



CELBRIDGE HAZELHATCH MOBILITY CORRIDOR

Report to Inform Appropriate Assessment



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Report to Inform Appropriate Assessment

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EXECUTIVE SUMMARY

RPS were appointed by Kildare County Council (KCC) to provide the engineering and consultancy services to deliver the proposed Celbridge to Hazelhatch Mobility Corridor which includes for a report to inform screening for Appropriate Assessment (AA). The Proposed Scheme is not directly connected with or necessary for the management of any European Site.

Based on the information available at the time of this assessment, in view of best scientific knowledge and in view of the Conservation Objectives of the relevant European sites, it is considered that the Celbridge to Hazelhatch Mobility Corridor may have a significant effect on eight European sites. Therefore, a Natura Impact Statement (NIS) has been prepared as a separate report as Stage 2 of the AA process.

1 INTRODUCTION

1.1 Purpose of Document

This document is to inform the Competent Authority's Appropriate Assessment (AA) Screening (Stage 1) with respect to the proposed Celbridge to Hazelhatch Mobility Corridor (hereafter referred to as the "Proposed Scheme"; the project for purposes of the AA Screening).

Consent approval under the Planning and Development Act, 2000 (as amended) in respect of the Proposed Scheme can only be given after the Competent Authority has conducted an assessment pursuant to Section 177U of the Planning and Development Act, which concludes that there is no likelihood of significant effects on European sites, either individually or in combination with other plans or projects, in view of their conservation objectives (COs). The assessment conducted under Article 6(3) of the Habitats Directive must therefore be completed before a consent approval decision can be made.

This report has been prepared to provide information to the Competent Authority for it to complete a screening for AA of the likely significant effects (LSEs) on European sites, in view of their COs, arising from the Proposed Scheme, either individually or in combination with other plans or projects.

Where the Competent Authority determines that the project is not directly connected with or necessary for the management of the site as a European Site and if it can be excluded on the basis of objective scientific information that the project, individually or in combination with other plans or projects, will not have a significant effect on any European Site(s), the Competent Authority shall determine that an AA of the project is not required.

This document has been prepared by qualified and experienced RPS ecologists.

The document is structured as follows:

- **Section 2 – Legislative Context and Guidance** sets out the guidance and approach which was used to complete the Stage 1 – Screening Assessment.
- **Section 3 – Project Description** sets out the Proposed Scheme which has been subject to Stage 1 – Screening Assessment.
- **Section 4 – Stage 1: Screening Assessment** assesses the Proposed Scheme and identifies if it is likely to result in a significant effect on European sites either alone or in-combination with other plans and projects.

2 LEGISLATIVE CONTEXT AND GUIDANCE

2.1 Legislative Context

The requirement for AA derives from Article 6(3) of the EU Habitats Directive 92/43/EC.

Article 6(3) requires that:

“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”.

Thus, Article 6(3) provides a two-stage process:

- The first stage involves a screening for AA (which is addressed in this document).
- The second stage arises where, having screened the plan or project, it is determined that there is potential for LSEs and an AA is required to inform decision making by the relevant Competent Authority.

The provisions of the Habitats Directive have been transposed into Irish legislation via the European Communities (Birds and Natural Habitats) Regulations 2011, as amended¹, and the parallel provisions relating to AA in planning legislation (i.e. Part XAB of the Planning and Development Act, 2000, as amended, and associated Regulations). This screening for AA has been prepared with reference to the primary and domestic legislation.

2.2 Guidance and Approach

The principal national and European guidelines have been followed in the preparation of this document. The following list identifies these and other pertinent guidance documents:

- European Commission (EC) (2021) 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.
- Office of the Planning Regulator Practice Note (PN01) ‘Appropriate Assessment Screening for Development Management’ (OPR, 2021).
- EC Notice C (2018) 7621 ‘Managing Natura 2000 Sites: the provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC’, Office for Official Publications of the European Communities, Luxembourg (EC, 2019).
- EC (2013) EC Interpretation Manual of European Union Habitats. Version EUR 28. European Commission.
- Department of the Environment, Heritage and Local Government (DEHLG) (2010a) Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, Dublin.
- DEHLG (2010b) Circular NPW 1/10 and PSSP 2/10 on Appropriate Assessment under Article 6 of the Habitats Directive – Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, Dublin.
- EC (2000) Communication from the Commission on the Precautionary Principle. Office for Official Publications of the European Communities, Luxembourg.

¹ SI. No. 293/2021

The Commission's 2018 Notice² and both European and national case law have been reviewed and have informed the approach and content of this document in relation to key issues including the interpretation of concepts of site integrity, the absence of lacunae and the use of mitigation measures, amongst others.

2.2.1 Sources of Information to Inform this Assessment

The following sources were used to inform this AA Screening Report:

- EPA maps of river catchments and groundwater, river, transitional, and coastal waterbodies sourced from <https://gis.epa.ie/EPAMaps/>.
- Geological Survey Ireland (GSI) *Dublin GWB: Summary of Initial Characterisation* (GSI, no date)
- NPWS (2012) Conservation Objectives: Baldoyle Bay SAC 000199. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2013a) Conservation Objectives: Malahide Estuary SAC 000205. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2013b) Conservation Objectives: Baldoyle Bay SPA 004016. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2013c) Conservation Objectives: Rockabill to Dalkey Island SAC 003000. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2013d) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2013e) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2015a) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2015b) Conservation Objectives: Mouds Bog SAC 002331. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2015c) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2016) Conservation Objectives: Howth Head SAC 000202. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
- NPWS (2017) Conservation Objectives: Wicklow Mountains SAC 002122. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
- NPWS (2019) Conservation Objectives: Red Bog, Kildare SAC 000397. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.
- NPWS (2021a) Conservation Objectives: Rye Water Valley/Carton SAC 001398. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS (2021b) Conservation Objectives: Glenasmole Valley SAC 001209. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
- NPWS (2022a) Conservation objectives for Howth Head Coast SPA [004113]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
- NPWS (2022b) Conservation objectives for Dalkey Islands SPA [004172]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
- NPWS (2023) Conservation Objectives: North-west Irish Sea SPA 004236. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

² EC Notice C (2018) 7621 'Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC', Office for Official Publications of the European Communities, Luxembourg.

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- NPWS (2024a) Conservation Objectives: Wicklow Mountains SPA 004040. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
- NPWS (2024b) Conservation Objectives: Poulaphouca Reservoir SPA 004063. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

3 PROJECT DESCRIPTION

3.1 Need for the Proposed Scheme

As a result of economic growth and development in Ireland over the last few decades, income and vehicle ownership levels have increased, with the result that traffic volumes have grown significantly on all roads throughout the country. The capacity of the existing road infrastructure has proved to be inadequate in many places, demonstrated most clearly by severe traffic congestion and delays, particularly during peak periods, in Celbridge. Located on the River Liffey in northern Kildare, Celbridge is an important regional town within Kildare and also functions as a commuter town for Dublin and other significant employment centres in the region.

The single vehicular crossing and high traffic volumes in Celbridge town centre combine to create a number of significant issues including:

- Severe traffic congestion in the town centre, particularly during peak periods, resulting in increased journey times, poor journey time reliability and adverse impacts on the environment including poor air quality and increased noise levels;
- Road safety issues, particularly for vulnerable road users, on the bridge and its approach roads;
- Poor access to Hazelhatch Train Station for all modes of transport, particularly for residents living north of the river, due to town centre congestion and poor town centre permeability/circulation;
- An unwelcoming town centre environment which impacts on the public realm and the expansion and development potential of the town centre; and
- Restricting the sustainable development of lands zoned south of the River Liffey, the Celbridge LAP 2017-2023 requires that an additional river crossing(s) be constructed prior to the development of two Key Development Areas south of the river which have the potential to accommodate approximately 2000 housing units in close proximity to both the town centre and Hazelhatch Train Station.

