

**Tallaght/Clondalkin
to City Centre Core
Bus Corridor Scheme**

**Appropriate
Assessment
Report**

**Screening
Report**

**BUS
CONNECTS**

SUSTAINABLE TRANSPORT FOR A BETTER CITY.

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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 Tallaght / Clondalkin to City Centre Core Bus Corridor Scheme (hereinafter referred to as the Proposed Scheme), has been prepared by Scott Cawley Ltd. on behalf of the National Transport Authority (NTA). 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 or projects on the Natura 2000 network (hereafter referred to as European sites)¹. 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 Tallaght / Clondalkin 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, Rockabill to Dalkey Islands SAC, Lambay Island SAC, Wicklow Mountains SAC, South Dublin Bay and River Tolka Estuary SPA, Skerries Islands SPA, Lambay Island SPA, Ireland’s Eye SPA, North Bull Island SPA, Dalkey Islands SPA, Baldoyle Bay SPA, Howth Head Coast SPA, Malahide Estuary SPA, Rogerstown Estuary SPA, Rockabill SPA and The Murrough 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);

¹ 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 designated as *European sites* - defined under section 177R of the Planning and Development Act 2001 (as amended) 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 ((Department of Environment, Heritage and Local Government, 2010);
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission, 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 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)²), 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 (Zoi) of the Proposed Scheme, and therefore potentially at risk of significant effects. The Zoi 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 objectives³.
- 10 The identification of a source-pathway-receptor link does not automatically mean that significant effects will arise. Rather, 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 Study

- 11 The desktop data sources used to inform the assessment presented in this report are as follows (accessed in June 2022):
 - Online data available on European sites and on Natural Heritage Areas (NHAs) or proposed Natural Heritage Areas (pNHAs) from www.npws.ie⁴, including conservation objectives documents;
 - Online data records available on National Biodiversity Data Centre Database (NBDC, 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 Ireland (OSI) orthophotography (from 1995 to 2012) for the Proposed Scheme study area;
 - Habitat and species GIS datasets provided by the NPWS, including Article 12 and Article 17 data⁵;
 - Records from the Botanical Society of Britain and Ireland (BSBI, 2022);
 - Information contained within the Flora of County Dublin⁶;
 - Environmental information / data for the area available from the EPA website www.epa.ie;

² The term Qualifying Interest (QI) is used when referring to the habitats or species for which an SAC is designated; the term Special Conservation Interest (SCI) is used when referring to the bird species (or wetland habitats) for which an SPA is designated.

³ As defined in the *Guidelines for Ecological Impact Assessment in the UK and Ireland* (CIEEM, 2022).

⁴ The following SAC and SPA GIS boundary datasets are the most recently available at the time of writing: SAC_ITM_2022_06 and SPA_ITM_2021_10.

⁵ Article 17 of the EU Directive on the Conservation of habitats, Floras and Fauna (Habitats Directive) requires that all member states report to the European Commission every six years on the status and on the implementation of the measures taken under the Habitats Directive. In a similar manner, there is an obligation to report on the status and trends of bird species required under Article 12 of the Bird's Directive.

⁶ Doogue, D., Nash, D., Parnell, J., Reynolds, S. & Wyse Jackson, P. (eds) (1998) *Flora of County Dublin*. The Dublin Naturalists' Field Club, Dublin.

- Information on the status of EU protected habitats and species in Ireland⁷;
- Information on light-bellied Brent goose inland feeding sites⁸;
- The results of ecological surveys undertaken as part of the Environmental Impact Assessment (EIA) studies for the Proposed Scheme (see Section 2.5 below for details);
- Information on the location, nature and design of the Proposed Scheme; and,
- Bus Connects Drone Imagery, surveyed November 2020.

2.4 Consultations

- 12 Table 1 outlines the Appropriate Assessment issues raised during consultation which, where relevant, are addressed in the NIS.

Table 1: Appropriate Assessment issues raised during consultation

Consultee	Phase / Date of Consultation	Issues Raised	Relevant Section of the AA Screening where this is addressed
<p><i>Department of Housing, Local Government and Heritage</i> (formerly Department of Culture, Heritage and the Gaeltacht)</p>	<p>30 July 2019 Ref. G Pre00165/2019</p>	<p>The Department recommend identification, description, and assessment of direct and indirect impacts of the Proposed Scheme on the following features:</p> <ul style="list-style-type: none"> • Biodiversity in general and with specific attention to Natura 2000 sites. • 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). • species and / or habitats listed in the Habitats Directive inside or outside of Natura 2000 sites be recorded. • Species protected under the Wildlife Act, including protected flora. • Important bird areas such as those identified by Birdwatch Ireland. • Features of the landscape which are of major importance as biodiversity corridors to wild flora or fauna, as referenced in Article 10 of the Habitats Directive. 	<p>Section 2.5 Baseline Surveys, Section 3.6 Overview of Receiving Environment Section 3.6.1 European Sites, Section 3.7 Assessment of Potential Effects on European Sites Also addressed in NIS</p>

⁷ NPWS (2019a). *The Status of EU Protected Habitats and Species in Ireland*. Volume 1: Summary Overview. Unpublished NPWS report.

⁸ 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*.

Consultee	Phase / Date of Consultation	Issues Raised	Relevant Section of the AA Screening where this is addressed
		<p>Detailed bird surveys should be undertaken at all times of the year to establish areas of the Proposed Scheme used by birds should be included in the AA.</p>	<p>Section 2.5 Baseline Surveys, Section 3.6 Overview of Receiving Environment Section 3.7 Assessment of Effects on European sites Also addressed in NIS</p>
		<p>The Department requires that the Appropriate Assessment addresses the issue of invasive alien plant and animal species and include detailed methods to ensure accidental introduction or spreading does not occur. The Department recommended that an Invasive Species Action Plan should form part of the planning application.</p>	<p>Section 3.6.3, Section 3.7.4. A non-native Invasive Species Management Plan has been prepared in respect of the Proposed Scheme as an appendix to the CEMP. It is not considered during the AA Screening Also addressed in NIS</p>
		<p>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.</p>	<p>Section 3.8 In-Combination Effects Also addressed in NIS</p>
		<p>The Department recommended that the Proposed Scheme be subject to Appropriate Assessment in respect of potential to impact Natura 2000 sites either alone or in combination with other plans or projects, and must contain complete (contain 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>To assess mitigations, the following tasks must be completed:</p> <ul style="list-style-type: none"> • List each of the measures to be introduced (e.g., noise bunds, tree planting). • Explain how the measures will avoid the adverse impacts on the site. • Explain how the measures will reduce the adverse impacts on the site. 	<p>The Proposed Scheme has been subject to Screening for AA and the production of a Natura Impact statement, which accompanies the planning submission.</p> <p>Section 3.7 Potential Impacts, Zone of Influence and Identifying European sites at Risk of Effects</p>

Consultee	Phase / Date of Consultation	Issues Raised	Relevant Section of the AA Screening where this is addressed
		<p>Then, for each of the listed mitigation measures:</p> <ul style="list-style-type: none"> • Provide evidence of how they will be secured and implemented and by whom. • Provide evidence of the degree of confidence in their likely success. • Provide a timescale, relative to the project or plan, when they will be implemented. <p>Where residual impacts remain, further mitigation measures may be required:</p> <ul style="list-style-type: none"> • Evidence should be provided of how mitigation measures will be monitored. • Monitoring should take place immediately down-stream of the Proposed Scheme. • The applicant should not use any proposed post construction monitoring as mitigation to supplement inadequate information in the assessment. 	<p>Section 3.7 Assessment of Potential Effects</p> <p>Also addressed in NIS</p>
<i>Inland Fisheries Ireland (IFI)</i>	3 November 2020	<p>The topics addressed in the IFI letter received on 3 November 2020 did not specifically mention Appropriate Assessment. Topics included:</p> <ul style="list-style-type: none"> • Water bodies that will be crossed by the Proposed Scheme; • Fisheries importance of water bodies that will be crossed by the Proposed Scheme; • Scheme design in regard to structures at water crossings; • Baseline data; • Impact Assessment; and • Mitigation measures. 	<p>The Proposed Scheme design has been cognisant of the IFI requirements, which are detailed in section 3.1</p> <p>Also addressed in NIS</p>

2.5 Baseline Surveys

- 13 Baseline ecological surveys were undertaken as necessary to inform environmental assessments of the Proposed Scheme. This section describes those 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

- 14 Habitat surveys were carried out by Scott Cawley Ltd. between June and August 2018 along the then Proposed Scheme alignment. 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 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 Fossitt⁹ and in accordance with *Best Practice Guidance for Habitat Survey and Mapping*¹⁰. 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 (S.I. 235/2022) 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 European Communities (Birds and Natural 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*¹¹.

15 A desk study was carried out to identify all hydrological crossing points within the footprint of the Proposed Scheme. Previous iterations of the Proposed Scheme identified three sites where water bodies may be subject to significant disturbance as a consequence of the Proposed Scheme; the River Camac at Yellowmeadows R134 / New Nangor Road (referred to as CBC0809AR001), the River Camac at the junction between Oak Road and New Nangor Road (referred to as CBC0809AR002) and the River Poddle at Bancroft Park, Tallaght (referred to as CBC0809AR003). These aquatic environs were surveyed by Triturus Environmental Ltd. in October and November 2020. A broad habitat assessment was conducted at each site utilising elements of the methodology given in the Environment Agency's 'River Habitat Survey in Britain and Ireland Field Survey Guidance Manual 2003'¹² and the Irish Heritage Council's '*A Guide to Habitats in Ireland*'⁹. All sites were assessed in terms of:

- Channel width and depth and other physical characteristics;
- Substrate type, listing substrate fractions in order of dominance, i.e. bedrock, boulder, cobble, gravel, sand, silt etc.;
- Flow type, listing percentage of riffle, glide and pool in the survey area;
- In-stream macrophyte and aquatic bryophytes occurring and the prominence of each (DAFOR scale); and
- General riparian vegetation composition.

2.5.2 Fauna Surveys

16 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.

17 Dedicated fisheries or aquatic surveys, including white-clawed crayfish habitat, and biological water quality (Q-sampling), were undertaken at three sites where previous iterations of the Proposed Scheme indicated that the waterbodies at these locations (e.g. CBC0809AR001, CBC0809AR002 and CBC0809AR003) may be subject to significant disturbance during Construction. It should be noted that 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* and river lamprey *Lampetra fluviatilis* is the River Boyne and River Blackwater SAC, located approximately 39km north-west of the Proposed Scheme in the Boyne River catchment. The nearest known European site

⁹ Fossitt, J.A. (2000) *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny.

¹⁰ 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.

¹¹ Stace, C. (2019) *New Flora of the British Isles. 4th Edition*. C&M Floristics.

¹² Environment Agency. (2003). *River Habitat Survey in Britain and Ireland: Field Survey Guidance Manual: 2003 Version*. Forest Research.

designated for white-clawed crayfish and brook lamprey *L. planeri* is the River Barrow and River Nore SAC, which is located approximately 42km south-west of the Proposed Scheme in the River Barrow catchment, River Nore catchment and River Ballyteigue-Bannow River catchment.

2.5.2.1 Otter

- 18 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 March 2022. 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.
- 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 otter. Previous iterations of the Proposed Scheme identified three sites where water bodies may be subject to significant disturbance as a consequence of the Construction of the Proposed Scheme; CBC0809AR001 on the River Camac, CBC0809AR002 on the River Camac and CBC0809AR003 on the River Poddle. A corridor of approximately 150m upstream and downstream from these locations were surveyed to identify the presence of otter holts in October 2020.

2.5.2.2 Kingfisher

- 20 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*. Previous iterations of the Proposed Scheme identified three sites where water bodies may be subject to significant disturbance as a consequence of the Construction of the Proposed Scheme; CBC0809AR001 on the River Camac, CBC0809AR002 on the River Camac and CBC0809AR003 on the River Poddle.
- 21 The suitability of water features and associated foraging, roosting, and nesting habitats, located within or directly adjacent to the Proposed Scheme, were assessed for kingfisher potential in October 2020. Where suitable habitat existed, surveys extended approximately 500m upstream and downstream of the proposed crossing point.

2.5.2.3 Other Birds

- 22 The results of the desk study have informed the assessment of likely significant effects on breeding bird species arising from the Proposed Scheme.
- 23 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*⁸ (Scott Cawley Ltd., 2017). A habitat suitability assessment was carried out in October 2020 to verify the suitability of potential inland feeding / roosting sites identified during the desk study.
- 24 There are five suitable wintering bird sites, located adjacent to the Proposed Scheme, which would be subject to habitat loss, or disturbance at the very least by the Proposed Scheme. These were located along amenity grassland sections along Greenhills Road to the west of the M50, referred to as CBC0809WB001, at grassland area adjacent to Templewoods residential area off Greenhills Road, referred to as CBC0809WB002, Tymon Park along Greenhills Road, referred to as CBC0809WB003, at amenity grassland along Calmount Road, referred to as CBC0809WB004, and amenity grassland at Bunting Park, referred to as CBC0809WB005.
- 25 Field surveys were carried out to confirm the suitability or presence of wintering birds at CBC0809WB001, CBC0809WB002, CBC0809WB003, CBC0809WB004, and CBC0809WB005; which were deemed suitable for

wintering birds and were surveyed over seven consecutive weeks across February and March 2020 and additionally twice a month, between the months October 2020 and March 2021¹³, and again between October 2021 and March 2022 during the 2021-2022 season. The results of the desk study and field surveys have informed the assessment of likely significant effects on wintering bird species arising from the Proposed Scheme.

- 26 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.

3 Provision of Information for Screening for Appropriate Assessment

- 27 The following sections provide information to facilitate the Appropriate Assessment screening of the Proposed Scheme to be undertaken by the competent authority.
- 28 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.).
- 29 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 has the potential for significant effects on any European sites; i.e. affect the conservation objectives supporting the favourable conservation condition of the European sites’ QIs or SCIs.

3.1 Description of the Proposed Scheme

- 30 The following sections provide information to facilitate the Appropriate Assessment screening of the Proposed Scheme to be undertaken by the competent authority. A description of the Proposed Scheme is provided to identify the potential ecological impacts.

3.1 Overview

- 31 The Proposed Scheme consists of two sections that amalgamate the former Greenhills to City Centre CBC (Tallaght to City Centre) and Clondalkin to Drimnagh CBC (Clondalkin to Drimnagh) preferred route Core Bus Corridors. The entire Proposed Scheme measures approximately 15.5km along the CBC corridor with an additional offline cycling corridor of 3.9km.
- 32 The first section, the Tallaght to City Centre section, begins at the junction of Blessington Road/ Cookstown Way and is routed along Belgard Square West, Belgard Square North, Belgard Square East, Blessington Road to the junction of R819 Greenhills Road and Bancroft Park. From here the Proposed Scheme is routed along the R819 Greenhills Road to Walkinstown Roundabout via new transport link roads; in the green area to the east of Birchview Avenue/Treepark Road; in the green area to the south of Ballymount Avenue, and in the green area to the east of Calmount Road. From Walkinstown Roundabout the main Core Bus Corridor is routed along the R819 Walkinstown Road to the junction with R110 Long Mile Road and Drimnagh Road. The shared spine with the Clondalkin section commences at this junction and the Proposed Scheme is routed along the R110 to the junction of Dean Street and Patrick Street via Drimnagh Road, Crumlin Road, Dolphins Barn, Cork Street, St Luke’s Avenue and Dean Street. From here the Proposed Scheme is routed

¹³ A scheduled visit in early January 2021 was postponed owing to government restrictions having been revised around that time.

along the R137 via Patrick Street to the junction at Winetavern Street and Christchurch Place where the Proposed Scheme terminates within the City Centre. An offline cycle facility is proposed to facilitate cycling between Walkinstown Roundabout and Parnell Road (Grand Canal) where end to end cycle facilities are not feasible along the main corridor and provides a more direct route towards the city centre. This offline section of the Proposed Scheme is routed via Bunting Road, Kildare Road and Clogher Road.

