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**Attachment 4.3 Combined Appropriate Assessment Screening Report
and Natura Impact Statement**
28/7/2026

PUBLIC



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1 Introduction

1.1 Background

This combined Appropriate Assessment Screening (hereafter referred to as 'AAS' or 'AA Screening') Report and Natura Impact Statement (NIS) has been prepared by WSP Consulting Ireland Ltd (WSP) to support an application for a Marine Usage Licence (MUL) to the Maritime Area Regulatory Authority (MARA). The proposed works for which the MUL is sought are site investigation works required to collect geotechnical data from the subsurface of the bed of the River Liffey that will be used to inform the detailed design of the section of the MetroLink Project¹ alignment located under the River Liffey. These proposed site investigation works are hereafter referred to as the 'Proposed Project'. The Proposed Project is described in Section 3.

In accordance with European Council Directive 92/43/EEC of 21 May 1992 (as amended) on the conservation of natural habitats and of wild flora and fauna (the 'Habitats Directive'), the Planning Authority is required to undertake an AA Screening for Appropriate Assessment, to determine whether the Proposed Project will have any 'likely significant effects' (hereafter abbreviated to 'LSEs') upon European sites, either alone, or in combination with other plans or projects.

'European sites' consist of Special Areas of Conservation (SACs) designated for habitats and species of community importance, and Special Protection Areas (SPAs) designated for birds. The habitats and species for which European sites are designated are termed 'Qualifying Interests'².

The process of completing the designation of SACs and SPAs is ongoing in Ireland. Until such time as this process is completed, candidate SACs (cSACs) and proposed SPAs (pSPAs) have the same protection as SACs and SPAs. For projects requiring planning permission, the requirement for AAS, and AA, if required, is transposed into Irish law through Part XAB of the Planning and Development Act 2000 (as amended) ('The Planning Acts'), and the Planning and Development Regulations 2001 (as amended). Section 177U(1) of The Planning Acts places a duty upon 'Competent Authorities' when discharging their consenting

¹ An Coimisiún Pleanála (previously An Bord Pleanála) has granted approval for the Railway Order ("RO") for the MetroLink project pursuant to Section 43 (2) (a) of the Transport (Railway Infrastructure) Act 2001. The RO authorises Transport Infrastructure Ireland (TII) to carry out railway works and all works necessary to enable the construction, operation, maintenance and improvement of the metro, including the construction of a fully segregated and automated metro, mostly underground, Estuary through Swords, Dublin Airport, Ballymun, Glasnevin and City Centre to Charlemont. Details for the wider Metrolink Project are available on the dedicated project website: <https://www.metrolinkro.ie/>

² The specific named bird species for which a SPA is selected are called the 'Special Conservation Interests' (SCIs). However, in practice, the common terminology of Qualifying Interests (QIs) applies also to SCIs (and is used in this document for simplicity) as per OPR, 2021.

responsibilities, to determine if there are LSEs upon European sites arising from projects or plans. The Competent Authority's AA Screening determination may be informed by this report.

Should AAS identify LSEs (or should it not be possible to exclude such effects based on objective evidence and in view of best scientific knowledge) it will be necessary for the Competent Authority to carry out AA to determine if the unauthorised activity associated with the project or plan will have adverse effect(s) on the integrity of a European Site, either alone or in combination with other plans or projects. In line with Section 177V of the Planning Acts, AA determination would be informed by a Natura Impact Statement, which would determine whether those LSEs may have an adverse effect on the integrity of any European site, in light of its Conservation Objectives.

1.2 Contributors to this Report

This report has been prepared by Steven Tooher ACIEEM and by Luis Iemma CEcol MCIEEM. Steven and Luis have 10 years' and 15 years' experience respectively in preparing AA Screenings and NIS reports for a range of projects in the Republic of Ireland.

1.3 Legislative Context

European Union Habitats Directive

Article 6(3) of the Habitats Directive sets out the requirement for AA of plans or projects which may adversely affect the integrity of a European site (SPAs, SACs, pSPAs, and cSACs) based on their connectivity to the Proposed Project):

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 [...], 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.

Planning And Development Act

The Habitats Directive was transposed into Irish law in a planning context, through Part XAB of the Planning and Development Act 2000 (as amended). This sets out the circumstances under which AA is required, the stages of that assessment which must be undertaken, as summarised above, and the responsibilities of the Competent Authority in considering whether to approve consent for proposed plans or projects.

Section 177U(1) of the Act states that:

A screening for appropriate assessment of a draft Land use plan or application for consent for Development shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that Land use plan or Development, individually or in combination with another plan or project is likely to have a significant effect on the European site.

Section 177(4) of the Act states that:

The competent authority shall determine that an appropriate assessment of a draft Land use plan or a 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 Development, individually or in combination with other plans or projects, will have a significant effect on a European site.

Where LSEs upon a European site are predicted, or cannot be ruled out, it is the responsibility of the Competent Authority to undertake AA under Article 6(3) of the Habitats Directive, informed through an NIS, to determine whether the proposed plan in combination with any other plan or project would adversely affect the integrity of a European site in light of its Conservation Objectives.

Where AA concludes there will be adverse effects on the integrity of a European site, the Competent Authority may only agree to the plan or project if:

- It is evidenced that there are no alternative solutions (Stage 3); and
- There are imperative reasons of overriding public interest for the advancement of the project (Stage 4), and appropriate compensation measures have been identified.

In October 2024, the Planning and Development Act 2024 was signed into law.

Implementation is proceeding under the Planning and Development Act 2024

Implementation Plan published in March 2025, using a phased commencement approach.

The existing Planning and Development Act 2000 remains in effect for provisions not yet commenced.

Sections of the 2024 Act have been grouped into blocks (A1, A2, B, C, and D). Block B commenced on 2 October 2025 under Commencement Order No. 4 (S.I. No. 452/2025), bringing into effect:

- Part 3 (Plans, Policies and Related Matters) – Chapters 1 to 4.
- Part 6 (Environmental Assessment) – Chapters 1 and 2 (including preliminary provisions and Appropriate Assessment).
- Related enforcement and procedural provisions, with corresponding repeals in the 2000 Act.

Blocks C and D, which include remaining environmental assessment provisions (e.g., SEA and EIA) and development consent measures, have not yet commenced as of the time of writing

(9 December 2025). The phased rollout continues, and the 2000 Act applies where relevant until full implementation³.

1.4 Stages of Appropriate Assessment

An AA is a multi-stage process as described below. This report covers Stage 1 and Stage 2. Stage 1 involves screening for LSEs on European sites. Stage 2 (AA) involves the assessment of those LSEs to determine if they will adversely affect the integrity of any European sites. AA is carried out by the Competent Authority and is informed by the information contained in a NIS. A brief description of the legislative context is also provided in this section.

Guidance on Article 6 of the Habitats Directive (European Commission, EC 2018 and EC 2021) sets out the step wise approach which should be followed to enable Competent Authorities to discharge their duties under the Habitats Directive and provides further clarity on the interpretation of Articles 6 (3) and 6 (4). The process used is usually summarised in four distinct stages of assessment.

- Stage 1 (AA 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 or in-combination with other plans or projects, could have significant effects on a European site in view of the Existing Project's conservation objectives. 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 need to apply the precautionary principle in making any key decisions in relation to the tests of AA has been confirmed by the case law of the Court of Justice of the European Union (CJEU). Plans or projects that have no appreciable effect on a European site may be excluded. The threshold at this first stage is a very low one and operates as a trigger to determine whether a Stage 2 AA must be undertaken by the Competent Authority on the implications of the Proposed Project for the conservation objectives of a European site. Therefore, where significant effects are likely, uncertain, or unknown at screening stage, a Stage 2 AA will be required.
- Stage 2 (NIS to inform AA) - Stage 2 is focused and detailed examination, analysis, and evaluation carried out by the Competent Authority of the implications of the plan or project, alone and in-combination with other plans and projects, on the integrity of a European sites in view of that site's conservation objectives. Case law has established that such an AA, to be lawfully conducted, in summary:

³ Planning and Development Act 2024. Available at: <https://www.gov.ie/en/department-of-housing-local-government-and-heritage/publications/planning-and-development-act-2024/> (accessed 09 December 2025)

1. must identify, in the light of the best scientific knowledge in the field, all aspects of the Proposed Project which can, by itself or in combination with other plans or projects, affect the conservation objectives of the European site;
 2. must contain complete, precise, and definitive findings and conclusions and may not have lacunae or gaps; and
 3. may only include a determination that the Proposed Project 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 Stage 3 and, if necessary, Stage 4.
- Stage 3 - This stage of the process arises where adverse effects on the integrity of a European site cannot be excluded and examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the European site.
 - Stage 4 - Assessment where no alternative solutions exist and where adverse effects remain: an assessment of whether the Proposed Project is necessary for imperative reasons of overriding public interest and, if so, of the compensatory measures needed to maintain the overall coherence of the network of European sites.

1.5 Guidance

This AA screening report and NIS have been informed by the following guidance:

- Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government (DoEHLG). Dublin. (DoEHLG, 2009).
- Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (European Commission, 2002) Communication from the Commission on the Precautionary Principle.
- CIEEM (2024) Guidelines for Ecological Impact Assessment (EclA) in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3 updated September 2024.
- European Commission (2002) Assessment of plans and projects significantly affecting European sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.
- European Commission & D.G. Environment (2013) Interpretation Manual of European

Union Habitats EUR28.Nature ENV B.