3.2 Description of the Proposed Scheme

The proposed route is approximately 2 km long, beginning at a proposed junction with Clane Road and heading in a south easterly direction, predominantly through greenfield lands, until it ties into the existing R405 Hazelhatch Road, before terminating at the existing Loughlinstown Road Roundabout near Hazelhatch Train Station. The route also includes proposed junctions with Newtown Road, Simmonstown Manor Road and R405 Hazelhatch Road. A new bridge crossing is required over the River Liffey, located approximately 200m south of the beginning of the route at Clane Road.

Habitat clearance will be necessary to facilitate road improvements which will include tree and scrub removal, stripping topsoil and subsequent import, laying and compaction of embankment fill. The new bridge crossing has the potential to disturb the Dublin (IE_EA_G_008) groundwater body during the construction phase and to directly pollute the River Liffey and downstream European Sites. In summary, the project plan has the potential to disturb QI, species of conservation interest, worsen the condition of waterbodies under WFD and effect downstream sites of European importance and the relevant QIs.

3.3 Site Location

The project is situated in the southwest of Celbridge, County Kildare (**Figure 3-1**) and is located within the Dublin groundwater body, crossing the River Liffey.

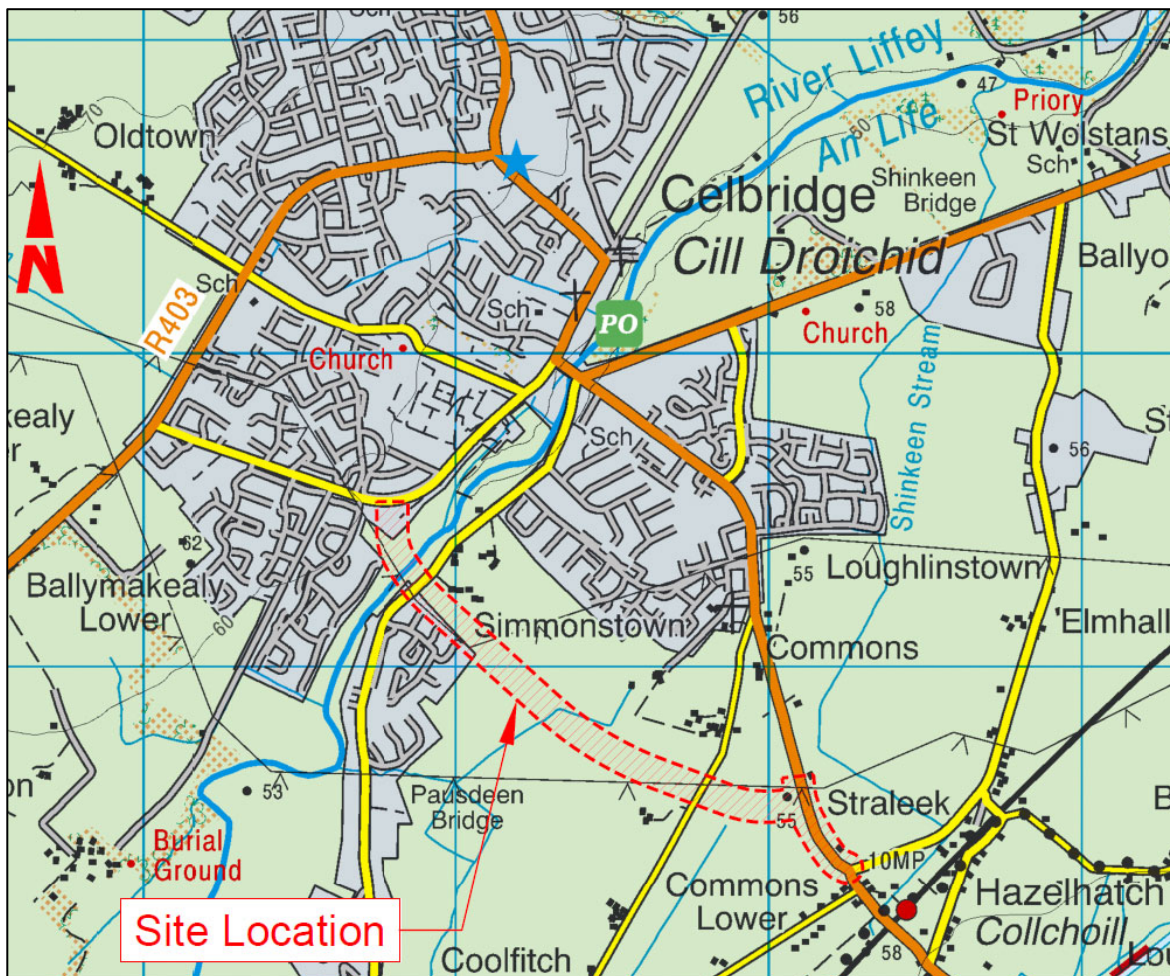


Figure 3-1 Site Location

3.4 Proposed Works

3.4.1 Construction Phase

The key activities which have potential to result in likely significant effects on ecological receptors during the construction phase are:

- Site clearance and enabling works including the removal of vegetation and trees;
- Demolition of the existing buildings;
- Earthworks and construction activities including the construction of the proposed road infrastructure, bridge, drainage, lighting, compounds, and associated infrastructure;
- Surface water run-off during construction, with potential to carry suspended silt or contaminants into local watercourses and associated habitat deterioration effects upon terrestrial habitats;
- Earthworks with potential for changes to groundwater quality, yield and/or flow paths;

3.4.2 Operational and Maintenance Phase

The key activities which have potential to result in likely significant effects on ecological receptors during the operational and maintenance phase are:

- Operational activities including the maintenance of the road and lighting.
- Operational and maintenance site drainage carrying suspended silt or contaminants into local watercourses with potential to carry suspended silt or contaminants into local watercourses;

- Increased activity in the form of road users (vehicles, cyclists, and pedestrians);

The Proposed Works will take approximately 24 months to complete and the normal working hours for the works will be as follows:

- Monday to Friday: 07.00-19.00 hrs;
- Saturday: 8:00 – 14:00 hrs;
- Sunday: No working.

However, some work outside of these hours may be required and permission will be sought by the local authority. In addition to this, some night works may be required e.g. delivery and lifting of bridge beams or any other works that require traffic management on existing roads. Temporary lighting would be required for any night works during construction.

4 STAGE 1 – SCREENING ASSESSMENT

4.1 Directly Connected with or Necessary to the Management of European Site(s)

The Proposed Scheme, as described in Section 3, is not directly connected with or necessary for the management of any European sites.

4.2 Establishing a Zone of Influence

In order to determine the potential for LSE, it is necessary to identify the Zone of Influence (Zol) of the Proposed Scheme and the European sites therein. The Zol of the Proposed Scheme is the geographical area over which it could affect the receiving environment in a way that could have LSEs directly or indirectly on European Site(s). The Zol is established using the Source-Pathway-Receptor (S-P-R) model.

4.2.1 Source-Pathway-Receptor (S-P-R) Model

The likely effects of the Proposed Scheme on any European site have been assessed using a S-P-R model, where:

- A ‘source’ is defined as the individual element of the proposed works that has the potential to impact on a European Site, its qualifying features and its conservation objectives;
- A ‘pathway’ is defined as the means or route by which a source can affect the ecological receptor; and
- A ‘receptor’ is defined as the Special Conservation Interest (SCI) of Special Protection Areas (SPAs) or the Qualifying Interest (QI) of Special Areas of Conservation (SACs) for which conservation objectives have been set for the European sites being assessed, in addition to any relevant supporting habitat for species listed.