- 33 The second section, the Clondalkin to Drimnagh section, begins at the junction of the New Nangor Road and Woodford Walk and is routed along the R134 New Nangor Road, R810 Naas Road, R112 Walkinstown Avenue and the R110 Long mile Road to the junction of Walkinstown Road and Drimnagh Road where it is routed towards the city centre along the shared spine section (Tallaght to City Centre) as described above.
- 34 The Proposed Scheme includes an upgrade of the existing bus priority and cycle facilities. The scheme includes a substantial increase in the level of bus priority provided along the corridor, including the provision of additional lengths of bus lane resulting in improved journey time reliability. Throughout the Proposed Scheme bus stops will be enhanced to improve the overall journey experience for bus passengers and cycle facilities will be substantially improved with segregated cycle tracks provided along the links and protected junctions with enhanced signalling for cyclists provided at junctions.
- 35 Moreover, pedestrian facilities will be upgraded and additional signalised crossings will be provided. In addition, urban realm works will be undertaken at key locations with higher-quality materials, planting, and street furniture provided to enhance the pedestrians' experience.
- 36 The main characteristics of the Construction Phase of the Proposed Scheme that have potential for ecological impact are:
- Site preparation and clearance;
 - Construction Compound Development;
 - Removal of existing boundaries, pavements, lighting columns, bus stops, and signage;
 - Protection and/or diversion of buried services;
 - Road construction for new link roads and dedicated bus route;
 - Road widening, pavement reconstruction, and kerb improvements;
 - Reconfiguration of traffic lanes throughout;
 - Reconfiguration of connections to existing drainage infrastructure and connection of new drainage infrastructure into the existing surface water drainage network;
 - Installation of new bus stops and junction / roundabout modification;
 - Provision of new structures (bridges, retaining walls etc (e.g. R819 Greenhills Road Pedestrian and Cycle bridges over the M50; R134 New Nangor Road / R810 Naas Road / R110 Long Mile Road junction Pedestrian and Cycle Bridge; and retaining walls));
 - Temporary and permanent land take at a number of key areas including:
 - i. Temporary landtake to facilitate the installation of Construction Compounds at the following locations:
 1. Construction Compound TC1 located in an area of amenity grassland along Belgard Square South / Cookstown Way;
 2. Construction Compound TC2 located in an area of unmanaged grassland along R819 Greenhills Road between Westpark Fitness and Astro Park Tallaght;
 3. Construction Compound TC3 in an area of amenity grassland along Greenhills Road, between Treepark Road and R819 Greenhills Road;

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4. Construction Compound TC4 in an area of unmanaged grassland along R819 Greenhills Road, to the north of Tymon Lane;
 5. Construction Compound TC5 in an area of amenity grassland along R819 Greenhills Road, outside Tallaght Truck Dismantlers, north-east of the M50 Motorway;
 6. Construction Compound TC6 in an area of unmanaged grassland in Tymon Park along R819 Greenhills Road, opposite Greenhills Maxol;
 7. Construction Compound TC7 in an area of amenity grassland along Calmount Road within the Calmount Business Park;
 8. Construction Compound TC8 in an area of amenity grassland at Bunting Park;
 9. Construction Compound TC9 in an area of hardstanding at Dean Street / R137 Patrick Street;
 10. Construction Compound TC10 in an area of scrub and unmanaged grassland between the R134 New Nangor Road and Killeen Road;
 11. Construction Compound TC11 in an area of hardstanding at the Harris Industrial Complex on the R134 New Nangor Road; and;
 12. Construction Compound TC12 in an area of hardstanding along the R110 Long Mile Road, south of the R134 New Nangor Road / R810 Naas Road / R110 Long Mile Road junction.
- ii. Temporary land-take at the following locations to facilitate the construction of retaining walls:
1. Temporary loss of scrub and hardstanding habitats at Calmount Road to facilitate construction of retaining wall RW01;
 2. Temporary loss of hardstanding at Calmount Road to facilitate construction of retaining wall RW02;
 3. Temporary loss of hardstanding at R110 Long Mile Road / Slievebloom Park to facilitate construction of retaining wall RW03;
 4. Temporary loss of hardstanding at R810 Naas Road / R134 New Nangor Road junction to facilitate construction of retaining wall RW04, and;
 5. Temporary loss of hardstanding at R810 Naas Road / R134 New Nangor Road junction to facilitate construction of retaining wall RW05;
- iii. Permanent landtake at the following locations:
1. Car park and amenity grassland at Belgard Square West between Belgard Square South and Old Blessington Road to facilitate the construction of Tallaght Bus Interchange;
 2. Amenity grassland between R819 Greenhills Road and Tymonville Crescent to facilitate the provision of SUDs features;
 3. Amenity grassland areas and treelines between Birchview Avenue / Treepark Road and Parkview west of R819 Greenhills Road to facilitate new bus only route works and provision of cycling and pedestrian infrastructure;
 4. Scrub, spoil and bare ground, dry meadows and grassy verges, hedgerows and amenity grassland habitat between R819 Greenhills Road and Ballymount Avenue to accommodate the extension of Ballymount Avenue and the new junction between the two roads;
 5. Street planting (treelines) along Calmount Road to facilitate the provision of cycling infrastructure;

6. Scrub habitat west of R819 Greenhills Road to facilitate new Calmount Avenue link road and roundabout connection to R819 Greenhills Road; and
7. Scrub habitat east of Calmount Road to facilitate extension of Calmount Road and new junction between Calmount Road and R819 Greenhills Road.

- Property boundary reinstatement, signage replacement;
- Relocation of and/or installation of lighting columns; and
- Landscaping and tree planting, and reinstatement of temporary land acquisitions.

3.2 Surface Water Drainage Infrastructure

- 37 The surface water drainage system for the Proposed Scheme will discharge to three surface water receptors during construction: Camac_040, Poddle_010 and Dodder_040 as well as existing combined sewers which ultimately discharge to the Liffey Estuary Lower via Ringsend WwTP. During construction overland flows may discharge to the following additional waterbodies: Liffey Estuary Upper and Grand Canal,. All operational drainage outfall discharges to surface waters represent point discharges. For the Proposed Scheme, there will be a net increase of 59,368m² in the impermeable area ultimately discharging to Dublin Bay. The drainage design principles ensure that all runoff from increases in impermeable areas will be attenuated and there will be no net increase in the surface water flow discharged to these receptors.
- 38 The proposed drainage design includes the relocation and addition of drainage gullies, as necessary. Attenuation will be in the form of oversized pipes, tree pits, bioretention areas, soakaways, green roofs and filter drains. These SuDS measures will allow a level of treatment and / or attenuation to be provided before discharging to the network, slightly reducing the impact on water quality as well as preventing an increase in runoff rates.
- 39 Sustainable Urban Drainage Systems (SuDS) solutions are summarised in Table 2.
- 40 **Table 2: Summary of impermeable areas and SuDS proposed by waterbody**

Waterbody	Approx. Impermeable Surface Area			SuDS measures Proposed
	Existing (m ²)	Additional (m ²)	Percentage change (%)	
River Camac (Camac_040)	129,468	17,796	14	Oversized pipes, Tree pits, Bioretention areas, Soakaways and Filter drains
River Poddle (Poddle_010)	165,643	39,414	23	Oversized pipes, bioretention areas
River Dodder (Dodder_040)	33,836	1,668	5	Oversized pipes, bioretention areas and green roofs
Ringsend WwTP	146,794	490	0	Oversized pipes.

3.3 Construction Compounds

- 41 Twelve Construction Compounds will be required along the length of the Proposed Scheme to facilitate construction:
- Construction Compound TC1 located in an area of amenity grassland along Belgard Square South / Cookstown Way;
 - Construction Compound TC2 located in an area of unmanaged grassland along R819 Greenhills Road between Westpark Fitness and Astro Park Tallaght;

- Construction Compound TC3 in an area of amenity grassland along Greenhills Road, between Treepark Road and R819 Greenhills Road;
 - Construction Compound TC4 in an area of unmanaged grassland along R819 Greenhills Road, to the north of Tymon Lane;
 - Construction Compound TC5 in an area of amenity grassland along R819 Greenhills Road, outside Tallaght Truck Dismantlers, north-east of the M50 Motorway;
 - Construction Compound TC6 in an area of unmanaged grassland in Tymon Park along R819 Greenhills Road, opposite Greenhills Maxol;
 - Construction Compound TC7 in an area of amenity grassland along Calmount Road within the Calmount Business Park;
 - Construction Compound TC8 in an area of amenity grassland at Bunting Park;
 - Construction Compound TC9 in an area of hardstanding at Dean Street / R137 Patrick Street;
 - Construction Compound TC10 in an area of scrub and unmanaged grassland between the R134 New Nangor Road and Killeen Road;
 - Construction Compound TC11 in an area of hardstanding at the Harris Industrial Complex on the R134 New Nangor Road; and;
 - Construction Compound TC12 in an area of hardstanding along the R110 Long Mile Road, south of the R134 New Nangor Road/ R810 Naas Road / R110 Long Mile Road junction.
- 42 The locations of the Construction Compounds are shown in Image 2 – Image 12. These 12 Construction Compounds will be used to store materials, plant and equipment, to manage the activities from; and to provide welfare facilities for construction personnel. Limited car parking will also be provided at the Construction Compounds. The main site offices will be located at Construction Compound TC12.
- 43 The Construction Compounds will be established with appropriate services. Water, wastewater, power, and communications connections will be organised by the appointed contractor. At work areas along the Proposed Scheme, where permanent provisions (for the duration of the construction programme) are not practicable, appropriate temporary provisions will be made including the use of generators if required. Temporary welfare facilities will need to be used, for example, portable toilets in the vicinity of works. Wastewater from temporary welfare facilities will be collected and disposed of to a suitably licenced facility.
- 44 The Construction Compounds will be in place for the duration of the Construction Phase of the Proposed Scheme. The compounds will be dismantled and the sites returned to their existing conditions on completion of the Construction Phase

Image 2: Location and Extent of Construction Compound TC1 (Image from EIAR Chapter 5 Construction – report BCIDE-JAC-ENV_UC-0809_XX_00-RP-ES-0005)

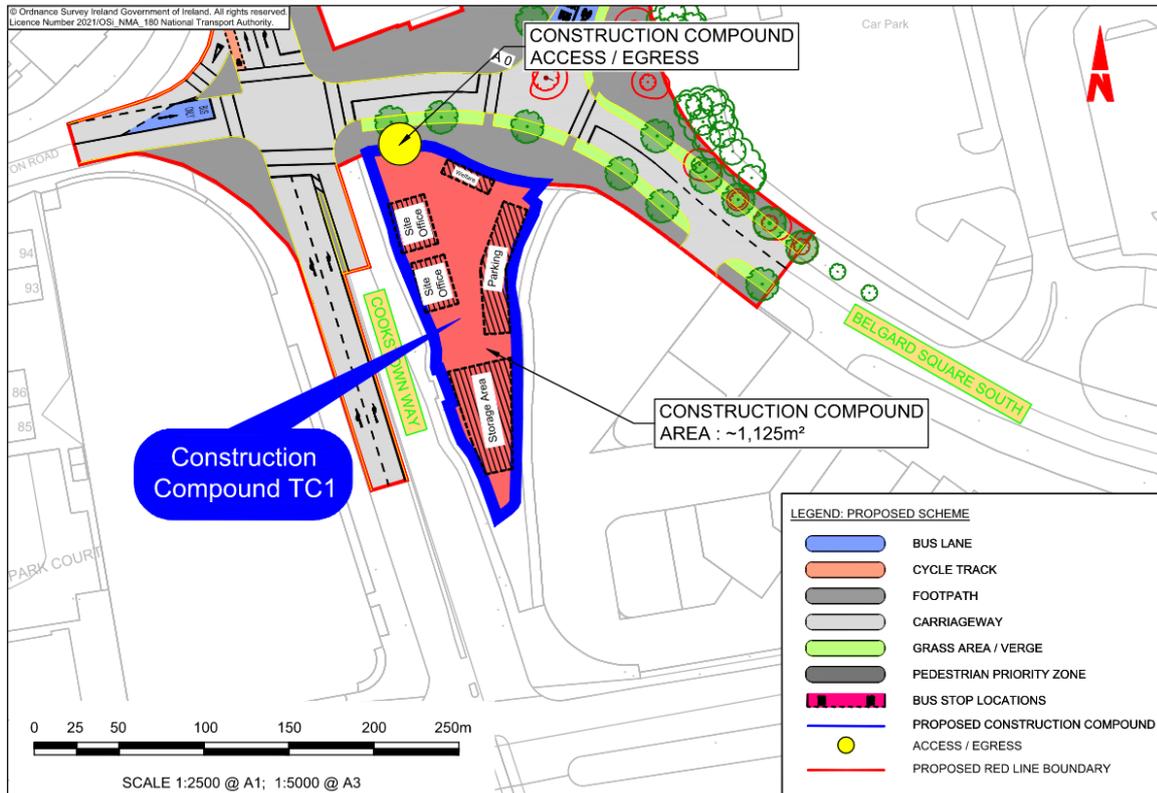


Image 3: Location and Extent of Construction Compound TC2 (Image from EIAR Chapter 5 Construction – report BCIDE-JAC-ENV_UC-0809_XX_00-RP-ES-0005)

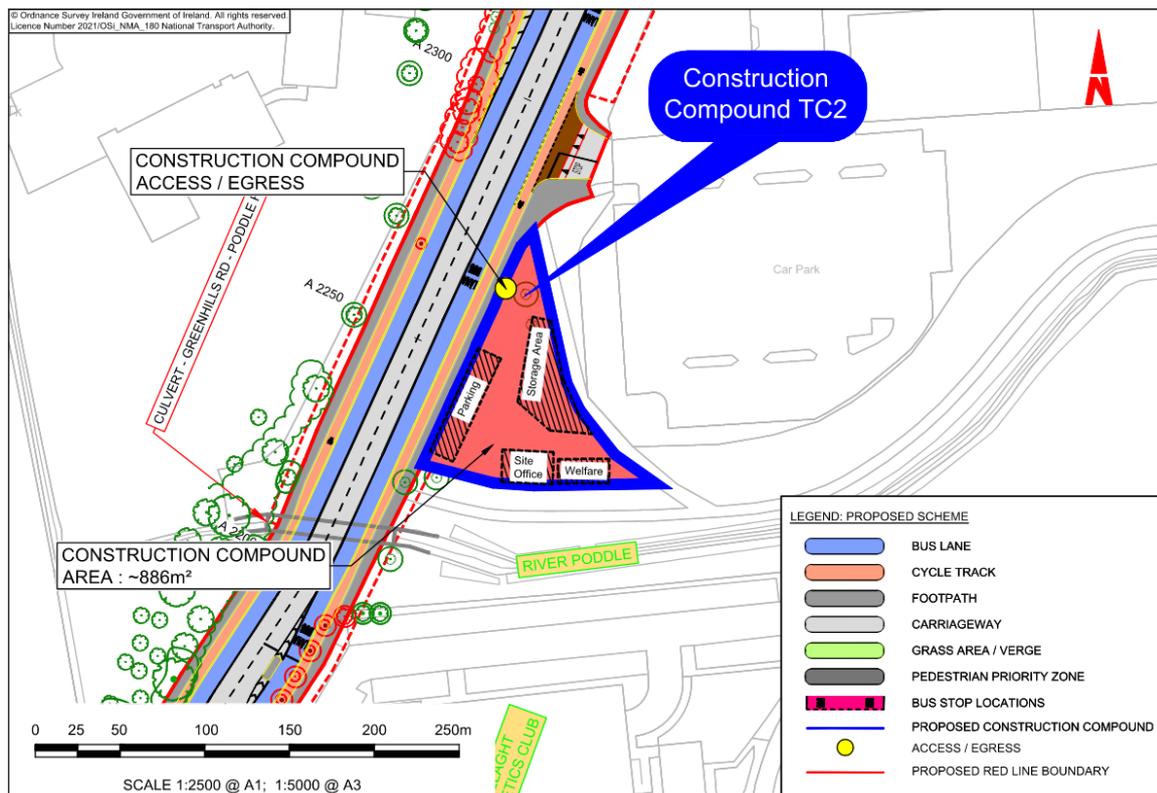


Image 4: Location and Extent of Construction Compound TC3 (Image from EIAR Chapter 5 Construction – report BCIDE-JAC-ENV_UC-0809_XX_00-RP-ES-0005)

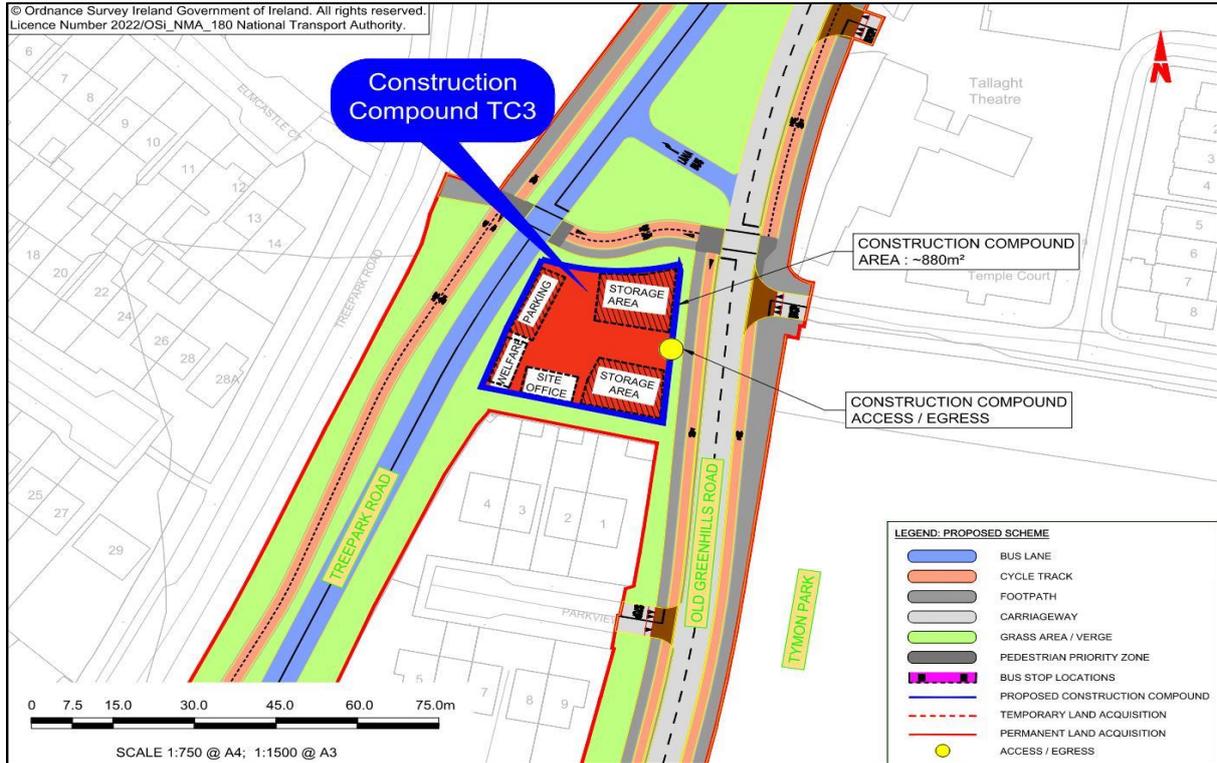


Image 5: Location and Extent of Construction Compound TC4 (Image from EIAR Chapter 5 Construction – report BCIDE-JAC-ENV_UC-0809_XX_00-RP-ES-0005)

