for significant effects on the conservation objectives of European sites, if any, which would arise from a proposed plan or project, either alone or in combination with other plans and projects (i.e. likely significant effects).
- 5 Significant effects on a European site are those that would undermine the conservation objectives supporting the favourable conservation condition of the Qualifying Interest (QI) habitats and/or the QI/Special Conservation Interest (SCI) species of a European site(s).
- 6 Image 1 describes the steps involved in Stage One Screening for Appropriate Assessment.

Image 1: Stage One Screening Process for Appropriate Assessment





- 7 If the conclusions at the end of screening are that there is no likelihood of significant effects occurring on any European sites as a result of the proposed plan or project, either alone or in combination with other plans and projects, then there is no requirement to undertake a Stage Two Appropriate Assessment.
- 8 In establishing which European sites are potentially at risk (in the absence of mitigation) from the Proposed Scheme, a source-pathway-receptor approach was applied. In order for an impact to occur, there must be a risk enabled by having a source (e.g. water abstraction or construction works), a receptor (e.g. a European site or its QI(s) or SCI(s)<sup>2</sup>), and a pathway between the source and the receptor (e.g. by air for airborne pollution, or a pathway by a watercourse for mobilisation of pollution). For an impact to occur, all three elements must exist; the absence or removal of one of the elements means there is no possibility for the impact to occur.
- 9 The identification of source-pathway-receptor connection(s) between the Proposed Scheme and European sites essentially is the process of identifying which European sites are within the Zone of Influence (Zol) of the Proposed Scheme, and therefore potentially at risk of significant effects. The Zol is the area over which the Proposed Scheme could affect the receiving environment such that it could potentially have significant effects on the QI habitats or QI / SCI species of a European site, or on the achievement of their conservation objectives<sup>3</sup>.
- 10 The identification of a source-pathway-receptor link does not automatically mean that significant effects will arise. The likelihood for significant effects will depend upon the characteristics of the source (e.g. extent and duration of construction works), the characteristics of the pathway (e.g. direction and strength of prevailing winds for airborne pollution) and the characteristics of the receptor (e.g. the sensitivities of the European site and its QIs/SCIs).

### 2.3 Desktop Data Review

- 11 The desktop data sources used to inform the assessment presented in this report are as follows (accessed in February 2022):
  - Online data available on European sites and on Natural Heritage Areas (NHAs) or proposed Natural Heritage Areas (pNHAs) as held by the National Parks and Wildlife Service (NPWS) from [www.npws.ie](http://www.npws.ie), including conservation objectives documents;

<sup>2</sup> The term qualifying interest is used when referring to the habitats or species for which an SAC is designated; the term special conservation interest is used when referring to the bird species (or wetland habitats) for which an SPA is designated.

<sup>3</sup> As defined in the *Guidelines for Ecological Impact Assessment in the UK and Ireland* (CIEEM, 2018)

- Online data records available on National Biodiversity Data Centre Database (NBDC online database, 2022);
- Online data records made available via an NPWS data request (NPWS, 2020);
- Information on the status of EU protected habitats and species in Ireland (National Parks & Wildlife Service, 2019a, 2019b and 2019c);
- Ordnance Survey of Ireland (OSI) orthophotography for the proposed study area available from www.osi.ie;
- Habitat and species GIS datasets provided by the NPWS, including Article 12 and Article 17 data;
- Records from the Botanical Society of Britain and Ireland (BSBI);
- Information contained within the Flora of County Dublin<sup>4</sup>;
- Environmental information/data for the area available from the EPA website; www.epa.ie;
- Bus Connects drone imagery (surveyed 2020);
- Information on light-bellied brent goose inland feeding sites<sup>5</sup>;
- The results of ecological surveys undertaken as part of the Environmental Impact Assessment (EIA) studies for the Proposed Scheme (see Section 5 below for details);
- Information on the location, nature and design of the Proposed Scheme; and,
- Information contained in the Dublin City Otter Survey (Macklin *et al.*, 2019)<sup>6</sup>.

## 2.4 Consultations

Table 1 below outlines the Appropriate Assessment issues raised during the consultation.

**Table 1 Appropriate Assessment Issues Raised During Consultation**

Consultee	Date of Consultation	Issues Raised	Relevant Section of the AA where this is addressed
Department of Housing, Local Government and Heritage (formerly Department of Culture, Heritage and the Gaeltacht)	30/07/19 Ref. G Pre00165/2019	The Department recommend identification, description, and assessment of direct and indirect impacts of the Proposed Scheme on the following features: <ul style="list-style-type: none"> <li>• Biodiversity in general and with specific attention to Natura 2000 sites.</li> <li>• Habitats and species protected under the Habitats Directive, such as Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur), bird species protected under the Birds Directive, such as Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur).</li> </ul>	Addressed in NIS

<sup>4</sup> Doogue, D., Nash, D., Parnell, J., Reynolds, S. & Wyse Jackson, P. (eds) (1998) Flora of County Dublin. The Dublin Naturalists' Field Club, Dublin

<sup>5</sup> Scott Cawley Ltd. (2017). Natura Impact Statement – Information for Stage 2 Appropriate Assessment for the Proposed Residential Development St. Paul's College, Sybill Hill, Raheny, Dublin 5.

<sup>6</sup> Macklin, R., Brazier, B. & Sleeman, P. (2019). Dublin City otter survey. Report prepared by Triturus Environmental Ltd. For DCC as an action of the Dublin City Biodiversity Action Plans 2015-2020.

		<ul style="list-style-type: none"> <li>Species and / or habitats listed in the Habitats Directive inside or outside of Natura 2000 sites be recorded.</li> </ul>	
		Detailed bird surveys should be undertaken at all times of the year to establish areas of the Proposed Scheme used by birds.	Addressed in NIS
		The Department requires that the Appropriate Assessment addresses the issue of invasive alien plant and animal species and includes detailed methods to ensure that the accidental introduction or spreading of invasive species does not occur. The Department recommended that an Invasive Species Action Plan should form part of the planning application.	Addressed in NIS
		Department recommended that the Cumulative impacts of the Proposed Scheme be considered, to include interaction between different and / or approved plans and projects in the same area as the Proposed Scheme.	Addressed in NIS
		<p>The Proposed Scheme be subject to Appropriate Assessment, and must contain complete (i.e. no lacunae), precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on the protected site concerned.</p> <p>Mitigation requirements should outline measures proposed and timescales provided relative to the Proposed Scheme. These measures should be based on scientific evidence with their effectiveness considered.</p> <p>Where residual impacts remain, further mitigation measures may be required:</p> <ul style="list-style-type: none"> <li>Evidence should be provided of how mitigation measures will be monitored.</li> <li>Monitoring should take place immediately downstream of the Proposed Scheme.</li> </ul> <p>The applicant should not use any proposed post construction monitoring as mitigation to supplement inadequate information in the assessment.</p>	Addressed in NIS
Inland Fisheries Ireland (IFI)	3rd November 2020 (letter received from IFI)	<p>Topics addressed in the IFI letter received on 3rd November 2020 did not specifically mention Appropriate Assessment. They included:</p> <ul style="list-style-type: none"> <li>Water bodies that will be crossed by the Proposed Scheme;</li> <li>Fisheries importance of water bodies that will be crossed by the Proposed Scheme;</li> <li>Scheme design in regard to structures at water crossings;</li> <li>Baseline data;</li> <li>Impact Assessment; and</li> <li>Mitigation measures</li> </ul>	Addressed in NIS



## 2.5 Baseline Surveys

- 12 Baseline ecological surveys were undertaken as necessary to inform environmental assessments of the Proposed Scheme. This section describes the ecological surveys which are relevant to and have informed the assessment of likely significant effects on European sites.

### 2.5.1 Habitats and Flora Survey

- 13 Habitat surveys were carried out by Scott Cawley Ltd. between June and August 2018 along the then Proposed Scheme alignment (see Figure 1). Confirmatory surveys were subsequently undertaken on the Proposed Scheme again in August 2020 to check and update the presence and extent of habitats found in the 2018 habitat surveys. Additional habitat surveys were carried out in February 2021 along any new route sections added since 2018. All habitats located within or immediately adjacent to the Proposed Scheme footprint were surveyed and mapped to level three of the Heritage Council's habitat codes, after Fossitt<sup>7</sup> and in accordance with *Best Practice Guidance for Habitat Survey and Mapping*<sup>8</sup>. The level of field data quality was also recorded. Plant species present that were either representative of a habitat or considered to be of conservation interest (*i.e.* those listed on the Flora Protection Order or listed in the 'threatened' category or higher on the Red List for vascular plants and bryophytes) were recorded, along with their relative abundances. Non-native invasive plant species listed on the Third Schedule of the 2011 Birds and Habitats Regulations were also recorded. The habitat's extent was mapped onto an aerial photograph, with GPS points taken where a habitat's extent could not be clearly identified from the aerial photograph. Vascular plant nomenclature follows that of the *New Flora of the British Isles 4th Edition*<sup>9</sup>.
- 14 The subtidal and intertidal habitats in the vicinity of the Proposed Scheme were surveyed by Aquafact International Services Ltd., in 2019 and again in 2020 (Aquafact, 2020a, 2020b). Marine habitats were classified according to their Joint Nature Conservancy Council (JNCC) biotope (<https://mhc.jncc.gov.uk/>) and EUNIS (<https://www.eea.europa.eu/data-and-maps/data/eunis-habitat-classification>). The assessment of the subtidal and intertidal habitats is contained in Chapter 12 Biodiversity of the EIAR included with this planning application (as they fall outside the ZoI of European sites that might support analogous Annex I habitats). Mention is made in the NIS in respect of ex-situ Annex I estuarine habitat around Tom Clarke East Link Bridge. The proposed reclamation of estuarine territory is discussed in the NIS in terms of supporting habitat for Habitats Directive Annex I species or Birds Directive Annex I birds. However, it is outside the ZoI for European sites in terms of Habitat Loss / Functioning and as such is assessed in Chapter 12 (Biodiversity) of Volume 2 of the EIAR, published separately to this NIS.

### 2.5.2 Fauna Surveys

- 15 Ecological surveys relevant to the Proposed Scheme include habitat surveys, surveys for the presence or signs of terrestrial, mobile Annex II species (*i.e.* otter *Lutra lutra*), and surveys for Special Conservation Interest bird species. Dedicated fisheries or aquatic surveys were not deemed to be required for this assessment as the Proposed Scheme is not hydrologically connected to any European site designated for Annex II fish species or white-clawed crayfish *Austropotamobius pallipes*. The nearest known European site designated for Atlantic Salmon *Salmo salar*, River Lamprey *Lampetra fluviatilis* and Brook Lamprey *L. planeri* is the River Boyne and River Blackwater SAC, located c. 42km north-west of the Proposed Scheme in the Boyne River catchment. The nearest known European site designated for white-clawed crayfish is the River Barrow and River Nore SAC, which is located c. 60km south-west of the Proposed Scheme in the River Barrow catchment, River Nore catchment and River Ballyteigue-Bannow river catchment. There is no hydrological connectivity between the Proposed Scheme and these European sites.

<sup>7</sup> Fossitt, J.A. (2000) *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny.

<sup>8</sup> Smith, G.F., O'Donoghue, P., O'Hora, K. & Delaney, E. (2011) *Best Practice Guidance for Habitat Survey and Mapping*. The Heritage Council Church Lane, Kilkenny, Ireland.

<sup>9</sup> Stace, C. (2019) *New Flora of the British Isles. 4th Edition*. C&M Floristics

### 2.5.2.1 Otter

- 16 The footprint of the Proposed Scheme and suitable lands (*e.g.*, greenfield sites) immediately adjacent were surveyed for otter *Lutra* activity as part of the multi-disciplinary walkover survey, undertaken between June and August 2018, in August 2020, and February 2021. A watching brief was maintained between 2018 and 2021 for otter during vantage point surveys for breeding and wintering birds at the proposed Dodder Public Transport Opening Bridge (hereafter referred to as 'DPTOB'), referred to as CBC0016WB003. The presence / absence of these species was surveyed through the detection of field signs such as tracks, markings, feeding signs, and droppings as well as by direct observation. In addition, the study area was surveyed for the presence of otter holts. Where present, any evidence of use was recorded.
- 17 Construction methodologies which involved in-stream works, modifications to banks or significant disturbance require otter surveys. A desk study was carried out to identify all hydrological crossing points within the footprint of the Proposed Scheme. The desk study identified three sites where water bodies may be subject to significant disturbance as a consequence of the Proposed Scheme, the DPTOB connecting Sir John Rogerson's Quay and the Tom Clarke East Link Bridge referred to as CBC0016AR001, and two proposed boardwalk structures at North Wall Quay and Custom House Quay (referred to as CBC0016AR002 and CBC0016AR003 respectively). A corridor of approximately 150m upstream and downstream of these sites were surveyed to identify the presence of otter holts in September 2020, and February 2021 in relation to the boardwalk surveys.
- 18 A watching brief was also maintained between November 2020 and April 2021 for otter and marine mammals during vantage point surveys for wintering birds at the proposed DPTOB, referred to as CBC0016WB003.

### 2.5.2.2 Kingfisher

- 19 A desk study was carried out to identify all hydrological crossing points within the footprint of the Proposed Scheme. Construction methodologies which involved in-stream works, modifications to banks or significant disturbance were deemed to require habitat suitability assessments for nesting kingfisher *Alcedo atthis*. The desk study identified three sites where water bodies may be subject to significant disturbance as a consequence of the Proposed Scheme, the proposed DPTOB referred to as CBC0016AR001, and two proposed boardwalk structures at Excise Walk and Custom House Quay (referred to as CBC0016AR002 and CBC0016AR003 respectively.). As such, kingfisher habitat suitability assessment surveys were undertaken to inform the assessment of likely significant effects on kingfisher arising from the proposed scheme. See also detail in Section 2.5.2.3 below in terms of vantage point surveys undertaken for breeding bird which included kingfisher.

