

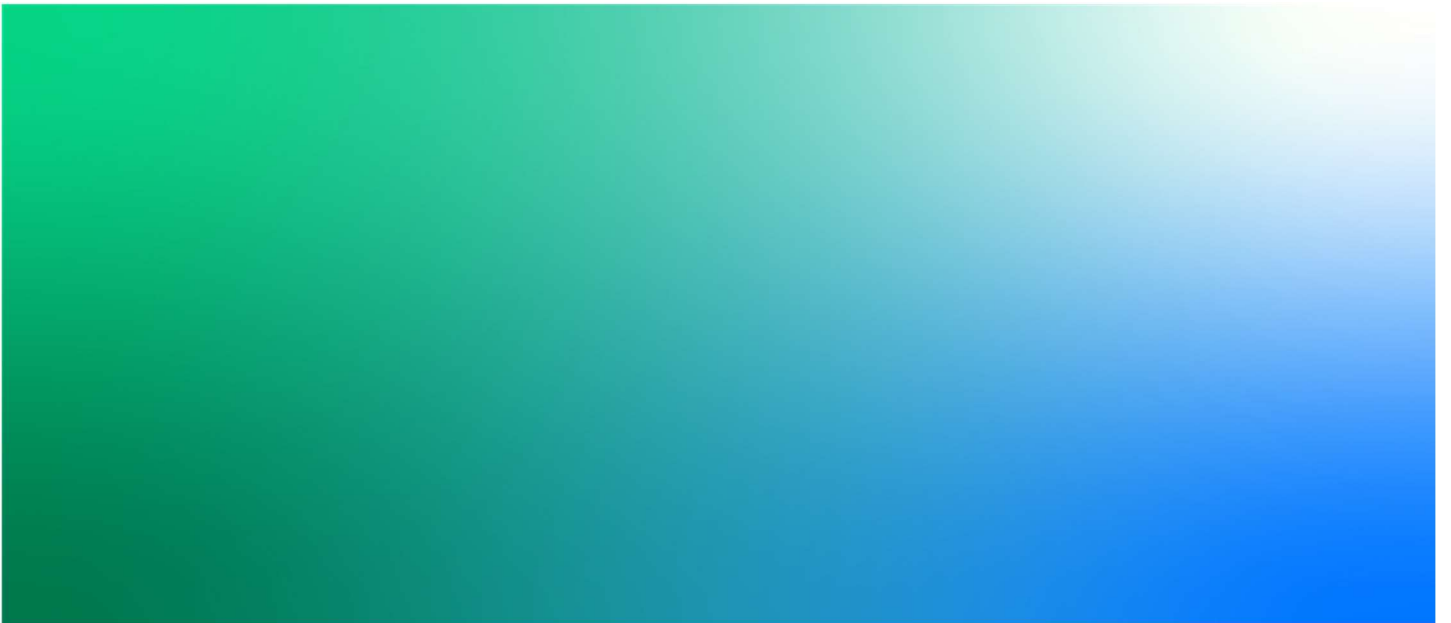


Appropriate Assessment Screening

East Meath – North Dublin Grid Upgrade

March 2024

EirGrid



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Appendix A. Fossitt Habitat Codes

Appendix B. Figures

Glossary of Terminology, Abbreviations and Acronyms

Term, Abbreviation or Acronym	Description
AA	Appropriate Assessment
ACIEEM	Associate Member of the Chartered Institute of Ecology and Environmental Management
AESI	Adverse Effects on Site Integrity
AIS	Air Insulated Switchgear
CEMP	Construction Environmental Management Plans
CIEEM	Chartered Institute of Ecology and Environmental Management
CO	Conservation Objectives
CP1021	Capital Project 1021
cSAC	Candidate Special Area of Conservation
DoEHLG	Department of Environment, Heritage and Local Government
ECJ	European Court of Justice
EC	European Commission
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
ESB	The Electricity Supply Board
GIS	Gas Insulated Switchgear
HDD	Horizontal Directional Drilling
IFI	Inland Fisheries Ireland
IROPI	Imperative Reasons of Overriding Public Interest
kV	Kilovolt
LSE	Likely Significant Effects
MCIEEM	Member of the Chartered Institute of Ecology and Environmental Management
MIFI	Member of the Institute of Fisheries Management
MRSB	Member of the Royal Society of Biology
NBDC	National Biodiversity Data Centre
NIS	Natura Impact Statement
NPAD	National Planning Application Database
NPWS	National Parks and Wildlife Service
NRA	National Roads Authority
OPR	Office of the Public Regulator
PECR	Planning and Environmental Considerations Reports
pSPA	Potential Special Protection Area
RC	Reinforced Concrete
QI	Qualifying Interest
SAC	Special Areas of Conservation
SCI	Special Conservation Interest
SPA	Special Protection Areas
TCC	Temporary Construction Compound
TII	Transport Infrastructure Ireland
WFD	Water Framework Directive
ZoI	Zone of Influence

1. Introduction

1.1 Background

East Meath – North Dublin Grid Upgrade (hereafter referred to as the Proposed Development) will reinforce the electricity network between East Meath and North Dublin. The Proposed Development will help meet the growing demand for electricity in the east while also facilitating the transmission of increasing amounts of renewable electricity generated by windfarms. This growth of demand in the east is due to increased economic activity and the planned connection of new data centres and other industrial users in the region. The Proposed Development will strengthen the electricity network in the east of Meath and the north of Dublin to improve the transfer of power across the existing transmission network.

The Proposed Development includes approximately 37.5 kilometres (km) of new 400 kilovolt (kV) underground cable circuit (also referred to as the proposed cable route) between the existing Woodland Substation in the townland of Woodland in County Meath, and the existing Belcamp Substation in the townlands of Clonshagh and Belcamp in Fingal, County Dublin. The Proposed Development will also involve works in the substations to facilitate the connection of the underground cable circuit to the electrical grid.

EirGrid appointed Jacobs as Consultants for the Proposed Development. As part of this appointment, Jacobs was required to produce a Screening Report for Appropriate Assessment (AA) of the Proposed Development and this report presents the findings. The location of the Proposed Development is shown in Image 1.1.

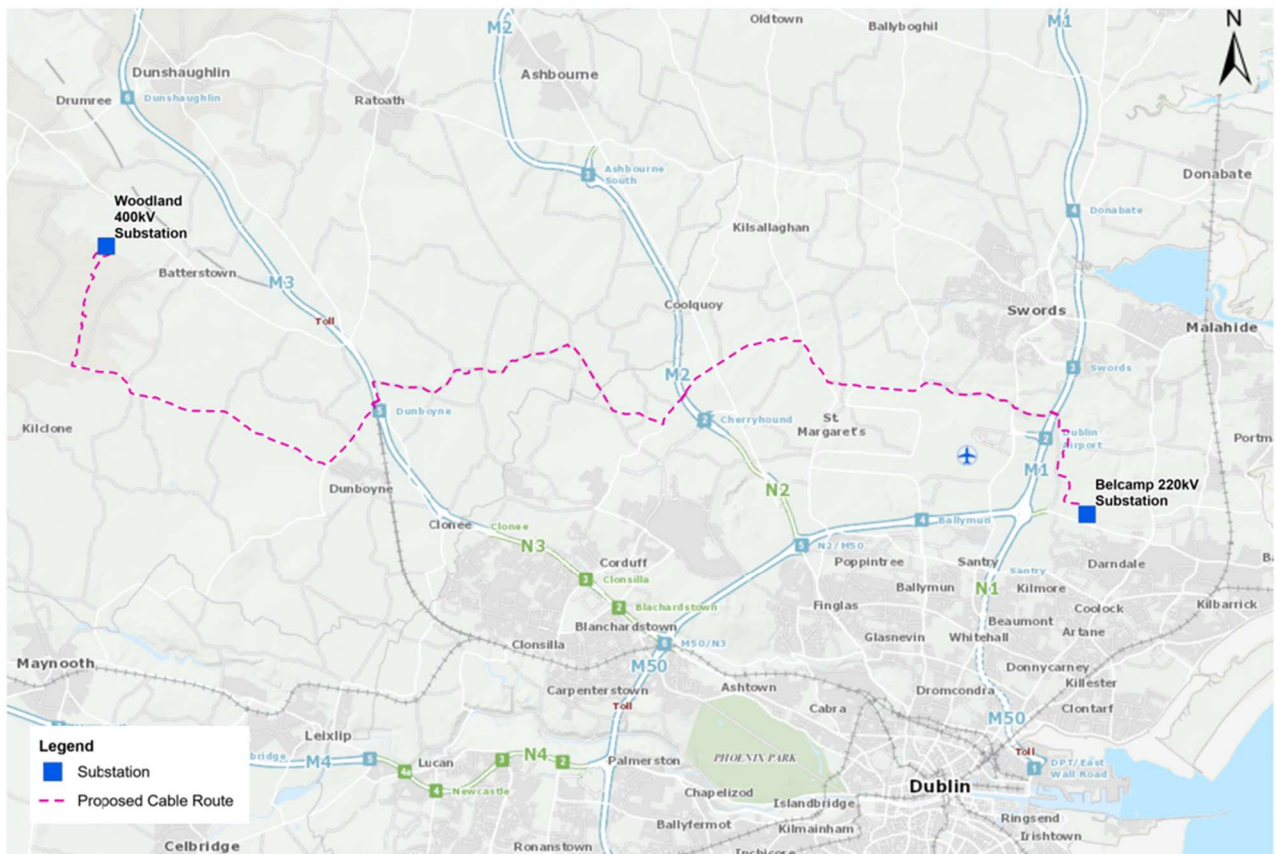


Image 1.1: Location of the Proposed Development

1.2 Description of the Proposed Development

1.2.1 Project Description

The Proposed Development consists of the following principal elements:

- A. Installation of an underground cable circuit, approximately 37.5km in length, connecting Woodland Substation (400kV) in the townland of Woodland in County Meath, and Belcamp Substation (220kV) in the townlands of Clonshagh and Belcamp in Fingal. The development of the underground cable circuit will include the following:
- Construction of a trench of approximately 1.5m in width and approximately 1.3m in depth in the public road (approximately 26km) and approximately 1.8m in depth in private lands (approximately 11.5km) in which the underground cable circuit is laid in flat formation, with associated above ground route marker posts. Route marker posts will be located at field boundaries where the proposed underground cable circuit is laid in private land, at regular intervals in road verges when the proposed underground cable circuit is in-road, in road verges where the proposed underground cable circuit crosses any roads, and at Horizontal Directional Drilling (HDD) crossing locations;
 - Construction of 49 Joint Bays (on average every 750m), primarily in the public roads, each approximately 10m in length, 2.5m in width and 2.5m in depth, with adjacent communication chambers and link boxes, along the full alignment of the underground cable circuit. Where the Joint Bays are located off-road, permanent hardstanding areas will be created around the Joint Bays;
 - The laying of communication links and fibre optic cables between both substations, running in the same trench as the underground cable circuit;
 - The provision of seven Temporary Construction Compounds (TCCs) located along the route and adjacent to substations – sizes for each of the seven TCCs ranging from approximately 0.8ha to 1.6ha;
 - The provision of a Temporary HDD Compound at both the reception and launch locations for three HDD motorway crossings, (i.e., six temporary HDD Compounds in total), and associated laydown area for each HDD crossing (i.e., three laydown areas in total) - sizes for each of the six HDD compounds (plus laydown area where applicable) ranging from approximately 0.15ha to 0.45ha;
 - The provision of temporary Passing Bays during construction at certain Joint Bay locations, each approximately 95m in length and 5.5m in width;
 - The laying of unbound temporary access tracks, 5m wide in private lands (approximately 12km in total length);
 - The laying of 12 unbound, permanent access tracks, 4m wide in private land (approximately 4km in total length);
 - All associated water, rail, road, and utility underground crossings using either trenchless drilling or open cut techniques as appropriate for the particular crossing; and
 - All associated and ancillary above and below-ground site development works, including works comprising or relating to permanent and temporary construction and reinstatement, roadworks, utility diversions and site and vegetation clearance.
- B. Upgrades to the existing 400kV Woodland Substation in the townland of Woodland in County Meath. This will include:
- Installation of a 400kV feeder bay and associated electrical shunt reactor (approximately 8m in height);
 - Installation of insulators, instrument transformers, overhead conductors, disconnectors, circuit breakers, surge arrestors (up to 12.6m in height) in order to connect the bay to the busbar;
 - Installation of two gantries, 25m in height, with one 3m tall lightning rod on top of each gantry; and
 - All ancillary site development works including site preparation works, underground cabling, drainage and earthgrid, as required to facilitate the Proposed Development.

- C. Upgrades to the existing 220kV Belcamp Substation in the townlands of Clonshagh and Belcamp in Fingal. This will include:
- Construction of a new steel framed and clad building (73m long, 17.8m wide by 16m high) to house new 400kV Gas Insulated Switchgear (GIS) Hall, plus eight lightning rods on the roof of the GIS Hall (each 3m in height);
 - Installation of 400kV switchgear to facilitate the connection of the new underground cable circuit to the existing substation;
 - Installation of associated electrical shunt reactor (approximately 8m in height) with insulators, instrument transformers, overhead conductors, disconnectors, circuit breakers, surge arrestors (up to 12.8m in height) in order to connect the reactor to the cable circuit;
 - Installation of two lightning masts (each 15m in height);
 - Installation of a new 400/220kV transformer adjacent to the new GIS Hall and connections to the existing 220kV substation via cable circuit;
 - Internal access road; and
 - All ancillary site development works including site preparation works, site clearance and levelling, drainage, access tracks, and use of existing access points off Stockhole Lane and the R139.

1.2.2 Underground Cable

1.2.2.1 Overview

There are three key elements of the underground cable:

- **Cable Trench** – an approximately 1.5m in width, 1.3m in depth in the public road and 1.8m in depth in private lands in which the underground cable is laid (see Image 1.2).
- **Joint Bay** – the cable will be delivered in lengths and will need to be connected (jointed) together. This will happen at the Joint Bays which are underground chambers located at various points on the route. Joint Bays are used as locations to pull the cables into the pre-installed ducts and to connect ('joint') together the individual cables and create a single, overall continuous circuit; and
- **Passing Bay** – a temporary traffic lane to allow traffic flow around Joint Bays while construction works are ongoing.

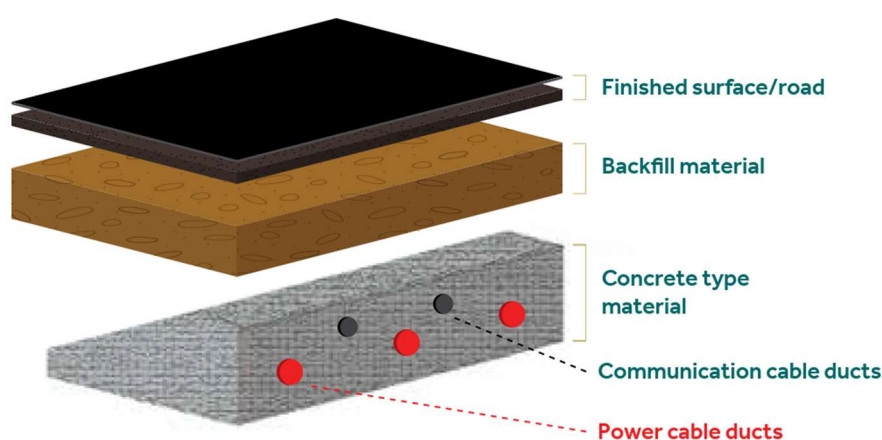


Image 1.2: Proposed Cable Trench

The width and depth of the cable trench can vary for crossing of watercourses or utilities and for other technical reasons. The proposed underground cable will be delivered to site in individual lengths on cable

drums. These lengths will be installed along the route by using 'Joint Bays'. Smaller buried chambers ('manholes') will be installed alongside various Joint Bay locations. There are two types:

- C2 chambers, which are used to join the fibre optic communication cables pulled into the pre-installed communications ducts; and
- Link box chambers, which are used to accommodate the link box (a device which earths the outer sheaths of the power cables).

As with any telecommunications facilities, these chambers will be provided with removable covers to facilitate access for ongoing maintenance and commissioning works. While the Joint Bays will not require ongoing maintenance, access from the surface is still required in the unlikely event of a cable failure needing replacement.

A Joint Bay under construction is shown in Image 1.3. An image of a reinstated road after Joint Bay construction is shown in Image 1.4. Passing Bays to facilitate road traffic management will be provided in 14 locations, where the Joint Bays are to be located in the road carriageway. There will be 33 Joint Bays along the public road/verge and 16 Joint Bays in off-road sections where the Joint Bays will be in the road carriageways. A Passing Bay is shown in Image 1.5.



Image 1.3: Example of a Joint Bay During Construction



Image 1.4: Example of a Reinstated Road Over a Joint Bay (Darker Asphalt) with the C2 Chamber Cover Visible



Image 1.5: Example of a Passing Bay (Ensuring Road Traffic Continues Around a Working Area)

EirGrid has carefully considered the previous investments made by Meath and Fingal County Councils in maintaining and upgrading their road surfaces. The Electricity Supply Board (ESB) will establish key principles and agree appropriate methodologies with the County Councils for road reinstatement, where cable and associated infrastructure has been constructed. This could include reinstatement of road surfacing wider than

the proposed underground cable trench and Joint Bays, subject to planning approval by the planning authorities. This will be in accordance with the accepted standard for underground cable development; The Guidelines for Managing Openings in Public Roads (also known as The Purple Book) (Department of Transport, Tourism and Sport 2017). This can also be assured by way of an appropriate Condition of planning approval.

As identified in Section 1.2.1, the specific location and design of Joint Bays and Passing Bays are subject to refinement at the detailed design stage, within the parameters set out in this planning application.

1.2.3 Substations

1.2.3.1 Woodland Substation

The Proposed Development at Woodland Substation will consist of the provision of new electricity transmission infrastructure, comprising the elements outlined Point B in Section 1.2.1 (refer to Figure 4.1 (Sheet 2) in Volume 4 of the Environmental Impact Assessment Report (EIAR), included in the planning application pack, for a graphic of the proposed works at Woodland Substation).

This infrastructure will be located within the extension to the hardstand compound at Woodland Substation which forms part of a planning application which has been recently granted permission (in April 2023) by Meath County Council (planning reference 221550).

1.2.3.1.1 Woodland Substation Construction Phase Activities

The proposed works at Woodland Substation will be undertaken in parallel with the proposed underground cable works ongoing between Woodland and Belcamp Substations. Proposed construction access for the works at Woodland Substation will be via the existing substation access road (i.e., Redbog Road, off Red Road). A TCC (TCC0) will be set up in the south-east corner of the substation and will provide site office and welfare facilities as well as material and plant storage for the substation works. There will be no access to the cable route easement from these compounds.

The area for the proposed works in Woodland Substation will be cleared and shallow founded reinforced concrete bases will be installed for the new Air Insulated Switchgear (AIS) plant, as well as a Reinforced Concrete (RC) bund for the reactor. The AIS plant will be installed on the RC base slabs and associated connections installed. The reactor will be delivered to site as an abnormal load, with the appropriate measures to minimise any potential impacts to local traffic outlined in Appendix B (Construction Traffic Management Plan) of the Construction Environmental Management Plan (CEMP) (included as standalone documents in the planning application pack). The reactor will be slid into place on its bund off the delivery trailer. A mobile crane will be used to lift the new AIS plant into place. The proposed underground cable will be trenched across the substation from the south-west corner to connect to the new cable sealing end. Once the proposed underground cable has been installed, and the works at Belcamp and Woodland Substations have been completed, the whole system will be tested and commissioned.

1.2.3.2 Belcamp Substation

The Proposed Development, at Belcamp Substation, will consist of the provision of new electricity transmission infrastructure, comprising the elements outlined Point C in Section 1.2.1 (refer to Figure 4.1 (Sheet 48) in Volume 4 of the EIAR for a graphic of the proposed works at Belcamp Substation).

This infrastructure will be located within the extension to the hardstand compound at Belcamp Substation which forms part of a planning application that has been recently granted permission (in December 2023) by Fingal County Council (planning reference F23A/0040).

1.2.3.2.1 Belcamp Substation Construction Phase Activities

The works at Belcamp Substation will be undertaken in parallel with the proposed underground cable construction works. A TCC (TCC6) will be established to the west of the substation accessed along a

temporary access track off Stockhole Lane. This access track was recently constructed as part of the Belcamp to Shellybanks 220kV project. Construction materials will be delivered to site via the existing substation main entrance off the R139 Regional Road.

The area for the new works at Belcamp Substation will be prepared to install the new in-situ reinforced concrete bases for the proposed GIS Hall, transformers and other miscellaneous AIS plant. The steel frame of the proposed GIS Hall will be erected and then the roof and wall cladding added to make it weather tight. A mobile crane will be used for the erection of the steel frame and cladding. The GIS equipment will be craned into place inside the proposed GIS Hall using the gantry crane within the building, and then the proposed GIS Hall will be fitted out with all associated protection and control equipment, Low Voltage Alternating Current (LVAC) equipment etc.

At the same time, the external AIS equipment and associated connections will be installed. The reactor and transformer will be delivered to site as abnormal loads with all the relevant traffic management requirements / restrictions in place for such abnormal loads (refer to Appendix B (Construction Traffic Management Plan) of the CEMP, which are included as standalone documents in the planning application pack). These will be slid into place directly from their transport trailer onto their RC bunds. The new proposed underground cable will be trenched into Belcamp Substation and under the perimeter wall to connect up to the AIS cable sealing end, outside of the proposed GIS Hall. Once the new proposed underground cable has been installed and tested, and the works at Woodland Substation completed, the whole system will be connected together, tested and then commissioned.

1.2.4 Cable Construction Phase Activities

The following sections describe the proposed Construction Phase activities associated with the installation of the new proposed underground cable. The laying of the new proposed underground cables is a standard construction technique undertaken by a range of utility and other services providers. The proposed underground cables will be installed in a flat formation in the following phases:

- Phase 1 – Installation of Joint Bays and Passing Bay structures;
- Phase 2 – Excavation and installation of cable ducts; and
- Phase 3 – Installation and jointing of cables.

Duct and Joint Bay installation are the most construction-intensive and invasive elements of cable route installation, as digging of a trench is required. For in-road cable laying, this phase will have the largest potential impact on traffic, including the potential need for rolling road closures (to through traffic) and diversions.

While the specifics of any cable-laying schedule are dependent upon the appointed contractor and the nature and location of the development, it is anticipated that the cable ducts will be laid in a road at a rate of 40m to 50m per day, although a reduced rate of 10m to 20m per day is anticipated in constrained sections of the proposed cable route, for example where existing utilities are present.

Joint Bays are proposed to be located at typical intervals of 750m along the proposed cable route of the Proposed Development. However, intervals between Joint Bays will vary (approximately 550m to 900m) depending on complexity of route alignment, site conditions and technical constraints. Joint Bays are anticipated to be installed in three days. Road reinstatement along the proposed cable route trench will follow the completion of the trenching and ducting, moving in sequence along the proposed cable route.

Cable pulling and jointing, which will commence when the trenching and ducting is well advanced along the proposed cable route, will be executed from the Joint Bay locations. Where this activity is likely to require a road closure, the provision of a Passing Bay at the location of the Joint Bay, where possible, will facilitate movement of traffic along the road by means of a signal-controlled lane adjacent to the Joint Bay.

Image 1.6 shows an example of a cable trench in a public road after installation of ducts and prior to backfilling. Marker boards can be seen within the trench prior to final reinstatement. Image 1.7 presents a reinstated road following laying of the underground cable circuit.



Image 1.6: Example of a Cable Trench In-Road with Cables in Flat Formation



Image 1.7: Example of a Reinstated Road Following the Laying of Underground Cables

1.2.4.1 Joint Bays and Passing Bays

Joint Bays will consist of precast concrete walls and bases located below-ground. The Joint Bays will be 10m long x 2.5m wide x 2.5m deep overall. Lean mix concrete (blinding) will be used as a regulating layer to the underside of the chamber. The ducts will be installed to each end of the chamber, then checked, cleaned and sealed. The open concrete chamber will temporarily support the retained ground on the outside of the chamber during the ducting activities. Once these activities are completed, the open chamber will be temporarily backfilled with appropriate material and the road temporarily reinstated until cable installation. During cable installation, the Joint Bay will be reopened, and material within the chamber will be removed and replaced following completion of the cable installation.

The proposed Joint Bay locations are provided in Table 1.1.

Table 1.1: Proposed Joint Bay Locations

Joint Bay Number	Approximate Chainage	Approximate Distance from Previous Joint Bay	Passing Bay Provision	Side of Road Passing Bay to be Located	Maintenance Hardstanding Provision
1	812	812	Not required	-	Yes
2	1560	748	Not required	-	Yes
3	2382	822	Not required	-	Yes
4	3083	701	Not required	-	Yes
5	3807	724	Yes	South	Not required
6	4587	780	Not required	-	Yes
7	5390	803	Not required	-	Yes
8	6022	632	Not required	-	Yes
9	6821	799	Passing Bay not provided	-	Not required
10	7646	825	Yes	North	Not required
11	8358	712	Passing Bay not provided	-	Not required
12	9088	730	Not required	-	Yes
13	9936	848	Not required	-	Yes
14	10771	835	Not required	-	Yes
15	11577	806	Not required	-	Yes
16	12417	840	Not required	-	Yes
17	13163	746	Not required	-	Yes
18	13764	601	Not required	-	Not required
19	14549	785	Passing Bay not provided	-	Not required
20	15327	778	Passing Bay not provided	-	Not required
21	15920	593	Not required	-	Yes
22	16719	799	Passing Bay not provided	-	Not required
23	17518	799	Passing Bay not provided	-	Not required
24	18366	848	Yes	South	Not required
25	19037	671	Yes	South	Not required
26	19749	712	Not required	-	Yes
27	20613	864	Yes	South-west	Not required
28	21393	780	Not required	-	Yes
29	22036	643	Not required	-	Yes
30	22593	557	Not required	-	Yes
31	23349	756	Not required	-	Yes
32	24215	866	Passing Bay not provided	-	Not required
33	25100	885	Yes	South	Not required
34	25875	775	Yes	South	Not required
35	26481	606	Yes	North	Not required
36	27111	630	Not required	-	Yes
37	27929	818	Not required	-	Yes
38	28767	838	Not required	-	Yes
39	29484	717	Yes	North	Not required
40	30187	703	Yes	North	Not required
41	30940	753	Yes	North	Not required
42	31651	711	Yes	North	Not required
43	32531	880	Yes	North	Not required

Joint Bay Number	Approximate Chainage	Approximate Distance from Previous Joint Bay	Passing Bay Provision	Side of Road Passing Bay to be Located	Maintenance Hardstanding Provision
44	33088	557	Not required	-	Yes
45	33838	750	Yes	South	Not required
46	34657	819	Not required	-	Yes
47	35424	767	Not required	-	Yes
48	36172	748	Not required	-	Yes
49	36960	788	Not required	-	Yes

Passing Bays are short sections of temporary road around Joint Bays where insufficient space would otherwise have potentially resulted in closure of the road to traffic. The Passing Bays will include temporary traffic management arrangements, such as signage and traffic signals, as agreed with the relevant local authority. The proposed Passing Bay locations, of which there will be 14 in total, are outlined in Table 1.1.

The installation of a Passing Bay will require removing and temporarily storing topsoil in an area of land adjacent to the road. This material will be used for reinstatement of the ground at a later stage in the construction process. The Passing Bays will be subject to detailed design and constructed in accordance with the relevant local authority's requirements. The Passing Bay will be constructed to a similar finished road level to the existing roadway. Subject to detailed design, and site-specific conditions, this may require the placing and provision of fill material. Roadside drainage, including filter drains, drainage carrier pipes and drainage culverts, will be extended under Passing Bays using temporary measures, where required. Passing Bays will be designed to allow suitable runoff from the temporary road surface and to avoid ponding.

Image 1.8 illustrates the proposed arrangement of a Passing Bay and associated traffic management where the Joint Bay is located in the roadway. Image 1.9 illustrates the proposed arrangement of a construction platform and associated traffic management where the Joint Bay is located in the road verge. Image 1.3 shows an example of a Passing Bay that has been developed for another cable project.

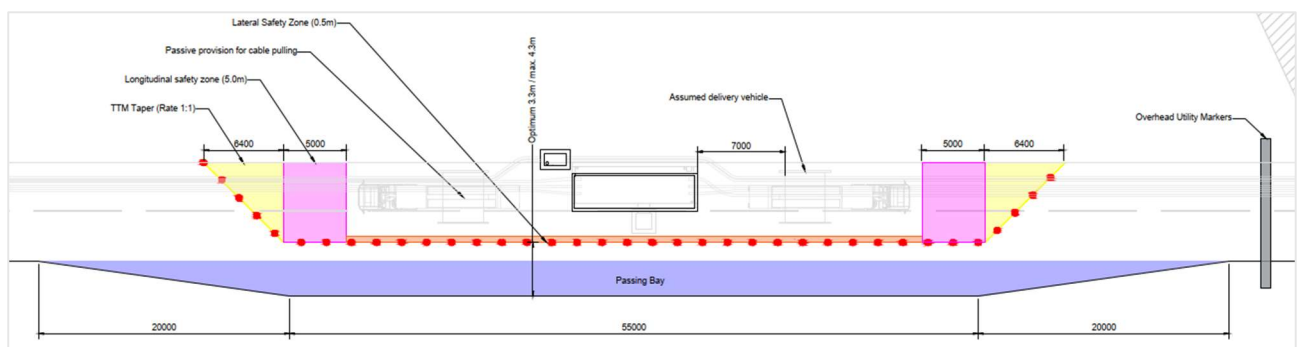


Image 1.8: Proposed Traffic Management and Passing Bay Arrangement for a Joint Bay in the Roadway (Indicative Layout)

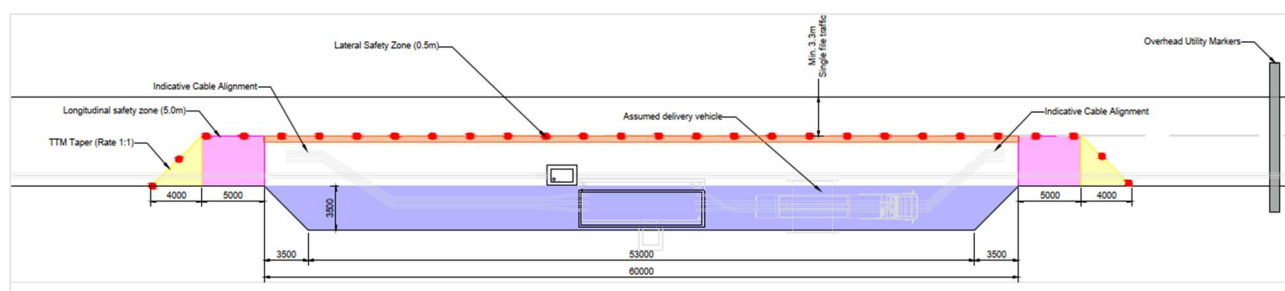


Image 1.9: Proposed Traffic Management and Construction Platform Arrangement for a Joint Bay in the Road Verge (Indicative Layout)

1.2.4.2 Watercourse Crossings

Where the proposed cable is to cross rivers the open cut trenching method is planned, see Table 1.2. The rivers which are considered pathways to European sites, which have been screened in for Stage 2 Appropriate Assessment (see Section 4), are in bold.

Table 1.2: Waterbodies and the Crossing Methodologies

Naming Convention (Waterbody WB)	Waterbody Name	Chainage	Location NGR	Proposed Crossing NOTE 1
WB01	TOLKA_020	1250	N 94742 47221	Open cut
WB02	DUNBOYNE STREAM_010	2175	N 94483 46404	Open cut – in-road
WB03	DUNBOYNE STREAM_010	10800	O 00537 42674	Open cut / in-road
WB04	TOLKA_020	11640	O 01119 43261	Open cut / in-road
WB05	TOLKA_020	12550	O 01655 43968	Open cut
WB06	PINKEEN_010	16100	O 03952 45039	N/A
WB07	PINKEEN_010	16350	O 04095 44965	Open cut
WB08	WARD_020	17750	O 05260 45264	Open cut / in-road
WB09	WARD_010	18200	O 05634 45422	Open cut / in-road
WB10	WARD_010	18200	O 05653 45452	Open cut
WB11	WARD_010	19240	O 06599 45597	Open cut
WB12	WARD_020	20450	O 07317 44650	Open cut
WB13	WARD_020	20650	O 07378 44541	Open cut / in-road

Naming Convention (Waterbody WB)	Waterbody Name	Chainage	Location NGR	Proposed Crossing NOTE 1
WB14	WARD_020	20850	O 07489 44351	Open cut / in-road
WB15	WARD_030	23625	O 09528 44520	Open cut
WB16	WARD_030	24600	O 10245 45153	Open cut / in-road
WB17	WARD_030	24750	O 10370 45217	Open cut / in-road
WB18	WARD_030	25310	O 10840 45522	Open cut / in-road
WB19	WARD_030	26180	O 11650 45815	Open cut
WB20	WARD_030	28350	O 13141 44724	Open cut / potential in-road
WB21	WARD_030	29280	O 14066 44606	Open cut / in-road
WB22	SLUICE_010	31780	O 16415 44423	Open cut / in-road
WB23	MAYNE_010	36825	O 19003 42112	Open cut

NOTE 1: Where the crossing is marked as 'in-road' this means the open-cut trench is located within the existing road infrastructure rather than diverting off-road and crossing a water course.