- Fossitt, J. (2000) A Guide to Habitats in Ireland. Heritage Council.
- European Commission (2019) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.
- National Roads Authority (NRA) (2009) Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes.
- NPWS (2019). 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.
- NPWS (2008) The Status of EU Protected Habitats and Species in Ireland, National Parks and Wildlife Service (NPWS).
- Office of the Planning Regulator (OPR) (2021) Practice Note PN01: AA Screening for Development Management.
- Smith, G. F. et al. (2011) Best Practice and Guidance for Habitat Surveying and Mapping. Heritage Council.
- Scottish Natural Heritage (SNH) (2016). Assessing connectivity with Special Protection Areas (SPAs). Version 3 - June 2016.

2 Methodology

2.1 Desktop Study

2.1.1 Identification of Relevant European Sites

The OPR (2021) recommend that the scope of AA Screening should consider the following:

- Any European sites within or adjacent to the plan or project area;
- Any European sites within the likely Ecological Zone of Impact (EZoI) of the plan or project. 15 km is often the 'default' zone of influence, as recommended for plans by DoEHLG (2009) but for certain projects could be much less than that, in some cases less than 100 m, but this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects; and
- European sites that are more than 15 km from the plan or project area depending on the likely impacts of the plan or project, and the sensitivities of the ecological receptors, bearing in mind the precautionary principle (European Commission, 2000). For example:
 - In the case of sites with water dependent habitats or species, and a plan or project that could affect water quality or quantity, for example, it may be necessary to consider the full extent of the upstream and/or downstream catchment.
 - In the case that the plan or project area is located within or adjacent to habitat, which may be functionally linked to a European site⁴. For example, impacts on suitable foraging habitat up to 20 km outside the boundary of a SPA designated for pink-footed geese *Anser brachyrhynchus* and greylag geese *Anser anser* may be considered, based on the upper-range of their commuting distance (SNH, 2016).

For this AAS and NIS, a search for European sites within 15 km of the Proposed Project was undertaken. The search area was extended to 20 km for SPAs designated for greylag geese.

For clarity, the area in which European sites were searched for during a desktop exercise is referred to as the 'Search Area'. Later in the report (Section 5.2), Ecological Zones of

⁴ In the context of this report, the term 'functionally linked' refers to the role or 'function' that land or sea (which may be beyond the boundary of a European site) might fulfil in terms of ecologically supporting the populations for which the site was designated or classified. Such land is therefore 'connected' to the European site in question because it provides an important role in maintaining or restoring the population of qualifying species at favourable conservation status.

Influence are discussed in detail, after specific Qualifying Interests (QI) species and/or habitats have been identified as having connectivity with the Proposed Project.

2.1.2 Gathering QI Distribution Data

Based on the assessment of connectivity, data was collected on the distribution of qualifying habitats and species of European sites deemed to be connected to the Proposed Project.

Sources include:

- 2019 Article 17 Spatial Data (NPWS, 2019); and
- National Biodiversity Data Centre (NBDC, 2025).

2.2 Assessment of Likelihood of Significant Effects (AA Screening)

AA screening is carried out in accordance with the below steps:

1. Establish whether the plan or project is directly connected with or necessary for the management of a European site, in accordance with Article 6(3) of the Habitats Directive;
2. Identify any European sites within the Search Area, in accordance with the conclusions of the desktop exercises as presented in Section 2.1;
 - a. Exclude any European sites outside the Search Area;
3. Determine connectivity between the Proposed Project and each of the European sites within the Search Area, based on the ecology and distribution of their QIs;
4. Identify the impacts of the Proposed Project that may result in significant effects (from the Proposed Project in isolation) on relevant European site(s);
5. Where effects are identified but are not determined to be significant, assess whether significant effects may arise from the Proposed Project in combination with other plans/projects;
6. Determine the requirement of AA, based on whether significant effects are deemed likely, or possible (in accordance with the precautionary principle).

3 Overview of Project

3.1 Description of works

The Proposed Project comprises a geotechnical site investigation of the subsurface within the River Liffey between the Rosie Hackett Bridge and Butt Bridge. The geotechnical site investigation will consist of drilling three (3 No.) boreholes and associated sampling and testing. Full recovery of the boreholes is proposed. It is proposed that boreholes will be drilled to depths of between approximately 25 m and 30 m below the riverbed. The indicative locations of the boreholes are presented in Figure 3.1-1.

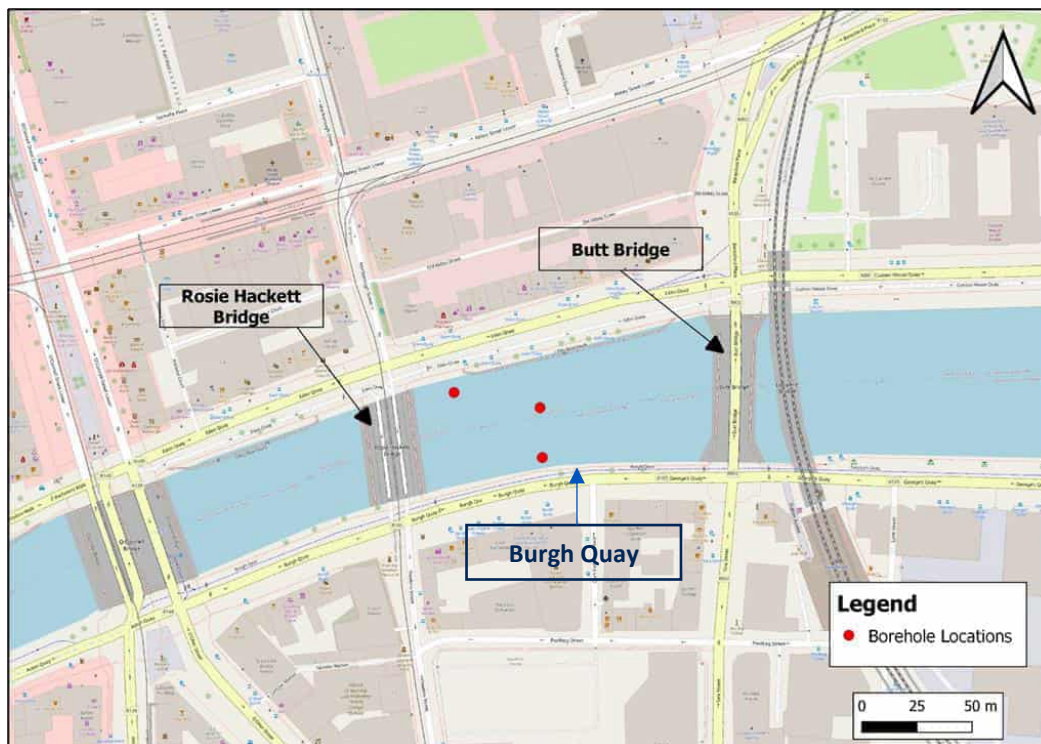


Figure 3.1-1 Geotechnical site investigation location

The investigation will be carried out from a floating jack-up barge positioned within the river channel. All equipment that will be used for the drilling work will be placed on a barge. All drilling works will be through the river into underlying sediment and rock.

River access will be via the section of Burgh Quay located between the Rosie Hackett Bridge and Butt Bridge. Burgh Quay is located on the south bank of the River Liffey and adjacent to regional roads R105/R138.

3.1.1 Mobilisation of Jack-up Barge and Drilling Equipment

The investigation will be carried out from a floating jack-up barge 'Causeway Giant 1' (See Figure 3.1-2 and Figure 3.1-3) which will be positioned within the river channel using a crane located on Burgh Quay. All equipment that will be used for the drilling work will be placed on the barge.



Figure 3.1-2 Causeway Giant 1

JACK-UP BARGE: CAUSEWAY GIANT 1

Delivered to site:	Road transportable; 8 loads in total (6 standard trailers, 2 trombone trailers)
Working Area:	18m x 12m available deck area
Applications:	Inshore and nearshore waters (typically up to 20-22m water depth depending on seabed material; can also be used in floating mode in up to 25m water depth). Working platform for a range of geotechnical investigation techniques, including sonic and rotary wireline drilling. Can also be used for both CPT operations and vibrocore sampling.
Add. Equipment:	Integrated moonpool, office/workshop unit, fixed ladder assembly

TECHNICAL DATA

Barge Size:	18m x 12m x 1.5m	Pontoon Weight (each):	13 ton
Spud Legs:	28m long; 762 mm o/d (25 mm wall)	Jacking Unit weight (each):	5 ton
Deck Load:	15 t/m ²	Leg/extension (each):	10 ton / 6 ton
Powerpack Engine:	Deutz F6L912 Aircooled	No. of Moonpools:	2 x 300mm
Hydraulic Oil Capacity:	280 litres	Deck Lifting Capacity:	80 ton

Figure 3.1-3 Specification data for the Causeway Giant 1 (Causeway Geotech Ltd).

3.1.2 Construction (drilling, in-situ analysis and core recovery)

The jack-up barge will deploy four legs to the riverbed to provide stability throughout the works. These legs are installed vertically and do not involve excavation or anchoring. The drilling rig and associated plant are powered by diesel engines, and where refuelling is required to take place on the barge, it will be carried out using jerry cans and plant nappies.

Drilling will be undertaken using a dual-purpose roto-sonic drilling rig (Eijkelpamp Fraste CRS XL140/170 Duo) mounted on the jack-up barge. All drilling works will be through the river into underlying sediment and rock and full recovery of the boreholes is proposed. It is proposed that boreholes will be drilled to depths of between approximately 25 m and 30 m below the riverbed. All boreholes will be appropriately decommissioned following completion of drilling and recovery of core.