A S-P-R model is a standard tool used in environmental assessment. In order for an effect to be likely, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism results in no likelihood for the effect to occur. The S-P-R model was used to identify the European sites, and their QIs/SCIs, to which the Proposed Scheme could be potentially linked.

The Zol “rules” which have been developed specifically for the Proposed Scheme (see below) were applied with reference to available databases and mapping for the Natura 2000 network. As detailed above, the rules have been defined following a consideration of the potential sources of impact and defining the potential pathways of effects arising from these impacts upon the receptors. If no such pathway existed or the pathway did not extend sufficiently based on scientific analysis or professional judgement to impinge on the European Site (in whole or part) then no pathway for LSEs was considered to exist.

In order to inform Stage 1 – Screening Assessment, the following Zol “rules” were used to identify any European sites that the Proposed Scheme may impart LSEs upon:

1. Any European Sites within the proposed works area of the Proposed Scheme will be automatically considered with regard to potential for LSE. This is to take account of direct impacts and effects.
2. Any European Sites which lie within 200 m straight-line measurement of the Proposed Scheme will be automatically considered with regard to potential for LSE. This is to account for:
 - The potential incursion of construction personnel, vehicles or materials beyond the proposed works areas during construction.
 - The extent of potential dust-generating effects and pollution from vehicle emissions.
3. Any European sites which lie within 50 m of the Proposed Scheme will be considered with respect to any vibration disturbance effects with regard to potential for LSE on QI or SCI species during construction and operation.
4. Any European sites which lie within 500 m of the Proposed Scheme will be considered with respect to any noise disturbance effects with regard to potential for LSE on QI or SCI species during construction and operation.

5. Any European sites within the same groundwater body as the Proposed Scheme which support QIs/SCIs which are sensitive to hydrological change (flow or quality) will be automatically considered with regard to potential for LSE (**Figure 4.2**).
6. Any European sites downstream (inland only) of the Proposed Scheme which support QIs/SCIs which are sensitive to hydrological change (flow or quality) will be automatically considered with regard to potential for LSE.
7. Any European sites within Dublin Bay, which is approximately 40 km downstream, will be automatically considered with regard to potential for LSE.
8. Any European sites with upstream hydrological connectivity to the Proposed Scheme will be considered with regard to potential for LSE if they support mobile aquatic QI or SCI species which could move through the proposed works area to/from the European Site as part of their lifecycle.
9. Any European site which supports QI or SCI species which have been shown through desk or field surveys to be present in *ex situ* habitats within/adjacent to the proposed works area will be considered with regard to potential for LSE.

4.3 Likely Significant Effects Alone

Applying the Zol “rules” defined above, S-P-R links between the Proposed Scheme and eight SACs and eight SPAs were identified. An analysis of the application of the Zol “rules” is summarised in **Table 4.1** below. The Proposed Scheme has the potential to have direct, indirect and in combination effects on these European sites.

Table 4.1: Analysis of Zol rules for the Proposed Scheme.

Type of European site	European Site Name and Code	Distance from Scheme Area	Connectivity
SAC	Rye Water Valley / Carton SAC (001398)	4.7 km north	Yes, due to application of Zol rule 5
SAC	Wicklow Mountains SAC (002122)	13.7 km south-east	Yes, due to application of Zol rule 9
SPA	Wicklow Mountains SPA (004025)	13.7 km south-east	Yes, due to application of Zol rule 9
SPA	Poulaphouca Reservoir SPA (004063)	15.8 km south-east	Yes, due to application of Zol rule 9
SAC	Mouds Bog SAC (002331)	21.1 km south-west	Yes, due to application of Zol rule 5
SPA	South Dublin Bay and River Tolka Estuary SPA (004024)	20.8 km east	Yes, due to application of Zol rules 5 and 7
SAC	South Dublin Bay SAC (000210)	20.8 km east	Yes, due to application of Zol rules 5 and 7
SAC	North Dublin Bay SAC (000206)	20.1 km east	Yes, due to application of Zol rules 5 and 7
SPA	North Bull Island SPA (004006)	23.2 km east	Yes, due to application of Zol rules 5 and 7
SPA	North-West Irish Sea SPA (004236)	25.1 km east	Yes, due to application of Zol rule 7
SAC	Baldoyle Bay SAC (000199)	27.1 km north-east	Yes, due to application of Zol rule 5
SPA	Baldoyle Bay SPA (004016)	27.5 km north-east	Yes, due to application of Zol rule 5
SAC	Malahide Estuary SAC (000205)	26.4 km north-east	Yes, due to application of Zol rule 5

Type of European site	European Site Name and Code	Distance from Scheme Area	Connectivity
SPA	Malahide Estuary SPA (004025)	26.5 km north-east	Yes, due to application of Zol rule 5
SAC	Rockabill to Dalkey Island SAC (003000)	29 km east	Yes, due to application of Zol rules 5 and 7
SPA	Dalkey Islands SPA (004172)	29.1 km east	Yes, due to application of Zol rule 7
SAC	Howth Head SAC (000202)	29 km east	Yes, due to application of Zol rules 5 and 7
SPA	Howth Head Coast SPA (004113)	31.6 km east	Yes, due to application of Zol rules 5 and 7

The location of each European Site identified within the Zol of the Proposed Scheme is outlined in **Figure 4-1**.

Following the identification of the European sites which could be subject to LSEs as a result of the Proposed Scheme, a detailed analysis was then completed with reference to the Project Description set out in **Section 3** to identify the relevant LSEs which could arise from the Proposed Scheme on each European Site. The analysis is set out below in **Table 4.2**.