Where open cut trenching is carried out through watercourses, the water flow is temporarily diverted with pipes around the area of work and the watercourse is then reinstated. A number of design options for open cut crossings were assessed; temporary watercourse diversions, fluming and over pumping. An exercise was undertaken to look at the required space needed to temporarily realign the channels during construction and this concluded that temporary realignment would not be feasible within the footprint of the Proposed Development due to the limited space available within the Planning Application Boundary and / or the presence of nearby infrastructure. Following consultation with Inland Fisheries Ireland (IFI) to-date, fluming was agreed to be the preferred option to over pumping. Where watercourses are flumed, the dry works area will be isolated by installing an impermeable barrier between the watercourse and the works area, as per consultation with IFI to-date. The impermeable barrier will be tailored to the watercourse in question. Techniques will include the use of inflatable dams, frame dams, or sandbags in smaller watercourses. For larger watercourses, water will be carried over or around the isolated dry works area. The appointed contractor will consult IFI prior to a final decision being made on water crossing techniques. The proposed fluming arrangement is illustrated in Image 1.10.

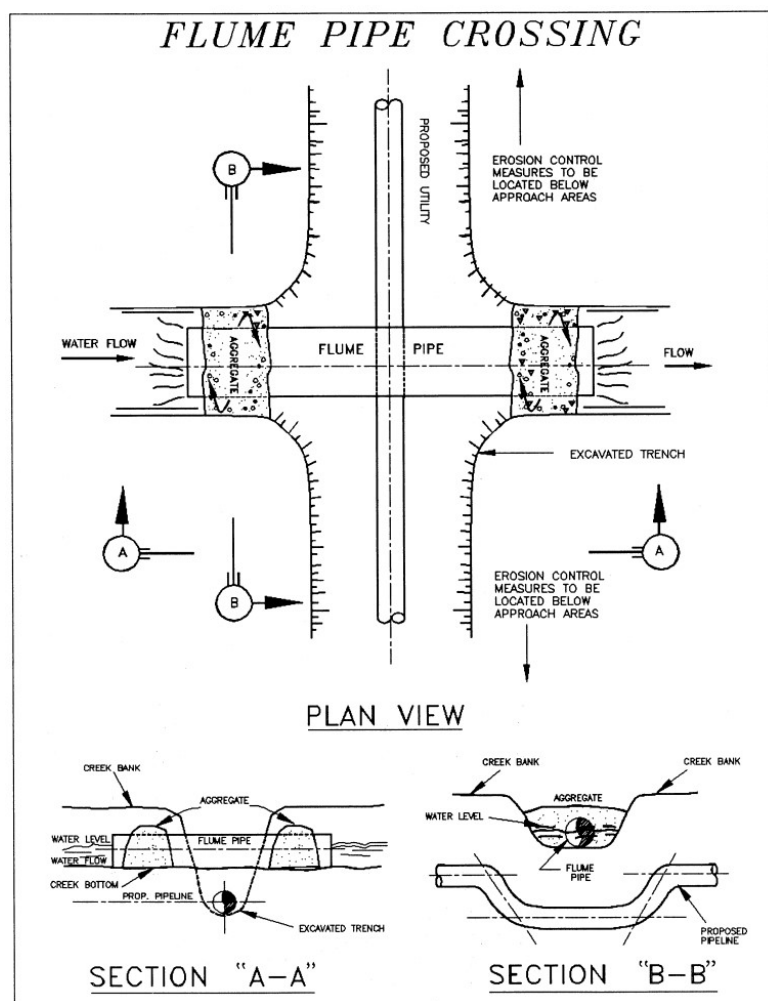


Image 1.10: Example Diagram of a Flume Pipe Crossing (Construction Industry Compliance Assistance Centre 1992)

For road trenching all works remain within the road and watercourses are not affected.

1.3 Legislative Context for Appropriate Assessment

Habitats and species of European importance are provided legal protection under the EU Habitats Directive 92/43/EEC (the Habitats Directive) and the EU Birds Directive 2009/147/EC (the Birds Directive). The Directives protect habitats and species of community interest through the establishment and conservation of an EU-wide network of sites known as the Natura 2000 network (hereafter referred to as European sites¹). European sites comprise Special Areas of Conservation (SACs²) and Special Protection Areas (SPAs²).

The Habitats Directive (92/43/EEC) and the Birds Directive (2009/147/EC) have been transposed into Irish law by the Planning and Development Act 2000 (as amended) and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477/2011). Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European sites.

Article 6(3) establishes the requirement for AA:

¹ The term Natura 2000 network was replaced by 'European site' under the EU (Environmental Impact Assessment and Habitats) Regulations 2011 S.I. No. 473 of 2011.

² Candidate SACs (cSACs) and potential SPAs (pSPAs) are afforded the same protection as SACs and SPAs and are therefore assessed in the same manner within this report.

"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to Appropriate Assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."

Article 6(4) states:

"If, in spite of a negative assessment of the implications for the [Natura 2000] site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted."

Section 177U(4)(5) of the Planning and Development Act 2000 (as amended) sets out the AA screening test for planning applications, as follows:

"(4) The competent authority shall determine that an appropriate assessment of a draft Land use plan or a proposed development, as the case may be, is required if it cannot be excluded, on the basis of objective information, that the draft Land use plan or proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site.

(5) The competent authority shall determine that an appropriate assessment of a draft Land use plan or a proposed development, as the case may be, is not required if it can be excluded, on the basis of objective information, that the draft Land use plan or proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site."

1.4 Stages in Appropriate Assessment

The stages of AA are as follows:

- **Stage 1 Screening:** The purpose of the screening stage is to determine, on the basis of a preliminary assessment and objective criteria, whether a plan or project, alone and in combination with other plans or projects, could have significant effects on a European site in view of the site's conservation objectives. All potential effects between activities associated with the plans or projects and the ecological components of European sites must be considered. This includes potential effects on mobile species, notably birds, mammals, invertebrates and migratory fish. There is no necessity to establish such an effect; it is merely necessary for the competent authority to determine that there may be such an effect. The threshold at this first stage is a very low one and operates as a trigger in order to determine whether a Stage 2 AA must be undertaken by the competent authority on the implications of the proposed development for the conservation objectives of a European site. Therefore, where significant effects are likely, uncertain or unknown at screening stage, a second stage AA will be required. Measures intended to avoid or reduce the harmful effects of the proposed development on European sites (i.e. "mitigation measures") cannot be taken into account in the screening stage appraisal. Measures intended to avoid or reduce the harmful effects of the proposed development on European sites (i.e. "mitigation measures") or best practice measures cannot be taken into account in the screening stage appraisal; and
- **Stage 2 Appropriate Assessment:** If it cannot be excluded, on the basis of objective information, that the plan or project, individually or in combination with other plans or projects, would have a significant effect on a European site, the plan or project must be taken forward to the next stage of the process and an AA must be carried out. The competent authority must

carry out a focused and detailed examination, analysis and evaluation of the effect of the project or plan on the integrity of the European site(s), specifically it must be determined if the project or plan will adversely affect the integrity of a European site(s) either individually or in-combination with other plans and projects in view of the conservation objectives of the site(s). Case law has established that such an Appropriate Assessment, to be lawfully conducted, in summary:

- I. Must identify, in the light of the best scientific knowledge in the field, all aspects of the proposed development which can, by itself or in-combination with other plans or projects, affect the conservation objectives of the European site;
- II. Must contain complete, precise and definitive findings and conclusions and may not have lacunae or gaps; and
- III. May only include a determination that the proposed development will not adversely affect the integrity of any relevant European site where the competent authority decides (on the basis of complete, precise and definitive findings and conclusions) that no reasonable scientific doubt remains as to the absence of the identified potential effects. If adverse impacts can be satisfactorily avoided or successfully mitigated at this stage, so that no reasonable doubt remains as to the absence of the identified potential effects, then the process is complete. If the assessment is negative, i.e. adverse effects on the integrity of a site cannot be excluded, then the process must proceed to the next stages.

For projects, the AA process is documented within a Natura Impact Statement (NIS).

Following AA, including mitigation proposals, if Adverse Effects on Site Integrity (AESI) remain, and the project/plan is to be progressed, an Assessment of Alternative Solutions is required under the provisions of Article 6(4) of the Habitats Directive. This process examines the alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the European site. If no suitable alternatives exist, or all alternatives would result in adverse effects on the integrity of a European site, then the project will move on to the next stage of the process.

Where an Assessment of Alternative Solutions fails to identify any suitable alternatives, then for a project or plan to be progressed it must demonstrate that it must nevertheless be carried out for imperative reasons of overriding public interest (IROPI) in accordance with Article 6(4) of the Habitats Directive. If, following an assessment of IROPI, it is deemed that the project or plan should proceed, all compensatory measures necessary to ensure the protection of the overall coherence of the European site must be put in place in accordance with Article 6(4) of the Habitats Directive.

1.5 Purpose of this Report

In the context of Article 6(3), An Bord Pleanála as the competent authority for this Proposed Development, must carry out screening for AA of the Proposed Development to assess whether, on the basis of objective scientific information, the Proposed Development individually or in-combination with other plans or projects, are likely to have a significant effect on the conservation objectives of a European site(s). This report presents the information required for the competent authority, An Bord Pleanála, to undertake screening for AA for the Proposed Development.

1.6 Authors Qualifications and Expertise

This report has been prepared by Harry Jones and May Higgins, and checked and reviewed by Susie Coyle.

May Higgins is an Ecologist with two years' experience in ecological consultancy. She holds a first-class honours degree in Zoology from University College Dublin. She is a qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and has authored several AA screening reports, Natura Impact Statements, CEMPs, and Planning and Environmental Considerations Reports (PECR). She has

carried out multiple field surveys for protected species and habitats on a variety of large and small infrastructure projects.

Harry Jones is a Senior Environmental Consultant and an Associate Member of the Chartered Institute of Ecology and Environmental Management (ACIEEM). Harry has a Masters degree (MAI) in Civil, Structural and Environmental Engineering from Trinity College Dublin, as well as a Postgraduate Certificate (PGCert) in Ecological Surveying from Oxford University. He has more than five years' professional experience working predominantly in environmental coordination and ecological surveying. He has worked on a variety of projects of all sizes across various disciplines including water, wastewater, transportation, and infrastructure.

The report was checked and reviewed by Dr Susie Coyle, a Senior Associate Director of Ecology. Susie holds a BSc (Hons) in Aquatic Bioscience and a PhD in fish biodiversity from the University of Glasgow. She is a Chartered full Member of the Royal Society of Biology (MRSB), a full Member of CIEEM (MCIEEM) and a Member of the Institute of Fisheries Management (MIFI). Susie has coordinated Jacobs' ecologists both in Ireland and in the UK and has experience of multiple ecological survey techniques and associate reporting. She has sixteen years' of consultancy experience in aquatic and terrestrial ecology with over twenty years' experience of field surveys and environmental sampling techniques. One of Susie's main roles is the check and review of reports including Appropriate Assessment Screening Reports and Natura Impact Statements.

2. Methodology

2.1 Desk Review

A desk-based review was conducted in November 2022, in November 2023, and in late January 2024. The following resources were analysed to inform the baseline description of the Proposed Development site and surrounding environment:

- Aerial imagery (Bing, Google Earth, ESRI);
- Environmental Protection Agency (EPA) Rivers and water quality data, Water Framework Directive (WFD) status online at <https://gis.epa.ie/EPAMaps/> (EPA 2024);
- Protected and invasive species data from the National Biodiversity Data Centre (NBDC) online from <http://www.biodiversityireland.ie/> (NBDC 2024);
- Natura 2000 sites data as held by the National Parks and Wildlife Service (NPWS) online from www.npws.ie including: Mapping of European site boundaries, the Natura 2000 network Data Form; Site Synopsis; Generic Conservation Objective data (NPWS 2024);
- The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview. Unpublished NPWS report. Edited by: Deirdre Lynn and Fionnuala O’Neill from <https://www.npws.ie/publications/article-17-reports/article-17-reports-2019> (NPWS 2019a);
- The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments. Unpublished NPWS report. Edited by: Deirdre Lynn and Fionnuala O’Neill from <https://www.npws.ie/publications/article-17-reports/article-17-reports-2019> (NPWS 2019b); and
- The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Unpublished NPWS report. Edited by: Deirdre Lynn and Fionnuala O’Neill from <https://www.npws.ie/publications/article-17-reports/article-17-reports-2019> (NPWS 2019c).

2.2 Surveys

Site walkovers, breeding bird and wintering bird surveys were undertaken by experienced Jacobs ecologists, Dr Susie Coyle (Senior Associate Director of Ecology), Sam Warden (Ecologist), Colin Keane (Ecologist), Louis Peacock (Ecologist), Holly Clements (Graduate Ecologist), May Higgins (Graduate Ecologist) and Laura O’Neill (Graduate Ecologist) between October 2022 and August 2023. At the time of surveying, habitats within the survey area were assessed for their potential to support rare or protected species and/ or qualifying interests (Annex I habitats or Annexed species) associated with European sites. The survey area in this instance includes the footprint of the Proposed Development and the area surrounding it to a minimum distance of 150m where visible/accessible. Table 2.1 provides further information on extent of surveys by receptor and Section 2.3 explains how the study area was determined. Where points of interest were identified during the drive-over they were assessed on foot.

Ecological surveys are limited by a variety of factors which affect the presence of flora and fauna (for example, climatic variation, season and species behaviour). Evidence of protected species is not always present during a survey. This does not mean that a species is absent, and hence, the surveys also record and assess the suitability of habitats to support species. Not all the habitats within the survey boundary were visited during field surveys. Where there were gaps these were addressed using desk based aerial imagery. No major limitations were encountered in gathering data. It is considered that the baseline data collected is sufficient to inform a robust and thorough assessment of potential impacts.

2.3 Study Area

The study area was determined following best practice guidance (see Section 2.4) and by professional judgment, taking into account the likely significant effects from key infrastructure along the Proposed Development on the receiving environment during the Construction and / or Operational Phases. Table 2.1

details the study areas adopted for each of the biodiversity (ecological) receptors within the study area specified to assess potential impacts within the Zone of Influence (ZoI) of the Proposed Development. The ZoI is the area over which ecological features may be affected by biophysical changes caused by the Proposed Development and associated activities (CIEEM 2018). When determining the ZoI, the 'source-pathway-receptor' model has been applied taking consideration of all potential impact pathways connecting elements of the Proposed Development to the ecological receptor in view of their conservation objectives (where available).

Table 2.1: Study Areas for Ecological Receptors Within the ZoI of the Proposed Development

Ecological Receptor	Study Area Description ³
Terrestrial habitats (including rare and / or protected flora, and non-native invasive plant species ⁴)	A corridor along the Proposed Development where works are proposed and habitats that could be directly or indirectly affected during the Construction or Operational Phases. Habitats within 150m (metres) of the Proposed Development (i.e. the Planning Application Boundary) were mapped using a combination of survey and aerial photographs. All hedgerows / tree lines at proposed Joint Bays were inspected and where vegetation is likely to be impacted / lost (e.g., narrow roads). Habitats classified using A Guide to Habitats in Ireland (referred to as Fossitt 2000) (reprinted in 2007) (The Heritage Council 2000).
Wintering birds	Wintering bird surveys were carried out for all the route options as a preferred route was not available at the time of survey. Each of the four options in Step 4B (see Chapter 3 (Consideration of Reasonable Alternatives) in Volume 3 of the Environmental Impact Assessment Report (EIAR) for further details) were surveyed to 800m on either side of the route option from Vantage Points and drive-bys, which was considered the distance in which birds could be directly or indirectly affected by the Construction or Operational Phases. The survey focused on areas of suitable habitat for foraging / roosting winter birds, including waterbodies and wetlands.
Breeding birds (including kingfisher)	A corridor along the Proposed Development where works are proposed, and in locations where breeding birds could be directly or indirectly affected during the Construction or Operational Phases. Transect surveys (10 out of a planned 11 were completed) undertaken within a 250m survey corridor however, extended outside of the 250m corridor on occasions at transects 4, 7 and 10. The surveys focused on areas of suitable bird nesting habitat.
Bats	Only trees / structures potentially directly impacted by the Proposed Development during Construction or Operational Phases were surveyed for potential bat roosts (i.e. those within the Planning Application Boundary). Trees with identified bat roost potential were subject to emergence / return surveys. Static detectors were also deployed at key locations for a minimum of five days for each deployment.
Fauna species (other than bats, i.e. otter, badger, other small mammals, amphibians, reptiles, terrestrial invertebrates and fish)	A corridor of 100m from the Proposed Development (i.e. the Planning Application Boundary) was surveyed for fauna species that could be directly or indirectly affected during Construction or Operational Phases of the Proposed Development. The study area extended to at least 150m from the Proposed Development (i.e. along watercourses hydrologically linked to the Planning Application Boundary).
Aquatic habitats assessment	Watercourse crossing points, and 100m to either side of the Proposed Development, were visually assessed for their potential to support fish of conservation interest and white-clawed crayfish (subject to access and safe working conditions). Assessments identified sites that had appropriate habitat to support different age classes of fish and in particular for spawning and juvenile nursery areas. White-clawed crayfish habitat was assessed for features that provide suitable refuge such as substrates large enough to provide cover and not armored.
eDNA sampling	Following the aquatic habitats assessment, eDNA sampling was identified as suitable for 16 watercourses (rivers / tributaries / ditches) at 18 sampling points, however only 14 could be accessed. These were considered to have the potential to support the following species of conservation interest (DNA for other vertebrate species will also be recorded): <ul style="list-style-type: none"> • Atlantic salmon (<i>Salmo salar</i>); • Lamprey (<i>Petromyzontiformes sp.</i>); • European eel (<i>Anguilla anguilla</i>); • White-clawed crayfish (<i>Austropotamobius pallipes</i>).

³ This column refers to minimum specified study areas. The study area was widened further than these areas in instances where potential or confirmed ecological features of interest were noted beyond that should be incorporated into the baseline and subsequent impact assessment.

⁴ Non-native invasive plant species are not considered as IER, as they can result in adverse effects on biodiversity and it is in that context they are included within the impact assessment.

2.4 Guidance Documents

This Screening Report for AA was produced with reference to the following guidance:

- Appropriate Assessment Screening for Development Management. Office of the Public Regulator (OPR) Practice Note PN01 (OPR 2021);
- Appropriate Assessment of Plans and Proposed Schemes in Ireland. Guidance for Planning Authorities (Department of Environment, Heritage and Local Government (DoEHLG) 2010);
- 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 (EC) 2021a);
- Communication from the Commission on the Precautionary Principle (EC 2000);
- Guidance Document on Article 6(4) of the 'Habitats Directive' 92/43/EEC. Clarification of the concepts of: Alternative Solutions, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence, Opinion of the Commission (EC 2007);
- Guidance document on the strict protection of animal species of Community interest under the Habitats Directive (EC 2021b);
- Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC 2018);
- Marine Natura Impact Statements in Irish SACs - A Working Document (NPWS 2012a);
- Commission Notice: Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (2021/C 437/01);
- A Guide to Habitats in Ireland. The Heritage Council (Fossitt 2000);
- Article 17 reports (NPWS 2019a, 2019b, and 2019c);
- Good Practice Guidance for Habitats and Species (Chartered Institute of Ecology and Environmental Management (CIEEM) 2021);
- Guidelines for Preliminary Ecological Appraisal. Second Edition (CIEEM 2017);
- Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM 2018);
- Ecology Guidelines for Electricity Transmission Projects, A standard Approach to Ecological Impact Assessment of High Voltage Transmission Projects (EirGrid 2020);
- Guidelines on the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads (National Roads Authority (NRA) 2010);
- The Management of Invasive Alien Plant Species on National Roads - Standard (Transport Infrastructure Ireland TII 2020a); and
- The Management of Invasive Alien Plant Species on National Roads - Technical Guidance (TII 2020b).

2.5 Screening Methodology

The guidance documents outlined in Section 2.4 set out the process for carrying out AA, the first stage of which is referred to as Screening. Steps required for Screening consist of the following:

- Determination of whether a project or plan is directly connected with or necessary to the conservation management of any European sites⁵;
- Description of the details of the project/ plan (including the site characteristics/ plan area);
- Identification of all European sites that might be affected and description of the characteristics of European sites that might be affected (i.e. identification of qualifying interest (QI) and conservation objectives (CO) that could be affected as a result of progressing the project/ plan);

⁵ The Proposed Development is not directly connected with or necessary to the conservation management of any European sites.

- Assessment of Likely Significant Effects (LSEs) on relevant European sites in view of the sites' CO, both individually and in-combination with other plans and projects; and
- Presentation of a screening assessment which determines if the project/ plan individually or in-combination with other plans and projects could undermine the CO of the site(s) and give rise to LSEs. Measures intended to avoid or reduce the harmful effects of the project/ plan on European sites (i.e. "mitigation measures") or best practice measures cannot be taken into account in the screening stage appraisal.

2.5.1 Guiding Principles and Case Law

The most recent Irish guidance in relation to AA was published in 2021 by the Office of the Public Regulator (OPR), namely, *Appropriate Assessment Screening for Development Management* (OPR 2021). This document provides information and guidance on the Irish planning application process and how to undertake a screening for AA. A number of cases have been brought to both the national and European courts in relation to the AA process. Relevant case law, European Court of Justice (ECJ) rulings and EC publications have also been considered in the preparation of this Screening Report for AA.

2.5.2 Source-Pathway-Receptor Model and Zone of Influence

When establishing the Zone of Influence (Zol) the 'source-pathway-receptor' model is applied taking consideration of all potential impact pathways connecting elements of the project or plan to European sites in view of their COs.

The 'source-pathway-receptor' model is a standard tool in environmental assessment. In order for an effect to occur, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism means that there is no likelihood for the effect to occur (e.g. no potential for LSEs). Potential impact pathways that may arise from a development may include but are not limited to;

- Removal or loss of QI/ Special Conservation Interest (SCI)⁶ habitat;
- Removal or loss of habitat with which QI species are associated;
- Mortality of QI species;
- Physical disturbance to QI species; and
- Risk of pollution/ reduction in water quality impacting on QI species.

The 'source-pathway-receptor' model is focused solely on the QIs for which European sites are designated as per the latest CO from the NPWS website⁷.

The Zol is the area over which effects could occur to ecological features from a project. The determination of a Zol for a project should be identified on a case by case basis as there may be an effect on European sites that are at a distance from the works. For example, where there is a hydrological link between the development site and a European site.

Considerations key in determining the potential Zol include:

- Ecological features within and in proximity to the proposed works;
- Migratory/ mobile species of the area;
- Construction/ operational activities that may cause a significant effect; and
- Linkages to European sites or sensitive habitats connected to those sites.

For the desk based review, the 'source-pathway-receptor model' (also referred to as the s-p-r model) was used to identify European sites potentially within the Zol, which extended to 78km for the Proposed Development due to hydrological linkages. For species and habitats of conservation interest search area

⁶ The specific named bird species for which a SPA is selected is called the 'Special Conservation Interests' (SCIs). However, in practice, the common terminology of Qualifying Interests applies also to SCI (and is used throughout this report for simplicity).

⁷ www.npws.ie/protected-sites/conservation-management-planning/conservation-objectives

extended to 2km. Habitats were assessed for mobile species from European sites that may be within ZoI for the Proposed Development and therefore habitat assessment was carried out to at least 150m to understand functionally liked land and wintering bird surveys extended to 800m which mobile QI birds could be affected by the Proposed Development. Further information on effects pathways from developments is provided in Section 4.

3. Baseline Characterisation

The results of the desk-based review and site visits are presented in the following sections. Habitat descriptions below are in the past tense, to reflect their accuracy at a point in the recent past. For the desk based review, the 'source-pathway-receptor' model was used to identify European sites potentially within the Zol which extended to 80km for the Proposed Development. For species and habitats of conservation interest the search area extended to 2km.

3.1 Overview of the Baseline Environment

3.1.1 Habitats

No Annex I habitats other than those associated with European sites (see Table 4.2) and nationally designated sites were identified from the desk study.

The majority of the Proposed Development will be within roads (BL3) and adjacent to agricultural fields (BC1, BC2, BC3 and GA1) (to note: a glossary of Fossitt habitat codes can be found in Appendix A). Agricultural land has the potential to support protected birds including waders, gulls and wildfowl. Treelines (WL2), hedgerows (WL1), depositing lowland rivers (FW2) and drainage ditches (FW4) were also abundant adjacent to and bisected by the Proposed Development.

Other habitats recorded in lower abundances were woodlands (WD1, WD2, WD4, WN5, WS2, WS5, WS3 and WD5), scrub (WS1), semi-natural grasslands and marsh (GS1, GS2, GS4, GM1 and GA2) and artificial habitats (BC4, BL2, ED2, ED3 and FL8).

3.1.2 Species (including Annex II)

The desk-based review returned records for multiple protected, Annex II and QI bird species within 2km of the Proposed Development, see Table 3.1. Many of the species' records are for QI species of European sites within the Zol of the Proposed Development. The distance of 2km distance was used as the maximum distance within which species and habitats from European sites within the Zol have a reasonable likelihood of being affected by the Proposed Development and is consistent with search areas used by other development projects.

Table 3.1: Records of Species (Species in Bold are Designated Under European Sites Within Zol)

Species Name	Scientific Name	Record Count	Date of Last Record	Closest Record to Site	Title of Dataset	Designation
Common frog	<i>Rana temporaria</i>	7	23/02/2023	20m	Amphibians and reptiles of Ireland	EU Habitats Directive: Annex V Wildlife Acts
Smooth newt	<i>Lissotriton vulgaris</i>	2	01/06/2010	315m	Reptiles and Amphibians Distribution Atlas 1978 (An Foras Forbartha) Newt Survey 2010-2014	Protected Species: Wildlife Acts
Arctic tern	<i>Sterna paradisaea</i>	1	14/05/2001	600m	Birds of Ireland	EU Birds Directive: Annex I Bird Species Birds of Conservation Concern: Amber List Wildlife Acts
Barn swallow	<i>Hirundo rustica</i>	3	31/12/2011	240m	Bird Atlas 2007 – 2011	Birds of Conservation Concern: Amber List Wildlife Acts
Bar-tailed godwit	<i>Limosa lapponica</i>	3	04/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex I Bird Species Birds of

Species Name	Scientific Name	Record Count	Date of Last Record	Closest Record to Site	Title of Dataset	Designation
						Conservation Concern: Amber List Wildlife Acts
Black guillemot	<i>Cephus grylle</i>	1	04/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Black-headed gull	<i>Larus ridibundus</i>	5	31/12/2011	0m	Bird Atlas 2007 – 2011	Birds of Conservation Concern: Red List Wildlife Acts
Black-legged kittiwake	<i>Rissa tridactyla</i>	2	03/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Black-tailed godwit	<i>Limosa limosa</i>	3	04/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Brent goose	<i>Branta bernicla</i>	4	04/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Common coot	<i>Fulica atra</i>	2	04/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex II: Section I , Annex III: Section II Bird Species Birds of Conservation Concern: Amber List Wildlife Acts
Common goldeneye	<i>Bucephala clangula</i>	3	04/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex II: Section II Bird Species Birds of Conservation Concern: Amber List Wildlife Acts
Common greenshank	<i>Tringa nebularia</i>	3	04/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Common guillemot	<i>Uria aalge</i>	2	03/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Common kestrel	<i>Falco tinnunculus</i>	5	31/12/2011	0m	Bird Atlas 2007 – 2011	Birds of Conservation Concern: Amber List Wildlife Acts
Common linnet	<i>Carduelis cannabina</i>	2	25/08/2011	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Common pochard	<i>Aythya ferina</i>	2	04/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex II: Section I, Annex III: Section II Bird Species Birds of Conservation Concern: Amber List Wildlife Acts
Common redshank	<i>Tringa totanus</i>	3	03/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Red List Wildlife Acts
Common scoter	<i>Melanitta nigra</i>	1	04/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex II: Section II & Annex III: Section III Bird Species Birds of Conservation Concern: Red List Wildlife Acts
Common shelduck	<i>Tadorna tadorna</i>	6	04/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts

Species Name	Scientific Name	Record Count	Date of Last Record	Closest Record to Site	Title of Dataset	Designation
Common snipe	<i>Gallinago gallinago</i>	2	04/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex II: Section I & Annex III: Section III Bird Species Birds of Conservation Concern: Amber List Wildlife Acts
Common starling	<i>Sturnus vulgaris</i>	9	18/05/2012	0m	Birds of Ireland Bird Atlas 2007 – 2011	Birds of Conservation Concern: Amber List Wildlife Acts
Common wood pigeon	<i>Columba palumbus</i>	9	21/02/2017	625m	Birds of Ireland	EU Birds Directive: Annex II: Section I & Annex III: Section I Bird Species Wildlife Acts
Dunlin	<i>Calidris alpina</i>	3	04/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex I Bird Species Birds of Conservation Concern: Amber List Wildlife Acts
Eurasian curlew	<i>Numenius arquata</i>	4	31/12/2011	0m	Bird Atlas 2007 – 2011	EU Birds Directive: Annex II, Section II Bird Species Birds of Conservation Concern – Red List Wildlife Acts
Eurasian oystercatcher	<i>Haematopus ostralegus</i>	3	03/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Eurasian teal	<i>Anas crecca</i>	4	04/01/2003		Birds of Ireland	EU Birds Directive: Annex II: Section I & Annex III: Section II Bird Species Birds of Conservation Concern: Amber List Wildlife Acts
Eurasian tree sparrow	<i>Passer montanus</i>	1	31/12/2011	0m	Bird Atlas 2007 – 2011	Birds of Conservation Concern: Amber List Wildlife Acts
Eurasian wigeon	<i>Anas penelope</i>	4	04/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex II: Section I & Annex III: Section II Bird Species Birds of Conservation Concern – Amber List Wildlife Acts
European golden plover	<i>Pluvialis apricaria</i>	2	04/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex I, Annex II: Section II & Annex III: Section III Bird Species Wildlife Acts Birds of Conservation Concern – Red List
European shag	<i>Phalacrocorax aristotelis</i>	3	04/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Great black-backed gull	<i>Larus marinus</i>	3	03/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Great cormorant	<i>Phalacrocorax carbo</i>	5	04/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Great crested grebe	<i>Podiceps cristatus</i>	4	04/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Great northern diver	<i>Gavia immer</i>	1	04/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex I Bird Species Wildlife Acts
Grey partridge	<i>Perdix perdix</i>	1	31/12/2011	0m	Bird Atlas 2007 – 2011	EU Birds Directive: Annex II: Section I & Annex III: Section

Species Name	Scientific Name	Record Count	Date of Last Record	Closest Record to Site	Title of Dataset	Designation
						I Bird Species Birds of Conservation Concern: Red List Wildlife Acts
Grey plover	<i>Pluvialis squatarola</i>	2	04/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Herring gull	<i>Larus argentatus</i>	5	18/01/2011	625m	Birds of Ireland	Birds of Conservation Concern: Red List Wildlife Acts
House martin	<i>Delichon urbicum</i>	2	31/12/2011	0m	Bird Atlas 2007 – 2011	Birds of Conservation Concern: Amber List Wildlife Acts
House sparrow	<i>Passer domesticus</i>	7	12/06/2018	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Lesser black-backed gull	<i>Larus fuscus</i>	2	01/01/2003	0m	Birds of Ireland Bird Atlas 2007 – 2011	Birds of Conservation Concern: Amber List Wildlife Acts
Little egret	<i>Egretta garzetta</i>	2	16/02/2016	0m	Birds of Ireland Bird Atlas 2007 – 2011	EU Birds Directive: Annex I Bird Species Wildlife Acts
Little grebe	<i>Tachybaptus ruficollis</i>	2	04/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Mallard	<i>Anas platyrhynchos</i>	6	14/04/2012	270m	Birds of Ireland	EU Birds Directive: Annex II: Section I & Annex III: Section I Bird Species Wildlife Acts
Mediterranean gull	<i>Larus melanocephalus</i>	2	04/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex I Bird Species Birds of Conservation Concern: Amber List Wildlife Acts
Merlin	<i>Falco columbarius</i>	2	31/12/2011	625m	Birds of Ireland Bird Atlas 2007 – 2011	EU Birds Directive: Annex I Bird Species Birds of Conservation Concern: Amber List Wildlife Acts
Mew gull	<i>Larus canus</i>	3	03/01/2003	185m	Birds of Ireland Bird Atlas 2007 – 2011	Birds of Conservation Concern: Amber List Wildlife Acts
Mute swan	<i>Cygnus olor</i>	4	04/01/2003	0m	Birds of Ireland Bird Atlas 2007 – 2011	Birds of Conservation Concern: Amber List Wildlife Acts
Northern lapwing	<i>Vanellus vanellus</i>	4	31/12/2011	0m	Bird Atlas 2007 – 2011 Bird Atlas 2007 – 2011	EU Birds Directive: Annex II: Section II Bird Species Birds of Conservation Concern: Red List Wildlife Acts
Northern pintail	<i>Anas acuta</i>	2	04/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex II: Section I B& Annex III: Section II Bird Species Birds of Conservation Concern: Red List Wildlife Acts
Northern shoveler	<i>Anas clypeata</i>	1	01/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex II: Section I B& Annex III: Section II Bird Species Birds of Conservation Concern: Red List Wildlife Acts