Underwater noise emissions from the proposed site investigation works are expected to fall within the range typically associated with rotary and sonic drilling methods. Published literature indicates that sonic drilling operations generally produce underwater sound pressure levels (SPLs) in the region of 160-180 dB re 1 μ Pa @ 1 m, with peak levels rarely exceeding 185 dB re 1 μ Pa @ 1 m (e.g. Robinson et al., 2011; Nedwell et al., 2003). The associated sound exposure levels (SELs) are typically lower, in the region of 145–165 dB re 1 μ Pa².s @ 1 m, reflecting continuous but relatively moderate acoustic output of the equipment.

3.1.3 Demobilisation

Demobilisation of the barge will occur via Burgh Quay.

3.1.4 Standard Management of Environmental Emissions

The Proposed Project incorporates standard operational procedures and embedded environmental controls to safeguard water quality during site investigation operations. These controls are consistent with recognised industry guidance, including:

- NetRegs (2017) Guidance for Pollution Prevention (GPP) Series:
 - GPP 5 (Works and Maintenance in or near Water);
 - GPP 8 (Storage and Disposal of Waste Oils);
 - GPP 21 (Pollution Incident Response Planning); and
- CIRIA (2001) – Control of Water Pollution from Construction Sites. Guidance for Consultants and Contractors (C532).
- CIRIA (2006) Control of water pollution from linear construction projects - Technical guidance (C648);
- IFI (2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters;
- Murphy (2004). Requirements for the Protection of Fisheries Habitat During Construction and Development Works at River Sites. Eastern Regional Fisheries Board;
- O’Grady (2006). Channels and Challenges - The Enhancement of Salmonid Rivers. Central Fisheries Board;
- TII (2006). Guidelines for the crossing of watercourses during the construction of national road schemes.

Standard measures will include the following specific protocols:

- Daily visual inspections of all machinery and refuelling points to identify leaks/spills;
- Machinery will be certified and suitable for use in water;
- Refuelling (if necessary) will be carried out via jerry can over a spill containment vessel (e.g. plant nappy);
- Spill kits will be available at all times. Personnel will be trained in their use and briefed on their locations;
- Storage of fuels and lubricants will be in bunded containers on the barge;
- Borehole flushing water to be contained and not discharged directly to the watercourse without treatment or sediment settlement; and
- Waste arising from site investigation works (such as contaminated water/slurry) will be transported to an appropriately authorised waste facility.

3.2 Programme of Works

The programme of works will be dependent on the conditions applied to any road closures and any restrictions in working hours which may be imposed. Additionally, it will be dependent on weather conditions and any observations of marine mammals made during Marine Mammal Observer (MMO) monitoring. The MMO remit shall also include recording observations of otter where sightlines allow.

The works are predicted to be completed in between 10 to 21 days subject to weather conditions, site conditions, and any on-site coordination with relevant third parties (e.g. Dublin City Council, Inland Fisheries Ireland, National Parks and Wildlife Service) if required. A conservative indicative programme is set out in Table 3-1.

Table 3-1 Indicative programme

Activity	Indicative duration
Mobilisation from Burgh Quay	Nighttime closures of the quay over up to 7 nights are anticipated.
Construction (drilling, in-situ analysis and core recovery)	It is proposed that works will proceed on a 24/7 basis for up to 7 days.
Demobilisation from Burgh Quay	Nighttime closures of the quay over up to 7 nights are anticipated.

4 Results

4.1 Desktop Study

Identification of Relevant European Sites

Table 4-1 provides details of the QIs of each European site identified within the Search Area of the Proposed Project, the approximate distance and direction of each European site, and assesses whether there is potential connectivity⁵. The locations of these European sites in relation to the Proposed Project are shown in Figure 4.1-1.

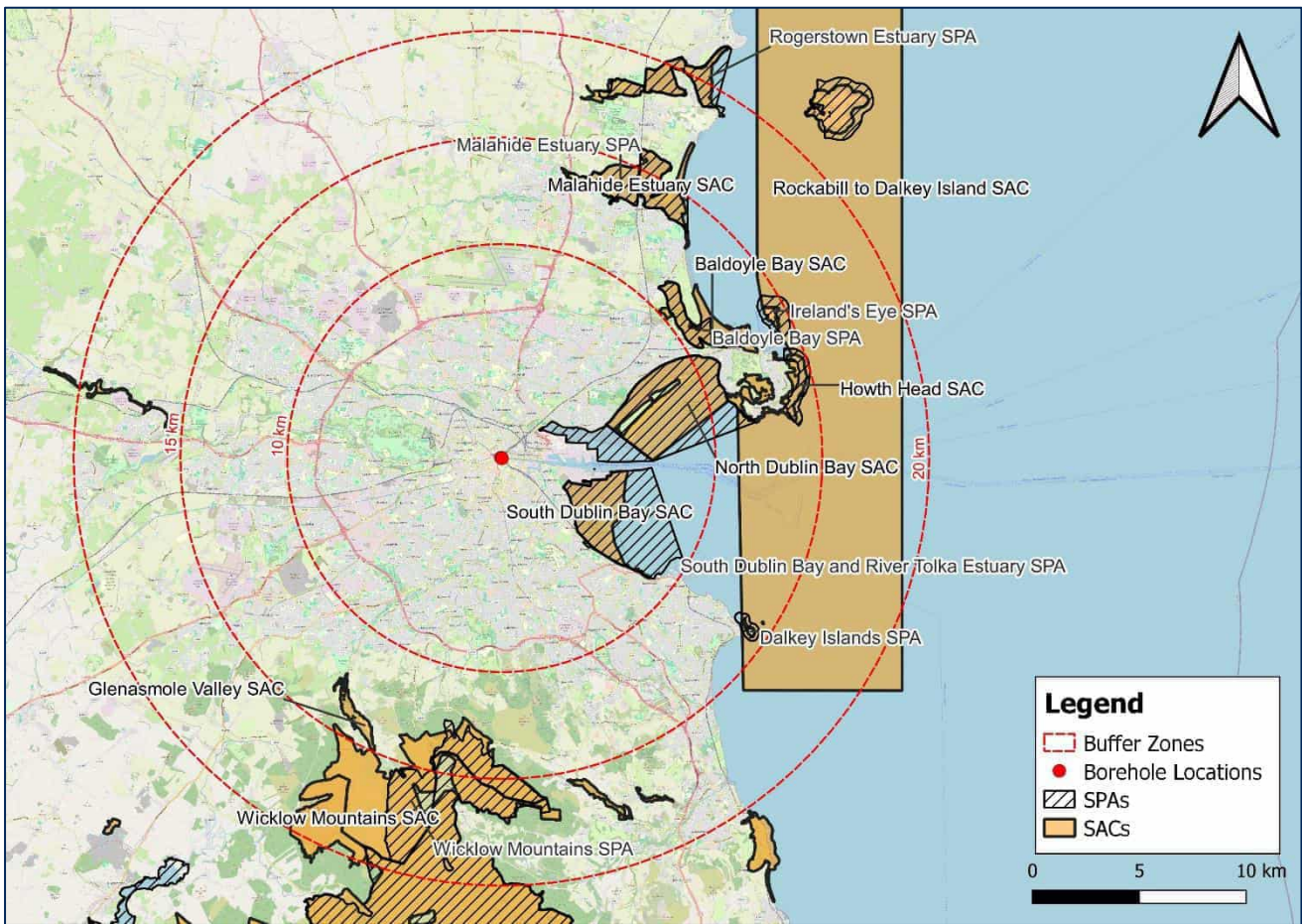


Figure 4.1-1 European sites within the Search Area of the Proposed Project

⁵ Information on designated sites was obtained from freely downloadable datasets from National Parks and Wildlife Service (NPWS). Available at: <https://www.npws.ie/protected-sites> (accessed June 2025).

Table 4-1 - European Sites Within the EZol

Site Name and Code	Qualifying Interests [Habitats/Birds Directive Code]	Distance from Project	Impact Pathways	Connectivity (Y/N)
004024 South Dublin Bay and River Tolka Estuary SPA	Species: 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] Habitats: Wetland and Waterbirds [A999]	2.2 km North East	The Site is connected hydrologically via the River Liffey to the Tolka Estuary, which extends north and east around the built lands comprising Dublin Port. Hydrological connectivity also exists with the 'ESB Dolphin' installed for nesting common and Arctic tern. There is hydrological connectivity with this SPA. The southern portion of this SPA (South Dublin Bay) is hydrologically separated from the Liffey/Tolka Estuary by the South Wall extending east to Poolbeg Lighthouse. Thereafter, riverine outflows from the Liffey and Tolka discharge into the Irish Sea. At this stage, the degree of dilution is such that, even under tidal conditions that may facilitate limited dispersal of riverine waters around the South Wall, any residual concentrations will be negligible. Of the QI species listed, only common tern is known to forage in rivers (NPWS, 2015a). There is functional connectivity with this SPA , for common tern specifically. Neither the River Liffey nor adjacent built land is identified as a roost or nesting resource for any QI species.	Y
000210 South	Habitats:	3.2 km	This SAC is hydrologically separated from the	N