### 2.5.2.3 Breeding Birds

- 20 A desk study was carried out to inform the assessment of potential impacts on SCI breeding bird species arising from the Proposed Scheme. Vantage point surveys for common tern were undertaken on a weekly / fortnightly basis between April and June 2018 and April and July 2019 by ecologists from Roughan O'Donovan Consulting Engineers (ROD) to establish bird flight lines in relation to the proposed DPTOB and tern nesting potential at the Grand Canal Dock. Vantage point surveys were also undertaken on a fortnightly basis between May and August 2021, and April and August 2022 by Scott Cawley Ltd. The surveys were undertaken according to methodology in Bird Monitoring Methods (Gilbert *et al.* 1998). Surveys were timed to cover a range of tidal conditions. During each survey, bird flight lines across and presence in the area of the proposed bridge were recorded. In each instance the species, maximum count, activity / behaviour, breeding status and habitat relevant to the proposed DPTOB was recorded.
- 21 The data collected in 2019 was merged with the 2018 data to take account of changes in bird movements from year to year.
- 22 The location and size of the breeding tern colony at Grand Canal Docks was monitored in early July 2019 by ROD, who followed the methodology for monitoring tern productivity outlined in Bird Monitoring

Methods (Gilbert et al. 1998). On each visit the approach taken was to count apparent incubating adults (or active nests) and count large chicks (10 to 14 days old), including any nearby fledglings which were associated with the colony.

- 23 Productivity was estimated as the number of large chicks plus fledged young divided by the maximum count of apparent incubating adults.

#### 2.5.2.4 Wintering Birds

- 24 A desk study was carried out to identify any potential suitable inland feeding and/or roosting sites for winter birds located within or directly adjacent to the Proposed Scheme. This included a review of recent aerial photography and known inland feeding sites for the SCI bird species light-bellied brent goose *Branta bernicla hrota* (Scott Cawley Ltd., 2017).
- 25 The desk study identified three sites along or adjacent to the Proposed Scheme with potential for wintering birds that would be subject to direct habitat loss. These are an area of amenity grassland adjacent to St. Patrick's Rowing Club (SPRC) (including a small area of grassland adjacent to the Tom Clarke East Link Bridge, that is being redeveloped alongside proposed land reclamation in the Liffey Estuary Lower), a section of Ringsend Park and an area of amenity grassland adjacent to Irishtown Stadium. Each site was surveyed over seven consecutive weeks across February and March 2020, and on a fortnightly basis between October 2020 and April 2021 and October 2021 and April 2022. The results of the desk study and field surveys have informed the assessment of potential impacts on wintering bird species arising from the Proposed Scheme.
- 26 The results of the desk-based study have informed the assessment of potential impacts on wintering bird species arising from the Proposed Scheme.
- 27 In general, the approach was a 'look-see' methodology (based on Gilbert *et al.* 1998). All birds present within a site were identified with reference to Collins Bird Guide (Svensson, 2009) to confirm identification (where necessary), and were recorded using the British Trust for Ornithology (BTO) species codes. The total flock size of birds present, their general location within the site and any activity exhibited were also recorded. Evidence of bird droppings were recorded at pre-defined transect lines. The length of the transect line varied per site. Transect lines were only completed at sites where no bird species were present, to avoid any potential disturbance.
- 28 The sites included the following:
- CBC0016WB001: Small amenity grassland area next to St. Patricks Rowing Club and Tom Clarke East Link Bridge;
  - CBC0016WB002: Playing pitches and grass area within Ringsend Park; and
  - CBC0016WB003: Grassy verge within Irishtown Stadium and grass area with trees between the stadium and Bremen Avenue.
- 29 In total, vantage point surveys for wintering birds were undertaken on a weekly / fortnightly basis between March and April 2018, March and April 2019 by ROD and fortnightly, by Scott Cawley Ltd, between November 2020 and April 2021 and October 2021 and April 2022 to establish bird flight lines in relation to the proposed DPTOB. The surveys were undertaken according to methodology in Bird Monitoring Methods (Gilbert *et al.* 1998). Surveys were timed to cover a range of tidal conditions. During each survey, bird flight lines across and presence in the area of the proposed bridge were recorded. In each instance the species, flight path and height of the flight relative to the proposed bridge was recorded.

### 3 Provision of Information for Screening for Appropriate Assessment

- 30 The following sections provide information to facilitate the Appropriate Assessment screening of the Proposed Scheme to be undertaken by the competent authority.

- 31 A description of the Proposed Scheme and the receiving environment is provided to identify the potential ecological impacts. The environmental baseline conditions are described, as relevant to the assessment of ecological impacts where they may highlight potential pathways for impacts associated with the Proposed Scheme to affect the receiving ecological environment (e.g. air quality, geological, hydrogeological and hydrological data etc.).
- 32 The potential impacts are examined in order to define the potential zone of influence of the Proposed Scheme on the receiving environment. This then informs the assessment of whether the Proposed Scheme will result in significant effects on any European sites; i.e., affect the conservation objectives supporting the favourable conservation condition of the European site's QIs or SCIs.

### 3.1 Description of the Proposed Scheme

#### 3.1.1 Overview

- 33 The Proposed Scheme has an overall length of approximately 4.3km (2 x 1.6km along the Liffey Estuary Quays and 1.1km of cycle route through Ringsend and Irishtown to Sean Moore Road), and is routed along the north and south quays of the River Liffey, linking the city centre with the Docklands and an onward cycling connection to Ringsend and Irishtown, all within the County of Dublin and within the Dublin City Council (DCC) administrative area. The Proposed Scheme includes priority for buses along the entire length of the north quays from Talbot Memorial Bridge to the Tom Clarke East Link Bridge, consisting of dedicated bus lanes in both directions, which will require the relocation of both pairs of Scherzer Bridges along the north quays. Bus priority will also be achieved on the south quays through the provision of intermittent sections of bus lanes to ensure bus priority on the approaches to all major junctions as well as a new opening bridge (i.e. the Dodder Public Transport Opening Bridge (DPTOB)) across the confluence of the River Liffey and the River Dodder. Full bus lane provision on the south quays is not considered necessary in the context of the layout of the traffic cells and existing one-way restrictions, which prevent congestion developing. Eastbound buses will use the north quays only between the Customs House and the Samuel Becket Bridge, with eastbound buses proceeding on both quays from this point to the Tom Clarke East Link Bridge.
- 34 Segregated two-way cycle tracks will be provided along the quaysides (campshires) on both sides of the Liffey Estuary. A continuation of the two-way cycle route on the south quays will extent through Ringsend and Irishtown towards Sandymount Strand and the Poolbeg peninsula. The route will run via quiet streets at Pembroke Cottages, across Cambridge Road, then through Ringsend Park as a shared path with pedestrian priority, and a cycle track along the northern side of Strand Street and Pembroke Street in Irishtown to the junction of Sean Moore Road and Beach Road. A spur cycle route will be provided towards the Poolbeg Strategic Development Zone (SDZ) lands via Irishtown Stadium and Bremen Road. Shared use symbols will also be installed along York Road and Pigeon House Road to provide a second alternative route towards the Poolbeg SDZ lands. This road has recently been closed to through traffic and is suitable for shared use.
- 35 Pedestrian facilities will be upgraded and additional crossings will be provided at side roads, road crossings, and at junctions. In addition, urban realm works will be undertaken at key locations with higher quality materials, planting and street furniture provided to enhance the pedestrian experience. Examples of such works can be seen at the pair of Scherzer Bridges at Custom House Quay and North Wall Quay as well as the junction of North Wall Quay and Excise Walk. Pedestrian Boardwalks are proposed at Excise Walk and also at the former DCC Dublin Docklands offices at Custom House Quay to enhance the pedestrian environment (the latter to be provided on completion of the redevelopment of the offices).
- 36 The Proposed Scheme includes a local modification to Mayor Street at Spencer Dock. In order to accommodate proposed turning movement restrictions at the Guild Street / Samuel Beckett Bridge junction for the purposes of provided enhanced bus, cycle and pedestrian priority, it is proposed to open an eastbound traffic lane north of the LUAS between the National Convention Centre Car Park and Park Lane. This will facilitate traffic exiting the car park towards the M50 Port Tunnel.

37 The removal of vegetation relates to established landscape planting in the city centre, typically comprising individual trees or planted treelines. Further towards Ringsend, a mix of individual trees and clusters of trees will be removed. The Proposed Scheme includes for complimentary landscape planting within and adjacent to the site. An area of estuarine land reclamation within the Liffey Estuary Lower is proposed to facilitate the construction of the proposed DPTOB.

### 3.1.2 Surface Water Drainage Infrastructure

38 It is proposed to connect proposed drainage infrastructure into the existing surface water drainage system. A single existing surface water catchment area within the within the Proposed Scheme, i.e. the Liffey and Dublin Bay catchment. The proposed drainage system for the Proposed Scheme will discharge to two main surface water receptors, the Liffey Estuary Lower, and the combined sewer system directing water to Ringsend WWTP. This ultimately drains to Dublin Bay. For the Proposed Scheme, there will be a net increase of 9037m<sup>2</sup> in the impermeable area discharging to the Liffey Estuary Lower and subsequently Dublin Bay. There is no change in impermeable area for the drainage proposed to the other waterbodies. The drainage design principles ensure that there will be no net increase in the surface water flow discharged to any receptors.

39 The proposed drainage design includes the relocation and addition of drainage gullies. Attenuation will be in the form of filter drains and oversized pipes. These SuDS measures allow a level of treatment and/or attenuation to be provided before discharge to the network. Oversized pipes, infiltration trenches and permeable paving are proposed in respect of the Proposed Scheme.

### 3.1.3 Construction Compounds

40 A number of Construction Compound locations have been selected based on where there is the most available space, in close proximity to the majority of the Proposed Scheme major works and with access to the National and Regional Road network. The Construction Compounds will be located at the following sites and their location shown in:

- Construction Compound R1: Compound at the George's Dock Scherzer Bridges on the north side of Custom House Quay;
- Construction Compound R2: Compound at the Royal Canal Scherzer Bridges on the north side of North Wall Quay;
- Construction Compound R3a/R3b: Compound at west side of DPTOB – at the eastern end of Sir John Rogerson's Quay; and
- Construction Compound R4: Compound at east side of DPTOB – between Thorncastle Street / York Road and Tom Clarke East Link Bridge (including a portion of reclaimed land required to facilitate the DPTOB).

### 3.1.4 Estimated Construction Phase Duration

41 The total construction period for the overall Proposed Scheme is estimated at approximately 30 months, assuming that construction of the DPTOB and the elements of the Proposed Scheme are constructed concurrently. It should be noted however that it is envisaged that the DPTOB will be constructed under a separate Construction Contract from the remainder of the Proposed Scheme, therefore it is possible that the construction of the DPTOB could be undertaken in a different sequence (e.g., either independently of the other elements of overlapping with them). The Proposed Scheme will be constructed in sections, with each individual section being constructed in a shorter duration, typically between nine and 30 months. Works are envisaged to proceed concurrently on multiple work-fronts to minimise the overall construction duration.

### 3.1.5 Operational Phase

- 42 The main characteristics of the Operational Phase of the Proposed Scheme that have potential for ecological impact are:
- The presence and operation (traffic) of the road;
  - The presence of additional pedestrian traffic along the proposed boardwalks;
  - The presence of additional lighting;
  - Occasional opening of Scherzer bridges at George’s Dock and Spenser Dock; and
  - Routine maintenance, including road maintenance and landscaping of urban realm focal points.

## 3.2 Overview of the Receiving Environment

### 3.2.1 European sites

- 43 The Proposed Scheme does not overlap with any European site, although it is located in close proximity to Dublin Bay which is variously designated for a number of overlapping European sites. The nearest European sites to the Proposed Scheme are South Dublin Bay and River Tolka Estuary SPA and South Dublin Bay SAC, which are both located approximately 0.5km, terrestrially, south-east of the Proposed Scheme.
- 44 There are eight European Sites located in Dublin Bay that are hydrologically connected to the Proposed Scheme, via three watercourses *i.e.*, the Liffey Estuary Lower, the River Dodder\_050 and the Royal Canal. These European sites include North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA, South Dublin Bay and River Tolka SPA, Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC and Dalkey Island SPA.
- 45 There are 13 SPAs designated for SCI bird species that are known to forage and / or roost across Dublin City, and / or utilise Dublin Bay. These include Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, North Bull Island SPA, South Dublin Bay and River Tolka SPA, Ireland’s Eye SPA, Lambay Island SPA, Rockabill SPA, Dalkey Islands SPA, Wicklow Mountains SPA, Howth Head Coast SPA and The Murrough SPA.
- 46 There are two European sites containing marine mammals which are known to frequent Dublin Bay and the Liffey Estuary Lower. These include Rockabill to Dalkey Island SAC and Lambay Island SAC.
- 47 There is one European site located upstream of the Proposed Scheme that is within the ZoI, this is Wicklow Mountains SAC, and is designated for otter.
- 48 All of the European sites present in the vicinity of the Proposed Scheme are shown on **Figure 1** at the end of this report. The QIs/SCIs of all the European sites in the vicinity of the Proposed Scheme are provided in **Appendix I**.

### 3.2.2 Habitats

- 49 The Proposed Scheme is located in a highly urbanised environment. Habitats present in the footprint of the Proposed Scheme include the following:
- Horticultural land (BC2);
  - Flower beds and borders (BC4);
  - Stone walls and other stonework (BL1);
  - Buildings and artificial surfaces (BL3);
  - Sea walls, piers and jetties (CC1);
  - Tidal rivers (CW2);
  - Canals (FW3);

- Mud Shores (LS4) / Muddy sand shores (LS3);
- Spoil and bare ground (ED2);
- Recolonising bare ground (ED3);
- Amenity Grassland (Improved) (GA2);
- Dry meadows and grassy verges (GS2);
- Scattered trees and parkland (WD5);
- Hedgerows (WL1);
- Treelines (WL2);
- Scrub (WS1); and
- Ornamental / non-native shrub (WS3).

