

**Ballymun / Finglas to
City Centre Core Bus
Corridor Scheme**
May 2022

**Appropriate
Assessment
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 Ballymun / Finglas 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 the Ballymun and Finglas areas 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 (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 Appropriate Assessment 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) (special conservation areas (SACs) and special protection areas (SPAs) in view of the conservation objectives of those sites: **North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC, Lambay Island SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA, Howth Head Coast SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Lambay Island SPA, Ireland’s Eye SPA, Dalkey Islands SPA, Rockabill SPA and The Murrrough 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 Areas of Conservation 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, (b) a candidate special area of conservation, (c) a special area of conservation, (d) a candidate special protection area, or (e) a special protection area. They are commonly referred to in Ireland as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

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

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 A source-pathway-receptor approach has been applied. In order for a likely significant effect 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

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.

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 likely significant effects 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 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 Desk Study

- 11 The desktop data sources used to inform the assessment presented in this report are as follows (accessed in October 2020 and reviewed in February 2022):
 - Online data available on European sites and on Natural Heritage Areas (NHAs) or proposed Natural Heritage Areas (pNHAs) as held by the National Parks and Wildlife Service (NPWS) (NPWS 2022) 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 (NPWS, 2019a, 2019b and 2019c)⁵;
 - Ordnance Survey Ireland (OSI) orthophotography (from 1995 to 2012) for the Proposed Scheme study area (available from www.osi.ie);
 - Bus Connects Drone Imagery, Surveyed November 2020;
 - Records of rare and / or protected species for the 10km grid squares O03, O13 and O23, held by the NPWS;
 - Habitat and species GIS datasets provided by the NPWS, including Article 12 and Article 17 data⁶;
 - Records from the Botanical Society of Britain and Ireland (BSBI) (BSBI 2020);
 - Information contained within the Flora of County Dublin⁷;
 - Environmental information/data for the area available from the EPA website www.epa.ie;

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

The following SAC and SPA GIS boundary datasets are the most recently available at the time of writing: SAC_ITM_2022_04 and SPA_ITM_2021_10.

⁵ NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview. *Unpublished NPWS report*.

⁶ Article 17 of the EU Directive on the Conservation of habitats, Floras and Fauna (Habitats Directive) required 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 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.

⁷ 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 groundwater resources and groundwater quality in the area available from www.epa.ie and www.gsi.ie;
- The results of ecological surveys undertaken as part of the Environmental Impact Assessment (EIA) studies for the Proposed Scheme (See Sections 2.5 and 3.2 of this report for details);
- Information on aquatic surveys carried out for the Proposed Scheme⁸;
- Information on the location, nature and design of the Proposed Scheme supplied by the Applicants design team; and
- Information on light-bellied brent goose inland feeding sites⁹.

2.4 Consultations

12 **Table 1** outlines the Appropriate Assessment issues raised during consultation, all of which are addressed in the NIS.

Table 1: Appropriate Assessment issued Raised During Consultation

Consultee	Phase / Date of Consultation	Issues Raised	Relevant Section of the AA where this is addressed
<i>Department of Housing, Local Government and Heritage</i> (formerly Department of Culture, Heritage and the Gaeltacht)	30 July 2019 (letter received from DAU) Ref. G Pre00165/2019	The Department recommend identification, description, and assessment of direct and indirect impacts of the Proposed Scheme on the following features: <ul style="list-style-type: none"> • 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 	Section 2.5 Baseline Surveys, Section 3.2 Overview of Receiving Environment Section 3.2.1 European Sites, Section 3.3 Assessment of Potential Effects on European Sites
		Detailed bird surveys should be undertaken at all times of the year to establish areas of the	Section 2.5 Baseline Surveys,

⁸ Triturus Environmental Services (2020). Aquatic baseline report for the BusConnects project, Dublin City.

⁹ 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 where this is addressed
		Proposed Scheme used by birds should be included in the AA	Section 3.2 Overview of Receiving Environment Section 3.3 Assessment of Effects on European sites
		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.	Section 3.2.3, Section 3.3.4. 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
		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.	Section 3.4 In-Combination Effects
		<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>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>	<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 3.3 Potential Impacts, Zone of Influence and Identifying European sites at Risk of Effects</p> <p>Section 3.3 Assessment of Potential Effects</p>

Consultee	Phase / Date of Consultation	Issues Raised	Relevant Section of the AA where this is addressed
		<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. 	

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 carried out 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 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 Fossitt¹⁰ and in accordance with *Best Practice Guidance for Habitat Survey and Mapping*¹¹. The level of field data quality was also recorded. Plant species present that were either representative of a habitat or considered to be of conservation interest (i.e. those listed on the Flora Protection Order or listed in the 'threatened' category or higher on the Red List for vascular plants and bryophytes) were recorded, along with their relative abundances. Non-native invasive plant species listed on the Third Schedule of the 2011 Birds and Habitats Regulations were also recorded. Each 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*¹².
- 15 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 in-stream aquatic habitat surveys. These sites 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 2003'¹³ and the Irish Heritage Council's 'A Guide to Habitats in Ireland'¹⁴. All sites were assessed in terms of:
- Channel width and depth and other physical characteristics;

¹⁰ Fossitt, J.A. (2000) *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny.

¹¹ Smith, G.F., O'Donoghue, P., O'Hara, K. & Delaney, E. (2011) *Best Practice Guidance for Habitat Survey and Mapping. The Heritage Council Church Lane, Kilkenny, Ireland*.

¹² Stace, C. (2019) *New Flora of the British Isles. 4th Edition*. C&M Floristics

¹³ Environment Agency. (2003). *River Habitat Survey in Britain and Ireland: Field Survey Guidance Manual: 2003 Version*. Forest Research.

¹⁴ Fossitt, J.A. (2000) *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny.

- 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 SCI bird species. Additional fisheries surveys were undertaken by Triturus Environmental Ltd. in areas where waterbodies may be subject to significant disturbance as a result of the Proposed Scheme (i.e. the proposed Royal Canal Pedestrian / Cycle Bridge crossing point). However, the results of these surveys are not directly relevant to this assessment as the Proposed Scheme is not hydrologically connected to any European site designated for Annex II fish species or white-clawed crayfish *Austropotamobius pallipes*. The nearest known European site designated for Atlantic salmon *Salmo salar*, river lamprey *Lampetra fluviatilis* and brook lamprey *Lampetra planeri* is the River Boyne and River Blackwater SAC, located approximately 34.7km north of the Proposed Scheme in the River Boyne catchment. The nearest known European site designated for white-clawed crayfish is the River Barrow and River Nore SAC, which is located approximately 51km south-west of the Proposed Scheme in the River Barrow catchment, the River Nore catchment and the River Ballyteigue-Bannow river catchment. There is no hydrological connectivity between the Proposed Scheme and these European sites.

2.5.2.1 Otter

- 17 The footprint of the Proposed Scheme and suitable lands (e.g. greenfield sites) immediately adjacent were surveyed for otter *Lutra lutra* activity as part of the multidisciplinary walkover survey, undertaken between June and August 2018, and in October 2020. 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.
- 18 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 otter surveys. The desk study identified one site where water bodies may be subject to significant disturbance as a consequence of the Proposed Scheme. The site is located at the proposed Royal Canal Pedestrian / Cycle Bridge crossing point. A corridor of approximately 150m upstream and downstream was surveyed to identify the presence of otter holts in October 2020. Signs of otter were recorded further up- and downstream of the Proposed Scheme along the River Tolka, in respect of a separate scheme, but not along the Royal Canal noted during aquatic surveys carried out by Triturus Environmental Ltd. in October and November 2020.

2.5.2.2 Kingfisher

- 19 A desk study was carried out to identify all hydrological crossing points within the footprint of the Proposed Scheme. Construction methodologies which involved in-stream works, modifications to banks or significant disturbance were deemed to require habitat suitability assessments for nesting kingfisher *Alcedo atthis*. The desk study identified one site where water bodies may be subject to significant disturbance as a consequence of the Proposed Scheme. This site is located at the proposed Royal Canal Pedestrian / Cycle Bridge crossing point. The nearest known European site for kingfisher is the River Blackwater and River Boyne SPA located approximately 35km north-west of the Proposed Scheme.
- 20 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. Evidence of kingfisher activity at any potential nest holes was recorded.