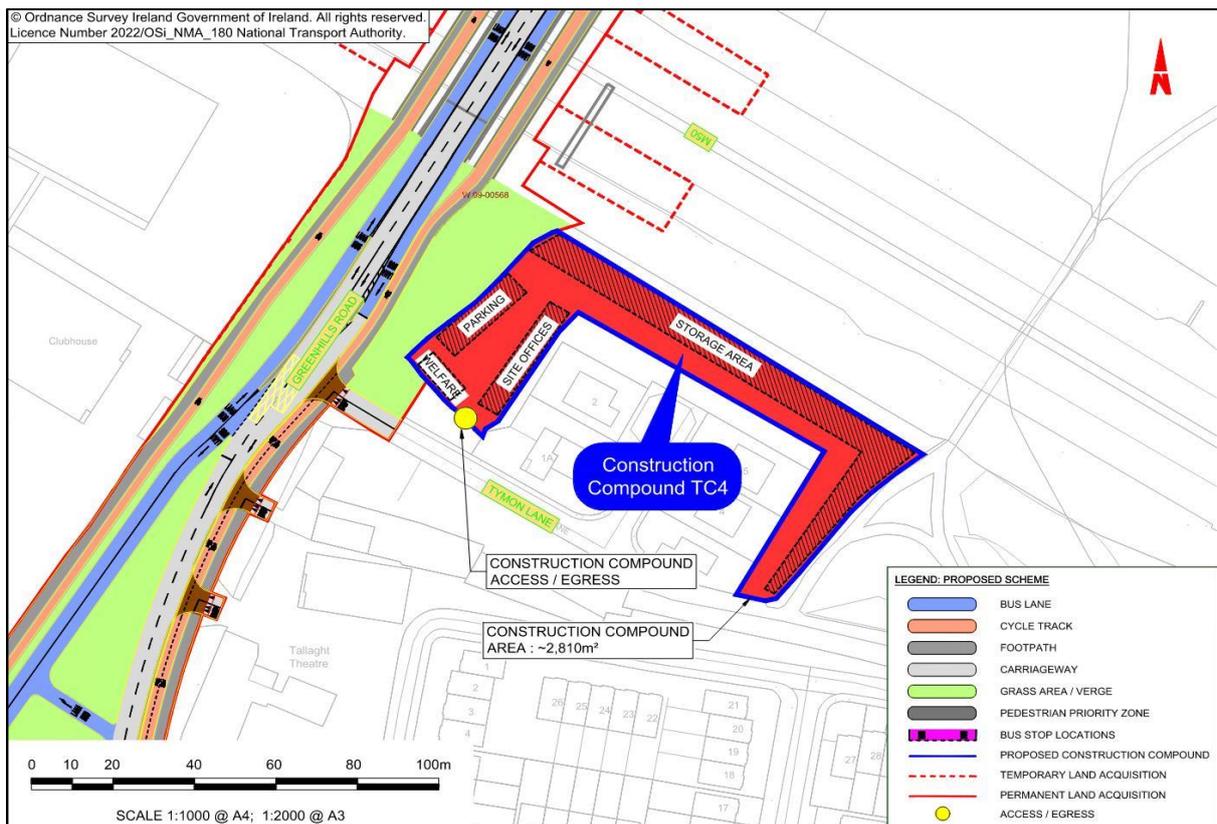


Image 6: Location and Extent of Construction Compound TC5 (Image from EIAR Chapter 5 Construction – report BCIDE-JAC-ENV_UC-0809_XX_00-RP-ES-0005)

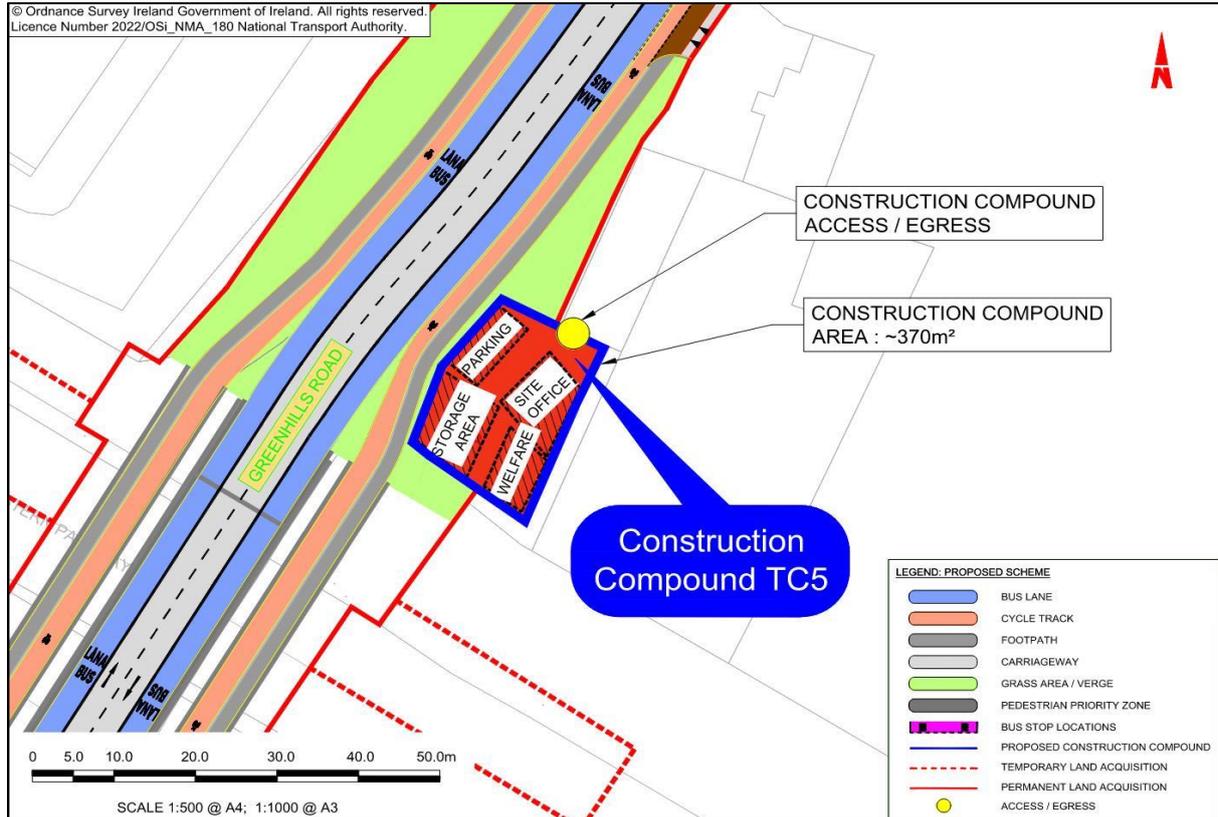


Image 7: Location and Extent of Construction Compound TC6 (Image from EIAR Chapter 5 Construction – report BCIDE-JAC-ENV_UC-0809_XX_00-RP-ES-0005)

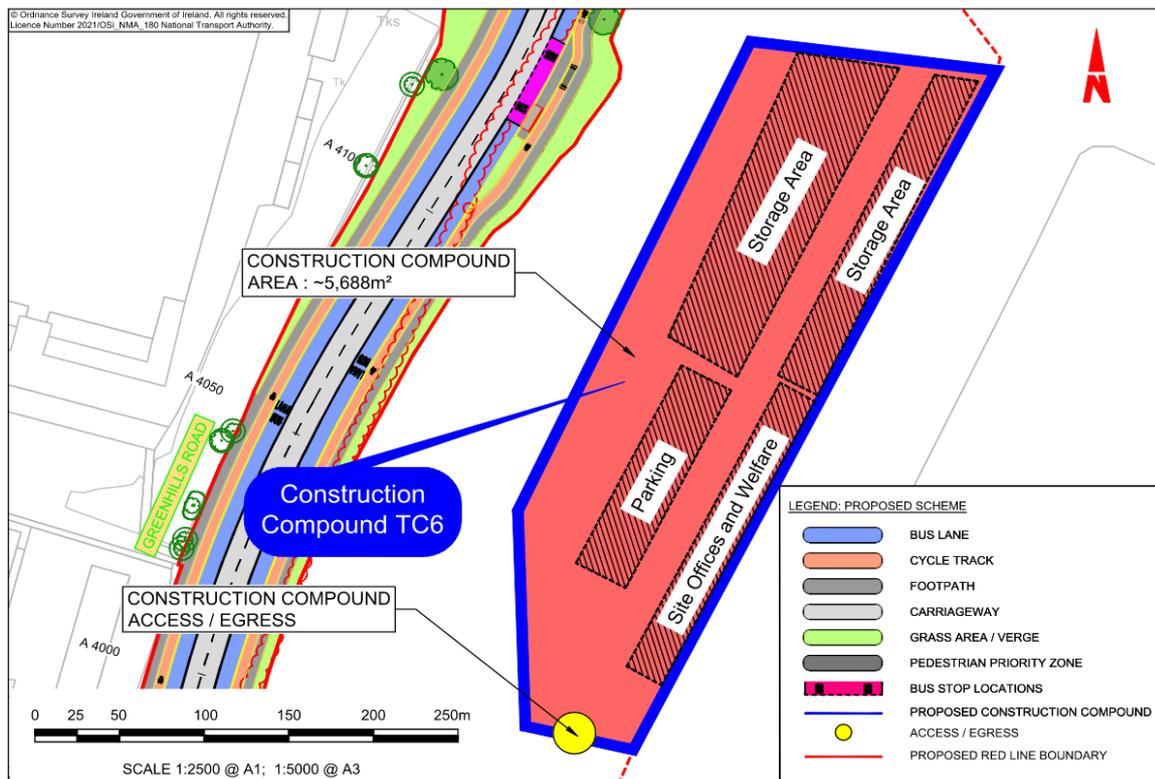


Image 8: Location and Extent of Construction Compound TC7 (Image from EIAR Chapter 5 Construction – report BCIDE-JAC-ENV_UC-0809_XX_00-RP-ES-0005)

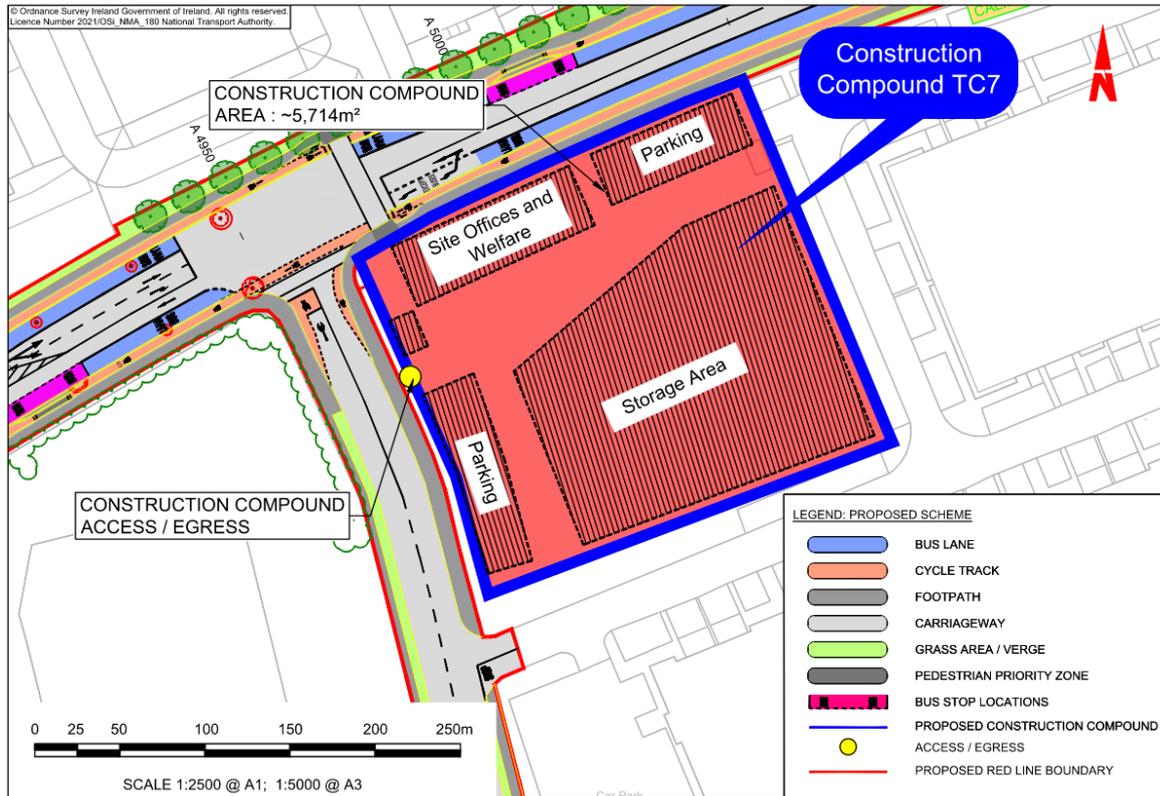


Image 9: Location and Extent of Construction Compound TC8 (Image from EIAR Chapter 5 Construction – report BCIDE-JAC-ENV_UC-0809_XX_00-RP-ES-0005)

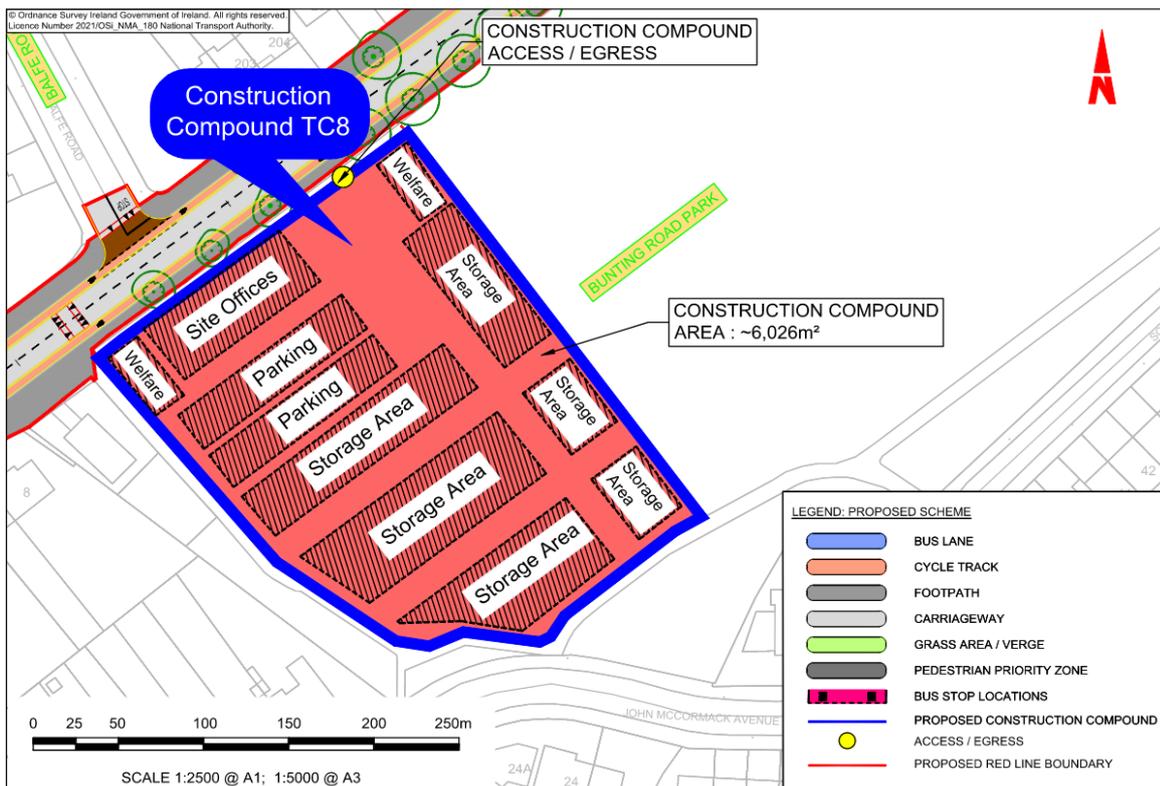
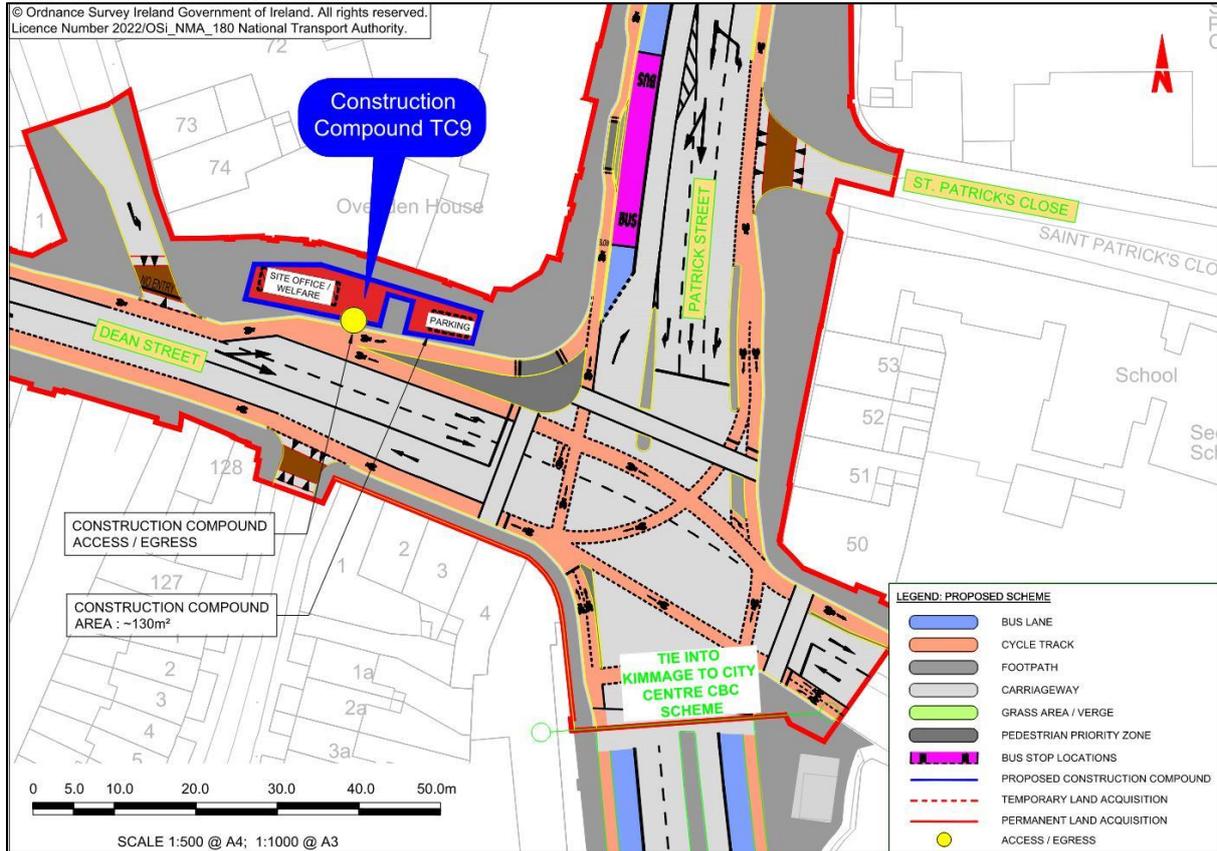