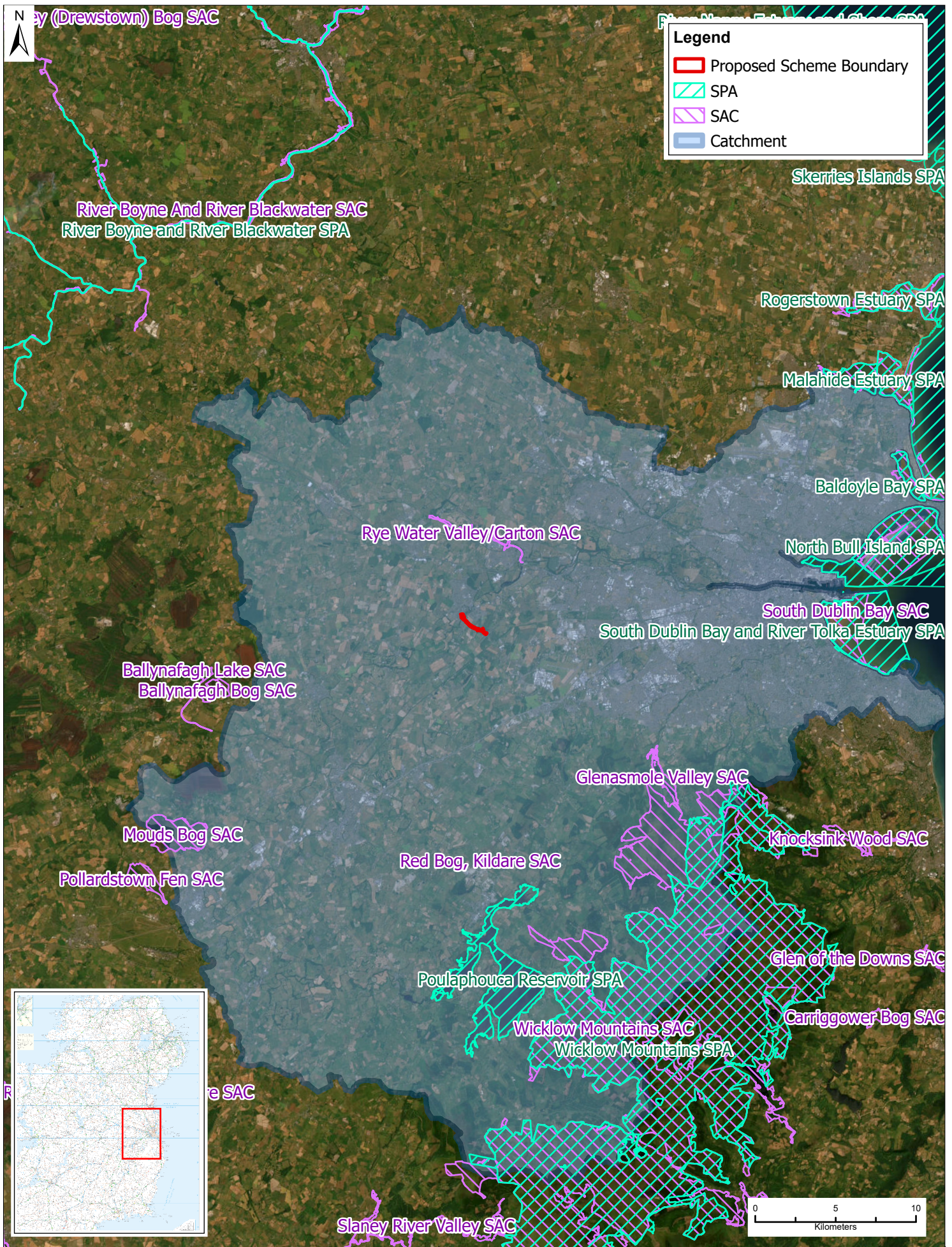


Figure 4-1: European Sites within the Study Area

Project:
Celbridge Hazelhatch Mobility Corridor



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Table 4.2: Potential for Likely Significant Effects on European Sites in Zol of Proposed Scheme

European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
Rye Water Valley/Cartron SAC (001398)	- This SAC is approx. 4.7 km north of the Proposed Scheme. - This SAC and the Proposed Scheme are within the Dublin (IE_EA_G_008) groundwater body (GWB). Therefore, there is potential hydrogeological connectivity between the Proposed Scheme and the SAC.	Petrifying springs with tufa formation (<i>Cratoneurion</i>)* [7220]	To restore the favourable conservation condition of Petrifying springs with tufa formation (<i>Cratoneurion</i>)* in Rye Water Valley/Cartron SAC.	5.0 km north-east.	No – this feature has no direct hydrological pathway and is too distant for a likely groundwater pathway within the Dublin GWB ³ from the Proposed Scheme.	No
	Petrifying springs rely on upwelling groundwater sources or seepage sources, showing there is potential for hydrogeological connectivity between the scheme area and the SAC. However, flow path lengths within the Dublin GWB are typically less than 1 km and the direction of flow is generally towards the Liffey and the coast.	<i>Vertigo angustior</i> (Narrow-mouthed Whorl Snail) [1014]	To restore the favourable conservation condition of Narrow-mouthed Whorl Snail <i>Vertigo angustior</i> in Rye Water Valley/Cartron SAC.	Potential to occur within the Proposed Scheme. This species was recorded during data searches within 5 km of the proposed scheme, but not during baseline surveys. No significant habitat is present within the Zol of the Proposed Scheme for significant populations to occur.	No – these features have no direct hydrological pathway from the Proposed Scheme.	No
	This SAC is on a tributary of the River Liffey with a confluence downstream of the Proposed Scheme. Therefore, there is potential for hydrological connectivity between the Proposed Scheme and <i>ex situ</i> supporting habitats for QI associated with this SAC.	<i>Vertigo moulinsiana</i> (Desmoulin's Whorl Snail) [1016]	To maintain the favourable conservation condition of Desmoulin's Whorl Snail <i>Vertigo moulinsiana</i> in Rye Water Valley/Cartron SAC.	Potential to occur within the Proposed Scheme. This species was recorded during data searches within 5 km of the proposed scheme, but not during baseline surveys. No significant habitat is present within the Zol of the Proposed Scheme for significant populations to occur.		
	The Proposed Scheme has the potential to disturb sewage pipes adjacent to the River Liffey and may cause pollution events downstream in the River Liffey.					

³ GSI (no date) *Dublin GWB: Summary of Initial Characterisation*. Geological Survey Ireland.

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
Wicklow Mountains SAC (002122)	- This SAC is approx. 13.7 km south-east of the Proposed Scheme. - The Proposed Scheme traverses the River Liffey. This SAC is partially within the Liffey and Dublin Bay Catchment, upstream of Poulaphouca Reservoir.	Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) [3110]	To maintain the favourable conservation condition of Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) in Wicklow Mountains SAC.	13.7 km south-east. These features are over 65 km upstream of the Proposed Scheme.	No – these features have no direct hydrological pathway and are not connected through groundwater to the Proposed Scheme.	No
		Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletalia uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i> [3130]	No available Conservation Objectives.			
		Natural dystrophic lakes and ponds [3160]	To maintain the favourable conservation condition of Natural dystrophic lakes and ponds in Wicklow Mountains SAC			
		Calaminarian grasslands of the <i>Violetalia calaminariae</i> [6130]	To maintain the favourable conservation condition of Calaminarian grasslands of the <i>Violetalia calaminariae</i> in Wicklow Mountains SAC			
		Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010]	To restore the favourable conservation condition of Northern Atlantic wet heaths with <i>Erica tetralix</i> in Wicklow Mountains SAC			
		European dry heaths [4030]	To restore the favourable conservation condition of European dry heaths in Wicklow Mountains SAC			
		Alpine and Boreal heaths [4060]	To restore the favourable conservation condition of			

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
			Alpine and Boreal heaths in Wicklow Mountains SAC			
		Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) [8110]	To restore the favourable conservation condition of Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) in Wicklow Mountains SAC			
		Blanket bogs (* if active bog) [7130]	To restore the favourable conservation condition of Blanket bogs (* if active bog) in Wicklow Mountains SAC			
		Calcareous rocky slopes with chasmophytic vegetation [8210]	To restore the favourable conservation condition of Calcareous rocky slopes with chasmophytic vegetation in Wicklow Mountains SAC			
		Siliceous rocky slopes with chasmophytic vegetation [8220]	To restore the favourable conservation condition of Siliceous rocky slopes with chasmophytic vegetation in Wicklow Mountains SAC			
		Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	To restore the favourable conservation condition of Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles in Wicklow Mountains SAC			

