

Industrial Development Authority Phase 2 IDA Business & Technology Park Oakfield, Co. Sligo



Screening for Appropriate Assessment & Natura Impact Statement

Prepared By:



Delichon Ecology Prepared For:

RPS Consulting Engineers



Screening for Appropriate Assessment & Natura Impact Statement

Revision	Document Number	Description	Prepared by	Checked by	Date
0	67_2024	Screening for Appropriate Assessment & Natura Impact Statement	ED	ED	06/11/2024
1	67_2024	Screening for Appropriate Assessment & Natura Impact Statement	ED	ED	06/12/2024
2	67_2024	Screening for Appropriate Assessment & Natura Impact Statement	ED	ED	09/12/2024
3	67_2024	Screening for Appropriate Assessment & Natura Impact Statement	ED	ED	18/12/2024



Table of Contents

De	licn	on Ecology	Impact Statement	
			RC R.	
Ta	abl	e of Contents	L.	
1.	ΙΝΤΙ	RODUCTION		1
	.1		Assessment	7 201
2	MF			کې د
-	2.1.1		te Assessment	5
	2.1.1		t (Natura Impact Statement)	
	2.1.3			
	2.1.4		port	-
	2.1.5			
3	PRO		PEAN SITES	
3.	.1	Site Location & Project Description		10
3.	.2	European Sites within the Project Zo	ne of Influence	
	3.2.1	Source-Pathway-Receptor Model		11
	3.2.2	Likely Significant Effect		12
	3.2.3	Summary of Connectivity Analysis		18
	3.2.4	European Site Descriptions		21
	3.2.5	Conservation Objectives of Europe	ean Sites	22
4	EXIS	STING ENVIRONMENT		25
4	.1	Habitats within the study area		25
4	.2	Flooding		32
4.	.3	Geology, Hydrology and Hydrogeolog	gy	32
5	SCR	EENING FOR APPROPRIATE AS	SSESSMENT	
	5.1.1	Conclusion of Cumulative Impact	Assessment	42
5.	.2	Screening for AA Conclusion		47
6	STA	GE 2 – NATURA IMPACT STAT	EMENT	
6.	.1	Impact Assessment		
	6.1.1	Characterising Impacts		48
	6.1.2	Meaning of 'Adversely Affect the	Integrity of the Site'	49
	6.1.3	Potential for Direct Impacts		49
	6.1.4	Potential for Indirect Impacts		50
	6.1.5	Potential Effects, Description of Pa	athway and Potential Zone of Influenc	e 50



	6.1.6 Objectiv	Potential Impacts from the Proposed Development on the Site Specific Conservation ves of European Sites within the Project Zone of Influence	۲1
6	. 2 Be	est Practice Design & Mitigation Measures	. 60
	6.2.1	Environmental Clerk of Works (ECoW)	60
	6.2.2	Site Compound	$\nabla \Delta$
	6.2.3	Further Measures to Ensure Protection of Water Quality	. 61
	6.2.4	Further Measures to Ensure Control of Sediments	. 61
	6.2.5	Soils	. 62
	6.2.6	Mitigation Measures when working with cement	. 63
	6.2.7	Management of Machinery and associated Materials	. 63
	6.2.8	Protection of Soil, Surface Waters and Groundwater During Construction Stage	. 63
	6.2.9	Wet weather / potential flood procedures	. 64
	6.2.10	Dust Control	. 65
	6.2.11	Invasive Species	. 66
	6.2.12	Other Legislation	. 66
	6.2.13	Operational Phase Controls	. 66
	6.2.14	Implementation of Mitigation Measures	. 66
	6.2.15	Degree of confidence in the likely success of the mitigation measure	. 67
	6.2.16	How any mitigation failure will be addressed	. 67
6	.3 Re	esidual Effects	. 69
7	NIS Co	onclusion	70
AP	PENDIX	(A – PROPOSED SITE LAYOUT	72

Table

Table 3-1: European Site within the Zone of Influence of the proposed development site	13
Table 5-1: Screening Assessment Criteria	33
Table 5-2: In-combination Effects associated with the proposed development	
Table 5-3: Screening Assessment Criteria	42
Table 6-1: Impact Source – Pathway and Zone of Influence for the proposed project	50
Table 6-2 Impact Assessment on the Site Specific Conservation Objectives of European Site	s within
the Project Zone of Influence	51
•	
Figures	
-	3
Figures	



Figure 3-2: European Sites and the underlying groundwater body		20
Figure 4-1: Habitats within the proposed development site and environs	<u></u>	27
Figure 6-1: Proposed silt fencing for the proposed development site		68
	07	, , , , , , , , , , , , , , , , , , ,



1.INTRODUCTION

Delichon Ecology have been commissioned by RPS Consulting Engineers Ltd to carry out a Screening for Appropriate Assessment (AA) & Natura Impact Statement (NIS) for a proposed Phase 2 Business & Technology Park development at Oakfield, Co. Sligo. The location of the proposed works is presented in **Figure 1-1** while the site layout is presented in **Figure 1-2**.

The Screening for Appropriate Assessment has been prepared to provide the competent authority, Sligo County Council, with the relevant scientific information to conduct the Appropriate Assessment (AA). This information will allow Sligo County Council to determine, in view of best scientific knowledge, if the proposed project, individually or in combination with other plans and projects is likely to have a significant effect on a European site and, where necessary, to ascertain whether or not the proposed project would adversely affect the integrity of a European site.

1.1 Legislative Context for Appropriate Assessment

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as "The Habitats Directive", provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000.

Natura 2000 sites are defined under the Habitats Directive (Article 3) as a coherent European ecological network of special areas of conservation, composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, shall enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range. In Ireland, these sites are designated as European Sites and include Special Protection Areas (SPAs), established under the EU Birds Directive (79/409/EEC, as codified by 2009/147/EC) for birds and Special Areas of Conservation (SACs), established under the Habitats Directive 92/43/EEC for habitats and species.

The Habitats Directive has been transposed into Irish law by Part XAB of the Planning and Development Act, 2000 - 2015 and the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477/2011) as amended.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to adversely affect the integrity of European Sites (Annex 1.1).

Article 6(3) establishes the requirement for Appropriate Assessment (AA):

Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.



Article 6(3) of the Habitats Directive, transposed into Irish Law relevant to this project includes Part XAB of the Planning and Development Act, 2000 as amended and the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).

Natura 2000 sites in Ireland (herein referred to as European sites) that form part of the Natura 2000 network of protected sites include Special Areas of Conservation (SACs) designated due to their significant ecological importance for species and habitats protected under Annexes I and II respectively of the Habitats Directive, and Special Protected Areas (SPAs), designated for the protection of populations and habitats of bird species protected under the EU Birds Directive (Council Directive 2009/409/EEC). Features for which SACs and SPAs are designated are termed Qualifying Interests and Special Conservation Interests respectively. Collectively, Qualifying Interests and Special Conservation Interests are herein referred to as Qualifying Features.

As the proposed project is not directly connected with or necessary to the management of any European Site, Sligo County Council as the competent authority, is obliged to assess, in view of best scientific knowledge, if the proposed development, individually or in combination with other plans or projects, is likely to have a significant effect on European Sites.

The staged assessment process undertaken to meet Article 6(3) obligations is described in **Section 2** below.



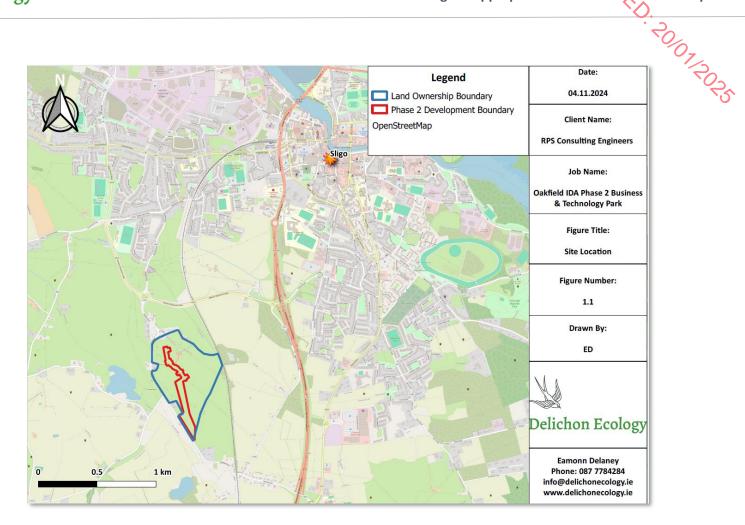


Figure 1-1: Site Location & Boundary



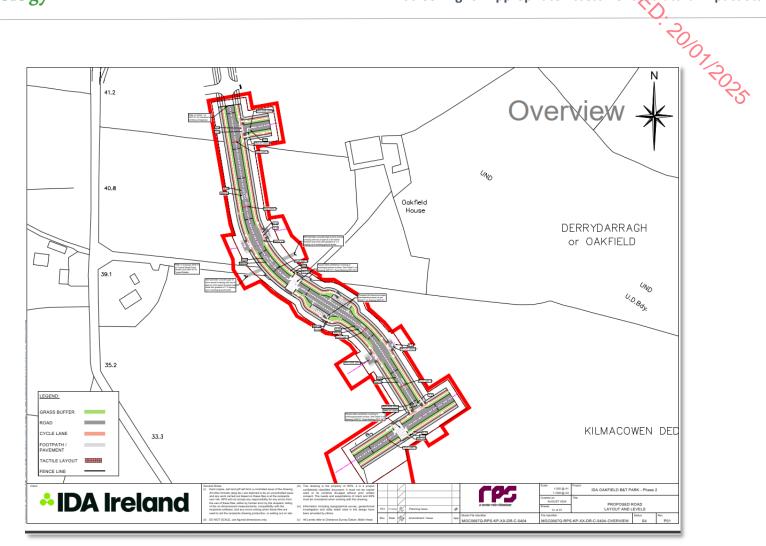


Figure 1-2: Site Layout Plan



2 METHODOLOGY

The Department of the Environment, Heritage and Local Government guidelines (DEHLG, 2009, *Gev.* 2010) outlines the European Commission's methodological guidance (EC, 2002) promoting a fourstage process to complete the AA, and outlines the issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

The four stages are summarised diagrammatically in **Figure 2-1**. Stages 1-2 deal with the main requirements for assessment under Article 6(3). Stage 3 may be part of the Article 6(3) Assessment or may be a necessary precursor to Stage 4. Stage 4 is the main derogation step of Article 6(4).

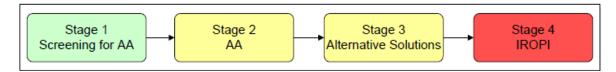


Figure 2-1: Four Stages of the AA Process

2.1.1 Stage 1 – Screening for Appropriate Assessment

Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3):

Whether a plan or project is directly connected to or necessary for the management of the site, and whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a European site in view of its conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). Screening should be undertaken without the inclusion of mitigation, unless potential impacts clearly can be avoided through the modification or redesign of the plan or project, in which case the screening process is repeated on the altered plan. The greatest level of evidence and justification will be needed in circumstances when the process ends at screening stage on grounds of no impact.

2.1.2 Stage 2 – Appropriate Assessment (Natura Impact Statement)

The aim of Stage 2 of the AA process is to identify any adverse impacts that the plan or project might have on the integrity of relevant European sites. As part of the assessment, a key consideration is 'in combination' effects with other plans or projects. Where adverse impacts are identified, mitigation measures can be proposed that would avoid, reduce or remedy any such negative impacts and the plan or project should then be amended accordingly, thereby avoiding the need to progress to Step 3.

This stage considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a European site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects. The proponent of the plan or project will be required to submit a Natura Impact Statement, i.e. the report of a targeted professional scientific examination of the plan or project and the relevant European sites, to identify and characterise any possible implications for the site in view of the site's conservation objectives, taking account of in-



combination effects. This should provide information to enable the public authority to carry out the AA.

The information required in a Natura Impact Statement, is outlined in Regulation 42(5) (a) of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) as amended, as follows:

A Natura Impact Statement shall, in addition to addressing the issues referred to in the interpretation contained in Regulation 2(1), include such information or data as the public authority considers necessary, and specifies in a notice given under paragraph (3), to enable it to ascertain if the plan or project will affect the integrity of the site.

Where appropriate, a Natura Impact Statement shall include, in addition-

i. the alternative solutions that have been considered and the reasons why they have not been adopted,

ii. the imperative reasons of overriding public interest that are being relied upon to indicate that the plan or project should proceed notwithstanding that it may adversely affect the integrity of a European site,

iii. the compensatory measures that are being proposed.

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, or the plan or project should be abandoned. The competent authority must make a determination to that effect before proceeding to the next stage.

2.1.3 Guidance

This Screening for AA and NIS report has been prepared with regard to the relevant provisions of the EU Council Directive 92/43/EEC and Ireland's EU (Birds and Natural Habitats) Regulations 2011 (as amended).

The methodology followed for this assessment has had regard to the following guidance and legislation:

- DoEHLG (2009, rev. 2010) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government;
- European Commission (EC) (2018), 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. European Commission;
- EC (2002) Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission;
- EC (2007a) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC Clarification of the concepts of: alternative solutions, imperative reasons of overriding



public interest, compensatory measures, overall coherence, opinion of the commission. European Commission;

- EC, (2007b), Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. European Commission;
- EC (2013) Interpretation Manual of European Union Habitats. Version EUR 28. European Commission;
- Chartered Institute of Ecology and Environmental Management (CIEEM) Version 1.1 (September 2019), Guidelines for Ecological Impact Assessment in the UK and Ireland;
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments. Unpublished NPWS report;
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Unpublished NPWS report;
- Office of the Planning Regulator (OPR) (2021) Practice Note PN01 Appropriate Assessment Screening for Development Management.
- EC (2014) Article 6 of the Habitats Directive: Rulings of the European Court of Justice.
- EC (2018), 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. European Commission;
- EC (2019) Commission notice "Managing Natura 2000 sites, The provision of Article 6 of the Habitats Directive 90/43/EEC". Brussels, 21.11.2019, C (2018) 7621 final. European Communities, Luxembourg.
- EC (2021) (Amended) Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provision of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, European Communities, Luxembourg.
- EC (2021) (Amended). Commission notice "Guidance document on the strict protection of animal species of Community interest under the Habitats Directive". Brussels, 21.10.2021, C (2021) 7301. European Commission.
- The European Communities (Birds and Natural Habitats) Regulations 2011 as amended;
- European Union (Environmental Impact Assessment and Habitats) Regulations 2011 S.I No 473/2011 as amended,
- NPWS (2013). Ireland's Summary Report for the period 2008 2012 under Article 12 of the Birds Directive. National Parks and Wildlife Services. Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland;
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments. Unpublished NPWS report;
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Unpublished NPWS report;
- The European Communities (Birds and Natural Habitats) Regulations 2011 as amended;
- The Planning and Development Act as amended;
- The Planning and Development Regulations as amended; and
- Recent Irish and European case law on the Habitats Directive.



