Comhairle Contae Chorcaí
Cork County Council

Habitats Directive Appropriate Assessment Screening Report & Screening Determination

<u>Project Title:</u> R585 Dromdeegy, Dunmanway – Road Realignment and Improvement Scheme

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This document contains the Habitats Directive Screening Determination of Cork County Council in respect of the proposed Road Realignment & Improvement Scheme on the R585 Dromdeegy, Dunmanway. The determination is based on information provided in the Screening for Appropriate Assessment Report which has been prepared by Dixon Brosnan Environmental Consultants for Cork County Council which is appended in this document. This screening determination should be read in conjunction with that report.

Name of the Project

R585 Dromdeegy, Dunmanway – Road Realignment and Improvement Scheme.

Description of the Project

The project study area is located circa 6.5km north of Dunmanway Town Centre. (*See Figure 1)*

The R585 is a Regional road which runs from Kealkill Village to its Junction with the N22, National Primary Road, east of Crookstown. The road is a busy rural road which is used as one of the main routes for motorists travelling from West Cork especially from the Beara Peninsula. There are high volumes of Heavy Goods Vehicles (HGV's) which use this route for example articulated trucks travelling to and from the busy fishing Port of Castletownbere.

Several accidents, including a fatality in 2016, have occurred along the section of road in question. The issues noted on site include:

- The existing road curve radius;
- The existing road cross section (road width varies from 5.5m to 5.8m);
- The lack of driver forward visibility;
- The nature of the existing road vertical alignment on approach to the bend (i.e. series of crests and sags);
- The vertical drop off on the northern roadside at the bend;
- The rock outcrop on the inside of the bend (i.e. southern roadside);
- The existing overhead telecoms line on the southern road edge.

The proposed overall road improvement works will consist of the following:

- Alteration to existing road alignment to improve road safety.
- Relocation of overhead line.
- Constructing earth berms and fencing.
- Signage, road lining & roads studs.
- All ancillary works required to deliver the proposed scheme.

The works will be carried out on the footprint of the existing carriageway and on the adjacent roadside lands for the realignment, increasing the road carriageway width and providing verges on both sides to improve forward visibility for all motorists and road users.

The project requires excavation and removal of existing road surface material and the laying down of new surfaces. Excavated material will be retained on site and the rock excavated will be used as fill material for the realigned carriageway.

European Sites Subject to Screening

There is one European site located within 2.3km distance to the proposed route:

- **Bandon River Special Area of Conservation (SAC) – Site Code 002171**

Consideration is given in this report to the potential for the proposed development to give rise to significant effects on SAC and/or SPA sites.

There are no Natural Heritage Areas existing nor proposed within the scope of works.

There are two other European sites which are located within 15km of the proposed project. These are **The Gearagh Special Area of Conservation** (SAC). This site is 12km from the proposed development at its closest point and is in a separate hydrological catchment.

The Gearagh Special Protection Area (SPA). This site is 13.5km from the proposed development at its closest point and is in a separate hydrological catchment.

No potential for negative effects arising from the proposed development on this site, or any other European sites are identified. No other European sites have been identified which could be negatively impacted by the proposed development.

The **Bandon River Special Area of Conservation (SAC)** consists of relatively short adjoining stretches of the Bandon and Caha Rivers. These rivers flow in a southerly direction to the east of Dunmanway, Co. Cork. The predominant rock formations are Old Red Sandstone to the north and Carboniferous slate stretching south of Dunmanway. Soils in the northern section consist of peats, podzols and skeletal soils. The southern section consists of alluvial soils and Brown Podzolics. The east-west exposure of Old Red Sandstone to the north of Dunmanway displays distinct ridgelines of bare rock with poor pasture and scrub.

Is the project directly connected with or necessary to the management of the sites listed above?

No

Describe how the project (alone or in combination) is likely to affect the Natura 2000 site.

This project, either alone or in combination with the various other projects detailed in the accompanying report, is not deemed to significantly affect the qualifying interest of any Natura sites.

Overall conclusion

In accordance with Section 177S of the Planning and Development Act 2000 (as amended) and on the basis of the objective information provided in the report of Dixon Brosnan Environmental Consultants, it is concluded that the proposed project does not pose a risk of causing significant negative impacts to the Natura 2000 site.

No impacts to any Natura 2000 sites of their conservation interests are envisaged to occur as a result of the proposed project.

It is therefore determined that a Stage 2 Appropriate Assessment under Section 177V of the Planning and Development Act 2000 is not required.

DixonBrosnan
environmental consultants

Report in support of Appropriate Assessment Screening

Completion of Road Realignment and Improvement Works,
At R585 Dromdeegy and Cooranig,
Dunmanway, Co. Cork

Cork County Council

April 2022

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Project	Report in support of an Appropriate Assessment Screening Completion of Road Realignment and Improvement, R585 Dromdeegy and Cooranig, Dunmanway, Co. Cork	
Client	Cork County Council	
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TABLE OF CONTENTS

1. Introduction 8
1.1. Background 8
1.2 Aim of Report 8
1.3 Authors of Report 10
2. Regulatory Context and Appropriate Assessment Procedure 10
2.1 Regulatory Context 10
2.2 Appropriate Assessment Procedure 11
3. Receiving Environment 12
3.1 Existing Site 12
3.2 Proposed Development 12
4. Screening 15
4.1 Introduction 15
4.2 Study Area and Scope of Appraisal 15
4.3 Field Study 16
4.4 Source-Pathway-Receptor Model 16
4.5 Likely Significant Effect 16
4.6 Screening Process 17
4.7 Desktop Review 17
5. Natura 2000 Sites 18
5.1 Designated sites within a 15km Radius 18
5.2 Bandon River SAC 20
5.3 Natura 2000 sites – Features of interests and conservation objectives 20
6. Water Quality 22
6.1 River Basin Management Plan for Ireland 22
7. Site Surveys 23
7.1 Habitats 23
7.2 Mammals 27
7.3 Birds 28
7.4 Invasive Species 28
8. Potential Impacts 29
8.1 Potential impacts from loss of habitat 30
8.2 Potential impacts from noise and disturbance 30
8.3 Potential impacts from surface water runoff 30

8.4 Spread of Invasive Species 32
8.5 In-combination Impacts 32
9. Screening conclusion and statement 34
References 34
Appendices 36

1. Introduction

1.1. Background

The information in this report has been compiled by DixonBrosnan Environmental Consultants, on behalf of the applicant. It provides information on and assesses the potential for the completion of road realignment and improvement works on the R585 at Dromdeegy and Cooranig, Dunmanway. Co. Cork to impact on any Natura 2000 sites within its zone of influence. The information in this report forms part of and should be read in conjunction with the planning application documentation being submitted to the planning authority in connection with the proposed development.

The Birds Directive (2009/147/EC) and the Habitats Directive (92/42/EEC) put an obligation on EU Member States to establish the Natura 2000 network of sites of highest biodiversity importance for rare and threatened habitats and species across the EU. In Ireland, the Natura 2000 network of European sites comprises Special Areas of Conservation (SACs, including candidate SACs) and Special Protection Areas (SPAs, including proposed SPAs). SACs are selected for the conservation of Annex I habitats (including priority types which are in danger of disappearance) and Annex II species (other than birds). SPAs are selected for the conservation of Annex I birds and other regularly occurring migratory birds and their habitats. The annexed habitats and species for which each site is selected correspond to the qualifying interests of the sites and from these the conservation objectives of the site are derived. The Birds and Habitats Directives set out various procedures and obligations in relation to nature conservation management in Member States in general, and of the Natura 2000 sites and their habitats and species in particular. A key protection mechanism is the requirement to consider the possible nature conservation implications of any plan or project on the Natura 2000 site network before any decision is made to allow that plan or project to proceed. Not only is every new plan or project captured by this requirement but each plan or project, when being considered for approval at any stage, must take into consideration the possible effects it may have in combination with other plans and projects when going through the process known as Appropriate Assessment (AA).

The obligation to undertake Appropriate Assessment (AA) derives from Article 6(3) and 6(4) of the Habitats Directive, and both involve a number of steps and tests that need to be applied in sequential order. Article 6(3) is concerned with the strict protection of sites, while Article 6(4) is the procedure for allowing derogation from this strict protection in certain restricted circumstances. As set out in Section 177U of the Planning and Development Act 2000 as amended, a screening for appropriate assessment of an application for consent for the proposed development must be carried out by the competent authority to assess, in view of best scientific knowledge, if the proposed development, individually or in combination with another plan or project is likely to have a significant effect on any European site. Each step in the assessment process precedes and provides a basis for other steps. The results at each step must be documented and recorded carefully so there is full traceability and transparency of the decisions made.