Report to Inform Appropriate Assessment

European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
		Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230]	To restore the favourable conservation condition of Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) in Wicklow Mountains SAC			
		Otter <i>Lutra lutra</i> [1355]	To maintain the favourable conservation condition of Otter in Wicklow Mountains SAC.	13.7 km south-east and over 65 km upstream of the Proposed Scheme. Potential to occur within the Proposed Scheme. There are numerous records of this species within 5 km of the Proposed Scheme and potential evidence of otter was found during baseline surveys in the vicinity of the Proposed Scheme.	No – the Proposed Scheme is too distant from the SAC to provide <i>ex situ</i> habitat for otter associated with the SAC.	No
Wicklow Mountains SPA (004040)	- This SPA is approx. 17.1 km south-east of the Proposed Scheme. - The Proposed Scheme traverses the River Liffey. This SPA is partially within the Liffey and Dublin Bay Catchment, upstream of Poulaphouca Reservoir.	Merlin (<i>Falco columbarius</i>) [A098]	To maintain the favourable conservation condition of Merlin in Wicklow Mountains SPA	17.1 km south-east and over 65 km upstream of the Proposed Scheme.	No – no connectivity and no likely impacts on <i>ex situ</i> habitat.	No
		Peregrine (<i>Falco peregrinus</i>) [A103]	To maintain the favourable conservation condition of Peregrine in Wicklow Mountains SPA			
Poulaphouca Reservoir SPA (004063)	- This SPA is approx. 15.7 km south of the Proposed Scheme. - The Proposed Scheme traverses the River Liffey. This SPA is approx. 64 km upstream of the Proposed Scheme.	Greylag Goose (<i>Anser anser</i>) [A043]	To restore the favourable conservation condition of Greylag Goose in Poulaphouca Reservoir SPA	15.8 km south-east and approx. 64.4 km upstream of the Proposed Scheme.	No – no connectivity and no likely impacts on <i>ex situ</i> habitat.	No
		Lesser Black-backed Gull	To maintain the favourable conservation condition of			

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
		(<i>Larus fuscus</i>) [A183]	Lesser Black-backed Gull in Poulaphouca Reservoir SPA			
North Dublin Bay SAC (000206)	- This SAC is approx. 23.2 km east of the Proposed Scheme. - The Proposed Scheme traverses the River Liffey which has downstream connectivity (approx. 40 km) with Dublin Bay. Given the proximity to the river, there is direct hydrological connectivity between the scheme area and the SAC. - The Proposed Scheme is located within the Dublin (IE_EA_G_008) GWB. The general groundwater flow in this GWB is towards the coast and towards the River Liffey. Therefore, there is potential hydrogeological connectivity between the Proposed Scheme and European sites in Dublin Bay. - The Proposed Scheme has the potential to disturb sewage pipes adjacent to the River Liffey and may cause local pollution events and pollution events downstream to European sites.	Mudflats and sandflats not covered by seawater at low tide [1140] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] <i>Petalophyllum ralfsii</i> (Petalwort) [1395] Annual vegetation of drift lines [1210] <i>Salicornia</i> and other annuals colonising mud and sand [1310] Embryonic shifting dunes [2110]	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in North Dublin Bay SAC To maintain the favourable conservation condition of Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) in North Dublin Bay SAC To maintain the favourable conservation condition of Mediterranean salt meadows (<i>Juncetalia maritimi</i>) in North Dublin Bay SAC To maintain the favourable conservation condition of Petalwort in North Dublin Bay SAC To restore the favourable conservation condition of Annual vegetation of drift lines in North Dublin Bay SAC. To restore the favourable conservation condition of <i>Salicornia</i> and other annuals colonising mud and sand in North Dublin Bay SAC. To restore the favourable conservation condition of Embryonic shifting dunes in North Dublin Bay SAC.	20.1 km east. This feature occurs downstream of the Proposed Scheme and is connected directly to the River Liffey and to Dublin Bay GWB.	Yes – proposed works under the Scheme are likely to discharge directly into the River Liffey and may disturb the Dublin GWB. Both of which, are connected downstream to North Dublin Bay SAC.	Yes

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
		Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120]	To restore the favourable conservation condition of Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) in North Dublin Bay SAC.			
		Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation (grey dunes) in North Dublin Bay SAC.			
		Humid dune slacks [2190]	To restore the favourable conservation condition of Humid dune slacks in North Dublin Bay SAC.			
South Dublin Bay SAC (000210)	- This SAC is approx. 20.8 km east of the Proposed Scheme. - The Proposed Scheme traverses the River Liffey which has downstream connectivity (approx. 40 km) with Dublin Bay. Given the proximity to the river, there is direct hydrological connectivity between the scheme area and the SAC. - The Proposed Scheme is located within the Dublin (IE_EA_G_008) GWB. The general groundwater flow in this GWB is towards the coast and towards the River Liffey. Therefore, there is potential hydrogeological connectivity between the Proposed Scheme and European sites in Dublin Bay. - The Proposed Scheme has the potential to disturb sewage pipes adjacent to the River Liffey and may cause local pollution events and pollution events downstream to European sites.	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Salicornia and other annuals colonising mud and sand [1310] Embryonic shifting dunes [2110]	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in South Dublin Bay SAC. No available Conservation Objectives. No available Conservation Objectives. No available Conservation Objectives.	20.8 km east. This feature occurs downstream of the Proposed Scheme and is connected directly to the River Liffey and to Dublin Bay GWB.	Yes – proposed works under the Scheme are likely to discharge directly into the River Liffey and may disturb the Dublin GWB. Both of which, are connected downstream to South Dublin Bay SAC.	Yes
South Dublin Bay and River	This SPA is approx. 20.1 km east of the Proposed Scheme.	Light-bellied Brent Goose	To maintain the favourable conservation condition of	20.8 km east. This feature occurs	Yes – proposed works under the	Yes

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
Tolka Estuary SPA (004024)	- The Proposed Scheme traverses the River Liffey which has downstream connectivity (approx. 40 km) with Dublin Bay. Given the proximity to the river, there is direct hydrological connectivity between the scheme area and the SPA. - The Proposed Scheme is located within the Dublin (IE_EA_G_008) GWB. The general groundwater flow in this GWB is towards the coast and towards the River Liffey. Therefore, there is potential hydrogeological connectivity between the Proposed Scheme and European sites in Dublin Bay. - The Proposed Scheme has the potential to disturb sewage pipes adjacent to the River Liffey and may cause local pollution events and pollution events downstream to European sites.	(<i>Branta bernicla hrota</i>) [A046] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] 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]	Light-bellied Brent Goose in South Dublin Bay and River Tolka Estuary SPA. To maintain the favourable conservation condition of Oystercatcher in South Dublin Bay and River Tolka Estuary SPA. To maintain the favourable conservation condition of Ringed Plover in South Dublin Bay and River Tolka Estuary SPA. To maintain the favourable conservation condition of Knot in South Dublin Bay and River Tolka Estuary SPA. To maintain the favourable conservation condition of Sanderling in South Dublin Bay and River Tolka Estuary SPA. To maintain the favourable conservation condition of Dunlin in South Dublin Bay and River Tolka Estuary SPA. To maintain the favourable conservation condition of Bar-tailed Godwit in South Dublin Bay and River Tolka Estuary SPA. To maintain the favourable conservation condition of Redshank in South Dublin Bay and River Tolka Estuary SPA.	downstream of the Proposed Scheme and is connected directly to the River Liffey and to Dublin Bay GWB.	Scheme are likely to discharge directly into the River Liffey and may disturb the Dublin GWB. Both of which, are connected downstream to South Dublin Bay and River Tolka Estuary SPA. There is potential for land within the study area to provide some ex-situ function to the SPA.	