Image 10: Location and Extent of Construction Compound TC9 (Image from EIAR Chapter 5 Construction – report BCIDE-JAC-ENV_UC-0809_XX_00-RP-ES-0005)



3.4 Estimated Construction Phase Duration

45 The duration of the Construction Phase is estimated to be 36 months.

3.5 Operational Phase

46 The main characteristics of the Operational Phase of the Proposed Scheme that have potential for likely significant effects on European sites and their QI / SCI include:

- The presence and operation (traffic) of the road;
- The presence of additional lighting; and
- Routine maintenance.

3.6 Overview of the Receiving Environment

3.6.1 European sites

47 The Proposed Scheme does not overlap with any European site. The nearest European site to the Proposed Scheme is Glenasmole Valley SAC, which is located approximately 2.9km away, as the crow flies.

48 The Proposed Scheme is also hydrologically connected to South Dublin Bay and River Tolka Estuary SPA, as well as South Dublin Bay SAC. These European sites are located approximately 6.5km downstream of the point at which the River Poddle discharges into the Liffey Estuary Upper.

49 There are eight European sites located in Dublin Bay which are downstream of the Proposed Scheme. These sites include South Dublin Bay SAC, North Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC, Dalkey Islands SPA, Howth Head Coast SPA, North Bull Island SPA and South Dublin Bay and River Tolka SPA. European sites will be hydrologically connected to the Proposed Scheme via the River Camac (Camac_040), River Poddle (Poddle_010), Grand Canal, River Dodder (Dodder_040), the Liffey Estuary Upper and Liffey Estuary Lower. In addition, the Rye Water Valley / Carton SAC is located upstream of the Proposed Scheme and is hydrologically connected to the Proposed Scheme via the River Liffey.

50 There are twelve SPAs designated for SCI species that are known to forage and / or roost at inland sites across Dublin City and / or utilise Dublin Bay. These include South Dublin Bay and River Tolka SPA, North Bull Island SPA, Dalkey Islands SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Rockabill SPA, Ireland's Eye SPA, Howth Head Coast SPA, Lambay Island SPA, Malahide Estuary SPA, and The Murrrough SPA.

51 In addition, Rockabill to Dalkey Island SAC and Lambay Island SAC are designated for mobile QI species known to utilise the Dublin Bay and the Liffey Estuary Lower.

52 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 the European sites in the vicinity of the Proposed Scheme are provided in Appendix I.

3.6.2 Habitats

53 The Proposed Scheme is located in a highly urbanised environment. Habitats present in the footprint of the Proposed Scheme include the following:

- Flower beds and borders (BC4);
- Stonewalls and other stonework (BL1);
- Buildings and artificial surfaces (BL3);
- Exposed sand, gravel or till (ED1);
- Spoil and bare ground (ED2);
- Recolonising bare ground (ED3);

- Reed and large sedge swamps (FS1);
- Depositing / lowland rivers (FW2);
- Canals (FW3);
- Drainage ditches (FW4);
- Amenity Grassland (Improved) (GA2);
- Dry meadows & grassy verges (GS2);
- Residential;
- (Mixed) broadleaved woodland (WD1);
- Mixed broadleaved / conifer woodland (WD2);
- Scattered trees and parkland (WD5);
- Hedgerows (WL1);
- Treelines (WL2);
- Scrub (WS1);
- Immature woodland (WS2); and
- Ornamental / non-native shrub (WS3).

54 None of the habitats listed above correspond to Annex I Qualifying Interest habitats.

3.6.3 Flora and Fauna Species

- 55 No records of any Annex II plant species were recorded within the footprint of the Proposed Scheme during field surveys.
- 56 There was one non-native invasive plant species, Japanese knotweed *Reynoutria japonica*, listed on the Third Schedule of the Birds and Habitats Regulations which was identified along the Proposed Scheme. This species was identified in six locations, as summarised in Table 3, only one of which occurred within the proposed red line boundary.

Table 3: Non-native invasive plant species listed on the Third Schedule of the Birds and Habitats Regulations 2011 recorded along or adjacent to the Proposed Scheme

Reference	Species	Location	Within Red Line Boundary (Y / N)
CBC0809IAPS01	Japanese knotweed <i>Reynoutria japonica</i>	Stand along Calmount Road	Y
CBC0809IAPS02	Japanese knotweed <i>Reynoutria japonica</i>	Extensive stand adjacent to Woodies on a greenfield site at the junction of the New Nangor Road (R134) and Killeen Road	N (within temporary landtake boundary- area proposed for Construction Compound TC10)
CBC0809IAPS03	Japanese knotweed <i>Reynoutria japonica</i>	Extensive stand adjacent to Woodies on a greenfield site at the junction of the New Nangor Road (R134) and Killeen Road	N (within temporary landtake boundary- area proposed for

Reference	Species	Location	Within Red Line Boundary (Y / N)
			Construction Compound TC10)
CBC0809IAPS04	Japanese knotweed <i>Reynoutria japonica</i>	Extensive stand adjacent to Woodies on a greenfield site at the junction of the New Nangor Road (R134) and Killeen Road	N (within temporary landtake boundary- area proposed for Construction Compound TC10)
CBC0809IAPS05	Japanese knotweed <i>Reynoutria japonica</i>	Extensive stand adjacent to Woodies on a greenfield site at the junction of the New Nangor Road (R134) and Killeen Road	N (within temporary landtake boundary- area proposed for Construction Compound TC10)
CBC0809IAPS06	Japanese knotweed <i>Reynoutria japonica</i>	Stand along New Nangor Road (R134) along grassy verge	N

- 57 The desk study returned records of a total of 20 species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations across the wider study area (i.e. Grid Squares O02, O03, O12 and O13).
- 58 Records returned within approximately 1km of the Tallaght section of the Proposed Scheme included Indian balsam *Impatiens glandulifera*, Japanese knotweed *Reynoutria japonica*, rhododendron *ponticum*, Spanish bluebell *Hyacinthoides hispanica*, three-cornered garlic *Allium triquetrum*, giant-rhubarb *Gunnera tinctoria*, giant knotweed *Reynoutria sachalinensis*, bohemian knotweed *Reynoutria japonica x sachalinensis = R. x bohémica*, American skunk-cabbage *Lysichiton americanus* and several non-native species associated with aquatic habitats such as the Grand canal (e.g. water fern *Azolla filiculoides*, Nuttall's waterweed *Elodea nuttallii*, Canadian waterweed *Elodea canadensis*, parrot's-feather *Myriophyllum aquaticum*, New Zealand pigmyweed *Crassula helmsii* and curly waterweed *Lagarosiphon major*. Canadian waterweed *Elodea canadensis*, which is also noted from the wider vicinity was delisted as a third schedule species with the introduction of the European Communities (Birds and Natural Habitats) (Amendment) Regulations 2015 (SI 355/2015).
- 59 Records returned within approximately 1km of the Clondalkin section of the Proposed Scheme included Canadian waterweed, giant hogweed *Heracleum mantegazzianum*, Indian balsam, Japanese knotweed, bohemian knotweed and Nuttall's waterweed, which is associated with the Grand Canal.
- 60 The only non-native species recorded within the footprint of the Proposed Scheme was Japanese knotweed (refer to Table 3).

3.6.3.1 Otter

- 61 A desk study found that otter are known to occur within 1km of the Proposed Scheme and across the wider study area, including the River Poddle, River Camac, River Dodder and Grand Canal. Records include a single spraint along the River Poddle, recorded underneath a footbridge in Tymon North Park between April 2018

and April 2019¹⁴. A total of eight signs of otter activity, including four spraints, were recorded on the River Camac during the Dublin City Otter Survey 2019. Spraint and prey remains were recorded along the River Camac, as it flows alongside the R134 New Nangor Road, east of the M50 motorway. A single holt and sprainting post was recorded along the River Camac at Bluebell, approximately 360m north of the Proposed Scheme¹⁴.

- 62 A total of 47 otter signs, including 30 spraints and six holts, were recorded along the River Dodder during the 2019 study¹⁴. At its closest point the Proposed Scheme lies approximately 220m north of the River Dodder. Otter are known to occur along the Grand Canal¹⁵, with a live sighting recorded at Dolphins Barn Bridge in 2014 (NBDC Online database, 2022).
- 63 No signs of otter, an Annex II species, were recorded during surveys within the footprint of the Proposed Scheme during multidisciplinary surveys, including the 2020 aquatic surveys undertaken. No signs of otter were recorded within 150m upstream and downstream of the proposed crossing points of the River Camac and the River Poddle.
- 64 The nearest European site for which this species is designated is the Wicklow Mountains SAC, which is located approximately 5.3km south of the Proposed Scheme. The Proposed Scheme is located within the Liffey and Dublin Bay catchment and the Liffey_SC_090 (Clondalkin section) and Dodder_SC_010 (Tallaght section) subcatchments. The River Liffey, River Dodder and their tributaries are known to support otter. Current guidance in respect of the hydrological distance that territorial otters roam suggests a range of approximately 7.5km for females and 21km for male otters (O'Neill *et al.*, 2009). Therefore, watercourses in proximity to the Proposed Scheme, particularly in its southern extent along the Tallaght section, could potentially be associated with QI populations associated with the Wicklow Mountains SAC. Wicklow Mountains SAC is located within the Dodder_SC_010 subcatchment, within which the Tallaght section of the Proposed Scheme is also located. As such, populations of otter within the footprint of the Proposed Scheme are potentially connected to the SAC population.

3.6.3.2 Marine mammals

- 65 The Proposed Scheme is hydrologically connected to Dublin Bay via the River Camac (Camac_040), Grand Canal, River Poddle (Poddle_010), River Dodder (Dodder_040), the Liffey Estuary Upper and Liffey Estuary Lower.
- 66 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 and harbour porpoise is listed on Annex II of the Habitats Directive. The nearest European site for which harbour seal and grey seal have been designated is Lambay Island SAC located approximately 22.6km from the Proposed Scheme. The nearest European site for which harbour porpoise has been designated is Rockabill to Dalkey Island SAC located approximately 12.2km from the Proposed Scheme.

3.6.3.3 Invertebrates

- 67 During ecological surveys for the Proposed Scheme, a search for species and or suitable supporting habitat was made. Two species included on Annex II list of Habitats Directive, namely marsh fritillary *Euphydryas aurinia* and white-clawed crayfish *Austropotamobius pallipes* were returned from the desktop review of the NBDC online database. The desk study returned records for white-clawed crayfish in the River Liffey, at Leixlip Bridge, approximately 17.7km upstream of the Proposed Scheme's outfall into the Liffey Estuary Upper. They have not been recorded downstream of Leixlip Bridge. Records for white-clawed crayfish also

¹⁴ 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.*

¹⁵ NPWS (2009). *Site Synopsis for Grand Canal pNHA [002104]. 09/12/2009.*

exist for the River Camac, approximately 360m south of the Proposed Scheme in an upstream section of the river. Additional records for this species exist further upstream in the River Camac.

- 68 White-clawed crayfish were recorded during aquatic surveys carried out in suitable aquatic habitats along the Proposed Scheme in 2020. White-clawed crayfish were recorded in low densities at in the River Camac at CBC0809AR001, where two male crayfish were identified. White-clawed crayfish were recorded in moderate densities approximately 0.8km further downstream at CBC0809AR002, where eight crayfish (including males, females and juveniles) were recorded¹⁶. It should be noted that the nearest European site designated for white-clawed crayfish is the River Barrow and River Nore SAC, which is located approximately 42km south-west of the Proposed Scheme in the River Barrow catchment, River Nore catchment and River Ballyteigue-Bannow catchment.
- 69 There were no records of marsh fritillary from within the footprint of the Proposed Scheme. Desk study records in the wider area were largely historical (pre-1980s). Recent records for marsh fritillary were identified approximately 1.3km north-west of the Proposed Scheme near Arbour Hill in 2019 and in Clontarf in 2020 (NBDC Online database 2022). Recent records (2019) for this species also exist for North Bull Island, approximately 8km north-east from the Proposed Scheme (NBDC Online database, 2022). Marsh fritillary are restricted to habitats containing a low, open sward with abundant devil's-bit scabious *Succisa pratensis* including sand dunes, calcareous grassland, fens, raised and blanket bogs, upland heaths and grasslands. Neither devil's-bit scabious nor these habitats were recorded within the footprint of the Proposed Scheme.

3.6.3.4 Kingfisher

- 70 The desk study found that kingfisher *Alcedo atthis*, an Annex I bird species, are known to occur within 1km of the Proposed Scheme and across the wider study area (NBDC Online database, 2022). Kingfisher are known to occur on the River Camac¹⁷. The River Liffey is known to support a population of kingfisher¹⁸ and there are also records of kingfisher on the Grand Canal, which is traversed by the Proposed Scheme at Dolphin's Barn¹⁹.
- 71 Habitat suitability assessment surveys carried out in October 2020 recorded suitable habitat for nesting kingfisher within 500m of the proposed crossing point of the River Camac. A number of overhanging trees along the River Camac were considered to have some roosting/fishing potential for kingfisher, however, the riverbanks are largely overgrown or reinforced with cement. There are also high levels of disturbance along the River Camac from traffic and dogs. No habitat suitable to support nesting kingfisher was recorded at the River Poddle crossing point.
- 72 Kingfisher were not recorded during multidisciplinary surveys or habitat suitability surveys within the footprint of the Proposed Scheme. The nearest European site for which this species is designated is River Boyne and River Blackwater SPA, which is located approximately 40.3km from the Proposed Scheme and lies within a separate catchment. Kingfisher populations within close proximity to the Proposed Scheme are not deemed to be SCl species.

3.6.3.5 Birds

- 73 The desk study returned records of three breeding gull species within 300m of the Proposed Scheme which may use inland amenity grassland feeding sites including black-headed gull *Chroicocephalus ridibundus*, herring gull *Larus argentatus* and lesser black-backed gull *Larus fuscus*.

¹⁶ Triturus Environmental Ltd. (2020). *Aquatic baseline report for the BusConnects Dublin – Core Bus Corridor Infrastructure Works*. Prepared by Triturus Environmental Ltd. for Scott Cawley. December 2020.

¹⁷ Friends of the Camac- *Flora and Fauna* <https://fotc.ie/flora-and-fauna> [Accessed 07/07/2022]

¹⁸ DCC (2015) *Dublin City Biodiversity Action Plan 2015-2020*.

¹⁹ FERS Ltd. (2018). *Ecological survey of Clonburris Strategic Development Zone, Clondalkin, Co. Dublin*.