Species Name	Scientific Name	Record Count	Date of Last Record	Closest Record to Site	Title of Dataset	Designation
Razorbill	<i>Alca torda</i>	2	03/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Red kite	<i>Milvus milvus</i>	2	01/02/2023	490m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Red knot	<i>Calidris canutus</i>	1	06/01/2001	625m	Birds of Ireland	Birds of Conservation Concern: Red List Wildlife Acts
Red-breasted merganser	<i>Mergus serrator</i>	2	03/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex II: Section II Bird Species Wildlife Acts
Red-throated diver	<i>Gavia stellata</i>	1	04/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex I Bird Species Birds of Conservation Concern: Amber List Wildlife Acts
Ringed plover	<i>Charadrius hiaticula</i>	2	04/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Short-eared owl	<i>Asio flammeus</i>	1	31/12/2011	0m	Bird Atlas 2007 – 2011	EU Birds Directive: Annex I Bird Species Birds of Conservation Concern: Amber List Wildlife Acts
Sky lark	<i>Alauda arvensis</i>	3	31/12/2011	0m	Bird Atlas 2007 – 2011	Birds of Conservation Concern: Amber List Wildlife Acts
Stock pigeon	<i>Columba oenas</i>	2	31/12/2011	0m	Bird Atlas 2007 – 2011	Birds of Conservation Concern: Amber List Wildlife Acts
Tufted duck	<i>Aythya fuligula</i>	2	04/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex II: Section I & Annex III: Section II Bird Species Birds of Conservation Concern: Amber List Wildlife Acts
Water rail	<i>Rallus aquaticus</i>	1	04/01/2003	625m	Birds of Ireland	Birds of Conservation Concern: Amber List Wildlife Acts
Whooper swan	<i>Cygnus cygnus</i>	1	04/01/2003	625m	Birds of Ireland	EU Birds Directive: Annex I Bird Species Birds of Conservation Concern: Amber List Wildlife Acts
Yellowhammer	<i>Emberiza citrinella</i>	3	02/05/2021	0m	Birds of Ireland Bird Atlas 2007 – 2011	Wildlife Acts Birds of Conservation Concern: Red List
Brown long-eared bat	<i>Plecotus auritus</i>	4	09/07/2004	470m	National Bat Database of Ireland	EU Habitats Directive: Annex IV Wildlife Acts
Eurasian badger	<i>Meles meles</i>	9	31/12/2016	0m	Atlas of Mammals in Ireland 2010-2015 Badger Setts of Ireland Database	Protected Species: Wildlife Acts
Eurasian pygmy shrew	<i>Sorex minutus</i>	2	06/06/2018	795m	Mammals of Ireland 2016-2025	Protected Species: Wildlife Acts
European otter	<i>Lutra lutra</i>	6	16/09/2004	35m	Otter Survey of Ireland 1982	Protected Species: EU Habitats Directive: Annex II & Annex IV Wildlife Acts

Species Name	Scientific Name	Record Count	Date of Last Record	Closest Record to Site	Title of Dataset	Designation
					Otter survey of Ireland 2004 & 2005	
Lesser noctule	<i>Nyctalus leisleri</i>	18	09/08/2012	0m	National Bat Database of Ireland	EU Habitats Directive: Annex IV Wildlife Acts
Natterer's bat	<i>Myotis nattereri</i>	6	31/12/2007	1315m	National Bat Database of Ireland	EU Habitats Directive: Annex IV Wildlife Acts
Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>	42	13/08/2014	0m	National Bat Database of Ireland	EU Habitats Directive: Annex IV Wildlife Acts
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	10	15/07/2014	0m	National Bat Database of Ireland	EU Habitats Directive: Annex IV Wildlife Acts
West European hedgehog	<i>Erinaceus europaeus</i>	30	28/06/2022	0m	Hedgehogs of Ireland	Protected Species: Wildlife Acts
Whiskered bat	<i>Myotis mystacinus</i>	1	18/07/1999	1280m	National Bat Database of Ireland	EU Habitats Directive: Annex IV Wildlife Acts

3.1.3 Aquatic Environment

The watercourses crossed by the Proposed Development linked to European sites within the Zol are presented in Table 3.2 which also sets out EPA information associated with each and the number of times the Proposed Development is likely to cross a waterbody. The WFD status, risk rating, and EPA status determination technique for each watercourse (WFD water body) is presented in Table 3.2 (EPA 2021). The risk rating takes account of the current water quality and trends and is used to highlight waterbodies that are at risk of not achieving their objectives under the WFD. WFD status may be determined by using monitoring, extrapolation, or expert judgement techniques.

Table 3.2: WFD Waterbodies Crossed by Proposed Development

Waterbody/ Watercourse	WFD Status (EPA 2021)	Risk Rating (EPA 2021)	Monitoring Technique (EPA 2021)	No. Crossings
Dunboyne Stream_010	Poor	At risk	Monitoring	2
Tolka_020	Moderate	At risk	Monitoring	3
Pinkeen_010	Moderate	At risk	Modelling	1
Ward_010	Poor	Under review	Modelling	3
Ward_020	Moderate	At risk	Monitoring	4
Ward_030	Moderate	At risk	Monitoring	7
Sluice_010	Poor	Under review	Monitoring	1
Mayne_010	Poor	At risk	Monitoring	1

The Dunboyne Stream_010 was assessed at both points of crossing. The watercourse was approximately 2m and 3m wide respectively with slow flow upstream and moderate flow at the second crossing point. The river was between 15cm and 50cm deep at the crossing points, and was heavily shaded by vegetation. The presence of erosion and undercutting, along with the variation of substrate sizes suggested low to moderate potential for aquatic species for this waterbody.

The Tolka_020 was assessed at both points of crossing. At the first crossing point the river was approximately 2m wide, 10cm deep with minimal undercutting present. It was heavily shaded by vegetation and had low

flow. Substrate was mostly fine sediment and flow types were a mix of glide, run and pool. Low potential for fish due to shading. The second crossing point was 4m wide, 50cm deep with some undercutting present. It was also heavily shaded by vegetation but open in sections. The substrate was composed mostly of fine sediment with some larger cobbles. This crossing point was deemed to have low potential for aquatic species. An adjacent ditch which runs to the left of the road, was overdeepened, approx. 30cm wide and 5cm deep and likely ephemeral.

The Pinkeen_010 was assessed at the point of crossing at the L1010 road. The watercourse was approximately 1m wide, 20cm deep, slow flowing, heavily vegetated, and had low potential for aquatic species.

The Ward_010 was assessed at both points of crossing. At the western crossing point along the L1010 road, the watercourse was approximately 2.5m wide, 5-10cm deep, with a pebble and cobble substrate, and some potential to host aquatic species. At the eastern crossing point along the L1007 (Ratoath Road) the watercourse was approximately 3m wide, 40cm deep, and fully vegetated on both sides. Where the watercourse flowed behind a private residence it was not possible to characterise the watercourse at this crossing point.

The Ward_020 was assessed at points of crossing. It was slow flowing, approximately 2-3m wide, and 10cm and 40cm deep at their respective crossing points. Sections of river were heavily shaded by vegetation. The substrate was composed of mostly silt with some gravel, sand and pebble in low abundance. Flow types were mainly pool and some glide. The river was deemed unsuitable for amphibians due to the flow and shading present, and had low potential for aquatic species.

The Ward_030 was assessed at the point of crossing on the R121 Road (Newpark Road) and at several other locations. The watercourse was approximately 1m wide, 20cm deep, of moderate flow, heavily vegetated, and contained a lot of rubble. There was low potential for aquatic species.

The Sluice_010 was assessed at the point of crossing on the L2025 (Forrest Road). The watercourse was approximately 1.5m wide, with an unknown depth, fast flowing, and was culverted next to the golf course entrance. Good potential for some fish species to be present, but not salmonids due to shading and culverting. Highly modified where watercourse passes through golf course.

The Mayne_010 was assessed at the point of crossing within a field off Stockhole Lane. The watercourse was approximately 1.75m wide, 20cm deep and fast flowing. The substrate was composed of predominantly sand, silt and pebble substrate. There was some undercutting and erosion recorded. The flow was mainly glide with some pools and runs. The river was heavily shaded by vegetation and the riverbanks were vegetated by herbaceous species and scrub. It was considered to have moderate potential for aquatic species.

Surveys of all WFD water bodies, and the minor, unnamed watercourses which may be impacted by the Proposed Development, were carried out between February 2023 and August 2023 as part of a broader set of ecological surveys. Survey results informed this assessment. The likely crossing techniques for the watercourses in the study area is Open Cut (also known as Open Cut Trenching).

Open Cut crossings are most likely when the cable trench is required to go off-road and crosses a watercourse because an existing bridge for example is not of sufficient depth to facilitate the trench to remain in-road. In these locations it is most likely that the watercourses will be crossed using a trenched method; i.e. an 'Open Cut' technique. In these cases, the watercourses are dammed and diverted whilst the cable is installed beneath the bed of the watercourse. Following installation and reinstatement, the water is allowed to resume its natural course.

All WFD watercourses within the study area and the proposed crossing type are presented in Table 3.3.

Table 3.3: Current Designation Status for Identified WFD Water Bodies within the Study Area (EPA 2024)

WFD Water Body Name	WFD Water Body Code	WFD Sub-Catchment	Approximate Chainage along Proposed Development Route (m)	Risk Status	Ecological Status or Potential (2016 - 2021)	Proposed Crossing Methodology
Dunboyne stream_010	IE_EA_09D040500	Tolka_SC_010	2165	At Risk	Poor	Open Cut Trenching
Dunboyne stream_010	IE_EA_09D040500	Tolka_SC_010	10800	At Risk	Poor	Within Road Structure
Rye Water_030	IE_EA_09R010400	Liffey_SC_080	3000	At Risk	Poor	Not crossed, adjacent to works area and Construction Compound
Tolka_020	IE_EA_09T010600	Tolka_SC_010	11640	At Risk	Moderate	Within Road Structure
Tolka_020	IE_EA_09T010600	Tolka_SC_010	12545	At Risk	Moderate	Open Cut Trenching
Pinkeen_010	IE_EA_09P020500	Tolka_SC_010	16340	At Risk	Moderate	Open Cut Trenching
Ward_020	IE_EA_08W010070	Broadmeadow_SC_010	17750	At Risk	Moderate	Within Road Structure
Ward_010	IE_EA_08W010050	Broadmeadow_SC_010	18160	Under Review	Poor	Open Cut Trenching
Ward_010	IE_EA_08W010050	Broadmeadow_SC_010	18200	Under Review	Poor	Open Cut Trenching
Ward_010	IE_EA_08W010050	Broadmeadow_SC_010	19235	Under Review	Poor	Open Cut Trenching
Ward_020	IE_EA_08W010070	Broadmeadow_SC_010	20460	At Risk	Moderate	Affected by Passing Bay. Within Road Structure
Ward_020	IE_EA_08W010070	Broadmeadow_SC_010	20640	At Risk	Moderate	Within Road Structure
Ward_020	IE_EA_08W010070	Broadmeadow_SC_010	20855	At Risk	Moderate	Within Road Structure
Ward_030	IE_EA_08W010300	Broadmeadow_SC_010	23635	At Risk	Poor	Open Cut Trenching
Ward_030	IE_EA_08W010300	Broadmeadow_SC_010	24600	At Risk	Poor	No crossing
Ward_030	IE_EA_08W010300	Broadmeadow_SC_010	24750	At Risk	Poor	Within Road Structure
Ward_030	IE_EA_08W010300	Broadmeadow_SC_010	26190	At Risk	Poor	Open Cut Trenching
Ward_030	IE_EA_08W010300	Broadmeadow_SC_010	28355	At Risk	Poor	Open Cut Trenching
Ward_030	IE_EA_08W010300	Broadmeadow_SC_010	29290	At Risk	Poor	Within Road Structure
Ward_030	IE_SE_08W010300	Broadmeadow_SC_010	29900	At Risk	Poor	Within Road Structure
Sluice_010	IE_EA_09S071100	Mayne_SC_010	31770	Under Review	Poor	Within Road Structure
Mayne_010	IE_EA_09M030500	Mayne_SC_010	36820	At Risk	Poor	Open Cut Trenching

3.1.4 Invasive Species

The desk based search of the NBDC (NBDC 2024), which extended to 2km, returned several invasive floral species as detailed in Table 3.4.

**Table 3.4: Records of Invasive Flora Species Within 2km of the Proposed Development (NBDC 2024)
(Species in Bold are Designated as Third Schedule Invasive Species)**

Species Group	Species Name	Scientific Name	Record Count	Date of Last Record	Designation
Flowering plant	Giant-rhubarb	<i>Gunnera tinctoria</i>	1	24/09/2013	Invasive Species: High Impact Invasive Species
Flowering plant	Butterfly-bush	<i>Buddleja davidii</i>	4	28/06/2019	Invasive Species: Medium Impact Invasive Species
Flowering plant	Himalayan honeysuckle	<i>Leycesteria formosa</i>	1	21/09/2022	Invasive Species: Medium Impact Invasive Species
Flowering plant	Ragweed	<i>Ambrosia artemisiifolia</i>	1	24/09/2013	Invasive Species: Medium Impact Invasive Species
Flowering plant	Sycamore	<i>Acer pseudoplatanus</i>	6	29/11/2021	Invasive Species: Medium Impact Invasive Species

The site walk-over over recorded four Third Schedule (EU 2011) invasive species within 150m of the Proposed Development, see Table 3.5. A further four medium impact invasive species not on the Third Schedule were also observed. However, given there are no European sites directly in the vicinity of the Proposed Development, the closest over land is Malahide Estuary SAC/SPA at 3.6km and hydrologically linked is Baldoyle Bay SAC/SPA at 4.8km, there is no risk that these invasives species will cause significant impacts to these sites.

Table 3.5: Invasive Species Results From the Walkover Surveys

Common Name	Scientific Name	Location(s)	Description
Giant Hogweed	<i>Heracleum mantegazzianum</i>	O 12480 45878	Mature 5x1m stand in a refuse pile.
		O 12516 45903	Juvenile individuals scattered throughout refuse pile.
Japanese knotweed	<i>Reynoutria japonica</i>	O 02047 43698	Signposted area for Japanese knotweed.
		O 16226 44571	Mature 30x3m stand in a private landowner's back garden.
Rhododendron	<i>Rhododendron ponticum</i>	O 05661 45435	1x1m individual growing over a river.
Spanish bluebell	<i>Hyacinthoides hispanica</i>	O 13457 44625	Scattered along a road verge.
		O 13256 44709	Scattered along a road verge.
Three-cornered leek	<i>Allium triquetrum</i>	N 95657 44458	Stands scattered along road verge underneath a mature treeline.

4. Screening

4.1 Potential Effect Pathways from Development

Table 4.1 outlines broad categories of potential impacts that could occur as a result of development, and the potential effects on European sites and associated qualifying interest (QI) species or habitats.

Table 4.1: Potential Effect Pathways From Developments on European Sites

Broad Categories of Potential Impacts on European Sites	Potential Effect Pathways
Physical loss of habitats including supporting habitat ⁸ and functionally linked habitat ⁹	Development could result in direct loss of QI habitat (terrestrial or aquatic) in a European site. Physical loss of habitat is only likely to be significant if it is within the boundary of a European site, or within an area of functionally linked habitat outside of the European site (for example, off-site area of known foraging, roosting, breeding habitat for a QI for which a European site is designated).
Mortality	Mortality of species could occur through direct impact (e.g. destruction of an otter holt) or as a result of pollution event to habitats that support QI species, aquatic species in particular (e.g. salmonids, freshwater pearl mussel, etc).
Habitat degradation – changes in water quality (pollution)	Water quality can be affected by oil, chemicals, heavy metals and so on, or through chronic runoff of such materials. Water quality can also be affected by sedimentation through runoff from construction sites. Changes in water quality could directly affect QI species or habitats or affect them indirectly through loss of aquatic prey species, or through changes in their habitat. Pollution effects can occur outside of a European site and at a considerable distance from works (for example, via hydrological link).
Habitat degradation – hydrological/ hydrogeological changes	Construction impacts could affect groundwater quality and/or quantity and thereby the existing hydrological regime. Changes in hydrology can alter geomorphological processes which can affect the deposition of shingle or other material potentially impacting on QI fish species amongst others. Changes in these processes can impact aquatic/riparian/terrestrial habitats and species either directly or indirectly.
Disturbance (including biological disturbance)	Development could result in disturbance of QI species. This disturbance may include, but not be limited to, noise, vibration, movement (of people and/or vehicles) and lighting. Disturbance may lead to the abandonment of habitats or resting sites by QI species, which could include designated or functionally linked habitats outside of a European site. Spread of non-native invasive species.

4.2 European Sites Within the Zol of the Proposed Development

The ‘source-pathway-receptor’ model was applied taking consideration of all potential impact pathways connecting elements of the Proposed Development to European sites in view of their COs. Hydrological connectivity is the largest zone of influence to identify relevant effects and other effects on a smaller scale would be included taking this precautionary worst case approach and presented in Table 5.1 where present.

The Proposed Development was examined with reference to location to European sites, and taking account of the potential effects outlined in Table 4.1, the following European sites are considered to be within the Zol of the Proposed Development:

- Malahide Estuary SAC (000205). Located directly 3.6km northeast. Hydrological connection distance – 8.7km downstream via the River Ward;
- Baldoyle Bay SAC (000199). Located directly 4km east. Hydrological connection distance – 4.8km downstream via the River Mayne;

⁸ Supporting habitat is habitat within a protected site (SPA, SAC or NHA) which supports a QI species which is designated by a separate protected site (SPA, SAC or NHA).

⁹ Functionally linked habitat is habitat within unprotected land which supports QI species designated by a protected site (SPA, SAC or NHA) in the vicinity of said land.

- Rockabill to Dalkey Island SAC (0030000). Located directly 8.8km east. Hydrological connection distance – 10.5km downstream via the River Mayne, Baldoyle Estuary, and Irish Sea;
- Lambay Island SAC (000204). Located 13.4km northeast. Hydrological connection distance – 20km downstream via the River Mayne, Baldoyle Estuary, Irish Sea, and North-western Irish Sea;
- Malahide Estuary SPA (004025). Located directly 3.6km northeast. Hydrological connection distance – 8.7km downstream via the River Ward;
- Baldoyle Bay SPA (004016). Located directly 4km east. Hydrological connection distance – 4.8km downstream via the River Mayne;
- North-west Irish Sea SPA (004236). Located directly 4.5km east. Hydrological connection distance – 6.3 km downstream via the River Sluice, River Mayne, River Tolka, Pinkeen River, Dunboyne River, Ward River and the Irish Sea;
- North Bull Island SPA (004006). Located directly 4.6km southeast. Hydrological connection distance – 23km downstream via the Pinkeen River and Tolka;
- South Dublin Bay and River Tolka Estuary SPA (004024). Located directly 5.5km south. Hydrological connection distance – 22.5km downstream via the Pinkeen River and Tolka;
- Rogerstown Estuary SPA (004015). Located 7.8km directly northeast. Hydrological connection distance – no direct hydrological connection;
- Ireland's Eye SPA (004117). Located directly 8.6km east. Hydrological connection distance – 10.5km downstream via the River Mayne, Baldoyle Estuary, and Irish Sea;
- Howth Head Coast SPA (004113). Located directly 10km east. Hydrological connection distance – 11km downstream via the River Mayne, Baldoyle Estuary, and Irish Sea;
- Lambay Island SPA (004169). Located directly 13.4km northeast. Hydrological connection distance – 20km downstream via the River Mayne, Baldoyle Estuary, Irish Sea, and North-western Irish Sea;
- Dalkey Islands SPA (004172). Located directly 17.5km southeast. Hydrological connection distance – 23km downstream via the River Tolka, and Irish Sea;
- Skerries Islands SPA (004122). Located directly 18.5km northeast. Hydrological connection distance – 29km downstream via the River Ward, Malahide Estuary, and Irish Sea;
- Rockabill SPA (004014). Located directly 19km northeast. Hydrological connection distance – 30km downstream via the River Ward, Malahide Estuary, and Irish Sea;
- River Nanny and Shore SPA (004158). Located directly 26km north. Hydrological connection distance – 43km downstream via the River Ward, Malahide Estuary, and Irish Sea;
- Boyne Estuary SPA (004080). Located directly 33km north. Hydrological connection distance – 52km downstream via the River Ward, Malahide Estuary, and Irish Sea; and
- Dundalk Bay SPA (004026). Located directly 50km north. Hydrological connection distance – 78km downstream via the River Ward, Malahide Estuary, and Irish Sea.

The QIs and COs of these European sites are detailed in Table 4.2 and these European sites are shown in Figures 1 and 2 in Appendix B (SPAs are shown on Figure 1 and SACs are shown on Figure 2).

Table 4.2: European Sites Within the Zol of the Proposed Development

European Site Name and Code	Distance of Site From the Proposed Development	Conservation Objectives and Qualifying Interests (*=priority habitat).
Special Area of Conservation (SAC)		
Malahide Estuary SAC (000205)	3.6km northeast. Hydrologically = 8.7km.	To maintain or restore the favourable conservation condition of the Annex I habitats and Annex II species for which the SAC has been selected. Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]
Baldoyle Bay SAC (000199)	4km east. Hydrologically = 4.8km.	To maintain or restore the favourable conservation condition of the Annex I habitats and Annex II species for which the SAC has been selected. Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]
Rockabill to Dalkey Island SAC (0030000)	8.8km east. Hydrologically = 10.5km.	To maintain or restore the favourable conservation condition of the Annex I habitats and Annex II species for which the SAC has been selected. Reefs [1170] Harbour porpoise (<i>Phocoena phocoena</i>) [1351]
Lambay Island SAC (000204)	13.4km northeast. Hydrologically = 20km.	To maintain or restore the favourable conservation condition of the Annex I habitats and Annex II species for which the SAC has been selected. Reefs [1170] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Grey Seal (<i>Halichoerus grypus</i>) [1364] Harbour Seal (<i>Phoca vitulina</i>) [1365]
Special Protection Area (SPA)		
Malahide Estuary SPA (004025)	3.6km northeast. Hydrologically = 8.7km.	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Great crested grebe (<i>Podiceps cristatus</i>) [A005] Light-bellied brent goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Pintail (<i>Anas acuta</i>) [A054] Goldeneye (<i>Bucephala clangula</i>) [A067] Red-breasted merganser (<i>Mergus serrator</i>) [A069] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Golden plover (<i>Pluvialis apricaria</i>) [A140] Grey plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Dunlin (<i>Calidris alpina</i>) [A149] Black-tailed godwit (<i>Limosa limosa</i>) [A156] Bar-tailed godwit (<i>Limosa lapponica</i>) [A157] Redshank (<i>Tringa totanus</i>) [A162] Wetland and waterbirds [A999]
Baldoyle Bay SPA (004016)	4km east. Hydrologically = 4.8km.	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Light-bellied brent goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Ringed plover (<i>Charadrius hiaticula</i>) [A137] Golden plover (<i>Pluvialis apricaria</i>) [A140] Grey plover (<i>Pluvialis squatarola</i>) [A141] Bar-tailed godwit (<i>Limosa lapponica</i>) [A157] Wetland and waterbirds [A999]

European Site Name and Code	Distance of Site From the Proposed Development	Conservation Objectives and Qualifying Interests (*=priority habitat).
<p>North-west Irish Sea SPA (004236)</p>	<p>4.5km east. Hydrological distance: 6.3km</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Common Scoter (<i>Melanitta nigra</i>) [A065] Red-throated Diver (<i>Gavia stellata</i>) [A001] Great Northern Diver (<i>Gavia immer</i>) [A003] Fulmar (<i>Fulmarus glacialis</i>) [A009] Manx Shearwater (<i>Puffinus puffinus</i>) [A013] Shag (<i>Phalacrocorax aristotelis</i>) [A018] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Little Gull (<i>Larus minutus</i>) [A177] Kittiwake (<i>Rissa tridactyla</i>) [A188] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Common Gull (<i>Larus canus</i>) [A182] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] Herring Gull (<i>Larus argentatus</i>) [A184] Great Black-backed Gull (<i>Larus marinus</i>) [A187] Little Tern (<i>Sterna albifrons</i>) [A195] Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194] Puffin (<i>Fratercula arctica</i>) [A204] Razorbill (<i>Alca torda</i>) [A200] Guillemot (<i>Uria aalge</i>) [A199]</p>
<p>North Bull Island SPA (004006)</p>	<p>4.6km southeast. Hydrologically = 23km.</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Light-bellied brent goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Teal (<i>Anas crecca</i>) [A052] Pintail (<i>Anas acuta</i>) [A054] Shoveler (<i>Anas clypeata</i>) [A056] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Golden plover (<i>Pluvialis apricaria</i>) [A140] Grey plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Dunlin (<i>Calidris alpina</i>) [A149] Black-tailed godwit (<i>Limosa limosa</i>) [A156] Bar-tailed godwit (<i>Limosa lapponica</i>) [A157] Curlew (<i>Numenius arquata</i>) [A160] Redshank (<i>Tringa totanus</i>) [A162] Turnstone (<i>Arenaria interpres</i>) [A169] Black-headed gull (<i>Chroicocephalus ridibundus</i>) [A179] Wetland and waterbirds [A999]</p>
<p>South Dublin Bay and River Tolka Estuary SPA (004024)</p>	<p>5.5km south. Hydrologically = 22.5km.</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Light-bellied brent goose (<i>Branta bernicla hrota</i>) [A046] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed plover (<i>Charadrius hiaticula</i>) [A137] Grey plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Dunlin (<i>Calidris alpina</i>) [A149] Bar-tailed godwit (<i>Limosa lapponica</i>) [A157]</p>

European Site Name and Code	Distance of Site From the Proposed Development	Conservation Objectives and Qualifying Interests (*=priority habitat).
		Redshank (<i>Tringa totanus</i>) [A162] Black-headed gull (<i>Chroicocephalus ridibundus</i>) [A179] Roseate tern (<i>Sterna dougallii</i>) [A192] Common tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194] Wetland and waterbirds [A999]
Rogerstown Estuary SPA (004015)	7.5km northeast. Hydrologically = 20km.	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Greylag goose (<i>Anser anser</i>) [A043] Light-bellied brent goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Shoveler (<i>Anas clypeata</i>) [A056] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed plover (<i>Charadrius hiaticula</i>) [A137] Grey plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Dunlin (<i>Calidris alpina</i>) [A149] Black-tailed godwit (<i>Limosa limosa</i>) [A156] Redshank (<i>Tringa totanus</i>) [A162] Wetland and waterbirds [A999]
Ireland's Eye SPA (004117)	Located 8.6km east. Hydrologically = 10.5km.	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Cormorant (<i>Phalacrocorax carbo</i>) [A017] Herring gull (<i>Larus argentatus</i>) [A184] Kittiwake (<i>Rissa tridactyla</i>) [A188] Guillemot (<i>Uria aalge</i>) [A199] Razorbill (<i>Alca torda</i>) [A200]
Howth Head Coast SPA (004113)	Located 10km east. Hydrologically = 11km.	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Kittiwake (<i>Rissa tridactyla</i>) [A188]
Lambay Island SPA (004169)	13.4km northeast. Hydrologically = 20km.	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Fulmar (<i>Fulmarus glacialis</i>) [A009] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Shag (<i>Phalacrocorax aristotelis</i>) [A018] Greylag Goose (<i>Anser anser</i>) [A043] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] Herring Gull (<i>Larus argentatus</i>) [A184] Kittiwake (<i>Rissa tridactyla</i>) [A188] Guillemot (<i>Uria aalge</i>) [A199] Razorbill (<i>Alca torda</i>) [A200] Puffin (<i>Fratercula arctica</i>) [A204]
Dalkey Islands SPA (004172)	Direct distance: 17.5km Hydrological distance: 23km	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194]
Skerries Islands SPA (004122)	Direct distance: 18.5km	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Cormorant (<i>Phalacrocorax carbo</i>) [A017] Shag (<i>Phalacrocorax aristotelis</i>) [A018]

European Site Name and Code	Distance of Site From the Proposed Development	Conservation Objectives and Qualifying Interests (*=priority habitat).
	Hydrological distance: 29km	Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Purple Sandpiper (<i>Calidris maritima</i>) [A148] Turnstone (<i>Arenaria interpres</i>) [A169] Herring Gull (<i>Larus argentatus</i>) [A184]
Rockabill SPA (004014)	Direct distance: 19km Hydrological distance: 30km	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Purple Sandpiper (<i>Calidris maritima</i>) [A148] Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194]
River Nanny and Shore SPA (004158)	Direct distance: 26km Hydrological distance: 43km	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Herring Gull (<i>Larus argentatus</i>) [A184] Wetland and Waterbirds [A999]
Boyne Estuary SPA (004080)	Direct distance: 33km Hydrological distance: 52km	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Shelduck (<i>Tadorna tadorna</i>) [A048] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Lapwing (<i>Vanellus vanellus</i>) [A142] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Redshank (<i>Tringa totanus</i>) [A162] Turnstone (<i>Arenaria interpres</i>) [A169] Little Tern (<i>Sterna albifrons</i>) [A195] Wetland and Waterbirds [A999]
Dundalk Bay SPA (004026)	Direct distance: 50km Hydrological distance: 78km	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] Greylag Goose (<i>Anser anser</i>) [A043] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Teal (<i>Anas crecca</i>) [A052] Mallard (<i>Anas platyrhynchos</i>) [A053] Pintail (<i>Anas acuta</i>) [A054] Common Scoter (<i>Melanitta nigra</i>) [A065] Red-breasted Merganser (<i>Mergus serrator</i>) [A069] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Lapwing (<i>Vanellus vanellus</i>) [A142] Knot (<i>Calidris canutus</i>) [A143] Dunlin (<i>Calidris alpina</i>) [A149] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]

European Site Name and Code	Distance of Site From the Proposed Development	Conservation Objectives and Qualifying Interests (*=priority habitat).
		Curlew (<i>Numenius arquata</i>) [A160] Redshank (<i>Tringa totanus</i>) [A162] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Common Gull (<i>Larus canus</i>) [A182] Herring Gull (<i>Larus argentatus</i>) [A184] Wetland and Waterbirds [A999]

4.2.1 Other European Sites In the Vicinity of the Proposed Development But Outside the Zol

The following European sites are considered to be within the vicinity, i.e. there is a potential effects pathway to a receptor from the Proposed Development, however on further examination the European sites are considered outside the Zol with reasons provided below which demonstrates that one or more elements of the 'source-pathway-receptor' model is absent and therefore there is no likelihood for an effect to occur:

North Dublin Bay SAC (000206) (NPWS 2013b). Located 4.6km directly east. Hydrologically connected 23 km downstream via the Pinkeen River and River Tolka. It is designated for the following habitats: 1) Mudflats and sandflats not covered by seawater at low tide [1140]; 2) Annual vegetation of drift lines [1210]; 3) Salicornia and other annuals colonising mud and sand [1310]; 4) Atlantic salt meadows (*Glaucopuccinellietalia maritima*) [1330]; 5) Mediterranean salt meadows (*Juncetalia maritimi*) [1410]; 6) Embryonic shifting dunes [2110]; 7) Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120]; 8) Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]; 9) Humid dune slacks [2190]; and for the following species: 1) *Petalophyllum ralfsii* (petalwort) [1395] (NPWS 2022b). There is no potential for the Proposed Development works to impact upon the QI habitats within or linked to the SAC for the following reasons:

- There is a hydrological link 23km in length, including the estuary, which is considered *de minimus* due to the intervening distance and dilution rates to cause significant impacts.