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
		Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]	To maintain the favourable conservation condition of Black-headed Gull in South Dublin Bay and River Tolka Estuary SPA.			
		Roseate Tern (<i>Sterna dougallii</i>) [A192]	To maintain the favourable conservation condition of Roseate Tern in South Dublin Bay and River Tolka Estuary SPA.			
		Common Tern (<i>Sterna hirundo</i>) [A193]	To maintain the favourable conservation condition of Common Tern in South Dublin Bay and River Tolka Estuary SPA.			
		Arctic Tern (<i>Sterna paradisaea</i>) [A194]	To maintain the favourable conservation condition of Arctic Tern in South Dublin Bay and River Tolka Estuary SPA.			
		Wetland and Waterbirds [A999]	To maintain the favourable conservation condition of the wetland habitat in South Dublin Bay and River Tolka Estuary SPA as a resource for the regularly occurring migratory waterbirds that utilise it.			
		Grey Plover (<i>Pluvialis squatarola</i>) [A141]	Grey Plover is proposed for removal from the list of Special Conservation Interests for South Dublin Bay and River Tolka Estuary SPA.			
Mouds Bog SAC (002331)	This SAC is approx. 20.4 km west of the Proposed Scheme.	Active raised bogs* [7110]	To restore the favourable conservation condition of Active raised bogs in Mouds Bog SAC.	21.1 km southwest. This feature is partially within the Liffey and Dublin Bay Catchment, upstream of	No – no connectivity, as it is upstream of the Proposed Scheme and, due to	No

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
	- The Proposed Scheme traverses the River Liffey. This SAC is partially within the Liffey and Dublin Bay Catchment, upstream of the Proposed Scheme. - The Proposed Scheme is located within the Dublin (IE_EA_G_008) GWB. A very small portion (i.e. <2%) of the SAC is within this GWB.	Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150]	The long-term aim for Degraded raised bogs still capable of natural regeneration is that its peat-forming capability is re-established; therefore, the conservation objective for this habitat is inherently linked to that of Active raised bogs (7110) and a separate conservation objective has not been set in Mouds Bog SAC. Depressions on peat substrates of the Rhynchosporion is an integral part of good quality active raised bogs (7110) and thus a separate conservation objective has not been set for the habitat in Mouds Bog SAC.	the Proposed Scheme. A very small proportion of the feature is within the Dublin GWB.	the distance and direction, there is no likely hydrogeological pathway from the Proposed Scheme.	
North Bull Island SPA (004006)	- This SPA is approx. 23.2 km east of the Proposed Scheme. - The Proposed Scheme traverses the River Liffey which has downstream connectivity (approx. 40 km) with Dublin Bay. Given the proximity to the river, there is direct hydrological connectivity between the scheme area and the SPA. - The Proposed Scheme is located within the Dublin (IE_EA_G_008) GWB. The general groundwater flow in this GWB is towards the coast and towards the River Liffey. Therefore, there is potential hydrogeological connectivity between the Proposed Scheme and European sites in Dublin Bay. - The Proposed Scheme has the potential to disturb sewage pipes adjacent to the	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]	To maintain the favourable conservation condition of Light-bellied Brent Goose in North Bull Island SPA. To maintain the favourable conservation condition of Shelduck in North Bull Island SPA. To maintain the favourable conservation condition of Teal in North Bull Island SPA. To maintain the favourable conservation condition of Pintail in North Bull Island SPA. To maintain the favourable conservation condition of	23.2 km east. This feature occurs downstream of the Proposed Scheme and is connected directly to the River Liffey and to Dublin Bay GWB.	Yes – proposed works under the Scheme are likely to discharge directly into the River Liffey and may disturb the Dublin GWB. Both of which, are connected downstream to North Bull Island SPA. There is potential for land within the study area to provide some ex-situ function to the SPA.	Yes

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
	River Liffey and may cause local pollution events and pollution events downstream to European sites.		Shoveler in North Bull Island SPA.			
		Oystercatcher (<i>Haematopus ostralegus</i>) [A130]	To maintain the favourable conservation condition of Oystercatcher in North Bull Island SPA.			
		Golden Plover (<i>Pluvialis apricaria</i>) [A140]	To maintain the favourable conservation condition of Golden Plover in North Bull Island SPA.			
		Grey Plover (<i>Pluvialis squatarola</i>) [A141]	To maintain the favourable conservation condition of Grey Plover in North Bull Island SPA.			
		Knot (<i>Calidris canutus</i>) [A143]	To maintain the favourable conservation condition of Knot in North Bull Island SPA.			
		Sanderling (<i>Calidris alba</i>) [A144]	To maintain the favourable conservation condition of Sanderling in North Bull Island SPA.			
		Dunlin (<i>Calidris alpina</i>) [A149]	To maintain the favourable conservation condition of Dunlin in North Bull Island SPA.			
		Black-tailed Godwit (<i>Limosa limosa</i>) [A156]	To maintain the favourable conservation condition of Black-tailed Godwit in North Bull Island SPA.			
		Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]	To maintain the favourable conservation condition of Bar-tailed Godwit in North Bull Island SPA.			
		Curlew (<i>Numenius arquata</i>) [A160]	To maintain the favourable conservation condition of			

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
			Curlew in North Bull Island SPA.			
		Redshank (<i>Tringa totanus</i>) [A162]	To maintain the favourable conservation condition of Redshank in North Bull Island SPA.			
		Turnstone (<i>Arenaria interpres</i>) [A169]	To maintain the favourable conservation condition of Turnstone in North Bull Island SPA.			
		Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]	To maintain the favourable conservation condition of Black-headed Gull in North Bull Island SPA.			
		Wetland and Waterbirds [A999]	To maintain the favourable conservation condition of the wetland habitat in North Bull Island SPA as a resource for the regularly occurring migratory waterbirds that utilise it.			
North-West Irish Sea SPA (004236)	- This SPA is approx. 25.1 km east of the Proposed Scheme. - The Proposed Scheme traverses the River Liffey which has downstream connectivity (approx. 40 km) with Dublin Bay. Given the proximity to the river, there is direct hydrological connectivity between the scheme area and the SPA. - The Proposed Scheme is located within the Dublin (IE_EA_G_008) GWB. The general groundwater flow in this GWB is towards the coast and towards the River Liffey. Therefore, there is potential hydrogeological connectivity between the Proposed Scheme and European sites in Dublin Bay.	Red-throated Diver (<i>Gavia stellata</i>) [A001] Great Northern Diver (<i>Gavia immer</i>) [A003] Manx Shearwater (<i>Puffinus puffinus</i>) [A013] Common Scoter (<i>Melanitta nigra</i>) [A065]	To maintain the favourable conservation condition of red-throated diver at North-west Irish Sea SPA. To maintain the favourable conservation condition of great northern diver at North-west Irish Sea SPA. To maintain the favourable conservation condition of manx shearwater in North-west Irish Sea SPA. To maintain the favourable conservation condition of common scoter at North-west Irish Sea SPA.	25.1 km east. This feature occurs downstream of the Proposed Scheme and is connected directly to the River Liffey and to Dublin Bay GWB.	Yes – proposed works under the Scheme are likely to discharge directly into the River Liffey and may disturb the Dublin GWB. Both of which are connected downstream to North-West Irish Sea SPA. There is potential for land within the study area to provide some <i>ex situ</i> function to the SPA.	Yes

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
	The Proposed Scheme has the potential to disturb sewage pipes adjacent to the River Liffey and may cause local pollution events and pollution events downstream to European sites.	Little Gull (<i>Larus minutus</i>) [A177] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Common Gull (<i>Larus canus</i>) [A182] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] Great Black-backed Gull (<i>Larus marinus</i>) [A187] Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194] Little Tern (<i>Sterna albifrons</i>) [A195]	To maintain the favourable conservation condition of little gull at North-west Irish Sea SPA. To maintain the favourable conservation condition of black-headed gull at North-west Irish Sea SPA. To maintain the favourable conservation condition of common gull at North-west Irish Sea SPA. To maintain the favourable conservation condition of lesser black-backed gull in North-west Irish Sea SPA. To maintain the favourable conservation condition of great black-backed gull at North-west Irish Sea SPA. To maintain the favourable conservation condition of roseate tern in North-west Irish Sea SPA. To maintain the favourable conservation condition of common tern in North-west Irish Sea SPA. To maintain the favourable conservation condition of Arctic tern in North-west Irish Sea SPA. To maintain the favourable conservation condition of little tern in North-west Irish Sea SPA.			