- 74 The desk study returned records of a total of 44 regularly occurring wintering bird species across the study area (i.e., Grid Squares O03 and O13). Records included 9 species listed under Annex I of the Birds Directive, 32²⁰ SCI species and an additional 2 Red Listed and 1 Amber Listed species. This includes 30 species with breeding and wintering populations.
- 75 The majority of wintering birds identified in the desk study are typically found in coastal, estuarine and intertidal habitats including the Liffey Estuary and Dublin Bay. A desk review of lands surrounding the Proposed Scheme returned records of several SCI wintering bird species which may use inland amenity grassland feeding sites, including light-bellied Brent goose, oystercatcher, curlew, black-headed gull, herring gull, lesser black-backed gull, lapwing and golden plover.
- 76 Five separate locations along the Proposed Scheme were surveyed for wintering birds between November 2020 and March 2021 and October 2021 and March 2022; amenity grassland sections along R819 Greenhills Road to the west of the M50 (referred to as CBC0809WB001); grassland area adjacent to Templewoods residential area off R819 Greenhills Road (referred to as CBC0809WB002); Tymon Park (referred to as CBC0809WB003); amenity grassland along Calmount Road (referred to as CBC0809WB004); and amenity grassland at Bunting Park (referred to as CBC0809WB005).
- 77 A total of 21 wintering bird surveys were carried out for the Proposed Scheme at the five locations described above (e.g. CBC0809WB001, CBC0809WB002, CBC0809WB003, CBC0809WB004 and CBC0809WB005). Species identified included herring gull, black-headed gull, common gull, Mediterranean gull, grey heron, oystercatcher, light-bellied Brent goose and lesser black-backed gull. A single dropping, attributed to light-bellied brent goose was recorded during surveys undertaken. This dropping was recorded within the transect area surveyed in Bunting Park (CBC0809WB005) on 9 February 2021. Table 4 provides a summary of the findings of the winter bird surveys with respect to those species which are of highest conservation concern and were recorded within winter bird survey sites.

Table 4: Wintering birds of Conservation Concern recorded during the wintering bird surveys (2020-2021 and 2021-2022 seasons)

Common Name/Scientific Name/BTO Code	Site: Peak Count and Activity in the Study Area (Date)	Conservation Importance			Surveyor Observations outside of transect
		BoCCI (B – Breeding/W - Wintering)	Annex I	SCI	
CBC0809WB001- Amenity Grassland along R819 Greenhills Road (west of M50)					
Grey heron <i>Ardea cinerea</i> (H.)	1 bird loafing on site (06/10/2021)	Green	-	✓	N/A
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	3 birds loafing on site (06/10/2021)	Amber (B/W)	-	✓	N/A
Herring gull <i>Larus argentatus</i> (HG)	5 birds loafing on site (18/01/2022)	Amber (B/W)	-	✓	N/A
CBC0809WB002- Templewoods Grassland					
Herring gull <i>Larus argentatus</i> (HG)	2 birds foraging on site (21/12/2021)	Amber (B/W)	-	✓	N/A
CBC0809WB003- Tymon Park					
Light-bellied brent goose <i>Branta bernicla hrota</i> (BG)	No birds observed for transect	Amber (W)	-	✓	45 birds feeding on football pitch near transect (24/11/2021)

²⁰ Note that some species listed on the Annex I of the Birds Directive are also SCI species.

Common Name/Scientific Name/BTO Code	Site: Peak Count and Activity in the Study Area (Date)	Conservation Importance				Surveyor Observations outside of transect	
		BoCCI (B – Breeding/W - Wintering)	Annex I	SCI			
Oystercatcher <i>Haematopus ostralegus</i> (OC)	2 birds flying north-west over site (18/01/2022)	Red (B/W)	-	✓		N/A	
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	1 bird flying east over site (09/11/2021)	Amber (B/W)	-	✓		N/A	
Lesser back-backed gull <i>Larus fuscus</i> (LB)	N/A	Amber (B/W)	-	✓	One bird flying over transect (22/02/2021)		
CBC0809WB004- Calmount Road Amenity Grassland							
Herring gull <i>Larus argentatus</i> (HG)	6 birds foraging on site (08/03/2022)	Amber (B/W)	-	✓		N/A	
Lesser back-backed gull <i>Larus fuscus</i> (LB)	1 bird loafing on site (29/03/2022)	Amber (B/W)	-	✓		N/A	
CBC0809WB005- Bunting Park							
Light-bellied brent goose <i>Branta bernicla hrota</i> (BG)	No birds observed for transect, but one dropping recorded (09/02/2021)			Amber (W)	-	✓	N/A
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	73 birds foraging on site (01/02/2022)	Amber (B/W)	-	✓		N/A	
Herring gull <i>Larus argentatus</i> (HG)	9 birds foraging on site (26/10/2021)	Amber (B/W)	-	✓		N/A	
Common gull <i>Larus canus</i> (CM)	15 birds loafing on site (11/01/2022)	Amber (B/W)	-	✓		N/A	
Mediterranean gull <i>Larus melanocephalus</i> (MU)	CBC0809WB005: One bird feeding within transect (09/03/2021)			Amber (B)	✓	-	N/A

78 Wintering bird activity was low across all visits. Table 5 compares peak counts identified across surveys to their national and international populations.

Table 5: Wintering bird species recorded during wintering bird surveys in comparison to the 1% of its International and National Populations

Common Name/Scientific Name/BTO Code	Site Peak Counts	Associated European sites within the Zol	1% of International Population	1% of National Population
Common gull <i>Larus canus</i> (CM)	15	-	16,400	n/a
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	73	South Dublin Bay and River Tolka Estuary SPA North Bull Island SPA The Murrough SPA	31,000	n/a
Herring gull <i>Larus argentatus</i> (HG)	9	Ireland's Eye SPA Lambay Island SPA Skerries Islands SPA	14,400	n/a

Common Name/Scientific Name/BTO Code	Site Peak Counts	Associated European sites within the Zol	1% of International Population	1% of National Population
Lesser back-backed gull <i>Larus fuscus</i> (LB)	1	-	5,500/ 6,300	n/a
Oystercatcher <i>Haematopus ostralegus</i> (OC)	2	South Dublin Bay and River Tolka Estuary SPA Malahide Estuary SPA North Bull Island SPA Rogerstown Estuary SPA	8,200	610
Grey heron <i>Ardea cinerea</i> (H.)	1	-	5,000	25
Mediterranean gull <i>Larus melanocephalus</i> (MU)	1	N/A	2,400	n/a
Light-bellied Brent goose <i>Branta bernicla hrota</i> (BG)	N/A (single dropping recorded in CBC0809WB005)	South Dublin Bay and River Tolka Estuary SPA Baldoyle Bay Malahide Estuary SPA North Bull Island SPA Rogerstown Estuary SPA Skerries Islands SPA The Murrrough SPA	400	350

- 79 A review of a study into light-bellied Brent goose inland feeding sites⁸ has identified no known SPA wintering bird feeding sites in the footprint of the Proposed Scheme. However, there are six known inland wintering bird feeding sites within approximately 300m of the Proposed Scheme i.e., the disturbance Zol²¹. These sites include Tymon Park (major importance); Beechfield Road Sports Grounds Walkinstown (high importance); Pearse Memorial Park Crumlin (high importance); Clonmacnoise Roundabout / Crumlin (major importance); Synge St. GAA Pitches / Crumlin (major importance); and Brickfields Park / Crumlin (high importance). No droppings attributed to light-bellied Brent goose were recorded in any of the sites surveyed for the Proposed Scheme, indicating that these sites are not significant for this SCI species.
- 80 The desk study returned records of peregrine falcon *Falco peregrinus* and merlin *Falco columbarius*, two raptor species for which Wicklow Mountains SPA is designated, from within the wider vicinity of the Proposed Scheme. Records for peregrine exist for the Liffey Valley Park (Waterstown) area (Grid Ref: O0835) (2011) and Oblate Park area (Grid Ref: O1133) (2016), as well as the wider O13 10km grid square. Merlin is known to occur in the O03 10km grid square.
- 81 A number of SPAs have been included on a precautionary basis for assessment as it cannot with certainty be confirmed that their Special Conservation Interest species do not use areas in the vicinity of the Proposed Scheme as *ex-situ* habitat.

²¹ 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. - 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.

3.6.4 Hydrology

- 82 The Proposed Scheme is hydrologically connected to Dublin Bay via the River Camac (Camac_040), Grand Canal, River Poddle (Poddle_010), the Liffey Estuary Upper and Liffey Estuary Lower.
- 83 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 6.

Table 6: 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
River Camac (Camac_040)	Three existing crossing points – under New Nangor Road (R134) to the west of the M50, under the New Nangor Road (R134) at Oak Road Business Park and under the Naas Road (R810). Runs parallel to the Proposed Scheme for much of the Clondalkin – Drimnagh section.	Q3 Riversdale Estate Bridge, Camac – Orchard and just downstream Clondalkin bridge, Camac – Kylemore Road bridge, Camac Close Emmet Road Poor 'At risk'	It enters the Liffey Estuary Upper (classified as "Potentially Eutrophic") adjacent to Heuston Station. It then enters the Liffey Estuary Lower transitional waterbody (classified as "Intermediate") at Custom House Quay, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
Grand Canal	One existing crossing point- at Dolphins Barn bridge. Lies adjacent to the Proposed Scheme at Yellowmeadows in the western extent of the Clondalkin section.	Q-Value Score not applicable Good 'Not at risk'	It flows into the Liffey Estuary Lower transitional waterbody (classified as "Intermediate") at Grand Canal Dock, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
River Poddle (Poddle_010)	Two existing crossing points - at Bancroft Park and under Sant Luke's Avenue (R110) in the City Centre where the river is culverted.	Q3 The Priory, Kimmage Road Poor 'At risk'	It flows under the Proposed Scheme in Tallaght and then continues flowing to the east of the Proposed Scheme, until it flows into the Liffey Estuary Upper at Usher's Quay (classified as "Potentially Eutrophic"). It then enters the Liffey Estuary Lower transitional waterbody (classified as "Intermediate") at Custom House Quay, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").

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 Upper	Hydrologically connected to the Proposed Scheme via the River Poddle.	Q-Value Score not applicable Good 'At risk'	It flows into the Liffey Estuary Lower transitional waterbody (classified as "Intermediate") at Custom House Quay, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
Liffey Estuary Lower	Hydrologically connected to the Proposed Scheme via the Liffey Estuary Upper and Grand Canal.	Q-Value Score not applicable Good 'At risk'	The Liffey Estuary Lower transitional waterbody (classified as "Intermediate") at Custom House Quay and Grand Canal Dock ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
Dublin Bay	Hydrologically connected to the Proposed Scheme via the Grand Canal and Liffey Estuaries (Upper and Lower)	Q-value score N/A Good 'Not at Risk'	N/A

3.6.5 Hydrogeology

- 84 The Geological Survey of Ireland (GSI) data indicates that underlying aquifer is a Locally Important Aquifer-Bedrock which is Moderately Productive only in Local Zones, and that the bedrock formation 1:500k underlying the Proposed Scheme is "*Dark-grey argillaceous & cherty limestone and shale (Calp)*".
- 85 The Proposed Scheme overlies one ground waterbody, namely the Dublin ground waterbody. Environmental data sourced from the EPA for this ground waterbody is presented below:

Dublin Groundwater Body

- The groundwater body it is ranked as being 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*".
- 86 The vulnerability of the Dublin ground waterbody to human activities largely ranges from "Rock at or Near Surface", "Extreme", "High", "Moderate" to "Low" within the footprint of the Proposed Scheme.

3.6.6 Soils & Geology

- 87 The 1:100,000 GSI bedrock geology map of the area indicates that the underlying bedrock along the Proposed Scheme is underlain by the Lucan Formation comprising Carboniferous Limestones. The majority of the Dublin City area was a deep marine basin known as the Dublin Basin where these sedimentary rocks were deposited.

88 The GSI Quaternary subsoils map shows the footprint of the Proposed Scheme is predominantly underlain by made ground. Additionally, there are areas of alluvial deposits, tills and gravels. The majority of the soils expected to be encountered within the study area are made ground comprising varying forms of hard standing materials including road pavements and footpaths. However, there are topsoil and other soils present within the study area.

3.7 Assessment of Potential Effects on European Sites

89 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.

90 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.

91 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; and
- Disturbance and displacement impacts.

3.7.1 Habitat loss and fragmentation

92 The Proposed Scheme does not overlap with any European site. The nearest European site to the Proposed Scheme is Glenasmole Valley SAC, which is located 2.9km away, as the crow flies. The nearest European site with a hydrological connection to the Proposed Scheme is also Glenasmole Valley SAC, which lies approximately 3.9km upstream of the Proposed Scheme. The next nearest European sites are South Dublin Bay SAC which is located approximately 6.5km downstream of the Proposed Scheme as is South Dublin Bay and River Tolka Estuary SPA. Therefore, there is no potential for direct habitat loss and fragmentation to occur as a result of the Proposed Scheme. Habitat loss may 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 section 3.7.2 below.

93 Special Conservation Interest (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. Malahide Estuary SPA, Baldoyle Bay SPA, North Bull Island SPA, South Dublin Bay and River Tolka SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA and The Murrough SPA).

94 Five potential inland feeding sites within the footprint of the Proposed Scheme were surveyed to inform this assessment- CBC0809WB001, CBC0809WB002, CBC0809WB003, CBC0809WB004 and CBC0809WB005. Sections of CBC0809WB001, composed of stretches of amenity grassland along R819 Greenhills Road, will be lost, as a result of the construction of the Proposed Scheme. Construction Compound TC3 is proposed for an area of grassland between R819 Greenhills Road and Treepark Road. In addition, amenity grassland between R819 Greenhills Road and Birchview Avenue will be lost to facilitate the installation of a proposed cycle track and bus route. and another area of grassland will be lost to accommodate proposed SUDs features between R819 Greenhills Road and Tymonville Crescent. Low numbers of herring gull, black-headed gull and a single heron were recorded during winter bird surveys at CBC0809WB001.

- 95 Construction Compound TC6 is proposed for an area within Tymon Park (CBC0809WB003) north-east of the M50. In addition, permanent land take at the edge of this site will also be required to accommodate proposed pedestrian and cyclist infrastructure. One black-headed gull, two oystercatchers and one lesser black-backed gull were recorded flying over this site during winter bird surveys undertaken. A flock of 45 light-bellied brent geese were observed foraging on pitches close to the survey area also. Low numbers of herring gull and lesser black-backed gull were also recorded at Calmount Road (CBC0809WB004), where Construction Compound TC7 is proposed for the duration of construction. Finally, Construction Compound TC8 is proposed at Bunting Park (CBC0809WB005), where flocks of black-headed gull, herring gull and common gull were recorded, as well as a single Mediterranean gull, during winter bird surveys undertaken. A single goose dropping was also recorded here on 9 February 2021.
- 96 The provision of Construction Compounds TC3, TC6, TC7 and TC8, to facilitate nearby construction works, will result in the temporary loss of suitable wintering bird habitat for the duration of construction of the Proposed Scheme. According to the data collected at these sites during winter bird surveys undertaken during both the 2020-2021 and 2021-2022 winter bird season, none of these sites are deemed to be significant inland foraging resources for wintering birds, given the low numbers, with respect to their national or international populations, of birds recorded here. Regardless, the Proposed Scheme will result (for the duration of the construction period) in the loss of a suitable inland feeding site for these SCI bird species. Therefore, there is potential for impacts on SCI species associated with SPAs to occur as a result of habitat loss / fragmentation. Therefore, there is potential for in-combination effects to occur.
- 97 Regarding the two raptor species for which Wicklow Mountains SPA are designated, according to the Scottish Natural Heritage Guidance²² during the breeding season the core foraging range for peregrine is estimated at 2km from the nest site, with the maximum recorded distance of 18km in Britain. During the winter season the mean foraging range reduces to 3km with the maximum range being 6.5km. Likewise, during the breeding season merlin are known to forage within 5km of the nest site, while in winter this generally reduces to 500m but can extend to 1.5km. Wicklow Mountains SPA lies approximately 7.3km south-east of the Proposed Scheme, which is well outside the typical foraging ranges for both peregrine and merlin. Therefore, likely significant effects on these two SCI bird species, as a result of *ex-situ* habitat loss / fragmentation, can be excluded.
- 98 With the exception of otter, the location of the Proposed Scheme and its construction will not result in any direct loss or fragmentation of Annex I habitats or supporting habitats to Annex II species, for which European sites are designated for within the ZoI of the Proposed Scheme. In terms of otter, while the Proposed Scheme does cross the River Camac at Oak Road Business Park, it does so at an existing crossing location within which the river is culverted. In-combination effects with the Camac Flood Relief Scheme will comprise the extension of twin culverts, the demolition of the existing concrete headwall, and its replacement with a new pre-cast concrete headwall at this location.

3.7.2 Habitat degradation / effects on QI / SCI species as a result of hydrological impacts

- 99 The Proposed Scheme has the potential to result in habitat degradation / effects on QI / SCI species as a consequence of hydrological impacts during the both the construction and operation phases. 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, which in turn can affect any species which utilise this aquatic environment. Otter use riparian habitats for foraging and commuting purposes and therefore would be potentially at risk of hydrological impacts. Wicklow Mountains SAC, which is located approximately 5.3km south of the Proposed Scheme, is the closest European site for which otter is the QI species. Typically, otter territories are within the range of 7.5km for females and up to 21km for males (Ó'Neill *et al.*, 2009). The Proposed Scheme interacts with the following watercourses: River Poddle, River Camac, Grand Canal, River Dodder

²² Scottish Natural Heritage (SNH) (2016) *Assessing Connectivity with Special Protection Areas (SPAs)*. June 2016 Version 3.