50 The habitat type tidal rivers (CW2) corresponds with the Annex I habitat Estuaries [1130] and is present in the Liffey Estuary Upper, located adjacent to the Proposed Scheme.

### 3.2.3 Flora and Fauna Species

51 No records of any Annex II plant species were recorded within the footprint of the Proposed Scheme during field surveys.

52 The desk study returned records of a total of five species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 within 1km of the Proposed Scheme. These included several records of Himalayan balsam *Impatiens glandulifera* (2012) and Japanese knotweed *Reynoutria japonica* (2019) in Irishtown and Irishtown Nature Park. Additional records of Canadian waterweed *Elodea canadensis* (2009), sea-buckthorn *Hippophae rhamnoides* (2019), and three-cornered garlic *Allium triquetrum* (2018) were also returned.

53 Records in the wider vicinity included: giant-rhubarb *Gunnera tinctoria* (2020), American skunk-cabbage *Lysichiton americanus* (2019), giant hogweed *Heracleum mantegazzianum* (2012), parrot's-feather *Myriophyllum aquaticum* (2008), curly waterweed *Lagarosiphon major* (1999), water fern *Azolla filiculoides* (1984), giant knotweed *Fallopia sachalinensis* (2009), New Zealand pigmyweed *Crassula helmsii* (2009), Rhododendron *ponticum* (2004) and Spanish bluebell *Hyacinthoides hispanica* (2018).

54 There were no areas of non-native invasive plant species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 identified along or adjacent to the Proposed Scheme during field surveys.

#### 3.2.3.1 Otter

55 A dedicated survey in respect of the proposed DPTOB did not record any otter activity, however incidental sightings (in August 2019) by ROD noted an otter running under a gate next to the Waterways Ireland building on the South Dock Road, as well as an otter swimming adjacent to Tom Clarke East link Bridge.

56 Two incidental sightings of otter during vantage point wintering bird surveys carried out by Scott Cawley Ltd. In the 2020 / 2021 wintering bird surveys. The first sighting was of an otter diving, north-east of Grand Canal Street Upper on 19<sup>th</sup> November 2020, outside of the Proposed Scheme boundary. The second sighting was of an otter swimming at the slipway west of Thorncastle Street (within the Proposed Scheme boundary), on 6<sup>th</sup> January 2021.

57 A desk study found that otter are known to occur within 1km of the Proposed Scheme, and across the wider study area along the Liffey Estuary Lower, the Dodder\_050 and the Grand Canal. These included live sightings of Otter alongside Tom Clarke East Link Bridge and The Grand Canal Dock, as well as an historic record from O'Connell Bridge.

- 58 Records of Otter were also returned from a recent otter survey<sup>10</sup> where a holt was recorded behind a floating pontoon serving the MV Cill Airne along North Wall Quay, as well as at Poolbeg lighthouse, which is within c. 5km of the Proposed Scheme. Active holts were also recorded with 2km at Dublin Port and otter signs were recorded within 1km at the Pidgeon House.
- 59 The nearest European site for which this species is designated is the Wicklow Mountains SAC, which is located c. 12.3km, as the crow flies, south-west of the Proposed Scheme and is hydrologically connected via the Dodder River.

### 3.2.3.2 Marine mammals

- 60 The Proposed Scheme runs along both quays of the estuarine River Liffey. Furthermore, the proposed DPTOB which comprises part of the Proposed Scheme will have piers in the Dodder confluence with the estuarine Liffey.
- 61 No specific marine mammal survey was undertaken as part of the Proposed Scheme.
- 62 The Irish Whale and Dolphin Group (hereafter referred to as IWDG) undertook a Marine Mammal Risk Assessment (See Appendix VII) which included data from the ongoing Alexandra Basin Redevelopment Project<sup>11</sup>. This project has, over a period of years from 2017 to present, returned considerable records of Annex II marine mammals further downstream of the Tom Clarke East Link Bridge, including alongside parts of the Toll Bridge Road (R131) towards Ringsend, which is alongside the Proposed Scheme.
- 63 Harbour seal and grey seal have been recorded in the vicinity of the Proposed Scheme and harbour porpoise has been recorded further afield in Dublin Bay. Surveys in 2018 / 2019 for the proposed DPTOB recorded marine mammals adjacent to the Proposed Scheme; grey seal *Halichoerus grypus* was recorded in the Liffey Estuary Lower at St. Patricks Rowing Club returning frequently for a period of 25 minutes in May 2019. Two sightings of marine mammals were recorded during vantage point surveys carried out in the 2020 / 2021 wintering bird survey season. The first sighting was of an unidentified marine mammal next to Grand Canal Dock on 4<sup>th</sup> December 2020. The second sighting was of a grey seal within the Proposed Scheme boundary at the location of the Proposed DPTOB on 4<sup>th</sup> March 2021. A single grey seal was recorded within the Liffey Estuary Lower east of Custom House Quay on the 26<sup>th</sup> May 2022.
- 64 Harbour seal, grey seal, and harbour porpoise are known to be present in Dublin Bay. Both seal species are listed on Annex II of the habitats directive while harbour porpoise are listed on Annex IV of the Habitats Directive. The nearest European site for which harbour seal and grey seal have been designated is Lambay Island SAC located approximately 20.1km from the Proposed Scheme. The nearest European site for which harbour porpoise has been designated is Rockabill to Dalkey Island SAC located approximately 8.2km from the Proposed Scheme.

### 3.2.3.3 Kingfisher

- 65 A desk study found that kingfisher *Alcedo atthis*, an Annex I Bird Directive species, are known to occur within 1km of the Proposed Scheme and across the wider study area. In particular, there are a considerable number of records from along the River Dodder particularly around between Milltown, Clonskeagh and Herbert Park. Anecdotally it also known to venture further downstream along the Dodder River. Separately, a population is documented<sup>12</sup> in freshwater section of the River Liffey upstream of Heuston Station.

<sup>10</sup> Macklin, R., Brazier, B. & Sleeman, P. (2019). *Dublin City otter survey. Report prepared by Triturus Environmental Ltd. for Dublin City Council as an action of the Dublin City Biodiversity Action Plan 2015- 2020.*

<sup>11</sup> Russell, C., O'Brien, J. and Berrow, S. (2020). *Marine Mammal Annual Report Alexandra Basin Redevelopment Project: 2019-2020.* Dublin Port Company. Unpublished report from the Irish Whale and Dolphin Group (and references therein)

<sup>12</sup> DCC (2015) *Dublin City Biodiversity Action Plan 2015-2020.*



- 66 Kingfisher habitat suitability assessment surveys were undertaken to inform the assessment of likely significant effects on kingfisher arising from the Proposed Scheme. No suitable nesting habitat was present within the Proposed Scheme area.
- 67 A number of sightings of kingfisher were confirmed during wintering bird surveys in 2020- 2021, with two sightings also recorded during the 2021 breeding bird survey at Grand Canal Dock. The species was observed flying on the Dodder, and out onto the Liffey.
- 68 No records of Kingfisher were noted during surveys for the proposed DPTOB carried out by ROD in 2019.
- 69 The nearest European site for which this species is designated is River Boyne and River Blackwater SPA, which is located c. 38km from the Proposed Scheme and is not hydrologically connected to the Proposed Scheme.

#### 3.2.3.4 Breeding Bird species

- 70 The desk study returned records of a total of 69 breeding bird species across the study area (*i.e.* Grid Square O13). Records included 15 species listed under Annex I of the Birds Directive, 35 SCI species, and an additional 16 Red Listed and 47 Amber Listed species. This includes 22 species with breeding and wintering populations.
- 71 Breeding bird species recorded during surveys which may be impacted by disturbance include sand martin, black guillemot, cormorant, oystercatcher, coot, common tern, grey heron, mallard and mute swan (of which sand martin, black guillemot and mute swan are not SCI species).
- 72 Common terns were observed breeding at the Grand Canal Dock lock gates, 120m upstream of the proposed DPTOB crossing point in 2018, 2019 and 2022. Four apparently occupied nests (AONs) were recorded at the site in 2018. Three AONs were recorded at the site in July 2019 before it was reported that the nests were intentionally destroyed (*pers. Comm.* Shay Connelly). No AONs were recorded throughout the 2021 surveys although nesting behaviours were observed, including food sharing between pairs, and copulation (25<sup>th</sup> June 2021). There was one AON nest observed during the 2022 season, with 2 chicks recorded on the 29<sup>th</sup> June 2022. The nest was recorded at the lock gates at Grand Canal Dock (same location to previous AONs recorded in 2018 and 2019). Chicks were observed to be fed consistently by adults on this occasion. The nearest European site for which this species is designated is South Dublin Bay and River Tolka Estuary SPA.

#### Breeding SCI gull species

- 73 The desk-based review returned records of three breeding gull species within 300m of the Proposed Scheme which may use inland amenity grassland feeding sites, species including Black-headed gull *Larus ridibundus*, Herring gull *Larus argentatus* and Lesser black-backed gull *Larus fuscus*. None of these species were recorded actively breeding within the extent of the Proposed Scheme, however, breeding behaviour was recorded for herring gull (recently fledged juvenile dependant on adults were recorded on the 20<sup>th</sup> July 2021 and adults carrying nesting material on 27<sup>th</sup> April 2022 and 12<sup>th</sup> May 2022) within the extent of the Proposed DPTOB.

#### Other Breeding Birds

- 74 Additional birds with breeding populations within the ZoI include redshank, common guillemot, oystercatcher, and cormorant. These species were noted during wintering bird surveys however breeding behaviour were not observed.
- 75 Mallard, grey heron and coot were observed during field surveys, however SPA breeding populations are not considered to be within the ZoI of the Proposed Scheme.

### 3.2.3.5 Wintering birds

Wintering bird species recorded during surveys which may be impacted by disturbance include herring gull, light-bellied brent goose, whooper swan, oystercatcher, black-headed gull, common gull, lesser black-backed gull, redshank, curlew, tufted duck and cormorant.

- 76 The desk-based review returned records of a total of 42 wintering bird species in the wider study area (*i.e.*, Grid Squares O13). Records included 9 species listed under Annex I of the Birds Directive and 33 SCI species and an additional 14 Red listed and 24 Amber listed species. This includes 22 species with breeding and wintering populations in the wider vicinity.
- 77 The majority of wintering birds identified in the desk-based review are typically found in coastal, estuarine and intertidal habitats including the Liffey Estuary and Dublin Bay. A desk-based review of lands within 300m of the Proposed Scheme returned records of 12 SCI wintering bird species which may use inland amenity grassland feeding sites, including light-bellied brent goose, lapwing, black-headed gull, herring gull, lesser black-backed gull, black-tailed godwit, oystercatcher, curlew, bar-tailed godwit, grey plover, common gull and ringed plover.
- 78 A review of a study into light-bellied brent goose inland feeding sites<sup>8</sup> has identified a number of known inland wintering bird feeding sites in the footprint of the Proposed Scheme. There are also four known inland wintering bird feeding sites within c.300m of the Proposed Scheme *i.e.*, the disturbance ZoI<sup>13</sup>, these are:
- Irishtown / Ringsend Park immediately adjacent to the Proposed Scheme (major importance);
  - Irishtown Stadium c.19.7m from the Proposed Scheme (high importance);
  - Irishtown / Sean Moore Park c. 76.7m from the Proposed Scheme (high importance); and
  - Shelbourne Park Dog Track c. 284.4m from the Proposed Scheme (high importance).
- 79 The desk study returned records of an established light bellied brent goose feeding site adjacent to Irishtown Nature Reserve, within 1km of the Proposed Scheme<sup>14</sup>.

### 3.2.4 Hydrology

- 80 The Proposed Scheme crosses two water bodies: Liffey Estuary Lower and the Royal Canal (specifically at the sea lock where it enters the Liffey Estuary Lower) and is located within close proximity to the Liffey Estuary Upper and Dodder\_050, both of which are tidal at this location and therefore hydrologically connected to the Proposed Scheme. All watercourses are within the Lower Liffey Estuary catchment. The Proposed Scheme is hydrologically connected to Dublin Bay via the Royal Canal, the Dodder\_050, The Liffey Estuary Upper and the Liffey Estuary Lower.
- 81 Details on the water quality of each watercourse, as sourced from the Environmental Protection Agency (EPA), and the distances from the proposed crossing point to downstream waterbodies are also provided in **Table 2** below.

<sup>13</sup> Major importance site 401+ geese; high importance site 51-400 geese; and, moderate importance site 1-50 geese as defined by Benson's study in 2009.

<sup>14</sup> Benson (2009) *Use of Inland Feeding Sites by Light-bellied Brent Geese in Dublin 2008-2009: A New Conservation Concern?* Irish Birds 8: 563-570.