Site Name and Code	Qualifying Interests [Habitats/Birds Directive Code]	Distance from Project	Impact Pathways	Connectivity (Y/N)
Dublin Bay SAC	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] <i>Salicornia</i> and other annuals colonising mud and sand [1310] Embryonic shifting dunes [2110]	South East	Liffey/Tolka Estuary by the South Wall extending east to Poolbeg Lighthouse. Thereafter, riverine outflows from the Liffey and Tolka discharge into the Irish Sea. At this stage, the degree of dilution is such that, even under tidal conditions that may facilitate limited dispersal of riverine waters around the South Wall, any residual concentrations will be negligible. Furthermore, the Proposed Project is limited to three small-scale boreholes and is not expected to generate significant quantities of suspended sediment or contaminants. Any minor emissions would be localised, temporary and subject to substantial dilution within the receiving environment. As such, hydrological connectivity between the Site and the SAC can be reasonably excluded. No hydrological connectivity. QIs are habitats only – no functional connectivity.	
000206 North Dublin Bay SAC	Habitats: Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] <i>Salicornia</i> and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>) [1330] Mediterranean salt meadows	5.3 km North East	This SAC is hydrologically separated from the Liffey/Tolka Estuary by the North Bull Wall extending east to North Bull Island Lighthouse. Thereafter, riverine outflows from the Liffey and Tolka discharge into the Irish Sea. At this stage, the degree of dilution is such that, even under tidal conditions that may facilitate limited dispersal of riverine waters around the North Bull Wall, any residual concentrations will be negligible. Furthermore, the Proposed Project is limited to three small-scale boreholes and is not expected to	N

Site Name and Code	Qualifying Interests [Habitats/Birds Directive Code]	Distance from Project	Impact Pathways	Connectivity (Y/N)
	<i>(Juncetalia maritimi)</i> [1410] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Humid dune slacks [2190] Species: Petalwort (<i>Petalophyllum ralfsii</i>) [1395]		generate significant quantities of suspended sediment or contaminants. Any minor emissions would be localised, temporary and subject to substantial dilution within the receiving environment. As such, hydrological connectivity between the Site and the SAC can be reasonably excluded. No hydrological connectivity. QIs are habitats only – no functional connectivity.	
004006 North Bull Island SPA	Species: 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] 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>)	5.3 km North East	This SPA is hydrologically separated from the Liffey/Tolka Estuary by the North Bull Wall extending east to North Bull Island Lighthouse. Thereafter, riverine outflows from the Liffey and Tolka discharge into the Irish Sea. At this stage, the degree of dilution is such that, even under tidal conditions that may facilitate limited dispersal of riverine waters around the North Bull Wall, any residual concentrations will be negligible. As such, hydrological connectivity between the Site and the SPA can be reasonably excluded. No hydrological connectivity. None of the QI species listed are known to forage in rivers (NPWS, 2015b). Neither the River Liffey nor adjacent built land is identified as a roost or nesting resource for any QI species.	N



Site Name and Code	Qualifying Interests [Habitats/Birds Directive Code]	Distance from Project	Impact Pathways	Connectivity (Y/N)
	[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] Shoveler (<i>Spatula clypeata</i>) [A857] Habitats: Wetland and Waterbirds [A999]		There is no functional connectivity with this SPA.	
000202 Howth Head SAC	Habitats: Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] European dry heaths [4030]	11 km North East	The QI habitats (cliffs and heath) are terrestrial habitats and are located above the high-water mark. No hydrological connectivity. QIs are habitats only – no functional connectivity.	N
004113 Howth Head Coast SPA	Species: Kittiwake (<i>Rissa tridactyla</i>) [A188]	13.5 km North East	Considering the distance from the Proposed Project, and the fact that the River Liffey discharges into the Irish Sea approximately 5.5 km from the SPA, dilution and diffusion of riverine discharge will be such that hydrological connectivity can be reasonably excluded. No hydrological connectivity. Kittiwakes are associated with marine habitats, favouring coastal/island cliffs as nesting locations, and nearby marine waters for foraging and other behaviours, such as courtship, preening and bathing	N

Site Name and Code	Qualifying Interests [Habitats/Birds Directive Code]	Distance from Project	Impact Pathways	Connectivity (Y/N)
			(NPWS, 2024a). Neither the River Liffey nor adjacent built land is identified as a foraging, roosting or nesting resource for Kittiwake. There is no functional connectivity with this SPA.	
000199 Baldoye Bay SAC	Habitats: Mudflats and sandflats not covered by seawater at low tide [1140] <i>Salicornia</i> and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]	10.2 km North East	No hydrological connectivity. QIs are habitats only – no functional connectivity.	N
004016 Baldoye Bay SPA	Species: 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>)	10.2 km North East	No hydrological connectivity. None of the QI species listed are known to forage in rivers (NPWS, 2013a). Neither the River Liffey nor adjacent built land is identified as a roost or nesting resource for any QI species. There is no functional connectivity with this SPA.	N



Site Name and Code	Qualifying Interests [Habitats/Birds Directive Code]	Distance from Project	Impact Pathways	Connectivity (Y/N)
	[A157] Habitats: Wetland and Waterbirds [A999]			
003000 Rockabill to Dalkey Island SAC	Habitats: Reefs [1170] Species: Harbour Porpoise (<i>Phocoena phocoena</i>) [1351]	11 km East	Considering the distance from the Proposed Project, and the fact that the River Liffey enters Dublin Bay approximately 4 km west of the SAC, there is no credible pathway by which the small-scale and temporary nature of the proposed works could influence the Qualifying Interests of the SAC via hydrological processes. Accordingly, hydrological connectivity can be reasonably excluded. No hydrological connectivity. Whilst optimal habitat for harbour porpoise is restricted to pelagic and coastal waters, sightings of cetaceans in the River Liffey in Dublin city centre have been known to occur occasionally. There is functional connectivity with this SAC, for harbour porpoise specifically.	Y
002193 Ireland's Eye SAC	Habitats: Perennial vegetation of stony banks [1220] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	14.1 km North East	No hydrological connectivity. QIs are habitats only – no functional connectivity.	N
004117 Ireland's	Species:	14.1 km	No hydrological connectivity.	N

Site Name and Code	Qualifying Interests [Habitats/Birds Directive Code]	Distance from Project	Impact Pathways	Connectivity (Y/N)
Eye 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]	North East	None of the QI species listed are known to forage in rivers (NPWS, 2024b). Neither the River Liffey nor adjacent built land is identified as a roost or nesting resource for any QI species. There is no functional connectivity with this SPA.	
000205 Malahide Estuary SAC	Habitats: Mudflats and sandflats not covered by seawater at low tide [1140] <i>Salicornia</i> 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]	13.4 km North	No hydrological connectivity. QIs are habitats only – no functional connectivity.	N
004025 Malahide Estuary SPA	Species: Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]	13.4 km North	No hydrological connectivity. In accordance with guidance from SNH (2016), and DAFM (2020), the Proposed Project is outside the core foraging range for all QI species. Neither the River Liffey nor adjacent built land is	N

Site Name and Code	Qualifying Interests [Habitats/Birds Directive Code]	Distance from Project	Impact Pathways	Connectivity (Y/N)
	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] Habitats: Wetland and Waterbirds [A999]		identified as a roost, foraging or nesting resource for any QI species (NPWS, 2013b). There is no functional connectivity with this SPA.	
002122 Wicklow Mountains SAC	Habitats: Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) [3110] Natural dystrophic lakes and ponds [3160] Northern Atlantic wet heaths with	12.4 km South	The SAC is located 18 km upstream of the Proposed Project along the shortest fluvial route. No hydrological connectivity. The fluvial distance is outside the zone of influence for SAC populations of otter, in accordance with the upper limit of male otter territories in Ireland (Reid <i>et al.</i> , 2013).	N

Site Name and Code	Qualifying Interests [Habitats/Birds Directive Code]	Distance from Project	Impact Pathways	Connectivity (Y/N)
	<i>Erica tetralix</i> [4010] European dry heaths [4030] Alpine and Boreal heaths [4060] Calaminarian grasslands of the <i>Violetalia calaminariae</i> [6130] Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230] Blanket bogs (* if active bog) [7130] Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>) [8110] Calcareous rocky slopes with chasmophytic vegetation [8210] Siliceous rocky slopes with chasmophytic vegetation [8220] Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] Species: Otter (<i>Lutra lutra</i>) [1355]		There is no functional connectivity.	
004040 Wicklow Mountains SPA	Merlin (<i>Falco columbarius</i>) [A098] Peregrine (<i>Falco peregrinus</i>) [A103]	12.8 km South	The SPA is located 18 km upstream of the Proposed Project along the shortest fluvial route. No hydrological connectivity. In accordance with guidance from SNH (2016), and DAFM (2020), the Proposed Project is outside the core foraging range for all QI species.	N



Site Name and Code	Qualifying Interests [Habitats/Birds Directive Code]	Distance from Project	Impact Pathways	Connectivity (Y/N)
			Neither the River Liffey nor adjacent built land is identified as a roost, foraging or nesting resource for any QI species (NPWS, 2024c). There is no functional connectivity with this SPA.	
001209 Glenasmole Valley SAC	Habitats: Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (*important orchid sites) [6210] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410] Petrifying springs with tufa formation (<i>Cratoneurion</i>) [7220]	13.2 km South West	The SAC is located 18 km upstream of the Proposed Project along the shortest fluvial route. No hydrological connectivity. QIs are habitats only – no functional connectivity.	N
004015 Rogerstown Estuary SPA	Species: Greylag Goose (<i>Anser anser</i>) [A043] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Oystercatcher (<i>Haematopus ostralegus</i>) [A130]	17.5 km North	No hydrological connectivity. In accordance with guidance from SNH (2016), and DAFM (2020), the Proposed Project is outside the core foraging range for all QI species, except greylag goose, which has a core foraging range of 20 km. However, wintering greylag geese forage preferentially on grassland and in cereal stubble fields ⁶ (BirdWatch	N

⁶ BirdWatch Ireland – Ireland's Birds. Available at <https://birdwatchireland.ie/irelands-birds-birdwatch-ireland/> (accessed 25.06.2025)

Site Name and Code	Qualifying Interests [Habitats/Birds Directive Code]	Distance from Project	Impact Pathways	Connectivity (Y/N)
	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] Shoveler (<i>Spatula clypeata</i>) [A857] Habitats: Wetland and Waterbirds [A999]		Ireland, 2025). Neither the River Liffey nor adjacent built land is identified as a roost, foraging or nesting resource for any QI species. There is no functional connectivity with this SPA.	