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
		Guillemot (<i>Uria aalge</i>) [A199]	To maintain the favourable conservation condition of guillemot in North-west Irish Sea SPA.			
		Razorbill (<i>A/ca torda</i>) [A200]	To maintain the favourable conservation condition of razorbill in North-west Irish Sea SPA.			
		Fulmar (<i>Fulmarus glacialis</i>) [A009]	To restore the favourable conservation condition of fulmar in North-west Irish Sea SPA			
		Cormorant (<i>Phalacrocorax carbo</i>) [A017]	To restore the favourable conservation condition of cormorant in North-west Irish Sea SPA			
		Shag (<i>Phalacrocorax aristotelis</i>) [A018]	To restore the favourable conservation condition of shag in North-west Irish Sea SPA			
		Herring Gull (<i>Larus argentatus</i>) [A184]	To restore the favourable conservation condition of herring gull in North-west Irish Sea SPA			
		Kittiwake (<i>Rissa tridactyl</i>) [A188]	To restore the favourable conservation condition of kittiwake in North-west Irish Sea SPA			
		Puffin (<i>Fratercula arctica</i>) [A204]	To restore the favourable conservation condition of puffin in North-west Irish Sea SPA			
Baldoyle Bay SAC (000199)	- This SAC is approx. 27.1 km east of the Proposed Scheme. - The Proposed Scheme is located within the Dublin (IE_EA_G_008) GWB. The	Mudflats and sandflats not covered by seawater at low tide [1140]	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Baldoyle Bay SAC.	27.1 km northeast. These estuarine features are connected to the Dublin GWB.	No – there is no likely hydrological or hydrogeological pathway to this SAC.	No

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
	general groundwater flow in this GWB is towards the coast and towards the River Liffey. Therefore, there is potential hydrogeological connectivity between the Proposed Scheme and European sites on Dublin's coast.	<i>Salicornia</i> and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]	To maintain the favourable conservation condition of <i>Salicornia</i> and other annuals colonising mud and sand in Baldoyle Bay SAC. To maintain the favourable conservation condition of Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) in Baldoyle Bay SAC To maintain the favourable conservation condition of Mediterranean salt meadows (<i>Juncetalia maritimi</i>) in Baldoyle Bay SAC			
Malahide Estuary SAC (000205)	- This SAC is approx. 26.4 km north-east of the Proposed Scheme. - The Proposed Scheme is located within the Dublin (IE_EA_G_008) GWB. The general groundwater flow in this GWB is towards the coast and towards the River Liffey. Therefore, there is potential hydrogeological connectivity between the Proposed Scheme and European sites on Dublin's coast.	Mudflats and sandflats not covered by seawater at low tide [1140] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] <i>Salicornia</i> and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) [1330]	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Malahide Estuary SAC. To maintain the favourable conservation condition of Mediterranean salt meadows (<i>Juncetalia maritimi</i>) in Malahide Estuary SAC To maintain the favourable conservation condition of <i>Salicornia</i> and other annuals colonising mud and sand in Malahide Estuary SAC. To restore the favourable conservation condition of Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>)	27.4 km northeast. These estuarine features are connected to the Dublin GWB.	No – there is no likely hydrological or hydrogeological pathway to this SAC.	No

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
			<i>maritimae</i>) in Malahide Estuary SAC.			
		Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes') [2120]	To restore the favourable conservation condition of Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes') in Malahide Estuary SAC.			
		Fixed coastal dunes with herbaceous vegetation ('grey dunes') [2130]	To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes') in Malahide Estuary SAC.			
Malahide Estuary SPA (004025)	- This SPA is approx. 26.5 km north-east of the Proposed Scheme. - The Proposed Scheme is located within the Dublin (IE_EA_G_008) GWB. The general groundwater flow in this GWB is towards the coast and towards the River Liffey. Therefore, there is potential hydrogeological connectivity between the Proposed Scheme and European sites on Dublin's coast.	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]	To maintain the favourable conservation condition of Light-bellied Brent Goose in Malahide Estuary SPA. To maintain the favourable conservation condition of Shelduck in Malahide Estuary SPA. To maintain the favourable conservation condition of Pintail in Malahide Estuary SPA. To maintain the favourable conservation condition of Goldeneye in Malahide Estuary SPA. To maintain the favourable conservation condition of Red-breasted Merganser in Malahide Estuary SPA.	27.4 km northeast. These features are connected to the Dublin GWB.	No – there is no likely hydrological or hydrogeological pathway to this SPA.	No

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
		Great Crested Grebe (<i>Podiceps cristatus</i>) [A005]	To maintain the favourable conservation condition of Great Crested Grebe in Malahide Estuary SPA.			
		Oystercatcher (<i>Haematopus ostralegus</i>) [A130]	To maintain the favourable conservation condition of Oystercatcher in Malahide Estuary SPA.			
		Golden Plover (<i>Pluvialis apricaria</i>) [A140]	To maintain the favourable conservation condition of Golden Plover in Malahide Estuary SPA.			
		Grey Plover (<i>Pluvialis squatarola</i>) [A141]	To maintain the favourable conservation condition of Grey Plover in Malahide Estuary SPA.			
		Knot (<i>Calidris canutus</i>) [A143]	To maintain the favourable conservation condition of Knot in Malahide Estuary SPA.			
		Dunlin (<i>Calidris alpina</i>) [A149]	To maintain the favourable conservation condition of Dunlin in Malahide Estuary SPA.			
		Black-tailed Godwit (<i>Limosa limosa</i>) [A156]	To maintain the favourable conservation condition of Black-tailed Godwit in Malahide Estuary SPA.			
		Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]	To maintain the favourable conservation condition of Bar-tailed Godwit in Malahide Estuary SPA.			
		Redshank (<i>Tringa totanus</i>) [A162]	To maintain the favourable conservation condition of Redshank in Malahide Estuary SPA.			

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
		Wetland and Waterbirds [A999]	To maintain the favourable conservation condition of the wetland habitat in Malahide Estuary SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.			
Baldoyle Bay SPA (004016)	- This SPA is approx. 27.5 km east of the Proposed Scheme. - The Proposed Scheme is located within the Dublin (IE_EA_G_008) GWB. The general groundwater flow in this GWB is towards the coast and towards the River Liffey. Therefore, there is potential hydrogeological connectivity between the Proposed Scheme and European sites on Dublin's coast.	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]	To maintain the favourable conservation condition of Light-bellied Brent Goose in Baldoyle Bay SPA. To maintain the favourable conservation condition of Shelduck in Baldoyle Bay SPA. To maintain the favourable conservation condition of Ringed Plover in Baldoyle Bay SPA. To maintain the favourable conservation condition of Golden plover in Baldoyle Bay SPA. To maintain the favourable conservation condition of Grey Plover in Baldoyle Bay SPA. To maintain the favourable conservation condition of Bar-tailed Godwit in Baldoyle Bay SPA. To maintain the favourable conservation condition of the wetland habitat in Baldoyle Bay SPA.	27.5 km northeast. These features are connected to the Dublin GWB.	No – there is no likely hydrological or hydrogeological pathway to this SPA.	No