**Table 2 Water Quality of Watercourses/ Waterbodies in the vicinity of the Proposed Scheme**

Watercourse	Location in relation to the Proposed Scheme	EPA Q-Values (Monitoring Station) and Water Framework Directive Water Quality Status / Risk Score	Name of and Distance to Downstream Waterbodies along with their associated Water Quality
Liffey Estuary Lower	Three crossing points at existing bridges, namely Samuel Beckett Bridge Tom Clarke East Link Bridge, as well as the proposed DPTOB.	Q-Value Score not applicable Good 'At risk'	The Liffey Estuary Lower transitional waterbody (classified as "Unpolluted") at Grand Canal Dock, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
Liffey Estuary Upper	40m upstream of the Proposed Scheme	Q-Value Score not applicable Good 'At risk'	It flows into the Liffey Estuary Lower transitional waterbody (classified as "Unpolluted") at Grand Canal Dock, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
Dodder River (Dodder_050)	Upstream of the Proposed Scheme but lower sections are tidal and included in the Liffey Estuary Lower	Q3 Poor 'At risk'	It enters the Liffey Estuary Lower transitional waterbody (classified as "Unpolluted") at Grand Canal Dock, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
Grand Canal	Located approximately 200m upstream of the Proposed Scheme.	Q-Value Score not applicable Good 'At risk'	It enters the Liffey Estuary Lower transitional waterbody (classified as "Unpolluted") at Grand Canal Dock, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
Royal Canal	The Proposed Scheme crosses the Royal Canal at the Scherzer Bridges at Spencer Dock	Q-Value Score not applicable Good Risk status under review	It enters the Liffey Estuary Lower transitional waterbody (classified as "Unpolluted") at Grand Canal Dock, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
Dublin Bay	The Proposed Scheme will ultimately discharge into Dublin Bay. Located 430m south of the Proposed Scheme	Q-value score N/A Good 'Not at Risk'	N/A

### 3.2.5 Hydrogeology

- 82 The Geological Survey of Ireland (GSI) data indicates that the site of the Proposed Scheme is underlain by bedrock formation 1:500k that is part of the Tobercolleen & Lucan Formations 'Calp', a marine basinal facies characterised by 'Dark-grey argillaceous & cherty limestone and shale (Calp)'.
- 83 The Proposed Scheme transverses one ground waterbody. Environmental data sourced from the EPA for each of these ground waterbodies is presented below:

#### 3.2.5.1 Dublin Groundwater body

- For this area, it is considered to be of 'Good' Ground Waterbody WFD Status (2013-2018) and 'not at risk' of failing the WFD groundwater quality objectives for the majority of its area;

- The aquifers located within this ground waterbody and where the Proposed Scheme transverses are classified as '*locally important aquifer - moderately productive only in local zones*'.

84 The vulnerability of the Dublin groundwater body is ranked as 'Low' within the footprint of the Proposed Scheme.

### 3.2.6 Soils & Geology

85 The 1:100,000 GSI bedrock geology map of the area indicates that the underlying bedrock along the Proposed Scheme comprises the Lucan Formation - (Calp) dark limestone and shale. The main subsoils encountered across the Proposed Scheme include made ground, with localised pockets of alluvium, marine beach sands, till derived from limestones and gravels derived from limestones.

86 The bedrock encountered in the study area is the Lucan Formation, a dark Carboniferous limestone and shale. The formation comprises dark-grey to black, fine-grained, occasionally cherty, micritic limestones that weather paler, usually to pale grey. No structural bedrock features were identified within the study area.

### 3.3 Assessment of Potential Effects on European Sites

87 This section identifies all the potential impacts associated with the Proposed Scheme, examines whether there are any European sites within the ZoI of effects from the Proposed Scheme, and assesses whether there is any potential for the Proposed Scheme to result in a significant effect on any European site, either alone or in combination with other plans or projects.

88 In assessing the potential for the Proposed Scheme to result in a significant effect on any European sites, any measures intended to avoid or reduce the harmful effects of the project on European sites (i.e., mitigation measures) are not taken into account as part of this Stage One Screening Appraisal.

Considering the baseline ecological environment and the extent and characteristics of the Proposed Scheme the following potential impacts have been identified:

- Habitat loss and fragmentation;
- Habitat degradation/effects on QI/SCI species as a result of hydrological impacts;
- Habitat degradation as a result of hydrogeological impacts;
- Habitat degradation as a result of introducing/spreading non-native invasive species;
- Habitat degradation as a result of air quality impacts;
- Disturbance and displacement impacts; and
- Direct injury/mortality impacts.

#### 3.3.1 Habitat loss and fragmentation

89 The Proposed Scheme does not overlap with any European site, although it is located in close proximity to Dublin Bay which is variously designated for a number of overlapping European sites. The nearest European sites to the Proposed Scheme are South Dublin Bay and River Tolka Estuary SPA and South Dublin Bay SAC, which are approximately 0.5km south-east of the Proposed Scheme (as the crow flies). These European sites are hydrologically connected to the Proposed Scheme via the Liffey Estuary Lower. South Dublin Bay and River Tolka Estuary SPA is approximately 2.4km downstream of the Tom Clarke East Link Bridge and South Dublin Bay SAC is located approximately 3.2km downstream to the east. Therefore, there is no potential for direct habitat loss or fragmentation. There is potential for direct ex-situ estuarine habitat loss and fragmentation to occur, as a result of land reclamation adjacent to the Tom Clarke East Link Bridge. Habitat loss may also occur indirectly as a consequence of severe habitat degradation arising from a reduction in water quality and/or a change to the hydrological regime, as described in the section below.

- 90 Otter populations are known to utilise the Liffey Estuary Lower for breeding and foraging purposes. Otter territories are within the range of 7.5km for females and 21km for males (Ó'Neill *et al.*, 2009). Therefore, it is considered that the Proposed Scheme is within the potential home range of male otter associated with the Wicklow Mountains SAC, which is located 12.3km away. The reclamation of land to facilitate the Proposed Scheme will not result in the loss of any breeding sites, however, will result in the removal of 3950m<sup>2</sup> estuarine habitat suitable to support this species.
- 91 Peregrine falcon, an Annex I bird species was recorded flying in the vicinity of the Proposed Scheme. No suitable breeding habitat for peregrine falcon will be lost as a result of the Proposed Scheme.
- 92 SCI species for which SPAs in the vicinity of the Proposed Scheme have been designated are known to utilise *ex situ* feeding sites in the Dublin area (i.e. South Dublin Bay and River Tolka SPA, North Bull Island SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA and The Murrough SPA). Three potential inland feeding sites within the footprint of the Proposed Scheme were surveyed to inform this assessment, namely CBC0016WB001 (Small amenity grassland area next to St. Patricks Rowing Club and Tom Clarke East Link Bridge), CBC0016WB002 (Gaelic pitch and amenity grassland area within Ringsend Park) and CBC0016WB003 (Grassy verge within Irishtown Stadium and amenity grassland area with scattered trees between the stadium and Bremen Avenue). Wintering SCI bird species were recorded at all three sites. To facilitate the proposed DPTOB and associated land reclamation there will be a loss of 8.8m<sup>2</sup> of existing amenity grassland at CBC0016WB001.
- 93 To facilitate a shared user path through Ringsend Park the existing path will require widening by approx. 2m for its length and therefore result in a loss of 43m<sup>2</sup> strip of amenity grassland habitat within CBC0016WB002. Similarly, to facilitate the widening of an existing path connecting Strand Street to Irishtown Stadium at CBC0016WB003 it is proposed to widen the path by approx. 2m or its length and therefore remove a 153m<sup>2</sup> area of suitable wintering bird habitat.
- 94 SCI species for which SPAs in the vicinity of the Proposed Scheme have been designated have been recorded loafing and foraging in the vicinity of the proposed DPTOB, during vantage point surveys. These species include herring gull, black-headed gull, lesser black-backed gull, cormorant, light-bellied brent goose, curlew, redshank and common tern (i.e. North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA, Rockabill SPA, Dalkey Islands SPA and The Murrough SPA). The reclamation of land to facilitate the Proposed Scheme will result in the removal of 3950m<sup>2</sup> estuarine habitat suitable to support these species.
- 95 In summary therefore, there is potential for impacts on SCI species associated with SPAs to occur as a result of habitat loss / fragmentation. The Proposed Scheme also has the potential to result in habitat degradation of the qualifying / special conservation interest species of European sites as the result of hydrological impacts. Therefore, there is potential for in combination effects to occur.

### 3.3.2 *Habitat degradation/effects on QI/SCI species as a result of hydrological impacts*

- 96 The Proposed Scheme is hydrologically connected to Dublin Bay via the Liffey Estuary Lower, and Ringsend WWTP. There is additional hydrological connectivity to the Royal Canal and Dodder\_050.
- 97 The release of contaminated surface water runoff and/or an accidental spillage or pollution event into any surface water features during construction, or operation, has the potential to affect water quality in the receiving aquatic environment. Such a pollution event may include: the release of sediment into receiving waters and the subsequent increase in mobilised suspended solids; and, the accidental spillage and/or leaks of containments into receiving waters. The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge point and therefore impact the downstream environment of Dublin Bay, including the following European sites: North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA and Dalkey Islands SPA. This potential reduction in water quality (either alone or in combination with other pressures on water

quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect the SCI bird species that rely upon these habitats as foraging and/or roosting habitat. It could also negatively affect the quantity and quality of prey available to SCI bird species. These potential impacts could occur to such a degree that the conservation objectives of North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA and Dalkey Islands SPA are undermined.

- 98 In a worst case scenario, in the absence of mitigation measures, the release of contaminated surface water runoff and / or an accidental spillage or pollution event into any surface water features during construction, or operation, also has the potential to affect SCI bird species and QI mammal species that commute, forage and in respect of SCI birds loaf in Dublin Port i.e. birds associated with Skerries Islands SPA, Rockabill SPA and Lambay Island SPA, Ireland's Eye SPA, North Dublin Bay SPA, South Dublin Bay and River Tolka Estuary SPA, Malahide Estuary SPA, Howth Head SPA, Rogerstown SPA, Dalkey Islands SPA, Murrrough SPA, marine mammals associated with Rockabill to Dalkey Island SAC and Lambay Island SAC and the otter population associated with the Wicklow Mountains SAC. This reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within downstream European sites, which in turn would negatively affect the SCI bird species that rely upon these habitats as foraging and / or roosting habitat. It could also negatively affect the quantity and quality of prey available to SCI and QI populations. These potential impacts could occur to such a degree that the conservation objectives of the Skerries Islands SPA, Rockabill SPA and Lambay Island SPA, Ireland's Eye SPA, North Dublin Bay SPA, South Dublin Bay and River Tolka Estuary SPA, Howth Head SPA, Malahide Estuary SPA, Rogerstown SPA, Dalkey Islands SPA, Murrrough SPA, Rockabill to Dalkey Island SAC, Lambay Island SAC and Wicklow Mountains SAC are undermined.

### 3.3.3 *Habitat degradation as a result of hydrogeological impacts*

- 99 Groundwater effects could arise as a consequence of an accidental pollution event potentially causing a reduction in groundwater quality and/or dewatering activity potentially causing a reduction in groundwater levels in the locality. Long-term discharge of surface water runoff to groundwater during operation of the Proposed Scheme may result in a reduction in groundwater quality and/or quantity in the receiving environment, also resulting in the degradation of groundwater dependent terrestrial ecosystem and any species that they may support.
- 100 The potential for hydrogeological impacts are highly variable depending the nature of the proposed works at specific locations and the receiving environment ground conditions. The unmitigated hydrogeological Zol of the Proposed Scheme is not considered to extend to any groundwater dependent terrestrial ecosystems linked to European sites. This Zol follows the professional judgement of the design team hydrogeology specialists.
- 101 There is potential for contaminated land and groundwater to be discharged to surface water during excavation works associated with the Proposed Scheme. This potential impact is addressed in the Section 3.3.2 above.
- 102 Groundwater effects could arise as a consequence of an accidental pollution event potentially causing a reduction in groundwater quality and / or dewatering activity potentially causing a reduction in groundwater levels in the locality. However, there are no groundwater dependent terrestrial ecosystems located within the hydrogeological Zol of the Proposed Scheme, which are linked to European sites. Therefore, there are no European sites at risk of hydrogeological effects associated with the Proposed Scheme.

### 3.3.4 *Habitat degradation as a result of introducing/spreading non-native invasive species*

- 103 No non-native invasive plant species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 were recorded within, or in close proximity to, the Proposed Scheme. However, the desk study returned records of species listed on the Third Schedule of the (Birds and Natural Habitats) Regulations in the vicinity of the Proposed Scheme. In the absence of mitigation, there is potential

for this to spread or be introduced, during construction and/or routine maintenance/management works, to terrestrial habitat areas in European sites downstream in Dublin Bay (*i.e.* North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA). These in turn may result in the degradation of the existing habitats and therefore undermine the conservation objectives of these European sites.

- 104 It is not considered likely that invasive species could spread to European sites which are located a significant distance from the outfall locations of the Liffey Estuary lower (*i.e.*, Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC and Dalkey Islands SPA, The Murrough SPA).
- 105 In summary therefore, the Proposed Scheme has the potential to result in habitat degradation of the qualifying/special conservation interest species of European sites as the result of the spread of invasive species.

### 3.3.5 Habitat degradation as a result of air quality impacts

- 106 A reduction in air quality within the immediate vicinity of the construction works may occur as a consequence of dust deposition associated with these construction activities. This includes reduction in photosynthesis due to smothering from dust on the plants and chemical changes such as acidity to soils. Furthermore, emissions from car exhausts, and the deposition of particulate matter and heavy metals produced by engine, brake and tyre wear, can contribute to increased deposition of pollutants such as oxides of nitrogen (NO<sub>x</sub>, NO<sub>s</sub>), volatile organic compounds (VOCs), particulate matter (PM), heavy metals (HM) and ammonia (NH<sub>4</sub>) in the vicinity of a road carriageway. This can affect the ecosystems and vegetation present, influencing plant growth rates and species composition, diversity, and abundance.
- 107 The unmitigated Zol for air quality effects arising from the Proposed Scheme has the potential to extend 50m from the Proposed Scheme boundary, and 500m from construction compounds during the construction phase, and up to 200m the Proposed Scheme boundary during the operational phase. There are no European sites present within these distances.
- 108 As the Proposed Scheme does not have the potential to result in habitat degradation of the qualifying/special conservation interest species of any European site as the result of air quality impacts, either during the construction phase or the operational phase, there is no potential for in combination effects to occur in that regard.

### 3.3.6 Disturbance and displacement impacts

- 109 A temporary and / or permanent increase in noise, vibration and / or human activity levels during the construction and / or operation of the Proposed Scheme could result in the disturbance to and/or displacement of fauna species present within the vicinity of the Proposed Scheme.
- 110 For mammal species such as otter, disturbance effects would not be expected to extend beyond 250m<sup>15</sup>. For birds, disturbance effects would not be expected to extend beyond a distance of approximately 300m<sup>16</sup>, as noise levels associated with general construction activities would attenuate to close to background levels

<sup>15</sup> This is consistent with Transport Infrastructure Ireland (TII) guidance (Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes and Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes) documents. This is a precautionary distance, and likely to be moderated by the screening effect provided by surrounding vegetation and buildings, with the actual Zol of construction related disturbance likely to be much less in reality.