1.2 Aim of Report

The purpose of this report is to inform the AA process as required under the Habitats Directive (92/43/EEC) in instances where a plan or project may give rise to significant impacts on a

Natura 2000 site. This report aims to inform the Appropriate Assessment process in determining whether the development, both alone and in combination with other plans or projects, are likely to have a significant impact on the Natura 2000 sites in the study area, in the context of their conservation objectives and specifically on the habitats and species for which the sites have been designated.

This report has been prepared with regard to the following guidance documents, where relevant.

- Managing Natura 2000 Sites: The Provision of Article 6 of the Habitats Directive 92/43/EEC (European Commission (EC), 2018);
- Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodical Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (European Commission (EC), 2001);
- Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC (European Commission, (EC) 2007);
- Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (Department of Environment, Heritage and Local Government, 2010 revision);
- Appropriate Assessment under Article 6 of the Habitats Directive; Guidance for Planning Authorities. Circular NPW 1/10 and PSSP 2/10 (Department of Environment, Heritage and Local Government, 2010);
- Guidelines for Good Practice Appropriate Assessment of Plans under Article 6(3) Habitats Directive (International Workshop on Assessment of Plans under the Habitats Directive, 2011);
- Commission notice Guidance document on wind energy developments and EU nature legislation, (EC 2020);
- Communication from the Commission on the precautionary principle. European Commission (2000) and
- Case C-258/11, Peter Sweetman and Others v An Bord Pleanála
- Case C-164/17, Edel Grace and Peter Sweetman v An Bord Pleanála
- Case C-323/17 People Over Wind and Peter Sweetman v Coillte Teorant
- Case C-461/17 Brian Holohan and Others v An Bord Pleanála
- Joined Cases C-293/17 and C-294/17, Coöperatie Mobilisation for the Environment UA and Others v College van gedeputeerde staten van Limburg and Others
- "Managing Natura 2000 sites The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC" Brussels, 21.11.2018
- Grianna & ors -v- An Bord Pleanála [2015] IEHC 248 (16 April 2015)

- Kelly -v- An Bord Pleanála & others 225;la [2014] IEHC 400 (25 July 2014

1.3 Authors of Report

This report was prepared by Carl Dixon MSc. (Ecological Monitoring) and Sorcha Sheehy PhD (Ecology/Ornithology).

Carl Dixon MSc (Ecology) is a senior ecologist who has over 20 years' experience in ecological and water quality assessments with particular expertise in freshwater ecology. He also has experience in mammal surveys, invasive species surveys and ecological supervision of large-scale projects. Projects in recent years include the Waste to Energy Facility Ringaskiddy, Shannon LNG Project, supervision of the Fermoy Flood Relief Scheme, Skibbereen Flood Relief Scheme, Upgrade of Mallow WWTP Scheme, Douglas Flood Relief Scheme, Great Island Gas Pipeline etc. He has carried out ecological surveys and prepared AA/NIS reports for a range of projects.

Sorcha Sheehy PhD (ecology/ornithology) is an experienced ecological consultant with over twelve years' experience. She has worked on Screening/NIS's for a range of small and large-scale projects with particular expertise in assessing impacts on birds. Recent projects include bird risk assessments for Dublin and Cork Airports, Waste to Energy Facility Ringaskiddy and Water Storage Schemes for Irish Water.

2. Regulatory Context and Appropriate Assessment Procedure

2.1 Regulatory Context

The Habitats Directive (Council Directive 92/43/EEC on the *Conservation of Natural Habitats and of Wild Fauna and Flora*) aims to maintain or restore the favourable conservation status of habitats and species of community interest across Europe. The requirements of these directives are transposed into Irish law through the European Communities (Birds and Natural Habitats Regulations; S.I. No. 477 of 2011).

Under the Directive a network of sites of nature conservation importance have been identified by each Member State as containing specified habitats or species requiring to be maintained or returned to favourable conservation status. In Ireland the network consists of SACs and SPAs, and also candidate sites, which form the Natura 2000 network.

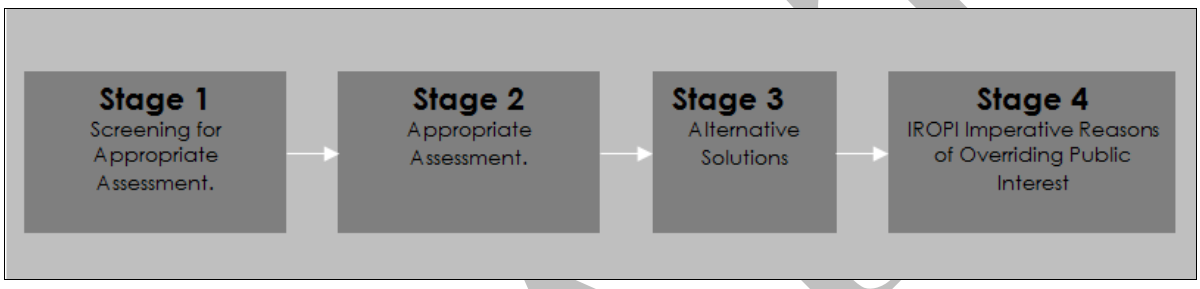
Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the *Conservation of Natural Habitats and of Wild Fauna and Flora* (as amended) (hereafter 'the Habitats Directive') requires that, any plan or project not directly connected with or necessary to the management of a designated site, but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. A competent authority (e.g. the EPA or Local Authority) can only agree to a plan or project after having determined that it will not adversely affect the integrity of the site concerned.

The possibility of a significant effect on a designated or "European" site has generated the need for an appropriate assessment to be carried out by the competent authority for the purposes of Article 6(3). A Stage Two Appropriate Assessment is required if it cannot be excluded, on the basis of objective information, that the proposed development, individually

or in combination with other plans or projects, will have a significant effect on a European site. The first (Screening) Stage for appropriate assessment operates merely to determine whether a (Stage Two) Appropriate Assessment must be undertaken on the implications of the plan or project for the conservation objectives of relevant European sites.

2.2 Appropriate Assessment Procedure

The assessment requirements of Article 6(3) establish a stage-by-stage approach. This assessment follows the stages outlined in the 2001 European Commission publications "Assessment of plans and projects significantly affecting Natura 2000 sites: methodological guidance on the provisions of Articles 6(3) and 6(4) of the Habitats Directive 92/43/EEC" (2001) and Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (Draft) Office for Official Publications of the European Communities, Luxembourg (EC, 2015);



The stages are as follows:

Stage One: Screening — the process which identifies any appreciable impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant;

Stage Two: Appropriate assessment — the consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts;

Stage Three: Assessment of alternative solutions: The process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site. It is confirmed that no reliance is placed by the developer on Stage Three in the context of this application for development consent;

Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain — an assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed (it is important to note that this guidance does not deal with the assessment of imperative reasons of overriding public interest). Again, for the avoidance of doubt, it is confirmed that no reliance is placed by the developer on Stage Four in the context of this application for development consent.

It is the responsibility of the competent authority to make a decision on whether or not the proposed development should be approved, taking into consideration any potential impact upon any Natura 2000 site within its zone of influence.

3. Receiving Environment

3.1 Existing Site

Cork County Council has identified the need to carry out road safety and realignment improvement works to the R585 regional road at Dromdeegy and Cooranig, Dunmanway, Co. Cork. The existing road is substandard because of its inadequate width and poor horizontal and vertical alignment geometry. The realignment works will run over a length of approximately 410m with tie-in to the existing road at both ends.

The proposed development site is located circa 6.5km north of Dunmanway Town Centre in the townlands of Dromdeegy and Cooranig. The R585 is a Regional road which runs from Kealkill Village to its Junction with the N22, National Primary Road, east of Crookstown in the Municipal District (MD) area of Dunmanway. The road is a busy rural regional road which is used as one of the main routes for motorists travelling from West Cork especially from the Beara Peninsula. There are high volumes of Heavy Goods Vehicles (HGV's) using this route.

The proposed development site is located on the Regional Route R585 from Copeen to Kealkill (**Figure 1**). The site is located in a rural setting. In the wider landscape habitats include a mixture of immature and semi-mature conifer plantations, areas of wet heath with exposed bedrock and semi-intensive grassland. The Caha River is located to the northeast of the site and the R585 crosses this river at the Poulnaberry Bridge approximately 200m east of the proposed development site.