2.1.4 Information Consulted for this Report

This assessment has been informed by the following sources of data:

- Information on the location, nature and design of the proposed project as provided by the client;
- Department of Housing, Planning, Community and Local Government (DHPCLG) online land-use mapping (<u>www.myplan.ie/en/index.html</u>);
- Office of Public Works (OPW) National Flood Hazard Mapping website (www.floodmaps.ie);
- Review of the National Biodiversity Data Centre (NBDC) webmapper
 <u>https://maps.biodiversityireland.ie/Map</u>
- Geological Survey of Ireland National Draft Bedrock Aquifer map;
- Geological Survey of Ireland Groundwater Database (<u>www.gsi.ie</u>);
- Environmental Protection Agency (EPA) geoportal mapping tool (<u>https://gis.epa.ie/EPAMaps/</u>);
- National Parks and Wildlife Service protected site and species information and data (<u>https://www.npws.ie/protected-sites</u>);
- Spatial data in respect of Article 17 reporting, available online at https://www.npws.ie/maps-and-data/habitat-and-species-data/article-17.
- Spatial data in respect of Article 12 reporting, available online at https://www.npws.ie/maps-and-data/habitat-and-species-data/article-12-data.
- National Biodiversity Data Centre (<u>www.biodiversityireland.ie</u>); and
- Ordnance Survey of Ireland mapping and aerial photography (<u>www.osi.ie</u>).

2.1.5 Statement of Authority

Eamonn Delaney BSc, MSc, MCIEEM, CECOL prepared this Screening for Appropriate Assessment & Natura Impact Statement. Eamonn has seventeen years consultancy experience and has prepared Screening for Appropriate Assessment and Natura Impact Statements for various projects, including residential, amenity, renewable energy and transport developments in addition to strategic policy and planning proposals. Eamonn conducted a site walkover survey of the proposed development site in October 2024. Eamonn's initial years in ecological consultancy involved botanical and habitat surveys for the purposes of EIA, EcIA and large scale habitat surveys for local authorities. This included plant species identification and habitat classification in a wide range of rural, urban and peri-urban environments. Eamonn is a member of the Botanical Society of Britain and Ireland (BSBI) and regularly attends local and regional BSBI field meetings in addition to carrying out recording for the proposed BSBI 2020 Atlas, in north Co. Galway and south Co. Mayo.

Eamonn has extensive experience in the Ecological Clerk of Works (ECoW) role for Flood Relief Schemes, roads and pipeline developments which requires weekly site visits, monitoring of mitigation measures, reviewing contactors method statements in addition to ongoing liaison with site operational staff and the design team. Eamonn has also been involved in the preparation and review of numerous Screening for Appropriate Assessment reports, Natura Impact Statements, Ecological Impact Assessments and Invasive Species Management Plans for a range of project types including roads, water infrastructure, solar farms, wind farms and peatland rehabilitation works. Through his



involvement in all of these projects, Eamonn has honed his skills in field based assessments and the subsequent reporting and interpretation of information yielded from desk and field based resources.

Eamonn routinely drafts, reviews and completes AA's for numerous projects. As the project designed developed, Eamonn seeks to influence the project design and refine the AA process to avoid and reduce potential impacts to the habitats and species for which the potentially impacted European site is designated. The outcome ensures that the finalised AA has been developed through an iterative process where the findings of the AA inform and are being informed by the project design throughout.



3 PROJECT DESCRIPTON AND EUROPEAN SITES

3.1 Site Location & Project Description

IDA wish to develop a proposed Business and Technology Park at Oakfield in Co. Sligo. The Phase 2 development will consist of an extension to the existing access road and all associated infrastructure, including watermain, foul drainage network, pumping stations, stormwater drainage network and detention basin, electrical ducting, street lighting, footpaths, cycle tracks, landscaping and traffic signage. Phase 1 of these works was approved under planning application 18/360 in 2018, for which site works are now completed. The proposed scheme is a continuation of same.

Phase 2 is located within a greenfield site southwest of Sligo town centre and is bound to the north by an IDA development under construction, to the south by agricultural land, to the east by agricultural land and the trainline, and to the west by the L3601 (Oakfield Road). The site area as outlined in the site location map provided (**Figure 1.1**) is approximately 4.59 hectares.

Separate surface water collection networks will be provided for surface water generated from paved areas (surface water) and roof areas (grey water) associated with the future master planned business park. It is proposed that all surface water flows from paved areas and grey water flows from roof areas within the site will be attenuated within the site and will discharge to a nature based SUDS detention basin located near the south-western corner of the site. The base of the detention basin will be lined with an impermeable material to prevent any possibility of infiltration of attenuated surfacewater to ground. This detention basin will be constructed to manage storm water from the development. Attenuated water from this detention basin will be released to the drainage channel near the southern boundary of the site at controlled, green field rates.

Each future master planned building plot will implement an individual hydrocarbon interceptor prior to outflowing to the estate's piped stormwater network. All runoff will subsequently run through a series of Hydrocarbon interceptors prior to discharge to the proposed detention basin. In accordance with the requirements of BS EN 858, 4.1 (b) '(run-off) from impervious areas, e.g., car parks, roads, factory yards areas;' the size of the separator will depend on the design, rainfall intensity and the catchment area draining to the separator. Foul water generated on site will be connected to an existing foul sewer.

The layout of the proposed facility is presented in Figure 1.2.



3.2 European Sites within the Project Zone of Influence

This stage of the screening for AA process describes European Sites within the Zone of Influence (ZoI) of the proposed project.

Section 3.2.3 of the Guidance for Planning Authorities (DoEHLG, 2010) states that the approach to Appropriate Assessment screening can be different for different plans and projects depending on the scale of the plan, project or programme and the likely associated effects. The overriding criteria determining whether a European Site will be impacted and potentially consequently effected by a proposal is the distance between proposal and a European Site and whether there are pathways for effect linking the proposal to European Sites.

Both UK (Scott Wilson et al., 2006) and Irish guidance (DoEHLG, 2010) outline that a distance of 15km may suffice as a likely Zone of Impact (ZoI) in the case of plans on European Sites and may be sufficient to cover the geographic extent over which significant ecological effects are likely to occur. However for certain projects, the DoEHLG (2010) guidance recognises that the likely ZoI could be 'much less than 15km, and in some cases less that 100m, 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'.

Recent guidance from Office of the Planning Regulator (2021) indicates that the zone of influence for a proposal is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European Site. This guidance indicates that the zone of influence should be established on a case-by-case basis using the Source-Pathway-Receptor framework. Using the Source » Pathway » Receptor approach and having regard for the location, the nature of the works, and the small size and scale of the works, it is considered for the purpose of this assessment that the likely ZoI on European Sites is the zone immediately around the proposed development, in addition to any sites with a hydrological or hydrogeological connection downstream of the works and/or with an ecological connection, where distance would be dependent on the qualifying interests of the site. To that end the following sites are located within the potential Source» Pathway » Receptor zone of influence of the proposed works:

- Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC (000627);
- Cummeen Strand SPA (004035);
- Ballysadare Bay SPA (004129);
- Ballysadare Bay SAC (000622); and
- Unshinn River SAC (001898).

Figure 3-1 shows the European sites within the potential Zone of Influence of the proposed development site and **Figure 3-2** shows the groundwater body which underlies the proposed development site and European Sites. **Table 3-1** provides details on the distance and connectivity of European Sites within the Zone of Influence of the proposed works.

3.2.1 Source-Pathway-Receptor Model

The likely effects of the proposed development on European sites has been appraised using a sourcepathway-receptor model, where:



- A 'source' is defined as the individual element of the proposed development 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 Interests of Special Protection Areas (SPA) or Qualifying Interests (QI) of Special Areas of Conservation (SAC) for which Conservation Objectives have been set for the European sites being screened.

A source-pathway-receptor 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 sourcepathway-receptor model was used to identify a list of European sites, and their QIs/SCIs, with potentially links to European site.

3.2.2 Likely Significant Effect

The threshold for a Likely Significant Effect (LSE) is treated in the screening exercise as being above a de minimis level. The opinion of the Advocate General in CJEU case C-258/11 outlines:

"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 a European 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."

In this report, therefore, 'relevant' European sites are those within the potential ZoI of activities associated with the proposed development, where LSE pathways to European sites were identified through the source-pathway-receptor model.



Table 3-1: European Site within the Zone of Influence of the proposed development site

Site Code	Site Name	Qualifying Features / Special Conservation Interest Species ¹	Distance from Study Area ²	Connectivity
000627	Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC	1014 Narrow-mouthed Whorl Snail Vertigo angustior 1095 Sea Lamprey Petromyzon marinus 1099 River Lamprey Lampetra fluviatilis 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1365 Harbour Seal Phoca vitulina 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with Ammophila arenaria (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)* 5130 Juniperus communis formations on heaths or calcareous grasslands 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 7220 Petrifying springs with tufa formation (Cratoneurion)*	2.3km north / north- west	Given the separation distance, there is no potential for direct connectivity between the proposed development and this European Site. There are no surface or groundwater features or vectors linking the proposed development linking the proposed development site with this European Site. Therefore, there is no potential for indirect connectivity between the proposed development and this European Site. This European Site is located on a separate groundwater body to the proposed development site; i.e. the Drumcliff-Strandhill groundwaterbody (IE_WE_G_0044), removing the risk for potential groundwater connectivity.
004035	Cummeen Strand SPA	A046 Brent Goose Branta bernicla hrota A130 Oystercatcher Haematopus ostralegus A162 Redshank Tringa totanus	2.5km north / north- west	Given the separation distance, there is no potential for direct connectivity

¹ *Indicates priority Annex I habitats

² Indicates the nearest straight-line distance unless otherwise quoted.



C!				
Site Code	Site Name	Qualifying Features / Special Conservation Interest Species ¹	Distance from Study Area ²	Connectivity
		A999 Wetlands		between the proposed development and this European Site. There are no surface or groundwater features or vectors linking the proposed development linking the proposed development site with this European Site. Therefore, there is no potential for indirect connectivity between the proposed development and this European Site. This European Site is located on a separate groundwater body to the proposed development site; i.e. the Drumcliff-Strandhill groundwaterbody (IE_WE_G_0044), removing the risk for potential groundwater connectivity.
004129	Ballysadare Bay SPA	A046 Brent Goose <i>Branta bernicla hrota</i> A141 Grey Plover <i>Pluvialis squatarola</i> A149 Dunlin <i>Calidris alpina alpina</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A162 Redshank <i>Tringa totanus</i> A999 Wetlands	3.3km south-west	Given the separation distance, there is no potential for direct connectivity between the proposed development and this European Site. This European Site is underlain by the same groundwater body as the proposed development site; i.e. the Carrowmore West groundwaterbody



Site Code	Site Name	Qualifying Features / Special Conservation Interest Species ¹	Distance from Study Area ²	Connectivity
				(IE_WE_G_0040). The proposed development site supports a drainage channel near its southern boundary. This drainage channel conveys water to the south-west of the site under the adjoining local road. The lands to the south-west of the site support a number of surface expressions of groundwater features and some localised discontinuous drainage channels. Groundwater and surfacewater flow in this area is likely to continue to gradually convey water to the south-west towards Ballysadare Bay, which supports Ballysadare Bay SPA. Therefore, there is the potential for remote tenuous hydrological connectivity between the proposed development and this European Site.
000622	Ballysadare Bay SAC	1014 Narrow mouthed whorl snail <i>Vertigo angustior</i> 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1365 Harbour seal <i>Phoca vitulina</i> 2110 Embryonic shifting dunes	3.3km south-west	Given the separation distance, there is no potential for direct connectivity between the proposed development and this European Site.



 $\langle \rangle$

				<u> </u>
Site Code	Site Name	Qualifying Features / Special Conservation Interest Species ¹	Distance from Study Area ²	Connectivity
		2120 Shifting dunes along the shoreline with Ammophila arenaria (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) 2190 Humid dune slacks		This European Site is underlain by the same groundwater body as the proposed development site; i.e. the Carrowmore West groundwaterbody (IE_WE_G_0040). The proposed development site supports a drainage channel near its southern boundary. This drainage channel gradually conveys water to the south-west of the site under the adjoining local road. The lands to the south-west of the site support a number of surface expressions of groundwater features and some localised discontinuous drainage channels. Groundwater and surfacewater flow in this area is likely to continue to gradually convey water to the south-west towards Ballysadare Bay, which supports Ballysadare Bay SPA. Therefore, there is the potential for remote tenuous hydrological connectivity between the proposed development and this European Site.
001898	Unshinn River SAC	1106 Salmon Salmo salar 1355 Otter Lutra lutra	4.2km south / south- west	Given the separation distance, there is no potential for direct connectivity



 \sim

Site Code	Site Name	Qualifying Features / Special Conservation Interest Species ¹	Distance from Study Area ²	Connectivity
		3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 6410 <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) 91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)*		between the proposed development and this European Site. This European Site is underlain by the same groundwater body as the proposed development site; i.e. the Carrowmore West groundwaterbody (IE_WE_G_0040). The proposed development site supports a drainage channel near its southern boundary. This drainage channel conveys water to the south-west of the site under the adjoining local road. The lands to the south-west of the site support a number of surface expressions of groundwater features and some localised discontinuous drainage channels. Groundwater and surfacewater flow in this area is likely to continue to gradually convey water to the south-west towards Ballysadare Bay. This SAC is located upstream of Ballysadare Bay, therefore there is no potential for indirect hydrological connectivity between the proposed development site and this European Site.



3.2.3 Summary of Connectivity Analysis

The proposed development is located 2.3km from the nearest European Site via the nearest straight line distance. The proposed development is located on a groundwater body (Carrowmore groundwater body (IE_WE_G_0040)) which also underlies three European Sites; i.e. Ballysadare Bay SAC, Ballysadare Bay SPA and Unshinn River SAC, representing potential hydrogeological connectivity. The proposed development site supports a drainage channel near its southern boundary. This drainage channel conveys water to the south-west of the site under the adjoining local road. The lands to the south-west of the site support a number of surface expressions of groundwater features and some localised discontinuous drainage channels. Groundwater and surfacewater flow in this area is likely to continue to convey water to the south-west towards Ballysadare Bay. Therefore, the proposed development site supports potential remote indirect hydrological connectivity to Ballysadare Bay SAC and Ballysadare Bay SPA via overland flow to the drainage channel near the southern boundary of the site.