2.5.2.3 Other Birds

- 21 The results of the desk study have informed the assessment of likely significant effects on breeding bird species arising from the Proposed Scheme.
- 22 A desk study was carried out to identify any potential suitable inland feeding and / or roosting sites for wintering 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*⁹ (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.
- 23 The desk study identified one site along or adjacent to the Proposed Scheme with potential for wintering birds that would be subject to direct habitat loss. This was located at Home Farm Football Club pitch on St. Mobhi Road referred to as CBC0304WB001. Wintering bird field surveys were conducted by Scott Cawley Ltd. The site was surveyed during four visits between the months of November 2020 and March 2021. The results of the desk study and field surveys have informed the assessment of potential impacts on wintering bird species arising from the Proposed Scheme.
- 24 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

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

3.1 Description of the Proposed Scheme

3.1.1 Overview

- 26 The Proposed Scheme will be approximately 11km in length and has two main sections. The Ballymun Section will run from R108 Ballymun Road at its junction with St. Margaret’s Road just south of M50 Motorway Junction 4 to R148 Arran Quay. The Finglas Section of the Proposed Scheme will run from the R135 Finglas Road at the roundabout junction with R104 St. Margaret’s Road to Hart’s Corner in Phibsborough where it will join the Ballymun Section of the Proposed Scheme.
- 27 The Proposed Scheme has been divided into seven principal sections (sections 1-4 comprise the Ballymun Section, while sections 5-7 comprise the Finglas Section). The division line between sections has been determined by grouping similar carriageway types together. These sections have been further subdivided into 17 sub-sections, according to the types of construction works required, see list below.
 - **Section 1:** Ballymun Road from St. Margaret’s Road to Griffith Avenue;
 - **Section 2:** St. Mobhi Road and Botanic Road from Griffith Avenue to Hart’s Corner:
 - **Section 2a:** Griffith Avenue to Botanic Road;
 - **Section 2b:** Griffith Avenue;
 - **Section 2c:** Ballymun Road, Glasnevin Hill, Botanic Road; and
 - **Section 2d:** Botanic Road to Prospect Way.
 - **Section 3:** Prospect Road, Phibsborough Road from Hart’s Corner to Western Way:
 - **Section 3a:** Prospect Way to Lindsay Road;

- **Section 3b:** Lindsay Road to Royal Canal;
- **Section 3c:** Royal Canal to Western Way; and
- **Section 3d:** Royal Canal Bank Cycleway.
- **Section 4:** Constitution Hill and Church Street to Arran Quay:
 - **Section 4a:** Western Way to Coleraine Street;
 - **Section 4b:** Coleraine Street to Arran Quay ; and
 - **Section 4c:** Markets Cycleway.
- **Section 5:** Finglas Road from St. Margaret's Road to Wellmount Road;
- **Section 6:** Finglas Road from Wellmount Road to Ballyboggan Road.; and
- **Section 7:** Finglas Road from Ballyboggan Road to Hart's Corner:
 - **Section 7a:** Ballyboggan Road to Claremont Lawns;
 - **Section 7b:** Claremont Lawns to St. Vincent's School; and
 - **Section 7c:** St. Vincent's School to Hart's Corner.

28 The main characteristics of the Proposed Scheme of relevance to the ecological assessment are outlined under the Construction and Operational Phases, as follows.

3.1.2 Construction Phase

29 The main characteristics of the Construction Phase of the Proposed Scheme that have potential for ecological impact are:

- Site preparation and clearance;
- Removal of existing boundaries, pavements, lighting columns, bus stops, and signage;
- Protection and / or diversion of buried services;
- Reconnection of existing and new drainage infrastructure into the existing surface water drainage infrastructure;
- Road widening, pavement reconstruction, and kerb improvements;
- Installation of new bus stops and junction / roundabout modification;
- Property boundary reinstatement, signage replacement; installation of lighting columns; and
- Landscaping and tree planting, and reinstatement of temporary land acquisitions.

3.1.2.1 Structural Works / Demolition Works

30 The following are the main structural works that form the Proposed Scheme works:

Structure No. 1: Pedestrian / Cycle Bridge over Rail at Lindsay Grove & Structure No. 2 Pedestrian / Cycle Bridge over Rail at Whitworth Road

- Screen protection to prevent materials falling onto the railway track;
- Installation of bored concrete piles behind the existing railway retaining walls with a pile driver;
- Excavation and construction of the abutments, behind the existing walls, and the demolition of the parapet walls;
- Installation of precast concrete beams (lifted into place using a mobile crane) and reinforcement to complete deck; and
- Pavement and parapets will be finished.

Structure No. 3: Pedestrian / Cycle Bridge over Royal Canal

- Abutments:

- Lower the canal water level by 0.5m over a distance of 300m between locks temporarily for the two months duration of foundation construction to prevent flooding of the works areas;
- Surface will be prepared with minor excavation to achieve the piling level; and
- Bored Pile drilling will be completed. Steel pile casings will be pushed down as the auger bores the hole. These steel cases will minimise leakage to the canal with insertion of rebar cages and concrete pouring of the piles. The duration of this element will be approximately 2 weeks in total, with one to two piles per day.
- Southern Ramp:
 - Surface will be prepared with minor excavation to achieve the foundation level;
 - Pre-cast concrete ramp trough sections will be installed by crane, with masonry wall finishes pre-installed;
 - Filling of the ramps with crushed stone; and
 - Pavements and parapets will be finished.
- Bridge Deck:
 - The steel deck will be preassembled in the factory in different segments (including arch, ribs and deck);
 - Transport of the segments to site;
 - Erection and assembly of the segments by crane from the existing road on the southern side;
 - Positioning and tensioning of the hangers; and
 - Final parapets and lighting will be put in place.

Structure No. 4: Royal Canal Bank Underpass under North Circular Road

- Underground services will firstly be diverted temporarily to the side of the crossing point to allow underpass construction;
- The structure will be completed in two phases. Traffic and pedestrians on North Circular Road will be diverted onto one half of the road, opening working space in the other half for construction;
- Piled foundations will be installed and ground beams constructed for the sub-structures in the first half of the bridge;
- Excavation of the pavement in the works area of North Circular Road;
- Prefabricated structural elements will be delivered to the works location. Precast concrete beams will be installed, and reinforced in-situ with concrete poured to complete the deck;
- Road pavement and concrete footpaths will be installed in the works area;
- The complete half of the underpass will be opened, and traffic will be diverted to that side of the street;
- The same methodology will be completed in the new works area to complete the second half of the structure;
- Once the structure is complete traffic over the structure will be restored;
- The approach ramps, and the area underneath the new underpass will be excavated to required levels from underneath;
- The concrete faces to the abutments, and wingwalls of the underpass in front of the support piles will be constructed;
- The access ramp to the south-eastern side, up to North Circular Road will be completed; and
- Landscaping and finishes will be carried out.

Structure No. 5: Retaining Wall at St. Mobhi Road, Na Fianna GAA Club

- Site of the retaining wall will be isolated using fencing, as appropriate to the location;
- The retained area behind the existing retaining wall will be excavated and the retaining wall will be demolished with a hydraulic breaker mounted to an excavator;
- Existing ground will be stripped to formation level;
- Existing services will be diverted, as required;
- A side-slope will be battered back to enable construction;
- Blinding will be installed at formation level;
- Formwork and reinforcing steel for the wall will be fixed in place;
- Concrete will be poured in sections and formwork removed after the initial curing of concrete;
- After a sufficient curing period, the area behind the wall will be backfilled; and
- The boundary railing will be installed, and replacement trees will be planted behind the new railing.

3.1.2.2 Surface Water Drainage Infrastructure

- 31 Currently, there are three existing surface water catchments within the Proposed Scheme. The Ballymun Section of the Proposed Scheme discharges to the River Tolka in the northernmost section. South of the Royal Canal, the Ballymun Section of the Proposed Scheme discharges to Ringsend Wastewater Treatment Plant (WwTP). To the north of the River Tolka, the Finglas Section of the Proposed Scheme discharges into the Bachelors Stream. Between the River Tolka and the Royal Canal, the Proposed Scheme discharges to the River Tolka.
- 32 It is proposed to connect proposed drainage infrastructure into the existing surface water sewer. The existing road and bridge network consists primarily of curb and gully, with no treatment or attenuation within the network. No Sustainable Drainage Systems (SUDS) were identified within the study area. Surface waters from the Proposed Scheme will drain to Dublin Bay via direct pipes and Bachelors Stream, the River Tolka and the Royal Canal.
- 33 The desk study revealed that there is limited data available for SUDS within the study area. The details of six SUDS on the Proposed Scheme were available from the SUDS Register and Map for Dublin City Council (DCC) and indicate the presence of filter drains at 39A Violet Hill Drive and attenuation tanks at 31 to 36 Ormond Quay Upper, 113 Phibsborough Road, 274 North Circular Road, 106a and 107 King Street North and Mellows Road (DCC 2010).
- 34 It is estimated that the existing surface water drainage system will remain unchanged due to the changes to the existing street layout for the Proposed Scheme. The Proposed Scheme will result in relatively small changes in impermeable area for minor road widening. Resulting in a small increase in impermeable surface area and will cause a small increase in surface water discharge rates. A full breakdown is provided in *Table 2*.
- 35 The drainage design principles ensure that there will be no net increase in the surface water flow discharged to these receptors.
- 36 The proposed drainage design includes the relocation and addition of drainage gullies, as well as the installation of a new surface water sewer on Finglas Road South. Attenuation will be in the form of filter drains, bioretention systems and permeable pavement areas. These SUDS measures allow a level of treatment and / or attenuation to be provided before discharge to the network, reducing the impact on water quality as well as preventing an increase in runoff rates.
- 37 The following drainage types are proposed:
- Bioretention;
 - Oversized pipes – Where there is insufficient space available for SuDS measures it is proposed to provide some attenuation volume online using oversized pipes; and

- Permeable paving: a new off-street parking area is included as part of the proposals at Claremount Lawns, this parking area is to use permeable paving to allow attenuation and treatment of runoff.

38 The drainage system for the Proposed Scheme will discharge to two surface waterbodies and one WwTP. Details of the proposed drainage treatment for each catchment and subsequently each waterbody are provided in **Table 2**. This table also includes details of the changes to impermeable areas. No new outfalls are proposed.