<sup>16</sup> Current understanding of construction related noise disturbance to wintering waterbirds is based on the research presented in Cutts *et al.* (2009) and Wright *et al.* (2010). In terms of construction noise, levels below 50dB would not be expected to result in any response from foraging or roosting birds. Noise levels between 50dB and 70dB would provoke a moderate effect/level of response from birds, *i.e.* birds becoming alert and some behavioural changes (e.g. reduced feeding activity), but birds would be expected to habituate to noise levels within this range. Noise levels above 70dB would likely result in birds moving out of the affected zone, or leaving the site altogether. At c. 300m, typical noise levels associated with construction activity (BS 5228) are generally below 60dB or, in most cases, are approaching the 50dB threshold.

at that distance. There are no European sites within the disturbance ZoI of the Proposed Scheme (the nearest European site(s) are the South Dublin Bay and River Tolka Estuary SPA and South Dublin Bay SAC located 0.5km south-east of the Proposed Scheme), however, ex situ populations of SCI and QI species associated with European sites have been recorded in the vicinity of the Proposed Scheme.

- 111 Noisy works associated with the construction of the Proposed Scheme include piling associated with the proposed pedestrian boardwalks and the proposed DPTOB, deconstruction, relocation and reconstruction of the Scherzer Bridges (at George's Dock and the Royal Canal), and the demolition and reconstruction of the existing SPRC building.
- 112 It is considered that the Proposed Scheme is within the potential home range of male otter associated with the Wicklow Mountains SAC. Otter are documented from along the Royal Canal, Grand Canal, Dodder\_050 and the Liffey Estuary Lower. Although otter present in the vicinity of the Liffey Estuary Lower are likely to be habituated to a degree of human related disturbance; noise and vibration associated with the construction works involved in the construction of the Proposed Scheme (i.e. piling and building demolition) have the potential to disturb or displace otter during this period. Therefore, there is potential for the construction phase of the Proposed Scheme to result in disturbance / displacement impacts on QI otter populations associated with the Wicklow Mountains SAC.
- 113 Marine mammals associated with European sites have been recorded commuting and foraging within the Liffey Estuary Lower, in the vicinity of the Proposed Scheme. The construction methodology for the proposed structural and demolition works of the proposed DPTOB, proposed pedestrian boardwalks and Scherzer Bridges involves noisy activities in or adjacent to the aquatic environment such as piling and noise from additional support / delivery vessels associated with the construction period. The Marine Mammal Risk Assessment (IWDG, 2020) prepared for the Proposed Scheme states that in the absence of mitigation, prolonged exposure to pile installation could lead to Temporary Threshold Shift (TTS) (i.e. temporary hearing loss as a result of exposure to noise, and changes in the behaviour of marine mammals) (IWDG 2020). Therefore, there is potential for the construction of the Proposed Scheme to result in the disturbance / displacement of QI marine mammal populations associated with Rockabill to Dalkey Island SAC and Lambay Island SAC during the Construction Phase.
- 114 It is considered possible that peregrine falcon in the vicinity of the Proposed Scheme are associated with the SPA population of Wicklow Mountains SPA. This species is known to overwinter on the coast and feed on the high concentrations of waterbirds present on the estuaries, and pigeons in the city centre<sup>17</sup>. Therefore, there is potential that peregrine falcons associated with the Wicklow Mountains SPA may hunt in the vicinity of the Proposed Scheme. Therefore, there is potential for the Proposed Scheme to result in disturbance / displacement impacts on SCI populations of peregrine falcon associated with the Wicklow Mountains SPA.
- 115 There are a number of SPAs located in relatively close proximity to the Proposed Scheme which are designated for SCI species that are known to forage and/or roost at inland sites, such as amenity grassland playing pitches (i.e. Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, North Bull Island SPA, South Dublin Bay and River Tolka SPA, Murrough SPA, Skerries Islands SPA, Ireland's Eye SPA and Lambay Island SPA). These species include light-bellied brent goose, lapwing, oystercatcher, black-headed gull, herring gull and lesser black-backed gull. Species recorded using inland feeding sites in the vicinity of the Proposed Scheme include black-headed gull, herring gull, light-bellied brent goose, and oystercatcher. Suitable inland foraging/roosting sites, which these bird species utilise, are located within the potential ZoI of the Proposed Scheme (See Section 5.1.2). Therefore, there is potential for the Proposed Scheme to result in disturbance/displacement impacts on SCI populations associated with European Sites.
- 116 Special Conservation Interest (SCI) species for which SPAs in the vicinity of the Proposed Scheme have been designated have been recorded loafing and foraging in the vicinity of the proposed DPTOB, during vantage

<sup>17</sup> Birdwatch Ireland. *Peregrine webpage*. Available from: <https://birdwatchireland.ie/birds/peregrine/>



point surveys. These species include herring gull, black-headed gull, lesser black-backed gull, cormorant, light-bellied brent goose, curlew, redshank and common tern (i.e. North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA, Rockabill SPA, Dalkey Islands SPA and The Murrough SPA). Therefore, there is potential for the Proposed Scheme to result in disturbance / displacement impacts on SCI populations associated with European sites.

- 117 There is potential that other SCI species including common tern which was observed during surveys, and arctic tern (which is noted from a Desk study for Pigeon House Power station) could be negatively impacted, particularly in respect of the proposed DPTOB, where its construction could impact on nesting sites on Grand Canal Dock breeding site resulting in abandonment of nests or impacting distribution through displacement during construction and operation of the bridge acting as a significant barrier to the tern species.
- 118 In summary therefore, the Proposed Scheme has the potential to result in the disturbance / displacement of the qualifying/special conservation interest species of any European site, there is the potential for in combination effects to occur in association with other activities / plans / projects.

### 3.3.7 Direct injury / Mortality impacts

- 119 Considering the location of the Proposed Scheme on the Liffey Estuary Lower, in close proximity to a number of SPAs present in Dublin Bay, there is potential for the proposed DPTOB to present a collision risk to mobile SCI species which are present in the area, during the construction and operational phases. SCI bird species for which SPAs in the Dublin area have been designated have been recorded in the vicinity of the proposed DPTOB, on amenity grassland areas and loafing / feeding at the proposed DPTOB location on the Liffey Estuary Lower / Dodder\_050 confluence. These species include herring gull, black-headed gull, lesser black-backed gull, cormorant, light-bellied brent goose, curlew, redshank and common tern (i.e. North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA, Rockabill SPA, Dalkey Islands SPA and The Murrough SPA). Therefore, there is potential for the Proposed Scheme to result in mortality of SCI bird species associated with European sites.
- 120 It is considered possible that peregrine falcon in the vicinity of the Proposed Scheme are associated with the SPA population of Wicklow Mountains SPA. Therefore, there is potential that peregrine falcons associated with the Wicklow Mountains SPA may hunt in the vicinity of the Proposed Scheme. There is potential for the proposed DPTOB to present a collision risk to hunting peregrine falcon, during the construction and operational phases. Therefore, there is potential for the Proposed Scheme to result in direct injury/mortality impacts on SCI populations of peregrine falcon associated with the Wicklow Mountains SPA.
- 121 Marine mammals associated with European sites have been recorded commuting and foraging within the Liffey Estuary Lower, in the vicinity of the Proposed Scheme. During the construction phase of the proposed DPTOB, there will be an increase of vessels in the vicinity. According to the Marine Mammal Risk Assessment<sup>18</sup> prepared for the Proposed Scheme, the risk of injury and mortality is considered extremely low as marine mammals in Dublin Harbour are exposed to considerable vessel traffic on a daily basis and would be aware of their presence. There will be no increase in vessels associated with the operational phase of the Proposed Scheme. Therefore, it is not likely that the Proposed Scheme will pose a significant collision / mortality risk for marine mammals in Dublin Bay.

Otter which may be associated with the QI population of the Wicklow Mountains SAC have been recorded in the vicinity of the Proposed Scheme. Vehicular and vessel traffic associated with the operational phase

<sup>18</sup> IWDG (2020). *Marine Mammal Risk Assessment of Proposed Dodder Public Transportation Opening Bridge. Report prepared in support of Environmental assessment for Planning application.*

of the Proposed Scheme is not likely to result in significant injury/mortality risk to QI otter populations as otter present in the vicinity of the Proposed Scheme are habituated to existing traffic and shipping levels in the vicinity of the Proposed Scheme. During the construction phase of the proposed DPTOB, there will be an increase of vessels in the vicinity as well as human and construction disturbance for a period of approximately 30 months. The risk of injury or mortality arising from the construction phase of the Proposed Scheme as a result of vessel collision is considered to be extremely low as otter present in this area are exposed to considerable vessel traffic on a daily basis and would be aware of their presence. As otter in the vicinity of the Proposed Scheme are habituated to normal traffic levels associated with Dublin City Centre it is unlikely that an increase in construction related vehicles and machinery during construction would present a significant injury/mortality risk. However, given that a proposed construction compound will be located adjacent to the River Dodder and Liffey Estuary Lower, and that there will be in-stream disturbance associated with the construction of the proposed DPTOB, there is potential for injury / mortality of otter during the construction phase of the Proposed Scheme.

### 3.3.8 Summary

- 122 The potential impacts associated with the Proposed Scheme have the possibility to affect the receiving environment and, as a result, the conservation objectives supporting the qualifying interest/special conservation interests of the following European sites: North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC, Lambay Island SAC, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Dalkey Islands SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA, Rockabill SPA, Murrough SPA, Wicklow Mountains SAC and Wicklow Mountains SPA.
- 123 The potential impacts of the Proposed Scheme on the receiving environment, their ZoI, and the European sites at risk of likely significant effects are summarised in **Table 3** below. In assessing the potential for the Proposed Scheme to result in a significant effect on any European sites, any measures intended to avoid or reduce the harmful effects of the project on European sites are not taken into account.

**Table 3 Summary of Analysis of Likely Significant Effects on European sites**

Potential Direct, Indirect In Combination Effects and the Zol of the Potential Effects	Are there any European sites within the Zol of the Proposed Scheme?
<p>Habitat loss and fragmentation</p> <p>There are no European sites intersected by the Proposed Scheme. There is potential for permanent loss of <i>ex situ</i> inland feeding sites used by SCI wintering bird species and long term loss of forage territory used by otter</p>	<p>Yes</p> <p>No European sites are at risk of direct habitat loss impacts; however, there are European sites at risk of <i>ex situ</i> habitat loss impacts associated with the Proposed Scheme.</p> <p>Malahide Estuary SPA, Baldoyle Bay SPA, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA, Dalkey Islands SPA, Rockabill SPA, Murrough SPA and Wicklow Mountains SAC.</p>
<p>Habitat degradation / effects on QI / SCI species as a result of hydrological impacts</p> <p>Habitats and species downstream of the Proposed Scheme and the associated surface water drainage discharge points, and downstream of offsite wastewater treatment plants.</p>	<p>Yes</p> <p>There are European sites at risk of hydrological effects associated with the Proposed Scheme.</p> <p>North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC, Lambay Island SAC, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Howth Head Coast SPA, Ireland's Eye SPA, Skerries Islands SPA, Lambay Island SPA, Rockabill SPA, Malahide Estuary SPA, Rogerstown Estuary SPA, Dalkey Islands SPA, Murrough SPA and Wicklow Mountains SAC.</p>
<p>Habitat degradation as a result of hydrogeological impacts</p> <p>Groundwater-dependant habitats, and the species those habitats support, in the local area that lie downgradient of the Proposed Scheme.</p>	<p>No</p> <p>There are no European sites at risk of hydrogeological effects associated with the Proposed Scheme.</p>
<p>Habitat degradation as a result of introducing / spreading non-native invasive species</p> <p>Habitat areas within, adjacent to, and potentially downstream of the Proposed Scheme.</p>	<p>Yes</p> <p>There are records of non-native invasive species present adjacent to the Proposed Scheme and, therefore, a risk associated with the construction and operation of the Proposed Scheme to downstream European sites from the spread/introduction of non-native invasive species.</p> <p>North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA.</p>
<p>Habitat degradation as a result of air quality impacts</p> <p>Potentially up to 200m from the Proposed Scheme boundary.</p>	<p>No</p> <p>There are no European sites at risk of air quality effects associated with the Proposed Scheme.</p>
<p>Disturbance and displacement impacts</p> <p>Potentially up to several hundred metres from the Proposed Scheme, dependent upon the predicted levels of noise, vibration and visual disturbance associated with the Proposed Scheme, taking into account the sensitivity of the qualifying interest species to disturbance effects</p>	<p>Yes</p> <p>There are no European sites within the potential zone of influence of disturbance effects associated with the construction or operation of the Proposed Scheme.</p> <p>However, there are <i>ex situ</i> inland feeding sites and suitable loafing / foraging habitat which are utilised by SCI wintering bird species within the potential</p>

Potential Direct, Indirect In Combination Effects and the Zol of the Potential Effects	Are there any European sites within the Zol of the Proposed Scheme?
	<p>disturbance Zol of the Proposed Scheme. QI marine mammal populations may also be present within the disturbance Zol of the Proposed Scheme, as are QI otter.</p> <p>Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, North Bull Island SPA and South Dublin Bay and River Tolka SPA, Skerries Islands SPA, Lambay Island SPA, Ireland's Eye SPA, Murrough SPA, Dalkey Islands SPA, Rockabill SPA, Wicklow Mountains SPA, Lambay Island SAC and Rockabill to Dalkey Island SAC, Wicklow Mountains SAC.</p>
<p>Direct injury / Mortality Impacts</p> <p>Potential for injury / mortality of mobile SCI species as a result of collision with structures or machinery during construction and operation</p>	<p>Yes</p> <p>There are SCI bird populations associated with European sites at risk of mortality as a result of direct injury / mortality impacts. Similarly, there is potential during construction for QI Otter and marine mammals to suffer injury and or mortality owing to increased boat traffic and installation of Piles / sheet piles along the Liffey Estuary Lower, as well as otter along the Dodder with the installation of 2 number coffer dams.</p> <p>North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA, Rockabill SPA, Dalkey Islands SPA, The Murrough SPA, Wicklow Mountains SAC and Wicklow Mountains SPA.</p>

### 3.4 In-Combination Effects

- 124 This section presents the assessment carried out to examine whether other plans or projects have the potential to act in combination with the Proposed Scheme to have a significant effect on European sites.
- 125 There are 19 European sites within the Zol of the Proposed Scheme. These are North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC, Lambay Island SAC, Wicklow Mountains SAC, Skerries Islands SPA, Lambay Island SPA, Ireland's Eye SPA, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Dalkey Island SPA, Rockabill SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, the Murrough SPA and Wicklow Mountains SPA.
- 126 All other European sites fall beyond the Zol of the Proposed Scheme. Therefore, there is no potential for any other plans or projects to act in combination with the Proposed Scheme to adversely affect the integrity of any other European sites.
- 127 The in-combination assessment involved first identifying those plans and projects which have the potential to impact on those European sites within the Zol of the Proposed Scheme.
- 128 Those plans or projects with the potential to impact upon these European sites are any national, regional and local land use plans or any existing or proposed projects that could potentially affect the ecological environment within the Zol of the Proposed Scheme. These are presented in **Table 4** below.