Table 4-1, it has been determined that connectivity exists between the Proposed Project and the following European sites:

- South Dublin Bay and River Tolka Estuary SPA – hydrological connectivity with the Tolka Estuary, and potential functional connectivity for foraging common tern; and
- Rockabill to Dalkey Island SAC - potential functional connectivity for harbour porpoise.

Potential functional connectivity is discussed in the following section, whereby the distribution of the species in question is assessed in further detail, with respect to the Proposed Project.

No connectivity between the Proposed Project and any other European sites was found.

QI Distribution and Connectivity

This section further describes the known, or inferred, distribution of the QI species potentially having functional connectivity with the Proposed Project. These are:

- Common tern (South Dublin Bay and River Tolka Estuary SPA); and
- Harbour porpoise (Rockabill to Dalkey Island SAC).

South Dublin Bay and River Tolka Estuary SPA – Common Tern

As of 2023, there are four man-made ‘platforms’ in the waters broadly encompassing Dublin Port, which are used by nesting common and Arctic terns. These comprise two mooring ‘dolphins’ – the Coal Distribution Limited (CDL) Dolphin and the ESB Dolphin, and two ‘pontoons’ – the Tolka Estuary Pontoon and the Great South Wall (GSW) Pontoon⁷. These are all located at least 3.8 km from the Proposed Project location. All platforms, except the Tolka Estuary Pontoon, are located alongside the main shipping channel (see Figure 4.1-2).

According to BirdWatch Ireland⁸, 500 nests were recorded across these platforms in 2022.

⁷ Dublin Port (2025) Biodiversity. Available at: <https://www.dublinport.ie/biodiversity/> (accessed 29.06.2025).

⁸ BirdWatch Ireland (2022). The Dublin Port Tern Colony: 2022. Available at: <https://birdwatchireland.ie/the-dublin-port-tern-colony-2022/> (accessed 29.06.2025).



Figure 4.1-2 Tern Nesting Platforms

Rockabill to Dalkey Island SAC – Harbour Porpoise

Historical sightings of harbour porpoise in the vicinity of the Proposed Project location are shown in Figure 4.1-3, as per the records held by the NBDC. These records suggest that harbour porpoises do swim into the estuary beyond Poolbeg and North Bull Island Lighthouses but have not been recorded in the River Liffey itself. The nearest record is approximately 5.3 km east of the Proposed Project Location, near Poolbeg Power Station, and was recorded in 2020.

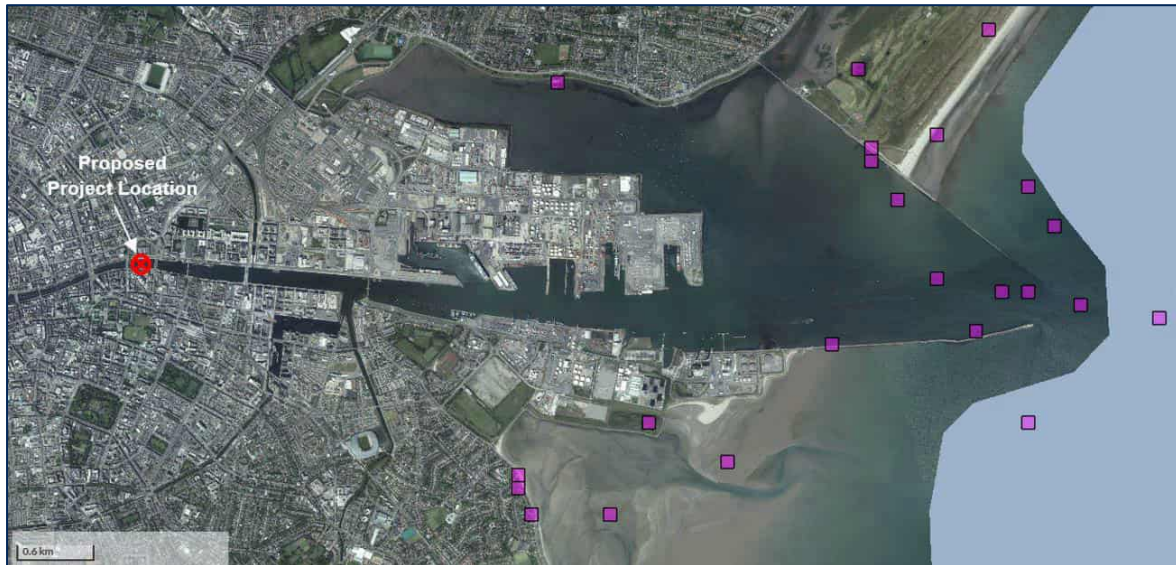


Figure 4.1-3 Historical Records - Harbour Porpoise (Source: NBDC)

5 Assessment of Likelihood of Significant Effects

This section identifies whether the impacts associated with the Proposed Project are likely to result in significant effects upon any of the European sites/QIs identified to have connectivity with the Site.

5.1 Article 6(3) Statement – Management of European Sites

Considering the nature of the activities concerned, and the location of the Proposed Project, it is determined that the Proposed Project is not directly connected with, or necessary for, the management of a European site, and is therefore **not** exempt from the requirements of the AA process.

5.2 Consideration of Environmental Effects – Rationale

The screening assessment is based on the rationale set out below, in relation to potential effects caused by the Proposed Project on the QIs of South Dublin Bay and River Tolka Estuary SPA and Rockabill to Dalkey Island SAC.

Considering the nature and location of the Proposed Project, the following environmental emissions have been identified as having potential to cause adverse effects:

- Water quality perturbations, from sedimentation and the accidental release of contaminants (such as petrochemicals);
- Visual disturbance; and
- Noise disturbance.



Water Quality Perturbations

Accidental Discharge of Pollutants

The pollution prevention measures described in Section 3.1.4 form part of the Proposed Project's standard operational procedures and embedded environmental controls. These measures can be reasonably considered sufficient to prevent the accidental release of fuels, oils, lubricants and other chemical pollutants into the River Liffey. Potential effects arising from such an event are therefore screened out of further consideration.

Sedimentation

Sediment mobilisation from the three boreholes associated with the Proposed Project is expected to be minimal due to the use of roto-sonic drilling. Roto-sonic drilling employs high-frequency vibrations to advance the drill bit, eliminating the need for air or water flush. This method typically generates minimal drill spoil compared to percussive or open-hole techniques. The use of continuous casing allows for the controlled removal of the drill core while containing sediments and preventing uncontrolled dispersion into the water column. While minor, localised suspension of fine sediments may occur during penetration of soft riverbed materials or tool insertion/removal; such disturbance is expected to be limited in both extent and duration. Given the short drilling time (approximately one day per borehole) and the limited number of boreholes (three), overall sediment release is anticipated to be low, localised, and temporary.

The Tolka Estuary supports extensive intertidal mudflats, which provide important foraging habitat for a range of QI bird species associated with South Dublin Bay and Tolka Estuary SPA. These mudflat habitats are naturally dynamic environments, regularly subject to sediment redistribution due to tidal action, riverine input, and storm events. Importantly, their existence as mudflats is characterised by the ongoing accumulation of fine sediment. In this context, these habitats are not considered especially sensitive to a sedimentation event in the River Liffey, particularly at the scale associated with the Proposed Project.

Visual and Noise Disturbance – Common Tern

Breeding

A study was conducted in 2022 and 2023 (ALC Nature, 2024) which investigated the disturbance tolerance of breeding terns, with specific focus on those in Dublin Port. The study applied a series of disturbance stressors on the site adjacent to the CDL Dolphin. These ranged from apparently low-level stressors such as the presence of vehicles at >50 m distance, to the combined operation of vehicles alongside high volume noises, lights, and the active presence of personnel onshore.

The report related the results to a Flight Initiation Distance (FID), which is a representation



of the closest point a visual disturbance can encroach on the nesting colony before causing terns to temporarily fly off their nests. The report found that an FID of 37 m was consistent with the findings of the study. ALC Nature (2024) also noted that tern colonies, given their location in a busy industrial environment, have acclimatised to their surroundings and are therefore resilient to high levels of visual and aural disturbance, relative to what might be expected in more natural settings.

The Proposed Project location is >3.8 km from the nearest nesting platform. Nesting terns associated with South Dublin Bay and Tolka Estuary SPA will not experience visual disturbance from the Proposed Project.