Table 2: Proposed SUDS and Impermeable Areas

Catchment ref (old)	Waterbody	Impermeable Surface Area (m ²)				SUDs measure(s) Proposed
		Existing	Proposed new	Change (m ²)	Percentage Change (%)	
D4_01	Tolka_050	4495	5037	542	12.1	Bioretention
D4_02	Tolka_050	1029	1048	19	1.8	None
D4_03	Tolka_050	3874	4058	184	4.7	Bioretention
D4_04	Tolka_050	4263	4263	0	0.0	None
D4_05	Tolka_050	35035	35926	891	2.5	Bioretention
D4_06	Tolka_050	13285	13154	-131	-1.0	Bioretention
D4_07	Tolka_050	3162	3199	37	1.2	Bioretention
D4_08	Tolka_050	2652	2763	111	4.2	None
D4_09	Tolka_050	847	843	-4	-0.5	None
D4_10	Tolka_050	2488	2474	-14	-0.6	None
D4_11	Tolka_050	11123	11170	47	0.4	Bioretention
D3_01	Tolka_060	120117	116343	-3774	-3.1	Bioretention
D3_02	Tolka_060	301	225	-76	-25.2	None
D3_03	Tolka_060	21841	22063	222	1.0	Bioretention
D3_04	Tolka_060	1392	1392	0	0.0	None
D3_05	Tolka_060	5198	5481	283	5.4	Bioretention & oversized pipe
D3_06	Tolka_060	19532	19626	94	0.5	Bioretention & oversized pipe
D4_12	Tolka_060	22558	23967	1409	6.2	Bioretention
D3_07	Ringsend WwTP	45585	45943	358	0.8	Bioretention
D3_08	Ringsend WwTP	20826	20793	-33	-0.2	Bioretention & oversized pipe
D3_09	Ringsend WwTP	7550	7978	428	5.7	None
D3_10	Ringsend WwTP	3001	3001	0	0.0	None

3.1.2.3 Lighting

39 The majority of the Proposed Scheme is already artificially lit, however temporary lighting may be required along the Proposed Scheme at certain locations during the Construction Phase. A number of existing / permanent lighting columns are proposed to be relocated or replaced as part of the lighting strategy.

3.1.2.4 Landscape and Urban Realm

- 40 It is proposed that localised replanting to compensate for loss of vegetation across the Proposed Scheme will be undertaken. Key areas of the design consideration include the Ballymun Section and Finglas Section of the Proposed Scheme with well developed, mature trees in localised areas such as R108 St. Mobhi Road, in and around the main parks, in the vicinity of the River Tolka and the Botanic Gardens as well as Hart's Corner. Existing trees in good conditions are to be kept, whenever possible and fully protected during construction. Areas of semi-natural / reduced management vegetation in good condition are being kept, while the medians throughout most of the north part of the Proposed Scheme will provide a good opportunity for natural wildflowers and shrubs to be installed, thus contributing to increasing biodiversity and ecological resilience. In terms of urban realm, new enlarged pedestrian areas such as the area immediately surrounding Structure No. 4: North Circular Road Underpass, will feature new green ornamental planting and urban furniture while the areas identified as focal points will also include a more differentiated design with different paving materials.

3.1.2.5 Construction Compounds

- 41 Six Construction Compounds have been selected based on where there is the most available space, in close proximity to the majority of the Proposed Scheme major works and with access to the National and Regional Road network. The Construction Compounds will be located at the following sites:
- Construction Compound B1: North-eastern corner of Santry Cross;
 - Construction Compound B2: St Mobhi Drive;
 - Construction Compound B3: Constitution Hill / Catherine Lane North Junction;
 - Construction Compound F1: Mellows Park in the vicinity of St. Margaret's Road Roundabout;
 - Construction Compound F2: Finglas Road / Finglas Place Junction; and
 - Construction Compound F3: Claremont Lawns (opposite Glasnevin Cemetery).
- 42 The Construction Compounds will be used as the primary location for storage of materials, plant and equipment, site offices, worker welfare facilities and limited car parking.

3.1.2.6 Estimated Construction Phase Duration

- 43 The total Construction Phase for the overall Proposed Scheme is estimated at approximately 24 months. However, individual activities will have shorter durations.

3.1.3 Operational Phase

- 44 The main characteristics of the Operational Phase of the Proposed Scheme that have potential for ecological impact are:
- The presence and operation (traffic) of the road;
 - The presence of additional lighting; and
 - Routine maintenance including ongoing landscape maintenance.

3.2 Overview of the Receiving Environment

3.2.1 European sites

- 45 The Proposed Scheme does not overlap with any European site. The nearest European site to the Proposed Scheme is South Dublin Bay and River Tolka Estuary SPA, which is located approximately 2.7km from the Proposed Scheme and is also hydrologically connected approximately 6km downstream of the terminus of the Proposed Scheme. This is followed by South Dublin Bay SAC, which is located approximately 4km from the Proposed Scheme, and approximately 6.9km downstream of the Proposed Scheme terminus.

- 46 There are eight European sites located in Dublin Bay that are downstream of the six watercourses that are hydrologically connected to the Proposed Scheme (i.e. River Tolka, Claremont Stream, Bachelors Stream, Royal Canal, Liffey Estuary Upper and River Santry). These European sites include North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA, South Dublin Bay and River Tolka SPA, Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC and Dalkey Island SPA.
- 47 There are 12 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 Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, North Bull Island SPA, South Dublin Bay and River Tolka SPA, Ireland's Eye SPA, Lambay Island SPA, Howth Head Coast SPA, Dalkey Islands SPA, Rockabill SPA and The Murrrough SPA.
- 48 In addition, Lambay Island SAC and Rockabill to Dalkey Island SAC are designated for mobile marine QI species known to utilise Dublin Bay and the Liffey Estuary Lower.
- 49 All of the European sites present in the vicinity of the Proposed Scheme are shown on Figure 1. The QIs / SCIs of the European sites in the vicinity of the Proposed Scheme are provided in Appendix I.

3.2.2 Habitats

- 50 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);
 - Buildings and artificial surfaces (BL3);
 - Tidal rivers (CW2);
 - Exposed sand, gravel or till (ED1)
 - Spoil and bare ground (ED2);
 - Recolonising bare ground (ED3);
 - Refuse and other waste (ED5);
 - Other artificial lakes and ponds (FL8);
 - 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 (comprised of areas of residential properties and gardens);
 - (Mixed) broadleaved woodland (WD1);
 - Scattered trees and parkland (WD5);
 - Hedgerows (WL1);
 - Treelines (WL2);
 - Scrub (WS1); and
 - Ornamental/ non-native shrub (WS3).
- 51 The habitat type tidal rivers (CW2) corresponds with the Annex I habitat Estuaries [1130] and is present in the Liffey Estuary Upper, located adjacent to the terminus of the Proposed Scheme at Arran Quay. None of the remaining habitats within the Proposed Scheme correspond to Annex I habitats.

3.2.3 Flora and Fauna Species

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

- 53 There were five areas of non-native invasive plant species listed on the Third Schedule of the (Birds and Natural Habitats) Regulations 2011 identified along or adjacent to the Proposed Scheme. These locations are summarised in **Table 3**.
- 54 The desk study returned records of a total of five species listed on the Third Schedule of the (Birds and Natural Habitats) Regulations 2011 across the wider study area (i.e. Grid Squares O13 and O14). Records within close proximity to the Proposed Scheme include giant hogweed *Heracleum mantegazzianum*, Japanese knotweed *Reynoutria japonica* and Himalayan balsam *Impatiens glandulifera* scattered along the banks of the Tolka across the Proposed Scheme. Several records of Brazilian giant-rhubarb *Gunnera manicata*, New Zealand pigmyweed *Crassula helmsii*, three-cornered garlic *Allium triquetrum*, Nuttall's waterweed *Elodea nuttallii*, and water fern *Azolla filiculoides* were recorded within the grounds of the National Botanic Gardens adjacent the Proposed Scheme.

Table 3: Non-Native Invasive Plant Species Listed in the Third Schedule of the Birds and Habitats Regulations recorded along or adjacent to the Proposed Scheme

Reference	Species	Location
CBC0304IAPS001	Giant hogweed <i>Heracleum mantegazzianum</i>	Stand in inaccessible woodland on the Finglas Road R135, opposite the Bellevue Industrial Estate.
CBC0304IAPS002	Himalayan balsam <i>Impatiens glandulifera</i>	Scattered along the banks of the River Tolka, adjacent to the Finglas Road R135, north-west of Tolka Bridge.
CBC0304IAPS003	Japanese knotweed <i>Reynoutria japonica</i>	Small stand within planted hedgerow on the Finglas Road, south of the River Tolka.
CBC0304IAPS004	Japanese knotweed <i>Reynoutria japonica</i>	Small stand on Glasnevin Hill, opposite the entrance to the Bon Secours Consultants Clinic
CBC0304IAPS005	Nuttall's waterweed <i>Elodea nuttallii</i> (& Canadian waterweed <i>E. canadensis</i>) ¹⁵	A species recorded in the Royal Canal in the vicinity of the proposed pedestrian-cycleway bridge, during aquatic surveys carried out by Triturus Environmental Ltd.