**Table 4 Land Use Plans, Programmes and Projects Considered for the In-Combination Assessment**

<b>National Plans</b>
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National Energy & Climate Plan 2021-2030  
 National Spatial Strategy for Ireland 2002-2020;  
 Project Ireland 2040 – Building Ireland’s Future<sup>19</sup>  
 National Transport Authority Integrated Implementation Plan 2019-2024  
 Smarter Travel a Sustainable Transport Future 2009-2020  
 National Biodiversity Action Plan 2017-2021  
 River Basin Management Plan 2018-2021  
 National Air Pollution Control Programme (NAPCP) Draft 2019  
 National Marine Planning Framework 2018  
 Water Services Strategic Plan 2015

#### **Regional Plans**

Regional Planning Guidelines for the Greater Dublin Area Vol I & II 2010-2022;  
 Regional Spatial & Economic Strategy for the Eastern and Midland Region 2019-2031  
 Greater Dublin Area Cycle Network Plan 2013  
 Eastern Catchment Flood Risk Assessment and Management (CFRAM) study 2011-2016

#### **County/Local Plans**

##### **Fingal Development Plan 2017-2023**

Fingal Biodiversity Action Plan 2010-2015  
 Fingal County Council Climate Action Plan 2019-2024

- Donabate Local Area Plan 2016
- Rivermeade Local Area Plan 2018
- Barnhill Local Area Plan 2019
- Kinsaley Local Area Plan 2019
- Dublin Airport Local Area Plan 2020

##### **Dublin City Development Plan 2016-2022**

Dublin City Biodiversity Action Plan 2015-2020  
 Dublin City Council Climate Action Plan 2019-2024

- Clongriffin-Belmayne Local Area Plan 2012-2018
- George’s Quay Local Area Plan 2012-2022
- Ballymun Local Area Plan 2017
- The Liberties Local Area Plan 2009-2020
- Naas Road Local Area Plan 2013-2023
- Park West- Cherry Orchard Local Area Plan 2019

##### **South Dublin County Council Development Plan 2022-2028**

Biodiversity Action Plan for South Dublin County (2020-2026)- Draft for public consultation  
 South Dublin County Council Climate Change Action Plan 2019-2024

- Tallaght Town Centre Local Area Plan 2020
- Liffey Valley Town Centre Local Area Plan 2008

**Dún Laoghaire- Rathdown Development Plan 2016-2022; Dún Laoghaire- Rathdown Development Plan (2022-2028)- Draft for public consultation**

<sup>19</sup> Together the National Development Plan and the National Framework are referred to as Project Ireland 2040: Building Ireland’s Future

Dún Laoghaire- Rathdown Biodiversity Plan 2009-2013; Dún Laoghaire- Rathdown Biodiversity Plan (current draft under review)

Dún Laoghaire-Rathdown County Council Climate Change Action Plan 2019-2024

- Deansgrange Local Area Plan 2010-2020
- Stillorgan Local Area Plan 2018-2024
- Blackrock Local Area Plan 2015-2021
- Woodbrook-Shanganagh Local Area Plan 2017-2024

#### **Wicklow County Development Plan 2016-2022**

Wicklow Biodiversity Plan 2010-2015

Wicklow County Council Climate Change Adaptation Strategy 2019

- Bray Municipal District Local Area Plan 2018-2024
- Bray & Environs Transport Study 2019
- Bray Town Development Plan 2011-2017

#### **Projects**

- Southern Port Access Route (SPAR)
- Widening of the M7 between Junction 9 (Naas North) and Junction 11 (M7/M9) to provide an additional lane in each direction
- Enhancements of the N2/M2 national route inclusive of a bypass of Slane
- N3 Castaheany Interchange Upgrade
- Reconfiguration of the N7 from its junction with the M50 to Naas
- N3–N4: Barnhill to Leixlip Interchange
- Reconfiguration of the N4 from its junction with the M50 to Leixlip
- Clonburris SDZ roads development
- DART+ Programme West
- Porterstown Distributor Link Road
- Widening of the N3 between Junction 1 (M50) and Junction 4 (Clonee)
- Lucan LUAS
- DART+ Programme South West
- Junction upgrades and other capacity improvements on the M1 motorway
- Finglas LUAS (Green Line extension Broombridge to Finglas)
- DART+ Tunnel Element (Kildare Line to Northern Line)
- Potential Metro South alignment: SW option
- LUAS Cross City incorporating LUAS Green Line Capacity Enhancement – Phase 1
- Oldtown-Mooretown Western Distributor Link Road
- Potential Metro South alignment: Charlemont to Sandyford
- Poolbeg LUAS
- Leopardstown Link Road Phase 2
- Development of a road link connecting from the southern end of the Dublin Port Tunnel to the South Port area
- Poolbeg SDZ roads development
- Glenamuck District Distributor Road
- DART+ Programme Coastal North
- Widening of the M50 between Junction 14 (Sandyford) and Junction 17 (M11)
- Cherrywood SDZ roads development
- DART+ Programme Coastal South
- R126 Donabate Relief Road: R132 to Portrane Demesne
- Extension of LUAS Green Line to Bray
- Capacity enhancement and reconfiguration of the M11/N11 from Junction 4 (M50) to Junction 14 (Ashford)
- MetroLink
- Greater Dublin Drainage (GDD)
- Cycling: Greater Dublin Area Cycle Network Plan (excluding Radial Core Bus Corridor elements)

- Dublin Array – offshore windfarm
- Air insulated switchgear 110kV transmission substation. Platin, Duleek
- Construction of a new distributor road and junction to the southwest of Kells town centre.
- Dublin Mountain Visitors Centre and all associated works. Killakee and Jamestown.
- FCC/12/0001 Broadmeadow Way. Greenway between Malahide Demesne and Newbridge Demesne
- Alternations to a permitted double circuit 110kV electricity transmission line development between substations. Darndale / Belcamp
- 110kV onsite electrical substation. Timahoe East
- 15-year permission for development at Dublin Port Oil Berth 3 and Oil Berth 4, Eastern Oil Jetty and at Berths 50A, 50N, 50S, 51, 51A, 49, 52, 53 and associated terminal yards
- A residential development with ancillary commercial uses partially comprising a “Build to Rent” scheme on the townlands of Shanganagh, Cork Little and Shankill, Co. Dublin.
- Proposed development for Brexit Infrastructure consisting of – Installation of porta-cabin structures. Resurfacing and amalgamation of existing yards. Parking for heavy good vehicles, cars and bicycles. Gates, signage and all ancillary site works. Dublin Port.
- Provision of a double circuit 220kV transmission line and a 220kV gas insulated switchgear (GIS) substation along with associated and ancillary works. Townlands of Cruiserath, Goddamendy and Bay, Co. Dublin.
- Construction of a 2 storey 110kV Gas Insulated Switchgear (GIS) substation, underground cable and all associated and ancillary site works. Former Clyde House, IDA Blanchardstown Business and Technology Park, Snugborough Road, Blanchardstown, Dublin 15
- Flood alleviation works along and adjacent to the River Poddle
- Aviation fuel pipeline. Location: Inlet Station: Team CV, Bond Drive, Dublin Port, Dublin 1 to Dublin Airport, Co. Dublin
- Park development project at the Racecourse Park
- 2 no. 110kV transmission lines and a 110kV Gas Insulated Switchgear (GIS) substation
- Increase the capacity of the Dublin Waste to Energy Facility from 600,000 tonnes per annum to 690,000 tonnes per annum
- Clutterland 110kV GIS Substation building and 2 underground single circuit transmission lines
- Provision of two 110kV transmission lines. Connecting Coolderrig 110kV GIS Substation to Grange Castle – Kilmahud circuits.
- Dublin BusConnects: CBC01 Clongriffin to City Centre
- Dublin BusConnects: CBC02 Swords to City Centre Core Bus Corridor Scheme
- Dublin BusConnects: CBC0304 Ballymun / Finglas to City Centre Core Bus Corridor Scheme
- Dublin BusConnects: CBC05 Blanchardstown to City Centre Core Bus Corridor Scheme
- Dublin BusConnects: CBC06 Lucan to City Centre Core Bus Corridor Scheme
- Dublin BusConnects: CBC07 Liffey Valley to City Centre Core Bus Corridor Scheme
- Dublin BusConnects: CBC0809 Tallaght / Clondalkin to City Centre Core Bus Corridor Scheme
- Dublin BusConnects: CBC0 1012 Templeogue / Rathfarnham to City Centre Core Bus Corridor Scheme
- Dublin BusConnects: CBC11 Kimmage to City Centre Core Bus Corridor Scheme
- Dublin BusConnects: CBC13 Bray to City Centre Core Bus Corridor Scheme
- Dublin BusConnects: CBC1415 Belfield / Blackrock to City Centre Core Bus Corridor Scheme
- A range of Strategic Housing Developments
- A range of Irish Water Projects
- Demolition of all the structures on the site, 702 no. Build to Rent residential units, creche and associated site works

129 There is the potential for developments or those implemented under a range of land use and other plans listed in Table 4 to lie either within European sites, or be situated in a location where they may be within the ZOI of the European sites which also fall within the ZOI of the Proposed Scheme.

130 Key development projects with potential for in-combination effects due to their size, nature and/or location include other Core Bus Corridor Schemes of the BusConnects programme, MetroLink, upgrades to or new rail infrastructure, utility infrastructure including proposed or consented water utility improvement.

131 The potential for in combination effects between these plans and projects identified in **Table 4** and the Proposed Scheme arises via the same pathways for potential effects as identified above in **Table 3** for the Proposed Scheme (i.e. Habitat Loss and fragmentation, Hydrological impacts, invasive species, disturbance and displacement, and direct injury / mortality) which could act in combination with similar effects and pathways arising from the various plans.

132 Therefore, the potential for the following in combination effects arising from plans and projects cannot be ruled out:

- Habitat fragmentation (for example European sites at risk of ex-situ habitat losses; Dalkey Islands SPA, Rockabill SPA, North Bull Island SPA and South Dublin Bay and River Tolka SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Lambay Island SPA, Ireland's Eye SPA, The Murrough SPA, and Wicklow Mountains SAC);
- Habitat degradation/effects on QI/SCI species as a result of hydrological impacts (for example reduction in water quality in catchments draining to Dublin Bay affecting the conservation objectives supporting aquatic habitats and species in North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Wicklow Mountains SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC, Lambay Island SAC, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Dalkey Islands SPA, Baldoyle Bay SPA, Ireland's Eye SPA, Skerries Islands SPA, Rockabill SPA, Lambay Island SPA, Malahide Estuary SPA, Rogerstown Estuary SPA, and The Murrough SPA);
- Habitat degradation as a result of introducing/spreading non-native invasive species (for example to downstream European sites North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA);
- Disturbance and displacement impacts (for example ex-situ inland sites which are utilised by SCI bird species and QI mammals within the potential disturbance Zol of the Proposed Scheme for Wicklow Mountains SAC, Wicklow Mountains SPA, Rockabill to Dalkey Island SAC, Lambay Island SAC, Dalkey Islands SPA, Rockabill SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA, North Bull Island SPA, South Dublin Bay and River Tolka SPA and The Murrough SPA); and,
- Direct injury/mortality impacts (for example in ex-situ sites utilised by SCI bird species and QI mammals within the potential Zol for Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Dalkey Islands SPA, Rockabill SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA, Wicklow Mountains SPA, Wicklow Mountains SAC).

#### 4 Conclusions of Screening Assessment Process

133 Following an examination, analysis and evaluation of the best available information, and applying the precautionary principle, it can be concluded that there is the possibility for significant effects on the following European sites, in the absence of mitigation, either arising from the project alone or in combination with other plans and projects, as a result of Habitat Loss and fragmentation, Hydrological impacts, invasive species, disturbance and displacement, and direct injury / mortality only: North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC, Lambay Island SAC, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Dalkey Islands SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA, Rockabill SPA, Murrough SPA, Wicklow Mountains SAC and Wicklow Mountains SPA.

134 In reaching this conclusion, the nature of the project and its potential relationship with all European sites within the zone of influence, and their conservation objectives, have been fully considered.

135 Therefore, it is the professional opinion of the authors of this report that the application for consent for the Proposed Scheme does require a Stage Two Appropriate Assessment in respect of the above listed 19



no. European Sites (6 no. SACs and 13 no. SPAs) and, consequently the preparation of a Natura Impact Statement (NIS).