3.2 Proposed Development

The proposed overall road improvement works will consist of the following:

- Alteration to existing road alignment to improve road safety;
- Site Clearance;
- Relocation of overhead line;
- Constructing earth berms and fencing;
- Signage, road lining & roads studs;
- All ancillary works required to deliver the proposed scheme.

Part of the works have already been completed i.e. site clearance and laying of hardcore in new road footprint. This report deals with the completion of the works i.e. construction of earth berms and fencing, signage, road lining, road studs and all ancillary work. The existing road which will no longer be in active usage will not be excavated. It is expected that this will be colonised by a mixture of early successional species and scrub over time.

An overview of the proposed development site is shown in **Figure 2**.

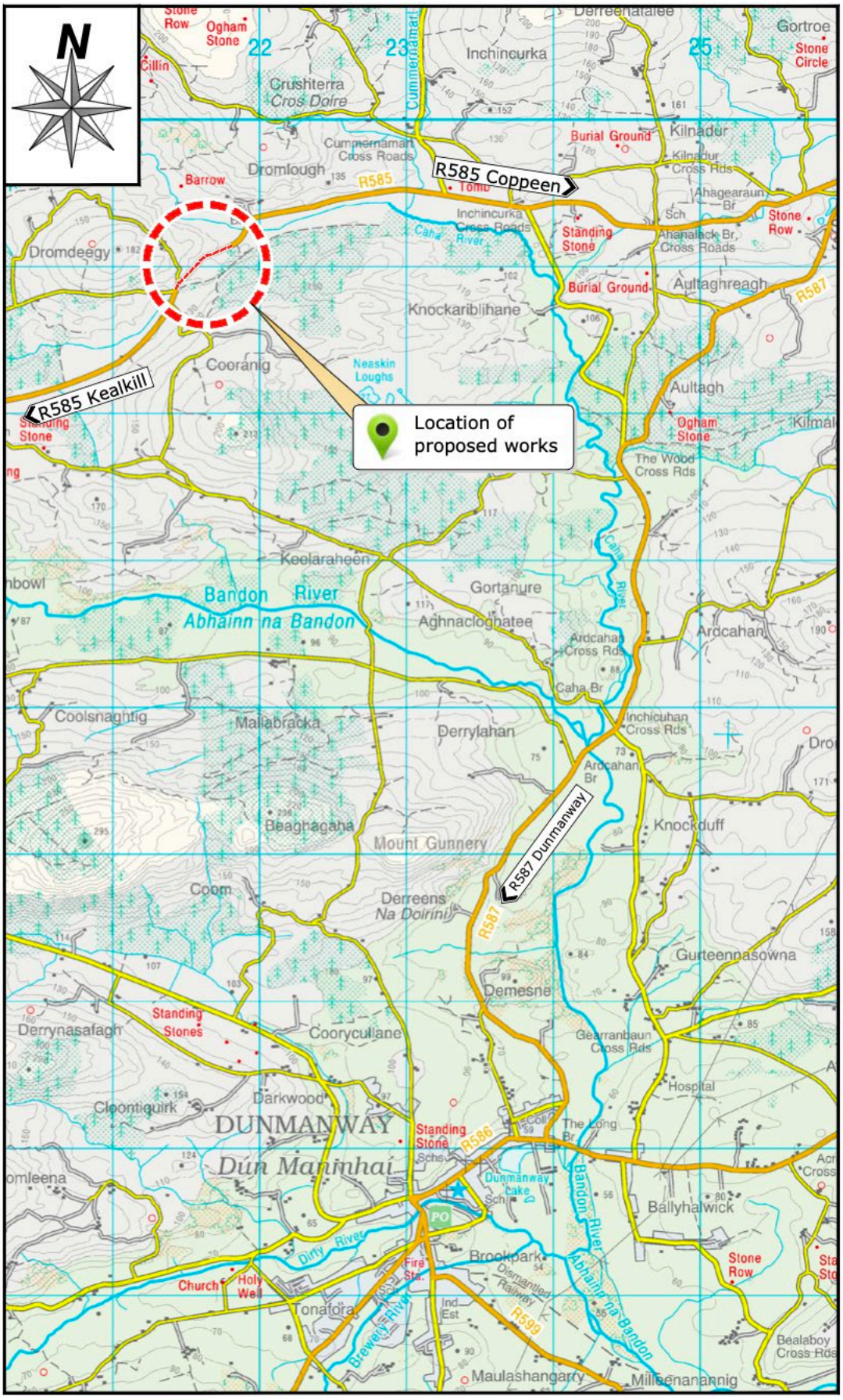


Figure 1. Site location| Source Cork County Council

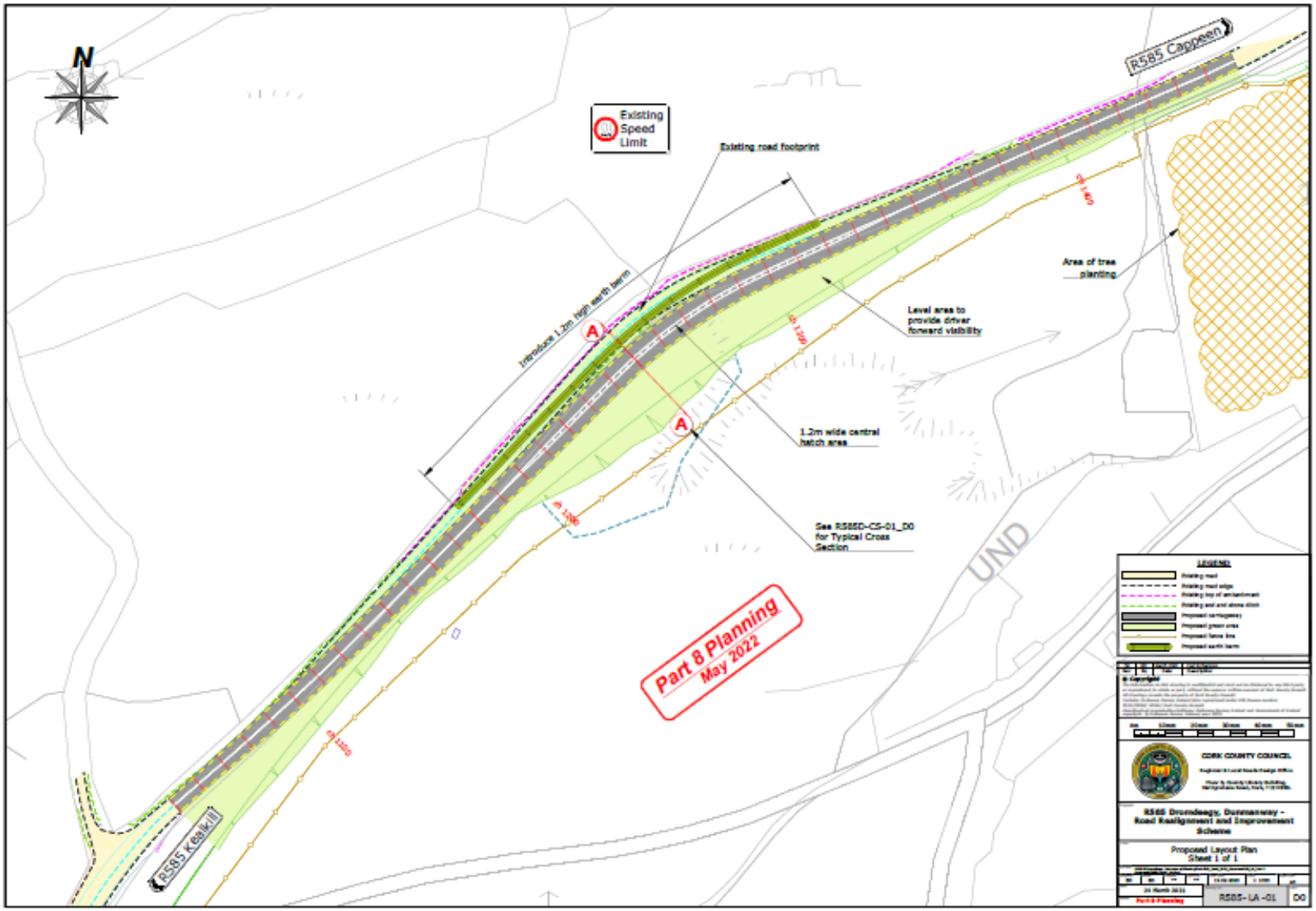


Figure 2. Site location and local enviros | Source: Cork County Council

4. Screening

4.1 Introduction

This section contains the information required for the competent authority to undertake screening for AA for the proposed development.