Rye Water Valley/ Carton SAC (001398) (NPWS 2021). Located 5.3km directly south. No hydrological connection. This SAC is designated for petrifying springs with tufa formation (*Cratoneurion*), narrow-mouthed whorl snail (*Vertigo angustior*), and Desmoulin's whorl snail (*Vertigo moulinsiana*). There is no anticipated potential for the Proposed Development works to impact on the QI habitat and species within or linked to the SAC for the following reasons:

- The SAC is 5.3km away and there is no hydrological link.

South Dublin Bay SAC (000210) (NPWS 2013c). Located 7.8km southeast. Hydrologically connected 26km downstream via the Pinkeen River, River Tolka, and Dublin Bay. It is designated for the following habitats: 1) Mudflats and sandflats not covered by seawater at low tide [1140]; 2) Annual vegetation of drift lines [1210]; 3) Salicornia and other annuals colonising mud and sand [1310]; 4) Embryonic shifting dunes [2110]. This site is an example of a coastal system, with extensive sand and mudflats, and incipient dune formations. There is no potential for the Proposed Development works to impact upon the QI habitats within or linked to the SAC for the following reasons:

- Given the overland distance (7.8km) and hydrological connectivity distance (26km), which includes the estuary, effects are considered *de minimus* due to the intervening distance and dilution rates, which would dilute a pollution event reaching the South Dublin Bay SAC which is 26km distant from the proposed Development. It is considered that this European site is outside the Zol of the Proposed Development. There are no other types of connectivity that could impact this SAC.

Rogerstown Estuary SAC (000208) (NPWS 2013d). Located 7.5km north. Hydrologically connected 20km downstream via the River Ward, Malahide Estuary, and the Irish Sea. It is designated for the following habitats: 1) Estuaries [1130]; Mudflats and sandflats not covered by seawater at low tide [1140]; Salicornia and other annuals colonising mud and sand [1310]; 4) Mediterranean salt meadows (*Juncetalia maritimi*) [1410]; 5) Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120]; 6) Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]. There is no potential for the Proposed Development works to impact upon the QI habitats within or linked to the SAC for the following reasons:

- There is a hydrological link 20km in length, including the estuary, which is considered *de minimus* due to the intervening distance and dilution rates to cause significant impacts.

Howth Head SAC (00202). (NPWS 2016). Located 8.3km east. Hydrologically connected 29km downstream via the River Mayne, Baldoyle Estuary, and the Irish Sea. It is designated for the following habitats: 1) Vegetated Sea Cliffs [1230]; and 2) Dry Heath [4030]. There is no potential for the Proposed Development works to impact upon the QI habitats within or linked to the SAC for the following reasons:

- The hydrological connectivity is through the estuary and the sea. The Vegetated Sea Cliffs and Dry Heath are located on the slopes above the sea cliffs in the area of summit, thus there will not be direct contact with the area hydrologically connected to the Proposed Development. Given the overland distance (8.3km) and hydrological connectivity distance (29km), which includes the estuary, effects are considered *de minimus* due to the intervening distance and dilution rates, which would dilute a pollution event reaching the Howth Head SAC which is 29km distant from the Proposed Development.

Ireland's Eye SAC (002193) (NPWS 2017). Located 10.5km directly east. Hydrologically connected - 10.5km downstream via the River Mayne, Baldoyle Estuary, and the Irish Sea. It is designated for the following habitats: 1) Perennial vegetation of stony banks [1220]; Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]. There is no potential for the Proposed Development works to impact upon the QI habitats within or linked to the SAC for the following reasons:

- There is a hydrological link 10.5km in length, including the estuary, which is considered *de minimus* due to the intervening distance and dilution rates to cause significant impacts.

Wicklow Mountains SPA (004040) (NPWS 2022). Located 20km directly south. No hydrological connection. It is designated for the following species: 1) Merlin (*Falco columbarius*) [A098]; Peregrine falcon (*Falco peregrinus*) [A103]. the Proposed Development works to impact upon the QI habitats within or linked to the SAC for the following reasons:

- Given the overland distance (20km) and there there is no hydrological link to the SPA.

5. Assessment of Likely Significant Effects (LSEs)

5.1 Screening Exercise

A screening exercise is presented in Table 5.1 which examines the potential effects of the Proposed Development on the 19 European sites outlined in Section 4.2.

The potential effects of the Proposed Development on the QI (Annex I habitats and Annex II species) for which the above sites are designated are also examined. The results of this exercise and the rationale for 'screening in or screening out' European sites within the ZoI (and therefore of potential relevance to the AA) are also detailed in Table 5.1.

Table 5.1: European Sites With the Potential for Likely Significant Effects From the Proposed Development (grey text = qualifying feature which is not considered to be within the Zol of the Proposed Development)

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
Special Area of Conservation (SAC)				
Malahide Estuary SAC (000205)	Direct distance: 3.6km Hydrological distance: 8.7km downstream via the River Ward.	Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	Pathway There is a hydrological link to QI habitats via the Ward_010, Ward_020 and the Ward_030, with the hydrological link via the Ward_030 being under 10 km. Habitats in grey text are not within the Zol of the Proposed Development as there is no hydrological link as these habitats are terrestrial. Habitat loss No potential for habitat loss given the works do not take place within this European site. Habitat degradation Potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked to QI habitats in black text. <i>Further assessment needed in next column.</i>	Habitat degradation – LSEs cannot be excluded. In the absence of mitigation, potential sedimentation and pollution incidents entering the watercourses hydrologically linked to this site could cause habitat degradation for QI habitats as the hydrological link via the three crossings of the Ward_030 is approximately 8.7km or less in length. Screened in.
Baldoyle Bay SAC (000199)	Direct distance: 4km Hydrological distance: 4.8km downstream via the River Mayne and 9.7km downstream via the River Sluice.	Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]	Pathway There is a hydrological link via the Sluice_010 and the Mayne_010. Habitat loss No potential for habitat loss given the works do not take place within this European site. Habitat degradation Potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked to QI habitats. <i>Further assessment needed in next column.</i>	Habitat degradation – LSEs cannot be excluded. In the absence of mitigation, potential sedimentation and pollution incidents entering the watercourses hydrologically linked to this site could cause habitat degradation for QI habitats as the hydrological link via the Sluice_010 is approximately 9.7 km in length while the hydrological link via the Mayne_010 is approximately 4.8km in length. Screened in.
Rockabill to Dalkey Island SAC (0030000)	Direct distance: 8.8km	Reefs [1170] Harbour porpoise (<i>Phocoena phocoena</i>) [1351]	Pathway There is a hydrological link via the Irish Sea which the Ward_010, Ward_020, Ward_030, Sluice_010 and the Mayne_010 connect to.	No LSEs Anticipated: Rationale Provided Below: Habitat degradation –LSEs can be excluded. For harbour porpoise although there is a hydrological link, it is 10.5km in length which is considered <i>de minimus</i> due to the

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
	Hydrological distance: 10.5km downstream via the River Mayne, Baldoyle Estuary, and Irish Sea.		<p>Habitat loss No potential for habitat loss given the works do not take place within this European site.</p> <p>Mortality Potential for mortality via a pollution event entering watercourses which are hydrologically linked to supporting habitat for QI species. <i>Further assessment needed in next column.</i></p> <p>Habitat degradation Potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked to QI habitats and supporting habitat for QI species. <i>Further assessment needed in next column.</i></p> <p>Disturbance No potential for disturbance given the works do not take place within or adjacent to this European site or supporting habitat for QI species.</p>	<p>intervening distance of and dilution rates to cause significant impacts. There is supporting habitat closer to shore (Baldoyle Bay at 4.8km), however the abundance of other supporting habitat closer to this SAC means there is no potential for significant effects from habitat degradation.</p> <p>For QI reef habitat there is no LSE for habitat degradation. Although there is a hydrological link this is considered <i>de minimus</i> due to the intervening distance of and dilution rates. The hydrological distance is 10.5km and so a pollution event is unlikely to reach the QI habitat in this European site to cause significant impacts.</p> <p>Mortality – LSEs can be excluded. Although there is a hydrological link, it is 10.5km in length which is considered <i>de minimus</i> due to the intervening distance of and dilution rates to cause significant impacts. Therefore, there is no potential for LSEs from mortality.</p> <p>Screened out.</p>
Lambay Island SAC (00204)	Direct distance: 13.4km Hydrological distance: 22.1km	Reefs [1170] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Grey seal (<i>Halichoerus grypus</i>) [1364] Harbour seal (<i>Phoca vitulina</i>) [1365]	<p>Pathway There is a hydrological link via the Irish Sea which the Ward_010, Ward_020 and the Ward_030 connect to. Habitats in grey text are not within the Zol of the Proposed Development as there is no hydrological link as these habitats are terrestrial.</p> <p>Habitat loss No potential for habitat loss given the works do not take place within this European site.</p> <p>Mortality Potential for mortality via a pollution event entering watercourses which are hydrologically linked to supporting habitat for QI species. <i>Further assessment needed in next column.</i></p> <p>Habitat degradation Potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked to</p>	<p>No LSEs Anticipated: Rationale Provided Below:</p> <p>Habitat degradation – LSEs can be excluded. For the two seal species although there is a hydrological link, it is 22.1km in length which is considered <i>de minimus</i> due to the intervening distance of and dilution rates to cause significant impacts. There is supporting habitat closer to shore (Baldoyle Bay at 4.8km), however the abundance of other supporting habitat closer to this SAC means there is no potential for significant effects from habitat degradation.</p> <p>For QI reef habitat there is no LSE for habitat degradation. Although there is a hydrological link this is considered <i>de minimus</i> due to the intervening distance of and dilution rates. The hydrological distance is 22.1km and so a pollution event is unlikely to reach the QI habitat in this European site to cause significant impacts.</p> <p>Mortality – LSEs can be excluded. Although there is a hydrological link, it is 22.1km in length which is considered <i>de minimus</i> due to the intervening distance of and</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
			<p>QI habitats and supporting habitat for QI species. <i>Further assessment needed in next column.</i></p> <p>Disturbance</p> <p>No potential for disturbance given the works do not take place within or adjacent to this European site or supporting habitat for QI species.</p>	<p>dilution rates to cause significant impacts. Therefore, there is no potential for LSEs from mortality.</p> <p>Screened out.</p>
Special Protection Area (SPA)				
<p>Malahide Estuary SPA (004025)</p>	<p>Direct distance: 3.6km</p> <p>Hydrological distance: 8.7km</p> <p>Hydrological distance to potentially impacted supporting habitat¹⁰ from the Proposed Development:</p> <p>Baldoyle SPA: 4.8km</p>	<p>Great crested grebe (<i>Podiceps cristatus</i>) [A005]</p> <p>Light-bellied brent goose (<i>Branta bernicla hrota</i>) [A046]</p> <p>Shelduck (<i>Tadorna tadorna</i>) [A048]</p> <p>Pintail (<i>Anas acuta</i>) [A054]</p> <p>Goldeneye (<i>Bucephala clangula</i>) [A067]</p> <p>Red-breasted merganser (<i>Mergus serrator</i>) [A069]</p> <p>Oystercatcher (<i>Haematopus ostralegus</i>) [A130]</p> <p>Golden plover (<i>Pluvialis apricaria</i>) [A140]</p> <p>Grey plover (<i>Pluvialis squatarola</i>) [A141]</p> <p>Knot (<i>Calidris canutus</i>) [A143]</p> <p>Dunlin (<i>Calidris alpina</i>) [A149]</p> <p>Black-tailed godwit (<i>Limosa limosa</i>) [A156]</p> <p>Bar-tailed godwit (<i>Limosa lapponica</i>) [A157]</p> <p>Redshank (<i>Tringa totanus</i>) [A162]</p>	<p>Pathway</p> <p>The proximity of the European site to the Proposed Development means that works may be taking place within or adjacent to functionally linked habitat for QI bird species which are known to use agricultural and amenity land to forage and roost in.</p> <p>Additionally, there are three hydrological links from the Proposed Development to this SPA, these are via the Ward_010, Ward_020 and the Ward_030.</p> <p>Habitat loss</p> <p>No potential for long term habitat loss given the works do not take place within this European site. Although some agricultural fields will be used for the cable route this will be temporary as ground cover will be restored like for like post construction. However, a short term loss of functional habitat for QI species which forage on agricultural fields could take place. <i>Further assessment needed in next column.</i></p> <p>Mortality</p> <p>Potential for mortality given the works have potential to pollute functionally linked habitat and the SPA itself via a potential pollution incident which travels downstream into the SPA. Pollution may cause mortality in birds who have consumed pollutant laden prey or by consuming</p>	<p>Habitat loss – LSEs can be excluded.</p> <p>The Proposed Development may result in short term functional habitat loss for QI species associated with the SPA, particularly in the form of landscape changes to agricultural land which may be used for foraging opportunities. However, the loss of functional habitat is expected to be temporary and localised. Surrounding the Proposed Development is an abundance of similar habitats which act as alternate functional habitat for these species which are not directly affected by the project. In addition, the habitats will be replaced after the completion of the works, restoring any lost habitat. Therefore, the effect of the works on functional habitat for QI species in this SPA is considered to be <i>de minimus</i> and so no Likely Significant Effects are anticipated.</p> <p>Habitat degradation – LSEs cannot be excluded.</p> <p>In the absence of mitigation, potential sedimentation and pollution incidents entering the watercourses hydrologically linked to this site could cause habitat degradation for QI habitats as the hydrological link via the three crossings of the Ward_030 river which is approximately 8.7km or less in length.</p> <p>In addition, potential sedimentation and pollution incidents may enter supporting habitat in Baldoyle Bay SPA which has also screened in for habitat degradation LSEs. Baldoyle Bay SPA is 2.4 km from Malahide Estuary SPA and is within commutable distance for QI species. This may cause an increased impact to QI species and their prey which may commute between these two SPAs to forage and</p>

¹⁰ Supporting habitat is habitat within a protected site (SPA, SAC or NHA) which supports a QI species which is designated by a separate protected site (SPA, SAC or NHA).