3.2.3.1 Otter

- 55 The desk study found that otter are known to occur within 1km of the Proposed Scheme along the River Tolka, the Royal Canal and the River Liffey¹⁶.
- 56 No signs of otter, an Annex II species, were recorded during surveys within the footprint of the Proposed Scheme. No signs of otter were recorded within 150m upstream and downstream of the proposed Royal Canal Pedestrian / Cycle Bridge crossing point. Signs of otter were recorded further up- and downstream of the Proposed Scheme along the River Tolka, in respect of a separate scheme, but not along the Royal Canal during the surveys carried out by Triturus Environmental Ltd. in October and November 2020.
- 57 The nearest European site for which this species is designated is the Wicklow Mountains SAC, which is located approximately 11.9km south (as the crow flies) of the Proposed Scheme. The Wicklow Mountains SAC is located in a different sub-catchment to that of the Proposed Scheme and as such otter populations are not considered to be associated with QI populations associated with the Wicklow Mountains SAC.

¹⁵ Canadian Waterweed *Elodea Canadensis* which occurred alongside *E.nuttalli* was delisted as a third schedule non-native species by virtue of SI 355/2015.

¹⁶ 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.*

3.2.3.2 Marine Mammals

58 The Proposed Scheme terminates at Arran Quay at the Liffey Estuary Upper. Harbour seal, grey seal, and harbour porpoise are known to be present within Dublin Bay. These species are all listed on Annex II of the habitats directive while harbour porpoise is also listed on Annex IV of the Habitats Directive. The nearest European site for which harbour seal and grey seal have been designated is Lambay Island SAC located approximately 17.8km from the Proposed Scheme. The nearest European site for which harbour porpoise has been designated is Rockabill to Dalkey Island SAC located approximately 11.7km from the Proposed Scheme.

3.2.3.3 Kingfisher

59 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. In particular, a population of kingfisher are reported to be present along the River Tolka in the vicinity of Tolka Valley Park. There are no records of kingfisher on the Royal Canal, in the vicinity of the Proposed Scheme.

60 Habitat suitability assessment surveys carried out in October 2020 recorded no suitable habitat for nesting kingfisher within 500m upstream or downstream of the proposed Royal Canal Pedestrian / Cycle Bridge crossing point. No kingfisher were recorded within the footprint of the Proposed Scheme, during the multidisciplinary or habitat suitability assessment surveys.

61 The nearest European site for which this species is designated is River Boyne and River Blackwater SPA, which is located approximately 32.4km north of the Proposed Scheme.

3.2.3.4 Other Birds

62 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*, lesser black-backed gull *Larus fuscus*.

63 The desk study returned records of a total of 50 wintering bird species in the wider study area (i.e. Grid Squares O13 and O14). Records included 13 species listed under Annex I of the Birds Directive and 42 SCI species. 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 study of lands within 300m of the Proposed Scheme returned records of seven 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 and lapwing.

64 A review of a study into light-bellied brent goose inland feeding sites¹⁷ has identified no known inland wintering bird feeding sites within the footprint of the Proposed Scheme. There are six known inland wintering bird feeding sites within approximately 300m of the Proposed Scheme (i.e. the disturbance Zol). The known inland wintering feeding sites, along with their relative level of importance¹⁸ to the brent goose population (as assessed in 2017) and distances from the Proposed Scheme are as follows:

- Glasnevin / St. Vincent's Primary School (major Importance) approximately 82m from the Proposed Scheme;
- Finglas / Erin's Isle GAA (major Importance) approximately 85m from the Proposed Scheme;

¹⁷ 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.

¹⁸ 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.

- Glasnevin / DCU Sports Grounds (major Importance) approximately 170m from the Proposed Scheme;
- Finglas / Dunsink Road (high Importance) approximately 207m from the Proposed Scheme;
- Tolka Valley Park (moderate Importance) approximately 262m from the Proposed Scheme; and
- Finglas / Farnham Drive Park (high Importance) approximately 269m from the Proposed Scheme.

65 Wintering bird surveys were carried out for the Proposed Scheme at one location adjacent to the Proposed Scheme which has the potential to support wintering birds, Home Farm Football Club pitch on St. Mobhi Road (referred to as CBC0304WB001), between November 2020 and March 2021. Species recorded during the survey were black-headed gull and grey heron *Ardea cinerea* (See **Table 4**).

Table 4: Wintering Birds of Conservation Concern Recorded during the Winter Bird Transect Surveys

Common Name / Scientific Name / BTO Code	Activity and Distribution in the Study Area	Conservation Importance		
		BoCCI (B – Breeding / W - Wintering)	Annex I	Nearest SPA Designated for SCI Species
Black-headed gull <i>Larus ridibundus</i> (BH)	One bird feeding on football pitch (28/01/2021)	Amber (B/W)	-	South Dublin Bay and River Tolka Estuary SPA (approximately 2.7km)
Grey heron <i>Ardea cinerea</i> (H.)	One bird on ground on football pitch (01/12/2020)	Green (B/W)	-	Wexford Harbour and Slobbs SPA approximately 106.9km

66 A number of SPAs have been included for Stage Two Appropriate Assessment, as it cannot be concluded that their SCI species do not use areas in the vicinity of the Proposed Scheme as *ex-situ* habitat.

3.2.4 Hydrology

- 67 The Proposed Scheme crosses a total of four watercourses: the River Tolka, the Royal Canal, Claremont Stream and Bachelors Stream. In the northern section of the Ballymun Section of the Proposed Scheme terminates at St. Margaret's Road, in close proximity to the River Santry. In the southern section, the Proposed Scheme terminates at Arran Quay, at the Liffey Estuary Upper.
- 68 The drainage system for the Proposed Scheme will discharge to two main surface water receptors, the Tolka_050 and Tolka_060; and Ringsend WwTP (which ultimately discharges to Liffey Estuary Lower, Dublin Bay, post treatment). All drainage outfall discharges to surface waters represent point discharges.
- 69 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 5**.

Table 5: 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 Tolka (Tolka_050, Tolka 060)	Three existing crossing points of the River Tolka: on Finglas Road R135 at Tolka Valley Park; the Ballymun Road R108 at the National Botanic Gardens; and, Saint Mobhi Road R108, south of Home Farm Football Club	Q3 (Violet Hill Drive Finglas) Poor 'At risk'	It flows for approximately 3.3km, from the crossing point at St. Mobhi Road, until it reaches the Tolka Estuary transitional waterbody (classified as "Potentially Eutrophic"), which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
<i>Claremont Stream (Non designated watercourse that feeds into the River Tolka)</i>	The Claremont Stream is culverted under Saint Mobhi Drive	No water quality data available 'At risk' <i>The Claremont Stream is a tributary of the River Tolka</i>	It flows for approximately 20m from the crossing point at Saint Mobhi Drive, until it reaches the River Tolka (See above for details)
<i>Bachelors Stream (Non designated watercourse that feeds into the River Tolka)</i>	The Bachelors Stream is culverted under the Finglas Road R135	No water quality data available 'At risk' <i>The Bachelors Stream is a tributary of the River Tolka</i>	It flows for approximately 2.5km along the Finglas Road R135, until it reaches the River Tolka (See above for details)
<i>Royal Canal</i>	One existing crossing point at Cross Guns Bridge Proposed new pedestrian/cycleway bridge over the Royal Canal at Royal Canal Bank	<i>Not applicable</i>	It flows for approximately 3km, from the proposed crossing point, until it reaches the Liffey Estuary Lower transitional waterbody (classified as "Unpolluted") at North Wall Quay, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
<i>River Santry (Santry_010)</i>	Located approximately 200m north of the Proposed Scheme terminus at the Naul Road R108	Q2-3 (Clonshaugh Road Bridge) Poor 'At risk'	It flows for approximately 8km, from the proposed crossing point, until it reaches the North Bull Island transitional waterbody (classified as "Potentially Eutrophic") near Watermill Road, which ultimately drains to Dublin Bay (classified as "Unpolluted").
<i>Liffey Estuary Upper</i>	Located approximately 50m south of the Proposed Scheme terminus at Arran Quay.	Not applicable 'At risk'	It flows for approximately 1.4km until it reaches the Liffey Estuary Lower transitional waterbody (classified as "Unpolluted"), 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
<i>Liffey Estuary Lower</i>	Hydrologically connected to the Proposed Scheme via Ringsend WwTP.	Q-Value Score not applicable Good <i>'At risk'</i>	The Liffey Estuary Lower transitional waterbody (classified as "Unpolluted") at Grand Canal Dock, which ultimately drains to Dublin Bay coastal waterbody (classified as "Unpolluted").
<i>Dublin Bay</i>	Hydrologically connected to the Proposed Scheme via the River Tolka, Royal Canal, Liffey Estuary Upper, and the Liffey Estuary Lower and the Ringsend Wastewater Treatment Plant	Q-Value Score not applicable Good <i>'Not at risk'</i>	The Dublin Bay coastal waterbody is classified as "Unpolluted".

3.2.5 Hydrogeology

- 70 Geological Survey of Ireland (GSI) data indicates that the bedrock formation 1:500k in the Proposed Scheme is "*Dark-grey argillaceous & cherty limestone and shale (Calp)*". The region is predominantly underlain by 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.
- 71 The Proposed Scheme transverses one groundwater body. Environmental data sourced from the EPA for each of these groundwater bodies is presented below:

Dublin Groundwater Body

- For the majority of this area, it is considered to be of "*Good*" Groundwater body WFD Status (2013-2018) and "*not at risk*" of failing the WFD groundwater quality objectives for the majority of its area; and
 - The aquifers located within this groundwater body and where the Proposed Scheme transverses are classified as "*locally important aquifer - moderately productive only in local zones*"
- 72 The vulnerability of the Dublin groundwater body to human activities ranges from "*Rock at or Near Surface*", "*Extreme*", "*High*", "*Moderate*" to "*Low*" within the footprint of the Proposed Scheme.