The aims of this section are to:

- Determine whether the proposed development is directly connected with, or necessary to, the conservation management of any Natura 2000 Sites;
- Provide information on, and assess the potential for the proposed development to significantly effect on Natura 2000 Sites (also known as European sites); and
- Determine whether the proposed development, alone or in combination with other projects, is likely to have significant effects on Natura 2000 sites in view of their conservation objectives.

The proposed development is not directly connected with, or necessary to the conservation management of any Natura 2000 sites.

4.2 Study Area and Scope of Appraisal

Natura 2000 sites (European sites) are only at risk from significant effects where a source-pathway-receptor link exists between a proposed development and a Natura 2000 site(s). This can take the form of a direct impact (e.g. where the proposed development and/or associated construction works are located within the boundary of the Natura 2000 site(s) or an indirect impact where impacts outside of the Natura 2000 site(s) affect ecological receptors within (e.g. impacts to water quality which can affect riparian habitats at a distance from the impact source).

The Zone of Influence (ZoI) comprises the area within which the proposed development may potentially affect the conservation objectives (or qualifying interests) of a Natura 2000 site. There is no recommended zone of influence, and guidance from the National Parks and Wildlife Service (NPWS) recommends that the distance should be evaluated on a case-by-case basis with reference to the nature, size and location of the project, the sensitivities of the ecological receptors, and the potential for in-combination effects (cumulative).

In ecological and environmental impact assessment, for an effect to occur there must be a risk enabled by having a source (e.g. construction works at a proposed development site), a 'receptor' (e.g. SAC or other ecologically sensitive feature), and a pathway between the source and the receptor (e.g. a watercourse which connects the proposed development site to the SAC, *ex situ* foraging habitat for SCI birds). A 'receptor' is defined as the Special Conservation Interest (SCI) of SPAs or Qualifying Interest (QI) of SACs for which conservation objectives have been set for the European sites being screened.

Consideration is therefore given to the source-pathway-receptor linkage and associated risks between the proposed development and Natura 2000 sites. For a significant effect to occur there needs to be an identified risk whereby a source (e.g. contaminant or pollutant arising from construction activities) affects a particular receptor (i.e. Natura 2000 site) through a

particular pathway (e.g. a watercourse which connects the proposed development with the Natura 2000 site).

The identification of risk does not automatically mean that an effect will occur, nor that it will be significant. The identification of these risks means that there is a possibility of environmental or ecological damage occurring. The level and significance of the effect depends upon the nature of the consequence, likelihood of the risk and characteristics of the receptor.

The precautionary principle is applied for the purposes of screening to ensure that consideration and pre-emptive action is undertaken where there is a lack of scientific evidence. It is noted that mitigation measures are not taken into account in the AA screening assessment process.

Thus, any appreciable direct, indirect or in-combination impacts which could arise from the proposed development in relation to the designated sites within this zone were considered.

4.3 Field Study

A site survey was carried out on the 29th of March 2022 to identify the habitats, flora and fauna present at the site. The surveys assessed the potential for all Qualifying Interests (QIs)/ Special Conservation Interests (SCIs) of European sites and third schedule invasive species to occur within the proposed site.

4.4 Source-Pathway-Receptor Model

The likely effects of the proposed development on any European site has been assessed using a source-pathway-receptor model, where:

- A ‘source’ is defined as the individual element of the proposed works that has the potential to impact on a European site, its qualifying features and its conservation objectives.
- A ‘pathway’ is defined as the means or route by which a source can affect the ecological receptor.
- A ‘receptor’ is defined as the SCI of SPAs or QI of SACs 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 source-pathway-receptor model was used to identify a list of European sites, and their QIs/SCIs, with potential links to European sites. These are termed as ‘relevant’ European sites/QIs/SCIs throughout this report.

4.5 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 construction and operation of the proposed development, where LSE pathways to European sites were identified through the source-pathway-receptor model.

4.6 Screening Process

The Screening for Appropriate Assessment will incorporate the following steps:

- Definition of the zone of influence for the proposed works;
- Identification of the European sites that are situated (in their entirety or partially or downstream) within the zone of influence of the proposed works;
- Identification of the most up-to-date QIs and SCIs for each European site within the zone of influence;
- Identification of the environmental conditions that maintain the QIs/SCIs at the desired target of Favourable Conservation Status;
- Identification of the threats/impacts – actual or potential that could negatively impact the environmental conditions of the QIs/SCIs within the European sites;
- Highlighting the activities of the proposed works that could give rise to significant negative impacts; and
- Identification of other plans or projects, for which in-combination impacts would likely have significant effects.

4.7 Desktop Review

A desktop review facilitates the identification of the baseline ecological conditions and key ecological issues relating to Natura 2000 sites and facilitates an evaluation assessment of potential in-combination impacts. Sources of information used for this report include reports prepared for the Dromdeegy and Cooranig area and information from statutory and non-statutory bodies. The following sources of information and relevant documentation were utilised:

- National Parks & Wildlife Service (NPWS) - www.npws.ie
- Environmental Protection Agency (EPA) – www.epa.ie
- National Biodiversity Data Centre (NBDC) – www.biodiversityireland.ie
- *Cork County Development Plan 2014*

- *Draft Cork County Development Plan 2022-2028*
- Birdwatch Ireland - http://www.birdwatchireland.ie/
- Invasive Species Ireland - http://www.invasivespeciesireland.com/
- *Best Practice Guidance for Habitat Survey and Mapping* (Heritage Council, 2011)
- *Guidelines for Assessment of Ecological Impacts of National Road Schemes* (National Roads Authority, 2009) and
- *Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU)* European Union, 2017.

5. Natura 2000 Sites

5.1 Designated sites within a 15km Radius

In accordance with the European Commission Methodological Guidance (EC 2018), a list of Natura 2000 Sites that can be potentially affected by the proposed project has been complied. All candidate SAC's (cSAC) and SPAs sites within the zone of influence for the proposed development have been identified. These are listed below in **Table 1** and shown in **Figure 3**.

The proposed development site is not located within or adjacent to a Natura 2000 site. The closest Natura 2000 site is the Bandon River SAC (Site code 002171), located 2.1km southeast of the site. The Caha Stream is located approximately 200m northeast of the works area. The Caha Stream is a tributary of the Bandon River, with the confluence located approximately 2.8km downstream of the works area. During construction and operation, surface water runoff could potentially impact on water quality within the Caha Stream and the Bandon River SAC.

Therefore, a source-pathway-receptor link has been identified between the source (proposed development) and the receptor (Bandon River SAC) via a potential pathway (impacts on water quality and spread of invasive species during construction). Further information on Bandon River SAC is provided below and a full site synopsis is included **Appendix 1**.

Given the distance from the proposed development and the lack of hydrological or other pathways, no potential impacts on any other Natura 2000 site within the zone of influence has been identified.

Table 1. Natura 2000 sites and their location relative to the proposed development site

Natura 2000 Site	Site Code	Distance at closest point and potential source-pathway-receptor link	Qualifying Interests (* denotes a priority habitat)
Special Area of Conservation (SAC)			
Bandon River SAC	002171	2.1km southeast. A source-pathway-receptor link has been identified between the source (proposed development site) and the receptor (Bandon River	**Habitats** 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation

Natura 2000 Site	Site Code	Distance at closest point and potential source-pathway-receptor link	Qualifying Interests (* denotes a priority habitat)
		SAC) via a potential pathway (impacts on water quality during construction or operational phase and spread of invasive species).	91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)* **Species** 1096 Brook Lamprey (*Lampetra planeri*) 1029 Freshwater Pearl Mussel (*Margaritifera margaritifera*)
The Gearagh SAC	000108	11.km north. No hydrological or other pathway exists	**Habitats** 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 3270 Rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles 91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)* **Species** 1355 Otter (*Lutra lutra*)
Special Protection Area (SPA			
The Gearagh SPA	004109	13.1km north. No significant pathway.	**Birds** A052 Teal (*Anas crecca)* A050 Wigeon (*Anas penelope*) A125 Coot (*Fulica atra*) A053 Mallard (*Anas platyrhynchos*) **Habitats** Wetlands