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
		Wetland and waterbirds [A999]	<p>polluted water. <i>Further assessment needed in next column.</i></p> <p>Habitat degradation Potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked the SPA and supporting habitat. There is also potential for habitat degradation via a pollution event from run-off into functionally linked, terrestrial habitat for QI birds. <i>Further assessment needed in next column.</i></p> <p>Disturbance Potential for disturbance as works will take place within or adjacent to functionally linked habitat for QI birds. <i>Further assessment needed in next column.</i></p>	<p>roost. These are light-bellied brent geese, shelduck, golden plover, grey plover and bar-tailed godwit.</p> <p>Lastly, potential sedimentation and pollution incidents may enter functionally linked, terrestrial habitat adjacent to the Proposed Development causing habitat degradation impacting QI species and their prey, namely brent geese, oystercatcher, and golden plover, which are known to travel inland to forage and roost. These three species were recorded during Jacob's wintering bird surveys foraging and roosting within functionally linked habitats.</p> <p>Mortality – LSEs cannot be excluded. The Proposed Development may result in mortality of QI species associated with the SPA due to pollution impacts into the SPA itself and pollution impacts into supporting/ functionally linked habitats and the SPA itself, leading to a reduction in water quality and reduction of prey availability causing mortality to QI species.</p> <p>Disturbance – LSEs cannot be excluded. In the absence of mitigation, disturbance from noise and visuals could cause a stress response or act as a deterrent to functionally linked habitat adjacent to the Proposed Development impacting QI species, namely light-bellied brent geese, oystercatcher, and golden plover, which are known to travel inland to forage and roost.</p> <p>For other QI birds not mentioned above there is no LSE for disturbance. The works are too far (3.6km) from the SPA itself to cause disturbance and these species are not known to use the habitat adjacent to the works or are not known to travel long distances for foraging.</p> <p>All QI species have been screened in for in-situ effects from habitat degradation and mortality.</p> <p>Screened in for ex-situ effects from habitat degradation and mortality on supporting habitat for: Light-bellied brent geese, shelduck, golden plover, grey plover, and bar-tailed godwit.</p> <p>Screened in for ex-situ effects from habitat degradation, disturbance, and mortality on functionally linked habitat for: Light-bellied brent geese, oystercatcher, and golden plover.</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
				<p>Screened out for in-situ and ex-situ effects from habitat loss.</p> <p>Screened out for in-situ effects from disturbance.</p> <p>Screened out for ex-situ effects from habitat degradation and mortality on supporting habitat for: Great-crested grebe, pintail, goldeneye, red-breasted merganser, oystercatcher, knot, dunlin, black-tailed godwit and redshank.</p> <p>Screened out for ex-situ effects from habitat degradation, disturbance, and mortality on functionally linked habitat for: Great-crested grebe, shelduck, pintail, goldeneye, red-breasted merganser, grey plover, knot, dunlin, black-tailed godwit, bar-tailed godwit and redshank.</p>
<p>Baldoyle Bay SPA (004016)</p>	<p>Direct distance: 4km</p> <p>Hydrological distance: 4.8km</p> <p>Hydrological distance to potentially impacted supporting habitat from the Proposed Development:</p> <p>Malahide Estuary SPA: 8.7km</p>	<p>Light-bellied brent goose (<i>Branta bernicla hrota</i>) [A046]</p> <p>Shelduck (<i>Tadorna tadorna</i>) [A048]</p> <p>Ringed plover (<i>Charadrius hiaticula</i>) [A137]</p> <p>Golden plover (<i>Pluvialis apricaria</i>) [A140]</p> <p>Grey plover (<i>Pluvialis squatarola</i>) [A141]</p> <p>Bar-tailed godwit (<i>Limosa lapponica</i>) [A157]</p> <p>Wetland and waterbirds [A999]</p>	<p>Pathway</p> <p>The proximity of the European site to the Proposed Development mean that works may be taking place within functionally linked habitats for QI bird species which are known to use agricultural and amenity land to forage and roost in, namely brent geese and golden plover.</p> <p>Additionally, a hydrological link via the Sluice_010 and the Mayne_010 which may create a pathway for impacts to all QI species.</p> <p>Habitat loss</p> <p>No potential for long term habitat loss given the works do not take place within this European site. Although some agricultural fields will be used for the cable route this will be temporary as ground cover will be restored like for like post construction. However, a short term loss of functional habitat for QI species which forage on agricultural fields could take place. <i>Further assessment needed in next column.</i></p> <p>Mortality</p> <p>Potential for mortality given the works have potential to pollute functionally linked habitat and the habitat within the SPA itself. Pollution may cause mortality in birds who</p>	<p>Habitat loss – LSEs can be excluded .</p> <p>The Proposed Development may result in short term functional habitat loss for QI species associated with the SPA, particularly in the form of landscape changes to agricultural land which may be used for foraging opportunities. However, the loss of functional habitat is expected to be temporary and localised. Surrounding the Proposed Development is an abundance of similar habitats which act as alternate functional habitat for these species which are not directly affected by the project. In addition, the habitats will be replaced after the completion of the works, restoring any lost habitat. Therefore, the effect of the works on functional habitat for QI species in this SPA is considered to be <i>de minimus</i> and so no Likely Significant Effects are anticipated.</p> <p>Habitat degradation – LSEs cannot be excluded.</p> <p>In the absence of mitigation, potential sedimentation and pollution incidents entering the watercourses hydrologically linked to this site could cause habitat degradation to habitats within the SPA for all QI birds and their prey as the hydrological link via the Mayne_010 is approximately 4.8km in length while the hydrological link via the Sluice_010 is approximately 9.7km.</p> <p>In addition, potential sedimentation and pollution incidents may enter supporting habitat in Malahide Estuary SPA which has also screened in for habitat degradation LSEs. Malahide Estuary SPA is 2.4km from Baldoyle Bay SPA and is within commutable distance for</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
			<p>have consumed pollutant ladened prey or by consuming polluted water. <i>Further assessment needed in next column.</i></p> <p>Habitat degradation Potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked the SPA and supporting habitat. There is also potential for habitat degradation via a pollution event from run-off into functionally linked, terrestrial habitat for QI birds. <i>Further assessment needed in next column.</i></p> <p>Disturbance Potential for disturbance as works will take place within or adjacent to functionally linked habitat for QI birds. <i>Further assessment needed in next column.</i></p>	<p>QI species. This may cause an increased impact to QI species and their prey which may commute between these two SPAs to forage and roost. These are light-bellied brent geese, shelduck, golden plover, grey plover, and bar-tailed godwit.</p> <p>Lastly, potential sedimentation and pollution incidents may enter functionally linked, terrestrial habitat adjacent to the Proposed Development causing habitat degradation impacting QI species and their prey, namely brent geese and golden plover, which are known to travel inland to forage and roost. Both of these species were recorded during Jacob’s wintering bird surveys foraging and roosting within functionally linked habitats.</p> <p>Mortality – LSEs cannot be excluded. The Proposed Development may result in mortality of QI species associated with the SPA due to pollution impacts in the SPA and supporting/ functionally linked, terrestrial habitat leading to a reduction in water quality and reduction of prey availability potentially causing mortality to QI species namely, light-bellied brent goose and golden plover.</p> <p>Disturbance – LSEs cannot be excluded. In the absence of mitigation, disturbance from noise and visuals could cause a stress response or act as a deterrent in functionally linked habitat impacting QI species, namely brent geese and golden plover, which are known to travel inland to forage and roost. The works are too far (4km) from the SPA to cause disturbance impacts to the SPA itself.</p> <p>All QI species have been screened in for in-situ effects from habitat degradation and mortality.</p> <p>Screened in for ex-situ effects from habitat degradation and mortality on functionally linked habitat for: Light-bellied brent geese, shelduck, golden plover, grey plover, and bar-tailed godwit.</p> <p>Screened in for ex-situ effects from habitat degradation, disturbance, and mortality on functionally linked habitat for: Light-bellied brent geese and golden plover.</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
				<p>Screened out for in-situ and ex-situ effects from habitat loss.</p> <p>Screened out for in-situ effects from disturbance.</p> <p>Screened out for ex-situ effects from habitat degradation and mortality on supporting habitat for: Ringed plover</p> <p>Screened out for ex-situ effects from habitat degradation, disturbance, and mortality on functionally linked habitat for: Shelduck, ringed plover, grey plover and bar-tailed godwit.</p>
<p>North-West Irish Sea SPA (004236)</p>	<p>Direct distance: 4.5km Hydrological distance: 6.3km</p>	<p>Common Scoter (<i>Melanitta nigra</i>) [A065] Red-throated Diver (<i>Gavia stellata</i>) [A001] Great Northern Diver (<i>Gavia immer</i>) [A003] Fulmar (<i>Fulmarus glacialis</i>) [A009] Manx Shearwater (<i>Puffinus puffinus</i>) [A013] Shag (<i>Phalacrocorax aristotelis</i>) [A018] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Little Gull (<i>Larus minutus</i>) [A177] Kittiwake (<i>Rissa tridactyla</i>) [A188] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Common Gull (<i>Larus canus</i>) [A182] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] Herring Gull (<i>Larus argentatus</i>) [A184] Great Black-backed Gull (<i>Larus marinus</i>) [A187] Little Tern (<i>Sterna albifrons</i>) [A195]</p>	<p>Pathway</p> <p>This marine SPA covers large area (2,333km²) between South Dublin to Dundalk and overlaps and adjoins 12 existing Special Protection Areas of which many are designated for the same QIs and act as supporting habitat (NPWS 2023).</p> <p>The proximity of the European site to the Proposed Development means that works may be taking place within functionally linked habitats for QI bird species which are known to use agricultural/amenity land to forage and roost in, namely black-headed gull, common gull, lesser black-backed gull, herring gull, great black-backed gull, and little gull.</p> <p>All species are in black text due to the length of the hydrological link being <10 km long. As such all species are being assessed below.</p> <p>A hydrological link exists between the Proposed Development and this North-west Irish Sea SPA via:</p> <ul style="list-style-type: none"> • Sluice_010 and the Mayne_010 (Baldoyle SPA) • Tolka_020, Pinkeen_010 and the Dunboyne (North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA) • Ward_010, 020 and 030 (Malahide Bay SPA) <p>Which may create a pathway for impacts to all QI species via the hydrological connections.</p>	<p>Habitat degradation – LSEs can be excluded.</p> <p>There is a hydrological link to the SPA with a distance of 6.3 km. While this is a short distance, the hydrological link is via the coastal waters which have a large assimilative capacity. Thus, a pollution event is unlikely to reach this European site to cause significant impacts when taking the distance and dilution rates via rivers, estuaries, and the Irish Sea into account. In addition, if a pollution event was to reach the SPA it would not cause significant effects as seabirds have large foraging ranges and can readily relocate to available foraging habitat which is plentiful within the Irish Sea (Thaxter <i>et al.</i> 2012).</p> <p>However, in the absence of mitigation, potential sedimentation and pollution incidents may enter functionally linked habitat causing habitat degradation thus, impacting QI species and their prey which are known to travel inland to forage and roost during the winter season. These include black-headed gull, common gull, lesser black-backed gull, herring gull, great black-backed gull, and little gull. Some of these species were recorded during Jacob’s wintering bird surveys foraging and roosting within functionally linked habitats. Although there are many sites with supporting habitat within the Zol for QIs of the North-West Irish Sea SPA none of these sites have screened in for direct impacts. Thus, no significant effects are predicted for QIs using supporting habitat.</p> <p>Mortality – LSEs cannot be excluded.</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
		Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194] Puffin (<i>Fratercula arctica</i>) [A204] Razorbill (<i>Alca torda</i>) [A200] Guillemot (<i>Uria aalge</i>) [A199]	<p>Habitat Loss</p> <p>No potential for habitat loss given the works do not take place within this European site and all works associated with the Proposed Development are inland and this SPA is exclusively a coastal and marine site.</p> <p>Mortality</p> <p>Potential for mortality given the works have potential to pollute functionally linked/supporting habitat. Pollution may cause mortality in birds who have consumed pollutant laden prey or by consuming polluted water. <i>Further assessment needed in next column.</i></p> <p>Habitat degradation</p> <p>Potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked to this this SPA via North Bull Island SPA, Malahide SPA and Baldoyle SPA. There is also potential for habitat degradation via a pollution event from run-off into functionally linked/supporting habitat (above mentioned SPAs) for QI birds. <i>Further assessment needed in next column.</i></p> <p>Disturbance</p> <p>Potential for disturbance as works will take place within or adjacent to functionally linked habitat for some QI birds. <i>Further assessment needed in next column.</i></p>	<p>No mortality is predicted on QIs within the SPA due to the hydrological distances, taking the dilution rates into consideration via the watercourses, estuaries, and Irish Sea.</p> <p>However, the Proposed Development may result in mortality of QI species associated with the SPA due to pollution impacts in functionally linked habitat by a reduction in water quality and reduction of prey availability causing mortality to QI species.</p> <p>Disturbance- LSEs cannot be excluded.</p> <p>The works are too far (4.5km) from the SPA itself to cause disturbance impacts within the SPA itself.</p> <p>In the absence of mitigation, disturbance from noise and visuals could cause a stress response or act as a deterrent in functionally linked habitat impacting QI species which are known to travel inland to forage and roost.</p> <p>No in-situ effects are predicted.</p> <p>No ex-situ effects are predicted for supporting habitat.</p> <p>Screened in for ex-situ effects from habitat degradation, disturbance, and mortality on functionally linked habitat for:</p> <p>Black-headed gull, common gull, lesser black-backed gull, herring gull, great black-backed gull, and little gull.</p> <p>Screened out for ex-situ effects from habitat degradation, disturbance and mortality on functionally linked habitat for:</p> <p>Common scoter, red-throated diver, great northern diver, fulmar, Manx shearwater, shag, cormorant, kittiwake, little tern, Roseate tern, common tern, arctic tern, puffin, razorbill, and guillemot.</p> <p>Justification below:</p> <p>There are no significant effects to the QI within this SPA from either disturbance, mortality, habitat loss or habitat degradation due to the hydrological distance and assimilative qualities of the Irish Sea between the Proposed Development and this SPA. In addition, Baldoyle and Malahide Estuary SPAs do not provide supporting habitat for these species, and these species are not known to travel inland to utilise agricultural or amenity land as this a marine SPA and the QIs are seabirds.</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
North Bull Island SPA (004006)	<p>Direct distance: 4.6km</p> <p>Hydrological distance: 23km</p> <p>Hydrological distance to potentially impacted supporting habitat from the Proposed Development:</p> <p>Baldoyle SPA: 4.8km</p> <p>Malahide SPA: 8.7km</p>	<p>Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]</p> <p>Shelduck (<i>Tadorna tadorna</i>) [A048]</p> <p>Teal (<i>Anas crecca</i>) [A052]</p> <p>Pintail (<i>Anas acuta</i>) [A054]</p> <p>Shoveler (<i>Anas clypeata</i>) [A056]</p> <p>Oystercatcher (<i>Haematopus ostralegus</i>) [A130]</p> <p>Golden plover (<i>Pluvialis apricaria</i>) [A140]</p> <p>Grey plover (<i>Pluvialis squatarola</i>) [A141]</p> <p>Knot (<i>Calidris canutus</i>) [A143]</p> <p>Sanderling (<i>Calidris alba</i>) [A144]</p> <p>Dunlin (<i>Calidris alpina</i>) [A149]</p> <p>Black-tailed godwit (<i>Limosa limosa</i>) [A156]</p> <p>Bar-tailed godwit (<i>Limosa lapponica</i>) [A157]</p> <p>Curlew (<i>Numenius arquata</i>) [A160]</p> <p>Redshank (<i>Tringa totanus</i>) [A162]</p> <p>Turnstone (<i>Arenaria interpres</i>) [A169]</p> <p>Black-headed gull (<i>Chroicocephalus ridibundus</i>) [A179]</p> <p>Wetlands and waterbirds [A999]</p>	<p>Pathway</p> <p>The proximity of the European site to the Proposed Development mean that works may be taking place within or adjacent to functionally linked habitat for QI bird species which are known to use agricultural/amenity land to forage and roost in, namely brent geese, teal, shoveler, oystercatcher, golden plover, black-tailed godwit, curlew, and black-headed gull.</p> <p>QIs not mentioned above are not known to travel inland to use agricultural fields to forage or roost in and are largely confined to large bodies of water, coastal habitats or marine habitats or are not known to travel long distances for foraging.</p> <p>There is a hydrological link via the Tolka estuary which the Dunboyne Stream_010, the Tolka_020 and the Pinkeen_010.</p> <p>Habitat loss</p> <p>No potential for long term habitat loss given the works do not take place within this European site. Although some agricultural fields will be used for the cable route this will be temporary as ground cover will be restored like for like post construction. However, a short term loss of functional habitat for QI species which forage on agricultural fields could take place. <i>Further assessment needed in next column.</i></p> <p>Mortality</p> <p>Potential for mortality given the works have potential to pollute functionally linked and supporting habitat. Pollution may cause mortality in birds who have consumed pollutant laden prey or by consuming polluted water. <i>Further assessment needed in next column.</i></p> <p>Habitat degradation</p> <p>Potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked</p>	<p>Habitat loss – LSEs can be excluded.</p> <p>The Proposed Development may result in short term functional habitat loss for QI species associated with the SPA, particularly in the form of landscape changes to agricultural land which may be used for foraging opportunities. However, the loss of functional habitat is expected to be temporary and localised. Surrounding the Proposed Development is an abundance of similar habitats which act as alternate functional habitat for these species which are not directly affected by the project. In addition, the habitats will be replaced after the completion of the works, restoring any lost habitat. Therefore, the effect of the works on functional habitat for QI species in this SPA is considered to be <i>de minimus</i> and so no Likely Significant Effects are anticipated.</p> <p>Habitat degradation – LSEs cannot be excluded.</p> <p>There is a hydrological link to the SPA via other SPAs, but it is considered <i>de minimus</i> due to the intervening distance of and dilution rates. The distance of 23km means a pollution event is unlikely to reach this European site to cause significant impacts.</p> <p>However, in the absence of mitigation there is potential for impacts to QI species via the supporting habitat of Baldoyle and Malahide Estuary SPAs. Baldoyle SPA is 0.4km and Malahide Estuary SPA is 5.9km from North Bull Island SPA and is within commutable distance for QI species. This may cause an increased impact to QI species and their prey which may commute between these SPAs to forage and roost. These are light-bellied brent goose, shelduck, pintail, oystercatcher, golden plover, grey plover, knot, dunlin, black-tailed godwit, and bar-tailed godwit.</p> <p>Additionally, potential sedimentation and pollution incidents may enter functionally linked habitat adjacent to the Proposed Development causing habitat degradation impacting QI species and their prey, namely light-bellied brent geese, teal, shoveler, oystercatcher, golden plover, black-tailed godwit, curlew, and black-headed gull, which are known to travel inland to forage and roost. Some of these species were recorded during Jacob's wintering bird surveys foraging and roosting within functionally linked habitats.</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
			<p>the SPA. There is also potential for habitat degradation via a pollution event from run-off into supporting habitat for QI birds. <i>Further assessment needed in next column.</i></p> <p>Disturbance Potential for disturbance as works will take place within or adjacent to functionally linked habitat for QI birds. <i>Further assessment needed in next column.</i></p>	<p>Mortality – LSEs cannot be excluded. The Proposed Development may result in mortality of QI species associated with the SPA due to pollution impacts in supporting and functionally linked habitats leading to a reduction in water quality and reduction of prey availability causing mortality to QI species.</p> <p>Disturbance – LSEs cannot be excluded. The works are too far (4.6km) from the SPA itself to cause disturbance impacts within the SPA itself or supporting habitat. In the absence of mitigation, disturbance from noise and visuals could cause a stress response or act as a deterrent in functionally linked habitat impacting QI species which are known to travel inland to forage and roost.</p> <p>No in-situ effects are predicted.</p> <p>Screened in for ex-situ effects from habitat degradation and mortality on supporting habitat for: Light-bellied brent goose, shelduck, oystercatcher, golden plover, grey plover, bar-tailed godwit, pintail, dunlin, black-tailed godwit, knot, redshank, and black-headed gull.</p> <p>Screened in for ex-situ effects from habitat degradation, disturbance, and mortality on functionally linked habitat for: Light-bellied brent geese, teal, shoveler, oystercatcher, golden plover, black-tailed godwit, curlew, and black-headed gull.</p> <p>Screened out for ex-situ effects from habitat degradation, disturbance, and mortality on supporting or functionally linked habitat for: Turnstone, sanderling, and wetlands and waterbirds.</p> <p>Justification below: There are no significant effects to the SPA itself from either disturbance, mortality, habitat loss or habitat degradation, due to the hydrological distance between the Proposed Development and this SPA. In addition, Baldoyle and Malahide Estuary SPAs do not provide supporting habitat for these species, and they are not known to travel inland to utilise agricultural or amenity land.</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
South Dublin Bay and River Tolka Estuary SPA (004024)	Direct distance: 5.5km Hydrological distance: 22.5km Hydrological distance to potentially impacted supporting habitat from the Proposed Development: Baldoyle SPA: 4.8km Malahide SPA: 8.7km	Light-bellied brent goose (<i>Branta bernicla hrota</i>) [A046] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed plover (<i>Charadrius hiaticula</i>) [A137] Grey plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Dunlin (<i>Calidris alpina</i>) [A149] Bar-tailed godwit (<i>Limosa lapponica</i>) [A157] Redshank (<i>Tringa totanus</i>) [A162] Black-headed gull (<i>Chroicocephalus ridibundus</i>) [A179] Roseate tern (<i>Sterna dougallii</i>) [A192] Common tern (<i>Sterna hirundo</i>) [A193] Arctic tern (<i>Sterna paradisaea</i>) [A194] Wetlands and waterbirds [A999]	<p>Pathway</p> <p>The proximity of the European site to the Proposed Development means that works may be taking place within functionally linked habitat for QI bird species which are known to use agricultural land to forage and roost in, namely light-bellied brent goose, oystercatcher, and black-headed gull.</p> <p>Some of these species listed as QI's are not known to travel inland to use agricultural fields to forage or roost in and are largely confined to large bodies of water, coastal habitats or marine habitats or are not known to travel long distances for foraging.</p> <p>There is a hydrological link via the Tolka estuary which the Dunboyne Stream_010, the Tolka_020 and the Pinkeen_010.</p> <p>Grey coloured QIs were not considered in the assessment as the hydrological links are not direct links to the SPA is too weak due to the large distance tis SPA to cause any adverse effects on that QI.</p> <p>Habitat loss</p> <p>No potential for long term habitat loss given the works do not take place within this European site. Although some agricultural fields will be used for the cable route this will be temporary as ground cover will be restored like for like post construction. However, a short term loss of functional habitat for QI species which forage on agricultural fields could take place. <i>Further assessment needed in next column.</i></p> <p>Mortality</p> <p>Potential for mortality given the works have potential to pollute functionally linked/supporting habitat. Pollution may cause mortality in birds who have consumed pollutant ladened prey or by consuming polluted water. <i>Further assessment needed in next column.</i></p> <p>Habitat degradation</p>	<p>Habitat loss – LSEs can be excluded.</p> <p>The Proposed Development may result in short term functional habitat loss for QI species associated with the SPA, particularly in the form of landscape changes to agricultural land which may be used for foraging opportunities. However, the loss of functional habitat is expected to be temporary and localised. Surrounding the Proposed Development is an abundance of similar habitats which act as alternate functional habitat for these species which are not directly affected by the project. In addition, the habitats will be replaced after the completion of the works, restoring any lost habitat. Therefore, the effect of the works on functional habitat for QI species in this SPA is considered to be <i>de minimus</i> and so no Likely Significant Effects are anticipated.</p> <p>Habitat degradation – LSEs cannot be excluded.</p> <p>There is a hydrological link to the SPA via other SPAs, but it is considered <i>de minimus</i> due to the intervening distance of and dilution rates. The distance of 22.5km means a pollution event is unlikely to reach this European site to cause significant impacts. However, in the absence of mitigation potential sedimentation and pollution incidents may enter supporting habitat of Baldoyle and Malahide Estuary SPA, of which there is overlapping QI's. Baldoyle SPA is 5.6km and Malahide Estuary SPA is 9.9km from South Dublin Bay and River Tolka Estuary SPA and is within commutable distance for the QI species. These are light-bellied brent goose, oystercatcher, ringed plover, grey plover, knot, dunlin, bar-tailed godwit, and redshank.</p> <p>Additionally, potential sedimentation and pollution incidents may enter functionally linked habitat causing habitat degradation, impacting QI species and their prey which are known to travel inland to forage and roost. These are light-bellied brent goose, oystercatcher, and black-headed gull. These three species were recorded during Jacob's wintering bird surveys foraging and roosting within functionally linked habitats.</p> <p>Mortality – LSEs cannot be excluded.</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
			<p>Potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked the SPA. There is also potential for habitat degradation via a pollution event from run-off into supporting habitat for QI birds. <i>Further assessment needed in next column.</i></p> <p>Disturbance Potential for disturbance as works will take place within or adjacent to functionally linked habitat for QI birds. <i>Further assessment needed in next column.</i></p>	<p>No mortality is predicted on QIs within the SPA due to the length of the hydrological connection taking the dilution rates into consideration via the watercourses, estuaries, and Irish Sea.</p> <p>The Proposed Development may result in mortality of QI species associated with the SPA due to pollution impacts in supporting and functionally linked habitats leading to a reduction in water quality and reduction of prey availability causing mortality to QI species.</p> <p>Disturbance – LSEs cannot be excluded. The works are too far (5.5 km) from the SPA itself to cause disturbance impacts within the SPA itself.</p> <p>In the absence of mitigation, disturbance from noise and visuals could cause a stress response or act as a deterrent in functionally linked habitat impacting QI species which are known to travel inland to forage and roost.</p> <p>No in-situ effects are predicted.</p> <p>Screened in for ex-situ effects from habitat degradation and mortality on supporting habitat for: Light-bellied brent goose, oystercatcher, ringed plover, grey plover, knot, dunlin, bar-tailed godwit, and redshank.</p> <p>Screened in for ex-situ effects from habitat degradation, disturbance, and mortality on functionally linked habitat for: Light-bellied brent goose, oystercatcher, and black-headed gull.</p> <p>Screened out for ex-situ effects from habitat degradation, mortality, and disturbance on supporting or functionally linked habitat for: Sanderling, common, Roseate and Arctic tern, and wetlands and waterbirds.</p> <p>Justification below: There are no significant effects to the QI within this SPA from either disturbance, mortality, habitat loss or habitat degradation, due to the hydrological distance between the Proposed Development and this SPA. In addition, Baldoyle and Malahide Estuary SPAs do not provide supporting habitat for these species, and these species are not known to travel inland to utilise agricultural or amenity land.</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
Rogerstown Estuary SPA (004015)	<p>Direct distance: 7.8km</p> <p>No direct hydrological connection.</p> <p>Hydrological distance to impacted potentially supporting habitat from the Proposed Development:</p> <p>Baldoyle SPA: 4.8km</p> <p>Malahide SPA: 8.7km</p>	<p>Greylag goose (<i>Anser anser</i>) [A043]</p> <p>Light-bellied brent goose (<i>Branta bernicla hrota</i>) [A046]</p> <p>Shelduck (<i>Tadorna tadorna</i>) [A048]</p> <p>Shoveler (<i>Anas clypeata</i>) [A056]</p> <p>Oystercatcher (<i>Haematopus ostralegus</i>) [A130]</p> <p>Ringed Plover (<i>Charadrius hiaticula</i>) [A137]</p> <p>Grey Plover (<i>Pluvialis squatarola</i>) [A141]</p> <p>Knot (<i>Calidris canutus</i>) [A143]</p> <p>Dunlin (<i>Calidris alpina</i>) [A149]</p> <p>Black-tailed godwit (<i>Limosa limosa</i>) [A156]</p> <p>Redshank (<i>Tringa totanus</i>) [A162]</p> <p>Wetlands and Waterbirds [A999]</p>	<p>Pathway</p> <p>The proximity of the European site to the Proposed Development means that works may be taking place within functionally linked habitat for QI bird species which are known to use agricultural/amenity land to forage and roost in, namely greylag geese, shoveler, black-tailed godwit, light-bellied brent goose and oystercatcher.</p> <p>Some of these species listed as QI's are not known to travel inland to use agricultural fields to forage or roost in and are largely confined to large bodies of water, coastal habitats or marine habitats or are not known to travel long distances for foraging.</p> <p>No freshwater (riverine) connection to Proposed Development exists.</p> <p>Grey coloured QIs were not considered in the assessment as there is no direct link to this SPA to cause any adverse effects on that QI.</p> <p>Habitat loss</p> <p>No potential for long term habitat loss given the works do not take place within this European site. Although some agricultural fields will be used for the cable route this will be temporary as ground cover will be restored like for like post construction. However, a short term loss of functional habitat for QI species which forage on agricultural fields could take place. <i>Further assessment needed in next column.</i></p> <p>Mortality</p> <p>Potential for mortality given the works have potential to pollute functionally linked habitat. Pollution may cause mortality in birds who have consumed pollutant laden prey or by consuming polluted water. <i>Further assessment needed in next column.</i></p> <p>Habitat degradation</p>	<p>Habitat loss – LSEs can be excluded.</p> <p>The Proposed Development may result in short term functional habitat loss for QI species associated with the SPA, particularly in the form of landscape changes to agricultural land which may be used for foraging opportunities. However, the loss of functional habitat is expected to be temporary and localised. Surrounding the Proposed Development is an abundance of similar habitats which act as alternate functional habitat for these species which are not directly affected by the project. In addition, the habitats will be replaced after the completion of the works, restoring any lost habitat. Therefore, the effect of the works on functional habitat for QI species in this SPA is considered to be <i>de minimus</i> and so no Likely Significant Effects are anticipated.</p> <p>Habitat degradation – LSEs cannot be excluded.</p> <p>There is no hydrological link to the SPA, thus, a pollution event cannot reach this European site to cause impacts.</p> <p>However, in the absence of mitigation potential sedimentation and pollution incidents may enter the supporting habitat of Baldoyle and Malahide Estuary SPA, of which there is overlapping QI's. Malahide Estuary SPA is 2.5km and Baldoyle SPA is 8.9km from Rogerstown Estuary SPA and is within commutable distance for the QI species. These are light-bellied brent goose, shelduck, ringed plover, grey plover, knot, dunlin, oystercatcher, redshank, and black-tailed godwit. Additionally, potential sedimentation and pollution incidents may enter functionally linked habitat causing habitat degradation impacting QI species and their prey which are known to travel inland to forage and roost. These are greylag goose, shoveler, light-bellied brent goose and oystercatcher. Some of these species were recorded during Jacob's wintering bird surveys foraging and roosting within functionally linked.</p> <p>Mortality – LSEs cannot be excluded.</p> <p>No mortality is predicted on QIs within the SPA due lack of hydrological connection.</p> <p>The Proposed Development may result in mortality of QI species associated with the SPA due to pollution impacts in supporting and</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
			<p>Potential for habitat degradation via a pollution event from run-off into functionally linked habitat for QI birds. There is also potential for habitat degradation via a pollution event from run-off into supporting habitat for QI birds. <i>Further assessment needed in next column.</i></p> <p>Disturbance</p> <p>Potential for disturbance as works will take place within or adjacent to functionally linked habitat for QI birds. <i>Further assessment needed in next column.</i></p>	<p>functionally linked habitats leading to a reduction in water quality and reduction of prey availability causing mortality to QI species.</p> <p>Disturbance – LSEs cannot be excluded.</p> <p>The works are too far (7.8km) from the SPA itself to cause disturbance impacts within the SPA itself.</p> <p>In the absence of mitigation, disturbance from noise and visuals could cause a stress response or act as a deterrent in functionally linked habitat impacting QI species which are known to travel inland to forage and roost.</p> <p>No in-situ effects are predicted.</p> <p>Screened in for ex-situ effects from habitat degradation and mortality on supporting habitat for:</p> <p>Light-bellied brent goose, shelduck, ringed plover, grey plover, knot, dunlin, oystercatcher, redshank, and black-tailed godwit.</p> <p>Screened in for ex-situ effects from habitat degradation, disturbance, and mortality on functionally linked habitat for:</p> <p>Greylag goose, shoveler, black-tailed godwit, light-bellied brent goose and oystercatcher.</p>
<p>Ireland's Eye SPA (004117)</p>	<p>Direct distance: 8.6km</p> <p>Hydrological distance: 10.5km</p>	<p>Cormorant (<i>Phalacrocorax carbo</i>) [A017]</p> <p>Herring gull (<i>Larus argentatus</i>) [A184]</p> <p>Kittiwake (<i>Rissa tridactyla</i>) [A188]</p> <p>Guillemot (<i>Uria aalge</i>) [A199]</p> <p>Razorbill (<i>Alca torda</i>) [A200]</p>	<p>Pathway</p> <p>The proximity of the European site to the Proposed Development mean that works may be taking place within functionally linked habitat for QI bird species which are known to use agricultural land to forage and roost in, namely herring gull.</p> <p>Additionally, a hydrological link via the Irish Sea which the Sluice_010 and the Mayne_010 connect to which may create a pathway for impacts to all QI species.</p> <p>Some of these species listed as QI's are not known to travel inland to use agricultural/amenity land to forage or roost in and some are confined to large bodies of water, coastal habitats or marine habitats or are not known to travel long distances for foraging.</p> <p>Habitat loss</p>	<p>Habitat loss –LSEs can be excluded.</p> <p>The Proposed Development may result in short term functional habitat loss for QI species associated with the SPA, particularly in the form of landscape changes to agricultural land which may be used for foraging opportunities. However, the loss of functional habitat is expected to be temporary and localised. Surrounding the Proposed Development is an abundance of similar habitats which act as alternate functional habitat for these species which are not directly affected by the project. In addition, the habitats will be replaced after the completion of the works, restoring any lost habitat. Therefore, the effect of the works on functional habitat for QI species in this SPA is considered to be <i>de minimus</i> and so no Likely Significant Effects are anticipated.</p> <p>Habitat degradation – LSEs cannot be excluded.</p> <p>There is a hydrological link to the SPA. Which is a distance of 10.5km. Additionally, the hydrological link is via the coastal waters which have</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
			<p>No potential for long term habitat loss given the works do not take place within this European site. Although some agricultural fields will be used for the cable route this will be temporary as ground cover will be restored like for like post construction. However, a short term loss of functional habitat for QI species which forage on agricultural fields could take place. <i>Further assessment needed in next column.</i></p> <p>Mortality Potential for mortality given the works have potential to pollute functionally linked habitat. Pollution may cause mortality in birds who have consumed pollutant ladened prey or by consuming polluted water. <i>Further assessment needed in next column.</i></p> <p>Habitat degradation Potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked the SPA. There is also potential for habitat degradation via a pollution event from run-off into functionally linked habitat for QI birds. <i>Further assessment needed in next column.</i></p> <p>Disturbance Potential for disturbance as works will take place within or adjacent to functionally linked habitat for QI birds. <i>Further assessment needed in next column.</i></p>	<p>a large assimilative capacity. Thus, a pollution event is unlikely to reach this European site to cause significant impacts when taking the distance and dilution rates via rivers, estuaries, and the Irish Sea into account.</p> <p>However, in the absence of mitigation, potential sedimentation and pollution incidents may enter functionally linked habitat causing habitat degradation impacting QI species and their prey which are known to travel inland to agricultural land to forage and roost namely, herring gull. Herring gull were recorded during Jacob's wintering bird surveys foraging and roosting within functionally linked habitats.</p> <p>Although there are many sites with supporting habitat within the Zol for QIs of Ireland's Eye SPA none of these sites have screened in for direct impacts. Thus, no significant effects are predicted for QIs using supporting habitat.</p> <p>Mortality – LSEs cannot be excluded. No mortality is predicted on QIs within the SPA due to the length of the hydrological connection taking the dilution rates into consideration via the watercourses, estuaries, and Irish Sea.</p> <p>The Proposed Development may result in mortality of QI species associated with the SPA due to pollution impacts in functionally linked habitats leading to a reduction in water quality and reduction of prey availability causing mortality to QI species.</p> <p>Disturbance – LSEs cannot be excluded. The works are too far (8.6km) from the SPA itself to cause disturbance impacts within the SPA itself.</p> <p>In the absence of mitigation, disturbance from noise and visuals could cause a stress response or act as a deterrent in functionally linked habitat impacting QI species which are known to travel inland to forage and roost.</p> <p>No in-situ effects are predicted. No ex-situ effects are predicted for supporting habitat. Screened in for ex-situ effects from habitat degradation, disturbance, and mortality on functionally linked for:</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
				<p>Herring gull.</p> <p>Screened out for ex-situ effects from habitat degradation, disturbance, and mortality on functionally linked habitat for: Kittiwake, guillemot, razorbill, and cormorant.</p> <p>Justification below:</p> <p>There are no significant effects to the QI within this SPA from either disturbance, mortality, habitat loss or habitat degradation, due to the hydrological distance between the Proposed Development and this SPA. In addition, Baldoyle and Malahide Estuary SPAs do not provide supporting habitat for these species, and these species are not known to travel inland to utilise agricultural or amenity land.</p>
<p>Howth Head Coast SPA (004113)</p>	<p>Direct distance: 10km</p> <p>Hydrological distance: 13km</p>	<p>Kittiwake (<i>Rissa tridactyla</i>) [A188]</p>	<p>Pathway</p> <p>There is a hydrological link via the Irish Sea which the Sluice_010 and the Mayne_010 connect to which may create a pathway for impacts to the QI species.</p> <p>The habitats along the Proposed Development are not considered functionally linked habitat for kittiwake as this species is not known to travel inland to use agricultural fields to forage or roost in and are confined to open coast, sea cliffs or marine habitats.</p> <p>Habitat loss</p> <p>No potential for habitat loss given the works do not take place within this European site.</p> <p>Mortality</p> <p>Potential for mortality given the works have potential to pollute functionally linked/supporting habitat. Pollution may cause mortality in birds who have consumed pollutant laden prey or by consuming polluted water. <i>Further assessment needed in next column.</i></p> <p>Habitat degradation</p> <p>Potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked the SPA and to supporting habitat within the NW Irish Sea SPA. <i>Further assessment needed in next column.</i></p>	<p>No LSEs Anticipated: Rationale Provided Below:</p> <p>Habitat degradation – LSEs can be excluded.</p> <p>There is a hydrological link to supporting habitat (North-West Irish Sea SPA) for this QI however, this link is considered <i>de minimus</i> due to the intervening distance of 6.3km and dilution rates of the rivers, estuaries, and the Irish Sea.</p> <p>The hydrological distance to this SPA is 13 km and so a pollution event is unlikely to reach this European site to cause significant impacts when taking the dilution rates of the rivers, estuaries, and the Irish sea into consideration.</p> <p>Mortality – LSEs can be excluded.</p> <p>No mortality is predicted on QIs within the SPA due to the length of the hydrological connection taking the dilution rates into consideration via the watercourses, estuaries, and Irish Sea.</p> <p>No likely significant effects are predicted for kittiwake and therefore, this QI has been screened out.</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
			<p>Disturbance</p> <p>No potential for disturbance given the works do not take place within this European site and Kittiwake favour rocky sea-cliffs and predominantly feed on small offshore fish species just below the surface of the water (Ratcliffe <i>et al.</i> 2004).</p>	
<p>Lambay Island SPA (004169)</p>	<p>Direct distance: 13.4km</p> <p>Hydrological distance: 22.1km</p>	<p>Fulmar (<i>Fulmarus glacialis</i>) [A009]</p> <p>Cormorant (<i>Phalacrocorax carbo</i>) [A017]</p> <p>Shag (<i>Phalacrocorax aristotelis</i>) [A018]</p> <p>Greylag Goose (<i>Anser anser</i>) [A043]</p> <p>Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183]</p> <p>Herring Gull (<i>Larus argentatus</i>) [A184]</p> <p>Kittiwake (<i>Rissa tridactyla</i>) [A188]</p> <p>Guillemot (<i>Uria aalge</i>) [A199]</p> <p>Razorbill (<i>Alca torda</i>) [A200]</p> <p>Puffin (<i>Fratercula arctica</i>) [A204]</p>	<p>Pathway</p> <p>The proximity of the European site to the Proposed Development mean that works may be taking place within functionally linked habitat for QI bird species which are known to use agricultural/amenity land to forage and roost in, namely greylag geese, lesser black-backed gull, and herring gull.</p> <p>Some of these species listed as QI's are not known to travel inland to use agricultural/amenity land to forage or roost in and some are confined to large bodies of water, coastal habitats or marine habitats or are not known to travel long distances for foraging.</p> <p>There is a hydrological link via the Irish Sea which the Ward_010, Ward_020 and the Ward_030 connect.</p> <p>Habitat loss</p> <p>No potential for long term habitat loss given the works do not take place within this European site. Although some agricultural fields will be used for the cable route this will be temporary as ground cover will be restored like for like post construction. However, a short term loss of functional habitat for QI species which forage on agricultural fields could take place. <i>Further assessment needed in next column.</i></p> <p>Mortality</p> <p>Potential for mortality given the works have potential to pollute functionally linked/supporting habitat. Pollution may cause mortality in birds who have consumed pollutant laden prey or by consuming polluted water. <i>Further assessment needed in next column.</i></p>	<p>Habitat loss – LSEs can be excluded.</p> <p>The Proposed Development may result in short term functional habitat loss for QI species associated with the SPA, particularly in the form of landscape changes to agricultural land which may be used for foraging opportunities. However, the loss of functional habitat is expected to be temporary and localised. Surrounding the Proposed Development is an abundance of similar habitats which act as alternate functional habitat for these species which are not directly affected by the project. In addition, the habitats will be replaced after the completion of the works, restoring any lost habitat. Therefore, the effect of the works on functional habitat for QI species in this SPA is considered to be <i>de minimus</i> and so no Likely Significant Effects are anticipated.</p> <p>Habitat degradation – LSEs cannot be excluded.</p> <p>There is a hydrological link to the SPA via other SPAs, but it is considered <i>de minimus</i> due to the intervening distance of and dilution rates. The distance of 22.1km means a pollution event is unlikely to reach this European site to cause significant impacts.</p> <p>However, in the absence of mitigation, potential sedimentation and pollution incidents may enter functionally linked, terrestrial habitat causing habitat degradation impacting QI species and their prey which are known to travel inland to forage and roost. These are greylag goose, lesser black-back gull, and herring gull. Some of these species were recorded during Jacob's wintering bird surveys foraging and roosting within functionally linked habitats.</p> <p>Although there are many sites with supporting habitat within the ZOI for QIs of Lambay Island SPA none of these sites have screened in for direct impacts. Thus, no significant effects are predicted for QIs using supporting habitat.</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
			<p>Habitat degradation Potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked the SPA itself and supporting habitat. There is also potential for habitat degradation via a pollution event from run-off into functionally linked habitat for QI birds. <i>Further assessment needed in next column.</i></p> <p>Disturbance Potential for disturbance as works will take place within or adjacent to functionally linked habitat for QI birds. <i>Further assessment needed in next column.</i></p>	<p>Mortality – LSEs cannot be excluded. No mortality is predicted on QIs within the SPA due to the length of the hydrological connection taking the dilution rates into consideration via the watercourses, estuaries, and Irish Sea. The Proposed Development may result in mortality of QI species associated with the SPA due to pollution impacts in functionally linked, terrestrial habitats leading to a reduction in water quality and reduction of prey availability causing mortality to QI species.</p> <p>Disturbance – LSEs cannot be excluded. The works are too far (13.4km) from the SPA itself to cause disturbance impacts within the SPA itself. In the absence of mitigation, disturbance from noise and visuals could cause a stress response or act as a deterrent in functionally linked habitat impacting QI species which are known to travel inland to forage and roost.</p> <p>No in-situ effects are predicted. No ex-situ effects are predicted for supporting habitat. Screened in for ex-situ effects from habitat degradation, disturbance, and mortality on functionally linked habitat for: Lesser black-back gull, herring gull and greylag goose. Screened out for ex-situ effects from habitat degradation, disturbance, and mortality on functionally linked habitat: Kittiwake, guillemot, shag, puffin, fulmar, razorbill, and cormorant. Justification below: There are no significant effects to the QI within this SPA from either disturbance, mortality, habitat loss or habitat degradation, due to the hydrological distance between the Proposed Development and this SPA. In addition, Baldoyle and Malahide Estuary SPAs do not provide supporting habitat for these species, and these species are not known to travel inland to utilise agricultural or amenity land.</p>
Dalkey Islands SPA (004172)	Direct distance: 17.5km	Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194]	Pathway A weak hydrological link exists between the Proposed Development and this SPA.	<p>No LSEs Anticipated: Rationale Provided Below: Habitat degradation – LSEs can be excluded. There is a hydrological link to the SPA via the Irish Sea, but it is considered <i>de minimus</i> due to the intervening distance of and</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
	Hydrological distance: 23km		<p>The habitats along the Proposed Development are not considered functionally linked habitat for Arctic or roseate terns as these species are exclusively coastal birds which utilise marine or estuarine habitats. Common terns are known to utilise inland waterbodies, estuarine and coastal habitats. However, no suitable lakes/rivers are within proximity to the Proposed Development.</p> <p>Habitat loss No potential for habitat loss given the works do not take place within this European site.</p> <p>Mortality No potential for mortality given the works do not take place within this European site and no significant effects were identified on supporting habitat via other SPAs.</p> <p>Habitat degradation Potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked the SPA. <i>Further assessment needed in next column.</i></p> <p>Disturbance No potential for disturbance given the works do not take place within this European site and the Qis are not known to use habitats effected by the works of the Proposed Development.</p>	<p>dilution rates. Additionally, there are no supporting habitat SPAs with anticipated impacts. Terns favour coastal habitats and are unlikely to travel inland. As such, there is no pathway from Proposed Development to suitable supporting or functionally linked habitat for these species. Therefore, there is no potential for LSEs.</p> <p>No likely significant effects to any of the QI species associated with this SPA.</p> <p>Screened out for in-situ and ex-situ effects for: Roseate tern, common tern and Arctic tern.</p>
Skerries Islands SPA (004122)	Direct distance: 18.5km Hydrological distance: 29km Hydrological distance to potentially impacted supporting habitat from the	Cormorant (<i>Phalacrocorax carbo</i>) [A017] Shag (<i>Phalacrocorax aristotelis</i>) [A018] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Purple Sandpiper (<i>Calidris maritima</i>) [A148] Turnstone (<i>Arenaria interpres</i>) [A169] Herring Gull (<i>Larus argentatus</i>) [A184]	<p>Pathway The proximity of the European site to the Proposed Development mean that works may be taking place within functionally linked habitat for QI bird species which are known to use agricultural and amenity land to forage and roost in, namely light bellied brent goose and herring gull.</p> <p>Some of these species listed as QI's are not known to travel inland to use agricultural/amenity land to forage or roost in and some are confined to large bodies of</p>	<p>Habitat loss – LSEs can be excluded.</p> <p>The Proposed Development may result in short term functional habitat loss for QI species associated with the SPA, particularly in the form of landscape changes to agricultural land which may be used for foraging opportunities. However, the loss of functional habitat is expected to be temporary and localised. Surrounding the Proposed Development is an abundance of similar habitats which act as alternate functional habitat for these species which are not directly affected by the project. In addition, the habitats will be replaced after the completion of the works, restoring any lost habitat. Therefore, the effect of the works on functional habitat for QI species in this SPA is</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
	<p>Proposed Development: Baldoyle SPA: 4.8km Malahide SPA: 8.7km</p>		<p>water, coastal habitats or marine habitats or are not known to travel long distances for foraging. A weak hydrological link exists between the Proposed Development and this SPA however, there are multiple hydrological links to supporting habitat via other SPAs for which there is overlapping QI's (see distances column).</p> <p>Habitat loss No potential for long term habitat loss given the works do not take place within this European site. Although some agricultural fields will be used for the cable route this will be temporary as ground cover will be restored like for like post construction. However, a short term loss of functional habitat for QI species which forage on agricultural fields could take place. <i>Further assessment needed in next column.</i></p> <p>Mortality Potential for mortality given the works have potential to pollute functionally linked and supporting habitat. Pollution may cause mortality in birds who have consumed pollutant laden prey or by consuming polluted water. <i>Further assessment needed in next column.</i></p> <p>Habitat degradation Potential for habitat degradation via a pollution event entering functionally linked habitats and watercourses which are hydrologically linked to supporting habitats. <i>Further assessment needed in next column.</i></p> <p>Disturbance Potential for disturbance as works will take place within or adjacent to functionally linked habitat for QI birds. <i>Further assessment needed in next column.</i></p>	<p>considered to be <i>de minimus</i> and so no Likely Significant Effects are anticipated.</p> <p>Habitat degradation – LSEs cannot be excluded. There is a hydrological link to the SPA via other SPAs, but it is considered <i>de minimus</i> due to the intervening distance and dilution rates. The distance of 29km means a pollution event is unlikely to reach this European site to cause significant impacts. However, in the absence of mitigation, potential sedimentation and pollution incidents may enter supporting habitat of Baldoyle and Malahide Estuary SPA, of which there is overlapping QI's. Baldoyle SPA is 5.6km and Malahide Estuary SPA is 9.9km from South Dublin Bay and River Tolka Estuary SPA and is within commutable distance for the QI species. These are light-bellied brent goose, oystercatcher, ringed plover, grey plover, knot, dunlin, bar-tailed godwit, and redshank. Additionally, potential sedimentation and pollution incidents may enter functionally linked, terrestrial habitat causing habitat degradation impacting QI species and their prey which are known to travel inland to forage and roost. These are light-bellied brent geese and herring gull. These two species were recorded during Jacob's wintering bird surveys foraging and roosting within functionally linked habitats.</p> <p>Mortality- LSEs cannot be excluded. No mortality is predicted on QIs within the SPA due to the length of the hydrological connection taking the dilution rates into consideration via the watercourses, estuaries, and Irish Sea. The Proposed Development may result in mortality of QI species associated with the SPA due to pollution impacts in functionally linked and supporting habitats leading to a reduction in water quality and reduction of prey availability causing mortality to QI species.</p> <p>Disturbance – LSEs cannot be excluded. The works are too far (18.5km) from the SPA itself to cause disturbance impacts within the SPA itself. In the absence of mitigation, disturbance from noise and visuals could cause a stress response or act as a deterrent in functionally</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
				<p>linked habitat impacting QI species which are known to travel inland to forage and roost.</p> <p>No in-situ effects are predicted.</p> <p>Screened in for ex situ effects from habitat degradation and mortality on supporting habitat for: Light bellied brent geese.</p> <p>Screened in for ex-situ effects from habitat degradation, disturbance, and mortality on functionally linked habitat for: Light bellied brent geese and herring gull.</p> <p>Screened out for ex-situ effects from habitat loss or degradation, disturbance, and mortality on functionally linked habitat: Cormorant, shag, purple sandpiper, and turnstone.</p> <p>Justification below: There are no significant effects to QI species within the SPA from either disturbance, mortality, habitat loss or habitat degradation, due to the hydrological distance between the Proposed Development and this SPA. In addition, Baldoyle and Malahide Estuary SPAs do not provide supporting habitat for these species, and these species are not known to travel inland to utilise agricultural or amenity land.</p>
<p>Rockabill SPA (004014)</p>	<p>Direct distance: 19km Hydrological distance: 30km</p>	<p>Purple Sandpiper (<i>Calidris maritima</i>) [A148] Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194]</p>	<p>Pathway A weak hydrological link exists between the Proposed Development and this SPA.</p> <p>The habitats along the Proposed Development are not considered supporting habitat for Arctic or roseate terns as these species are exclusively coastal birds, which utilise marine or estuarine habitats. Common terns are known to utilise inland waterbodies, estuarine and coastal habitats. However, no suitable lakes/rivers are within proximity to the Proposed Development.</p> <p>Habitat loss No potential for habitat loss given the works do not take place within this European site.</p> <p>Mortality</p>	<p>LSEs can be excluded: Rationale Provided Below:</p> <p>Habitat degradation – LSEs can be excluded. There is a hydrological link to the SPA via other SPAs, but it is considered <i>de minimus</i> due to the intervening distance of and dilution rates. The distance of 30 km means a pollution event is unlikely to reach this European site to cause significant impacts.</p> <p>No likely significant effects to any of the QI species associated with this SPA.</p> <p>Screened out for in-situ and ex-situ effects for: Purple sandpiper, Roseate tern, common tern and Arctic tern.</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
			<p>No potential for mortality given the works do not take place within this European site and no significant effects were identified on supporting habitat via other SPAs.</p> <p>Habitat degradation Potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked the SPA. <i>Further assessment needed in next column.</i></p> <p>Disturbance No potential for disturbance given the works do not take place within this European site and the Qis are not known to use habitats effected by the works of the Proposed Development.</p>	
<p>River Nanny and shoreline SPA (004158)</p>	<p>Direct distance: 26km</p> <p>Hydrological distance: 43km</p> <p>Hydrological distance to potentially impacted supporting habitat from the Proposed Development:</p> <p>Baldoyle SPA: 4.8km</p> <p>Malahide Bay SPA: 8.7km</p>	<p>Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Herring Gull (<i>Larus argentatus</i>) [A184] Wetland and Waterbirds [A999]</p>	<p>Pathway The distance of the European site to the Proposed Development mean that works may be taking place within functionally linked habitat for QI bird species which are known to use agricultural and amenity land to forage and roost in, namely herring gull, golden plover, and oystercatcher.</p> <p>Some of these species listed as QI's are not known to travel inland to use agricultural/amenity land to forage or roost in and some are confined to large bodies of water, coastal habitats or marine habitats or are not known to travel long distances for foraging.</p> <p>Grey coloured QIs were not considered in the assessment as there is no direct link to this SPA to cause any adverse effects on that QI.</p> <p>A weak hydrological link exists between the Proposed Development, and this protected site via other SPA's namely Baldoyle and Malahide Bay SPA However, there are hydrological links via the above-mentioned SPA's which act as supporting habitats for the QIs of this SPA.</p> <p>Habitat loss No potential for long term habitat loss given the works do not take place within this European site. Although</p>	<p>Habitat loss –LSEs can be excluded. The Proposed Development may result in short term functional habitat loss for QI species associated with the SPA, particularly in the form of landscape changes to agricultural land which may be used for foraging opportunities. However, the loss of functional habitat is expected to be temporary and localised. Surrounding the Proposed Development is an abundance of similar habitats which act as alternate functional habitat for these species which are not directly affected by the project. In addition, the habitats will be replaced after the completion of the works, restoring any lost habitat. Therefore, the effect of the works on functional habitat for QI species in this SPA is considered to be <i>de minimus</i> and so no Likely Significant Effects are anticipated.</p> <p>Habitat degradation – LSEs cannot be excluded. There is a hydrological link to the SPA via other SPAs, but it is considered <i>de minimus</i> due to the intervening distance of and dilution rates. The distance of 43km means a pollution event is unlikely to reach this European site to cause significant impacts. However, in the absence of mitigation, potential sedimentation and pollution incidents may enter supporting habitat of Malahide Estuary and Baldoyle SPA of which there is overlapping QIs with this SPA. Malahide Estuary SPA is 20.1km and Baldoyle SPA is 26.3km, from River Nanny and Shoreline SPA and are within commutable distance</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
			<p>some agricultural fields will be used for the cable route this will be temporary as ground cover will be restored like for like post construction. However, a short term loss of functional habitat for QI species which forage on agricultural fields could take place. <i>Further assessment needed in next column.</i></p> <p>Mortality Potential for mortality given the works have potential to pollute functionally linked and supporting habitat. Pollution may cause mortality in birds who have consumed pollutant laden prey or by consuming polluted water. <i>Further assessment needed in next column.</i></p> <p>Habitat degradation Potential for habitat degradation via a pollution event from run-off into functionally linked habitat for QI birds. Also, there is Potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked to supporting habitats. <i>Further assessment needed in next column.</i></p> <p>Disturbance Potential for disturbance as works will take place within or adjacent to functionally linked habitat for QI birds. <i>Further assessment needed in next column.</i></p>	<p>for the QI species namely oystercatcher, ringed plover, golden plover, and knot. Additionally, potential sedimentation and pollution incidents may enter functionally linked habitat causing degradation and thus, impacting QI species and their prey, as these QIs are known to travel inland to forage and roost namely herring gull, golden plover, and oystercatcher. Some of these species were recorded during Jacob's wintering bird surveys foraging and roosting within functionally linked habitats.</p> <p>Mortality – LSEs cannot be excluded. No mortality is predicted on QIs within the SPA due to the hydrological distances, taking the dilution rates into consideration via the watercourses, estuaries, and Irish Sea. The Proposed Development may result in mortality of QI species associated with the SPA due to pollution impacts in functionally linked and supporting habitats leading to a reduction in water quality and reduction of prey availability causing mortality to QI species.</p> <p>Disturbance – LSEs cannot be excluded. The works are too far (26 km) from the SPA itself to cause direct disturbance impacts to the SPA itself however, disturbance to the screened in QI's cannot be ruled out. In the absence of mitigation, disturbance from noise and visuals could cause a stress response or act as a deterrent in functionally linked habitat impacting QI species which are known to travel inland to forage and roost.</p> <p>No in-situ effects are predicted. Screened in for ex-situ effects from habitat degradation, and mortality on supporting habitat for: Oystercatcher, ringed plover, golden plover and knot. Screened in for ex-situ effects from habitat degradation, disturbance, and mortality on functionally habitat for: Herring gull, golden plover, and oystercatcher</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
				<p>Screened out for ex-situ effects from habitat degradation, disturbance, and mortality on supporting or functionally linked habitat for:</p> <p>Sanderling.</p> <p>Justification below:</p> <p>There are no significant effects to QI species within the SPA from either disturbance, mortality, habitat loss or habitat degradation, due to the hydrological distance between the Proposed Development and this SPA. In addition, Baldoyle and Malahide Estuary SPAs do not provide supporting habitat for these species, and these species are not known to travel inland to utilise agricultural or amenity land.</p>
<p>Boyne Estuary SPA (004080)</p>	<p>Direct distance: 33km</p> <p>Hydrological distance: 52km</p> <p>Hydrological distance to potentially impacted supporting habitat from the Proposed Development:</p> <p>Baldoyle SPA: 4.8 km</p> <p>Malahide Bay SPA: 8.7km</p>	<p>Shelduck (<i>Tadorna tadorna</i>) [A048]</p> <p>Oystercatcher (<i>Haematopus ostralegus</i>) [A130]</p> <p>Golden Plover (<i>Pluvialis apricaria</i>) [A140]</p> <p>Grey Plover (<i>Pluvialis squatarola</i>) [A141]</p> <p>Lapwing (<i>Vanellus vanellus</i>) [A142]</p> <p>Knot (<i>Calidris canutus</i>) [A143]</p> <p>Sanderling (<i>Calidris alba</i>) [A144]</p> <p>Black-tailed Godwit (<i>Limosa limosa</i>) [A156]</p> <p>Redshank (<i>Tringa totanus</i>) [A162]</p> <p>Turnstone (<i>Arenaria interpres</i>) [A169]</p> <p>Little Tern (<i>Sterna albifrons</i>) [A195]</p> <p>Wetland and Waterbirds [A999]</p>	<p>Pathway</p> <p>The distance of the European site to the Proposed Development mean that works may be taking place within functionally linked habitat for QI bird species which are known to use agricultural and amenity land to forage and roost in, namely lapwing, golden plover, oystercatcher, and black-tailed godwit.</p> <p>Grey coloured QIs were not considered in the assessment as there is no direct link to this SPA to cause any adverse effects on that QI.</p> <p>Some of these species listed as QI's are not known to travel inland to use agricultural/amenity land to forage or roost in and some are confined to large bodies of water, coastal habitats or marine habitats or are not known to travel long distances for foraging.</p> <p>A weak hydrological link exists between the Proposed Development, and this protected site via other SPA's namely Baldoyle and Malahide Bay SPA. However, there are hydrological links via the above-mentioned SPA's which act as supporting habitats for the overlapping QIs of this SPA.</p> <p>Habitat loss</p> <p>No potential for long term habitat loss given the works do not take place within this European site. Although</p>	<p>Habitat loss – LSEs can be excluded.</p> <p>The Proposed Development may result in short term functional habitat loss for QI species associated with the SPA, particularly in the form of landscape changes to agricultural land which may be used for foraging opportunities. However, the loss of functional habitat is expected to be temporary and localised. Surrounding the Proposed Development is an abundance of similar habitats which act as alternate functional habitat for these species which are not directly affected by the project. In addition, the habitats will be replaced after the completion of the works, restoring any lost habitat. Therefore, the effect of the works on functional habitat for QI species in this SPA is considered to be <i>de minimus</i> and so no Likely Significant Effects are anticipated.</p> <p>Habitat degradation – LSEs cannot be excluded.</p> <p>There is a hydrological link to the SPA via other SPAs, but it is considered <i>de minimus</i> due to the intervening distance of and dilution rates. The distance of 52km means a pollution event is unlikely to reach this European site to cause significant impacts.</p> <p>However, in the absence of mitigation, potential sedimentation and pollution incidents may enter supporting habitat of Malahide Estuary and Baldoyle SPA of which there is overlapping QIs with this SPA. Malahide Estuary SPA is 28.1km and Baldoyle SPA is 34.2km, from Boyne Estuary SPA and are within commutable distance for the QI</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
			<p>some agricultural fields will be used for the cable route this will be temporary as ground cover will be restored like for like post construction. However, a short term loss of functional habitat for QI species which forage on agricultural fields could take place. <i>Further assessment needed in next column.</i></p> <p>Mortality Potential for mortality given the works have potential to pollute functionally linked and supporting habitat. Pollution may cause mortality in birds who have consumed pollutant laden prey or by consuming polluted water. <i>Further assessment needed in next column.</i></p> <p>Habitat degradation Potential for habitat degradation via a pollution event from run-off into functionally linked habitat for QI birds. Also, there is potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked to supporting habitats. <i>Further assessment needed in next column.</i></p> <p>Disturbance Potential for disturbance as works will take place within or adjacent to functionally linked habitat for QI birds. <i>Further assessment needed in next column.</i></p>	<p>species namely shelduck, oystercatcher, golden plover, grey plover, knot, black-tailed godwit, and redshank.</p> <p>Additionally, potential sedimentation and pollution incidents may enter functionally linked habitat causing degradation and thus, impacting QI species and their prey, as these QIs are known to travel inland to forage and roost namely lapwing, golden plover, oystercatcher, and black-tailed godwit. Some of these species were recorded during Jacob's wintering bird surveys foraging and roosting within functionally linked habitats.</p> <p>Mortality – LSEs cannot be excluded. No mortality is predicted on QIs within the SPA due to the length of the hydrological connection taking the dilution rates into consideration via the watercourses, estuaries, and Irish Sea. The Proposed Development may result in mortality of QI species associated with the SPA due to pollution impacts in supporting and functionally linked habitats leading to a reduction in water quality and reduction of prey availability causing mortality to QI species.</p> <p>Disturbance – LSEs cannot be excluded. The works are too far (33km) from the SPA itself to cause direct disturbance impacts to the SPA itself however, disturbance to the screened in QI's cannot be ruled out. In the absence of mitigation, disturbance from noise and visuals could cause a stress response or act as a deterrent in functionally linked habitat impacting QI species which are known to travel inland to forage and roost.</p> <p>No in-situ effects are predicted. Screened in for ex-situ effects from habitat degradation and mortality on supporting habitat for: Shelduck, oystercatcher, golden plover, grey plover, knot, black-tailed godwit, and redshank. Screened in for ex-situ effects from habitat degradation, disturbance, and mortality on functionally linked habitat for: Lapwing, golden plover, oystercatcher, and black-tailed godwit.</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
				<p>Screened out for ex-situ effects from habitat degradation, disturbance, and mortality on supporting or functionally linked habitat for:</p> <p>Sanderling, turnstone, and little tern.</p> <p>Justification below:</p> <p>There are no significant effects to QI species within this SPA from either disturbance, mortality, habitat loss or habitat degradation, due to the hydrological distance between the Proposed Development and this SPA. In addition, Baldoyle and Malahide Estuary SPAs do not provide supporting habitat for these species, and these species are not known to travel inland to utilise agricultural or amenity land.</p>
<p>Dundalk Bay SPA (004026)</p>	<p>Direct distance: 50km</p> <p>Hydrological distance: 78km</p> <p>Hydrological distance to potentially impacted supporting habitat from the Proposed Development:</p> <p>Baldoyle SPA: 4.8km</p> <p>Malahide Bay SPA: 8.7km</p>	<p>Great Crested Grebe (<i>Podiceps cristatus</i>) [A005]</p> <p>Greylag Goose (<i>Anser anser</i>) [A043]</p> <p>Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]</p> <p>Shelduck (<i>Tadorna tadorna</i>) [A048]</p> <p>Teal (<i>Anas crecca</i>) [A052]</p> <p>Mallard (<i>Anas platyrhynchos</i>) [A053]</p> <p>Pintail (<i>Anas acuta</i>) [A054]</p> <p>Common Scoter (<i>Melanitta nigra</i>) [A065]</p> <p>Red-breasted Merganser (<i>Mergus serrator</i>) [A069]</p> <p>Oystercatcher (<i>Haematopus ostralegus</i>) [A130]</p> <p>Ringed Plover (<i>Charadrius hiaticula</i>) [A137]</p> <p>Golden Plover (<i>Pluvialis apricaria</i>) [A140]</p> <p>Grey Plover (<i>Pluvialis squatarola</i>) [A141]</p> <p>Lapwing (<i>Vanellus vanellus</i>) [A142]</p>	<p>Pathway</p> <p>The distance of the European site to the Proposed Development means that works may be taking place within functionally linked habitat for QI bird species which are known to use agricultural and amenity land to forage and roost in, namely light-bellied brent goose, curlew, common gull, mallard, herring gull, lapwing, golden plover, teal, black-tailed godwit, and oystercatcher.</p> <p>Some of these species listed as QI's are not known to travel inland to use agricultural/amenity land to forage or roost in and some are confined to large bodies of water, coastal habitats or marine habitats or are not known to travel long distances for foraging.</p> <p>QI's which are grey in colour are not included in the assessment due to the distances between the Proposed Development and the SPA and where foraging/roosting travel distances for QI's are known.</p> <p>A weak hydrological link (78km) exists between the Proposed Development, and this protected site via other SPA's namely Baldoyle, Malahide and NW Irish sea SPA. However, there are hydrological links via the above-mentioned SPA's which act as supporting habitats for the overlapping QIs of this SPA.</p>	<p>Habitat loss – LSEs can be excluded.</p> <p>The Proposed Development may result in short term functional habitat loss for QI species associated with the SPA, particularly in the form of landscape changes to agricultural land which may be used for foraging opportunities. However, the loss of functional habitat is expected to be temporary and localised. Surrounding the Proposed Development is an abundance of similar habitats which act as alternate functional habitat for these species which are not directly affected by the project. In addition, the habitats will be replaced after the completion of the works, restoring any lost habitat. Therefore, the effect of the works on functional habitat for QI species in this SPA is considered to be <i>de minimus</i> and so no Likely Significant Effects are anticipated.</p> <p>Habitat degradation – LSEs cannot be excluded.</p> <p>There is a hydrological link to the SPA via other SPAs, but it is considered <i>de minimus</i> due to the intervening distance of and dilution rates. The distance of 78km means a pollution event is unlikely to reach this European site to cause significant impacts.</p> <p>However, in the absence of mitigation, potential sedimentation and pollution incidents may interact with supporting habitat of Malahide Estuary and Baldoyle SPA of which there is overlapping QIs with this SPA. Malahide Estuary SPA is 44.3km and Baldoyle SPA is 49.9km, from Dundalk Bay SPA and is within commutable distance for QI species. This may cause an increased impact to QI species and their</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
		Knot (<i>Calidris canutus</i>) [A143] Dunlin (<i>Calidris alpina</i>) [A149] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Curlew (<i>Numenius arquata</i>) [A160] Redshank (<i>Tringa totanus</i>) [A162] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Common Gull (<i>Larus canus</i>) [A182] Herring Gull (<i>Larus argentatus</i>) [A184] Wetland and Waterbirds [A999]	<p>Habitat loss No potential for long term habitat loss given the works do not take place within this European site. Although some agricultural fields will be used for the cable route this will be temporary as ground cover will be restored like for like post construction. However, a short term loss of functional habitat for QI species which forage on agricultural fields could take place. <i>Further assessment needed in next column.</i></p> <p>Mortality Potential for mortality given the works have potential to pollute functionally linked and supporting habitat. Pollution may cause mortality in birds who have consumed pollutant laden prey or by consuming polluted water. <i>Further assessment needed in next column.</i></p> <p>Habitat degradation Potential for habitat degradation via a pollution event from run-off into functionally linked habitat for QI birds. Also, there is potential for habitat degradation via a pollution event entering watercourses which are hydrologically linked to supporting habitats. <i>Further assessment needed in next column.</i></p> <p>Disturbance Potential for disturbance as works will take place within or adjacent to functionally linked habitat for QI birds. <i>Further assessment needed in next column.</i></p>	<p>prey which may commute between these SPAs to forage and roost. Light-bellied brent goose has been screened in as its range overlaps with this supporting habitat. Great crested grebe, shelduck, pintail, oystercatcher, ringed plover, golden plover, grey plover, knot, dunlin, black-tailed godwit, bar-tailed godwit, and redshank have screened in as their range is unknown.</p> <p>Additionally, potential sedimentation and pollution incidents may interact with functionally linked, terrestrial habitat causing degradation and thus, impacting QI species and their prey, as these QIs are known to travel inland to forage and roost in amenity or agricultural land namely, light-bellied brent goose, teal, black-tailed godwit, curlew, common gull, mallard, herring gull, lapwing, golden plover, and oystercatcher. Some of these species were recorded during Jacob's wintering bird surveys foraging and roosting within functionally linked habitats.</p> <p>Mortality – LSEs cannot be excluded. The Proposed Development may result in mortality of QI species associated with the SPA due to pollution impacts in functionally linked and supporting habitats leading to a reduction in water quality and reduction of prey availability causing mortality to QI species.</p> <p>Disturbance – LSEs cannot be excluded. In the absence of mitigation, disturbance from noise and visuals could cause a stress response or act as a deterrent in functionally linked habitat impacting QI species which are known to travel inland to forage and roost.</p> <p>The works are too far (50km) from the SPA to cause direct disturbance impacts to the SPA itself.</p> <p>No in-situ effects are predicted.</p> <p>Screened in for ex-situ effects from habitat degradation and mortality on supporting habitat for: Light-bellied brent goose, great crested grebe, shelduck, pintail, oystercatcher, ringed plover, golden plover, grey plover, knot, dunlin, black-tailed godwit, red-breasted merganser, bar-tailed godwit, and redshank.</p>