3.2.6 Soils & Geology

- 73 The 1:100,000 GSI bedrock geology map of the area indicates that the underlying bedrock along the Proposed Scheme comprises the Lucan Formation: (Calp) dark limestone and shale around central Dublin; Rush Conglomerate Formation- conglomerate, shale, limestone near the N2; and Boston Hill Formation- nodular and muddy limestone and shale at Finglas. The GSI Quaternary subsoils map¹⁹ shows the footprint of the Proposed Scheme is predominantly underlain by till derived from limestone along with areas of

¹⁹ GSI (2016a). Quaternary geology of Ireland – Sediments Map. [Online] Available from <https://secure.dcca.gov.ie/arcgis/rest/services/Quaternary/QuaternarySediments16/MapServer>

gravels derived from limestone, alluvial deposits and bedrock subcrop / outcrop. Urban fill is widely recorded in Dublin City and outskirts.

3.3 Assessment of Potential Effects on European Sites

- 74 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.
- 75 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 Appropriate Assessment Screening appraisal.
- 76 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 during construction;
 - Habitat degradation / effects on QI / SCI species as a result of hydrological impacts during construction and operation;
 - Habitat degradation as a result of hydrogeological impacts during construction and operation;
 - Habitat degradation as a result of introducing / spreading non-native invasive species during construction and operation;
 - Habitat degradation as a result of air quality impacts during construction and operation; and
 - Disturbance and displacement impacts during construction and operation.

3.3.1 Habitat loss and fragmentation

- 77 The Proposed Scheme does not overlap with any European sites and the nearest European site is South Dublin Bay and River Tolka Estuary SPA which is located approximately 2.7km downstream of the proposed crossing point on the River Tolka. Therefore, there is no potential for direct habitat loss and fragmentation to occur. 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 the section below.
- 78 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 Greater 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, Dalkey Island SPA, Rockabill SPA and The Murrough SPA). The Proposed Scheme will not result in the loss of sites suitable to support breeding gull and wintering bird species (i.e. Home Farm Football Club pitches on St. Mobhi Road). Therefore, there is no potential for impacts on SCI species associated with SPAs to occur as a result of habitat loss / fragmentation. Therefore, there is no potential for in combination effects to occur.
- 79 Regarding the two raptor species for which Wicklow Mountains SPA are designated, according to the Scottish Natural Heritage Guidance (SNH 2016), 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 next site, while in winter this generally reduces to 500m but can extend to 1.5km. Wicklow Mountains SPA lies approximately 12km south 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.

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

- 80 The Proposed Scheme is hydrologically connected to Dublin Bay via the River Tolka, Royal Canal, Claremont Stream and Bachelors Stream and existing surface water drainage pipes which drain to Ringsend WwTP, and subsequently to Dublin Bay. 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. The associated effects of a reduction of surface water quality could potentially extend for a considerable distance downstream of the location of the accidental pollution event or the discharge point and therefore impact downstream waterbodies (i.e. Liffey Estuary Upper, Liffey Estuary Lower and Dublin Bay, within which the following European sites are located: North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA and Dalkey Islands SPA). This reduction in water quality (either alone or in combination with other pressures on water quality) could result in the degradation of sensitive habitats present within these European sites, which in turn would negatively affect the SCI bird species that rely upon these habitats as foraging and / or roosting habitat. It could also negatively affect the quantity and quality of prey available to SCI bird species. These potential impacts could occur to such a degree that the conservation objectives of the 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 may be undermined.
- 81 In a worst-case scenario, in the absence of mitigation measures, the release of contaminated surface water runoff and / or an accidental spillage or pollution event into any surface water features during construction, or operation, also has the potential to affect mobile SCI bird species and QI 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, The Murrugh SPA and, 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 within downstream European sites, 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.

3.3.3 *Habitat degradation as a result of hydrogeological impacts*

- 82 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 ecosystems and any species that they may support.
- 83 The underlying aquifers are either Locally Important Bedrock Aquifer, Moderately Productive only in Local Zones or Poor Bedrock Aquifer, Moderately Productive only in Local Zones. These types of aquifers are associated with low permeability which decreases with depth. An upper shallow zone of higher permeability may exist in the top few metres and is associated with relatively short flow paths. Therefore, any influence on the groundwater as a result of the proposed works will be localised and will not extend to any groundwater dependant habitats which are all located over 400m from any proposed works. 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 is determined by the professional judgement of the hydrogeology specialists.
- 84 In summary, therefore, the Proposed Scheme does not have the potential to result in habitat degradation of the QI / SCI species of any European site as the result of hydrogeological impacts.

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

- 85 Three non-native invasive plant species listed on the Third Schedule of the (Birds and Natural Habitats) Regulations 2011 were recorded as being present within, or in close proximity to, the Proposed Scheme. In the absence of mitigation, there is potential for terrestrial species (giant hogweed, Japanese knotweed and Himalayan balsam) to spread or be introduced, during construction and / or routine maintenance / management works, to terrestrial habitat areas in European sites downstream in Dublin Bay (i.e. North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA). These in turn may result in the degradation of the existing habitats and therefore undermine the conservation objectives of these European sites.
- 86 A further third schedule aquatic species (Triturus Environmental Services 2020), recorded in the Royal Canal (Nuttall's waterweed and the delisted Canadian waterweed) are freshwater species, and it is not considered likely that they could spread or be introduced to European sites located downstream in Dublin Bay.
- 87 It is not considered likely that terrestrial invasive species could spread to European sites which are located a significant distance from the outfall locations of the Royal Canal, River Tolka, River Santry and Liffey Estuary Upper (i.e. Howth Head SAC, Howth Head Coast SPA, Rockabill to Dalkey Island SAC and Dalkey Islands SPA).

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

- 88 A reduction in air quality within the immediate vicinity of the construction works may occur as a consequence of dust deposition associated with the construction activities. This includes 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, NO_s), 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.
- 89 The unmitigated Zol for air quality effects arising from the Proposed Scheme has the potential to extend 40m from the Proposed Scheme boundary, and 200m from Construction Compounds during the Construction Phase, and up to 200m the Proposed Scheme boundary during the Operational Phase. There are no European sites present within these distances. The nearest European site is South Dublin Bay and River Tolka Estuary SPA which is located approximately 2.7km downstream from the Proposed Scheme and is therefore not located within the Zol of this potential impact.
- 90 Therefore, the Proposed Scheme does not have the potential to result in habitat degradation of the QI / SCI species of any European site as the result of air quality impacts, either during the Construction Phase or the Operational Phase.

3.3.6 *Disturbance and Displacement Impacts*

- 91 A temporary and / or permanent increase in noise, vibration and / or human activity levels during the Construction and / or Operational 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 250m²⁰. For birds, disturbance

²⁰ This is consistent with Transport Infrastructure Ireland (TII) guidance (Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes (2008) 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.

effects would not be expected to extend beyond a distance of approximately 300m²¹, 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.

- 92 The only location where signs of otter were recorded during field surveys (Aquatic surveys) of the Proposed Scheme was at the proposed Royal Canal Pedestrian / Cycle Bridge. In addition, signs of otter were recorded outside the Proposed Scheme further upstream and downstream on the River Tolka. The River Tolka is known to support otter, an Annex II and IV mammal species. The nearest SAC to the Proposed Scheme site for which otter has been designated is Wicklow Mountains SAC which is located approximately 11.9km south (as the crow flies). Research carried out by Ó Néill *et al.* (2009)²² on ranging behaviours of otter on river systems in Ireland found that female otter ranges averaged 7.5km while male otter home ranges varied between 7km-21km. The Proposed Scheme is located within Tolka_SC_020 sub-catchment, and therefore, it is in a different sub-catchment from that of the Wicklow Mountains SAC (Dodder_SC_010). While the River Tolka is known to support otter, current guidance in respect of the hydrological distance that territorial otters roam suggest a maximum territorial range of 21km for otter along suitable watercourses. Thus, watercourses in proximity to the Proposed Scheme works are not considered to be associated with QI populations associated with the Wicklow Mountains SAC, by virtue of differing catchments and distance.
- 93 Although marine mammals associated with European sites may commute and forage within the Liffey Estuary, it is considered to be unlikely that there will be any impacts on these species as a result of the Proposed Scheme, as the terminus at Arran Quay is located approximately 8.8km 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. In addition to this, the scale of works proposed in the vicinity of the Liffey Estuary are considered to be minor.
- 94 Regarding the raptor species, for which Wicklow Mountains SPA are designated (e.g. merlin and peregrine), a study by Ruddock & Whitfield (2007), 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 300m-500m may be sufficient in the case of breeding or nesting merlin. Likewise a distance of 500m-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 to the Proposed Scheme is 2.7km away (South Dublin Bay & River Tolka Estuary SPA). 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 designated²³.

²¹ 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.

²² Ó Néill, L., Veldhuizen, T., de Jongh, A. and Rochford, J. (2009). *Ranging behaviour and socio-biology of Eurasian otters (Lutra lutra) on lowland mesotrophic river systems*. European Journal of Wildlife Research: 55: 363-370.