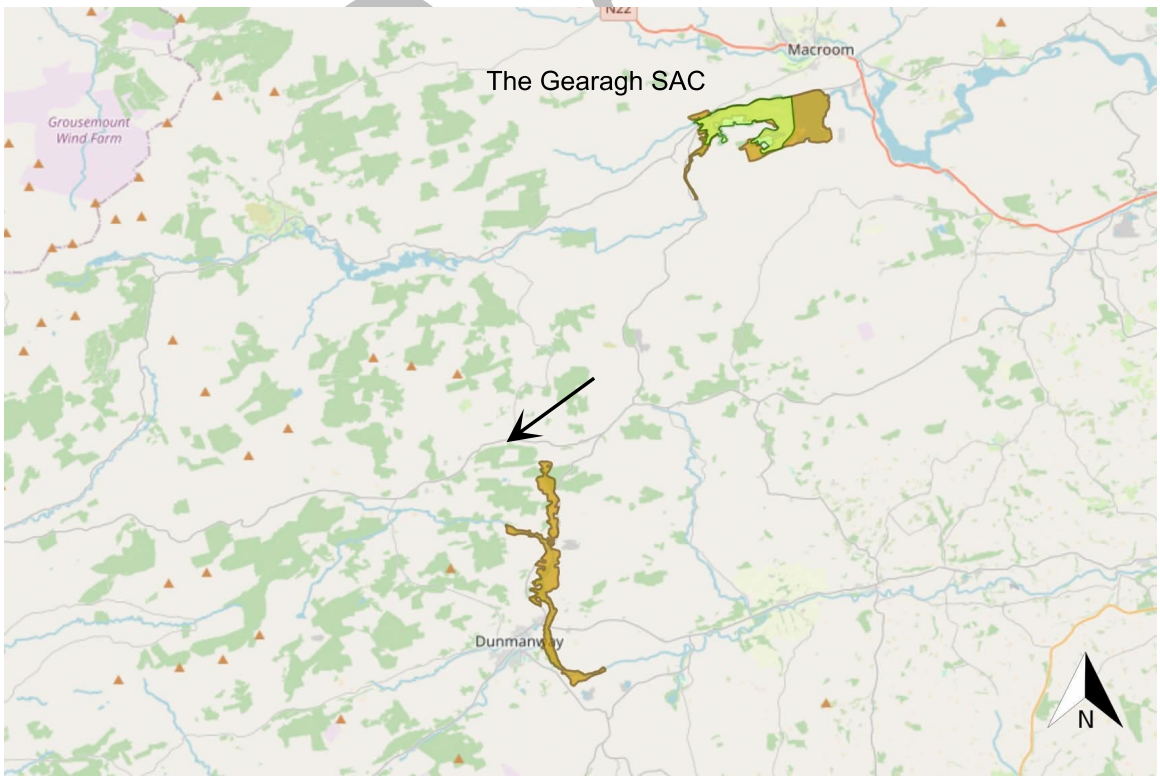


Figure 3. Location of the proposed development boundary and Natura 2000 sites within potential zone of influence | Source: EPA Envision mapping https://gis.epa.ie/EPAMaps/) | Not to scale

5.2 Bandon River SAC

Below is an extract from the Bandon River SAC site synopsis (NPWS). The full site synopsis for the Bandon River SAC is presented in **Appendix 1**.

The Bandon River SAC consists of relatively short adjoining stretches of the Bandon and Caha Rivers. These rivers flow in a southerly direction to the east of Dunmanway, Co. Cork. Towards the southern end of the site the Bandon River takes an easterly course.

The east-west exposure of Old Red Sandstone to the north of Dunmanway displays distinct ridgelines of bare rock with poor pasture and scrub. In this area around Lovers Leap the Bandon River cuts a narrow channel southward, cascading over a series of rock steps through a narrow valley. Below this and above Long Bridge the river widens and meanders through a fertile floodplain. Immediately south of Long Bridge the reduced flow gradient and broad, flat valley permit the main channel to split and extend into a network of braided streams forming islands.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes): [3260] Floating River Vegetation, [91E0] Alluvial Forests*, [1029] Freshwater Pearl Mussel (*Margaritifera margaritifera)* and [1096] Brook Lamprey (*Lampetra planeri)*

Wet broadleaved semi-natural woodland is found in an undisturbed area of braided river channels and islands below Dunmanway. The river channels are well defined and the islands appear solid. Floating river vegetation is found along the length of the river and is dominated by water-crowfoots. Heath in mosaic with wet grassland, exposed rock, scrub and improved grassland covers up to 30% of the site north of Long Bridge. Some small areas of woodland occur within the site north of Long Bridge.

A population of Freshwater Pearl Mussel is found in the river. This species is listed on Annex II of the E.U. Habitats Directive. The river also supports populations of protected fish species, notably Brook Lamprey and Salmon (*Salmo salar*), both of which are also listed on Annex II of the E.U. Habitats Directive.

The site also supports many of the mammal species occurring in Ireland. Those which are listed in the Irish Red Data Book include Badger, Irish Hare, Daubenton's Bat and Pipistrelle bat. The two bat species can be seen feeding along the river and roosting under the old bridges. Otter, another species listed on Annex II of the EU Habitats Directive, is also found within the site.

This site contains good examples of two habitats listed on Annex I of the E.U. Habitats Directive - alluvial forest and floating river vegetation - and supports populations of four Annex II species - Otter, Salmon, Brook Lamprey and Freshwater Pearl Mussel. The presence of a number of Red Data Book plant and animal species adds further interest to the site.

5.3 Natura 2000 sites – Features of interests and conservation objectives

The EU Habitats Directive contains a list of habitats (Annex I) and species (Annex II) for which SACs must be established by Member States. Similarly, the EU Birds Directive contains lists of important bird species (Annex I) and other migratory bird species for which SPAs must be

established. Those that are known to occur at a site are referred to as 'qualifying interests' and are listed in the Natura 2000 forms which are lodged with the EU Commission by each Member State. A 'qualifying interest' is one of the factors (such as the species or habitat that is present) for which the site merits designation. The National Parks and Wildlife Service (NPWS) are responsible for the designation of SACs and SPAs in Ireland.

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network. European and national legislation places a collective obligation on Ireland and its citizens to maintain at favourable conservation status sites designated as Special Areas of Conservation and Special Protection Areas. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. Favourable conservation status of a habitat is achieved when its natural range, and area it covers within that range, is stable or increasing, and the ecological factors that 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 data on the species concerned indicate that it is maintaining itself, and the natural range of the species is neither being reduced or 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 conservation objectives for the Bandon River SAC are included in NPWS (2019) *Conservation Objectives: Bandon River SAC 002171. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht*.

The species and habitats listed as QIs for the Bandon River SAC and specific conservation objectives are included in **Tables 2 and 3**.

Table 2. Qualifying habitats for the Bandon River SAC

Habitat Code	Habitat	Conservation objective
3260	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation	Restore
91E0	Alluvial forests with Alnus glutinosa and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)*	Restore

Restore = Restore favourable conservation condition, Maintain = Restore favourable conservation condition

Table 3. Qualifying Species for the Bandon River SAC

Species code	Species	Scientific name	Conservation objective
1029	Freshwater Pearl Mussel	*Margaritifera margaritifera*	Restore
1096	Brook Lamprey	*Lampetra planeri*	Maintain

Restore = Restore favourable conservation condition, Maintain = Restore favourable conservation condition

6. Water Quality

6.1 River Basin Management Plan for Ireland

The Water Framework Directive (WFD) sets out the environmental objectives which are required to be met through the process of river basin planning and implementation of those plans. Specific objectives are set out for surface water, groundwater and protected areas. The challenges that must be overcome in order to achieve those objectives are very significant. Therefore, a key purpose of the River Basin Management Plan (RBMP) is to set out priorities and ensure that implementation is guided by these priorities.

The second-cycle RBMP (2015-2018) intended to build on the progress made during the first cycle. Key measures during the first cycle included the licensing of urban waste-water discharges (with an associated investment in urban waste-water treatment) and the implementation of the Nitrates Action Programme (Good Agricultural Practice Regulations). The former measure has resulted in significant progress in terms both of compliance levels and of the impact of urban waste-water on water quality. The latter provides a considerable environmental baseline which all Irish farmers must achieve and has resulted in improving trends in the level of nitrates and phosphates in rivers and groundwater. It is acknowledged, however, that sufficient progress has not been made in developing and implementing supporting measures during the first cycle.