Foraging

During the breeding season, common terns make extensive use of marine waters adjacent to their breeding colonies. According to Merne *et al.* (2008), observations of arriving terns to the primary roosting area indicated that most flew into Dublin Bay from an easterly and southeasterly direction, leading the authors to suggest they were feeding in the shallow waters of the Kish/Bray and Burford Banks (i.e. in the Irish Sea).

The evidence suggests that substantial populations of common tern do not forage in the main channel of the River Liffey, and that substantial foraging populations would therefore **not** be adversely affected by disturbance from the Proposed Project.

Noise Disturbance – Harbour Porpoise

With reference to the underwater noise ranges associated with roto-sonic drilling as presented in Section 3.1.2, the Irish Whale and Dolphin Group (IWDG, 2015a) state that disturbance to marine mammals from drilling rigs is “generally thought to be low”. According to the guidance by the NPWS (2014), sound exposure levels from drilling operations are thought to be below that expected to cause injury to a marine mammal. It is acknowledged that they have the potential to cause lower-level disturbance, masking⁹, or other behavioural impacts (such as avoidance or abandonment of a certain area). However, it should be noted that such effects are only considered ecologically significant where marine mammals are present within the disturbance zone of influence **and** the disturbance interrupts behaviours critical to survival or reproduction – such as foraging, resting, or breeding. This, in turn, presupposes that the activity is occurring within habitat that is functionally important for those behaviours.

NPWS (2014) recommends a 500 m Monitoring Zone for drilling operations. However, the

⁹ ‘Masking’ in an auditory context refers to the interference with an animal’s ability to hear. In some animals this could result in a reduction in the ability to detect a predator, or a reduction in the ability to detect and hunt prey.



Proposed Project is located between Rosie Hackett Bridge and Butt Bridge, which limit sightlines along the River Liffey and make continuous visual monitoring of a full 500 m radius impracticable. Accordingly, Marine Mammal Observer (MMO) monitoring will focus on the area that can be effectively observed from the works location and adjacent vantage points. Drilling operations will not commence if a marine mammal is detected within the monitored area during the pre-start observation period.

The distribution of historical records (the nearest record being noted 5.3 km east of the Proposed Project, as illustrated in Figure 4.1-3) suggests that while harbour porpoises may enter the outer estuary, they do not commute upstream in the Liffey towards Dublin city centre. According to the IWDG (2015b), foraging areas for harbour porpoise are typically associated with strong tidal currents, especially off headlands or between islands.

Ongoing industrial activity at Dublin Port contributes continuous sources of background noise to the marine environment, particularly shipping, but also a range of land-based activities. Considering the distance between the Proposed Project and Dublin Port, it is highly unlikely that the Proposed Project will give rise to elevated background levels of underwater noise in the vicinity of Dublin Port or the outer estuary, where harbour porpoises might be present.

Summary

Whilst it is acknowledged that drilling operations do give rise to underwater noise levels that can contribute to disturbance in harbour porpoise, the magnitude of disturbance is relatively low compared to other potential sources of underwater noise, and the habitats in the zone of influence of the Proposed Project are not regarded as favourable or functionally important for harbour porpoise, which is evidenced by the distribution of historical records.

The evidence presented above suggests that harbour porpoise will not be adversely affected by underwater noise associated with the Proposed Project.



5.3 Effects in Isolation

Table 5-1 - AA Screening – Effects in Isolation

Project Activity	Potential Impacts	Screening Assessment	LSEs
South Dublin Bay and Tolka Estuary SPA			
Habitat Degradation			
Deployment of barge Drilling operations	Localised sediment mobilisation within the River Liffey with potential downstream transport of suspended sediments to habitats associated with South Dublin Bay and River Tolka Estuary SPA	As described in Section 5.2: The works are highly unlikely to give rise to substantial sediment liberation, owing to the type of drilling proposed; and The tidal mudflat habitat assemblage in the Tolka Estuary is characterised by the accumulation of fine sediment. As such, it is resilient to sedimentation, particularly at the scale associated with the Proposed Project.	No
Disturbance – Common Tern			
Deployment of barge Drilling operations	Visual and noise disturbance, leading to reduced breeding	As described in Section 5.2: The Proposed Project is outside the zone of influence for visual and noise disturbance to occur to breeding colonies on nesting platforms near Dublin Port. The Proposed Project is located 3.8 km west of the	No, although functional connectivity exists with this SPA for common tern, the



Project Activity	Potential Impacts	Screening Assessment	LSEs
	efficiency (e.g. abandonment of nests), or displacement from foraging habitat.	nearest nesting platform, and a study at Dublin Port in 2022-23 suggested that a notable disturbance response (FID) occurred at approximately 37 m. Tern colonies near Dublin Port are habituated to anthropogenic disturbance, given that breeding colonies continue to be numerous in what is an intensive industrial environment. Studies observing terns returning to roosts in the evening indicated that the vast majority were coming from the east and southeast, and not from the west (direction of the Proposed Project).	evidence presented indicates that likely significant effects are not expected. However, in accordance with the precautionary principle and to remove any residual scientific doubt, the project was carried forward to Stage 2 Appropriate Assessment.
Rockabill to Dalkey Island SAC			
Noise Disturbance – Harbour Porpoise			
Deployment of barge Drilling operations	Disturbance of harbour porpoise, leading to displacement from functionally important habitat and/or disruption of important life behaviours (e.g. foraging, resting or breeding).	As described in Section 5.2: The standard zone of influence for underwater noise emissions associated with drilling operations is 500 m, as per a 'Monitoring Zone' prescribed by NPWS (2014). Important functional habitat for harbour porpoise is well-documented and does not include riverine habitat in which the Proposed Project is located. Historical records of harbour porpoise show some observations at the outer estuary, but none closer than 5.3 km from the location of the Proposed Project. Considering the ongoing disturbance associated with Dublin Port and surrounding industrial activity, and in light of the distance from the	No Although functional connectivity exists with this SAC through the potential occurrence of harbour porpoise within the wider estuarine environment, the Proposed Project is located outside habitat considered



Project Activity	Potential Impacts	Screening Assessment	LSEs
		Proposed Project, it is highly unlikely that increases in baseline underwater noise levels for harbour porpoises will occur.	functionally important for the species. Historical records indicate that harbour porpoise are not typically present within the zone of influence of the works and the evidence presented indicates that likely significant effects are not expected. However, in accordance with the precautionary principle and to remove any residual scientific doubt, the project was carried forward to Stage 2 Appropriate Assessment.

5.4 Effects In Combination

With reference to the rationale presented in Table 5-1, it is concluded that the Proposed Project (in isolation) will not result in likely significant effects to any European sites. However, as well as considering the potential for LSEs from the Proposed Project in isolation, the AA must also consider those effects in combination with those associated with other plans or projects. Whilst a project in isolation may not result in significant effects to European sites, non-significant effects from one project could act in combination, resulting in significant effects overall.

In this context, an important distinction to make is whether a project in isolation may result in effects that are not significant, or whether they will not result in any effects at all (see *De minimis* Effects below). Potential impacts which have been assessed to have no effect are excluded from further in-combination assessment. Potential impacts which will result in an insignificant effect are carried forward to in-combination assessment.

De minimis Effects

The term *de minimis* is referenced in the opinion of the Advocate General in relation to CJEU case C-258/11 (Sweetman v. An Bord Pleanála) as follows:

“The requirement that the effect in question be ‘significant’ exists in order to lay down a *de minimis* threshold. Plans or projects that have no appreciable effect on the site are thereby excluded. If all plans or projects capable of having any effect whatsoever on the site were to be caught by Article 6(3), activities on or near the site would risk being impossible by reason of legislative overkill.”

De minimis, as defined by the Merriam Webster dictionary¹⁰, means “lacking significance or importance - so minor as to be disregarded”.

The following subsections will assess whether the potential effects assessed in Table 5-1 are deemed to fall below the *de minimis* threshold.

Water Quality Perturbations

Sediment emissions from the Proposed Project in isolation are expected to be trivial in the context of potential impacts to the tidal mudflats in the Tolka Estuary, principally with regard to the proposed drilling methodology, but also because the Proposed Project is approximately 4.5 km upstream of the Tolka Estuary, and because the persistence of the habitat in question is dependent on the continued attenuation of sediment. In this context,

¹⁰ “De minimis.” Merriam-Webster.com Dictionary, Merriam-Webster, <https://www.merriam-webster.com/dictionary/de%20minimis>. Accessed 26 March 2024.

any additional fine sediment introduced to the system from small-scale, short-term site investigation works is unlikely to represent a meaningful deviation from natural background conditions. The scale, duration, and location of the Proposed Project are such that any contribution to changes in sediment accumulation at the Tolka Estuary will be negligible and not ecologically meaningful. The effect is therefore considered to fall below the *de minimis* threshold and is therefore scoped out of the in-combination assessment.

Visual and Noise Disturbance – Common Tern

Considering the zone of influence for disturbance and the distance between the Proposed Project and the nesting sites, this effect is considered to fall below the *de minimis* threshold and is therefore scoped out of the in-combination assessment.

Noise Disturbance – Harbour Porpoise

Considering the zone of influence for disturbance and the distance between the Proposed Project and important functional habitat (and locations of historical records), this effect is considered to fall below the *de minimis* threshold and is therefore scoped out of the in-combination assessment.

Conclusion – De minimis Effects

In light of the approach to this AA screening, whereby in-built standard measures to safeguard water quality have been considered, and in light of the rationale presented in the above subsections, the Proposed Project in isolation will only result in *de minimis* effects. All effects from the Proposed Project are therefore scoped out of in-combination assessment.