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European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
Rockabill to Dalkey Island SAC (003000)	- This SAC is approx. 29.0 km east of the Proposed Scheme. - The Proposed Scheme traverses the River Liffey which has downstream connectivity (approx. 40 km) with Dublin Bay. Given the proximity to the river, there is direct hydrological connectivity between the scheme area and the SAC. - The Proposed Scheme is located within the Dublin (IE_EA_G_008) GWB. The general groundwater flow in this GWB is towards the coast and towards the River Liffey. Therefore, there is potential hydrogeological connectivity between the Proposed Scheme and European sites in Dublin Bay. - The Proposed Scheme has the potential to disturb sewage pipes adjacent to the River Liffey and may cause local pollution events and pollution events downstream to European sites.	Reefs [1170] Harbour Porpoise (<i>Phocoena phocoena</i>) [1351]	To maintain the favourable conservation condition of Reefs in Rockabill to Dalkey Island SAC. To maintain the favourable conservation condition of Harbour porpoise in Rockabill to Dalkey Island SAC.	29 km east – this feature occurs downstream of the Proposed Scheme and is connected directly to the River Liffey and to Dublin Bay GWB. Discharge from the River Liffey into Dublin Bay can travel eastwards through current flow and mixing.	Yes – proposed works under the Scheme are likely to discharge directly into the River Liffey and may disturb the Dublin GWB. Both of which, are connected downstream to Rockabill to Dalkey Island SAC and may impact ecologically important marine habitats and the harbour porpoise.	Yes
Dalkey Islands SPA (004172)	- This SPA is approx. 29.1 km east of the Proposed Scheme. - The Proposed Scheme traverses the River Liffey which has downstream connectivity (approx. 40 km) with Dublin Bay. Given the proximity to the river, there is direct hydrological connectivity between the scheme area and the SPA. - The Proposed Scheme is located within the Dublin (IE_EA_G_008) GWB. The general groundwater flow in this GWB is towards the coast and towards the River Liffey. Therefore, there is potential hydrogeological connectivity between the Proposed Scheme and European sites in Dublin Bay. - The Proposed Scheme has the potential to disturb sewage pipes adjacent to the River Liffey and may cause local pollution	Roseate Tern (<i>Sterna dougallii</i>) [A192], Common Tern (<i>Sterna hirundo</i>) [A193], Arctic Tern (<i>Sterna paradisaea</i>) [A194]	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	29.1 km east. These features occur partially within the Dublin Bay coastal waterbody, which the River Liffey and Dublin GWB flow into. Discharge from the River Liffey into Dublin Bay can travel south-eastwards through current flow and mixing.	Yes – proposed works under the Scheme are likely to discharge directly into the River Liffey and may disturb the Dublin GWB. Both of which are connected downstream to Dalkey Islands SPA and Dublin Bay habitats potentially utilised by the SCI bird species of this SPA.	Yes

Report to Inform Appropriate Assessment

European site	Connectivity	QI/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
	events and pollution events downstream to European sites.					
Howth Head SAC (000202)	- This SAC is approx. 29.0 km east of the Proposed Scheme. - The Proposed Scheme traverses the River Liffey which has downstream connectivity (approx. 40 km) with Dublin Bay. Given the proximity to the river, there is direct hydrological connectivity between the scheme area and the SAC. - The Proposed Scheme is located within the Dublin (IE_EA_G_008) GWB. The general groundwater flow in this GWB is towards the coast and towards the River Liffey. Therefore, there is potential hydrogeological connectivity between the Proposed Scheme and European sites in Dublin Bay. - The Proposed Scheme has the potential to disturb sewage pipes adjacent to the River Liffey and may cause local pollution events and pollution events downstream to European sites.	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] European dry heaths [4030]	To maintain the favourable conservation condition of Vegetated sea cliffs of the Atlantic and Baltic coasts in Howth Head SAC. To maintain the favourable conservation condition of European dry heaths in Howth Head SAC.	29 km east. These terrestrial features occur within the Dublin GWB.	No – there is no likely hydrological or hydrogeological pathway to these terrestrial features.	No
Howth Head Coast SPA (004113)	- This SPA is approx. 31.6 km east of the Proposed Scheme. - The Proposed Scheme traverses the River Liffey which has downstream connectivity (approx. 40 km) with Dublin Bay. Given the proximity to the river, there is direct hydrological connectivity between the scheme area and the SPA. - The Proposed Scheme is located within the Dublin (IE_EA_G_008) GWB. The general groundwater flow in this GWB is towards the coast and towards the River Liffey. Therefore, there is potential hydrogeological connectivity between the Proposed Scheme and European sites in Dublin Bay.	Kittiwake (<i>Rissa tridactyla</i>) [A188]	To maintain or restore the favourable conservation condition of the Kittiwake (<i>Rissa tridactyla</i>) for Howth Head Coast SPA.	31.6 km east. This feature occurs downstream of the Proposed Scheme and is connected directly to the River Liffey and to Dublin Bay GWB. Discharge from River Liffey into Dublin Bay can travel north-eastwards due through current flow and mixing.	Yes – proposed works under the Scheme are likely to discharge directly into the River Liffey and may disturb the Dublin GWB. There is potential connectivity downstream to Howth Head SPA and Dublin Bay habitats potentially utilised by the SCI bird species of this SPA.	Yes

Report to Inform Appropriate Assessment

European site	Connectivity	Q/SCI	Conservation Objective	Location Relative to Proposed Scheme	Potential Pathway for Impacts	Potential for LSE
	The Proposed Scheme has the potential to disturb sewage pipes adjacent to the River Liffey and may cause local pollution events and pollution events downstream to European sites.					

Through the River Liffey, the Proposed Scheme has connectivity to European sites in Dublin Bay, approximately 40 km downstream. While no instream works are proposed and construction-related emissions (e.g. suspended sediment, cement and hydrocarbons) are not likely to cause significant pollution events, the presence of sewer pipes in the banks of the River Liffey create the potential for a sewage leak and a significant pollution event in the River Liffey and downstream in Dublin Bay. Without further detail regarding the construction of the bridge and the ancillary works, such as the potential requirement to move unrelated services, there is potential for likely significant effects on European sites to occur. Given the potential of the Proposed Scheme to result in direct and indirect effects on various water dependent QIs and SCIs, and its connectivity to several European sites for which a S-P-R link was identified in this report, there is potential for likely significant effects.

4.4 Likely Significant Effects In-combination

Given that there is a likely significant effect alone, no detailed consideration at this stage has been given to in-combination effects. However, these will be considered in detail within the Natura Impact Statement (NIS) which will be prepared as Stage 2 of the AA process.

4.5 Conclusion of Stage 1 – Screening Assessment

The following conclusions are made at the Stage 1 – Screening Assessment stage:

- The project is not directly connected with or necessary for the management on any European Site.
- On the basis of works adjacent to the River Liffey, and the details regarding the Proposed Scheme at the time of assessment, the Proposed Scheme has potential to result in LSEs, alone or in combination with other plans and projects, on the following European sites:
 - North Dublin Bay SAC (000206);
 - South Dublin Bay SAC (000210);
 - South Dublin Bay and River Tolka Estuary SPA (004024);
 - North Bull Island SPA (004006);
 - North-West Irish Sea SPA (004236);
 - Rockabill to Dalkey Island SAC (003000);
 - Dalkey Islands SPA (004172); and
 - Howth Head Coast SPA (004113); and
- Due to the LSEs identified, it is concluded that a Stage 2 NIS is required to inform an AA of the adverse effects to site integrity of the Proposed Scheme on the European sites and their associated QIs and SCIs, by the Competent Authority.

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