The Third-cycle RBMP (2018-2021) sets out the actions that Ireland will take to improve water quality and achieve 'good' ecological status in water bodies (rivers, lakes, estuaries and coastal waters) by 2027. This cycle is ongoing, and although some data has been published in the EPA water web portal, the relevant catchment reports have not been issued. For the purposes of this current AA Screening project, the documented reports for the 2nd cycle will be utilised, along with Risk status for third-cycle.

Overall, RBMP assesses the quality of water in Ireland and presents detailed scientific characterisation of our water bodies. The characterisation process also takes into account wider water quality considerations, such as the special water-quality requirements of protected areas. The characterisation process identifies those water bodies that are *At Risk* of not meeting the objectives of the WFD, and the process also identifies the significant pressures causing this risk. Based on an assessment of risk and pressures, a programme of measures has been developed to address the identified pressures and work towards achieving the required objectives for water quality and protected areas. Data relating to the watercourses within the study area is provided in **Table 4** and the location of these shown in **Figure 4.**

Table 4. WFD Status

Catchment: Bandon-Ilen (Code 20_8) –3rd Cycle
This catchment includes the area drained by the Rivers Bandon and Ilen, and all streams entering tidal water between Templebreedy Battery and Mizen Head, Co. Cork, draining a total area of 1,803 km2. The largest urban centre in the catchment is Bandon. The other main urban centres are Kinsale, Clonakilty, Skibbereen and Dunmanway. The total population of the catchment is approximately 71,210 with a population density of 39 people per km2. The Bandon River rises on the slopes of the Maughanaclea Hills and flows east where it is joined by the Shanacrane East, Shehy Beg and Caha Rivers. The Bandon then flows past Dunmanway, before turning east and flowing along a limestone-floored valley lying between ridges of sandstone uplands, typical of the south Munster landscape.

The Bandon Ilen catchment comprises 17 subcatchments (Table 1, Figure 1) with 87 river water bodies, six lakes, 25 transitional and coastal water bodies, and five groundwater bodies. There are no heavily modified or artificial water bodies in the Bandon Ilen Catchment.
Proposed Development Site
The proposed development site is located within the Bandon_SC_010 sub-catchment. One out of four river water bodies is AT RISK, Caha_020 due to not meeting its High Ecological Status objective. Lake water body Coolkellure is also AT RISK due to Moderate ecological status (driven by chlorophyll, phytoplankton and ammonia).
Siltation may be an issue within Caha_020 with quarries and forestry identified as likely significant pressures. Forestry was also identified as the likely significant pressure within Coolkellure.

Waterbodies relevant to the proposed project (2nd Cycle)

Waterbody	WFD Risk	WFD Status (2013-2018)	Significant Pressure	Pressure Category WFD Status
Caha_010	Not at risk	High	No	NA
Caha_020	At risk	Good	Yes	Forestry, agriculture, extractive industry, other anthropogenic pressures
Bandon_020	Not at risk	Good	No	NA

Source: EPA envision mapping and www.catchments.ie : Accessed: 27/04/22

Proposed Development Site

Figure 4. WFD 2nd cycle - waterbodies in the vicinity of the proposed development | Source: EPA Envision mapping |

7. Site Surveys

7.1 Habitats

Site surveys were carried out on the 29th of March 2022. Habitat mapping was carried out in line with the methodology outlined in the Heritage Council Publication, *Best Practice Guidance for Habitat Survey and Mapping* (Heritage Council, 2011). The terrestrial and aquatic habitats within or adjacent to the proposed development site was classified using the classification scheme outlined in the Heritage council publication *A Guide to Habitats in Ireland* (Fossitt, 2000) and cross referenced with Annex I Habitats where required. The habitats recorded on site are described below in **Table 5.** Site photographs are also included below. No habitats

listed on Annex I of the Habitats Directive or listed as qualifying habitats for Natura 2000 sites were recorded.

The proposed development area consists of an existing road and adjoining area of hardcore. In the wider landscape habitats include a mixture of immature and semi-mature conifer plantations, areas of wet heath with exposed bedrock and semi-intensive grassland. The Caha River is the most prominent potential ecological receptor in the wider landscape and potential hydrological connections to this watercourse are shown in **Figure 5**.

Table 5. Habitat recorded with proposed development site

Habitat	Comments
Buildings and artificial surfaces BL3 /Spoil and bare ground ED2/ Dry meadow and grassy verge GS2	The proposed development area consists of the existing tarmac road (R585) and a narrow strip of adjoining land to the south. This narrow strip of land has been highly modified and consists of hardcore which it is now proposed to tarmac as part of the road improvement works. The hardcore area is relatively flat and some early successional species have become established including Willowherb and Ragwort. This habitat is of negligible ecological value. The existing road is in active usage and is also of negligible ecological value. Topsoil from the hardcore area has been stockpiled and is now becoming vegetated. The topsoil is peaty in nature and species noted include Cocksfoot, Yorkshire Fog, Rush, Foxglove, Sow Thistle, Ragwort, Spear Thistle and Creeping Buttercup. This habitat is of low ecological value. This is not an Annex I habitat or a qualifying habitat for the Bandon River SAC.
Drainage ditches FW4	There are a number of small drainage ditches in proximity to the development which all ultimately drain into the Caha River, to the northeast of the site. These are small localised drains which are likely to have minimal flows during any prolonged period of dry weather but may have substantial, temporary flows during periods of high rainfall. In the southwestern section of the proposed development site, a small open drain with existing silt fences runs along part of the southern boundary of the site and is then piped under the hardcore area and existing road. It subsequently runs in an easterly direction towards the Caha River. Flows are sluggish as it moves through wet grassland and a wet wooded area close to the Caha River. In this wooded area the channel is indistinct as it spreads out and flows dissipate within wet ground within the wood. In the north-eastern section of the proposed development site, a second more distinct drainage ditch arises to the south and runs along the boundary of a section of conifer woodland, is piped under the road and then flows northeast for approximately 92m before joining the Caha River. This stream is not directly affected by the site works and also passes through the woodland noted above before reaching the Caha River. This is not an Annex I habitat or a qualifying habitat for the Bandon River SAC.
Acid oligotrophic lakes FL2	A small pond of standing water is located adjacent to the existing hardcore area. It support some aquatic vegetation including Bog Pondweed *Potamogeton polygonifolius* and Rush *Juncus sp.* No signs of breeding frog were recorded. This is not a qualifying habitat for the Bandon River SAC. This habitat has links with Annex I: Acid oligotrophic lakes correspond to two annexed habitats, 'oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) (3110)' and 'oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea (3130)'. However the FL2 habitat within the survey area is not an example of this habitat type.

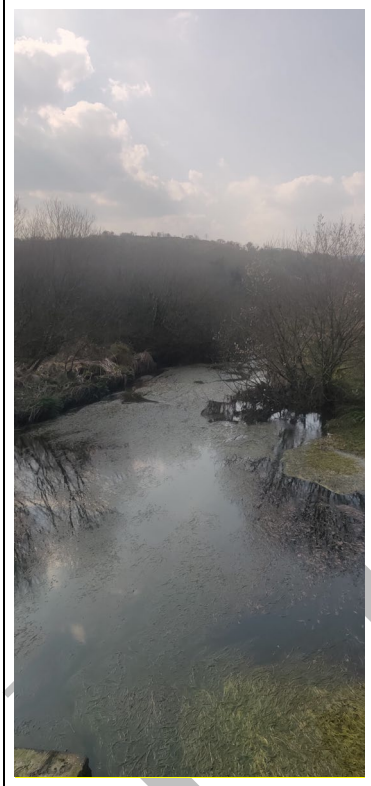
Habitat	Comments
Wet willow-alder-ash woodland WN6/ Oak-birch-holly woodland WN1 (Outside proposed development area)	To the northeast of the proposed development site is an area of wet woodland which grades in to drier woodland dominated by Silver birch. The broad category Wet willow-alder-ash woodland WN6 includes woodlands of permanently waterlogged sites that are dominated by willows (Salix spp.), Alder (*Alnus glutinosa*) or Ash (*Fraxinus excelsior*), or by various combinations of some or all of these trees. It includes woodlands of lakeshores, stagnant waters and fens, known as carr, in addition to woodlands of spring-fed or flushed sites. The wet woodland in proximity and downgradient of the proposed development is dominated by Willow and the ground layer includes areas of deep sediment with Golden Saxifrage. Purple Moorgrass and Bog Myrtle are also present. On patches of drier ground closer to the Caha River Silver Birch has become established and the woodland can be classified as Oak-birch-holly woodland WN1 although the correspondence is loose. As it is dominated by Birch it is not a significant example of this habitat type. Two drains flow indistinctly through this woodland area before ultimately discharging to the Caha River. The qualifying interests for the Bandon River SAC includes Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]. The closest point of the Bandon River SAC is located approximately 2.8km downstream of the Poulnaberry Bridge. This Wet willow-alder-ash woodland WN6 is not a significant example of this habitat type.
Depositing Lowland River FW2	The Caha River is located approximately 200m from the closest point of the development where the it crosses beneath Poulnaberry Bridge This stretch of the river has a low gradient and flows are sluggish. Growth of Water Crowfoot is extensive and this is the dominant aquatic flora. The substrate consists primarily of relatively clean gravels. The works are located approximately 200 m from the Caha River which is not within the Bandon River SAC this high up the catchment. The closest point of the Bandon River SAC is located approximately 2.8km downstream of Poulnaberry Bridge. The qualifying interests for the Bandon River SAC includes Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation [3260] and two aquatic species *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029] and *Lampetra planeri* (Brook Lamprey) [1096]. Freshwater Pearl Mussel and River Lamprey could occur in the Caha River in proximity to the proposed development, however conditions for Freshwater Pearl Mussel in particular are not ideal. The habitat *Ranunculion fluitantis* and Callitricho-Batrachion vegetation [3260] could also occur, although the dominance of Water Crowfoot is likely to reduce to value of this habitat in this section of the river.