European Site Name and Code	Distance of Site From the Proposed Development	Qualifying Interests	Description of Connectivity	Preliminary Assessment of Likely Significant Effects (LSEs)
				<p>Screened in for ex-situ effects from habitat degradation, disturbance, and mortality on functionally linked habitat for: Light-bellied brent goose, curlew, common gull, mallard, herring gull, lapwing, golden plover, teal, black-tailed godwit and oystercatcher</p> <p>Screened out for ex-situ effects from habitat degradation, disturbance, and mortality on supporting or functionally linked habitat for: Black-headed gull, greylag goose, and common scoter</p> <p>Justification below: There are no significant effects to this SPA from either disturbance, mortality, habitat loss or habitat degradation, due to the hydrological distance between the Proposed Development and this SPA. In addition, Baldoyle and Malahide Estuary SPAs do not provide supporting habitat for these QIs. Two of these species are known to travel inland to utilise agricultural or amenity land but the Proposed Development is at a greater distance (50km) than either of these species will travel to forage and roost thus, the proposed development will not impact upon individuals from Dundalk Bay SPA.</p>

5.2 Determination of Likely Significant Effects

An examination of European sites and their QI features within the ZOI of the Proposed Development is presented in Table 4.2. Potential pathways have been identified between the Proposed Development and European sites as outlined in Table 5.1. It was concluded that there was no potential for LSEs for five of the European sites:

1. Rockabill to Dalkey Island SAC;
2. Lambay Island SAC;
3. Howth Head Coast SPA;
4. Dalkey Islands SPA; and
5. Rockabill SPA.

Although there was hydrological linkage, significant effects from potential pollution were considered *de minimus* due to the intervening distance and dilution rates of estuary and sea between the Proposed Development and any of the European sites. However, the potential for habitat degradation and mortality from a cumulative pollution effect from the Proposed Development in-combination with another plan or project is still possible and so these sites were carried through for further examination in the in-combination assessment in Table 5.2. Potential for in-combination effects from disturbance was ruled out for the Proposed Development as the QI (kittiwake) for Howth Head Coast SPA favour rocky sea-cliffs and predominantly feed on small offshore fish species just below the surface of the water and works so not take place within this European site.

The remaining 14 European sites were identified for further examination:

1. Malahide Estuary SAC;
2. Baldoyle Bay SAC;
3. Malahide Estuary SPA;
4. Baldoyle Bay SPA;
5. North-west Irish Sea SPA;
6. North Bull Island SPA;
7. South Dublin Bay and River Tolka Estuary SPA;
8. Rogerstown Estuary SPA;
9. Ireland's Eye SPA;
10. Lambay Island SPA;
11. Skerries Islands SPA;
12. River Nanny Estuary and Shore SPA;
13. Boyne Estuary SPA; and
14. Dundalk Bay SPA.

The determination of LSEs takes account of any effect that may possibly occur as a consequence of the Proposed Development that would undermine the conservation objectives for the sites' QI features. In the assessment of LSEs, consideration is given to the questions and statements that identify what would constitute a significant effect in terms of loss, fragmentation, disruption, disturbance and changes to key elements affecting the QI features that may compromise the conservation objectives for that feature.

5.2.1 Malahide Estuary SAC

Malahide Estuary SAC is located directly 3.6km northeast, and 8.7km hydrologically downstream of the Proposed Development. As such, there may be habitat degradation impacts due to potential pollution events. This has the potential to result in LSE on all the SAC's QIs, excluding the two dune habitat type QIs.

The potential for LSEs in light of the site's conservation objectives (NPWS 2013a) from the Proposed Development cannot be excluded.

5.2.2 Baldoye Bay SAC

Baldoye Bay SAC is located directly 4km east, and 4.8km hydrologically downstream of the Proposed Development. As such, there may be habitat degradation impacts due to potential pollution events. This has the potential to result in LSE on all the SAC's QIs.

The potential for LSEs in light of the site's conservation objectives from the Proposed Development cannot be excluded.

5.2.3 Malahide Estuary SPA

Malahide Estuary SPA is located directly 3.6km northeast, and 8.7km hydrologically downstream of the Proposed Development. As such, there may be habitat degradation impacts due to potential pollution events, as well as mortality of QI species. Additionally, there may be impacts to QI species utilising ex situ supporting habitat from hydrological links to Baldoye Bay SPA resulting in habitat degradation and mortality. This has the potential to result in LSEs on all the SPA's QIs. There may be impacts to functionally linked habitat from habitat degradation, mortality and disturbance of QI species. This may occur to QI species utilising ex-situ supporting habitat outside of the SPA but in the vicinity of the Proposed Development namely light-bellied brent geese, oystercatcher, and golden plover which have large foraging and roosting ranges and are known to use agricultural habitats.

The potential for LSEs in light of the site's conservation objectives from the Proposed Development cannot be excluded.

5.2.4 Baldoye Bay SPA

Baldoye Bay SPA is located directly 4km east, and 4.8km hydrologically downstream of the Proposed Development. As such, there may be habitat degradation impacts due to potential pollution events, as well as mortality of QI species. Additionally, there may be impacts to QI species utilising ex situ supporting habitat from hydrological links to Malahide Estuary SPA resulting in habitat degradation and mortality. This has the potential to result in LSEs on all the SPA's QIs. There may be impacts to functionally linked habitat from habitat degradation, mortality and disturbance of QI species. This may occur to QI species utilising ex situ supporting habitat outside of the SPA but in the vicinity of the Proposed Development namely light-bellied brent geese and golden plover which have large foraging and roosting ranges and are known to use agricultural habitats.

The potential for LSEs in light of the site's conservation objectives from the Proposed Development cannot be excluded.

5.2.5 North-west Irish Sea SPA

The North-west Irish Sea SPA is located directly 4.5km east, and 6.8km hydrologically downstream of the Proposed Development. Due to the intervening distance and the assimilative capacity of the Irish sea it was assessed that there was no potential for significant effects from pollution directly into this SPA. There may be impacts to functionally linked habitat from habitat degradation, mortality and disturbance of QI species. This may occur to QI species utilising ex-situ supporting habitat outside of the SPA but in the vicinity of the Proposed Development. This has the potential to result in LSEs on the SPA's QIs which utilise this habitat namely the gull species which have large foraging and roosting ranges and are known to use urban and agricultural habitats.

The potential for LSEs in light of the site's conservation objectives from the Proposed Development cannot be excluded.

5.2.6 North Bull Island SPA

North Bull Island SPA is located directly 4.6km southeast, and 23km hydrologically downstream of the Proposed Development. Due to the intervening distance and the assimilative capacity of the Irish sea it was assessed that there was no potential for significant effects from pollution directly into this SPA. However, there may be there may be impacts to QI species utilising ex-situ supporting habitat from hydrological links to Malahide Estuary SPA and Baldoyle Bay SPA resulting in habitat degradation and mortality impacts. Additionally, there may be impacts to functionally linked habitat from habitat degradation, mortality and disturbance of QI species. This may occur to QI species utilising ex situ supporting habitat outside of the SPA but in the vicinity of the Proposed Development namely light-bellied brent geese, teal, shoveler, oystercatcher, golden plover, black-tailed godwit, curlew, and black-headed gull which have large foraging and roosting ranges and are known to use urban or agricultural habitats.

The potential for LSEs in light of the site's conservation objectives from the Proposed Development cannot be excluded.

5.2.7 South Dublin Bay and River Tolka Estuary SPA

South Dublin Bay and River Tolka Estuary SPA is located directly 5.5km south, and 22.5km hydrologically downstream of the Proposed Development. Due to the intervening distance and the assimilative capacity of the Irish sea it was assessed that there was no potential for significant effects from pollution directly into this SPA. However, there may be there may be impacts to QI species utilising ex-situ supporting habitat from hydrological links to Malahide Estuary SPA and Baldoyle Bay SPA resulting in habitat degradation and mortality impacts. Additionally, there may be impacts to functionally linked habitat from habitat degradation, mortality and disturbance of QI species. This may occur to QI species utilising ex-situ supporting habitat outside of the SPA but in the vicinity of the Proposed Development namely light-bellied brent goose, oystercatcher, and black-headed gull which have large foraging and roosting ranges and are known to use urban or agricultural habitats.

The potential for LSEs in light of the site's conservation objectives from the Proposed Development cannot be excluded.

5.2.8 Rogerstown Estuary SPA

Rogerstown Estuary SPA is located directly 7.5km north, but there was no hydrological connection. However, there may be impacts to QI species utilising ex situ supporting habitat from hydrological links to Malahide Estuary SPA and Baldoyle Bay SPA resulting in habitat degradation and mortality impacts. Additionally, there may be impacts to functionally linked habitat from habitat degradation, mortality and disturbance of QI species. This may occur to QI species utilising ex-situ supporting habitat outside of the SPA but in the vicinity of the Proposed Development namely greylag goose, shoveler, black-tailed godwit, light-bellied brent goose and oystercatcher which have large foraging and roosting ranges and are known to use agricultural habitats.

The potential for LSEs in light of the site's conservation objectives from the Proposed Development cannot be excluded.

5.2.9 Ireland's Eye

The Ireland's Eye SPA is located directly 8.6km east, and 10.5km hydrologically downstream of the Proposed Development. Due to the intervening distance and the assimilative capacity of the Irish sea it was assessed that there was no potential for significant effects from pollution directly into this SPA. However, there may be impacts to functionally linked habitat from habitat degradation, mortality and disturbance of QI species. This

may occur to QI species utilising ex-situ supporting habitat outside of the SPA but in the vicinity of the Proposed Development. This has the potential to result in LSEs on the SPA's QIs which utilise this habitat, namely the herring gull which have large foraging and roosting ranges and are known to use urban and agricultural habitats. Therefore, herring gull is the only QI species which may potentially be impacted.

The potential for LSEs in light of the site's conservation objectives from the Proposed Development cannot be excluded.

5.2.10 Lambay Island SPA

Lambay Island SPA is located 13.4km directly northeast, and 22.1km hydrologically downstream of the Proposed Development. Due to the intervening distance and the assimilative capacity of the Irish sea it was assessed that there was no potential for significant effects from pollution directly into this SPA. However, there may be impacts to functionally linked habitat from habitat degradation, mortality and disturbance of QI species. This may occur to QI species utilising ex-situ supporting habitat outside of the SPA but in the vicinity of the Proposed Development namely lesser black-back gull, herring gull and greylag goose which have large foraging and roosting ranges and are known to use urban or agricultural habitats.

The potential for LSEs in light of the site's conservation objectives from the Proposed Development cannot be excluded.

5.2.11 Skerries Islands SPA

Skerries Islands SPA is located directly 18.5km south, and 29km hydrologically downstream of the Proposed Development. Due to the intervening distance and the assimilative capacity of the Irish sea it was assessed that there was no potential for significant effects from pollution directly into this SPA. However, there may be impacts to QI species utilising ex-situ supporting habitat from hydrological links to Malahide Estuary SPA and Baldoyle Bay SPA resulting in habitat degradation and mortality impacts. Additionally, there may be impacts to functionally linked habitat from habitat degradation, mortality and disturbance of QI species. This may occur to QI species utilising ex situ supporting habitat outside of the SPA but in the vicinity of the Proposed Development namely light bellied brent geese and herring gull which have large foraging and roosting ranges and are known to use urban or agricultural habitats.

The potential for LSEs in light of the site's conservation objectives from the Proposed Development cannot be excluded.

5.2.12 River Nanny Estuary and Shore SPA

River Nanny Estuary and Shore SPA is located directly 26km south, and 43km hydrologically downstream of the Proposed Development. Due to the intervening distance and the assimilative capacity of the Irish sea it was assessed that there was no potential for significant effects from pollution directly into this SPA. However, there may be impacts to QI species utilising ex situ supporting habitat from hydrological links to Malahide Estuary SPA and Baldoyle Bay SPA resulting in habitat degradation and mortality impacts. Additionally, there may be impacts to functionally linked habitat from habitat degradation, mortality and disturbance of QI species. This may occur to QI species utilising ex-situ supporting habitat outside of the SPA but in the vicinity of the Proposed Development namely herring gull, golden plover, and oystercatcher which have large foraging and roosting ranges and are known to use urban or agricultural habitats.

The potential for LSEs in light of the site's conservation objectives from the Proposed Development cannot be excluded.

5.2.13 Boyne Estuary SPA

Boyne Estuary SPA is located directly 33km south, and 52km hydrologically downstream of the Proposed Development. Due to the intervening distance and the assimilative capacity of the Irish sea it was assessed that there was no potential for significant effects from pollution directly into this SPA. However, there may be impacts to QI species utilising ex-situ supporting habitat from hydrological links to Malahide Estuary SPA and Baldoyle Bay SPA resulting in habitat degradation and mortality impacts. Additionally, there may be impacts to functionally linked habitat from habitat degradation, mortality and disturbance of QI species. This may occur to QI species utilising ex situ supporting habitat outside of the SPA but in the vicinity of the Proposed Development namely lapwing, golden plover, oystercatcher, and black-tailed godwit which have large foraging and roosting ranges and are known to use agricultural habitats.

The potential for LSEs in light of the site's conservation objectives from the Proposed Development cannot be excluded.