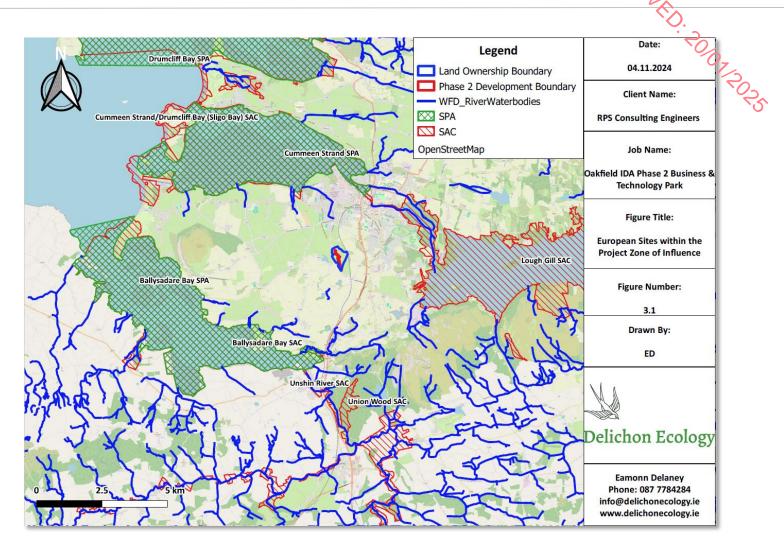


Figure 3-1: European Sites within the ZoI of the proposed site



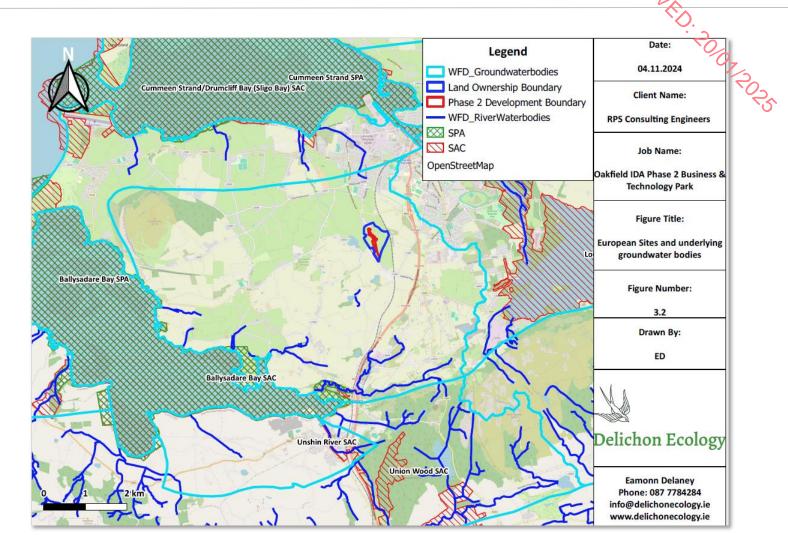


Figure 3-2: European Sites and the underlying groundwater body



3.2.4 European Site Descriptions

Site descriptions for European Sites within the project ZoI are presented below.

3.2.4.1 Cummeen Strand / Drumcliff Bay (Sigo Bay) SAC (Site Code: 000627)

This large coastal site extends from Cullamore in the north-west to Killaspug in the south-west, and from Sligo town in the south-east to Drumcliff village in the northeast. It encompasses two large, shallow bays, Drumcliff Bay and Sligo Harbour, and both Ardboline and Horse Island. Sand dunes and sand hills at Rosses Point, Killaspug, Yellow Strand and Coney Island are included, as are grasslands at Ballintemple and Ballygilgan (Lissadell), along with a variety of other habitats such as woodland, saltmarsh, sandy beaches, boulder beaches, shingle, fen, freshwater marshes, rocky sea cliffs and lakes. The site is largely underlain by Carboniferous limestone, but acidic rocks are also found on the Rosses Point peninsula. At Serpent Rock in the north-western section of the site the most complete section of the northwestern Carboniferous strata is exposed. Here are found an excellent series of fossilised corals which, in some strata, stand out from the rock matrix.

Cummeen Strand/Drumcliff Bay (Sligo Bay) is an important site of high conservation significance, which includes a wide variety of habitat types, including several listed on Annex I of the E.U. Habitats Directive, several species listed on Annex II of this Directive, large and important populations of waterfowl and seabirds, and several rare plant species (NPWS, 2016)³.

3.2.4.2 Cummeen Strand SPA (004035)

Cummeen Strand is a large shallow bay stretching from Sligo Town westwards to Coney Island. It is one of three estuarine bays within Sligo Bay and is situated between Drumcliff Bay to the north and Ballysadare Bay to the south. The Garavogue River flows into the bay and forms a permanent channel. Cummeen Strand SPA is of high ornithological importance with one species, Lightbellied Brent Goose, occurring in numbers of international importance. In addition, the site supports nationally important populations of a further two species. The regular presence of Golden Plover and Bar-tailed Godwit is of particular note as these species are listed on Annex I of the E.U. Birds Directive. The site is also important as a component of the much larger Sligo Bay complex. Cummeen Strand is a Ramsar Convention site (NPWS, 2014)⁴.

3.2.4.3 Ballysadare Bay SPA (004129)

Ballysadare Bay extends for approximately 10 km westwards from the town of Ballysadare, County Sligo. It is the most southerly of three inlets that form the eastern part of the larger Sligo Bay complex. The estuarine channel of the Ballysadare River winds its way through the bay, finally reaching the open sea near the Strandhill Dunes sand spit. The bay is underlain by sedimentary rock of limestones, sandstones and shales which are exposed as low cliffs and small sections of bedrock shore at several locations.

Ballysadare Bay SPA is of high ornithological importance - it supports a Light-bellied Brent Goose population of international importance as well as nationally important populations of four other wintering waterfowl species. The presence of Bar-tailed Godwit, Golden Plover and Whooper Swan is

IDA Oakfield Phase 2 Business & Technology Park

Screening for Appropriate Assessment & Natura Impact Statement

³ <u>https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000627.pdf</u>

⁴ <u>https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004035.pdf</u>



of particular note as these species are listed on Annex I of the E.U. Birds Directive. The site forms an important component of the larger Sligo Bay complex (NPWS, 2010)⁵.

3.2.4.4 Ballysadare Bay SAC (000622)

Ballysadare Bay extends for about 10 km westwards from the town of Ballysadare, Co. Sligo, and the most southerly of three inlets of the larger Sligo Bay. The estuarine channel of the Ballysadare River winds its way through the bay, finally reaching the open sea near the spit at Strandhill dunes. The bay is underlain by sedimentary rocks of limestones, sandstones and shales, which are exposed as low cliffs and small sections of bedrock shore at several locations. Knocknarea Mountain overlooks the site.

Ballysadare Bay is of high ecological value for its range of good quality coastal habitats. Actively developing dune systems are rare on the west coast and the sand dune system at Strandhill is of particular interest as a large and intact example of a habitat type which is under general threat from development. The rarity of intact dune systems is recognised in the listing of fixed dunes as a priority habitat on Annex I of the E.U. Habitats Directive. The salt marshes at Ballysadare Bay are relatively good examples for the west coast, and that at Abbeytown is unusual as it is forming on quarry waste. The presence of two Annex II species within the site adds further importance. Furthermore, the bay supports nationally important numbers of waterfowl (NPWS, 2013)⁶.

3.2.4.5 Unshinn River SAC (001898)

The Unshin River runs from Lough Arrow north to Ballysadare Bay, Co. Sligo. The river is largely undrained and unaltered along much of its course. The marginal vegetation associated with the river is also included in the site, along with other semi-natural habitats adjacent to the river (included in order to enhance its protection). Many of these habitat types are interesting and of conservation value in their own right. Other watercourses included within the site are the Owenboy/ Owenbeg and a number of smaller tributaries. The Unshin River flows across a number of geological boundaries between sandstone, shales and limestone. This results in unusual physico-chemical qualities which in turn are reflected in the rich and varied plant and animal populations.

The trophic status of the river increases downstream indicating that some enrichment is taking place. However, the quality of the Unshin River and particularly its aquatic macrophyte communities, make it rare in both an Irish and European context, and it is considered one of the most pristine rivers in the country (NPWS, 2016)⁷.

3.2.5 Conservation Objectives of European Sites

European and national legislation places a collective obligation on Ireland and its citizens to maintain at favourable conservation status areas designated as SAC and SPA. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

Favourable conservation status of a habitat is achieved when:

• Its natural range, and area it covers within that range, are stable or increasing; and

⁵ https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004129.pdf

⁶ https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000622.pdf

⁷ https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY001898.pdf



- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and
- The conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

The integrity of a European site (referred to in Article 6.3 of the EU Habitats Directive) is determined based on the conservation objectives and of the site. The Qualifying Interests (QI) and Special Conservation Interests (SCI) are obtained through a review of the most recently published (web-published or otherwise) Conservation Objective supporting documents and Site-Specific Conservation Objectives documents (where available) for the European site.

3.2.5.1 Conservation Objectives of proximal European Sites

The Qualifying habitats and species for those European Sites within the project ZoI are listed in **Table 3-1**. Further details on Conservation Objectives for these European Sites are provided below.

Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC

The detailed conservation objectives for the Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC are provided in the Conservation Objectives document available on the NPWS website, as follows; https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000627.pdf.

Cummeen Strand SPA

The detailed conservation objectives for the Cummeen Strand SPA are provided in the Conservation Objectives document available on the NPWS website, as follows; <u>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004035.pdf</u>.

Ballysadare Bay SAC

The detailed conservation objectives for the Ballysadare Bay SAC are provided in the Conservation Objectives document available on the NPWS website, as follows; https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000622.pdf.

Ballysadare Bay SPA

The detailed conservation objectives for the Ballysadare Bay SPA are provided in the Conservation Objectives document available on the NPWS website, as follows; https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004129.pdf



Unshinn River SAC

The detailed conservation objectives for the Unshinn River SAC are provided in the Conservation Objectives document available on the NPWS website, as follows; https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001898.pdf



4 EXISTING ENVIRONMENT

4.1 Habitats within the study area

A site walkover survey was completed on October 01st 2024 to inform this Screening for Appropriate Assessment. A description of the habitats within the study area is presented below. A habitat map (See **Figure 4-1**) has been prepared to illustrate and classify habitats identified within the study area. Characteristic and noteworthy species identified during the site walkover survey are listed and summarised below.

The following habitats were recorded within the proposed development site and the surrounding environs;

- Treelines (WL2)⁸;
- Hedgerows (WL1)
- Improved Agricultural Grassland (GA1);
- Dry Meadows and Grassy Verge Grassland (GS2);
- Wet Grassland (GS4);
- Drainage ditches (FW4);
- Stone walls and other stonework (BL1); and
- Buildings and Artificial Surfaces (BL3).

Topography of the proposed development falls gently from the northern boundary to the south and south-west. The majority of the proposed development footprint and lands within the study area boundary support improved and semi-improved agricultural grassland (GA1). This habitat varies from more free draining areas to the north and west of the site with poorer draining lands on heavier, almost peaty soils located near the eastern and southern boundary of the site. The northern boundary of the study area supports pastoral fields that are bound by dry stone walls (BL1). Plant species composition of the improved grassland habitats include perennial rye grass (Lolium perenne), creeping bent (Agrostis stolonifera), Yorkshire fog (Holcus lanatus), sweet vernal grass (Anthoxanthum odoratum), creeping buttercup (Ranunculus repens), meadow buttercup (Ranunculus acris), broadleaved dock (Rumex obtusifolius), white clover (Trifolium repens), ribwort plantain (Plantago lanceolata) and localised areas of common rush (Juncus effusus). Wetter pockets of this improved grassland in transition to wet grassland habitat support locally frequent common rush, red clover (Trifolium pratense), white clover, creeping buttercup, creeping bent, Yorkshire fog, marsh thistle (Cirsium palustre), glaucous sedge (Carex flacca), common sorrel (Rumex acetosa) occasional devil's bit scabious (Succisa pratensis) and the mosses Calliergonella cuspidata and Rhytidiadelphus squarrosus.

The southernmost areas of the proposed development site boundary supports rough and relatively unmanaged wet grassland (GS4) on poorer draining heavier soils. The grassland habitats in these areas are in transition to dry meadows and grassy verge grassland (GS2) habitat to less intensive management. Plant species composition includes false oat grass (*Arrhenatherum elatius*), cock's-foot (*Dactylis glomerata*), sweet vernal grass (*Anthoxanthum odoratum*), meadowsweet (*Filipendula*)

IDA Oakfield Phase 2 Business & Technology Park Screening for Appropriate Assessment & Natura Impact Statement

⁸ Alphanumeric codes are provided in accordance with 'A Guide to Habitats in Ireland' (Fossitt, 2000).



ulmaria), common rush, creeping bent, common sedge (*Carex nigra*), compact rush (*Juncus conglomeratus*), marsh thistle (Cirsium palustre), hard rush (*Juncus inflexus*), articulated rush (*Juncus articulatus*) and creeping buttercup. This area supports a localised drainage channel that did not support waterflow during the site walkover survey. This drainage channel comprised abundantly growing instream macrophytes, particularly floating sweet grass (*Glyceria fluitans*), water mint (*Mentha aquatica*), great willowherb (*Epilobium hirsutum*), lesser spearwort (*Ranunculus flammula*), purple loosestrife (*Lythrum salicaria*) and water horsetail (*Equisetum fluviatile*).

The study area supports localised linear woodland habitats along the outer site boundary and along internal field boundaries. A mature beech (*Fagus sylvatica*) treeline is located near the northern boundary of the site, while the western roadside boundary supports an overgrown hawthorn (*Crataegus monogyna*) hedgerow with overtopping ash (*Fraxinus excelsior*). The southern and southeastern boundary of the site supports a dense overgrown hedgerow which is characterised by blackthorn (*Prunus spinosa*) which is spreading from the base onto adjoining lands. Other overgrown hedgerows in transition to treeline habitats are located along the eastern boundary of the proposed development site and include young ash and sycamore (*Acer pseudoplatanus*) overtopping hawthorn, elder (*Sambucus nigra*) and blackthorn.

No signs or evidence of terrestrial mammals were identified during the site walkover survey. No evidence of large burrowing mammals (setts, dens, latrines, scat etc) such as fox (*Vulpes vulpes*) and badger (*Meles meles*) was identified within the proposed development site footprint or the adjoining habitats. There are no suitable habitats to support pine marten (*Martes martes*) or red squirrel (*Sciurus vulgaris*) within the proposed development site footprint or its environs. Irish Hare (*Lepus timidus hibernicus*) and rabbit (*Oryctolagus cuniculus*) may utilise the in-situ and adjoining pastoral farmland in the surrounding locality for foraging and refuge. There are no permanent watercourses, within the proposed development footprint that could provide suitable habitat for aquatic or semi-aquatic mammals, including otter (*Lutra lutra*). The vegetation filled drainage ditch located near the southern boundary of the study area boundary does not provide suitable habitat to support otter foraging or breeding. Although fragmented within the local and surrounding landscape, the proposed development site supports a maturing beech treeline associated with an old demesne dwelling. These are old beech trees with little epiphytic vegetative growth and few apertures, some of which had been recently felled or have fallen. These trees support negligible to low suitability to support roosting bats⁹.

Photographs of the proposed development site and environs are presented below.

⁹ Following criteria described by Collins, J. (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition)'. The Bat Conservation Trust, London.