Figure 5. Drainage channels at proposed development site

Photograph 1: Wet woodland providing high degree of natural filtration

Photograph 2. Existing hardcore with stockpiles becoming naturally vegetated.

Photograph 3: Drainage ditch which is piped under hardcore and existing road.



Photograph 4: Caha River upstream of bridge into which drainage ditches discharge. Sluggish flows and dense macrophyte growth

Photograph 5: Northern section of works with conifers evident in wider landscape.

7.2 Mammals

A mammal survey was undertaken at the site and surrounding area during the site inspection. The main focus of the mammal survey was Otter, which is listed on Annex II of the Habitats

Directive. Although rare in parts of Europe, Otters are widely distributed in the Irish countryside in both marine and freshwater habitats. Otters are solitary and nocturnal and as such are rarely seen. Thus, surveys for Otters rely on detecting signs of their presence. These include spraints (faeces), anal gland secretions, paths, slides, footprints and remains of prey items. Spraints are of particular value as they are used as territorial markers and are often found on prominent locations such as grass tussocks, stream junctions and under bridges. In addition, they are relatively straightforward to identify.

It is noted that Otters are largely nocturnal, particularly in areas subject to high levels of disturbance as evidenced by the presence of Otters in the centre of Irish cities. Thus, Otters are able to adapt to increased noise and activity levels; however, breeding holts are generally located in areas where disturbance is lower. A review of NBDC records within the 2km square (W25E) which overlaps with the proposed development site has no records of Otter. However, Otters are known to forage in the Caha River (Source NDBC). No Otter holts were recorded during site surveys and no habitat of significant value for Otter will be affected.

7.3 Birds

A bird survey was carried out in conjunction with habitat surveys in March 2022. During the survey, all birds seen or heard within the development site were recorded. The majority of birds utilising the proposed works areas were common in the local landscape.

Bird species listed in Annex I of the Birds Directive are considered a conservation priority. During the survey, all birds seen or heard within the development site were recorded. Certain bird species are listed by BirdWatch Ireland as Birds of Conservation Concern in Ireland (BOCCI). These are bird species suffering declines in population size. BirdWatch Ireland and the Royal Society for the Protection of Birds have identified and classified these species by the rate of decline into Red and Amber lists (Gilbert *et al.* 2021). Red List bird species are of high conservation concern and the Amber List species are of medium conservation. Green listed species are regularly occurring bird species whose conservation status is currently considered favourable. Species recorded within the site are shown in **Table 6**.

Table 6. Bird Species recorded within proposed development site

Species		Birds Directive Annex	BOCCI	
		I	Red List	Amber List
Blackbird	*Turdus merula*			
Robin	*Erithacus rubecula.*			
Wood Pigeon	*Columba palumbus*			
Hooded Crow	*Corvus cornix*			
Wren	*Troglodytes troglodytes*			
Goldcrest	*Regulus regulus*			x
Goldfinch	*Carduelis carduelis*			

The species noted are generally common in forestry/agricultural habitats. None of the bird species recorded are particularly rare or uncommon.

7.4 Invasive Species

Non-native plants are defined as those plants which have been introduced outside of their native range by humans and their activities, either purposefully or accidentally. Invasive non-native species are so-called as they typically display one or more of the following characteristics or features: (1) prolific reproduction through seed dispersal and/or re-growth from plant fragments; (2) rapid growth patterns; and, (3) resistance to standard weed control methods.

Where a non-native species displays invasive qualities and is not managed it can potentially: (1) out compete native vegetation, affecting plant community structure and habitat for wildlife; (2) cause damage to infrastructure including road carriageways, footpaths, walls and foundations; and, (3) have an adverse effect on landscape quality.

The control of invasive species in Ireland comes under the Wildlife (Amendment) Act 2000, where it states that

'Any person who— [...] plants or otherwise causes to grow in a wild state in any place in the State any species of flora, or the flowers, roots, seeds or spores of flora, ['refers only to exotic species thereof'][...] *otherwise than under and in accordance with a licence granted in that behalf by the Minister shall be guilty of an offence.'*

The Birds and Natural Habitats Regulations 2011 (SI 477 of 2011), Section 49(2) prohibits the introduction and dispersal of species listed in the Third Schedule, which includes Japanese Knotweed and Himalayan Balsam, as follows: "any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow [….] shall be guilty of an offence."

No third schedule or any other invasive species were recorded within the proposed development site.

8. Potential Impacts

All potential impacts would relate to direct and indirect impacts to relevant habitats and fauna of the Bandon River SAC. Impacts are based on the EC (2018), professional judgement and criteria or standards where available.

The potential impacts associated with the proposed development are discussed in the following section with respect to their likelihood to have significant impacts on Natura 2000 sites. As part of the assessment, direct, indirect and cumulative impacts were considered. Direct impacts refer to habitat loss or fragmentation arising from land-take requirements for development. Indirect and secondary impacts do not have a straight-line route between cause and effect, and it is potentially more challenging to ensure that all the possible indirect impacts of the project/plan - in combination with other plans and projects have been established.

As part of the assessment the potential for impacts associated with the development were reviewed as outlined below:

- Potential impacts from loss of habitat.
- Potential impacts from noise and disturbance
- Potential impacts on water quality

- Potential impacts from spread of invasive species
- Potential in-combination impacts

8.1 Potential impacts from loss of habitat

The proposed development site does not overlap with any Natura 2000 site. An ecological appraisal of the proposed development site indicates that it supports common habitats which are not of high value and which are not qualifying habitats for Natura 2000 sites.

The proposed development will not result in any significant deterioration in habitat quality, loss of habitat or loss of connectivity within the Bandon River SAC. Therefore, it has been concluded that the proposed development will not result in any loss or deterioration of habitat within Natura 2000 sites.

8.2 Potential impacts from noise and disturbance

Potentially increased noise and disturbance associated with the site works could cause disturbance displacement of fauna. If of sufficient severity, there could be impacts on reproductive success. The potential effects and impacts of disturbance have been widely recognised in wildlife conservation legislation, as has the need to develop conservation measures for qualifying species whilst taking human activities into account.

It is noted that the Bandon River SAC has no terrestrial qualifying species. The two qualifying species for this SAC i.e. Freshwater Pearl Mussel *Margaritifera margaritifera* and Brook Lamprey *Lampetra planeri* are exclusively aquatic species. No works are proposed in the vicinity of the local streams and there is no potential for disturbance to these species.

Therefore, there will be no impact on the Bandon River SAC from disturbance during construction works.

8.3 Potential impacts from surface water runoff

Potential impacts on aquatic habitats which can arise from surface water emissions associated with the construction or operational phase of the project include increased silt levels in surface water run-off, inadvertent spillages of hydrocarbons from fuel and hydraulic fluid and spillage of cement.