²³ 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.

- 95 Although no signs of kingfisher were recorded during field surveys of the Proposed Scheme, kingfisher, an Annex I bird species, are known to be present in the wider study area. 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 3km-5km of a river catchment²⁴. The nearest SPA for which kingfisher has been designated is the River Boyne and Blackwater SPA which is located in a separate catchment approximately 32.5km away. Therefore, kingfisher present in the vicinity of the Proposed Scheme are not associated with an SPA population.
- 96 There are a number of SPAs located in relatively close proximity to the Proposed Scheme which are designated for SCI species that are known to forage and / or roost at inland sites, such as amenity grassland playing pitches (i.e. Malahide Estuary SPA, Baldoyle Bay SPA, North Bull Island SPA, South Dublin Bay and River Tolka SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Howth Head Coast SPA, Ireland’s Eye SPA, Lambay Island SPA, Rockabill SPA, Dalkey Islands SPA and The Murrrough SPA). Seven of these species were returned from the desk study and include light-bellied brent goose, curlew, oystercatcher, blacked-headed gull, herring gull, lesser black-backed gull and lapwing. Suitable inland foraging / roosting sites, which these bird species utilise, are located within the potential Zol of the Proposed Scheme (see Section 3.2.3.4).
- 97 Therefore, the Proposed Scheme has the potential to result in the disturbance / displacement impacts to the mobile SCI species of European sites, that are known to forage and / or roost at inland sites across the Greater Dublin Area.

3.3.7 Summary

- 98 The *ex-situ* hydrological, 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.
- 99 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 6**. 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 6: 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.	No There are no European sites at risk of habitat loss impacts associated with the Proposed Scheme
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 North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC, Lambay Island SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA, Howth Head Coast SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA,

²⁴ 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/>

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?
	Lambay Island SPA, Ireland's Eye SPA, Dalkey Islands SPA, Rockabill SPA and The Murrrough SPA.
Habitat degradation as a result of hydrogeological impacts Groundwater-dependant habitats, and the species those habitats support, in the local area that lie downgradient of the Proposed Scheme.	No 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, therefore, a risk associated with the Proposed Scheme to downstream European sites from the spread / introduction of non-native invasive species cannot be excluded. North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA
Air quality impacts Potentially up to 200m from the Proposed Scheme boundary.	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 <i>ex situ</i> inland feeding sites which are utilised by SCI wintering bird species within the potential disturbance Zol of the Proposed Scheme. 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.

3.4 In-Combination Effects

- 100 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.
- 101 There are 17 European sites within the Zol of the Proposed Scheme at outlined above. These are North Dublin Bay SAC; South Dublin Bay SAC; Howth Head SAC; Rockabill to Dalkey Island SAC; Lambay Island 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.
- 102 All other European sites fall beyond the Zol of the Proposed Scheme. Therefore, there is no potential for any other plans or projects to act in combination with the Proposed Scheme to adversely affect the integrity of any other European sites.
- 103 The in-combination assessment involved first identifying those plans and projects which have the potential to impact on those European sites within the Zol of the Proposed Scheme.

104 Those plans or projects with the potential to impact upon these European sites are any national, regional and local land use plans or any existing or proposed projects that could potentially affect the ecological environment within the Zol of the Proposed Scheme. These are presented in **Table 7** and **Table 8**.

Table 7 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
National Transport Authority Integrated Implementation Plan 2019-2024
Smarter Travel a Sustainable Transport Future 2009-2020
National Biodiversity Action Plan 2017-2021
River Basin Management Plan 2018-2021
National Air Pollution Control Programme (NAPCP) Draft 2019
National Marine Planning Framework 2018
Water Services Strategic Plan 2015
Regional Plans
Regional Planning Guidelines for the Greater Dublin Area Vol I & II 2010-2022;
Regional Spatial & Economic Strategy for the Eastern and Midland Region 2019-2031
Greater Dublin Area Cycle Network Plan 2013
Eastern Catchment Flood Risk Assessment and Management (CFRAM) study 2011-2016
County / Local Plans
Fingal Development Plan 2017-2023
Fingal Biodiversity Action Plan 2010-2015
Fingal County Council Climate Action Plan 2019-2024
<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 2015-2020
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 2016-2022
Biodiversity Action Plan for South Dublin County (2020-2026)- Draft for public consultation
South Dublin County Council Climate Change Action Plan 2019-2024
<ul style="list-style-type: none"> • Tallaght Town Centre Local Area Plan 2020 • Liffey Valley Town Centre Local Area Plan 2008
Dún Laoghaire- Rathdown Development Plan 2016-2022; Dún Laoghaire- Rathdown Development Plan (2022-2028)- Draft for public consultation
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
<ul style="list-style-type: none"> • Deansgrange Local Area Plan 2010-2020 • Stillorgan Local Area Plan 2018-2024

- Blackrock Local Area Plan 2015-2021
- Woodbrook-Shanganagh Local Area Plan 2017-2024

Wicklow County Development Plan 2016-2022

Wicklow Biodiversity Plan 2010-2015

Wicklow County Council Climate Change Adaptation Strategy 2019

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

Table 8 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: refer to “Details” link
- 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: refer to “Details” link
- 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: refer to “Details” link
- 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: refer to “Details” link
- 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 lo
- 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.
- Alternations 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.
- Aviation fuel pipeline. Location: Inlet Station: Team CV, Bond Drive, Dublin Port, Dublin 1 to Dublin Airport, Co. Dublin
- Park development project at the Racecourse Park
- 2 no. 110kV transmission lines and a 110kV Gas Insulated Switchgear (GIS) substation
- 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
- Lucan to City Centre Core Bus Corridor Scheme
- Liffey Valley to City Centre Core Bus Corridor Scheme
- Tallaght / Clondalkin 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
- Belfield / Blackrock 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

- 105 There is the potential for developments listed in **Table 8**, or those implemented under a range of land use and other plans listed in **Table 7**, to lie either within European sites, or be situated in a location where they may be within the Zol of the European sites which also fall within the Zol of the Proposed Scheme.
- 106 Key development projects with the 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, utility infrastructure including proposed or consented water utility improvement.
- 107 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 in **Table 8** for the Proposed Scheme (i.e. hydrological, invasive species and disturbance and displacement effects) which could act in combination with similar effects and pathways arising from the various plans.
- 108 Therefore the potential for the following in combination effects arising from plans and projects cannot be ruled out:
- Habitat fragmentation (for example European sites at risk of *ex-situ* habitat losses; Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, North Bull Island SPA and South Dublin Bay and River Tolka SPA, Skerries Islands SPA, Lambay Island SPA, Ireland's Eye SPA 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 North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC, Lambay Island SAC, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Howth Head Coast SPA, Dalkey Islands SPA, Baldoyle Bay SPA, Ireland's Eye SPA, Skerries Islands SPA, Rockabill SPA, Lambay Island SPA, Malahide Estuary SPA, Rogerstown Estuary SPA, and The Murrrough SPA);

- Habitat degradation as a result of introducing / spreading non-native invasive species (North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA, 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 Zol of the Proposed Scheme for Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Ireland's Eye SPA, Lambay Island SPA, North Bull Island SPA, South Dublin Bay and River Tolka SPA and The Murrough SPA.

4 Conclusions of Screening Assessment Process

109 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 hydrological impacts, invasive species, and disturbance and displacement impacts: North Dublin Bay SAC, South Dublin Bay SAC, Howth Head SAC, Rockabill to Dalkey Island SAC, Lambay Island SAC, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Howth Head Coast SPA, Dalkey Islands SPA, Malahide Estuary SPA, Baldoyle Bay SPA, Rogerstown Estuary SPA, Skerries Islands SPA, Lambay Island SPA, Ireland's Eye SPA, Rockabill SPA and The Murrough SPA.

110 In reaching this conclusion, the nature of the Proposed Scheme and its potential relationship with all European sites within the Zol, and their conservation objectives, have been fully considered.