Conclusion – Effects in Combination

Following the conclusion that all potential effects from the Proposed Development in isolation will fall below the *de minimis* threshold, it is concluded that the Proposed Project will not act in combination with other plans or projects to result in significant effects to any European site.

6 Appropriate Assessment Screening Results

For the reasons set out in detail in this AA Screening Report, and considering the best scientific knowledge in the field, all aspects of the Proposed Project — both in isolation and in combination with other plans or projects — which may affect the relevant European sites have been considered.

The AA Screening concluded that, given the nature, scale and duration of the Proposed Project, and with reference to its limited potential for connectivity to South Dublin Bay and River Tolka Estuary SPA and Rockabill to Dalkey Island SAC, the likelihood of significant effects on either European site could reasonably be excluded. However, in accordance with the precautionary principle and to ensure that all reasonable scientific doubt was removed, it was elected to proceed to Stage 2 AA and prepare a Natura Impact Statement (NIS).

This AA Screening Report provides the competent authority with a complete and objective basis for its determination under Article 6(3) of the Habitats Directive. It is intended to support the authority in concluding that, based on the information available at the screening stage and prior to detailed assessment, the Proposed Project was not likely to result in significant effects on any European site.

The findings of this screening informed the scope and focus of the subsequent NIS, which is presented in the following sections of this report.



7 Natura Impact Statement (Stage 2)

The AA Screening concluded that likely significant effects on European sites are not anticipated. However, in accordance with the precautionary principle, and to provide a comprehensive assessment of all potential impact pathways, the Proposed Project was carried forward to Stage 2 Appropriate Assessment for the following European sites:

- South Dublin Bay and River Tolka Estuary SPA – due to hydrological connectivity with the wider estuarine environment and potential functional connectivity for common tern; and
- Rockabill to Dalkey Island SAC - due to potential functional connectivity for harbour porpoise.

7.1 Supporting Information

7.1.1 Conservation Objectives

South Dublin Bay and River Tolka Estuary SPA – Common Tern

The primary conservation objective for the common tern in the South Dublin Bay and River Tolka Estuary SPA is to maintain the favourable conservation condition of the species, which includes ensuring no significant decline in the breeding population abundance and no significant decline in the passage population, as well as ensuring the availability of sufficient suitable nesting habitat.

Rockabill to Dalkey Island SAC – Harbour porpoise

The primary conservation objective for harbour porpoise in the Rockabill to Dalkey Island SAC is to maintain its favourable conservation condition, which involves ensuring the species has access to suitable habitat within the SAC and is not adversely affected by human-induced disturbance, such as underwater noise.

7.2 Potential Likely Significant Effects

Although the screening concluded that the Proposed Project was unlikely to result in significant effects, the decision to proceed to a Natura Impact Statement (NIS) was made on a precautionary basis, in accordance with Article 6(3) of the Habitats Directive and European Commission guidance (EC, 2018; EC, 2021). This section provides a brief refresher on the key environmental pathways previously assessed, which now inform the scope of the NIS.

7.2.1 Water Quality Perturbations

7.2.1.1 Accidental Discharge of Pollutants

Standard pollution prevention measures (see Section 3.1.4) are embedded in the project

design and are considered sufficient to prevent the release of fuels, oils, lubricants, or other contaminants into the River Liffey. These measures are legally mandated and routinely applied to similar projects. As such, the risk of adverse effects from accidental discharge is considered negligible.

7.2.1.2 Sedimentation

The use of roto-sonic drilling is expected to result in minimal sediment mobilisation. The method avoids water flush and uses continuous casing to contain drill spoil. Any sediment release will be localised and short-term. The Tolka Estuary mudflats, which support QI bird species, are naturally sediment-accumulating and resilient to such disturbance. Therefore, sedimentation is not expected to result in adverse effects.

7.2.2 Visual and Noise Disturbance – Common Tern

7.2.2.1 Breeding

The nearest nesting platforms are located >3.8 km from the Proposed Project. Studies (ALC Nature, 2024) show that tern colonies in Dublin Port are habituated to industrial activity and resilient to visual and auditory stimuli. The project is well outside the disturbance threshold (FID ~37 m), and no breeding disturbance is anticipated.

7.2.2.2 Foraging

Common terns primarily forage in marine waters to the east and southeast of Dublin Port. The River Liffey is not a significant foraging area. Therefore, the Proposed Project is not expected to interfere with foraging behaviour or reduce energy intake.

7.2.3 Noise Disturbance – Harbour Porpoise

Published evidence indicates that underwater noise levels associated with roto-sonic drilling are below thresholds associated with injury and significant behavioural disturbance in marine mammals (NPWS, 2014; IWDG, 2015a). Historical records indicate that harbour porpoise are not typically present in the River Liffey, and the habitat is not considered functionally important for the species. MMO monitoring and soft-start procedures will be implemented in accordance with the operational controls described elsewhere in this report.

7.2.4 Summary

The AA Screening concluded that the Proposed Project is unlikely to result in significant effects on either European site. However, in line with the precautionary principle, the NIS provides a more detailed assessment of the potential for adverse effects on site integrity, supported by operational controls outlined in **Section 8**.

7.3 Effects in Combination

In accordance with Article 6(3) of the Habitats Directive, the AA must consider not only the potential for adverse effects arising from the Proposed Project in isolation, but also those that may occur in combination with other plans or projects.

The AA Screening previously assessed this pathway and concluded that the Proposed Project, when considered in isolation, would result only in de minimis effects — effects so minor as to be disregarded in the context of European site integrity. These included:

- water quality perturbations, particularly sedimentation, which were deemed negligible due to the use of low-impact drilling methods and the natural resilience of the Tolka Estuary mudflats;
- visual and noise disturbance to common tern, which was ruled out due to the distance from nesting platforms and the species' habituation to industrial activity; and
- underwater noise disturbance to harbour porpoise, which was considered unlikely due to the absence of functionally important habitat in the project area and the implementation of embedded operational controls.

These findings were supported by the application of the precautionary principle, and the decision to proceed to NIS allowed for a more detailed examination of potential cumulative effects.

Following a review of available data and the implementation of operational controls outlined in Section 8, it is reaffirmed that the Proposed Project will not act in combination with other plans or projects to result in significant effects on any European site.

8 Operational Controls and Environmental Safeguards

Legal Basis for Considering Operational Controls

In 2017, the European Court of Justice (CJEU) ruling in *People Over Wind and Peter Sweetman v Coillte* (Case C-323/17) clarified that, at the screening stage of Appropriate Assessment (AA), it is not appropriate to take account of measures intended to avoid or reduce the harmful effects of a plan or project on a European site. This interpretation reinforced the need for a cautious and objective approach when determining whether AA is required.

However, in its 2023 decision in *Eco Advocacy v An Bord Pleanála* (Case C-721/21), the CJEU provided important clarification. It ruled that embedded environmental measures and standard project controls— those that are standard features inherent to the project — may be considered at the AA screening stage. Specifically, the Court stated that such features, including those designed to remove contaminants or reduce harmful effects, can be taken into account if they are integral to the project and not specifically designed to protect a European site.

Paragraph 52 of the judgment confirms that “account may be taken of the features of that plan or project which involve the removal of contaminants and which therefore may have the effect of reducing the harmful effects of the plan or project on that [European] site, where those features have been incorporated into that plan or project as standard features, inherent in such a plan or project, irrespective of any effect on the site.”

It is important to note that this ruling does not permit consideration of bespoke operational controls — i.e., those designed solely to protect a European site — at the screening stage. Only standardised, legally required, and routinely implemented measures may be considered.

In the context of the Proposed Project, the safeguarding of water quality is mandated by several legislative instruments, including:

- European Communities Environmental Objectives (Surface Waters) Regulations (S.I. 272/2009) as amended;
- EU Water Framework Directive (2000/60/EC);
- European Communities (Water Policy) Regulations (S.I. 722/2003) as amended; and
- Local Government (Water Pollution) Act (1/1977) as amended.

Under these laws, the uncontrolled release of contaminants to open waterbodies is considered an offence, regardless of proximity to or connectivity with European sites. Therefore, the pollution prevention measures described in Section 3.1.4 of this report — including bunded storage, spill containment, and controlled waste disposal — are standard

features of projects of this nature and would be implemented irrespective of ecological sensitivity.

Despite the legal and procedural basis for considering embedded environmental controls and standard project measures at the screening stage, it has been decided to proceed to a NIS on a precautionary basis, in accordance with Article 6(3) of the Habitats Directive and the European Commission's guidance on managing Natura 2000 sites (EC, 2018; EC, 2021).

Although the AA Screening did not identify likely significant effects (LSEs), the precautionary approach was adopted to ensure that all reasonable scientific doubt was removed, particularly in relation to potential functional connectivity with South Dublin Bay and River Tolka Estuary SPA (for common tern) and Rockabill to Dalkey Island SAC (for harbour porpoise).