(through the construction of Construction Compound TC4 and associated potential contaminated run-off), Liffey Estuary Upper and Liffey Estuary Lower. Whilst these watercourses lie within the typical territorial ranges of otters, only the River Dodder (Dodder_040) shares a hydrological connection to the Wicklow Mountains SAC. The Tallaght section of the Proposed Scheme also lies within the same subcatchment as Wicklow Mountains SAC (Dodder_SC_010 subcatchment). Therefore, there is potential for otter associated with the Wicklow Mountains SAC to move downstream and to come within the Zol of the Proposed Scheme. A reduction in water quality as a result of an accidental pollution event (either alone or in combination with other pressures on water quality) however could result in the degradation of the local aquatic environment, which could in turn negatively affect the otter population through direct contact with pollutants or a decline in fish prey. Notwithstanding the limited interaction between Construction Compound TC4 and the River Dodder, habitat degradation / effects on the QI otter population for Wicklow Mountains SAC, as a result of hydrological impacts by the Proposed Scheme, cannot be discounted.

- 100 The remaining QIs for the SAC, namely: Oligotrophic water containing very few minerals of sandy plains (Littorelletalia); Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoteo-Nanojuncetea; Natural dystrophic lakes and ponds; Northern Atlantic wet heaths with *Erica tetralix*; European dry heaths; Alpine and Boreal heaths; Calaminarian grasslands of the Violetalia calaminariae; Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)*; Blanket Bogs (*if active bog); Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani); Calcareous rocky slopes with chasmophytic vegetation; and Old sessile oak Woods with *Ilex* and *Blechnum* in the British Isles do not occur within the Zol of the Proposed Scheme. These habitats are located upstream of the Proposed Scheme and will not be subject to any hydrological impacts as a result of the Proposed Scheme.
- 101 In addition, the Proposed Scheme is hydrologically connected to Dublin Bay via the River Camac (Camac_040), River Poddle (Poddle_010), Liffey Estuary Upper and Liffey Estuary Lower, as well as a network of established combined sewer / surface water pipes which discharge via Ringsend WwTP. The potential 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 potential 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 contaminants into receiving waters. This occurrence could happen at any time during construction but could potentially be exacerbated by the removal of vegetation. It should be noted that a highly substantial event / events would be required to generate such quantities, which is not deemed likely. In the absence of mitigation, the associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the discharge point or location of the accidental pollution event. Such an occurrence, of a sufficient magnitude, either alone or in combination with other pressures on water quality, could undermine the conservation objectives of the European sites downstream in Dublin Bay (i.e. 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).
- 102 The QI habitats for which Howth Head SAC is designated (i.e. vegetated sea cliffs [1230] and European dry heaths [4030]) lie above the high water mark. Pollution is not regarded to be a threat or pressure which could potentially impact this SAC (NPWS, 2021d)²³ and is not regarded to be a significant threat / pressure to this habitat at a national level (Barron *et al.*, 2011)²⁴. Therefore, the QI habitats of Howth Head SAC will

²³ NPWS (2021d). *Natura 2000- Standard Data Form - Howth Head SAC [000202]*. Updated 12-2021.

²⁴ Barron, S.J., Delaney, A., Perrin, P.M., Martin, J.R. & O'Neill, F.H. (2011). *National survey and assessment of the conservation status of Irish sea cliffs. Irish Wildlife Manuals No. 53*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.

be unaffected by a degradation in the surface water quality of the coastal waters of Dublin Bay and significant effects in that regard can be excluded.

103 In a potential worst case scenario, 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 marine mammal species that commute, forage and loaf in Dublin Bay i.e. birds associated with Skerries Islands SPA, Rockabill SPA, Lambay Island SPA, Ireland's Eye SPA, North Dublin Bay SPA, South Dublin Bay and River Tolka Estuary SPA, Baldoyle Bay SPA, Malahide Estuary SPA, Rogerstown Estuary SPA, Dalkey Islands SPA and The Murrrough SPA, as well as marine mammals associated with Rockabill to Dalkey Island SAC and Lambay Island 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 downstream, which in turn could 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. In a worst-case scenario these potential impacts could occur to such a degree that the conservation objectives of the Skerries Islands SPA, Rockabill SPA, Lambay Island SPA, Ireland's Eye SPA, North Dublin Bay SPA, South Dublin Bay and River Tolka Estuary SPA, Baldoyle Bay SPA, Malahide Estuary SPA, Rogerstown Estuary SPA, Dalkey Islands SPA, The Murrrough SPA, Rockabill to Dalkey Island SAC and Lambay Island SAC are undermined.

104 As the Proposed Scheme has the potential to result in habitat degradation and effects on SCI bird species and QI marine mammal species associated with European sites located in Dublin Bay, as the result of hydrological impacts, there is the potential for in combination effects to occur.

3.7.3 *Habitat degradation as a result of hydrogeological impacts*

105 Groundwater levels in groundwater dependant habitats may be impacted by the removal of a proportion of an aquifer or dewatering activities associated with excavations which can lead to a temporary change in groundwater levels and flow within the aquifer. Likewise, the mobilisation of contaminants into the aquifer either through accidental spillage or disturbance of contaminated ground during excavation may reduce the quality of the groundwater within the aquifer, also resulting in the degradation of groundwater dependent terrestrial ecosystem and any species that they may support.

106 The potential for hydrogeological impacts are highly variable depending on 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 hydrogeology specialists.

107 As the Proposed Scheme does not have the potential to result in habitat degradation of the Qualifying Interest species / Special Conservation Interest supporting habitat of a European site as the result of hydrogeological impacts there is no potential for in combination effects to occur in that regard.

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

108 Six areas of Japanese knotweed, a species listed on the Third Schedule of the (Birds and Natural Habitats) Regulations 2011), are present within, or in close proximity to, the Proposed Scheme. Four of these areas of Japanese knotweed were recorded in an area of scrub and unmanaged grassland between the R134 New Nangor Road and Killeen Road. Construction Compound TC10 is proposed in this area. In the absence of mitigation, there is potential for this species 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, in particular those habitats not permanently or regularly inundated by seawater, potentially outcompeting other native species and affecting species compositive and physical structure of the habitat. Therefore, it is possible that the spread / introduction of non-native invasive species could undermine the conservation objectives of these European sites.

109 It is not considered possible that the listed non-native invasive species could spread to European sites that are located a considerable distance from the outfall locations of the River Camac, Poddle River, Grand Canal, Liffey Estuary Upper and Liffey Estuary Lower and separated by a large marine waterbody (i.e. Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC, Lambay Island SAC, Ireland's Eye SPA, The Murrough SPA and Dalkey Islands SPA).

110 As 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 non-native invasive species, there is the potential for in combination effects to occur in association with other activities / plans / projects.

3.7.5 *Habitat degradation as a result of air quality impacts*

111 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 may lead to a 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_x, NO₂), volatile organic compounds (VOCs), particulate matter (PM), heavy metals (HM) and ammonia (NH₄) 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.

112 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 from the Proposed Scheme boundary during the Operational Phase. There are no European sites present within these distances.

113 As such the Proposed Scheme does not have the potential to result in habitat degradation of the Qualifying / Special Conservation Interest species / habitats of any European sites, as a result of air quality impacts, during either the Construction or Operational Phase of the Proposed Scheme. There is, therefore, no potential for in combination effects to occur in that regard.

3.7.6 *Disturbance and displacement impacts*

114 A temporary and / or permanent increase in noise, vibration and / or human activity levels during the Construction Phase of the Proposed Scheme could result in the disturbance to and / or displacement of fauna species present within the vicinity of the Proposed Scheme. For mammal species such as otter, disturbance effects would not be expected to extend beyond 150m²⁵. For wintering birds, disturbance effects would not be expected to extend beyond a distance of approximately 300m²⁶, as noise levels associated with general construction activities would attenuate to close to background levels at that distance. There are no European sites within the disturbance Zol of the Proposed Scheme.

²⁵ This is consistent with Transport Infrastructure Ireland (TII) guidance (Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes (2006) and Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes (2005)) 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.

²⁶ 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 approximately 300m, typical noise levels associated with construction activity (BS 5228) are generally below 60dB or, in most cases, are approaching the 50dB threshold.

- 115 There are a number of coastal 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, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA and Lambay Island SPA, as well as The Murrough SPA (a distant site outside the typical 20km range but nonetheless supporting Brent Geese and a number of other SCI species that are recorded from Dublin Bay). Suitable inland foraging / roosting sites, which these bird species utilise, are located within the potential Zol of the Proposed Scheme (See Section 2.5.2.3). Therefore, there is potential for the Proposed Scheme to result in disturbance / displacement impacts on SCI populations associated with European sites.
- 116 Regarding the raptor species, for which Wicklow Mountains SPA are designated (e.g. merlin and peregrine), a study by Ruddock & Whitfield²⁷, which included a review of previous studies in this area, offers no definitive distance after which disturbance to merlin is not significant but indicates that an upper limit of 300-500m may be sufficient in the case of breeding or nesting merlin. Likewise a distance of 500-750m is likely to be sufficient for breeding peregrines. Adopting a precautionary approach, based on the available data regarding disturbance distances for merlin and peregrine, it can be concluded that disturbance to these bird species would be most likely to occur within 1km (i.e. the disturbance Zol is 1km). There are no European sites within the disturbance Zol; the next nearest European site (Wicklow Mountains SPA) to the Proposed Scheme is 4.3km away. There are also no habitat areas within the disturbance Zol of the Proposed Scheme that support populations of the SCI species for which Wicklow Mountains SPA is designated. Considering the above, there is no potential for the Proposed Scheme to result in disturbance / displacement impacts on the SCI species for which Wicklow Mountains SPA is designated.²⁸
- 117 Although no signs of kingfisher were recorded during field surveys of the Proposed Scheme, kingfisher, an Annex I bird species, is known to be present in the wider study area, in particular, along the River Camac and the Grand Canal. Any kingfisher populations which are present in the vicinity of the Proposed Scheme are not considered to be associated with the SCI populations of any European site. Kingfisher territories can extend over approximately 3-5km of a river catchment²⁹. The nearest SPA for which kingfisher has been designated is the River Boyne and Blackwater SPA, which is located approximately 40.3km away. Therefore, kingfisher present in the vicinity of the Proposed Scheme are not associated with an SPA population.
- 118 Although no signs of otter were recorded during multidisciplinary field surveys of the Proposed Scheme, the River Dodder, River Camac and the Grand Canal are known to support otter, an Annex II and IV mammal species. The nearest SAC to the Proposed Scheme for which otter has been designated is Wicklow Mountains SAC which is located approximately 5.3km south of the Proposed Scheme. Research carried out by Ó'Néill *et al.* (2009) on ranging behaviours of otter on river systems in Ireland found that female otter ranges averaged 7.5km while male otter home ranges varied up to 21km.). The Proposed Scheme interacts with the following watercourses: River Poddle, River Camac, Grand Canal, River Dodder (through the construction of Construction Compound TC4 and associated contaminated run-off), Liffey Estuary Upper and Liffey Estuary Lower. Whilst these watercourses lie within the typical territorial ranges of otters, only the River Dodder (Dodder_040) shares a hydrological connection to the Wicklow Mountains SAC. The Tallaght section of the Proposed Scheme also lies within the same subcatchment as Wicklow Mountains

²⁷ Ruddock, M. & Whitfield, D.P. (2007). *A Review of Disturbance Distances in Selected Bird Species*. A report from Natural Research Projects) Ltd. to Scottish Natural Heritage. Available at: <https://www.nature.scot/sites/default/files/2018-05/A%20Review%20of%20Disturbance%20Distances%20in%20Selected%20Bird%20Species%20-%20Natural%20Research%20Ltd%20-%202007.pdf> [Accessed 24/05/2022]

²⁸ There is a need to consider use of habitat areas outside of an SPA by SCI bird species where they support the SCI populations and the site's conservation objectives. These habitat areas can comprise alternative roosting sites, foraging areas, staging grounds or migration routes and can, but not necessarily exclusively, be situated within the immediate hinterland of the SPA, or in areas ecologically connected to it.

²⁹ RSPB. *Kingfisher breeding, feeding and territory webpage*. Available from: <https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/kingfisher/breeding-feeding-territory/>

SAC (Dodder_SC_010 subcatchment). Notwithstanding the limited interaction between Construction Compound TC4 and the River Dodder, it cannot be excluded that the otter population in the vicinity of the Tallaght section of Proposed Scheme is associated with the Wicklow Mountains SAC population. Therefore, disturbance and displacement impacts on the QI otter population for Wicklow Mountains SAC, as a result of the Proposed Scheme, cannot be excluded.

119 Although marine mammals associated with European sites may commute and forage within the Liffey Estuary, it is not considered to be likely that there will be any impacts on these species as a result of the Proposed Scheme as it lies approximately 6.7km upstream of Dublin Bay, in a highly urbanised environment and where water levels can drop diurnally reducing the likelihood of marine mammals venturing this far up-river.

120 As 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.

3.7.7 Summary

121 The *ex-situ* habitat loss, hydrological, non-native invasive species and disturbance and displacement impacts associated with the Proposed Scheme have the potential to affect the receiving environment and, consequently, have the potential to affect the conservation objectives supporting the Qis / SCIs of a European site(s). Therefore, the potential for the Proposed Scheme to have significant effects on a European site(s) cannot be excluded.

The potential impacts of the Proposed Scheme on the receiving environment, their Zol, and the European sites for which likely significant effects cannot be excluded are summarised in Table 7. 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 Proposed Scheme on European sites are not taken into account.

Table 7: 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?
Habitat loss No European sites are at risk of direct habitat loss impacts There is potential for loss of <i>ex-situ</i> inland feeding sites used by SCI wintering bird species.	Yes There are European sites at risk of <i>ex-situ</i> habitat losses: Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, North Bull Island SPA, South Dublin Bay and River Tolka SPA, Skerries Islands SPA, Lambay Island SPA, Ireland's Eye SPA and The Murrrough SPA
Habitat degradation / effects on QI / SCI species as a result of hydrological impacts Habitats and species downstream of the Proposed Scheme and the associated surface water drainage discharge points, and downstream of offsite wastewater treatment plants.	Yes. There are European sites at risk of hydrological effects associated with the Proposed Scheme, namely: Wicklow Mountains SAC, North Dublin Bay SAC, South Dublin Bay 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, Baldoyle Bay SPA, Ireland's Eye SPA, Skerries Islands SPA, Rockabill SPA, Lambay Island SPA, Malahide Estuary SPA, Rogerstown Estuary SPA, Dalkey Islands SPA and The Murrrough SPA.
Habitat degradation as a result of hydrogeological impacts	No

Potential Direct, Indirect In Combination Effects and the ZoI of the Potential Effects	Are there any European sites within the ZoI of the Proposed Scheme?
Groundwater-dependant habitats, and the species those habitats support, in the local area that lie downgradient of the Proposed Scheme.	There are no European sites at risk of hydrogeological effects associated with the Proposed Scheme
Habitat degradation as a result of introducing / spreading non-native invasive species Habitat areas within, adjacent to, and potentially downstream of the Proposed Scheme.	Yes. There are non-native invasive species present within or adjacent to the Proposed Scheme and in the surrounding area, therefore there is a risk associated with the Proposed Scheme to downstream European sites from the spread / introduction of non-native invasive species: South Dublin Bay and River Tolka Estuary SPA, South Dublin Bay SAC, North Dublin Bay SAC, and North Bull Island SPA.
Air Quality impacts Potentially up to 50m from the Proposed Scheme boundary and 500m from the Construction Compound at Construction phase, and up to 200 metres at Operation Phase.	No. There are no European sites at risk of air quality effects associated with the Proposed Scheme
Disturbance and displacement impacts 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	Yes. There are no European sites within the potential zone of influence of disturbance effects associated with the construction or operation of the Proposed Scheme. However, there are five <i>ex-situ</i> inland feeding site which are utilised by SCI wintering bird species within the potential disturbance ZoI of the Proposed Scheme. In addition, otter in the vicinity of the Tallaght section of the Proposed Scheme may be associated with the QI population associated with Wicklow Mountains SAC and impacts on the QI population cannot be excluded as a result. Wicklow Mountains SAC, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, North Bull Island SPA, South Dublin Bay and River Tolka SPA, , Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA and The Murrough SPA.

3.8 In-Combination Effects

- 122 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.
- 123 There are 17 European sites within the ZoI of the Proposed Scheme as outlined above in Section 3.6.1. These are South Dublin Bay SAC, North Dublin Bay SAC, Rockabill to Dalkey Island SAC, Lambay Island SAC, Wicklow Mountains SAC, Howth Head Coast SPA, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA, Rockabill SPA, Lambay Island SPA, Dalkey Islands SPA and The Murrough SPA.
- 124 All other European sites fall beyond the ZoI 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.
- 125 The in-combination assessment involved first identifying those plans and projects which have the potential to impact on those European sites within the ZoI of the Proposed Scheme.