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### **Directives and Legislation**

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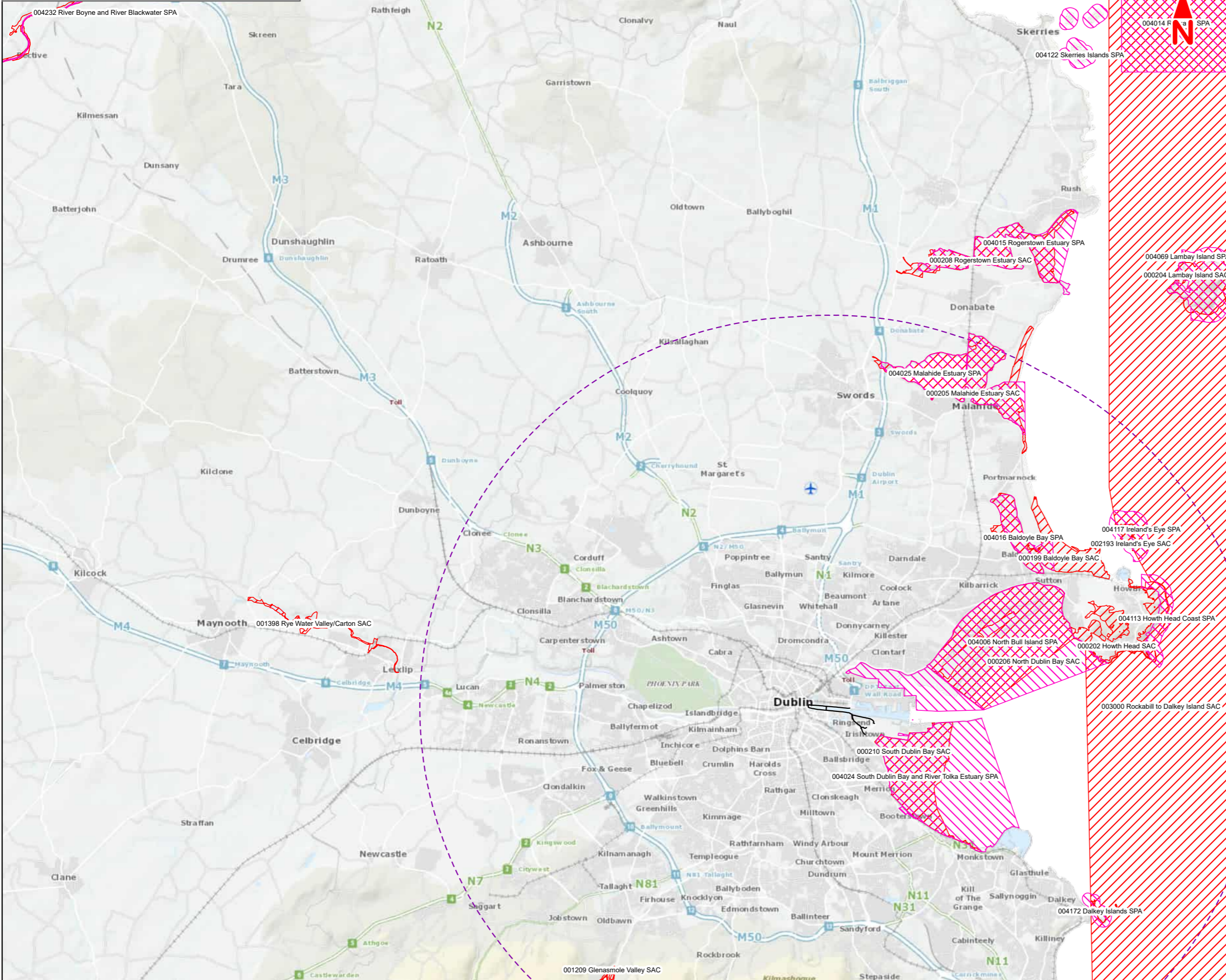
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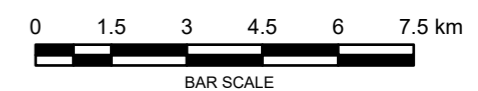


**Figure 1**  
European Sites  
in the Vicinity  
of the Proposed  
Scheme



- Legend :**
- Ringsend to City Centre Core Bus Corridor Scheme
  - - - 15km from Proposed Scheme
  - Special Protection Areas (SPA)
  - Special Area of Conservation (SAC)

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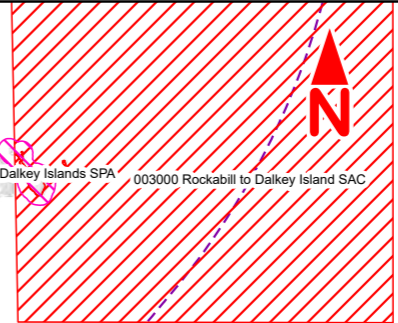
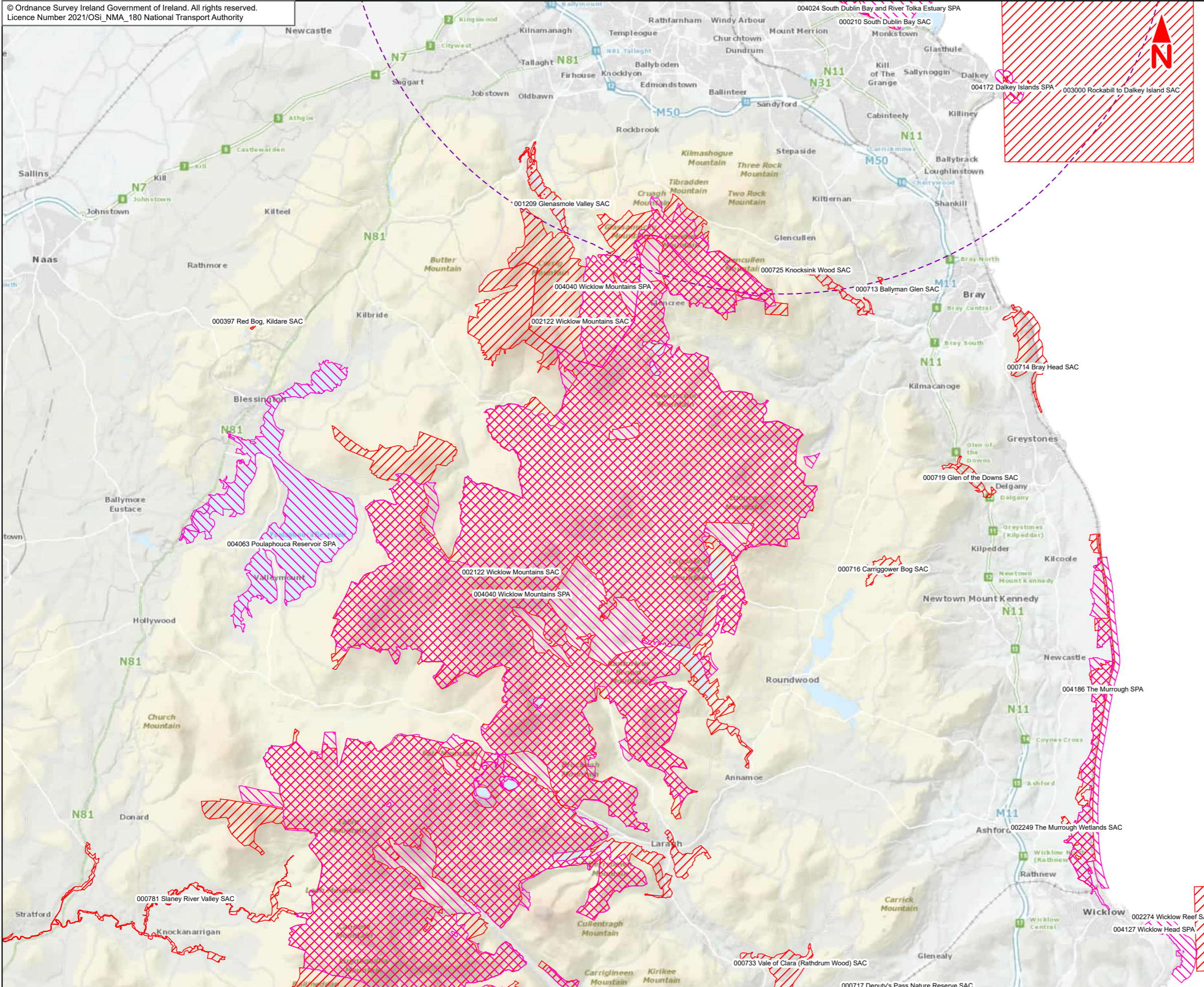
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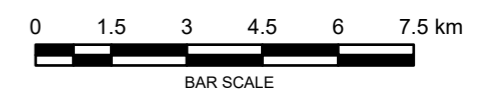
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Project Code: BCIDE Originator Code: JAC  
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Programme Title: <b>BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS</b>			
Drawing Title: Ringsend to City Centre Core Bus Corridor Scheme Figure 1 European sites in the Vicinity of the Proposed Scheme			
Drawing File Name: BCIDE-JAC-ENV_BD-0016_XX_00-DR-GG-2090	Sheet Number: 1 of 2	Status: A	Rev: M01



- Legend :**
- Ringsend to City Centre Core Bus Corridor Scheme
  - - - 15km from Proposed Scheme
  - ▨ Special Protection Areas (SPA)
  - ▨ Special Area of Conservation (SAC)

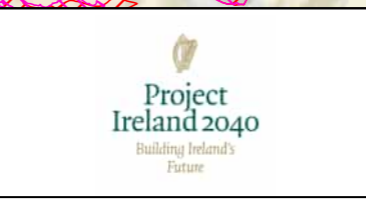
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<b>Programme Title</b> BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS					
<b>Drawing Title</b> Ringsend to City Centre Core Bus Corridor Scheme Figure 1 European sites in the Vicinity of the Proposed Scheme					
Drawing File Name	BCIDE-JAC-ENV_BD-0016_XX_00-DR-GG-2091	Sheet Number	2 of 2	Status	A
Rev	M01				





**Appendix I**  
The Qualifying Interests  
(QIs) and Special  
Conservation Interests  
(SCIs) of the European  
sites in the Vicinity of the  
Proposed Development Site

Figure 1 European Sites in the Vicinity of the Proposed Scheme

## Appendix I

The Qualifying Interests (QIs) and Special Conservation Interests (SCIs) of the European sites in the vicinity of the Proposed Scheme (see Figure 1)

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
<b>Special Area of Conservation (SAC)</b>	
<p><b>South Dublin Bay SAC [000210]</b>            1140 Mudflats and sandflats not covered by seawater at low tide            1210 Annual vegetation of drift lines            1310 <i>Salicornia</i> and other annuals colonising mud and sand            2110 Embryonic shifting dunes</p> <p><i>S.I. No. 525/2019 – European Union Habitats (South Dublin Bay Special Area of Conservation 000210) Regulations 2019</i>            NPWS (2013) <i>Conservation Objectives: South Dublin Bay SAC 000210</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 0.5km from the Proposed Scheme</p>
<p><b>North Dublin Bay SAC [000206]</b>            1140 Mudflats and sandflats not covered by seawater at low tide            1210 Annual vegetation of drift lines            1310 <i>Salicornia</i> and other annuals colonising mud and sand            1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)            1395 Petalwort <i>Petalophyllum ralfsii</i>            1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)            2110 Embryonic shifting dunes            2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)            2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*            2190 Humid dune slacks</p> <p><i>S.I. No. 524/2019 – European Union Habitats (North Dublin Bay Special Area of Conservation 000206) Regulations 2019</i>            NPWS (2013) <i>Conservation Objectives: North Dublin Bay SAC 000206</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 3km from the Proposed Scheme</p>
<p><b>Baldoyle Bay SAC [000199]</b>            1140 Mudflats and sandflats not covered by seawater at low tide            1310 <i>Salicornia</i> and other annuals colonizing mud and sand            1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)            1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p> <p><i>S.I. No. 472/2021 – European Union Habitats (Baldoyle Bay Special Area of Conservation 000199) Regulations 2021</i></p>	<p>Approximately 8.4km from the Proposed Scheme</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
<p>NPWS (2012) <i>Conservation Objectives: Baldoyle Bay SAC 000199</i>. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht</p>	
<p><b>Malahide Estuary SAC [000205]</b>            1140 Mudflats and sandflats not covered by seawater at low tide            1310 <i>Salicornia</i> and other annuals colonising mud and sand            1320 <i>Spartina</i> swards (<i>Spartinion maritimae</i>)<sup>20</sup>            1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)            1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)            2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)            2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*</p> <p><i>S.I. No. 91/2019 – European Union Habitats (Malahide Estuary Special Area of Conservation 000205) Regulations 2019</i>            NPWS (2013) <i>Conservation Objectives: Malahide Estuary SAC 000205</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 11.8km from the Proposed Scheme</p>
<p><b>Howth Head SAC [000202]</b>            1230 Vegetated sea cliffs of the Atlantic and Baltic coasts            4030 European dry heaths</p> <p><i>S.I. No. 524/2021 – European Union Habitats (Howth Head Special Area of Conservation 000202) Regulations 2021</i>            NPWS (2016) <i>Conservation Objectives: Howth Head SAC 000202</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p>	<p>Approximately 8.4km from the Proposed Scheme</p>
<p><b>Rockabill to Dalkey Island SAC [003000]</b>            1170 Reefs            1351 Harbour porpoise <i>Phocoena phocaena</i></p> <p><i>S.I. No. 94/2019 – European Union Habitats (Rockabill to Dalkey Island Special Area of Conservation 003000) Regulations 2019</i>            NPWS (2013) <i>Conservation Objectives: Rockabill to Dalkey Island SAC 003000</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 8.2km from the Proposed Scheme</p>

<sup>20</sup> 1320 *Spartina* swards (*Spartinion maritimae*) habitat is included within the conservation objectives document for Malahide Estuary SAC, but not within the Statutory Instruments document. This is likely because *Spartina* is an invasive alien species in Ireland.