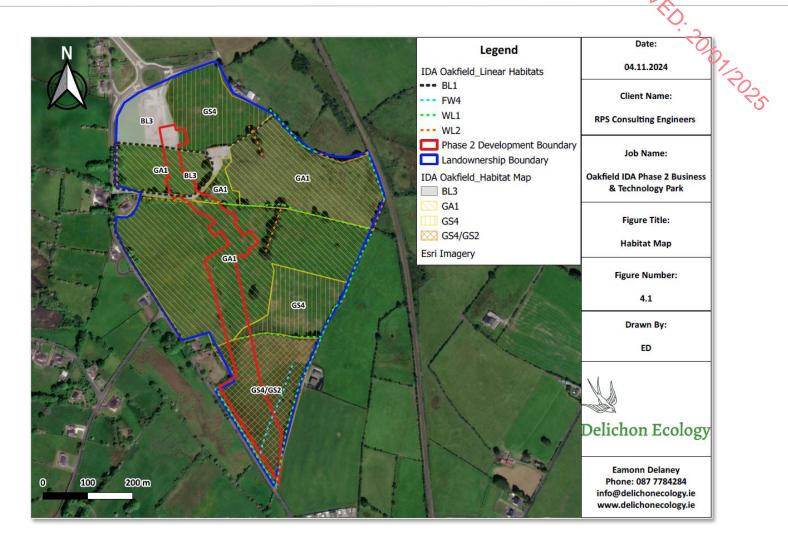


Figure 4-1: Habitats within the proposed development site and environs



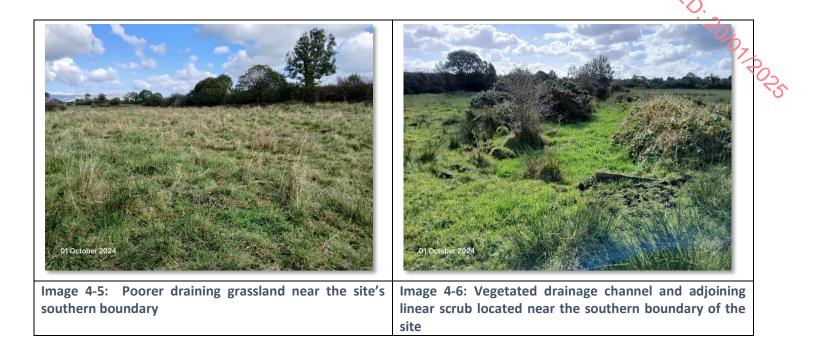
Photos of the Study Area

















4.2 Flooding

The Flood Info database (<u>www.floodinfo.ie</u>) was also consulted to identify Predictive Flood Risk Areas (PFRA) mapped as part of the Catchment Flood Risk Assessment and Management (CFRAM) programme for the study area. OPW developed the Flood Hazard Mapping website floodmaps.ie 2004-2006 which provided information about the location of known flood events in Ireland and showed supporting information in the form of reports, photos, and press articles about those floods. In late 2017 this data was migrated across to the newly developed website <u>www.FloodInfo.ie</u>. This website was consulted to find any instances of flooding in the proximity of the proposed works. The mapping shows zero instances of single past flood events nor recurring flood events within the proposed development boundary. Historic mapping from OSI indicate the site is greenfield with no indication of historical flooding within the site boundary.

4.3 Geology, Hydrology and Hydrogeology

The Geological Survey of Ireland (GSI) online database¹⁰ was consulted for available edaphic, geological and hydrological information of the site and its environs. The underlying bedrock of the study site mostly supports Dartry Limestone Formation comprising dark fine-grained cherty limestone. The groundwater vulnerability¹¹ within the footprint of the study site is 'H' indicating High groundwater vulnerability, while a drainage channel located near the site's southern boundary is classified as being of Extreme 'Ex' groundwater vulnerability. Bedrock aquifer maps published on the GSI website provide a detailed classification of bedrock aquifer types and indicate the bedrock aquifer beneath the site and surrounding area is classified as 'Rkc Regionally Important Aquifer - Karstified (conduit)'.

The GSI online database does not hold records of karst features within the proposed development site footprint. The GSI hold records for a spring, located 330m west of the proposed development site at Carrowmore. The proposed development site is underlain by metamorphic derived till material.

The proposed development site is located upon the Carrowmore groundwater body (IE_WE_G_0040). This groundwater body are classified as Good Status in 2016-2021¹² and the EPA Groundwater Waterbody risk score is also considered to be 'Not at Risk' of not meeting its objectives under the Water Framework Directive.

Groundwater and surfacewater interactions for the Carrowmore groundwater body is described follows¹³:

Generally, there is a high degree of interconnection between groundwater and surface water in karstified limestone areas. The karst features represent the close interaction between surface water and groundwater. Any contamination of surface water is rapidly transported into the groundwater system, and vice versa.

¹⁰ GSI Online database: <u>https://www.gsi.ie/en-ie/data-and-maps/Pages/default.aspx</u>

¹¹ Groundwater Vulnerability is a term used to represent the natural ground characteristics that determine the ease with which groundwater may be contaminated by human activities.

¹² Ground Waterbody WFD Status 2016-2021 <u>https://gis.epa.ie/EPAMaps/</u>

¹³ https://gsi.geodata.gov.ie/downloads/Groundwater/Reports/GWB/CarrowmoreWestGWB.pdf



5 SCREENING FOR APPROPRIATE ASSESSMENT

This section provides the information required for the competent authority (Sligo County Council) to undertake a Screening for AA and determine in view of best scientific knowledge, whether the proposed works, individually or in combination with other plans and projects, is likely to have a significant effect on the European site. Specifically, it aims to:

- Provide information on, and assess the potential for the proposed works to significantly impact on European sites; and
- Determine whether the activities proposed, alone or in combination with other projects, are likely to have significant effects on European sites in view of their Conservation Objectives.

This screening assessment provides information to address the following elements:

1. Description of the plan or project, and local site or plan area characteristics. The description covers the full scope of the proposed plan or project (i.e. site set up, construction and operational and phases).

2. Description of the receiving environment setting of the proposed plan or project and its surrounds.

3. Identification of relevant European sites within the projects the potential zone of influence. A preliminary assessment to determine connectivity between the proposed works and receptors (i.e. European sites and/ or features for which the sites are designated). Where connectivity exists, the receptors in question are brought forward in the screening assessment process.

4. For receptors that exhibit potential connectivity to the proposed work a screening assessment is undertaken to establish whether the plan or project is likely to have a direct, indirect or cumulative effect on receptors based on a consideration of likely impacts (i.e. an assessment of significance of effect).

5. Screening statement with conclusions on whether or not an AA is necessary for the relevant a Qualifying Feature.

Table 5-1 presents Screening Assessment Criteria considering the proposed development.

Table 5-1: Screening Assessment Criteria

Screening Assessment Criteria	Impacts
Screening Questions	
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the European Sites.	The proposed works do not support direct connectivity to European sites, therefore there will be no impacts to European Sites in this regard. However, the proposed development site may support remote and tenuous hydrological connectivity with European Sites (Ballysadare Bay SPA (004129) and Ballysadare Bay SAC (000622)) through overland flow of



	Impact Statement
	E.L.
Screening Assessment Criteria Screening Questions	Impact Statement
	construction phase pollutants to the drainage channel located near the southern boundary of the site. Tris drainage channel conveys water to the south-west of the site under the adjoining local road. The lands to the south-west of the site support a number of surface expressions of groundwater features and some localised discontinuous drainage channels. Groundwater and surfacewater flow in this area is likely to continue to convey water to the south- west towards Ballysadare Bay. Therefore, the proposed development site supports potential remote indirect hydrological connectivity to Ballysadare Bay SAC and Ballysadare Bay SPA via overland flow to the drainage channel near the southern boundary of the site.
	During the project's operational phase, surfacewater and storm water will be attenuated on site and will discharge at a controlled rate to an onsite detention basin before discharging at greenfield rates to the on-site drainage channel (See Section 3.1). Wastewater (foul) generated on site will connect to an Uisce Eireann public foul sewer.
Likely direct, indirect or secondary im	pacts of the project on the European Sites:
Size and Scale	The size and scale of the proposed works are small when compared with the surrounding environment and the size of European Sites within the project Zone of Influence.
• Land Take	The proposed development site will not result in land-take to European Sites. The nearest European Site is located 2.3km north / north-west of the proposed development site at its nearest point.
• Distance from European Sites or Key Features of the Site	The proposed development site will not result in land-take to European Sites. The most proximal European Site is the Cummeen Strand / Drumcliff Bay (Sligo Bay) and Cummeen Strand SPA located 2.3km north / north-west and 2.5km north of the proposed development site respectively. There is no potential connectivity between the proposed work and these European Sites via hydrological or hydrogeological features.
• Resource Requirements	The proposed development site will require use of standard construction methods and associated resources; water, aggregates, concrete, wet cement, bituminous materials, and glass. The resourcing and subsequent use of these materials will not contribute to significant negative effects to European Sites within the project ZoI and will be readily retained to the proposed development footprint.
• Emissions	Depending on the time of construction, there may be dust and waterborne emissions associated with the proposed construction works. Wastewater generated on site will be



	· La
Screening Assessment Criteria Screening Questions	Impacts
	connected to the public wastewater mains adjoining the southern boundary of the development site. There will be significant effects to European Sites as a result of emissions from the proposed development site.
• Excavation Requirements	Localised excavations within the proposed development footprint will be required during the project's construction phase. Depending on the time of construction, there may be dust and aqueous emissions associated with the proposed construction works emanating to the receiving and surrounding environment including the drainage channels located near the south of the proposed development site which provides remote hydrological and potential hydrogeological connectivity to (Ballysadare Bay SPA (004129) and Ballysadare Bay SAC (000622)). Such impact sources could contribute localised effects to watercourses in the receiving environment.
• Transport Requirements	Transport requirements as part of the proposed development construction will utilise the existing road network. Transport of construction materials will be ad-hoc, intermittent and restricted to working hours during the project's construction phase. Such requirements will be small scale and localised and will not impact European Sites within the project Zol.
• Duration of construction, operation and decommissioning	Duration of construction will be short term; i.e. 12-18 months. The project's operational phase will be medium to long term; i.e. 30 - 50 years.
• Cumulative impact with other plans and projects in the area	As part of the Appropriate Assessment, in addition to the proposed development, other relevant projects and plans in the area must also be considered at this stage. These plans and projects are considered further in this respect in Table 5-2 below.



Table 5-2: In-combination Effects associated with the proposed development.

Programmes, Plans	Key Policies/Issues/Objectives Directly Related to the Conservation of the	Potential for In-combination Effects
and Projects	Natura 2000 Network	TO ₂
Sligo County Development Plan 2024-2030	 P-DSNC-1 Protect and maintain the conservation status of all natural heritage sites designated or proposed for designation in accordance with European and national legislation and agreements. These include Special Areas of Conservation (SAC), Special Protection Areas (SPA), Natural Heritage Areas (NHA), proposed Natural Heritage Areas (pNHA), Ramsar Sites, Statutory Nature Reserves, as identified by the Minister for Culture, Heritage and the Gaeltacht, and any other sites that may be proposed for designation during the lifetime of this Plan. In addition, the Council will identify, maintain and develop non-designated areas of high nature conservation value which serve as linkages or 'stepping stones' between protected sites in accordance with Article 10 of the Habitats Directive. P-DSNC-2 Promote the maintenance and, as appropriate, achievement of 'favourable conservation status' of habitats and species in association with the National Parks and Wildlife Service (NPWS). P-DSNC-3 Carry out an appropriate level of assessment for all development plans, land use plans and projects that the Council authorizes or proposes to undertake or adopt, to determine the potential for these plans or projects to impact on designated sites, proposed designated sites or associated ecological corridors and linkages in accordance with the Habitats Directive. All appropriate assessments shall be in compliance with the provisions of Part XAB of the Planning and Development Act 2000 (as amended). P-DSNC-4 Ensure that all development proposals are subject to the process of Screening for Appropriate Assessment and subsequent stages of Appropriate Assessment, as relevant, carried out to the satisfaction of the Planning Authority, in consultation with National Parks and Wildlife Service, as appropriate. 	The Sligo County Development Plan 2024-2030 provides objectives outlined for the protection of the natural environmental and its component European Sites. Policy P–DSNC-4 determines that 'proposals are subject to the process of Screening for Appropriate Assessment and subsequent stages of Appropriate Assessment, as relevant, carried out to the satisfaction of the Planning Authority, in consultation with National Parks and Wildlife Service, as appropriate'. The implementation of this plan and Policy P- DSNC-4 will ensure that all proposed projects and plans that may have an impact on a European Site will be considered for Appropriate Assessment, prior to commencement.



		, and the second s
Programmes, Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Potential for In-combination Effects
Draft River Basin Management Plan for Ireland 2022 – 2027	The Third Cycle Draft River Basin Management Plan 2022-2027 Consultation Report has been published. This report presents a summary of the issues raised in the submissions reviewed from the public consultation on the draft River Basin Management Plan for Ireland 2022-2027. The 3rd cycle of River Basin Management Plan (RBMP) for the period of 2022-2027 is currently being prepared by Department of Housing, Local Government and Heritage (DHLGH) in line with the EU Water Framework Directive (WFD) (2000/60/EC). Key issues raised as part of the consultation process within the ten most prominent themes are as follows. Water Quality / Pollution Agricultural Practices Public Engagement and Awareness Local Authority Level of ambition Sewage Pollution Department / Agency Co-ordination Funding Forestry Peat Shellfish waters / aquaculture Other Following review of the submissions, the DHLGH will commence a review and where necessary update the draft RBMP with a view to finalisation and publication in Q3/Q4 of 2022. The SEA and AA processes will continue in	The implementation of the RBMP seeks compliance with the environmental objectives set under the plan, which will be documented for each water body. This includes compliance with the European Communities (Surface Waters) Regulations S.I. No. 272 of 2009 (as amended). The implementation of the RBMP and achievement or maintenance of environmental objectives which will be set for the receiving water bodies will have a positive impact on water dependent habitats and species within European Sites.



Programmes, Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Potential for In-combination Effects
	parallel until finalisation and will be completed prior to adoption of the 3rd cycle plan.	A COL
Inland Fisheries Ireland Corporate Plan 2021 -2025	IFI's Corporate Plan details the Inland Fisheries Ireland's, Vision, Mission and Values across seven strategic objectives for the period 2021 to 2025. Under each of the seven objectives a series of actions required to achieve the objectives are described, with the intended outcomes outlined. The strategic objectives outline where Inland Fisheries Ireland will focus their efforts between 2021 and 2025. Inland Fisheries Ireland will secure stakeholder feedback on the implementation of the Strategy mid-2023.	The implementation and compliance with key environmental issues and objectives of this corporate plan will result in positive in- combination effects to European sites. The implementation of this corporate plan will have a positive impact for biodiversity of inland fisheries and ecosystems. It will not contribute to in- combination or cumulative negative impacts with the proposed development.
National Biodiversity Action Plan 2017-2021	 Objective 1 - Mainstream biodiversity into decision-making across all sectors Developments in the area of Green Infrastructure are being initiated at the local and regional level. Green Infrastructure is a strategically planned network of natural and semi natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services such as water purification, air quality, space for recreation and climate mitigation and adaptation. Objective 4 - Conserve and restore biodiversity and ecosystem services in the wider countryside Target 6.2 - Sufficiency, coherence, connectivity, and resilience of the protected areas network substantially enhanced by 2020. 	This Plan together with the proposed development will not add to cumulative impacts to the receiving or surrounding environment. This plan supports a number or objectives and policies which seeks to protect and enhance biodiversity and as such its implementation will improve features of biodiversity throughout the plan area.
Draft 4th National	Objective 2 - Meet Urgent Conservation and Restoration Needs	This Plan together with the proposed
Biodiversity Action Plan 2023-2027		development will not add to cumulative impacts to the receiving or surrounding environment. This