To support this precautionary approach, a comprehensive suite of operational controls has been developed and will be implemented to avoid adverse effects on the integrity of European sites. These measures are informed by best practice guidance, including:

- NPWS (2014): Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters
- DoEHLG (2009): Appropriate Assessment of Plans and Projects in Ireland
- European Commission (2021): Assessment of Plans and Projects in Relation to Natura 2000 Sites
- CJEU (2023) Eco Advocacy v An Bord Pleanála: Clarification on embedded mitigation measures
- NetRegs (2017) Guidance for Pollution Prevention (GPP) Series:
 - GPP 5 (Works and Maintenance in or near Water);
 - GPP 8 (Storage and Disposal of Waste Oils);
 - GPP 21 (Pollution Incident Response Planning); and
- CIRIA (2001) – Control of Water Pollution from Construction Sites. Guidance for Consultants and Contractors (C532).
- CIRIA (2006) Control of water pollution from linear construction projects - Technical guidance (C648);
- IFI (2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters;
- Murphy (2004). Requirements for the Protection of Fisheries Habitat During Construction and Development Works at River Sites. Eastern Regional Fisheries Board;
- O'Grady (2006). Channels and Challenges - The Enhancement of Salmonid Rivers. Central Fisheries Board;
- TII (2006). Guidelines for the crossing of watercourses during the construction of national road schemes.

These operational controls are detailed in Section 5 of this report and are designed to ensure that the Proposed Project does not result in adverse effects on the integrity of any European site.

8.1 Standard Environmental Safeguards

To prevent contamination of the River Liffey and downstream European sites:

- daily inspections of machinery and refuelling points will be conducted to detect leaks or spills;
- all machinery will be certified for aquatic use and maintained to prevent hydrocarbon leakage;
- where refuelling is required to take place on the barge, it will be carried out using jerry cans and spill containment systems such as plant nappies;
- spill kits will be available on-site, and all personnel will be trained in their deployment;
- fuel and lubricants will be stored in bunded containers in secure locations;
- borehole flushing water will be contained and treated before disposal, with no direct discharge to the river; and
- waste materials, including contaminated water and slurry, will be removed to authorised waste facilities.

These measures are mandatory under Irish law, including the Water Framework Directive (2000/60/EC) and S.I. 272/2009, and are considered embedded operational controls under the Eco Advocacy ruling.

8.2 Sediment Control

In order to minimise sediment mobilisation and protect intertidal habitats:

- roto-sonic drilling will be used, which employs high-frequency vibration and continuous casing to reduce sediment release;
- the method avoids the use of water or air flush, significantly reducing drill spoil;
- any sediment suspension will be localised and temporary, with negligible downstream transport; and
- the Tolka Estuary mudflats, which are naturally dynamic and sediment-accumulating, are not considered sensitive to the scale of sedimentation expected.

This approach aligns with NPWS conservation objectives for wetland habitats and supports the resilience of SPA-designated foraging grounds.

8.3 Marine Mammal Monitoring and Operational Controls

To avoid disturbance to harbour porpoise (Rockabill to Dalkey Island SAC):

- Provision of two Marine Mammal Observers (MMOs) within a minimum 200 m monitoring area upstream and downstream of the proposed works (as appropriate for sightlines) during start-up and soft-start phases, with spot checks during operations where feasible. The MMO remit shall include observations for otter.
- NPWS (2014) recommends a 500 m Monitoring Zone for drilling operations. However, the Proposed Project is located between Rosie Hackett Bridge and Butt Bridge, which restrict sightlines along the River Liffey and make continuous visual monitoring of a full 500 m radius impracticable. Accordingly, monitoring will focus on the area that can be effectively observed from the works location and adjacent vantage points.
- Drilling will not commence if marine mammals are observed within the monitored area during the pre-start observation period.
- Soft-start procedures will be used to gradually increase acoustic output, allowing fauna to move away from the immediate vicinity of the works.
- Published evidence indicates that underwater noise levels associated with roto-sonic drilling are below thresholds associated with injury and significant behavioural disturbance in marine mammals (Robinson et al., 2011; Nedwell et al., 2003; NPWS, 2014).

8.4 Visual and Lighting Controls

To avoid disturbance to common tern (South Dublin Bay and River Tolka Estuary SPA):

- Directional lighting will be used to minimise light spill into sensitive areas.
- No floodlighting will be directed toward nesting platforms (e.g. ESB Dolphin, CDL Dolphin).
- Works will be scheduled to avoid the breeding season (May–August) where feasible.
- If works occur during breeding season, additional monitoring will be undertaken by a qualified ornithologist.
- These measures are supported by findings from ALC Nature (2024), which show tern colonies in Dublin Port are resilient to industrial disturbance but still require spatial and temporal buffers.

8.5 Additional Environmental Management Procedures

The following environmental management procedures will be implemented throughout the Proposed Project:

- A pre-works environmental briefing will be delivered to all site personnel as part of the Contractor's standard environmental management procedures.
- A project-specific Pollution Incident Response Procedure shall be maintained on site

throughout the works.

- Environmental contingency arrangements shall be maintained throughout the works to ensure that any environmental incident is appropriately managed and corrective actions implemented where required.

South Dublin Bay and Tolka Estuary SPA

Likely Significant Effects	Qualifying Features Screened In	Assessment	Conclusion
Habitat Degradation caused by elevated sediment of the Tolka Estuary	Common Tern (<i>Sterna hirundo</i>)	The Proposed Project involves roto-sonic drilling, which is expected to produce minimal sediment mobilisation. The Tolka Estuary mudflats are naturally sediment-accumulating and resilient to minor increases in sediment load. Additionally, common tern foraging is primarily marine, and nesting platforms are >3.8 km from the works area. Visual and noise disturbance are unlikely due to distance and habituation of terns to industrial activity. Although the AA Screening concluded that likely significant effects were not anticipated, the project was carried forward to Stage 2 Appropriate Assessment on a precautionary basis in order to provide a more detailed assessment of the identified impact	The Proposed Project alone will have no adverse effect on site integrity. Operational controls include directional lighting, scheduling works outside the breeding season, and ornithologist monitoring if works occur during sensitive periods (like the breeding season). Standard pollution prevention and sediment control measures will also be implemented. In-combination effects have been assessed and ruled out, as all potential effects fall below the <i>de minimis</i> threshold and will not act cumulatively with other plans or projects.

		pathways and to support the competent authority's consideration of the Proposed Project.	
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Rockabill to Dalkey Island SAC

Likely Significant Effects	Qualifying Features Screened In	Assessment	Conclusion
Underwater noise disturbance.	Harbour Porpoise (<i>Phocoena phocoena</i>)	Harbour porpoise are not typically present in the River Liffey, with the nearest recorded sighting 5.3 km east of the site. Roto-sonic drilling produces sound levels below injury thresholds. A 200 m monitoring zone will be implemented, and soft-start procedures will be used. These measures align with NPWS (2014) guidance. The habitat in the project area is not considered functionally important for the species. The decision to proceed to NIS was precautionary, ensuring that embedded operational controls were fully assessed and documented.	The Proposed Project alone will have no adverse effect on site integrity. Operational controls include a 200 m marine mammal monitoring zone, soft-start procedures, scheduling to avoid peak activity periods, and real-time monitoring. These are supported by NPWS guidance and embedded in project design. In-combination effects have been assessed and ruled out, as all potential effects fall below the <i>de minimis</i> threshold and will not act cumulatively with other plans or projects.

9 Concluding Statement

For the reasons set out in detail in this AA Screening Report and NIS, and considering the best scientific knowledge in the field, all aspects of the Proposed Project — both in isolation and in combination with other plans or projects — which may affect the relevant European sites have been thoroughly considered.

While the AA Screening concluded that likely significant effects on European sites were not anticipated, the project was carried forward to Stage 2 Appropriate Assessment on a precautionary basis in order to provide a more detailed assessment of the identified impact pathways and to support the competent authority's consideration of the Proposed Project. Particular consideration was given to the potential functional connectivity between the Proposed Project and South Dublin Bay and River Tolka Estuary SPA (common tern) and Rockabill to Dalkey Island SAC (harbour porpoise).

The NIS has demonstrated that the Proposed Project, having regard to its embedded environmental controls, operational procedures and environmental safeguards, will not adversely affect the integrity of either European site in view of their Conservation Objectives. These controls include safeguards for water quality protection, sediment management, marine mammal monitoring, lighting management and environmental incident response procedures.

This document provides the competent authority with complete, precise, and definitive information to support its determination. It can be concluded, beyond reasonable scientific doubt, that the Proposed Project will not result in adverse effects on the integrity of any European site, either alone or in combination with other plans or projects.

Accordingly, the AA process is considered complete, and the Proposed Project may proceed subject to the implementation of the embedded environmental controls, operational procedures and project commitments outlined herein.

10 Statement of Integrity

This AA Screening Report and NIS have been compiled with full regard to the requirements of the Habitats Directive (92/43/EEC) and its transposition into Irish law through the Planning and Development Acts 2000–2024, and associated regulations.

The assessments and conclusions presented herein are based on a detailed evaluation of the Proposed Project, its environmental context, and its potential interactions with European sites. The decision to proceed to Stage 2 AA and prepare a NIS was made in accordance with the precautionary principle, as outlined in Article 6(3) of the Directive and supported by European Commission guidance (EC, 2018; EC, 2021).

This document integrates findings from both the AA Screening and the NIS and includes a comprehensive suite of operational controls — both embedded and additional — designed to ensure that the integrity of relevant European sites is not adversely affected. These measures are informed by best practice guidance from the NPWS, IFI, CIRIA, NetRegs, and relevant case law including *Eco Advocacy v An Bord Pleanála* (CJEU, 2023).

The information provided is intended to assist the competent authority in fulfilling its obligations under Article 6(3) and, where relevant, Article 6(4) of the Habitats Directive, and to support a determination that all reasonable scientific doubt has been removed regarding the potential for adverse effects on European sites



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