126 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 ZoI of the Proposed Scheme. These are presented in Table 8 and Table 9.

Table 8: Land use plans and programmes considered for the in-combination assessment

National Plans
National Energy & Climate Plan 2021-2030
National Spatial Strategy for Ireland 2002-2020
Project Ireland 2040 – Building Ireland’s Future ³⁰
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) Report 2021
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
<ul style="list-style-type: none"> • 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 2021-2025
Dublin City Council Climate Action Plan 2019-2024
<ul style="list-style-type: none"> • 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

³⁰ Together the National Development Plan and the National Framework are referred to as Project Ireland 2040: Building Ireland’s Future

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 2022-2028

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 2017-2023

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

Table 9: Projects considered for the in-combination assessment

- 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, to provide for additional capacity on the non-motorway sections of this route, and to address safety issues in Slane village associated with, in particular, heavy goods vehicles
- N3 Castaheany Interchange Upgrade
- Reconfiguration of the N7 from its junction with the M50 to Naas, to rationalise junctions and accesses in order to provide a higher level of service for strategic traffic travelling on the mainline
- N3–N4: Barnhill to Leixlip Interchange
- Reconfiguration of the N4 from its junction with the M50 to Leixlip to rationalise accesses and to provide additional capacity at the Quarryvale junction
- Clonburris SDZ roads development
- DART+ Programme West
- Porterstown Distributor Link Road
- Widening of the N3 between Junction 1 (M50) and Junction 4 (Clonee), plus related junction and necessary changes to the existing national road network
- Lucan LUAS
- DART+ Programme South West
- Junction upgrades and other capacity improvements on the M1 motorway, including additional lanes south of Drogheda, where required
- 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, which will serve the South Port and adjoining development areas
- Poolbeg SDZ roads development

- Glenamuck District Distributor Road
- DART+ Programme Coastal North
- Widening of the M50 to three lanes in each direction between Junction 14 (Sandyford) and Junction 17 (M11) plus related junction and other changes
- 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) inclusive of ancillary and associated road schemes, to provide additional lanes and upgraded junctions, plus service roads and linkages to cater for local traffic movements.
- 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. Kells.
- Dublin Mountain Visitors Centre and all associated works. Killakee and Jamestown.
- FCC/12/0001 Broadmeadow Way. Greenway between Malahide Demesne and Newbridge Demesne to be known as 'Broadmeadow Way'. Malahide.
- Alterations to a permitted double circuit 110kV electricity transmission line development between substations. Darndale / Belcamp
- 110kV onsite electrical substation with associated electrical plant, electrical equipment, welfare facilities and waste water holding tank and security fencing. 110kV overhead line grid connection cabling, upgrade of existing tracks and provision of new site access roads with all associated site development and ancillary works. Timahoe East
- 15-year permission for development at 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 to provide for various elements including new Ro-Ro jetty and consolidation of passenger terminal buildings. Dublin Port.
- A residential development with ancillary commercial uses (retail unit, café and crèche) partially comprising a "Build to Rent" scheme on circa 9.69 hectares. The townlands of Shanganagh, Cork Little and Shankill, Co. Dublin.
- The proposed development for Brexit Infrastructure will consist 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 extending from the upper reaches of the river. Tymon North, Tallaght to Merchant's Quay, Dublin.
- 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
- 2 no. 110kV transmission lines and a 110kV Gas Insulated Switchgear (GIS) substation
- Provision of two 110kV transmission lines connecting Coolderrig 110kV GIS substation to Grand Castle – Kilmahud circuits.
- Snugborough Interchange Upgrade
- Park development project at the Racecourse Park
- River Camac Flood Alleviation Scheme
- Clongriffin to City Centre Core Bus Corridor Scheme
- Swords to City Centre Core Bus Corridor Scheme

- Ballymun / Finglas to City Centre Core Bus Corridor Scheme
- Blanchardstown to City Centre Core Bus Corridor Scheme
- Liffey Valley to City Centre Core Bus Corridor Scheme
- Lucan to City Centre Core Bus Corridor Scheme
- Templeogue / Rathfarnham to City Centre Core Bus Corridor Scheme
- Kimmage to City Centre Core Bus Corridor Scheme
- Bray to City Centre Core Bus Corridor Scheme
- Blackrock / Belfield to City Centre Core Bus Corridor Scheme
- Ringsend to City Centre Core Bus Corridor Scheme
- A range of Strategic Housing Developments
- A range of Irish Water Projects

127 There is the potential for developments listed in Table 9 or those implemented under a range of land use and other plans listed in Table 8, 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.

128 Key development projects with potential for in-combination effects due to their size, nature and / or location include other Core Bus Corridor Schemes, MetroLink, upgrades to or new rail infrastructure, the Poddle Flood Alleviation Scheme, the River Camac Flood Alleviation Scheme, and utility infrastructure including proposed or consented water utility improvement.

129 The potential for in combination effects between these plans and projects and the Proposed Scheme arises via the same pathways for potential effects as identified above for the Proposed Scheme (i.e. hydrological, non-native invasive species, air quality, and disturbance and displacement effects) which could act in combination with similar effects and pathways arising from the various plans.

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

- Habitat loss (for example European sites at risk of *ex-situ* habitat losses; South Dublin Bay and River Tolka SPA, North Bull Island SPA, Baldoyle Bay SPA, Malahide Estuary SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Lambay Island SPA, Ireland's Eye SPA and The Murrrough SPA);
- 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 Wicklow Mountains SAC, North Dublin Bay SAC, South Dublin Bay SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC, Lambay Island SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA, Dalkey Islands SPA, Baldoyle Bay SPA, Malahide Estuary SPA, Rogerstown Estuary SPA, Ireland's Eye SPA, Skerries Islands SPA, Rockabill SPA, Lambay Island SPA and The Murrrough SPA);
- Habitat degradation as a result of introducing / spreading non-native invasive species to European sites downstream of the Proposed Scheme (i.e. North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA); and,
- Disturbance and displacement impacts (for example *ex-situ* inland feeding sites which are utilised by SCI wintering bird species within the potential disturbance ZoI of the Proposed Scheme for 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 Murrrough SPA or QI mammal species for which Wicklow Mountains SAC is designated).

4 Conclusions of the Screening Assessment Process

131 Following an examination, analysis and evaluation of all relevant information, in view of best scientific knowledge, 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 / fragmentation, hydrological impacts, non-native invasive species, and disturbance and displacement impacts: North Dublin Bay SAC; South Dublin Bay SAC; Rockabill to Dalkey Island SAC; Lambay Island SAC; Wicklow Mountains

SAC, Howth Head Coast SPA; Dalkey Islands SPA; Rockabill SPA; North Bull Island SPA; South Dublin Bay and River Tolka Estuary SPA; Ireland's Eye SPA; Malahide Estuary SPA; Baldoyle Bay SPA; Rogerstown Estuary SPA; Skerries Islands SPA; Lambay Island SPA; and, The Murrrough SPA.

- 132 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.
- 133 Therefore, it is the professional opinion of the authors of this report that the application for approval for the Proposed Scheme does require a Stage Two Appropriate Assessment in respect of the above-listed 17 no. European sites (5 no. SACs and 12 no. SPAs) and, consequently, the preparation of a Natura Impact Statement (NIS).

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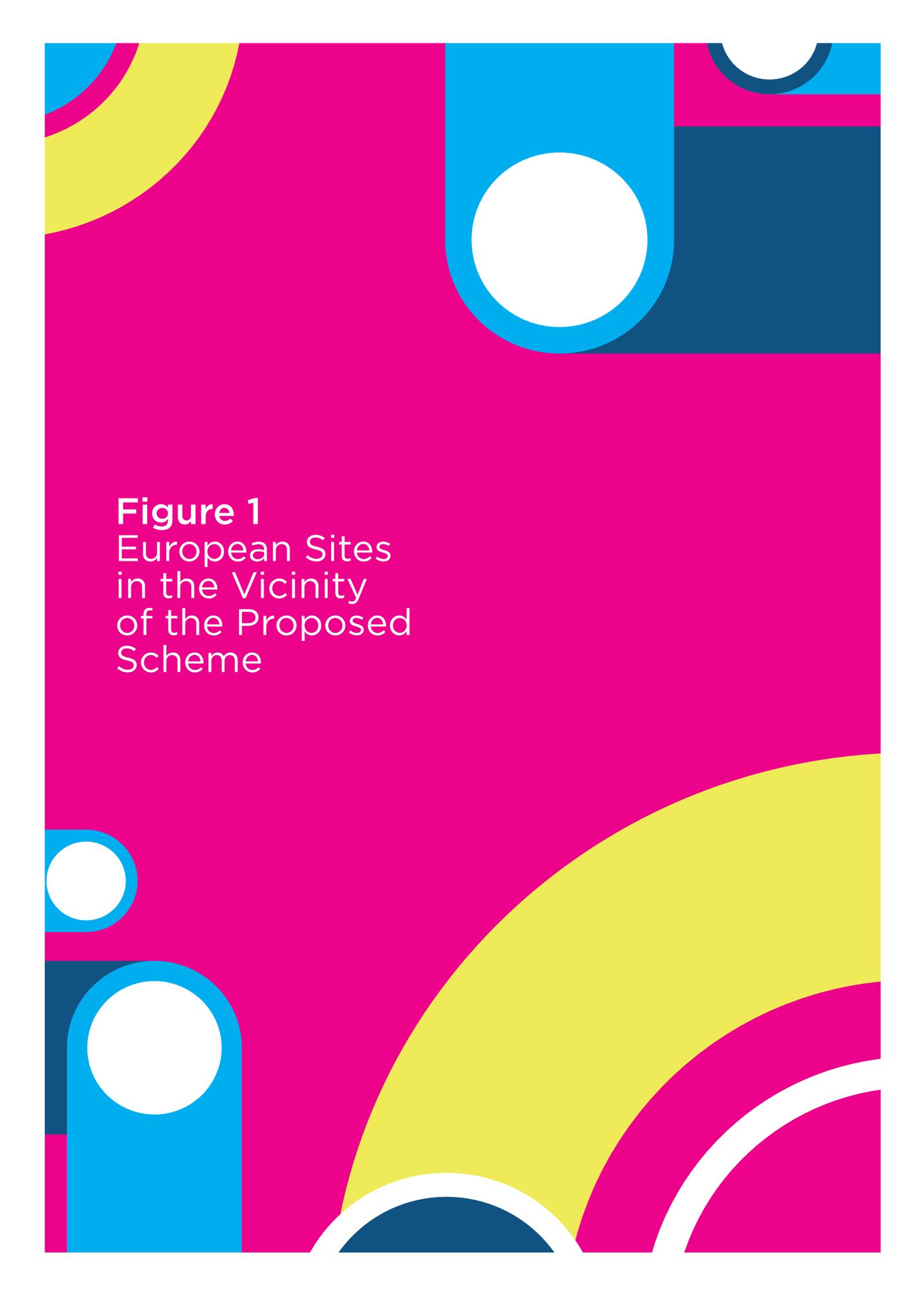
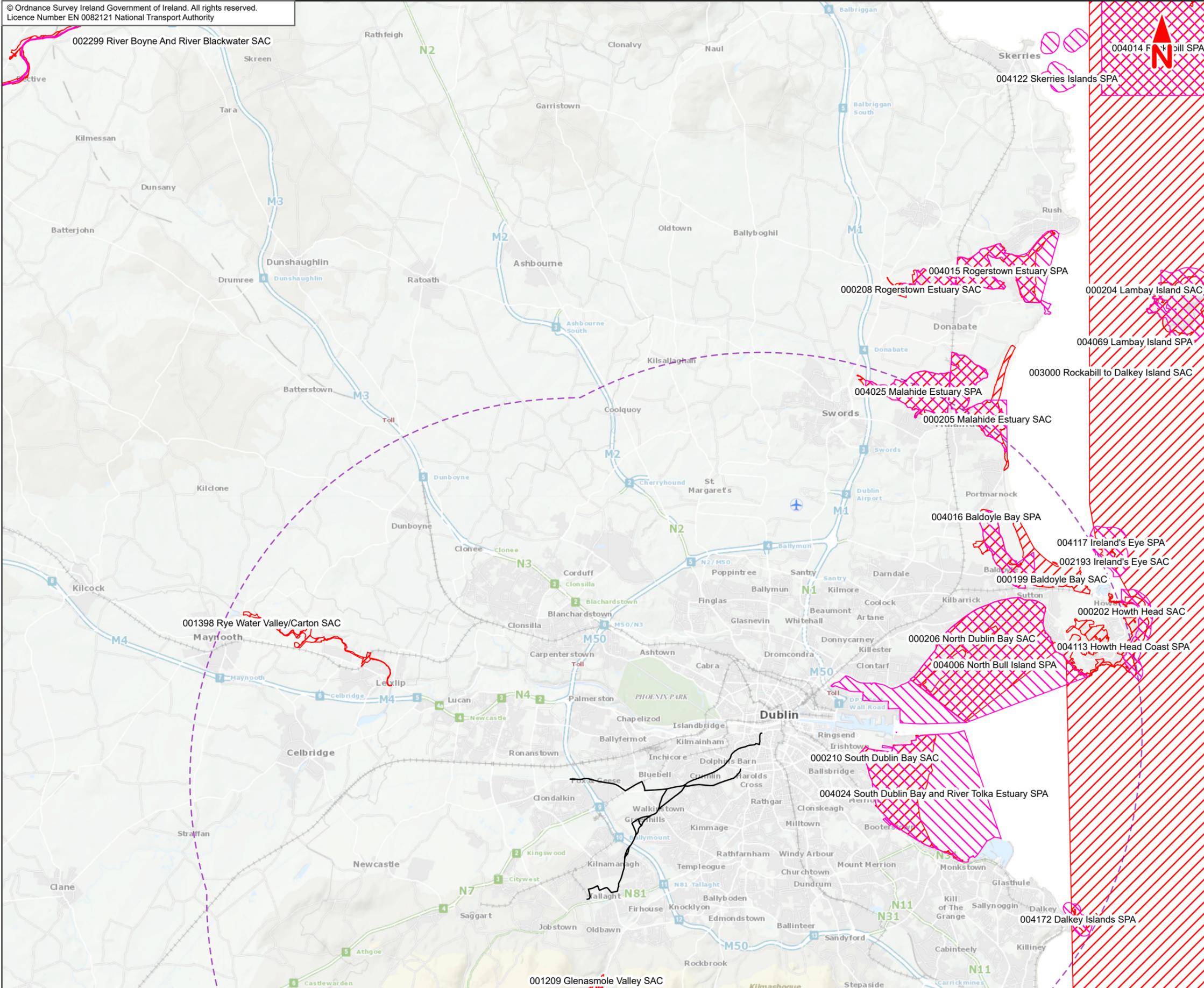


Figure 1
European Sites
in the Vicinity
of the Proposed
Scheme



- Legend :**
- Tallaght / Clondalkin to City Centre Core Bus Corridor Scheme
 - 15km from Proposed Scheme
 - Special Protection Areas
 - Special Area of Conservation

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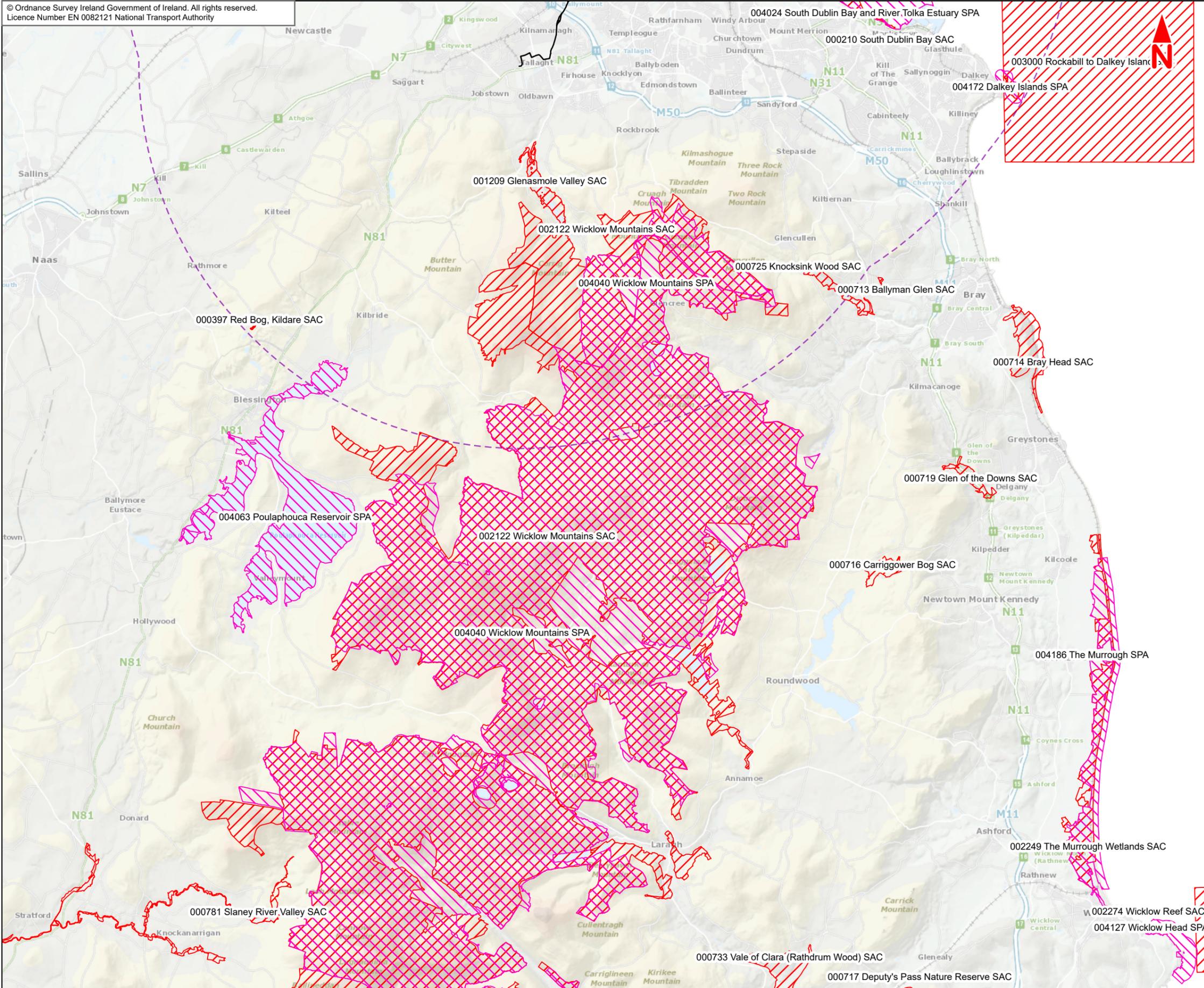
Rev	Date	Drn	Chk'd	App'd	Description
M01	Aug 2022	EK	PW	DK	ISSUE FOR PHASE 4 : PLANNING