Programmes, Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Potential for In-compination Effects
	 Outcome 2A: The protection of existing designated areas and species is strengthened and conservation and restoration within the existing protected are network are enhanced. Outcome 2B: Biodiversity and ecosystem services in the wider countryside are conserved. 	plan supports a number or objectives and policies which seeks to protect and enhance biodiversity and as such its implementation will improve features of biodiversity throughout the plan area.
	Outcome 2C: All freshwater bodies are of at least 'Good Ecological Status' as defined under the EU Water Framework Directive.	
	Outcome 2D: Genetic diversity of wild and domesticated species is safeguarded.	
	Outcome 2E: A National Restoration Plan is in place to meet EU Biodiversity Strategy 2030 nature restoration targets.	
	Outcome 2F: Biodiversity and ecosystem services in the marine environment are conserved and restored.	
	Outcome 2G: Invasive alien species (IAS) are controlled and managed on an all-island basis to reduce the harmful impact they have on biodiversity and measures are undertaken to tackle the introduction and spread of new IAS to the environment.	
EPA Licenced Facilities	There are no EPA licenced facilities within the environs of proposed development site and receiving surfacewater and groundwater catchment supporting the proposed development site.	EPA licenced facilities are subject to conditions and parameters associated with licencing requirements, restricting the release of polluted or contaminated materials to the receiving or surrounding environment. Therefore, these



Programmes, Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Potential for In-compination Effects
		facilities will not contribute towards significant negative effects to European Sites.
IDA Business and Technology Park Oakfield, Sligo (Planning Ref 20/362)	Development consisting of a new Advance Technology Unit consisting of office and light industrial/production space. Permission is also sought for vehicular and pedestrian entrance to site, signage, new timber post and rail site boundaries, car parking, cycle shelters, landscaping, a gas skid, underground storage tank, ESB substation, switch room, access road and all associated site works, The development has been the subject of a Screening for Appropriate Assessment in accordance with Article 6(3) of the EU Habitats Directive (Directive 92/43/EEC) and the Planning and Development Act 2000 as amended. The Screening for Appropriate Assessment will be submitted to the Planning Authority with The Planning Application.	This planning application was accompanied by a Appropriate Assessment which examined likely significant effects on European Sites. This Appropriate Assessment screened out potential for likely significant effects due to the nature of the works and the absence of connectivity between the proposed works development and European Sites in the receiving environment.
IDA Oakfield (Planning Ref 18/360)	Site development works for future industrial/commercial development. The works will include site excavation, construction of a new site access road, new surface water and sanitary sewers, new watermain, new lighting and a new ESB substation at	This planning application was accompanied by a Appropriate Assessment which examined likely significant effects on European Sites. This Appropriate Assessment screened out potential for likely significant effects due to the nature of the works, the proposed project's connectivity to foul mains and the absence of connectivity between the proposed works development and European Sites in the receiving environment.
Local Planning Applications	A search of Sligo County Council's online planning enquiry database ¹⁴ was undertaken to identify other projects and plans consented within the past five	Adherence to the policies and objectives of the Sligo County Development Plan 2024-2030 ensure

¹⁴ https://www.eplanning.ie/SligoCC/SearchTypes



Programmes, Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Potential for In-combination Effects
	years that are proximal or within the proposed development area. A small number of applications for dwellings, dwelling alterations and extensions, commercial and residential developments, agricultural sheds and associated structures, buildings and facilities with granted planning permission were noted within the environs of the proposed development site. These small-scale projects are not likely to cause effects to European sites when considered in combination with the current proposal under examination, either during the construction or operational phase. There is therefore no potential for significant in-combination effects of these developments with proposed development.	potential for adverse in-combination effects on



5.1.1 Conclusion of Cumulative Impact Assessment

Provided adherence to the overarching policies and objectives of the plans and programmes and best practice and mitigation measures are implemented for individual projects, there is no potential for the mentioned plans and projects to have a cumulative impact to European sites, in combination with the proposed development.

All proposed developments considered in the Zone of Influence of the proposed refurbishment works are subject to the statutory planning process and where required are accompanied by the requisite planning and environmental assessment documentation, including Appropriate Assessment, Ecological Impact Assessment and Environmental Impact Assessment reporting. Other projects, programmes and plans within the project zone of influence have been developed under the consideration of potential impacts and effects to their receiving and surrounding environment and are tasked with avoiding and minimising such impacts, through the Appropriate Assessment and Environmental Impact Assessment processes.

Screening Assessment Criteria is further assessed in Table 5-3 below.

Screening Assessment Criteria Screening Questions	
Describe any likely changes to the site arising as a	The proposed development site primarily supports improved grassland with more localised wet grassland, treelines, hedgerows and dry stone walls and does not support habitats or species of European Sites within the
	potential project Zone of Influence. Therefore there will be no direct reduction of habitat to European Sites.
Reduction of Habitat	There is the remote potential for the proposed project to contribute towards changes in water quality of downstream European sites within the project Zol; i.e. (Ballysadare Bay SPA (004129) and Ballysadare Bay SAC (000622)). This may be related to the run-off into the receiving aquatic environment; particularly the drainage channels near the southern boundary of the site.
	Potential construction phase run-off could contribute to downstream impacts such as increased siltation, nutrient release and/or contamination. These impacts could contribute to habitat degradation and deterioration of water quality in the receiving and downstream environments.

Table 5-3: Screening Assessment Criteria



	d Natura Impact Stateneth
	KIL.
Screening Assessment Criteria Screening Questions	ET THE PARTY OF TH
	Such impacts and consequent effects could only occur in the absence of best practice measures being implemented during the project's construction phase and key design elements integrated into the project's operational phase. In addition, such pollution events (or impacts) would need to be large scale and sustained to contribute towards significant negative effects during the project's construction phase.
Disturbance to Key Species	The proposed development site primarily supports improved grassland with smaller localised areas of wet grassland, treelines and dry stone walls and does not support habitats or habitats suitable to support qualifying species of European Sites within the potential project Zone of Influence. Therefore, the proposed development site will not result in the direct disturbance of key species associated with European Sites within the project Zone of Influence.
Habitat or Species Fragmentation	The nature of the proposed development site, its separation distance from and lack of connectivity with European Sites means that it will not result in habitat or species fragmentation to European Sites within the project Zone of Influence. Furthermore, the proposed development primarily supports improved grassland with more localised wet grassland, treelines and dry stone walls and does not support habitats or habitats suitable to support qualifying species of European Sites within the potential project Zone of Influence.
Reduction in Species Diversity	The proposed development site primarily supports improved grassland with more localised wet grassland, treelines and dry stone walls and does not support species of European Sites within the potential project Zone of Influence. The proposed development site will not result in the reduction in species diversity to European Sites within the project Zone of Influence.
Changes in Key Indicators of Conservation Value	There is the remote potential for the proposed project to contribute towards changes in water quality of downstream European sites within the project ZoI; i.e. Ballysadare Bay SPA (004129) and Ballysadare Bay SAC (000622). This may be



Screening Assessment Criteria Screening Questions	\$0. ?
	related to the run-off into the receiving aduatic environment; particularly towards the drainage channel located near the southern boundary of the site. Potential construction phase run-off could contribute to downstream impacts such as increased siltation, nutrient release and/or contamination. These impacts could contribute to habitat degradation and deterioration of water quality in the receiving and downstream environments.
	Such impacts and consequent effects could only occur in the absence of best practice measures being implemented during the project's construction phase and key design elements integrated into the project's operational phase. In addition, such pollution events (or impacts) would need to be large scale and sustained to contribute towards significant negative effects during the project's construction phase.
Climate Change	The proposed development site will not result in significant negative effects contributing to climate change that could in turn affect the conservation objectives of those European Sites within the project Zol.
Describe any likely impacts on the European Sites as a whole in terms of Interference with key relationships that define the structure and function of the site;	There is the remote potential for the proposed project to contribute towards changes in water quality of downstream European sites within the project Zol; i.e. Ballysadare Bay SPA (004129) and Ballysadare Bay SAC (000622). This may be related to the run-off into the receiving aquatic environment; particularly the drainage channel located near the southern boundary of the proposed development site. Potential construction phase run-off could contribute to downstream impacts such as increased siltation, nutrient release and/or contamination. These impacts could contribute to habitat degradation and deterioration of water quality in the receiving and downstream environments. Such impacts and consequent effects could only occur in the absence of best practice measures being implemented during the project's construction phase and key design elements integrated into the project's operational phase.



Ô,

	· La
Screening Assessment Criteria	N. D. D.
Screening Questions	50
	In addition, such pollution events (or impacts) would need to be large scale and sustained to contribute towards significant negative effects during the project's construction phase.
Provide Indicators of Significance as a result of t	he identification of effects set out above in terms
of;	
Loss	The footprint of the proposed works does not directly overlap with any European sites. Therefore, there will be no potential effects to European Sites resulting from direct loss. Indirect loss or deterioration of aquatic habitats and consequent effects to reliant QI or SCI species, could occur as a result of the proposed project construction phase, particularly to the downstream areas of Ballysadare Bay and its component European Sites.
Fragmentation	There will be no direct or indirect loss of habitats or species of European Sites within the project Zol. The proposed development site footprint primarily supports improved grassland, with more localised treelines, hedgerows and does not support habitats or species of European Sites within the potential project Zone of Influence.
Disruption	Due to the separation distance between the proposed development site and European Sites, the proposed works will not result in direct disturbance or disruption impacts to qualifying features for these European Sites. In addition, the proposed development site does not
Disturbance	provide suitable habitats to support qualifying features associated with these European Sites. Therefore, ex-situ disturbance or disruption is unlikely. The potential for indirect hydrological connectivity to European Sites via the drainage channel located near the southern boundary of the site could result in indirect disruption to water dependent / aquatic habitats and species in the downstream sections of Ballysadare Bay SAC and Ballysadare Bay SPA as a result of declining water quality in downstream / receiving habitats.
	occur in the absence of best practice measures being implemented during the project's



Ò,

Screening Assessment Criteria Screening Questions	N. Soc
	construction phase and key design elements integrated into the project's operational phase. In addition, such pollution events (or impacts) would need to be large scale and sustained to contribute towards significant negative effects during the project's construction phase. The proposed development site will not
Changes to Key Elements of the Site	contribute to Changes to Key Elements of European Sites within the project Zone of Influence. However further analysis of the hydrological interactions between the site, the surrounding environment and European Sites within the project Zone of Influence need to be considered.
Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts are not known	Likely impacts on European Sites via surface water are remote but possible, given the potentially remote hydrological connectivity between the proposed development site and the downstream sections of Ballysadare Bay SAC and Ballysadare Bay SPA. Therefore, further consideration of this source- pathway-receptor dynamic is required, particularly the site design, proposed construction and attenuation measures and the and drainage measures required to avoid potential likely significant effects to these European Sites.



5.2 Screening for AA Conclusion

This screening for AA identifies and assesses significant effects which are likely to occur as a result of the proposed development. The screening identified two European sites within the project zone of influence that support potential remote hydrological connectivity; i.e. Ballysadare Bay SPA (004129) and Ballysadare Bay SAC (000622). These European Sites support potential remote and tenuous hydrological connectivity with the proposed development, via a drainage channel located near the southern boundary of the site. Therefore, there is a viable source-pathway-receptor dynamic between the proposed development site and these European Sites. The hydrological linkage between the site and the downstream European Sites means that construction phase pollutant sources could be transferred downstream in the absence of appropriate construction, development and operational stage design measures. The remaining European Sites within the potential project Zone of Influence, do not support connectivity to the proposed development site.

Given the potential indirect remote and tenuous hydrological connectivity between the development site and Ballysadare Bay SPA and Ballysadare Bay SAC, it cannot be concluded that the proposed project, individually or in combination with other plans or projects, will not have a likely significant effect on a European site, without the consideration and analysis of further design, mitigation and scientific information. Therefore Stage 2 Appropriate Assessment is required.

A Natura Impact Statement (NIS) should be prepared, to provide scientific examination of the project to enable an AA to be completed by the competent authority. The NIS will examine potential effects to European Sites screened in as part of this Screening for Appropriate Assessment; i.e. Ballysadare Bay SPA (004129) and Ballysadare Bay SAC (000622).



6 STAGE 2 – NATURA IMPACT STATEMENT 🝾

This section of the report provides the necessary information to inform AA to be completed by the competent authority, Sligo County Council. This NIS provides the relevant scientific information to enable the competent authority in carrying out its AA to determine whether or not the proposed development would adversely affect the integrity of European sites.

The NIS assesses whether or not the proposed development would adversely affect the integrity of European Sites within the project ZoI, for which effects could not be excluded during the Screening for AA (see Section 5 for details). The European Sites are as follows:

- Ballysadare Bay SAC (Site Code: 000622); and
- Ballysadare Bay SPA (Site Code: 004129)

6.1 Impact Assessment

The impact assessment presented in the following sections outlines potential impacts and effects in the absence of mitigation measures being implemented.

6.1.1 Characterising Impacts

The methodology for the assessment of impacts is derived from the Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites (EC, 2021). When describing changes/activities and impacts on ecosystem structure and function, the types of impacts that are commonly presented include the following:

- Direct loss: reduction of habitat coverage as a result of its physical destruction (e.g. due to its removal or to the deposition of construction materials or sediments); loss of breeding, foraging, resting areas for species.
- Degradation: deterioration of habitat quality, leading to a reduced abundance of characteristic species or an altered community structure (species composition). This can be caused by changes in abiotic conditions (e.g. water levels or an increase in suspended sediments, pollutants or dust deposition); deterioration of breeding, foraging, resting areas for species.
- Disturbance: a change in existing environmental conditions (e.g. increased noise or light pollution, a greater frequentation of people and vehicles). Disturbance may cause, inter alia, the displacement of species individuals, changes in species behaviour, or the risk of morbidity or mortality.
- Fragmentation: leading to an alteration of distribution patches of relevant habitats and species, e.g. through the creation physical or ecological barriers in areas that are physically of functionally connected, or splitting them into smaller more isolated units.
- Other indirect effects: indirect change to the quality of the environment (resulting for example from a change in availability of nutrients and light, or an increase in the vulnerability of the site to other new threats such as invasive alien species, human and animal penetration).

Impacts that could potentially occur through the implementation of the project can be categorised under a number of impact categories as outlined in the EC 2021 document as follows:

 Area of the habitat or habitat of the species permanently lost (e.g. by clearing of vegetation or removal of suitable breeding/nesting sites) assessed against the habitat area on the site, at regional, national and biogeographical level (percentage of habitat area lost) and against the target set in the site-specific conservation objective (which may include a target for restoration);



- Area of the habitat or habitat of the species affected (e.g. by pollution, noise, determation of other ecological conditions) assessed against percentage of the habitat area on the site at regional, national and biogeographical level (percentage of habitat area affected) and against the target set in the site-specific conservation objective (which may include a target for restoration);

Size of resident and migratory species populations affected, assessed against the local, regional, national and international populations (percentage of population affected) and against the target set in the site-specific conservation objective (which may include a target for an increase in population size within the site);

Scale of impact (e.g. by pollution, noise, deterioration of other ecological conditions) on the quality of the habitat or habitat of the species or the survival of species affected, in view of their ecological requirements in the site as defined in the site-specific conservation objective (which may include a target for restoration).

6.1.2 Meaning of 'Adversely Affect the Integrity of the Site'

The concept of the 'integrity of the site' is explained in the EU publication Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, as follows;

'It is clear from the context and from the purpose of the directive that the 'integrity of the site' relates to the site's conservation objectives. For example, it is possible that a plan or project will adversely affect the integrity of a site only in a visual sense or only habitat types or species other than those listed in Annex I or Annex II. In such cases, the effects do not amount to an adverse effect for purposes of Article 6(3), provided that the coherence of the network is not affected. On the other hand, the expression 'integrity of the site' shows that focus is here on the specific site. Thus, it is not allowed to destroy a site or part of it on the basis that the conservation status of the habitat types and species it hosts will anyway remain favourable within the European territory of the Member State.