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

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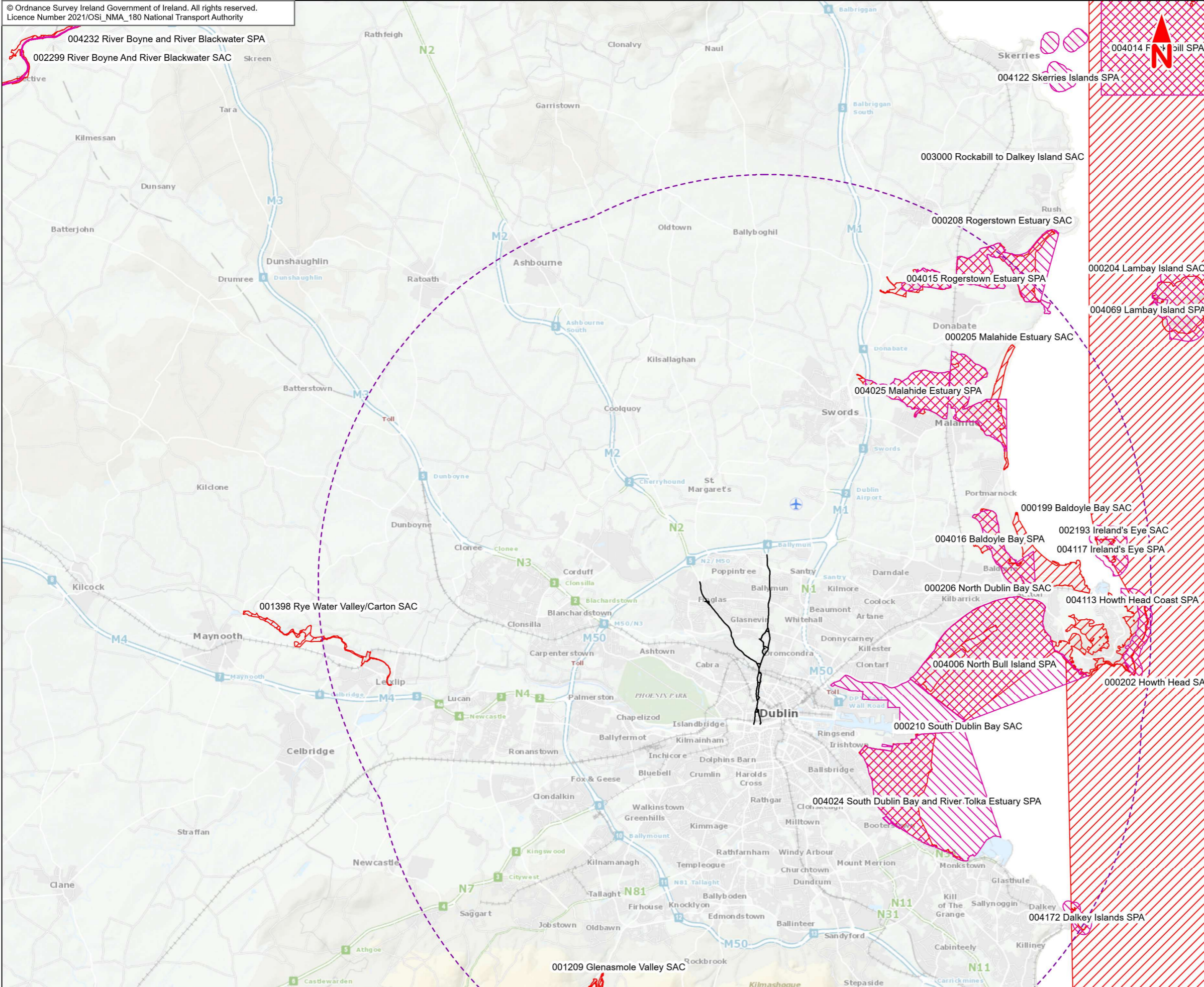
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Figure 1
European Sites
in the Vicinity
of the Proposed
Scheme

Figure 1

European sites in the vicinity of the Proposed Scheme



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

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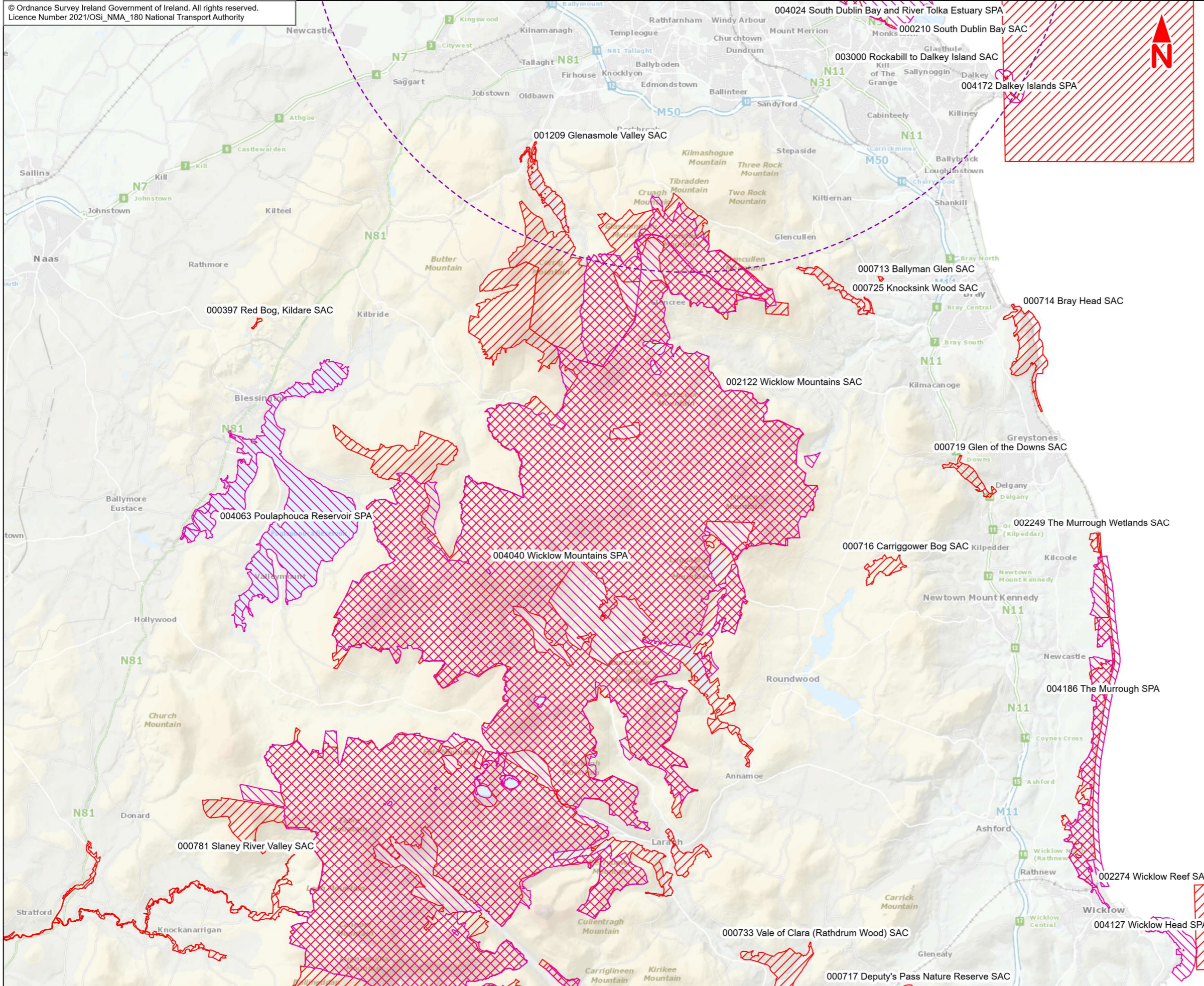
Client: **NTA**
Udarás Náisiúnta Iompair
National Transport Authority

Consultant: **JACOBS ARUP SYSTRA**

Date: 4/28/2022
Scale @ A3: 1:150 000
Project Code: BCIDE
Originator Code: JAC

Drawn: EK
Checked: PW
Approved: DK

Programme Title: BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title: Ballymun / Finglas 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-0304_XX_00-DR-GG-2090	Sheet Number: 1 of 2	Status: A	Rev: M01



- Legend :**
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Date: 4/28/2022 | Scale @ A3: 1:150 000
 Drawn: EK | Checked: PW | Approved: DK
 Project Code: BCIDE | Originator Code: JAC | QMS Code:

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Figure 1: European sites in the Vicinity of the Proposed Scheme			
Drawing File Name: BCIDE-JAC-ENV_BD-0304_XX_00-DR-GG-2091	Sheet Number: 2 of 2	Status: A	Rev: M01



**Ballymun / Finglas to
City Centre Core Bus
Corridor Scheme**
May 2022

**Appropriate
Assessment
Report**

**Screening
Report**

**BUS
CONNECTS**

SUSTAINABLE TRANSPORT FOR A BETTER CITY.

Appendix I

The Qualifying Interests (QIs) and Special Conservation Interests (SCIs)²⁵ of the European sites in the vicinity of 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 Site
Special Area of Conservation (SAC)	
<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 (2013) <i>Conservation Objectives: South Dublin Bay SAC 000210</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 4km 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><i>S.I. No. 524/2019 - European Union Habitats (North Dublin Bay Special Area of Conservation 000206) Regulations 2019</i> NPWS (2013) <i>Conservation Objectives: North Dublin Bay SAC 000206</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 5.7km from the Proposed Scheme</p>
<p>Malahide Estuary SAC [000205] 1140 Mudflats and sandflats not covered by seawater at low tide 1310 <i>Salicornia</i> and other annuals colonising mud and sand 1320 <i>Spartina</i> swards (<i>Spartinion maritimae</i>)²⁶ 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p>	<p>Approximately 7.6km from the Proposed Scheme</p>

²⁵ The versions of the conservation objectives documents referenced in this table are the most recent published versions at the time of writing

²⁶ 1320 *Spartina* swards (*Spartinion maritimae*) habitat is included within the conservation objectives document for Malahide Estuary SAC, but not within the Statutory Instruments document. NPWS note that *Spartina* swards are now considered non-native species and as such no targets are set in respect of this habitat nor is necessary to assess the likely effects of plans or projects against this Annex I habitat at this site.