Client: **NTA**
Udarás Náisiúnta Iompair
National Transport Authority

Consultant: **JACOBS ARUP SYSTRA**

Date: 7/28/2022 | Scale @ A3: 1:150 000
 Drawn: EK | Checked: PW | Approved: DK
 Project Code: BCIDE | Originator Code: JAC | QMS Code:

Programme Title: BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title: Tallaght / Clondalkin 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-0809_XX_00-DR-GG-2090	Sheet Number: 1 of 2	Status: A	Rev: M01



- Legend :**
- Tallaght / Clondalkin to City Centre Core Bus Corridor Scheme
 - 15km from Proposed Scheme
 - Special Protection Areas
 - Special Area of Conservation

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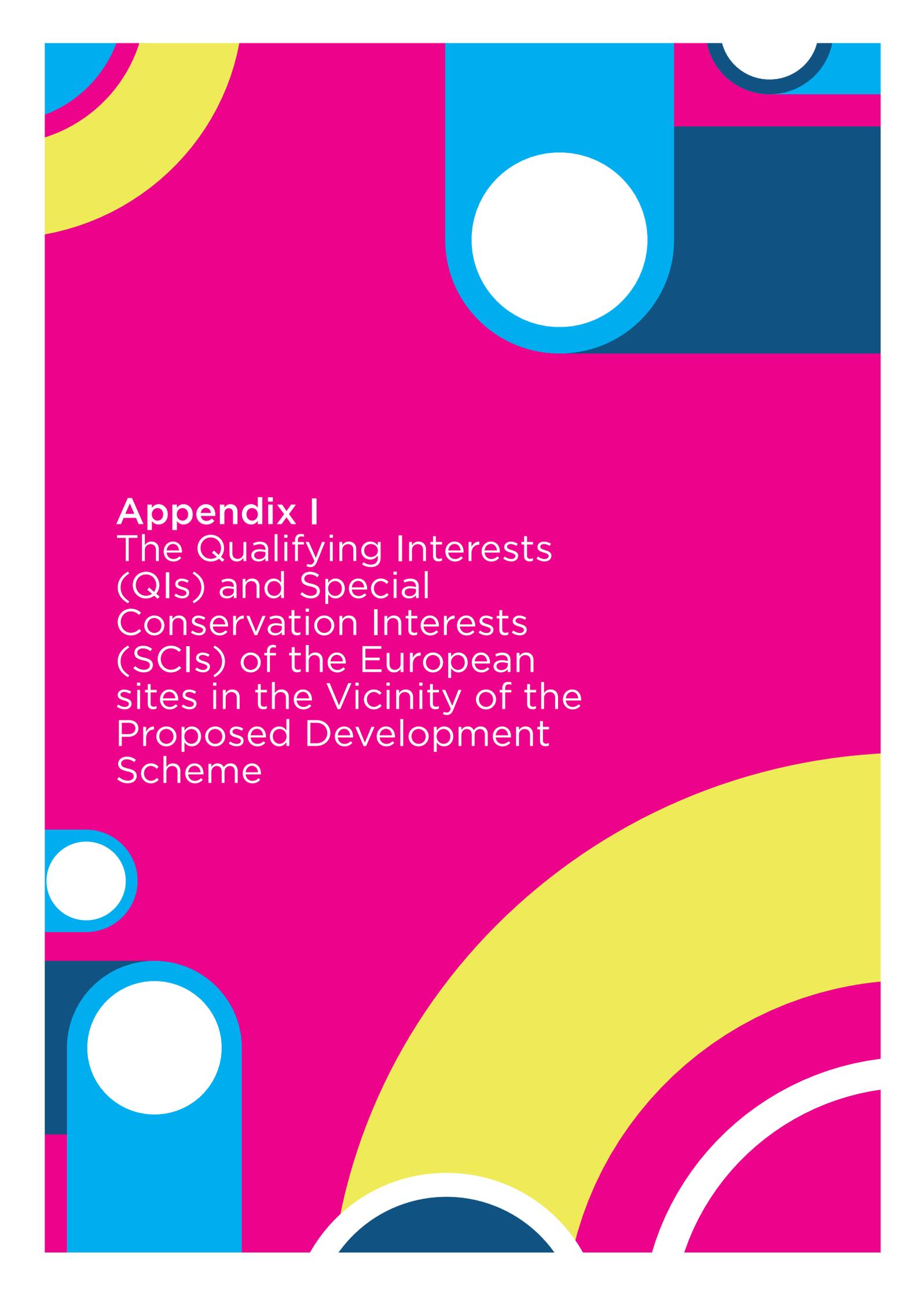
Rev	Date	Drn	Chk'd	App'd	Description
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JACOBS ARUP SYSTRA

Programme Title BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS				
Drawing Title Tallaght / Clondalkin 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-0809_XX_00-DR-GG-2091	Sheet Number 2 of 2	Status A	Rev M01	

Date 7/28/2022	Scale @ A3 1:150 000	Drawn EK	Checked PW	Approved DK
Project Code BCIDE	Originator Code JAC	QMS Code		



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

Appendix I

The Qualifying Interests (QIs) and Special Conservation Interests (SCIs) of the European sites in the vicinity of the Proposed Scheme³¹

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)
Special Area of Conservation (SAC)	
<p>Rye Water Valley / Carton SAC [001398] 1014 Narrow-mouthed Whorl Snail <i>Vertigo angustior</i> 1016 Desmoulin's Whorl Snail <i>Vertigo moulinsiana</i> 7220 Petrifying springs with tufa formation (Cratoneurion)*</p> <p><i>S.I. No.494/2018 – European Union Habitats (Rye Water Valley / Carton Special Area of Conservation 001398) Regulations 2018</i> NPWS (2021a) <i>Conservation Objectives: Rye Water Valley / Carton SAC 001398</i>. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage</p>	<p>Approximately 7.9km from the Proposed Scheme</p>
<p>South Dublin Bay SAC [000210] 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 (2013a) <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 3.9km from the Proposed Scheme</p>
<p>North Dublin Bay SAC [000206] 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>Approximately 6.2km from the Proposed Scheme</p>

³¹ The versions of the conservation objectives documents referenced in this table are the most recent published versions at the time of writing.

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. 524/2019 – European Union Habitats (North Dublin Bay Special Area of Conservation 000206) Regulations 2019</i></p> <p>NPWS (2013b) <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>Rockabill to Dalkey Island SAC [003000]</p> <p>1170 Reefs</p> <p>1351 Harbour porpoise <i>Phocoena phocoena</i></p> <p><i>S.I. No. 94/2019 – European Union Habitats (Rockabill To Dalkey Island Special Area Of Conservation 003000) Regulations 2019</i></p> <p>NPWS (2013c) <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 12.1km from the Proposed Scheme</p>
<p>Howth Head SAC [000202]</p> <p>1230 Vegetated sea cliffs of the Atlantic and Baltic coasts</p> <p>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>.</p> <p>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 11.9km from the Proposed Scheme</p>
<p>Wicklow Mountains SAC [002122]</p> <p>3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)</p> <p>3160 Natural dystrophic lakes and ponds</p> <p>4010 Northern Atlantic wet heaths with <i>Erica tetralix</i></p> <p>4030 European dry heaths</p> <p>4060 Alpine and Boreal heaths</p> <p>6130 Calaminarian grasslands of the Violetalia calaminariae</p> <p>6230 Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)*</p> <p>7130 Blanket bogs (* if active bog)</p> <p>8110 Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)</p> <p>8210 Calcareous rocky slopes with chasmophytic vegetation</p> <p>8220 Siliceous rocky slopes with chasmophytic vegetation</p> <p>91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles</p> <p>1355 <i>Lutra lutra</i> (Otter)</p> <p>NPWS (2017a) <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>Approximately 5.3km 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>Knocksink Wood SAC [000725] 7220 Petrifying Springs with Tufa formation (Cratonuerion)* 91A0 Old Sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles 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 (2021b) <i>Conservation objectives for Knocksink Wood SAC [000725].</i> Version 1.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 12.7km from the Proposed Scheme</p>
<p>Ballyman Glen SAC [000713] 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 (2019d) <i>Conservation objectives: Ballyman Glen SAC [000713].</i> Version 1.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 15.5km from the Proposed Scheme</p>
<p>Baldoyle Bay SAC [000199] 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> 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>Approximately 11.1km from the Proposed Scheme</p>
<p>Glenasmole Valley SAC [001209] 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) 6410 <i>Molinia meadows</i> on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) 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 (2021c) <i>Conservation objectives for Glenasmole Valley SAC [001209].</i> Version 1.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 2.9km from the Proposed Scheme</p>
<p>Bray Head SAC [002193] 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 4030 European dry heaths</p>	<p>Approximately 19.7km 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. 620/2017 - European Union Habitats (Bray Head Special Area of Conservation 000714) Regulations 2017</i></p> <p>NPWS (2017b) <i>Conservation objectives: Bray Head SAC [000714].</i> Version 1.0. Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p>	
<p>Ireland's Eye SAC [002193]</p> <p>1220 Perennial vegetation of stony banks</p> <p>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></p> <p>NPWS (2017c) <i>Conservation objectives: Ireland's Eye SAC [002193].</i> Version 1.0. Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p>	<p>Approximately 15.1km from the Proposed Scheme</p>
<p>Malahide Estuary SAC [000205]</p> <p>1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>1310 <i>Salicornia</i> and other annuals colonising mud and sand</p> <p>1320 <i>Spartina</i> swards (<i>Spartinion maritimae</i>)³²</p> <p>1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)</p> <p>1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p> <p>2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)</p> <p>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></p> <p>NPWS (2013d) <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 13.8km from the Proposed Scheme</p>
<p>Rogerstown Estuary SAC [000208]</p> <p>1130 Estuaries</p> <p>1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>1310 <i>Salicornia</i> and other annuals colonising mud and sand</p> <p>1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)</p> <p>1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p> <p>2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)</p> <p>2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*</p>	<p>Approximately 18km from the Proposed Scheme</p>

³² 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 and as such NPWS have not set a conservation target for it, nor is there a requirement to assess the habitat as a QI.

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. 286/2018 European Union Habitats (Rogerstown Estuary Special Area of Conservation 000208) Regulations 2018</i></p> <p>NPWS (2013e) Conservation Objectives: Rogerstown Estuary SAC 000208. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	
<p>Lambay Island SAC [000204]</p> <p>1170 Reefs</p> <p>1230 Vegetated sea cliffs of the Atlantic and Baltic coasts</p> <p>1364 Grey seal <i>Halichoerus grypus</i></p> <p>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></p> <p>NPWS (2013f) Conservation Objectives: Lambay Island SAC 000204. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 22.5km from the Proposed Scheme</p>
Special Protection Area (SPA)	
<p>South Dublin Bay and River Tolka Estuary SPA [004024]</p> <p>A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i></p> <p>A130 Oystercatcher <i>Haematopus ostralegus</i></p> <p>A137 Ringed Plover <i>Charadrius hiaticula</i></p> <p>A141 Grey Plover <i>Pluvialis squatarola</i></p> <p>A143 Knot <i>Calidris canutus</i></p> <p>A144 Sanderling <i>Calidris alba</i></p> <p>A149 Dunlin <i>Calidris alpina</i></p> <p>A157 Bar-tailed Godwit <i>Limosa lapponica</i></p> <p>A162 Redshank <i>Tringa totanus</i></p> <p>A179 Black-headed Gull <i>Chroicocephalus ridibundus</i></p> <p>A192 Roseate Tern <i>Sterna dougallii</i></p> <p>A193 Common Tern <i>Sterna hirundo</i></p> <p>A194 Arctic Tern <i>Sterna paradisaea</i></p> <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 (2015a) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 3.3km from the Proposed Scheme</p>
<p>North Bull Island SPA [004006]</p> <p>A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i></p> <p>A048 Shelduck <i>Tadorna tadorna</i></p> <p>A052 Teal <i>Anas crecca</i></p> <p>A054 Pintail <i>Anas acuta</i></p> <p>A056 Shoveler <i>Anas clypeata</i></p> <p>A130 Oystercatcher <i>Haematopus ostralegus</i></p>	<p>Approximately 6.2km 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>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 & 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> NPWS (2015b) <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>Dalkey Islands SPA [004172] 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 (2022a) <i>Conservation objectives for Dalkey Islands SPA [004172].</i> Generic Version 9.0. Department of Housing, Local Government and Heritage</p>	<p>Approximately 13.6km from the Proposed Scheme</p>
<p>Wicklow Mountains SPA [004040] A098 Merlin <i>Falco columbarius</i> 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> NPWS (2022b) <i>Conservation objectives for Wicklow Mountains SPA [004040].</i> Generic Version 9.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 6.7km from the Proposed Scheme</p>
<p>Baldoyle Bay SPA [004016] A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A048 Shelduck <i>Tadornatadorna</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 11.4km 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 (2013g) <i>Conservation Objectives: Baldoyle Bay SPA 004016. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	
<p>Howth Head Coast SPA [004113]</p> <p>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></p> <p>NPWS (2022c) <i>Conservation objectives for Howth Head Coast SPA [004113].</i> Generic Version 9.0. Department of Housing, Local Government and Heritage.</p>	Approximately 14.6km from the Proposed Scheme
<p>Ireland's Eye SPA [004117]</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><i>S.I. No. 240/2010 - European Communities (Conservation of Wild Birds (Ireland's Eye Special Protection Area 004117)) Regulations 2010.</i></p> <p>NPWS (2022d) <i>Conservation objectives for Ireland's Eye SPA [004117].</i> Generic Version 9.0. Department of Housing, Local Government and Heritage</p>	Approximately 14.9km from the Proposed Scheme
<p>Malahide Estuary SPA [004025]</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 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 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 (2013h) <i>Conservation Objectives: Malahide Estuary SPA 004025. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	Approximately 13.8km from the Proposed Scheme

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>Rogerstown Estuary SPA [004015] A043 Greylag Goose <i>Anser anser</i> A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A048 Shelduck <i>Tadorna 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 alpina</i> A156 Black-tailed Godwit <i>Limosa 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 (2013i) <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 18.3km from the Proposed Scheme</p>
<p>Lambay Island SPA [004069] A009 Fulmar <i>Fulmarus glacialis</i> A017 Cormorant <i>Phalacrocorax carbo</i> A018 Shag <i>Phalacrocorax aristotelis</i> A043 Greylag Goose <i>Anser 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 (2022e) <i>Conservation objectives for Lambay Island SPA [004069]</i>. Generic Version 9.0. Department of Housing, Local Government and Heritage</p>	<p>Approximately 22.4km from the Proposed Scheme</p>
<p>The Murrough SPA [004186] A001 Red-throated Diver <i>Gavia stellata</i> A043 Greylag Goose <i>Anser 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> A184 Herring Gull <i>Larus argentatus</i></p>	<p>Approximately 29.2km 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>A195 Little Tern <i>Sterna albifrons</i> A999 Wetland and Waterbirds</p> <p><i>S.I. No. 298/2011 - European Communities (Conservation of Wild Birds (The Murrough Special Protection Area 004186)) Regulations 2011</i> NPWS (2022f) <i>Conservation objectives for The Murrough SPA [004186]</i>. Generic Version 9.0. Department of Housing, Local Government and Heritage.</p>	
<p>Skerries Islands SPA [004122] 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 (2022g) <i>Conservation objectives for Skerries Islands SPA [004122]</i>. Generic Version 9.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 27.8km from the Proposed Scheme</p>
<p>Rockabill SPA [004114] A148 Purple Sandpiper <i>Calidris maritima</i> 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. 94/2012- European Communities (Conservation of Wild Birds (Rockabill Special Protection Area 004114)) Regulations 2012.</i> NPWS (2013) <i>Conservation objectives for Rockabill SPA [004114]</i>. Generic Version 1.0. Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 28.5km from the Proposed Scheme</p>



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