As regards the connotation or meaning of 'integrity', this can be considered as a quality or condition of being whole or complete. In a dynamic ecological context, it can also be considered as having the sense of resilience and ability to evolve in ways that are favourable to conservation. The 'integrity of the site' has been usefully defined as 'the coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is or will be classified'.

A site can be described as having a high degree of integrity where the inherent potential for meeting site conservation objectives is realised, the capacity for self-repair and self-renewal under dynamic conditions is maintained, and a minimum of external management support is required. When looking at the 'integrity of the site', it is therefore important to take into account a range of factors, including the possibility of effects manifesting themselves in the short, medium and long-term.

The integrity of the site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives.

6.1.3 Potential for Direct Impacts

Direct impacts refer to habitat loss or fragmentation arising from land-take requirements for development purposes. The proposed works are not located within the footprint or the immediate environs of a European Site. Therefore, the proposed works will not result in the direct loss or disturbance, disruption or fragmentation of European Sites. In addition, the proposed works footprint and its immediate environs do not support habitats of Qualifying Interest for European Sites within the project zone of influence.



6.1.4 Potential for Indirect Impacts

Indirect impacts refer to those which can arise through proximal or remote connectivity, for example by means of a watercourse, via overland flow of surfacewater, via groundwater, via air (e.g. dust) or via other emissions from a project site (e.g. noise and light). Indirect and secondary impacts do not have a straight-line route between cause and effect. It is potentially more challenging to ensure that all the possible indirect impacts of the project – in combination with other plans and projects - have been established. These can arise, for example, when a development alters the hydrology of a catchment area, which in turn affects the movement of groundwater to a site and the qualifying interests that rely on the maintenance of water levels. Deterioration in water quality can occur as an indirect consequence of development, which in turn changes the aquatic environment and reduces its capacity to support certain plants and animals. The introduction of invasive species can also be defined as an indirect impact. Disturbance to fauna can arise directly through the loss of habitat (e.g. displacement of foraging otter) or indirectly through noise, vibration and increased activity associated with construction activities or the operational processes of a proposed development.

6.1.5 Potential Effects, Description of Pathway and Potential Zone of Influence

Potential effects associated with the proposed development to the Qualifying Habitats and Species of European Sites within the project Zone of Influence are described in **Table 6-1** as follows:

Source of Potential Effect	Description of Pathway	Potential Zone of Influence of the Effect
Construction Phase		
Noise, vibration;		The Zone of Influence varies by the affected habitat and reliant
Lighting;	Terrestrial - contact (direct contact with construction	species. This can be assessed within 500m of the proposed
Human presence; and	personnel or machinery during site works), air (through its ability	development footprint for wintering birds (see Madsen,
Movements of vehicles associated with construction activities.	to transmit noise effects), visibility (on site presence of construction personnel)	1985; Smit & Visser, 1993; and Rees et al., 2005). However, distance can be significantly lower (e.g. 150 m for otter underground sites (NRA, 2006), or higher for other species.
Earthworks / stripping of overburden (e.g. Digging);	Hydrological pathways; i.e. overland flow and receiving drainage channels which provide	The Zone of Influence of the potential effects associated with this source is related with the
Over-pumping of silt laden waters	remote and tenuous connectivity to Ballysadare Bay.	nature of the potential contaminant (e.g. silt,
Stockpiling of construction materials (sand, aggregates etc.)	Surface water runoff; and	hydrocarbons). The worst case Zone of Influence is considered to be the whole length of the
Use of contaminants (e.g.	Accidental spills.	aquatic pathway (i.e. from the
hydrocarbons, wet cement, lubricants).		proposed development site to the downstream European Sites).
Operational Phase		the downstream European Sites).

Table 6-1: Impact Source – Pathway and Zone of Influence for the proposed project



Source of Potential Effect	Description of Pathway	Potential Zone 🔐 Influence of the Effect
Movement of People and vehicles associated within maintenance works;	Terrestrial - contact (direct contact with operational personnel or machinery during site works), air (through its ability	The Zone of Influence associated with these potential effects are considered to be retained to the proposed development site and
Facility lighting	to transmit noise effects), visibility (on site presence of	its immediate environs.
Maintenance of the facility and ancillary services	construction personnel)	
Use of contaminants (e.g. hydrocarbons, lubricants).	Hydrological pathways; i.e. overland flow and receiving drainage channels which provide remote and tenuous connectivity with Ballysadare Bay	The Zone of Influence of the potential effects associated with this source is related with the nature of the potential contaminant (e.g. silt, hydrocarbons). The worst case Zone of Influence is considered to be the whole length of the aquatic pathway (i.e. from the proposed development site to the downstream European Sites).

6.1.6 Potential Impacts from the Proposed Development on the Site Specific Conservation Objectives of European Sites within the Project Zone of Influence

Potential impacts sources, pathways and consequent effects associated with the proposed development to those qualifying features and the Site Specific Conservation Objectives of European Sites within the project Zone of Influence are considered in greater detail in **Table 6.2**.

Table 6-2 Impact Assessment on the Site Specific Conservation Objectives of European Sites within theProject Zone of Influence.

Attribute / Measure / Target	Potential Impact of proposed works
Ballysadare Bay SAC (000622)	
1014 Narrow mouthed whorl snail (Ver	tigo angustior)
Distribution: occupied sites	The proposed works will be restricted to the proposed IDA
Number No decline.	development site. The proposed works are not located within
There is one known location for this	the footprint or the immediate environs of a European Site.
species in this SAC (which overlaps two	Furthermore, habitats within the works footprint do not support
1km squares)	suitable habitat for this species, an invertebrate species
Presence on transect	associated with sand dune habitats near the northern boundary
Occurrence	of this SAC.
Adult or sub-adult snails are present in	
all three of the habitat zones on the	The proposed works may result in the localised release of
transect (minimum four samples)	sediments or silt laden waters to the surrounding environment.
Presence	However, the estuarine and sand dune habitats associated with
Occurrence	and supporting this species are accustomed to routine



S,

	L.
Attribute / Measure / Target	Potential Impact of proposed work
Adult or sub-adult snails are present in	fluctuations in sediment levels following or during ongoing tidal
at least six other places at the site	cycles. In addition, the proposed works will not impact the
with a wide geographical spread	presence, extent or supporting habitat quality or extent for this
(minimum of eight sites sampled)	species.
Transect habitat quality	
Metres	
At least 50m of habitat along the	
transect is classed as optimal and the	
remainder as at least suboptimal	
Transect optimal wetness	
Metres	
Soils, at time of sampling, are damp	
(optimal wetness) and covered with	
a layer of humid thatch for at least	
50m along the transect	
Habitat extent	
Hectares	
At least 45ha of the site in at least	
optimal/suboptimal condition.	
Optimal habitat is defined as fixed	
dune, species-rich grassland	
dominated by red fescue (Festuca	
rubra) and marram (Ammophila	
arenaria), with sparse oxeye daisy	
(Leucanthemum vulgare), dandelion	
(<i>Taraxacum</i> sp.), ribwort plantain	
(Plantago lanceolata) and other low	
growing herbs. Vegetation height 20-	
50cm. Habitat growing on damp,	
friable soil covered with a layer of	
humid, open structured thatch.	
Sub-optimal habitat is defined as	
above but either vegetation height is	
less than 10cm or above 50cm; or the	
soil is dry and sandy; or the thatch is	
wetter with a denser structure	
1130 Estuaries	
Habitat area	There will be no reduction of habitat area to this Annex I habitat
Hectares	as a result of the proposed development. The proposed works
The permanent habitat area is stable or	are not located within the footprint or the immediate environs
increasing, subject to natural	of a European Site. Therefore, the proposed works will not result
processes.	in the direct loss or disturbance, disruption or fragmentation of



87	a Natura Impact Statement
	EIL.
Attribute / Measure / Target	Potential Impact of proposed works
Community distribution Hectares Maintain the extent of the Zostera- dominated community, subject to natural processes	European Sites and their associated habitats of qualifying interest. The proposed works may result in the release of construction phase pollutants to the receiving environment which supports remote and tenuous hydrological connectivity Ballysadare Bay and its constituent European Sites. However such impacts and consequent effects are unlikely to affect the habitat area or the community distribution of this transitional / estuarine Annex I habitat which are accustomed to mobile estuarine / coastal
Community structure: Zostera density Shoots/m ² Conserve the high quality of the Zostera-dominated community, subject to natural processes	interactions with regular and ongoing fluctuations of nutrient, sediment and particulate levels in the water column.
1140 Mudflats and sandflats not covere	
Habitat area Hectares The permanent habitat area is stable or increasing, subject to natural processes. Community distribution Hectares Conserve the following community types in a natural condition: Intertidal estuarine mud and fine sand with Hediste diversicolor and Corophium volutator community; and Fine sand dominated by bivalves community	There will be no reduction of habitat area to this Annex I habitat as a result of the proposed development. The proposed works are not located within the footprint or the immediate environs of a European Site. Therefore, the proposed works will not result in the direct loss or disturbance, disruption or fragmentation of European Sites and their associated habitats of qualifying interest. The proposed works may result in the release of construction phase pollutants to the receiving environment which supports remote and extremely tenuous hydrological connectivity with Ballysadare Bay SPA / SAC. However such impacts and consequent effects are unlikely to affect the habitat area or the
complex. 1365 Harbour Seal <i>Phoca vitulina</i>	community distribution of this transitional / estuarine Annex I habitat which are accustomed to mobile estuarine / coastal interactions with regular and ongoing fluctuations of nutrient, sediment and particulate levels in the water column
Access to suitable habitat	The proposed works will be restricted to the proposed IDA
Number of artificial barriers Species range within the site should not be restricted by artificial barriers to site use Breeding behaviour Breeding sites	development site. The proposed works are not located within the footprint or the immediate environs of a European Site. Furthermore, habitats within the works footprint do not support suitable habitat for this species, a coastal species using the open water estuarine habitats of Ballysadare Bay and Sligo Bay.
Conserve the breeding sites in a natural condition Moulting behaviour Moult haul-out sites	The proposed works may result in the localised release of sediments to the surrounding environment. However, the estuarine and open water habitats associated with this species are accustomed to routine fluctuations in sediment levels



0,	& Natura Impact Statements
	E.L.
Attribute / Measure / Target	Potential Impact of proposed works
Conserve the moult haul out sites in a	following or during ongoing tidal cycles. In addition, the
natural condition	proposed works will not impact the presence, extent or
Resting behaviour	supporting habitat quality or extent for this species. Any such
Resting haul-out sites	release of sediments will be readily assimilated into this
Conserve the resting haul out sites in a	estuarine environment and its component habitats which are
natural condition	formed through ongoing accretion and erosion of sediment and
Disturbance	particulate matter. In addition, the proposed works and any
Level of impact	consequent impacts will not restrict access to suitable habitat or
Human activities should occur at	restrict the use of these habitats for breeding, moulting or
levels that do not adversely affect the	resting by Harbour Seal.
harbour seal population at the site	
2110 Embryonic shifting dunes	
Habitat area	There will be no reduction of habitat area to this Annex I habitat
Hectares	as a result of the proposed development. The proposed works
Area stable or increasing, subject to	are not located within the footprint or the immediate environs
natural processes, including erosion	of a European Site. Therefore, the proposed works will not result
and succession.	in the direct loss or disturbance, disruption or fragmentation of European Sites and their associated habitats of qualifying
Habitat distribution Occurrence	interest.
No decline or change in habitat	interest.
distribution, subject to natural	There will be no reduction of habitat area to this Annex I habitat
processes	as a result of the proposed development. The proposed works
Physical structure: functionality and	may result in the release of construction phase pollutants to the
sediment supply	receiving environment, which supports remote and extremely
Presence/ absence of physical barriers	tenuous connectivity with Ballysadare Bay and its component
Maintain the natural circulation of	European Sites. However such impacts and consequent effects
sediment and	are unlikely to affect the habitat area, distribution, physical
organic matter, without any physical	structure and vegetation composition of this Annex I habitat
obstructions	which is accustomed to mobile estuarine / coastal interactions
Vegetation structure: zonation	with regular and ongoing fluctuations of nutrient, sediment and
Occurrence	particulate levels in the water column.
Maintain the range of coastal habitats	
including transitional zones, subject to	
natural processes including erosion	
and succession	
Vegetation composition: plant health	
of foredune grasses	
Percentage cover	
More than 95% of sand couch (<i>Elytrigia juncea</i>) and/or lyme- grass (<i>Leymus</i>	
<i>arenarius</i>) should be healthy (i.e. green	
plant parts above ground and	
flowering heads present)	
Vegetation composition: typical	
species and	
sub-communities	
Percentage cover	



87	a Natura Impact Statements
	EIL.
Attribute / Measure / Target	Potential Impact of proposed work
Maintain the presence of species-poor	Potential impact of proposed works.
communities with typical species: sand	07.
couch (Elytrigia juncea) and/or lyme-	
grass (Leymus arenarius)	
Vegetation composition: negative	
indicator species	
Percentage cover	
Negative indicator species (including	
non-natives) to represent less than 5%	
cover	
2120 Shifting dunes along the shoreline	with Ammophila arenaria ('white dunes')
Habitat area	There will be no reduction of habitat area to this Annex I habitat
Hectares	as a result of the proposed development. The proposed works
Area stable or increasing, subject to	are not located within the footprint or the immediate environs
natural processes including erosion	of a European Site. Therefore, the proposed works will not result
and succession	in the direct loss or disturbance, disruption or fragmentation of
Habitat distribution	European Sites and their associated habitats of qualifying
Occurrence	interest.
No decline or change in habitat	
distribution, subject to natural	There will be no reduction of habitat area to this Annex I habitat
processes	as a result of the proposed development. The proposed works
Physical structure: functionality and	may result in the release of construction phase pollutants to the
sediment supply	receiving environment, which supports remote and extremely
Presence/ absence of physical barriers	tenuous connectivity to Ballysadare Bay and its component
Maintain the natural circulation of	European Sites. However such impacts and consequent effects
sediment and	are unlikely to affect the habitat area, distribution, physical
organic matter, without any physical	structure and vegetation composition of this Annex I habitat
obstructions	which is accustomed to mobile estuarine / coastal interactions
Vegetation structure: zonation	with regular and ongoing fluctuations of nutrient, sediment and particulate levels in the water column
Occurrence	
Maintain the range of coastal habitats	
including transitional zones, subject to	
natural processes including erosion and succession	
Vegetation composition: plant health	
of dune	
grasses	
Percentage cover	
More than 95% of marram (<i>Ammophila</i>	
areanaria) and/or lyme-grass (Leymus	
<i>arenarius</i>) should be healthy (i.e. green	
plant parts above ground and	
flowering heads present)	
Vegetation composition: typical	
species and	
sub-communities	