5.2.14 Dundalk Bay SPA

Dundalk Bay SPA is located directly 50km south, and 78km hydrologically downstream of the Proposed Development. Due to the intervening distance and the assimilative capacity of the Irish sea it was assessed that there was no potential for significant effects from pollution directly into this SPA. However, there may be impacts to QI species utilising ex-situ supporting habitat from hydrological links to Malahide Estuary SPA and Baldoyle Bay SPA resulting in habitat degradation and mortality impacts. Additionally, there may be impacts to functionally linked habitat from habitat degradation, mortality and disturbance of QI species. This may occur to QI species utilising ex-situ supporting habitat outside of the SPA but in the vicinity of the Proposed Development namely light-bellied brent goose, curlew, common gull, mallard, herring gull, lapwing, golden plover, teal, black-tailed godwit and oystercatcher which have large foraging and roosting ranges and are known to use agricultural habitats.

The potential for LSEs in light of the site's conservation objectives from the Proposed Development cannot be excluded.

5.3 In-combination Effects

In order to take account of in-combination effects, proposals in adopted plans and in finalised plans which have been formally published or submitted for consultation or adoption, and projects that are completed, approved but not commenced or uncompleted, or proposed (for which an application for approval or consent has been made but not yet approved, including refusals subject to appeal and not yet determined) should be considered in this context (EC 2021a).

A search of the National Planning Application Database (NPAD) was undertaken in October 2022 and updated in September 2023 (DoHPLG 2023). An Bord Pleanála's planning register (An Bord Pleanála 2023), and general web searches for major infrastructure projects and plans within 1km (which is considered a precautionary and proportionate distance for Zol of direct impact) of the Proposed Development in the last three years (the three year period would cover any projects likely still in their construction phase that could overlap with the Construction Phase of the Proposed Development) was undertaken to identify other plans and projects that may result in cumulative effects (Dublin City Council 2023, Fingal County Council 2023, Meath County Council 2023). The majority of recent planning applications appear to be small scale domestic applications such as dwelling house modifications and garage extensions, as well as minor agricultural developments which did not require further assessment.

Other projects/developments in the area are detailed in Table 5.2.

Table 5.2: Results of the Review of the Desk-based Search Including the National Planning Application Database

Application Number	County Council	Description	Potential For In-combination
N/A	Meath County Council	Meath Council Development Plan 2021-2027 A Natura Impact Report was prepared (Scott Cawley, 2021) in support of The Meath County Development Plan 2021-2027. This report assessed potential impacts arising from the Meath County Development Plan 2021-2027 (Meath County Council, 2021). No adverse effect on site integrity were identified on any of the European sites identified within the Zol or the vicinity of the Proposed Development. However, in the absence of mitigation there is potential for in-combination effects.	Potential for in-combination effects.
N/A	Fingal County Council	Fingal County Development Plan 2023-2029 A Natura Impact Report was prepared (Scott Cawley, 2023) in support of The Fingal County Development Plan 2023-2029. This report assessed potential impacts arising from the Fingal County Development Plan 2023-2029 (Fingal County Council, 2023). No adverse impacts were identified on site integrity after implementation of mitigation on any of the European sites identified within the Zol or the vicinity of the Proposed Development. However, in the absence of mitigation there is potential for in-combination..	Potential for in-combination effects.
N/A	Dublin City Council	Dublin City Development Plan 2022-2028 A Natura Impact Report was prepared (Scott Cawley, 2022) in support of The Dublin City Development Plan 2022-2028. This report assessed potential impacts arising from the Dublin City Development Plan 2022-2028 (Dublin County Council, 2022). No adverse impacts were identified on site integrity after implementation of mitigation on any of the European sites identified within the Zol or the vicinity of the Proposed Development. However, in the absence of mitigation there is potential for in-combination effects.	Potential for in-combination effects.
316372	Meath County Council and Kildare County Council	Kildare to Meath Grid Upgrade Project (CP0966). The Project involves improvements to the transfer of electricity to the east of Ireland and its distribution within the network in Meath, Kildare, and Dublin. Specifically, it comprises of a 400 kV UGC of 50 km between Woodland substation in Meath and Dunstown substation in Kildare. The Project is submitting for planning permission in Q1 2024. Construction Phase of CP0966 is estimated to commence in Q2 2026 and be completed by Q3 2028. This Project overlaps with the Proposed Development for 2.9 km at Woodland Substation and along the 'Woodland Corridor' between Woodland Substation and the R156 Regional Road. The Construction Phases will overlap since a joint construction wayleave is included here. Where they overlap they cross the Dunboyne Stream (segment code 09 354). However, as the Dunboyne stream has no hydrologically connectivity to Rye Water Valley Carton / SAC, and therefore no pathway to effects no in-combination effects are possible..	No potential for in-combination effects. The NIS for this project does not identify any impacts to European sites screened in the Proposed Development. As a result, no in-combination impacts are predicted.
314724	Dublin City Council	Metrolink Overlaps with the proposed cable route Planning Application Boundary at the R132 Regional Road. Application lodged – not yet determined. Potential for Construction Phases to overlap. Operational Phases will coincide.	Potential for in-combination effects. This planning application is accompanied by an NIS. In the absence of mitigation, it identified potential for LSEs from pollution to Malahide Estuary SAC, Baldoyle Bay SAC,

Application Number	County Council	Description	Potential For In-combination
		<p>MetroLink is a proposed high capacity, high frequency rail line running from Swords to Charlemont, linking Dublin Airport, Irish Rail, DART, Dublin Bus, and Luas services in the GDA. It is estimated that it will carry up to 50million passengers annually. It is the biggest investment in transport infrastructure in Ireland and is included in Project Ireland 2040. Proposed to deliver MetroLink by 2035 (subject to planning approval), with a 9.25 year construction programme indicated.. This project may result in cumulative effects with the Proposed Development particularly in the section of line between Dublin Airport Airport and Donabate. The proposed MetroLink line is located approximately 1 km west of Malahide Estuary SAC/ SPA and crosses watercourses such as Cuckoo Stream (segment code 09 1498) which has connectivity with European sites included in the NIS for the Proposed Development The Project will be crossed by the Proposed Development in Naul Road, north of Dublin airport. In addition, high voltage UGC are proposed to support the operation of the rail line; a 110 kV cable proposed from the south of Dublin airport to a new 220 kV substation on Naul Road; and a 220 kV connection from the Naul Road substation to Belcamp substation, both of which follow some of the same route as for the Proposed development.</p>	<p>Malahide Estuary SPA, Baldoyle Bay SPA, Howth Head Coast SPA, Dalkey Islands SPA and Rockabill SPA. The Proposed Development identified potential for LSEs from pollution to Malahide Estuary SAC, Baldoyle Bay SAC, Malahide Estuary SPA and Baldoyle Bay SPA. Therefore, there is potential for in-combination impacts to these European sites as the Proposed Development has potential to impact these sites via the same pathway. The Proposed Development pollution pathway to Howth Head Coast SPA, Dalkey Islands SPA and Rockabill SPA is ecologically inconsequential due to the hydrological distance and dilution factor linking these European sites, and therefore there is no potential for in-combination impacts to these sites via the same pathway.</p>
PCI0001	<p>Armagh County Council, Tyrone County Council, Monaghan County Council, Cavan County Council and Meath County Council.</p>	<p>CP0466 - North South Interconnector Project. Overlaps with the Proposed Development at Woodland Substation Planning Application Boundary for the Proposed Development. The project has received consent, and the construction is due to commence in Q1 2025 and be completed by 2027. This project involves a second, higher-capacity interconnector being added, to connect the electricity grids of Ireland and Northern Ireland. It will connect to the network in Northern Ireland in Co Tyrone, cross the border between Armagh and Monaghan, and then join the network in Ireland at an existing substation in County Meath.</p>	<p>No potential for in-combination effects. The NIS for this project does not identify any impacts to European sites screened in the Proposed Development. As a result, no in-combination impacts are predicted.</p>
N/A Exempted Development	<p>Dublin City Council and Fingal County Council</p>	<p>Shellybanks to Belcamp 220 kV Cable Project. The Project overlaps with the Proposed Development at Belcamp Substation Planning Application Boundary. This project has received consent, is under construction and is due to be energised in Q3 2024. This project constitutes 10km of UGC in the interest of supply security in the Greater Dublin Area. This will provide a second 220kV connection to the new Belcamp 220kV substation. There is no potential for Construction Phases to overlap, but Operational Phases will coincide.</p>	<p>Potential for in-combination effects. No AASR or NIS available. There is potential for in-combination impacts from pollution to Baldoyle SPA/SAC, North Bull Island PA, Malahide Estuary SPA and South Dublin Bay and River Tolka Estuary SPA via the Mayne (segment code 09 1540) which runs adjacent to the southern border of Belcamp Substation. Considering the nature, scale and location of this development, there is no potential for Operational Phase to result in-combination impacts with the Proposed Development.</p>
N/A	<p>Dun Laoghaire County Council, Dublin City Council,</p>	<p>NISA Connection</p>	<p>Potential for in-combination effects.</p>

Application Number	County Council	Description	Potential For In-combination
	Meath County Council and Louth County Council	The North Sea Irish array is an off-shore windfarm that is proposed in the Irish Sea off the coast of counties Dublin, Meath and Louth, bringing with it an opportunity to significantly contribute to the development of a clean, renewable energy future for the region. The proposal is targeting a planning submission date in 2024 and once operational, would have the capacity to provide renewable energy for up to 500,000 homes. A new 220kV connection is proposed to deliver the generated energy from NISA to the transmission network via Belcamp substation.	No AASR or NIS available. For the terrestrial element there is potential for in-combination impacts from pollution to Baldoyle Bay SAC via a hydrological link; and from disturbance to Baldoyle Bay SPA, North Bull Island SPA, Malahide Estuary SPA and South Dublin Bay and River Tolka Estuary SPA. For the marine element there may be in-combination effects from disturbance to QI bird species from these European sites.
N/A	Dublin City Council and Fingal County Council	Finglas to Belcamp 220kV diversion This project is for an existing 220kV connection between Finglas substation and a 220kV substation at Dublin Airport which is being diverted to Belcamp to provide a direct connection between Finglas and Belcamp substations. This will be connected across Stockhole Lane and enter Belcamp substation from the west, connecting into the extended 220kV GIS substation.	Potential for in-combination effects. No AASR or NIS available. There is potential for in-combination impacts from pollution to Baldoyle Bay SAC since the Mayne watercourse flows adjacent to the boundary of Belcamp Substation and from disturbance to Baldoyle Bay SPA, North Bull Island SPA, Malahide Estuary SPA and South Dublin Bay and River Tolka Estuary SPA.
312131	Fingal County Council	Greater Dublin Drainage Project. Application lodged – no determination at time of writing. . The proposed orbital sewer will overlap with the proposed cable Planning Application Boundary on approach to Belcamp Substation Immediately north of Belcamp substation it is proposed to construct a new Wastewater Treatment Plant and associated sewer infrastructure from the west and south. The Proposed development will cross the orbital sewer in the vicinity of Stockhole Lane; the proposed WwTP is less than 100m north of Belcamp substation where the proposed 400kV GIS building will be constructed.	Potential for in-combination effects. No AASR available, however as this development is located in a significantly large area of functionally linked habitats, this development along with other applications in this table is likely to have in-combination effects with the Proposed Development from disturbance, habitat degradation and mortality increasing the level of stress on QI bird species. The Proposed Development pollution pathway to Rockabill and Dalkey Island SAC, Lambay Island SAC, Howth Head Coast SPA, Dalkey Islands SPA and Rockabill SPA is ecologically inconsequential due to the hydrological distance and dilution factor linking these European sites, and therefore there is no potential for in-combination impacts to these sites via the same pathway.
21249 and 21338	Meath County Council	Kilbride Metropolitan Park development. This development comprises: 1. A new entrance with a priority junction off Hollystown Road and road widening; a new 430m long carriageway with paths and cycle lanes for the internal road layout; a rising main connection to the pumping station in Kilbride Village; widening of the	Potential for in-combination effects. No AASR available, however as this development is located in a significantly large area of functionally linked habitats, this

Application Number	County Council	Description	Potential For In-combination
		existing bridge to the public road; an emergency underground storage tank and pumping station within the site; underground attenuation tank and a new boundary treatment to the public road to include a double stud fence. The proposed development will also include all ancillary drainage, services, landscaping, public lighting, road signage and all site development works associated with the proposed development. The projects are approximately 110m (21249) and 30m (21338) from proposed cable route Planning Application Boundary. The respective status of the applications are incomplete (21249) and refused (21338).	development along with other applications in this table is likely to have in-combination effects with the Proposed Development from disturbance, habitat degradation and mortality increasing the level of stress on QI bird species.
21391	Meath County Council	Karlswood Stud development. This development comprises: 1. an extension to the building permitted under planning ref: RA/180560, including plant room extension and equine treatment area extension. 2. Minor alterations to layout, position and elevations to buildings permitted under, planning ref: RA/180560. 3. An additional storage building. 4. A covered lunge ring. 5. Alterations to landscaping arrangements permitted under planning ref: RA/180560, and the provision of an outdoor sand arena. 6. A new stable building and associated storage building. 7. A new wastewater treatment system and percolation area and all associated site development works. The project is 15m from proposed cable route Planning Application Boundary. Application finalised and decision granted. Commencement date July 2021.	No potential for in-combination effects. No AASR available, however this development is unlikely to have in-combination effects with the Proposed Development due to the Project's footprint within an existing equestrian centre. No potential for Construction Phase overlap since the Project commencement date was July 2021.
21677	Meath County Council	Biopharmaceutical Manufacturing and Research Facility. This development relates to the existing planning permission Ref RA170887. The development consists of 1. A single storey with mezzanine Biopharmaceutical Manufacturing and Research Facility. 2. A single storey partially glazed pedestrian link approximately 4 metres high. 3. A three-storey canteen and laboratory extension. 4. The relocation of 2no. single storey modular liquid supply and waste stores to the east of the existing warehouse. 5. The demolition of the existing single storey waste store and the construction of a new waste store. 6. An extension to the west side of the existing single storey ESB substation. 7. The addition of 162 permanent car parking spaces and a dedicated shuttle bus parking area and shelter. 8. A landscaped berm approximately 8 metres high located to the east of the existing manufacturing site. 9. An additional utilities yard, housing plant and equipment. 10. Alterations and extensions to existing roads and site works. The project is 400 m from proposed cable route Planning Application Boundary. Application finalised and decision granted. The Project commenced in August 2021.	No potential for in-combination effects. An AASR that accompanied this planning application concluded that Stage 2 Appropriate Assessment is not required. Given the lack of significant effects arising from this project, the works taking place in the footprint of the existing facility and the commencement of the Project in 2021, there is no potential for in-combination effects. a
221027 and 22961	Meath County Council	Housing development. The development will consist of 1. demolishing the existing house. 2. the construction of 8 no. new semi-detached houses with two no. car-parking spaces each. 3. repositioning of the site entrance, construction of a road, new perimeter walls and all associated site works. The projects are 550 m (22961) from proposed cable route Planning Application Boundary. At the time of writing the application status of 22961 was incomplete, while for 221027 the status was under review.	No potential for in-combination effects. No AASR, however this development is unlikely to have in-combination effects with the Proposed Development due to this development's footprint within an existing urban landscape.
221508	Meath County Council	Solar Energy Farm development.	No potential for in-combination effects.

Application Number	County Council	Description	Potential For In-combination
		This development is for a Solar PV Energy Development on a site area of 171.34ha. It includes 1. solar panels mounted on steel support structures. 2. associated cabling and ducting. 3. Installation of 47 MV Power Stations, 3 Client Substations. 4. security fencing and security gates, CCTV, landscaping and ancillary works. The project is adjacent to cable route Planning Application Boundary. At the time of writing, the application status was under review.	This planning application is accompanied by an NIS. However, it did not identify potential for LSEs or AESIs to any European sites screened in in this report.
221550	Meath County Council	EirGrid PLC CP1110 Woodland Substation Upgrade CP1110 Woodland Station 400-- 220KV Protection Upgrade, not part of the Proposed Development. The project will consist of 1. Installation of outdoor Air Insulated Switchgear (AIS) electrical apparatus, including an associated extension to the hardstand compound (approximately 4 hectares) to facilitate same. This project overlaps with the Proposed Development at Woodland Substation. Planning permission is granted. Construction timeline unknown but due to be energized by Q4 2024.	No potential for in-combination effects. There will not be an overlap in Construction Phases as the Project will be energized in the end of 2024 and the construction phase for the Proposed Development will commence in Quarter 2, 2025.
221637	Meath County Council	Housing development. This development relates to the existing planning permission AA170905. This development comprises the construction of 1. 19 houses. 2. a new vehicular entrance from the L1007 road, internal roads/verges/footpaths/cyclepaths, vehicular turning circle and access to adjoining agricultural lands/future development. 3. public open space, landscaping, lighting, individual and overall site boundary proposals. 4. plus all associated site development and engineering works and services. The project is 140 m from cable route Planning Application Boundary. Application finalised and planning permission granted in February 2023.	No potential for in-combination effects. No AASR, however this development is unlikely to have in-combination effects with the Proposed Development due to this development's footprint within an existing urban development and a small area of the agricultural landscape.
22236	Meath County Council	Kilsaran Concrete development. This development comprises the construction of a new extension (max 8m high with a gross floor area of 430sqm to the northern and eastern elevations of an existing factory building used for the manufacture of concrete products and all ancillary works. The project is 260m from cable route Planning Application Boundary. Planning permission granted in April 2022.	No potential for in-combination effects. No AASR, however this development is unlikely to have in-combination effects with the Proposed Development due to this development's footprint within an existing industrial estate.
22392	Meath County Council	Kilsaran Industrial Park development. This development comprises the construction of 1. a new two storey office building and extension of existing Kilsaran Concrete showroom and office building. 2. 43 additional carpark spaces and 20 bicycle spaces with associated changing/shower rooms. 3. Construction of standalone single storey showroom building with an additional 19 dedicated car parking spaces and 2 bicycle spaces. The project is 95m from cable route Planning Application Boundary. Planning permission granted.	No potential for in-combination effects. An AASR that accompanied this planning application concluded that Stage 2 Appropriate Assessment is not required. Given the lack of significant effects arising from this project and the works taking place in the footprint of the existing industrial estate, no in-combination effects are predicted.
22837 and 23136	Meath County Council	Battery Storage Facility at Woodlands Substation. This development comprises 1. rechargeable battery units with grid forming inverters contained within 253 containers. 2. a synchronous condenser within a c.983 sqm building with associated compound & plant. 3. an underground cable which will connect the new battery energy storage facility to the adjoining proposed 220kV Gas Insulated Substation. 4. a battery storage control	Potential for in-combination effects. No AASR, however as this development is located in a significantly large area of functionally linked habitats, this development is likely to have in-combination effects with

Application Number	County Council	Description	Potential For In-combination
		building and all ancillary works. The project is 160 m from Woodland substation Planning Application Boundary. Application status permitted. Due to commence construction in Q2 2025 and be completed by Q4 2028.	the Proposed Development from disturbance, habitat degradation and mortality increasing the level of stress on QI bird species.
23424	Meath County Council	Industrial/Office Development at the M3 Park and Ride. This development comprises 1. Construction of 3 office buildings 3 to 4- storeys high. 2. Provision of a 4-arm signalised junction replacing the existing Pace roundabout. 3. internal access roads to serve the development. 4. Upgrade works to the R157 and M3 Parkway access road to facilitate junction improvements. 5. A total of 275 car parking spaces. 6. 3 standalone electricity substations and all ancillary site and development works. The project is 70m from cable route Planning Application Boundary. At the time of writing no planning decision had been taken and planning status was further information requested as of June 2023.	Potential for in-combination effects. This planning application is accompanied by an NIS. In the absence of mitigation, it identified potential for LSEs from pollution and mortality to South Dublin Bay and River Tolka SPA and North Bull Island SPA. Therefore, there is potential for in-combination effects to these European sites as the Proposed Development has potential to impact these sites via the same pathway.
2360065	Meath County Council	Commercial Development at the M3 Park and Ride. This development comprises 1. Construction of a single-storey commercial with a supermarket and 2 commercial units. 2. Provision of a 4-arm signalised junction replacing the existing Pace roundabout. 3. Upgrade works to the existing R157 and M3 Parkway access road to facilitate junction improvements. 4. 6m wide internal access roads to serve the development. 5. A total of 118 car parking spaces. 6. 1 electricity substation / switch room and all ancillary site development works. The project overlies the proposed cable route Planning Application Boundary. At the time of writing the planning status was 'further information - requested on 21 July 2023'.	Potential for in-combination effects. This planning application is accompanied by an NIS. In the absence of mitigation, it identified potential for LSEs from pollution and mortality to South Dublin Bay and River Tolka SPA and North Bull Island SPA. Therefore, there is potential for in-combination impacts to these European sites as the Proposed Development has potential to impact these sites via the same pathway.
2360281 and 2360290	Meath County Council	Housing Development at the M3 Park and Ride. This development comprises 1. 145 dwelling houses and 122 apartments/duplexes ranging in height from 3 to 5 storeys. 2. a single storey creche. 3. changes to the existing carriageway/traffic lanes and the replacement of an existing roundabout with a new signalised junction. 4. a new signalised junction and link road (including new bridge over the River Tolka) connecting the R157 and the Old Navan Road. 5. all associated ancillary development works including footpaths, cycle lanes, car and bicycle parking, drainage, public lighting, bin storage, boundary treatments and landscaping/amenity areas at this site. The project is 315m from proposed cable route Planning Application Boundary. Timeline unknown but construction is estimated to take three years. Potential for Construction Phases to overlap. Operational Phases will coincide. The application was received in September 2023 and at the time of writing the planning status was 'incomplete application'.	Potential for in-combination effects. This planning application is accompanied by an NIS. In the absence of mitigation, it identified potential for LSEs from pollution and mortality to South Dublin Bay and River Tolka SPA and North Bull Island SPA. Therefore, there is potential for in-combination impacts to these European sites as the Proposed Development has potential to impact these sites via the same pathway.
23880	Meath County Council	Ballymaglassan Stud development This development comprises 1. new entrance and driveway. 2. the completion of a horse lounge, visitor centre with offices. 3. turn out areas, septic tank and percolation area including yards and attenuation. The project is 80 m from route Planning Application Boundary. The	Potential for in-combination effects. No AASR, however as this development is located in a significantly large area of functionally linked habitats, this Project is likely to have in-combination effects with the

Application Number	County Council	Description	Potential For In-combination
		application was received in September 2023 and at the time of writing the planning status was 'incomplete application'	Proposed Development from disturbance, habitat degradation and mortality increasing the level of stress on QI bird species.
3041/22	Dublin City Council	Belcamp Access development. This development is for access to the Synchronous Compensator Development on lands south of Belcamp 220kV substation. This development comprises 1. New access entrance from the R139 and a clear span bridge crossing over River Mayne. 2. Internal access tracks, security fencing, temporary construction compound, landscaping, and drainage. The project is 4m from Belcamp Substation Planning Application Boundary. Planning permission granted August 2022. No further information regarding construction is provided on the planning portal	Potential for in-combination effects. This planning application is accompanied by an NIS. In the absence of mitigation, it identified potential for LSEs from pollution and disturbance to Baldoyle Bay SAC and Baldoyle Bay SPA. Therefore, there is potential for in-combination impacts to these European sites as the Proposed Development has potential to impact these sites via the same pathway.
3803/20	Dublin City Council	Data Centre development. This development comprises 1. Two data centre buildings with 16 emergency generators and a diesel storage tank, fuel filling area and associated plant. 2. a water sprinkler pump room with water storage tanks and humidifier tanks. 3. a client control building with two transformers in a fenced compound. 4. Demolition of 26 sqm substation building. 5. Partial diversion and undergrounding of ESB overhead lines. 6. Construction of internal site roads, 100 car parking spaces, 4 motorcycle spaces and 68 cycle parking spaces within a bicycle shelter. 7. Temporary construction access roads, landscaping and fencing and all ancillary site development. The project is 739 m from Belcamp Substation Planning Application Boundary. Planning permission granted in August 2021. No construction timeline is provided on the planning portal.	No potential for in-combination effects. An AASR that accompanied this planning application concluded that Stage 2 Appropriate Assessment is not required. Given the lack of significant effects arising from this project and the works taking place in the footprint of greenfield lands not functionally linked habitat as it is mostly scrub within an urban environment. Additionally, there are no direct pathways to European sites.
F20A/0550 and F23A/0132	Fingal County Council	North Apron in Dublin Airport development. This development comprises 1. The expansion of the North Apron to provide 12 replacement aircraft stands and ground servicing equipment storage area. 2. Construction of a 520 m long by 6 m high blast fence on the northern and western boundary and a 20 m long by 6 m high blast fence southwest of the Apron. 3. Construction of a 550 m service road immediately to the north and rehabilitation of existing pavement. 4. Construction of two new underground attenuation tanks on 9000 m ² of existing grassland. 5. Provision of a total organic carbon analyser enclosure. 6. Provision of drainage and electrical infrastructure. 7. Provision of Aerodrome Ground Lights and 26 High Mast Lights. 8. Modifications to internal airside fencing, service road infrastructure and provision of construction site security fencing, construction compound and modification to security fence. The project is 448 m from proposed cable route Planning Application Boundary. Planning permission granted.	Potential for in-combination effects. An NIS was prepared by Atkins which concluded no residual impacts following mitigation on Baldoyle Bay SAC/SPA. However, in the absence of mitigation there is potential for in-combination, since this European site has hydrological connectivity to the Project via Cuckoo stream (segment 09_1498).
F20A/0636	Fingal County Council	Radisson Hotel development part 1. This development comprises 1. The construction of a 1-6 storey extension to the existing hotel. 2. Construction of a new leisure facility including swimming pool and gym at ground floor. 3. Plant at lower ground and roof level. 4. New landscaped entrance courtyard, security hut, bicycle parking, underground attenuation and all associated landscaping, signage, site works	No potential for in-combination effects. An AASR that accompanied this planning application concluded that Stage 2 Appropriate Assessment is not required. Given the lack of significant effects arising from this

Application Number	County Council	Description	Potential For In-combination
		and services. 5. Works to elevation of existing hotel facade including new entrance and canopy. The project is 690 m from proposed cable route Planning Application Boundary. Planning permission granted.	project and the works taking place in the footprint of an existing hotel no in-combination effects are predicted.
F20A/0638	Fingal County Council	Radisson Hotel development part 2. This development comprises 1. A new standalone 8-12 -storey hotel. 2. Kitchen, staff facilities, storage rooms, bin stores toilets, plant and back of house services at ground and basement level. 3. Double height reception, restaurant/ bar/ lounge area at ground floor with outdoor seating areas. 4. New landscaped entrance courtyard, security hut, bicycle parking. 5.Coach set down and car drop -off area at entrance to new hotel and reconfiguration of car park to rear of existing hotel. The project is 690 m from proposed cable route Planning Application Boundary. Planning permission granted.	No potential for in-combination effects. No AASR, however this development is unlikely to have in-combination effects with the Proposed Development due to the hotel's footprint within an existing urban landscape.
F21A/0147, F23A/0006 and F23A/0413	Fingal County Council	The F21A/0147 and F23A/0006 developments comprises 1. Two single storey light industrial buildings including ancillary office space. 2. internal site road and a car park space. 3. surface water attenuation, sub-station and switch room. 4. relocation of overhead power lines. 5. relocation of the ESB Substation and Switch Room 6. all associated site and development works above and below ground. The F23A/0413 development comprises 1. construction of a Light Industrial Development comprising five. units with offices, staff facilities and associated developments. 2. the provision of a multimodal entrance to the site from the Stockhole Lane Roundabout via an extended local access road. 3. pedestrian, cyclist and emergency vehicular entrances and internal roads. 4. A car park, loading bays, bin store, ESB substation and switchroom, boundary treatments, hard and soft landscaping, lighting, green walls, solar panels, signage and all associated development works. The project is 121 m from proposed cable route Planning Application Boundary. Planning permission granted.	No potential for in-combination effects. No AASR, however this development is unlikely to have in-combination effects with the Proposed Development due to this development's footprint within and adjacent to an existing industrial estate.
F21A/0232	Fingal County Council	Dublin Airport Compound development. The development will consist of a temporary construction 'West Compound' to assist with ongoing airport developments. This development comprises 1. the continuation of use of the existing North Runway contractor compound. 2. a consolidated 'West Compound' for airside development contractors on a 5.9 ha site adjoining the R108 public road. 3. car park and trailer set down area, new bus stop, cycle parking provision, a new hardstanding area for skip set down, new streetlighting and electrical switchroom. The project is 532m from proposed cable route Planning Application Boundary. Planning permission granted.	No potential for in-combination effects. No AASR, however this development is unlikely to have in-combination effects with the Proposed Development due to this development's footprint within an existing car park and storage yard.
F21A/0255	Fingal County Council	Dublin Airport Skybridge Hotel development. For development at four site addresses: A - Hotel Site adjoins the T2 Multi-Storey Car Park to the north, Dublin Airport; B - Skybridge House, Dublin Airport; C-Site Compound 1 is bounded by the T2 Departure Road to the west and T2 Multi-storey Car Park to the east, Dublin Airport; D-Site Compound 2 is located to the east of Swords Rugby Club.	No potential for in-combination effects. An AASR that accompanied this planning application concluded that Stage 2 Appropriate Assessment is not required. Given the lack of significant effects arising from this project and the works taking place in the footprint of an existing car park/ airport

Application Number	County Council	Description	Potential For In-combination
		<p>Site A- The proposed development comprises 1. the erection of a new part 3-12 storey hotel integrated with the existing elevated pedestrian link bridge connecting T2 and T2 Car Park. 2. Ancillary facilities at the upper levels include a leisure centre and a bar and an executive lounge. 5. An internal one-way access road is provided and designated layby is provided to the front of the hotel on this internal access road.</p> <p>Site B - The proposed development comprises 1. The removal of the existing weather radome and support structure from its rooftop location at Skybridge House and to provide a new replacement weather radome on top of the proposed hotel.</p> <p>Site C and D: Permission for the temporary use (for a period of 5 years) of two sites as construction compounds to serve the construction phase of the proposed development. The project is 855m from proposed cable route Planning Application Boundary Planning permission granted.</p>	forecourt no in-combination effects are predicted.
F21A/0518	Fingal County Council	<p>Dublin Airport Internal Roads development</p> <p>The proposed development comprises 1. alterations to section of the existing internal road network and associated works, on the Departures routes to and from the Terminal 1 and Terminal 2 forecourts. 2. realign existing exit lanes from both the Terminal 1 and Terminal 2 forecourts to provide four new exit lanes. 3. Internal alterations to T2 short term car park 6. Internal alterations to the Express Red Long-Term Car Park. 4. all associated lighting, CCTV, barriers, signage, bike lanes, bus lanes etc. The project is 790m from proposed cable route Planning Application Boundary Planning permission granted.</p>	<p>No potential for in-combination effects.</p> <p>An AASR that accompanied this planning application concluded that Stage 2 Appropriate Assessment is not required. Given the lack of significant effects arising from this project and the works taking place in the footprint of existing car parks/ airport access roads no in-combination effects are predicted.</p>
F22A/0682	Fingal County Council	<p>Dublin Port to Dublin Airport Fuel Line development.</p> <p>This development relates to the existing planning permission for F15A/0141 the Dublin Port to Dublin Airport fuel pipeline. Permission sought for alterations to this plan.</p> <p>The proposed alterations comprise: 1. reroute the approved pipeline from Clonshaugh Road North along the southern boundary of Athletic Union League/FAI sports grounds, under the M1 Motorway, into Dublin Airport lands south of the Eastlands Car Hire Compound, along the western boundary of Eastlands Car Hire Compound where it will connect to the approved route. 2. all ancillary works, including landscaping and site preparation, necessary to facilitate the development. The project overlaps with the proposed cable route Planning Application Boundary. Planning permission granted.</p>	<p>Potential for in-combination effects.</p> <p>This planning application is accompanied by an NIS. In the absence of mitigation, it identified potential for LSEs from pollution and mortality to Baldoyle Bay SAC and Baldoyle Bay SPA. Therefore, there is potential for in-combination impacts to these European sites as the Proposed Development has potential to impact these sites via the same pathway.</p>
F23A/0040	Fingal County Council	<p>Belcamp Substation development.</p> <p>37.5km of new 400kV underground cables between the existing Woodland Substation in the townland of Woodland, near Batterstown, County Meath and the existing Belcamp Substation in the townland of Belcamp in Fingal, north County Dublin. A new 400kV Gas Insulated Switchgear Hall and associated transformers will also be required at Belcamp Substation.</p> <p>The project overlaps with the Proposed Development at Belcamp Substation. Planning permission granted.</p>	<p>Potential for in-combination effects.</p> <p>There is potential for in-combination impacts from pollution to Baldoyle Bay SAC via a hydrological link; and from disturbance to Baldoyle Bay SPA, North Bull Island SPA, Malahide Estuary SPA and South Dublin Bay and River Tolka Estuary SPA.</p>