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
<p><b>Ireland's Eye SAC [002193]</b> 1220 Perennial vegetation of stony banks 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts</p> <p><i>S.I. No. 501/2017 – European Union Habitats (Ireland's Eye Special Area of Conservation 002193) Regulations 2017</i> NPWS (2017) Conservation Objectives: Ireland's Eye SAC 002193. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p>	<p>Approximately 11.9km from the Proposed Scheme</p>
<p><b>Glenasmole Valley SAC [001209]</b> 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 6410 <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) 7220 Petrifying springs with tufa formation (Cratoneurion)*</p> <p><i>S.I. No. 345/2021 – European Union Habitats (Glenasmole Valley Special Area of Conservation 001209) Regulations 2021</i> NPWS (2021) Conservation Objectives: Glenasmole Valley SAC 001209. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.</p>	<p>Approximately 12.5km from the Proposed Scheme</p>
<p><b>Knocksink Wood SAC [000725]</b> 7220 Petrifying springs with tufa formation (Cratoneurion)*; 91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles; and 91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)   *</p> <p><i>S.I. No. 93/2019 – European Union Habitats (Knocksink Wood Special Area of Conservation 000725) Regulations 2019</i> NPWS (2021) Conservation Objectives: Knocksink Wood SAC 000725. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage</p>	<p>Approximately 14km from the Proposed Scheme</p>
<p><b>Ballyman Glen SAC [000713]</b> 7220 Petrifying springs with tufa formation (Cratoneurion)* 7230 Alkaline fens</p> <p><i>S.I. No. 92/2019 – European Union Habitats (Ballyman Glen Special Area Of Conservation 000713) Regulations 2019</i> NPWS (2019) Conservation Objectives: Ballyman Glen SAC 000713. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht</p>	<p>Approximately 14.8km from the Proposed Scheme</p>
<p><b>Wicklow Mountains SAC [002122]</b> 3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) 3160 Natural dystrophic lakes and ponds</p>	<p>Approximately 11.8km from the Proposed Scheme</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
<p>4010 Northern Atlantic wet heaths with <i>Erica tetralix</i>            4030 European dry heaths            4060 Alpine and Boreal heaths            6130 Calaminarian grasslands of the <i>Violetalia calaminariae</i>            6230 Species-rich <i>Nardus</i> 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 (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>)            8210 Calcareous rocky slopes with chasmophytic vegetation            8220 Siliceous rocky slopes with chasmophytic vegetation            91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles            1355 <i>Lutra lutra</i> (Otter)</p> <p>NPWS (2017) <i>Conservation Objectives: Wicklow Mountains SAC 002122</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p>	
<p><b>Lambay Island SAC [000204]</b>            1170 Reefs            1230 Vegetated sea cliffs of the Atlantic and Baltic coasts            1364 Grey seal <i>Halichoerus grypus</i>            1365 Harbour seal <i>Phoca vitulina</i></p> <p><i>S.I. No. 294/2019 – European Union Habitats (Lambay Island Special Area of Conservation 000204) Regulations 2019</i>            NPWS (2013) <i>Conservation Objectives: Lambay Island SAC 000204</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 20km from the Proposed Scheme</p>
<b>Special Protection Area (SPA)</b>	
<p><b>South Dublin Bay and River Tolka Estuary SPA [004024]</b>            A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i>            A130 Oystercatcher <i>Haematopus ostralegus</i>            A137 Ringed Plover <i>Charadrius hiaticula</i>            A141 Grey Plover <i>Pluvialis squatarola</i>            A143 Knot <i>Calidris canutus</i>            A144 Sanderling <i>Calidris alba</i>            A149 Dunlin <i>Calidris alpina</i>            A157 Bar-tailed Godwit <i>Limosa lapponica</i>            A162 Redshank <i>Tringa totanus</i>            A179 Black-headed Gull <i>Chroicocephalus ridibundus</i>            A192 Roseate Tern <i>Sterna dougallii</i>            A193 Common Tern <i>Sterna hirundo</i>            A194 Arctic Tern <i>Sterna paradisaea</i></p>	<p>Approximately 0.5km from the Proposed Scheme</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
<p>A999 Wetland and Waterbirds</p> <p><i>S.I. No. 212/2010 – European Communities (Conservation of Wild Birds (South Dublin Bay and River Tolka Estuary Special Protection Area 004024)) Regulations 2010.</i></p> <p>NPWS (2015) <i>Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	
<p><b>North Bull Island SPA [004006]</b></p> <p>A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i>  A048 Shelduck <i>Tadorna tadorna</i>  A052 Teal <i>Anas crecca</i>  A054 Pintail <i>Anas acuta</i>  A056 Shoveler <i>Anas clypeata</i>  A130 Oystercatcher <i>Haematopus ostralegus</i>  A140 Golden Plover <i>Pluvialis apricaria</i>  A141 Grey Plover <i>Pluvialis squatarola</i>  A143 Knot <i>Calidris canutus</i>  A144 Sanderling <i>Calidris alba</i>  A149 Dunlin <i>Calidris alpina</i>  A156 Black-tailed Godwit <i>Limosa limosa</i>  A157 Bar-tailed Godwit <i>Limosa lapponica</i>  A160 Curlew <i>Numenius arquata</i>  A162 Redshank <i>Tringa totanus</i>  A169 Turnstone <i>Arenaria interpres</i>  A179 Black-headed Gull <i>Chroicocephalus ridibundus</i>  A999 Wetlands &amp; Waterbirds</p> <p><i>S.I. No. 211/2010 – European Communities (Conservation of Wild Birds (North Bull Island Special Protection Area 004006)) Regulations 2010.</i></p> <p>NPWS (2015) <i>Conservation Objectives: North Bull Island SPA 004006</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 3km from the Proposed Scheme</p>
<p><b>Baldoyle Bay SPA [004016]</b></p> <p>A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i>  A048 Shelduck <i>Tadorna</i>  A137 Ringed Plover <i>Charadrius hiaticula</i>  A140 Golden Plover <i>Pluvialis apricaria</i>  A141 Grey Plover <i>Pluvialis squatarola</i>  A157 Bar-tailed Godwit <i>Limosa lapponica</i>  A999 Wetland and Waterbirds</p>	<p>Approximately 8.4km from the Proposed Scheme</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
<p><i>S.I. No. 275/2010 – European Communities (Conservation of Wild Birds (Baldoyle Bay Special Protection Area 004016)) Regulations 2010.</i></p> <p>NPWS (2013) <i>Conservation Objectives: Baldoyle Bay SPA 004016. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	
<p><b>Malahide Estuary SPA [004025]</b></p> <p>A005 Great Crested Grebe <i>Podiceps cristatus</i></p> <p>A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i></p> <p>A048 Shelduck <i>Tadorna</i></p> <p>A054 Pintail <i>Anas acuta</i></p> <p>A067 Goldeneye <i>Bucephala clangula</i></p> <p>A069 Red-breasted Merganser <i>Mergus serrator</i></p> <p>A130 Oystercatcher <i>Haematopus ostralegus</i></p> <p>A140 Golden Plover <i>Pluvialis apricaria</i></p> <p>A141 Grey Plover <i>Pluvialis squatarola</i></p> <p>A143 Knot <i>Calidris canutus</i></p> <p>A149 Dunlin <i>Calidris alpina</i></p> <p>A156 Black-tailed Godwit <i>Limosa</i></p> <p>A157 Bar-tailed Godwit <i>Limosa lapponica</i></p> <p>A162 Redshank <i>Tringa totanus</i></p> <p>A999 Wetland and Waterbirds</p> <p><i>S.I. No. 285/2011 – European Communities (Conservation of Wild Birds (Malahide Estuary Special Protection Area 004025)) Regulations 2011.</i></p> <p>NPWS (2013) <i>Conservation Objectives: Malahide Estuary SPA 004025. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 12.3km from the Proposed Scheme</p>
<p><b>Wicklow Mountains SPA [004040]</b></p> <p>A098 Merlin <i>Falco columbarius</i></p> <p>A103 Peregrine <i>Falco peregrinus</i></p> <p><i>S.I. No. 586/2012 – European Communities (Conservation of Wild Birds (Wicklow Mountains Special Protection Area 004040)) Regulations 2012.</i></p> <p>NPWS (2022) <i>Conservation objectives for Wicklow Mountains SPA [004040].</i> Generic Version 9.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 12.1km from the Proposed Scheme</p>
<p><b>Ireland’s Eye SPA [004117]</b></p> <p>A017 Cormorant <i>Phalacrocorax carbo</i></p> <p>A184 Herring Gull <i>Larus argentatus</i></p> <p>A188 Kittiwake <i>Rissa tridactyla</i></p> <p>A199 Guillemot <i>Uria aalge</i></p> <p>A200 Razorbill <i>Alca torda</i></p>	<p>Approximately 11.7km from the Proposed Scheme</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
<p><i>S.I. No. 240/2010 – European Communities (Conservation of Wild Birds (Ireland’s Eye Special Protection Area 004117)) Regulations 2010.</i> NPWS (2022) <i>Conservation objectives for Ireland’s Eye SPA [004117].</i> Generic Version 9.0. Department of Housing, Local Government and Heritage.</p>	
<p><b>Rogerstown Estuary SPA [004015]</b> A043 Greylag Goose <i>Anser anser</i> A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A048 Shelduck <i>Tadorna</i> A056 Shoveler <i>Anas clypeata</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A137 Ringed Plover <i>Charadrius hiaticula</i> A141 Grey Plover <i>Pluvialis squatarola</i> A143 Knot <i>Calidris canutus</i> A149 Dunlin <i>Calidris alpina</i> A156 Black-tailed Godwit <i>Limosa</i> A162 Redshank <i>Tringa totanus</i> A999 Wetlands</p> <p><i>S.I. No. 271/2010 – European Communities (Conservation of Wild Birds (Rogerstown Estuary Special Protection Area 004015) Regulations 2010.</i> NPWS (2013) <i>Conservation Objectives: Rogerstown Estuary SPA 004015.</i> Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 17.1km from the Proposed Scheme</p>
<p><b>Howth Head Coast SPA [004113]</b> A188 Kittiwake <i>Rissa tridactyla</i></p> <p><i>S.I. No. 185/2012 – European Communities (Conservation of Wild Birds (Howth Head Coast Special Protection Area 004113)) Regulations 2012.</i> NPWS (2022) <i>Conservation objectives for Howth Head Coast SPA [004113].</i> Generic Version 9.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 10.9km from the Proposed Scheme</p>
<p><b>Dalkey Islands SPA [004172]</b> A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i></p> <p><i>S.I. No. 238/2010 – European Communities (Conservation of Wild Birds (Dalkey Islands Special Protection Area 004172)) Regulations 2010</i> NPWS (2022) <i>Conservation objectives for Dalkey Islands SPA [004172].</i> Generic Version 9.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 10.5km from the Proposed Scheme</p>
<p><b>Rockabill SPA [004014]</b> A148 Purple Sandpiper <i>Calidris maritima</i> A192 Roseate Tern <i>Sterna dougallii</i></p>	<p>Approximately 26.8km from the Proposed Scheme</p>



European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme (as the crow flies)
<p>A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i></p> <p><i>S.I. No. 94/2012 – European Communities (Conservation of Wild Birds (Rockabill Special Protection Area 004014)) Regulations 2012.</i> NPWS (2013) Conservation Objectives: Rockabill SPA [004014]. Version 1. Department of Arts, Heritage and the Gaeltacht.</p>	
<p><b>Lambay Island SPA [004069]</b> A009 Fulmar <i>Fulmarus glacialis</i> A017 Cormorant <i>Phalacrocorax carbo</i> A018 Shag <i>Phalacrocorax aristotelis</i> A043 Greylag Goose <i>Anser</i> A183 Lesser Black-backed Gull <i>Larus fuscus</i> A184 Herring Gull <i>Larus argentatus</i> A188 Kittiwake <i>Rissa tridactyla</i> A199 Guillemot <i>Uria aalge</i> A200 Razorbill <i>Alca torda</i> A204 Puffin <i>Fratercula arctica</i></p> <p><i>S.I. No. 242/2010 – European Communities (Conservation of Wild Birds (Lambay Island Special Protection Area 004069)) Regulations 2010.</i> NPWS (2022) Conservation objectives for Lambay Island SPA [004069]. Generic Version 9.0. Department of Housing, Local Government and Heritage.</p>	Approximately 19.8km from the Proposed Scheme
<p><b>Skerries Islands SPA [004122]</b> A017 Cormorant <i>Phalacrocorax carbo</i> A018 Shag <i>Phalacrocorax aristotelis</i> A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A148 Purple Sandpiper <i>Calidris maritima</i> A169 Turnstone <i>Arenaria interpres</i> A184 Herring Gull <i>Larus argentatus</i></p> <p><i>S.I. No. 245/2010 – European Communities (Conservation of Wild Birds (Skerries Islands Special Protection Area 004122)) Regulations 2010.</i> NPWS (2022) Conservation objectives for Skerries Islands SPA [004122]. Generic Version 9.0. Department of Housing, Local Government and Heritage.</p>	Approximately 26.3km from the Proposed Scheme
<p><b>The Murrough SPA [004186]</b> A001 Red-throated Diver <i>Gavia stellata</i> A043 Greylag Goose <i>Anser</i> A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A050 Wigeon <i>Anas penelope</i> A052 Teal <i>Anas crecca</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i></p>	Approximately 28.3km from the Proposed Scheme

<b>European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)</b>	<b>Location Relative to the Proposed Scheme (as the crow flies)</b>
<p>A184 Herring Gull <i>Larus argentatus</i>  A195 Little Tern <i>Sterna albifrons</i></p> <p><i>S.I. No. 298/2011 – European Communities (Conservation of Wild Birds (The Murrough Special Protection Area 004186)) Regulations 2011.</i>  NPWS (2022) <i>Conservation objectives for The Murrough SPA [004186]. Generic Version 9.0.</i> Department of Housing, Local Government and Heritage.</p>	



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