	The second se
Attribute / Measure / Target	Potential Impact of proposed works
Percentage cover at a representative	Potential impact of proposed works.
number of monitoring stops	7,
Maintain the presence of species-poor	TO_
communities dominated by marram	হিন্দ হিন্দ হিন্দ হিন্দ হিন্দ হিন্দ হিন্দ হিন্দ হিন্দ হৈছে হৈছে হৈছে হৈছে হৈছে হৈছে হৈছে হৈছে
(Ammophila arenaria) and/or lyme-	
grass (Leymus arenarius)	
Vegetation composition: negative	
indicator species	
Percentage cover	
Negative indicator species (including	
non-natives) to represent less than 5%	
cover	
2130 *Fixed coastal dunes with herbac	
Habitat area	There will be no reduction of habitat area to this Annex I habitat
Hectares	as a result of the proposed development. The proposed works
Area increasing, subject to natural	are not located within the footprint or the immediate environs
processes including erosion and	of a European Site. Therefore, the proposed works will not result
succession	in the direct loss or disturbance, disruption or fragmentation of
Habitat distribution	European Sites and their associated habitats of qualifying interest.
Occurrence	interest.
No decline or change in habitat	There will be no reduction of habitat area to this Annex I habitat
distribution, subject to natural	as a result of the proposed development. The proposed works
processes Physical structure: functionality and	may result in the release of construction phase pollutants to the
sediment supply	receiving environment which supports remote and extremely
Presence/ absence of physical barriers.	tenuous connectivity to Ballysadare Bay and its component
Maintain the natural circulation of	European Sites. However such impacts and consequent effects
sediment and organic matter, without	are unlikely to affect the habitat area, distribution, physical
any physical obstructions	structure and vegetation composition of this Annex I habitat
Vegetation structure: zonation	which is accustomed to mobile estuarine / coastal interactions
Occurrence	with regular and ongoing fluctuations of nutrient, sediment and
Maintain the range of coastal habitats	particulate levels in the water column
including transitional zones, subject to	
natural processes including erosion	
and succession	
Vegetation structure: bare ground	
Percentage cover	
Bare ground should not exceed 10% of	
fixed dune habitat, subject to natural	
processes	
Vegetation composition: sward height	
Centimeters	
Maintain structural variation within	
sward	
Vegetation composition: typical	
species and sub-communities	



S,

Attribute / Measure / Target	Potential Impact of proposed works
Percentage cover at a representative	Potential impact of proposed works.
sample of monitoring stops	7,
Maintain range of sub-communities	TO
with typical species listed in Delaney et	ি
al. (2013)	
Vegetation composition: negative	
indicator species (including <i>Hippophae</i>	
rhamnoides)	
Percentage cover	
Negative indicator species (including	
non-natives) to represent less than 5%	
Cover	
Vegetation composition: scrub/trees Percentage cover	
No more than 5% cover or under	
control	
2190 Humid dune slacks	F
Habitat area	There will be no reduction of habitat area to this Annex I habitat
Hectares	as a result of the proposed development. The proposed works
Area stable or increasing, subject to	are not located within the footprint or the immediate environs
natural processes including erosion	of a European Site. Therefore, the proposed works will not result
and succession.	in the direct loss or disturbance, disruption or fragmentation of
Habitat distribution	European Sites and their associated habitats of qualifying interest.
Occurrence No decline or change in habitat	interest.
distribution, subject to natural	There will be no reduction of habitat area to this Annex I habitat
processes	as a result of the proposed development. The proposed works
Physical structure: functionality and	may result in the release of construction phase pollutants to the
sediment supply	receiving environment which supports remote and extremely
Presence/ absence of physical barriers	tenuous connectivity to Ballysadare Bay and its component
Maintain the natural circulation of	European Sites. However such impacts and consequent effects
sediment and organic matter, without	are unlikely to affect the habitat area, distribution, physical
any physical obstructions	structure and vegetation composition of this Annex I habitat
Physical structure: hydrological and	which is accustomed to mobile estuarine / coastal interactions
flooding regime	with regular and ongoing fluctuations of nutrient, sediment and
Water table levels; groundwater	particulate levels in the water column
fluctuations (metres)	
Maintain natural hydrological regime	
Vegetation structure: zonation	
Occurrence	
Maintain the range of coastal habitats	
including transitional zones, subject	
to natural processes including erosion	
and succession	



	``C_
	THE A
Attribute / Measure / Target	Potential Impact of proposed work
Vegetation structure: bare ground	Potential Impact of proposed works.
Percentage cover	07.
Bare ground should not exceed 5% of	No.
dune slack habitat, with the exception	रु
of pioneer slacks which can have up to	
20% bare ground	
Vegetation structure: vegetation	
height	
Centimetres	
Maintain structural variation within	
sward	
Vegetation composition: typical	
species and subcommunities	
Percentage cover at a representative	
number of monitoring stops	
Maintain range of subcommunities	
with typical species listed in Delaney et	
<i>al.</i> (2013)	-
Vegetation composition: cover of Salix	
repens	
Percentage cover; centimetres	
Maintain less than 40% cover of	
creeping willow (<i>Salix repens</i>)	-
Vegetation composition: negative	
indicator species Percentage cover Negative indicator	
species (including non-natives) to	
represent less than 5% cover	
Vegetation composition: scrub/trees	4
Percentage cover No more than 5%	
cover or under control	
Ballysadare Bay SPA (004129)	
A046 Brent Goose Branta bernicla hroto	a
A141 Grey Plover Pluvialis squatarola	
A149 Dunlin <i>Calidris alpina alpina</i>	~
A157 Bar-tailed Godwit Limosa lapponi	LU
A162 Redshank Tringa totanus A999 Wetlands	
	1
Population trend	The proposed douglopment site is leasted 2.2km north cost of
Percentage change	The proposed development site is located 3.2km north-east of this SPA and does not support suitable foraging roosing or
Long term population trend stable or	this SPA and does not support suitable foraging, roosing or feeding habitat for these SCI species, most of which are utilise
increasing	I recurring manifaction these sci species, most of which are utilise



	The second se
Attribute / Measure / Target	Potential Impact of proposed work
Distribution Range, timing and intensity of use of area No significant decrease in the range, timing and intensity of use of areas by light-bellied brent goose, other than that occurring from natural patterns of variation	coastal and estuarine habitats for foraging and roosting purposes. Therefore, the proposed development will not result in ex-situ impacts to the SCI species of this European Site interms of changes to population trends or population distribution. The proposed works may lead to indirect hydrological impacts which could result in the deterioration of wetland habitat quality in terms of nutrient enrichment or increased sedimentation. Such impacts would not result in the reduction of wetland habitat area.
A999 Wetlands & Waterbirds	
Habitat area Hectares The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 2130 hectares, other than that occurring from natural patterns of variation.	The proposed development will not reduce the size or coverage of wetland habitat area for this SPA. The proposed works may lead to indirect hydrological impacts which could result in the deterioration of wetland habitat quality in terms of nutrient enrichment or increased sedimentation, but not wetland habitat area.



6.2 Best Practice Design & Mitigation Measures

A description of the proposed works are presented in **Section 3.1**. The project design seeks to retain and/or regulate all potential pollution resources at source, restricting their unregulated release to the surrounding environment. The implementation of these design measures are such that they will avoid the release of potential pollution sources, primarily water borne pollutants, to the receiving environment and by extension interconnected European Sites.

The best practice design and mitigation measures outlined below will be implemented to ensure that any impacts on the receiving environment, will be avoided during the project's construction and operational phases. They will also ensure that all potential pollutant sources will be retained to the proposed development footprint and will not enter the surrounding environment and those European Sites within the project Zone of Influence. Mitigation refers to measures taken to avoid or reduce negative impacts and effects (CIEEM, 2018)¹⁵.

6.2.1 Environmental Clerk of Works (ECoW)

The pre-construction and construction phase of the project will be supervised and monitored by a suitably qualified ecologist(s) and/or Environmental Scientists to carry out the role as Ecological Clerk of Works (ECoW). The ECoW will targeted efforts where works are completed near drainage channels within the proposed development site or where works require the removal of overburden, topsoil or boundary features. The ECoW will be fully appraised of all mitigation measures included in this NIS, the accompanying Planning Application and the reasons why they are to be applied. The appointed ECoW will be a member of the Chartered Institute of Ecology and Environmental Management (CIEEM), or equivalent, with commensurate experience in the role of ECoW for work on similar construction projects. The appointed Ecologist will have the authority to stop works or temporarily halt or delay ongoing works where further consideration or onsite improvements of mitigation may be necessary.

The supervising ecologist / ECoW will prepare and deliver site induction or toolbox talks and training to all construction personnel, in liaison with the Resident Engineer or Site Manager. The duration of frequency of monitoring will be informed by the nature, scale and locations of the proposed works. Monitoring frequency and duration will be greatest at project set up and at certain works practices such as works near surfacewater features; field boundaries and drains.

6.2.2 Site Compound

A construction works compound with designated areas for the storage of building materials (sand, cement, additives, etc.), plant machinery and for delivery of materials and fuel shall be provided.

The general location of the construction works compound will be located on low lying or gently sloping ground within the northern half of the site.

Only where required, the works compound area shall be temporarily resurfaced by placing a geotextile membrane onto the existing surface onto which a 200mm hardcore surface shall be placed. The boundary of the site compound will be secured by silt fencing.

The following elements and designations shall be contained within the construction works compound:

¹⁵ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, Version 1.2 Updated April 2022. Chartered Institute of Ecology and Environmental Management, Winchester



- Diesel generator;
- Temporary site office Portakabin or similar;
- Employee Parking;
- Portaloo' type toilet facilities with suitable welfare and washing facilities. This will be positioned in the construction works compound. Any wastewaters generated from the construction works compound shall be discharged to self-contained storage tanks and shall be removed via a licenced contractor to a suitable wastewater disposal facility. No wastewaters generated within the works compound shall discharge to surface watercourses or to ground;
- Bunded re-fuelling area. It is not proposed to store any fuel, oils or chemicals within the construction works compound area or any other area within the site. Where re-fuelling of plant or machinery is required fuel will be delivered to site via a standard commercial fuel vehicle or a mobile fuel browser. Re-fuelling shall only be undertaken within the designated bunded refuelling area;
- Potable water supply to site office and welfare facilities.
- A water tanker to supply water used for other purposes;
- Designated areas for gravel, subsoil, topsoil and sand stockpiling; and
- Contractor lock-up facility.

6.2.3 Further Measures to Ensure Protection of Water Quality

- There will be no storage of machinery fuel in areas prone to flooding or within 50m of any drain or watercourse;
- Storage tanks shall have secondary containment provided by means of an above ground bund (minimum bund capacity of 110%) to capture any oil leakage irrespective of whether it arises from leakage of the tank itself or from associated equipment such as filling and off-take points, sighting gauges, etc., all of which should be located within the bund. Bund specification should conform to the current best practice for oil storage (Enterprise Ireland, BPGCS005);
- Oil booms and oil soakage pads (Spill kits) should be maintained on-site to enable a rapid and effective response to any accidental spillage or discharge;
- Waste oils and hydraulic fluids shall be collected in suitable leak-proof containers and transported from the Site and Off-Site Areas for disposal or recycling to a licenced facility;
- Machinery used on Site shall be regularly inspected to ensure there is no leakage from them and to ensure the machinery shall not cause contamination of watercourses;
- Protection measures shall be put in place by the Contractor to ensure that all hydrocarbons used during the works are appropriately handled, stored and disposed of in accordance with recognised standards as detailed by the Environmental Protection Agency; and
- Guidelines for minimising impacts on water quality and fisheries in relation to Construction shall be implemented including, but not limited to, CIRIA C532 "Control of water pollution from construction sites - Guidance for consultants and contractors", Inland Fisheries Ireland guidelines and TII guidelines.

6.2.4 Further Measures to Ensure Control of Sediments

- There will be no direct or indirect discharge of unattenuated surface or ground water generated during the proposed works to any surface water feature;
- In accordance with standard CIRIA Good Practice On-Site Guidelines (C741), run-off from the proposed works areas will be intercepted and managed in order to avoid indirect sedimentation impacts on any nearby surface waters. These standard measures may include suitably designed



settlement tank, silt sock or silt bag along with other pollution control measures such as silt fences. Pumping and transport of water off-site in tankers may be required if volumes prevent effective control by other means. The contractor will be obliged to maintain any water management system in satisfactory working order throughout the period of construction activities. Sediment controls will be monitored and maintained by the appointed ECoW (See **Section 6.2.1** above) during the proposed works to protect the receiving riverine environment;

- Groundworks shall not take place during periods of heavy precipitation (Yellow Status rain warning or greater);
- Silt fencing specification and installation will comply with key techniques and materials to improve standard silt fences as detailed by Caraco (2000).
- To protect the drainage channel near the southern boundary of the site, it is proposed to erect and maintain a double lined silt fence between the works areas and this drainage channel throughout the construction phase. This will capture any movement of silt laden water from the site to surrounding environment during the project construction phase. The location and extent of proposed silt fencing is displayed in Figure 6.1.

6.2.5 Soils

In order to reduce the impacts on the soils and geological environment a number of mitigation measures will be adopted as part of the construction works on site. The measures would address the main activities of potential impact which include:

- Control of soil/bedrock excavation and export from the site; and
- The excavation of soils and subsoil will be an unavoidable impact of the development. One of the primary mitigation measures already employed at the preliminary design stage has been the minimisation of volumes of subsoil and bedrock required to be excavated. It is envisaged that most of the excavated subsoils removed during construction will be re-used on site in the form of fill and landscaping where suitable. Any subsoils that cannot be re-used on-site will be treated, recycled or disposed of where suitable using a licensed waste contractor.
- Specialist machinery (such as tracked machinery) will be used to minimise compaction of the subsoils. Excavations will be backfilled as soon as is possible to prevent any infiltration of potentially polluting compounds to the subsurface and the aquifer.
- Stockpiling of soil will be positioned at least 25m from a watercourse or drainage channels. Soil
 stockpiling will be positioned on level or gently sloping ground and will be covered as appropriate
 and secured by double lined silt fencing.
- Any soil imported to site will be subject to assessment, in order to identify any invasive alien species
 present. Where it is necessary to store topsoil for a significant period of time, it will be sown with
 grass seed to prevent any windblow or water erosion and subsequent run-off. Such stores will be
 subject to on-going monitoring. Subject to the identification of invasive alien species present at any
 of the sites, machinery will be cleaned between infested sites (including footwear and tools).
- The majority of new material brought to site will be used immediately or will be stored within the site boundary. Other materials such as asphalt or concrete will be brought directly to the construction site when required and immediately placed.
- Dust suppression measures (e.g. damping down during extended dry periods), vehicle wheel washes, road sweeping, and general housekeeping will ensure that the surrounding environment is free of nuisance dust and dirt on roads.



- All fill and aggregate will be sourced from reputable supplies as per the Construction Works Contractor's Contract and Procurement Procedures.

6.2.6 Mitigation Measures when working with cement

- No batching of wet-cement products will occur at the proposed development site. Ready-mixed supply of wet concrete products and/or emplacement of pre-cast elements will take place;
- All concrete works and concrete pours will be targeted and will be directed to sealed, shuttered units or trenches / excavations restricting any overspill to the receiving and surrounding environment;
- No washing out of any plant used in concrete transport or concreting operations will be allowed onsite;
- Where concrete is delivered to the proposed development site, only the chute will be cleaned, using the smallest volume of water possible. No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed. Chute cleaning water is to be isolated in temporary lined wash-out pits located near proposed site compound. These temporary lined wash-out pits will be removed from the site at the end of the construction phase;
- The contractor will use weather forecasting to plan dry days for pouring concrete; and,
- The contractor will ensure pour site is free of standing water and plastic covers will be ready in case of sudden rainfall event.