Application Number	County Council	Description	Potential For In-combination
F23A/0245	Fingal County Council	<p>Ryanair Hangar development.</p> <p>The proposed development comprises 1. construction of a single-storey, part two-storey four-bay hangar designed to accommodate up to four Aircrafts, with associated maintenance facilities, ancillary offices and staff areas. 2. demolition of the existing internal airport roadway on site and the development of new site access arrangements. 3. external covered bin storage, chemical storage, new substation, provision of 20 parking spaces and new service connections. 4. all other associated site and development works. The project is 370m from proposed cable route Planning Application Boundary. Planning permission granted.</p>	<p>Potential for in-combination effects.</p> <p>This planning application is accompanied by an NIS. In the absence of mitigation, it identified potential for LSEs from pollution and mortality to Baldoyle Bay SAC and Baldoyle Bay SPA. Therefore, there is potential for in-combination impacts to these European sites as the Proposed Development has potential to impact these sites via the same pathway.</p>
F23A/0465	Fingal County Council	<p>AUL Football Pitch development.</p> <p>The proposed development comprises 1. One full size soccer all weather artificial grass, drained playing pitch with 5m run-off area. 2. Dual configuration of two seven a-side soccer pitches which can also be used as one eleven a-side soccer sand-based grass, drained playing pitch with 5m run-off area. 3. LED Floodlighting to all-weather pitch mounted on columns and generator on hard-standing. 4. construction of five changing facilities, a toilet and shower block, storage unit and access paths. 6. New wastewater treatment system, percolation bed and surface water drains to catch and attenuate run-off from roofs and hard standing, as well as drain the pitches. The project is adjacent to proposed cable route Planning Application Boundary. Planning permission granted.</p>	<p>Potential for in-combination effects.</p> <p>No AASR, however as this development is located in a significantly large area of functionally linked habitats, this development along with other applications in this table is likely to have in-combination effects with the Proposed Development from disturbance, habitat degradation and mortality increasing the level of stress on QI species.</p>
FW21A/0042	Fingal County Council	<p>Gleanveagh Homes development.</p> <p>The proposed development comprises 1) 69 houses and all associated roads, services, visitor parking, public open spaces, changes in level, hard and soft landscaping and boundary treatments where required. 2. The construction of a new foul outfall sewer approx. 3km in length to connect to the existing 600mm diameter foul sewer. 3. The construction of a new vehicular entrance off Hollywoodrath Road, a new footpath and cycle path along the northern and western side of the R121 along the site frontage extending south to the existing Toucan crossing and provision of 2 no. new Toucan crossings on the R121. 4. The development of proposed public open space including walking routes, seating areas, kick about area, playground, dog park, associated landscaping works including planting, changes in level and boundary treatments, and 10 no, public cycle parking spaces. 4. The development of ancillary landscaped areas and sustainable urban drainage systems under the existing ESB powerlines, and all associated ancillary site development infrastructure including: ESB sub-station, public lighting, and foul and surface water drainage; internal roads & footpaths. The project is 185m west of the Proposed Development. Planning permission granted.</p>	<p>No potential for in-combination effects.</p> <p>The AASR that accompanied this planning application concluded that Stage 2 Appropriate Assessment was not required. . The Proposed Development pollution pathway to Rockabill and Dalkey SAC is ecologically inconsequential due to the hydrological distance and dilution factor linking to this European site, and therefore there is no potential for in-combination impacts to this site via the same pathway.</p>
FW21A/0136	Fingal County Council	<p>Compressed Natural Gas Compressor development.</p> <p>The proposed development comprises 1. one single storey compressed natural gas compressor installation. 2. one single storey ESB MV Substation, 1.8m & 2.4m high fences, fuelling dispensers, forecourt, fuel totem. 3. access to existing private road and associated ground</p>	<p>No potential for in-combination effects.</p> <p>An AASR that accompanied this planning application concluded that Stage 2 Appropriate Assessment is not required. Given the lack of significant effects arising from this project and the works taking place in the</p>

Application Number	County Council	Description	Potential For In-combination
		works. The project is 270m from proposed cable route Planning Application Boundary. Planning permission granted.	footprint of existing industrial estate no in-combination effects are predicted.
FW21A/0187 and FW23A/0031	Fingal County Council	Keelings Warehouse development. The proposed development comprises 1. construction of a warehouse unit including ancillary office space, staff facilities and associated development. 2. provision of a new vehicular, pedestrian and cyclist entrance off the Food Central Access Road, internal roadways; and car park and all other ancillary works. The project is 220m from proposed cable route Planning Application Boundary. Planning permission granted.	Potential for in-combination effects. No AASR, however as this development is located in a significantly large area of functionally linked habitats, this development is likely to have in-combination effects with the Proposed Development from disturbance, habitat degradation and mortality increasing the level of stress on QI species.
FW22A/0098	Fingal County Council	Hollystown GAA Ground development: GAA grounds on the former Hollystown Golf Course lands development. The proposed development comprises 1. four floodlit GAA pitches with 1 x synthetic all weather pitch and 3 x sand-based grass pitches. 2. renovation and alteration of the former clubhouse. 3. the provision of a separate Indoor Training Facility. 4. the construction of a Spectator Stand. 5. Hurling wall with fenced in floodlit astro-turf hurling practice area. 5. Maintenance and storage building 6. Demolition of existing driving range and pro-shop shed. 7. Internal paths, roads, car parks. 8. Earthworks drainage infrastructure and attenuation, an ESB substation and switch room, retaining structures, signage, landscaping and all other associated site development works above and below ground level. The project is 182m from proposed cable route Planning Application Boundary. Planning permission granted.	Potential for in-combination effects. No AASR, however as this development is located in a significantly large area of functionally linked habitats, this development is likely to have in-combination effects with the Proposed Development from disturbance, habitat degradation and mortality increasing the level of stress on QI species.
FW22A/0136 and FW23A/0161	Fingal County Council	Keelings Temperature-controlled Warehouse development: The proposed development comprises 1. a new temperature-controlled warehouse incorporating ancillary offices and storage areas and staff facilities. 2. ESB substation and solar PV panels. 3. loading area with associated dock levellers. 4. hard and soft landscaping, boundary treatments, new vehicular entrance, controlled gate, car parking, bicycle parking, HGV parking spaces, trailer parking spaces, lighting, signage, and all associated site development works. The project is 80m from proposed cable route Planning Application Boundary. Planning permission granted.	Potential for in-combination effects. No AASR, however as this development is located in a significantly large area of functionally linked habitats, this development is likely to have in-combination effects with the Proposed Development from disturbance, habitat degradation and mortality increasing the level of stress on QI species.
FW22A/0167	Fingal County Council	Nexus Distribution Park development. The development will consist of 1. Five new office buildings and a management building within a business campus setting. 2. associated yard areas, trailer and truck parking together with car and bicycle parking spaces at surface level. 3. new pedestrian, bicycle and vehicular entrances including a new pedestrian and bicycle link to the R121, and internal pedestrian, bicycle and vehicular circulation. 4. associated landscaping, parkland area and public open space, boundary treatments, lighting, signage, CCTV; associated drainage, attenuation and services; and all associated construction compounds and site works. An Environmental Impact Assessment Report accompanies the planning application. The project is approximately 500m from the proposed cable route Planning Application Boundary. Planning permission granted.	Potential for in-combination effects. No AASR, however as this development is located in a significantly large area of functionally linked habitats, this development is likely to have in-combination effects with the Proposed Development from disturbance, habitat degradation and mortality increasing the level of stress on QI species.

Application Number	County Council	Description	Potential For In-combination
FW20A/0202 and FW22A/0179	Fingal County Council	Keelings Food processing Warehouse development. The development will comprise 1. the provision of a food processing warehouse facility. 2. an ancillary office building. 3. driver welfare facilities building. 4. a new vehicular entrance off the Food Central Access Road, internal roadways, traffic barriers, pedestrian access, car park, bicycle parking, hard and soft landscaping, signage and boundary treatments. 4. ESB substation and PV panels. 5. a diesel tank with two diesel pumps with a layby, weighbridge, waste storage area, lighting and associated site development works above and below ground. The project is approximately 215 m from the proposed cable route Planning Application Boundary. Planning permission and retention granted.	Potential for in-combination effects. No AASR, however as this development is located in a significantly large area of functionally linked habitats, this is likely to have in-combination effects with the Proposed Development from disturbance, habitat degradation and mortality increasing the level of stress on QI species.
FW22A/0201	Fingal County Council	Irishstown Solar Farm development. The development will comprise 1. the construction of a Solar Photovoltaic panels on ground mounted frames/support structures within existing field boundaries. 2. six transformer stations, inverters, three weather stations and all ancillary underground cabling and ducting. 3. internal site access tracks and new vehicular access from R121. 4. security fencing, CCTV structures, one storage container; landscaping including screen planting. 5. temporary construction compound and all associated site development works. The project is adjacent to the proposed cable route Planning Application Boundary. Planning permission granted.	Potential for in-combination effects. This planning application is accompanied by an NIS. In the absence of mitigation, it identified potential for LSEs from pollution to Malahide Estuary SAC and Malahide Estuary SPA. Therefore, there is potential for in-combination impacts to these European sites as the Proposed Development has potential to impact these sites via the same pathway.
FW23A/0036	Fingal County Council	Hollywoodrath House housing development. The development will comprise 1. A 96 home residential development of lands within the curtilage of Hollywoodrath House. 2. 192 car parking spaces and 62 bicycle parking spaces. 3. public open space, landscaping, trees, and boundary treatments. 4. public lighting, bin and cycle storage, ESB substation, foul drainage works along Ratoath Road. 5. all associated site infrastructure and engineering works necessary to facilitate the development. 6. Vehicular and pedestrian access is proposed via Gallanstown Road together with pedestrian access, including 2 new pedestrian crossings, at Ratoath Road. The project is adjacent to the proposed cable route Planning Application Boundary. Application under review.	Potential for in-combination effects. No AASR, however as this development is located in a significantly large area of functionally linked habitats, this development is likely to have in-combination effects with the Proposed Development from disturbance, habitat degradation and mortality increasing the level of stress on QI species.
FW23A/0191	Fingal County Council	Cherryhound Logistics/Warehouse Park development. The development will comprise 1. 12 logistics/warehouse buildings (c. 159,924 sq.m), each building will include an attached office building, associated yard areas, trailer and truck parking, and car and bicycle parking spaces at surface level. 2. ancillary facilities to include a campus management/community building with associated outdoor sports/amenity space, a retail/café unit. 3. 12 substations, internal pedestrian, bicycle and vehicular circulation roads, lanes and pathways. 4. primary access via the existing roundabout at Cherryhound-Tyrrelstown M2-M3 Link Road and secondary emergency access via R121. 5. new pedestrian/bicycle links to Hollywoodrath Drive, the R121 and lands to the northeast and the provision of a pedestrian crossing and bus shelter at Hollywoodrath Drive. 6. associated landscaping, public open space, boundary treatments, lighting, signage and CCTV. 7. associated drainage, attenuation and service connections. 8. and all associated temporary construction compounds and site works.	Potential for in-combination effects. No AASR, however as this development is located in a significantly large area of functionally linked habitats, this development along with other applications in this table is likely to have in-combination effects with the Proposed Development from disturbance, habitat degradation and mortality increasing the level of stress on QI species.

Application Number	County Council	Description	Potential For In-combination
		The project is adjacent to the proposed cable route Planning Application Boundary. Application under review.	
314232	An Bord Pleanala	TII – Dart+ West. Electrification and re-signalling of Maynooth and M3 Parkway Line, capacity enhancements at Connolly station, new Spencer Dock station, level crossing closures, new Dart depot west of Maynooth etc. Lodged for planning. No determination as of yet. Approximately 0.3 km from proposed cable route Planning Application Boundary. Initially proposed to commence construction in the second half of 2023 (subject to planning approval) but planning is yet to be granted. A 47 month construction programme indicated and there is therefore potential for Construction Phases to overlap. Operational Phases will coincide.	Potential for in-combination effects. Considering the nature, scale and location of this development, there is potential for in-combination impacts if Construction Phases were to overlap which are required to be further assessed.
317121	An Bord Pleanala	NTA – BusConnects - Swords to City Centre Core Bus Corridor Scheme. Overlaps with the proposed cable route Planning Application Boundary at the R132 Regional Road Lodged for planning. No determination as of yet. Proposed to deliver the BusConnects schemes over the period 2023 to 2028 (subject to planning approval), with a 36 month construction programme indicated. Potential for Construction Phases to overlap. Operational Phases will coincide.	Potential for in-combination effects. Considering the nature, scale and location of this development, there is potential for in-combination impacts if Construction Phases were to overlap which are required to be further assessed.
312060 / F21A/0401	An Bord Pleanala / Fingal County Council	Gannon Properties - Residential development at Belcamp Hall, Malahide Road, Dublin 17. Located approximately 1km from Planning Application Boundary at Belcamp Substation.Planning permitted. Construction timeline for other development unknown and there is therefore the potential for Construction Phases to overlap. Operational Phases will coincide.	Potential for in-combination effects. Considering the nature, scale and location of this development, there is potential for in-combination impacts if Construction Phases were to overlap which are required to be further assessed.
Exempted Development	Exempted Development	EirGrid CP0869 Maynooth - Woodland 220kV Line Uprate Overlaps with the Proposed Development at Woodland Substation Planning Application Boundary. Construction commenced in 2021 and is due to be completed by 2024.	No potential for in-combination effects. It is not likely that Construction Phases will overlap, but Operational Phases will coincide. Considering the nature, scale and location of this development, there is no potential for Operational Phase to result in in-combination impacts with the Proposed Development.
2360296	Meath County Council	EirGrid CP1235 Louth - Woodland 220 kV Uprate. Overlaps with the Proposed Development at Woodland Substation Planning Application Boundary Status of the project is permitted. Construction due to commence in 2025 and be complete by 2029. Exact timeline for this development is unknown. Potential for Construction Phases to overlap. Operational Phases will coincide.	No potential for in-combination effects. Considering the nature, scale and location of this project (i.e., uprating an existing overhead line), there is no potential for in-combination impacts to occur.
N/A	N/A	EirGrid	Potential for in-combination effects.

Application Number	County Council	Description	Potential For In-combination
Future Planned Project as part of the TDP 2023 - 2032		CP1241 Belcamp Bulk Supply Transfer. Project will overlap with the Proposed Development at Belcamp Substation Planning Application Boundary. Timeline for this development unknown. Potential for Construction Phases to overlap. Operational Phases will coincide.	Considering the nature, scale and location of this development, there is potential for the Construction and Operational Phase to result in in-combination impacts with the Proposed Development.
314169 / F22A/0136	An Bord Pleanala / Fingal County Council	Gerard Gannon Properties Construction of 40 residential units in one block, including a childcare facility and café at Belcamp Hall, Malahide Road, Dublin 17. Project is 695m from Planning Application Boundary at Belcamp Substation. Planning application granted. Timeline for project. Potential for Construction Phases to overlap. Operational Phases will coincide.	Potential for in-combination effects. Considering the nature, scale and location of this development, there is potential for in-combination impacts if Construction Phases were to overlap which are required to be further assessed.
303687	An Bord Pleanala	Amazon Data Services Ireland Ltd. Provision of a double circuit 110kV underground transmission line between the Belcamp 220kV and 110kV substation and the Darndale 110kV substation covering a distance of approximately two kilometres. The project overlaps with the Proposed Development at Belcamp Substation. Planning application granted. Timeline for project unknown. other development unknown. Construction works, testing and reinstatement will take approximately 19 weeks. Limited potential for Construction Phases to overlap. Operational Phases will coincide.	No potential for in-combination effects. Considering the nature, scale and location of this development, there is no potential for the Construction and Operational Phase to result in-combination impacts with the Proposed Development.
308130	An Bord Pleanala	Enginenode Limited 220kV substation with 2 underground transmission cables between Pace and Bracetown. Timeline for other development unknown. Potential for Construction Phases to overlap. Operational Phases will coincide. The project is 3m from proposed cable route Planning Application Boundary. Planning permission granted.	Potential for in-combination effects. Considering the nature, scale and location of this development, there is potential for in-combination impacts if Construction Phases were to overlap which are required to be further assessed.
309833 / FW21A/0003	An Bord Pleanala / Fingal County Council	Montague Ventures Limited Residential development on site of c.1.7 hectares consisting of construction of 52 no. residential units, refurbishment of existing former barracks building on site, carparking spaces, bicycle parking spaces and all associated site works. The project is 237m from proposed cable route Planning Application Boundary. Planning permission granted. Timeline for other development unknown. Potential for Construction Phases to overlap. Operational Phases will coincide.	Potential for in-combination effects. Considering the nature, scale and location of this development, there is potential for in-combination impacts if Construction Phases were to overlap which are required to be further assessed.
312271	An Bord Pleanala	Glenveagh Homes Limited Demolition of an existing shed, construction of 548 no. residential units (401 no. houses, 147 no. apartments), 2 no. creches and associated site works.	Potential for in-combination effects. Considering the nature, scale and location of this development, there is potential for in-

Application Number	County Council	Description	Potential For In-combination
		The project is 184 m from proposed cable route Planning Application Boundary. Planning permission granted. Timeline for other development unknown. Construction is estimated to take approximately 36 months. Potential for Construction Phases to overlap. Operational Phases will coincide.	combination impacts if Construction Phases were to overlap which are required to be further assessed.
314894	An Bord Pleanala	Kilshane Energy Ltd. Proposed development of a 220kV Gas Insulated Switchgear (GIS) substation on lands at Kilshane Road, and an underground 220kV transmission line connection to the existing Cruiserath 220kV substation. The project is 557m from proposed cable route Planning Application Boundary. Planning permission granted. Timeline for other development unknown. Potential for Construction Phases to overlap. Operational Phases will coincide.	Potential for in-combination effects. Considering the nature, scale and location of this development, there is potential for in-combination impacts if Construction Phases were to overlap which are required to be further assessed.
F21A/0147 / F23A/0006	Fingal County Council	Genvest ULC. 2 no single storey light industrial buildings (total floor area of 3,333 sq.m) accommodating 3 units including ancillary office space at site west of Stockhole Lane/Clonshaugh Road, Clonshaugh, Co. Dublin. The project is 121 m from proposed cable route Planning Application Boundary. Planning permission granted. Timeline for other development unknown. Potential for Construction Phases to overlap. Operational Phases will coincide.	Potential for in-combination effects. Considering the nature, scale and location of this development, there is potential for in-combination impacts if Construction Phases were to overlap which are required to be further assessed.
F21A/0681 /304/1/22	Fingal County Council / Dublin City Council	Mayne Stability Limited Development of access to the Synchronous Compensator Development (Grid Stabilisation Facility) on the site of a c 0.94 ha. at lands south of Belcamp 220KV substation, Belcamp Dublin 17. The project is 4m from Belcamp Substation Planning Application Boundary. Planning permission granted. Timeline for other development unknown. Construction Phase is estimated to take approximately 12 months. Potential for Construction Phases to overlap. Operational Phases will coincide.	Potential for in-combination effects. Considering the nature, scale and location of this development, there is potential for in-combination impacts if Construction Phases were to overlap which are required to be further assessed.
FW19A/0177	Fingal County Council	ESB Engineering & Major Projects Proposed underground cable route originating from the existing Macetown ESB station (on Damastown Avenue in the townland of Macetown Middle) running in an easterly direction along Damastown Avenue and the R121 (in the townlands of Macetown Middle, Macetown South, Tyrrelstown, Cruiserath and Buzzardstown), to a permitted medium voltage (MV) substation located within a permitted data storage facility in the townlands of Cruiserath and Tyrrelstown. The project is 1km from the proposed cable route Planning Application Boundary. Planning permission granted. Timeline for other development unknown. Construction works, testing and reinstatement will take approximately 19 weeks. Potential for Construction Phases to overlap. Operational Phases will coincide.	Potential for in-combination effects. Considering the nature, scale and location of this development, there is potential for in-combination impacts if Construction Phases were to overlap which are required to be further assessed.
F18A/0306	Fingal County Council	Clarke Family Partnership	Potential for in-combination effects.

Application Number	County Council	Description	Potential For In-combination
		<p>Permission for the construction of 36 residential units consisting of 30 two storey houses (23 three bedroom type, 7 four bedroom type) and 6 number two bedroom apartments in a three storey block, with ancillary open spaces, boundary treatment and site works at Fosterstown North.</p> <p>The project is 1km from proposed cable route Planning Application Boundary. Planning permission granted. Timeline for other development unknown. Potential for Construction Phases to overlap. Operational Phases will coincide.</p>	<p>Considering the nature, scale and location of this development, there is potential for in-combination impacts if Construction Phases were to overlap which are required to be further assessed.</p>
FW22A/0156	Fingal County Council	<p>Earlstand Corporation Unlimited Company</p> <p>Construction of 6 no. warehouses/logistics units including ancillary office/administration use and entrance/reception areas over two levels (Units 1-6) with a combined total floor gross area (GFA) of 50,934 sq.m at Mooretown and Northwest Logistics Park, Ballycoolin, Dublin 15.</p> <p>The project is 1km from the proposed cable route Planning Application Boundary. Planning permission granted. Timeline for other development unknown. Potential for Construction Phases to overlap. Operational Phases will coincide.</p>	<p>Potential for in-combination effects.</p> <p>Considering the nature, scale and location of this development, there is potential for in-combination impacts if Construction Phases were to overlap which are required to be further assessed.</p>
F22A/0687	Fingal County Council	<p>Clondev Properties Limited</p> <p>The development will consist of 1. Demolition of existing residential dwelling Hollytree House (c. 449.2 sqm). 2. Construction of 85 no. residential apartments (35 no. 1-bed, 37 no. 2-bed units and 13 no. 3 bed units) within a 5 - 8 no. storey (over undercroft) building, with all apartments served by private terrace or balcony.</p> <p>The project is 1km from proposed cable route Planning Application Boundary. Planning permission granted. Timeline for other development unknown. Potential for Construction Phases to overlap. Operational Phases will coincide.</p>	<p>Potential for in-combination effects.</p> <p>Considering the nature, scale and location of this development, there is potential for in-combination impacts if Construction Phases were to overlap which are required to be further assessed.</p>
4367/19	Dublin City Council	<p>The Electricity Supply Board (ESB)</p> <p>200m long medium/low voltage (MV/LV) underground cable (UGC), to be installed in underground cable ducting in a c. 1m wide trench of depth c. 1m within an area of c.200sq.m., connecting the existing ESB network within the former Diamond Innovations site to the existing ESB Darndale substation.</p> <p>The project is 1km from Belcamp Substation Planning Application Boundary. Planning permission granted. Timeline for other development unknown. Potential for Construction Phases to overlap. Operational Phases will coincide.</p>	<p>Potential for in-combination effects.</p> <p>Considering the nature, scale and location of this development, there is potential for in-combination impacts if Construction Phases were to overlap which are required to be further assessed.</p>
RA170873 / 23787	Meath County Council	<p>South Meath Solar Farm Limited</p> <p>Solar farm including photovoltaic panels on ground mounted frames, inverter stations, 1 No. 110KV 4 Bay Electrical Substation at a site in the townlands of Vesingstown, Polleban and Harlockstown, Dunboynne, County Meath.</p> <p>The project is 660m from the proposed cable route Planning Application Boundary. Planning permission granted. Timeline for other development unknown. Potential for Construction Phases to overlap. Operational Phases will coincide.</p>	<p>Potential for in-combination effects.</p> <p>Considering the nature, scale and location of this development, there is potential for in-combination impacts if Construction Phases were to overlap which are required to be further assessed.</p>
N/A	N/A	Uisce Éireann	No potential for in-combination effects.

Application Number	County Council	Description	Potential For In-combination
		<p>Trunk Water Mains Replacement – construction of a new trunk watermain to serve parts of Dublin North City and North County Dublin.</p> <p>Within the Planning Application Boundary for the proposed cable route along Kilreesk Road (north-west of Dublin Airport). Project in progress. Construction Phases not likely to overlap as this project is nearing completion. Operational Phases will coincide.</p>	<p>Considering the nature, scale and location of this development, there is no potential for Operational Phase to result in in-combination impacts with the Proposed Development.</p>
N/A	N/A	<p>NTA</p> <p>Navan Rail Line Project. It is proposed to extend the rail system from the M3 Parkway terminus station (just west of Dunboyne) to Navan town, serving Dunshaughlin and Kilmessan along its route.</p> <p>The project is 225m from proposed cable route Planning Application Boundary. Option selection stage. The Navan Rail Line Project is listed for delivery in the medium-term category under the Greater Dublin Area Transport Strategy 2022 – 2042. Projects under this category are likely to be delivered between 2031 and 2036.</p> <p>There is therefore no potential for the Construction Phases to overlap. The Operational Phases will coincide.</p>	<p>No potential for in-combination effects.</p> <p>Considering the nature, scale and location of this development, there is no potential for Operational Phase to result in in-combination impacts with the Proposed Development.</p>

5.3.1 Conclusions of In-combination Effects

In light of the information presented in Table 5.2 there is potential for in-combination effects to undermine the integrity of 14 European sites: Malahide Estuary SAC, Baldoyle Bay SAC, Malahide Estuary SPA, Baldoyle Bay SPA, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, North-west Irish Sea SPA, Rogerstown Estuary SPA, Ireland's Eye SPA, Lambay Island SPA, Skerries Islands SPA, River Nanny Estuary and Shore SPA, Boyne Estuary SPA, and Dundalk Bay SPA. The cumulative impact from the Proposed Development and the other plans and projects in its vicinity may give rise to these effects. Further assessment is needed on the potential for in-combination effects on the aforementioned European sites.

6. Screening Statement and Conclusion

The Proposed Development is not connected with, or necessary to, the management of any European site(s).

This AA Screening Report presents the objective scientific information required to inform An Bord Pleanála's screening assessment of the Proposed Development on European sites.

The conclusion of the Screening for AA is that in the absence of mitigation measures it cannot be excluded, on the basis of scientific evidence, that the Proposed Development, individually or in-combination with other plans or projects, will have a significant effect on the following 14 European sites: Malahide Estuary SAC, Baldoyle Bay SAC, Malahide Estuary SPA, Baldoyle Bay SPA, North-west Irish Sea SPA, North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Rogerstown Estuary SPA, Ireland's Eye SPA, Lambay Island SPA, Skerries Islands SPA, River Nanny Estuary and Shore SPA, Boyne Estuary SPA and Dundalk Bay SPA.

It is therefore recommended that the Proposed Development is progressed to Stage 2 AA which will comprise a detailed examination of effects on the integrity of these European sites. Detailed information to inform the AA for the Proposed Development will be presented in an NIS which will be submitted to enable An Bord Pleanála, the competent authority, to undertake an AA in respect of the Proposed Development.

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Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (The Habitats Directive).

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S.I. No. 113/2022 - European Union Good Agricultural Practice for Protection of Waters (Amendment) Regulations.

Appendix A. Fossitt Habitat Codes

Broad Habitat Group	Fossitt Habitat Code	Fossitt Habitat Name
Water features	FL8	Other artificial lakes and ponds
	FW2	Depositing lowland rivers
	FW4	Drainage ditches
Cultivated and built land	BC1	Arable crops
	BC2	Horticultural land
	BC3	Tilled land
	BC4	Flower beds and borders
	BL2	Earth banks
	BL3	Building or Artificial
Exposed rock / disturbed ground	ED2	Spoil and bare ground
	ED3	Recolonising bare ground
Grassland and marsh	GA1	Improved agricultural grassland
	GA2	Amenity grassland
	GM1	Marsh
	GS1	Dry calcareous and neutral grassland
	GS2	Dry meadows and grassy verges
	GS4	Wet grassland
Woodland and scrub	WD1	(Mixed) broadleaved woodland
	WD2	Mixed broadleaved / conifer woodland
	WD4	Conifer plantation
	WD5	Scattered trees and parkland
	WL1	Hedgerows
	WL2	Treeline
	WN5	Riparian woodland
	WS1	Scrub
	WS2	Immature woodland
	WS3	Ornamental / non-native shrub
	WS5	Recently-felled woodland

Appendix B. Figures

Figure 1

Legend

- Planning Application Boundary (PAB)
- Proposed Cable Route
- Special Protection Areas (SPA)



0	Mar 2024	Final	SMD	PB	PB	GS
Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd

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Figure 1 - Special Protection Areas

Drawing Status

FINAL

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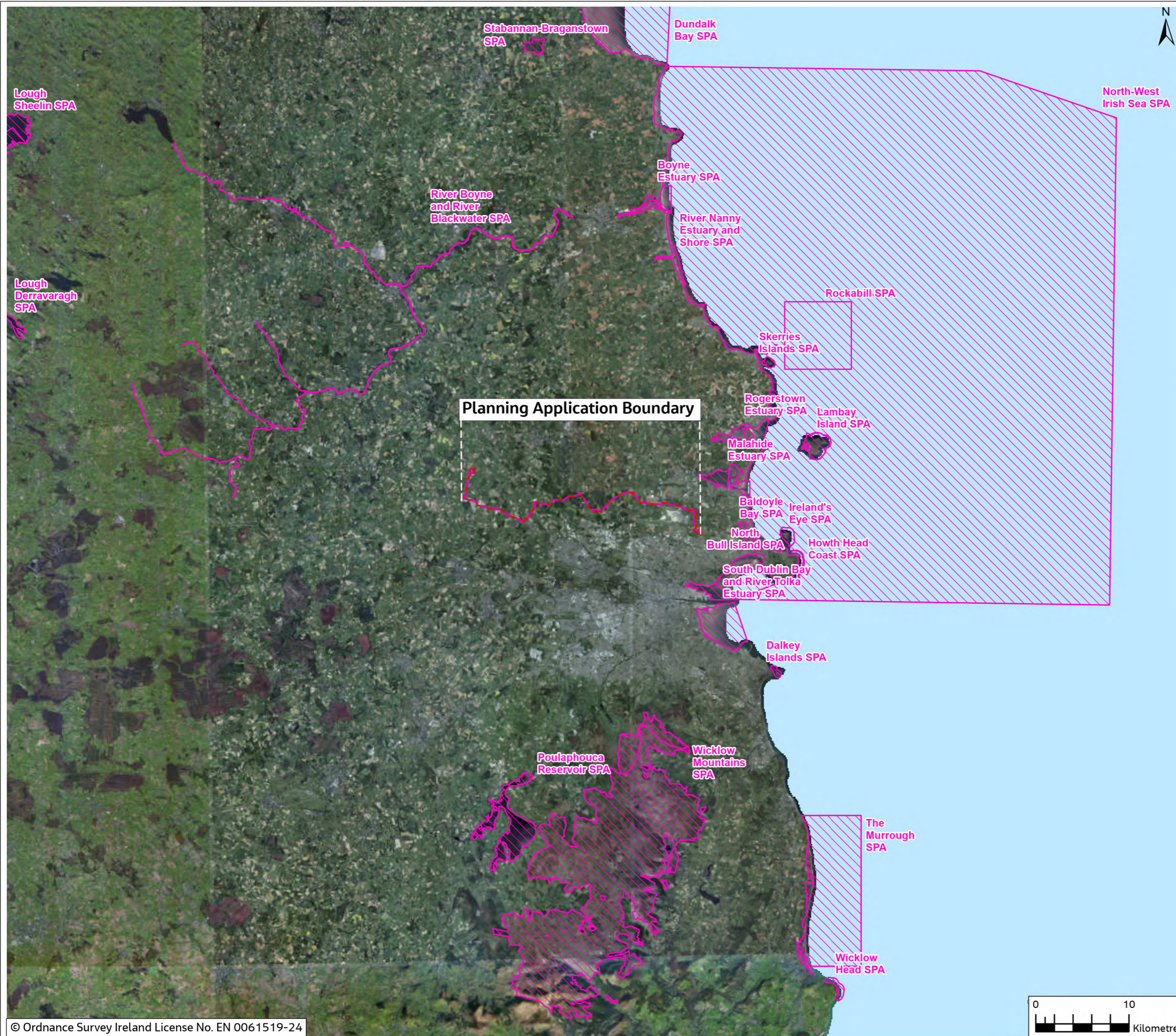


Figure 2

Legend

- Planning Application Boundary (PAB)
- Proposed Cable Route
- Special Area of Conservation (SAC)



0	Mar 2024	Final	SMD	PB	PB	GS
Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd

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Project
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Drawing Title
Figure 2 - Special Areas of Conservation

Drawing Status
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