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme Site
<p>2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*</p> <p><i>S.I. No. 91/2019 - European Union Habitats (Malahide Estuary Special Area of Conservation 000205) Regulations 2019</i></p> <p>NPWS (2013) <i>Conservation Objectives: Malahide Estuary SAC 000205</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	
<p>Baldoye Bay SAC [000199]</p> <p>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>Glaucopuccinellietalia maritima</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p> <p>NPWS (2012) <i>Conservation Objectives: Baldoye Bay SAC 000199</i>. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht</p>	Approximately 8km from the Proposed Scheme
<p>Howth Head SAC [000202]</p> <p>1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 4030 European dry heaths</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>	Approximately 11 km from the Proposed Scheme
<p>Rogerstown Estuary SAC [000208]</p> <p>1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1310 <i>Salicornia</i> and other annuals colonising mud and sand 1330 Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*</p> <p><i>S.I. No. 286/2018 - European Union Habitats (Rogerstown Estuary Special Area of Conservation 000208) Regulations 2018</i></p> <p>NPWS (2013) <i>Conservation Objectives: Rogerstown Estuary SAC 000208</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	Approximately 11.3km from the Proposed Scheme
<p>Glenasmole Valley SAC [001209]</p> <p>6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) 6410 <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) 7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>)*</p> <p><i>S.I. No. 345/2021 - European Union Habitats (Glenasmole Valley Special Area of Conservation 001209) Regulations 2021</i></p> <p>NPWS (2021) <i>Conservation objectives for Glenasmole Valley SAC [001209]</i>. Version 1.0. Department of Housing, Local Government and Heritage.</p>	Approximately 11.4km 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 Site
<p>Rockabill to Dalkey Island SAC [003000] 1170 Reefs 1351 Harbour porpoise <i>Phocoena phocaena</i></p> <p><i>S.I. No. 94/2019 - European Union Habitats (Rockabill To Dalkey Island Special Area of Conservation 003000) Regulations 2019</i> NPWS (2013) <i>Conservation Objectives: Rockabill to Dalkey Island SAC 003000</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 11.7km from the Proposed Scheme</p>
<p>Wicklow Mountains SAC [002122] 3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) 3160 Natural dystrophic lakes and ponds 4010 Northern Atlantic wet heaths with <i>Erica tetralix</i> 4030 European dry heaths 4060 Alpine and Boreal heaths 6130 Calaminarian grasslands of the Violetalia calaminariae 6230 Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) 7130 Blanket bogs (* if active bog) 8110 Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) 8210 Calcareous rocky slopes with chasmophytic vegetation 8220 Siliceous rocky slopes with chasmophytic vegetation 91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles 1355 <i>Lutra lutra</i> (Otter)</p> <p>NPWS (2017) <i>Conservation Objectives: Wicklow Mountains SAC 002122</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p>	<p>Approximately 11.9km from the Proposed Scheme</p>
<p>Rye Water Valley/Carton SAC [001398] 7220 Petrifying springs with tufa formation (Cratoneurion)* 1014 Narrow-mouthed Whorl Snail <i>Vertigo angustior</i> 1016 Desmoulin's Whorl Snail <i>Vertigo moulinsiana</i></p> <p><i>S.I. No. 494/2018 - European Union Habitats (Rye Water Valley/Carton Special Area of Conservation 001398) Regulations 2018</i> NPWS (2021) <i>Conservation objectives for Rye Water Valley/Carton SAC [001398]</i>. Version 1.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 12.6km from the Proposed Scheme</p>
<p>Ireland's Eye SAC [002193] 1220 Perennial vegetation of stony banks 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts</p> <p><i>S.I. No. 501/2017 - European Union Habitats (Ireland's Eye Special Area of Conservation 002193) Regulations 2017</i> NPWS (2017) <i>Conservation Objectives: Ireland's Eye SAC 002193</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p>	<p>Approximately 12.9km 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 Site
<p>Lambay Island SAC [000204] 1170 Reefs 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 1364 Grey seal <i>Halichoerus grypus</i> 1365 Harbour seal <i>Phoca vitulina</i></p> <p><i>S.I. No. 294/2019 - European Union Habitats (Lambay Island Special Area of Conservation 000204) Regulations 2019</i> NPWS (2013) <i>Conservation Objectives: Lambay Island SAC 000204. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 17.8km from the Proposed Scheme</p>
Special Protection Area (SPA)	
<p>South Dublin Bay and River Tolka Estuary SPA [004024] A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A137 Ringed Plover <i>Charadrius hiaticula</i> A141 Grey Plover <i>Pluvialis squatarola</i> A143 Knot <i>Calidris canutus</i> A144 Sanderling <i>Calidris alba</i> A149 Dunlin <i>Calidris alpina</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A162 Redshank <i>Tringa totanus</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i> 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> NPWS (2015) <i>Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 2.7km from the Proposed Scheme</p>
<p>North Bull Island SPA [004006] A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A048 Shelduck <i>Tadorna tadorna</i> A052 Teal <i>Anas crecca</i> A054 Pintail <i>Anas acuta</i> A056 Shoveler <i>Anas clypeata</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A140 Golden Plover <i>Pluvialis apricaria</i> A141 Grey Plover <i>Pluvialis squatarola</i> A143 Knot <i>Calidris canutus</i> A144 Sanderling <i>Calidris alba</i> A149 Dunlin <i>Calidris alpina</i> A156 Black-tailed Godwit <i>Limosa limosa</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i></p>	<p>Approximately 5.7km 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 Site
<p>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 (2015) <i>Conservation Objectives: North Bull Island SPA 004006</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	
<p>Malahide Estuary SPA [004025] A005 Great Crested Grebe <i>Podiceps cristatus</i> A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A048 Shelduck <i>Tadorna tadorna</i> A054 Pintail <i>Anas acuta</i> A067 Goldeneye <i>Bucephala clangula</i> A069 Red-breasted Merganser <i>Mergus serrator</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A140 Golden Plover <i>Pluvialis apricaria</i> A141 Grey Plover <i>Pluvialis squatarola</i> A143 Knot <i>Calidris canutus</i> A149 Dunlin <i>Calidris alpina</i> A156 Black-tailed Godwit <i>Limosa limosa</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A162 Redshank <i>Tringa totanus</i> 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> NPWS (2013) <i>Conservation Objectives: Malahide Estuary SPA 004025</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 7.7km from the Proposed Scheme</p>
<p>Baldoyle Bay SPA [004016] A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A048 Shelduck <i>Tadorna tadorna</i> A137 Ringed Plover <i>Charadrius hiaticula</i> A140 Golden Plover <i>Pluvialis apricaria</i> A141 Grey Plover <i>Pluvialis squatarola</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A999 Wetland and Waterbirds</p> <p><i>S.I. No. 275/2010 - European Communities (Conservation of Wild Birds (Baldoyle Bay Special Protection Area 004016)) Regulations 2010.</i> NPWS (2013) <i>Conservation Objectives: Baldoyle Bay SPA 004016</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 8.2km from the Proposed Scheme</p>
<p>Rogerstown Estuary SPA [004015] A043 Greylag Goose <i>Anser anser</i> A046 Brent Goose <i>Branta bernicla hrota</i></p>	<p>Approximately 11.7km from the Proposed Scheme</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme Site
<p>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 (2013) <i>Conservation Objectives: Rogerstown Estuary SPA 004015</i>. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	
<p>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 (2021) <i>Conservation objectives for Wicklow Mountains SPA [004040]</i>. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 12km from the Proposed Scheme</p>
<p>Ireland's Eye SPA [004117] A017 Cormorant <i>Phalacrocorax carbo</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></p> <p><i>S.I. No. 240/2010 - European Communities (Conservation of Wild Birds (Ireland's Eye Special Protection Area 004117)) Regulations 2010.</i> NPWS (2021) <i>Conservation objectives for Ireland's Eye SPA [004117]</i>. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 12.6km from the Proposed Scheme</p>
<p>Howth Head Coast SPA [004113] A188 Kittiwake <i>Rissa tridactyla</i></p> <p><i>S.I. No. 185/2012 - European Communities (Conservation of Wild Birds (Howth Head Coast Special Protection Area 004113)) Regulations 2012.</i> NPWS (2021) <i>Conservation objectives for Howth Head Coast SPA [004113]</i>. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 13.8km from the Proposed Scheme</p>

European Site Name [Code] and its Qualifying interest(s) / Special Conservation Interest(s) (*Priority Annex I Habitats)	Location Relative to the Proposed Scheme Site
<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 (2021) <i>Conservation objectives for Dalkey Islands SPA [004172]</i>. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 13.9km 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 (2021) <i>Conservation objectives for Lambay Island SPA [004069]</i>. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 17.8km from the Proposed Scheme</p>
<p>Skerries Islands SPA [004122] A017 Cormorant <i>Phalacrocorax carbo</i> A018 Shag <i>Phalacrocorax aristotelis</i> A046 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 (2021) <i>Conservation objectives for Skerries Islands SPA [004122]</i>. Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 21.5km from the Proposed Scheme</p>
<p>Rockabill SPA [004014] 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 004014)) Regulations 2012.</i> NPWS (2013) <i>Conservation Objectives for Rockabill SPA [004014]</i>. Version 1. (Department of Arts, Heritage and the Gaeltacht.</p>	<p>Approximately 22.4km 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 Site
<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> A195 Little Tern <i>Sterna albifrons</i></p> <p><i>S.I. No. 298/2011 - European Communities (Conservation of Wild Birds (The Murrough Special Protection Area 004186)) Regulations 2011.</i> NPWS (2021) <i>Conservation objectives for The Murrough SPA [004186].</i> Generic Version 8.0. Department of Housing, Local Government and Heritage.</p>	<p>Approximately 30.7km from the Proposed Scheme</p>