6.2.7 Management of Machinery and associated Materials

The appointed contractor will prepare and securely store all potential pollutants within the site compound.

- All refuelling operations and mechanical repairs should be carried out at least 50m from the nearest aquatic zone on a dry, elevated site. Where this is not possible, on-site refuelling will be undertaken with every precaution taken to avoid spillage including the use, where practicable of bunding, drip trays and absorbent materials.
- Spent oil must be collected and retained for correct off-site disposal.
- Where possible, biodegradable oil should be used as a substitute for mineral oil.
- A spill kit including absorbent material and floating booms will be on site with mechanical equipment at all times. The operators should be familiar with its use.
- Under no circumstances will chemicals, fuels or machine oils be discharged into an aquatic zone.
- Construction plant and equipment shall only be parked over-night within the construction works compound area. Construction plant and equipment shall be checked daily for any visual signs of oil or fuel leakage, as well as wear and tear.
- Waste oils, empty oil containers and other hazardous wastes will be disposed of in accordance with the requirements of the Waste Management Act, 1996.

6.2.8 Protection of Soil, Surface Waters and Groundwater During Construction Stage

The following measures will be implemented to protect surface and groundwater during the project construction phase:

- All liquids, solids and powder containers will be clearly labelled and stored in sealable containers;
- All liquid and hazardous material will be stored in a designated and temporarily bunded area with appropriate signage. The temporary bunded area shall be located within the designated storage area located in the southern area of the site;



- There will be no discharge of effluent to groundwater or surface water during the construction phase.
 All wastewater from the construction facilities will be stored before removal off site for disposal and treatment;
- Spill kits will be provided in areas where liquids are stored and refuelling area;
- Site personnel will be responsible for ensuring the regular maintenance of construction plant and equipment, to prevent leaks;
- Spill kits will be available to deal with accidental spillages;
- A regular review of weather forecasts for heavy rainfall will be required and the contractor will be required to prepare a contingency plan for before and after such events;
- The delivery point for concrete will be within the bunded designated construction compound area.
- Any compressors or generators used for connecting operations will be fitted with drip trays to collect any potential fuel and oil spills;
- Washing of tools or machinery with wet concrete will take place off-site at an appropriate dedicated wash facility that will pose no threat to surface waters;
- Overburden material shall only be stockpiled within a designated construction works compound area, and at least 25m metres from a watercourse or drainage channel. Separate stockpiles will be designated for different materials; and
- Building materials (sand, aggregates etc) shall only be stockpiled within site compound and laid out to minimise exposure to wind.

6.2.9 Wet weather / potential flood procedures

Substantial ground works (such as site clearance and foundation excavations) will only be carried out during periods of low rainfall, and therefore minimum surfacewater runoff rates. This will minimise the risk of entrainment of suspended sediment in surface water runoff, and transport via this pathway to surface watercourses.

The works programme for the construction stage of the development will also take account of weather forecasts and predicted rainfall and consequent flood events in particular. Construction works will be suspended or scaled back if heavy rain is forecast. The extent to which works will be scaled back or suspended will relate directly to the amount of rainfall forecast.

The following forecasting systems are available and will be used on a daily/weekly basis, as required, to allow site staff to direct proposed and planned construction activities:

- General Forecasts: Available on a national, regional and county level from the Met Éireann website (<u>www.met.ie/forecasts</u>). These provide general information on weather patterns including rainfall, wind speed and direction but do not provide any quantitative rainfall estimates;
- MeteoAlarm: Alerts to the possible occurrence of severe weather for the next 2 days. Less useful than general forecasts as only available on a provincial scale;
- 3-hour Rainfall Maps: Forecast quantitative rainfall amounts for the next 3 hours but does not account for possible heavy localised events;
- Rainfall Radar Images: Images covering the entire country are freely available from the Met Éireann website (www.met.ie/latest/rainfall_radar.asp). The images are a composite of radar data from Shannon and Dublin airports and give a picture of current rainfall extent and intensity. Images show a quantitative measure of recent rainfall. A 3-hour record is given and is updated every 15 minutes. Radar images are not predictive; and,



• Consultancy Service: Met Éireann provide a 24-hour telephone consultancy service. The forecaster will provide interpretation of weather data and give the best available forecast for the area of interest.

Using the safe threshold rainfall values will allow planned works to be safely executed (from a water quality perspective) in the event of forecasting of an impending high rainfall intensity event. Construction works will be suspended if forecasting suggests any of the following is likely to occur:

- >10 mm/hr (i.e., high intensity local rainfall events);
- >25 mm in a 24-hour period (heavy frontal rainfall lasting most of the day); or,
- >half monthly average rainfall in any 7 days.
- Prior to earthworks being suspended the following control measures will be completed:
- Secure all open spoil excavations;
- Provide temporary or emergency drainage to prevent back-up of surface runoff; and,
- Avoid working during heavy rainfall and for up to 24 hours after heavy events to ensure drainage systems are not overloaded.

6.2.10 Dust Control

To ensure mitigation of the effects of dust nuisance, a series of measures will be implemented. These are outlined below.

- All stockpiles on site will be covered with a waterproof cover to prevent mobilisation of the stockpile material. Stockpiled soils and aggregates will not be located within 25m of the drainage channels or other viable hydrological vectors within the proposed development site or its surrounding environs.
- Building materials (sand, etc) shall only be stockpiled within site compound and laid out to minimise exposure to wind. Sand and other aggregates will be stored in bunded areas and will not be allowed to dry out, unless this is required for a particular process. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods. Stored building materials (except blocks, bricks, etc) will be provided with water-proof covers when not being used. Bulk cement and other fine powder materials will be delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
- No concrete production will take place on-site due. Concrete will be supplied to the site using ready mix lorries. No washing down of lorries or any other construction vehicles shall take place on-site;
- Where possible, concrete will be carefully placed by the use of a hydraulic pump to minimise the risk of concrete spillages. The ends of pump hoses will be secured during concreting to prevent the discharge hose accidentally depositing concrete away from the pour site;
- The delivery point for concrete will be within the bunded designated area. This will prevent potential concrete spillage from truck mixers contaminating the ground and leaching out into the groundwater. Compressors or generators used for connecting operations will be fitted with drip trays to collect fuel and oil spills that might otherwise contaminate the groundwater and lead to pollution of the watercourses; and
- Concrete delivery vehicles will be precluded from washing out at or in the environs of the site, or at such location as would result in a discharge to surface waters.



6.2.11 Invasive Species

- Prior to arrival on site, the contractor's vehicles and equipment will be thoroughly cleaned and then dried using high-pressure steam cleaning, with water >65 °C, in addition to the removal of all vegetative material. Items difficult to soak/spray will be wiped down with a suitable disinfectant (e.g. solution of 1% Virkon® Aquatic);
- Ensure all operatives are familiar with all relevant non-native invasive species. A full list and details can be found on the Inland Fisheries Ireland website http://www.fisheriesireland.ie/Invasive-Species/invasive-species.html#help-us.
- Any aggregate imported to site will be subject to assessment, in order to identify any invasive alien species present. All aggregates imported to site will be certified and supplied by approved quarries. Subject to the identification of invasive alien species present at any of the sites, machinery will be cleaned between infested sites (including footwear and tools).
- Relevant guidelines on aquatic based biosecurity measures can be accessed from the Inland Fisheries Ireland website http://www.fisheriesireland.ie/Invasive-Species/invasive-species.html#help-us.

6.2.12 Other Legislation

- The works activities shall be carried out in such a manner as to prevent nuisance or pollution of any type, such as water, noise, odour, dust, visual, light, etc.
- The requirements of the Planning Acts, Public Health Acts, Fisheries Acts, Wildlife Acts, etc must be fully complied with.

6.2.13 Operational Phase Controls

It is proposed that all surface water flows from paved areas and grey water flows from roof areas within the site will be attenuated within the site and will discharge to a nature based SUDS detention basin located near the south-western corner of the site. The base of the detention basin will be lined with an impermeable material to prevent any possibility of infiltration of attenuated surfacewater to ground. This detention basin will be constructed to manage storm water from the development. Water from this detention basin will be released to drainage channel near the southern boundary of the site at controlled, green field rates. Each future master planned building plot will implement an individual hydrocarbon interceptor. All runoff will subsequently run through a series of Hydrocarbon interceptors prior to discharge to the detention basin. In accordance with the requirements of BS EN 858, 4.1 (b) '(run-off) from impervious areas, e.g., car parks, roads, factory yards areas; the size of the separator will depend on the design, rainfall intensity and the catchment area draining to the separator. Foul water generated on site will be connected to an existing foul sewer.

6.2.14 Implementation of Mitigation Measures

The Mitigation Measures (Project Design measures, Management Plans, Environmental Emergency Procedures and Best Practice Measures) will be implemented by the Site Manager during the construction stage and will be monitored and supervised by the appointed ECoW.

All protection measures have been designed in line with Best Practice and constitute the Best Available techniques following scientific literature and field baseline verification. As such there is a very high degree of confidence in their likely success.

Implementation of the mitigation measures will be the responsibility of the IDA and their appointed contractors. The supervision of the works will be carried out by ground staff and technical staff with experience in carrying out works on sensitive watercourses and will have 'stop works' authority.



6.2.15 Degree of confidence in the likely success of the mitigation measure

All protection measures have been designed in line with Best Practice and constitute the Best Available techniques following scientific literature and field baseline verification. As such there is a very high degree of confidence in their likely success.

6.2.16 How any mitigation failure will be addressed

The Mitigation measures prepared specifically for this project have been designed in line with Best Practice and constitute the Best Available techniques following scientific literature and Best Practice. The Mitigation Measures are considered to be robust and proven measures which will avoid adverse effects to European Sites.

On this basis, it can be confidently concluded that failures in the mitigation measures and their prescribed outcomes will be avoided.

Nonetheless contingency measures will be in place for unforeseen events such as oil/fuel spillages, water pollution or any inadvertent release of sediment. This will ensure any unforeseen potentially adverse effects are identified in a timely manner and appropriate remedial action taken immediately. The ground staff and technical staff with experience in carrying out works on sensitive watercourses will have 'stop works' authority. Where required, they will temporarily stop works should mitigation measures not be complied with or following an unforeseen environmental event. Works will not be allowed to re-commence until the issue is resolved.



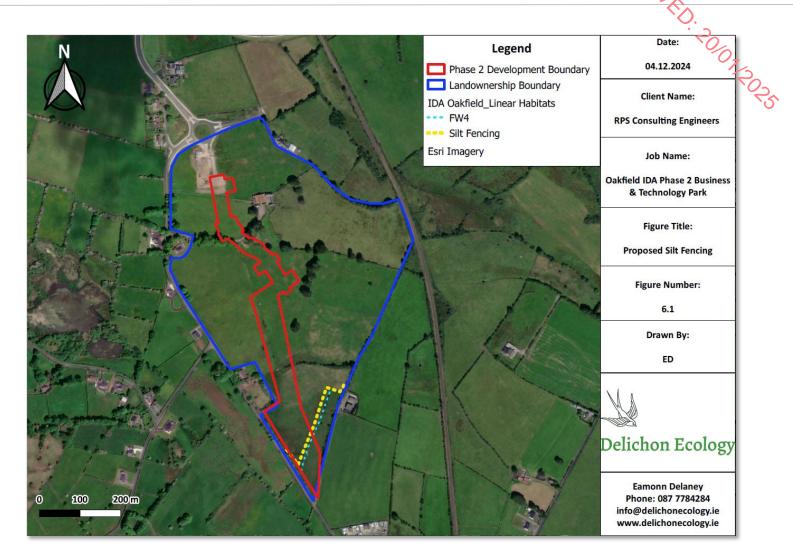


Figure 6-1: Proposed silt fencing for the proposed development site



6.3 Residual Effects

Provided that the recommended mitigation measures set out in **Section 6.2** are implemented in full, it is not expected that significant impacts will result to the qualifying features identified for appraisal in this NIS and thus it is not expected that the proposed works will have an adverse impact on the integrity of European Sites.

The NIS has examined and analysed in the light of the best scientific knowledge with respect to Ballysadare Bay SAC and Ballysadare Bay SPA, the potential impact sources and pathways, how these could impact on the site's conservation objectives and whether the predicated impacts would adversely affect the integrity of the said European sites. There is no other European site at risk of effects from the proposed development.

It has been objectively concluded, following an examination, analysis and evaluation of the relevant information, including the nature of the predicted impact from the proposed development, that the proposed development will not adversely affect (either directly or indirectly) the integrity of these European Sites, either alone or in combination with other plans or projects. Potential residual effects are considered to be imperceptible following the implementation of mitigation measures. There is no reasonable scientific doubt in relation to this conclusion.



7 NIS Conclusion

This Natura Impact Statement has been prepared to provide sufficient objective scientific information in support of the proposed development, in order to allow an Appropriate Assessment determination in the context of Article 6(3) of the Habitats Directive. The report has been prepared in order to evaluate the significance of potential effects on European sites from the proposed development, alone and in-combination with other developments.

The AA Screening (see **Section 5**) found that it could not be excluded, on the basis of objective scientific information that the proposed works, individually or in combination with other plans or projects, would not have a potential contributory effect on a European site without the implementation of best practice measures and standard operating procedures being implemented. Therefore, a NIS (presented in Section 6) was undertaken to ascertain whether the proposed works would have an adverse effect on the integrity of European sites within the project ZoI.

Other relevant projects and plans within the project zone of influence that may give rise to incombination effects was considered in **Section 5** and **Table 5.2**. This assessment found that the proposed development would not give rise to in-combination or cumulative effects to European Sites.

Best Practice Measures and mitigation measures for the proposed works (as outlined within **Section 6.2**) have been identified to ensure that potential pollutant sources are not released from the proposed works to the receiving environment. With the implementation of these measures there will be no risk of adverse effects on these Qualifying Features / Special Conservation Interests of European sites within this project's ZoI. As the proposed works support remote and tenuous hydrological connectivity to Ballysadare Bay SAC and Ballysadare SPA via potential overland flow to the drainage channel near the southern boundary of the site, best practice and mitigation measures have been devised to retain all potential aqueous emissions to the project footprint and away from the receiving environment.

There are no significant effects identified which would adversely affect the Special Conservation Interests or conservation objectives of the various SPAs under consideration with regard to the densities, range or conservation status of the waterbird species and their supporting wetland habitats.

There are no significant effects identified which would adversely affect the Qualifying Interests or conservation objectives of the various SAC's under consideration with regard to the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.

The provisions of Article 6 of the 'Habitats' Directive 92/43/EC (2000) defines integrity as the 'coherence of the sites ecological structure and function, across its whole area, or the habitats, complex of habitats and/or population of species for which the site is classified'. It is clear that, given the application of prescribed protective measures for the avoidance of impacts and the implementation of the required mitigation measures, the proposed development will not give rise to adverse effects on the integrity of any of the identified European sites evaluated herein.



It has been concluded that the proposed works individually or in combination with other plans and projects will not adversely affect the integrity of a European site, and there is no reasonable scientific doubt in relation to this conclusion.



APPENDIX A – PROPOSED SITE LAYOUT