Inadvertent spillages of hydrocarbon and/or other chemical substances during construction could introduce toxic chemicals into the aquatic environment via direct means, surface water run-off or groundwater contamination. Some hydrocarbons exhibit an affinity for sediments and thus become entrapped in deposits from which they are only released by vigorous erosion or turbulence. Oil products may contain various highly toxic substances, such as benzene, toluene, naphthenic acids and xylene which are to some extent soluble in water; these penetrate fish and can have a direct toxic effect. The lighter oil fractions (including kerosene, petrol, benzene, toluene and xylene) are much more toxic to fish than the heavy fractions (heavy paraffins and tars). In the case of turbulent waters, the oil becomes dispersed as droplets into the water. In such cases, the gills of fish can become mechanically contaminated and their respiratory capacity reduced (Svobodova *et al*, 1993). However, any such spills, in the unlikely event of their occurrence, would be minor in the context of the available dilution in the Caha River and Bandon River.

High levels of silt can impact on fish species such as Brook Lamprey. If of sufficient severity, adult fish could theoretically be affected by increased silt levels as gills may become damaged by exposure to elevated suspended solids levels and aquatic invertebrates may be smothered by excessive deposits of silt. In areas of stony substrate, silt deposits may result in a change in the macro-invertebrate species composition, favouring less diverse assemblages and impacting on sensitive species.

Silt can be extremely harmful to Freshwater Pearl Mussel. Silt deposition on the riverbed results in formerly clean gravels become clogged with fine sediment. This prevents oxygen movement into the waters in the riverbed (interstitial) that feed the juvenile mussels, and they quickly die. Each time siltation of gravels occurs, all juvenile mussels below five years of age are killed, and in rivers with chronic siltation problems, juvenile recruitment is rare and unsustainable, and existing adult populations face extinction. Fine sediment, once introduced to a Pearl Mussel river, can continue to cause very serious effects on a long-term basis (Ellis 1936, Marking & Bills 1979, Naden *et al.* 2003, Araujo & Ramos 2001, Killeen *et al.* 1998. All referenced in DEHLG, 2010).

Siltation is damaging to all stages of a pearl mussel's lifecycle. Direct ingestion of silt by adult mussels can lead to rapid death. Turbidity, particularly from fine peat entering the water, causes adult mussels to clam up (they close their shells tightly and do not filter water through their siphons), a response that provides a protection against ingesting damaging fine particles. If the river water remains strongly turbid for a number of days, mussels can die from oxygen starvation, either from remaining clammed, or from ingesting contaminated water while stressed. The fine sediment subsequently provides a medium for macrophyte growth, which makes the riverbed habitat unsuitable for pearl mussels.

Aquatic plant communities may also be affected by increased siltation. Submerged plants may be stunted, and photosynthesis may be reduced.

Therefore, if run-off is severe there could potentially be impacts on water quality and thus there could be impacts on aquatic qualifying species and habitats for the Bandon River SAC including Brook Lamprey, Freshwater Pearl Mussel and Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation.

The existing R585 road in in active usage and surface water from the road ultimately discharges to the Caha River via the local network of drains. The level of silts generated by this small section of road from traffic is not significant. Any impacts from any minor hydrocarbon contamination are not significant in the context of the available dilution in the Caha River (and Bandon River). Surface water arising from the area of largely unvegetated hardcore surface is more likely to have elevated silt levels. Rainwater falling on this area will either percolate to ground through the hardcore and/or will reach the local drainage channels which ultimately discharge to the Caha River. It is noted therefore that the current situation where a strip of hardcore runs adjacent to the road and does have the potential to cause localised increases in silt levels in local drainage channels is not ideal. This is most likely to affect the drain in the southern section of the site which is piped underneath the proposed works area. However, as this drain runs northeast, it passes through areas of wet grassland and ultimately wet willow woodland which provides a high degree of natural filtration. In this context siltation of the river associated with the current situation is not likely to have a significant effect on water quality.

Completion of the proposed works will include tarmacking the hardcore surface and some limited landscape works. The existing road will be decommissioned and will remain *in situ*. Over time this section of road will become colonised by early successional and scrub species and will not constitute an ongoing risk to water quality. Completion of the surfacing works may increase the potential for increased silt levels in the short-term, but once complete the potential for silt generation from hardcore areas will be significantly reduced. During operation the existing R858 road will no longer be utilised and the minor increase in the surface area of tarmac will not result in any significant increase in surface water run-off or silt/hydrocarbon contamination.

In the context of the natural filtration provided by grassland and wet woodland areas, the lower risk of silt generation from hardcore areas once the road surface is finished, the limited extent of the proposed works and the dilution provided in the Caha River no significant effect on the Bandon River SAC is likely to occur from completing the works.

8.4 Spread of Invasive Species

No invasive species were recorded within the prosed development site or land ownership boundary. No impact from the spread of invasive species on the Bandon River SAC will occur.

8.5 In-combination Impacts

In combination (Cumulative) impacts refer to a series of individually modest impacts that may in combination produce a significant impact. The underlying intention of this in combination provision is to take account of cumulative impacts from existing or proposed plans and projects and these will often only occur over time. Other developments near the proposed development site and their potential cumulative impacts are listed in **Table 7**.

Table 7. Other developments near site and potential cumulative impacts

Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Impact
River Basin Management Plan 2018-2021 (Noted that the Draft River Basin Management Plan for Ireland 2022-2027 is currently at public consultation stage)	The project should comply with the environmental objectives of the Irish RBMP which are to be achieved generally by 2021. Ensure full compliance with relevant EU legislation Prevent deterioration Meeting the objectives for designated protected areas Protect high status waters Implement targeted actions and pilot schemes in focus sub-catchments aimed at: targeting water bodies close to meeting their objective and addressing more complex issues which will build knowledge for the third cycle.	The implementation and compliance with key environmental policies, issues and objectives of this management plan will result in positive in-combination effects to European sites. The implementation of this plan will have a positive impact for the biodiversity. It will not contribute to in-combination or cumulative impacts with the proposed development.
Inland Fisheries Ireland Corporate Plan 2021-2025	To ensure that Ireland's fish populations are managed and protected to ensure their conservation status remains favourable. That they provide a basis for a sustainable world class recreational angling product, and	The implementation and compliance with key environmental issues and objectives of this corporate plan will result in positive on-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

Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Impact
	that pristine aquatic habitats are also enjoyed for other recreational uses. To develop and improve fish habitats and ensure that the conditions required for fish populations to thrive are sustained and protected. To grow the number of anglers and ensure the needs of IFI's other key stakeholders are being met in a sustainable conservation focused manner. EU (Quality of Salmonid Waters) Regulations 1988. All works during development and operation of the project must aim to conserve fish and other species of fauna and flora habitat; biodiversity of inland fisheries and ecosystems and protect spawning salmon and trout.	contribute to in-combination or cumulative impacts with the proposed works.
Irish Water Capital Investment Plan 2020-2024	Proposals to upgrade and secure water services and water treatment services countrywide.	Likely net positive impact due to water conservation and more effective treatment of water.
Water Services Strategic Plan (WSSP, 2015)	Irish Water prepared a Water Services Strategic Plan (WSSP, 2015), under Section 33 of the Water Service No. 2 Act of 2013 to address the delivery of strategic objectives which will contribute towards improved water quality and biodiversity requirements through reducing: Habitat loss and disturbance from new / upgraded infrastructure; Species disturbance; Changes to water quality or quantity; and Nutrient enrichment /eutrophication.	The WSSP forms the highest tier of asset management plans (Tier 1) which Irish Water prepare and it sets the overarching framework for subsequent detailed implementation plans (Tier 2) and water services projects (Tier 3). The WSSP also sets out the strategic objectives against which the Irish Water Capital Investment Programme is developed. The current version of the CAP outlines the proposals for capital expenditure in terms of upgrades and new builds within the Irish Water owned assets. Therefore, no adverse significant in-combination effects are envisaged.
NPWS Conservation Management Plans	Conservation Management Plans have not been fully prepared for the European sites being assessed. However, conservation objectives along with supporting documents for the Bandon River SAC has not yet been published.	The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site. The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. The resultant effects of conservation objectives are a net positive and there is no potential for in combination effects on European sites.
Other developments	A search of the Cork County Council planning database for Cooranig and Dromdeegy was carried out for the past 24 month period. One other development has been granted planning during this period.	Future developments will only be granted permission where they satisfy planning regulations. No significant in-combination impact has been identified.

Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Impact
	Ref 22159: Martin Hurley, Oonagh Cahill. Construct dwelling, detached garage and all associated site works	

The area in the immediate vicinity of the proposed development is rural and dominated by small agricultural holdings and coniferous plantations. In the absence of any significant impact associated with this project no cumulative impacts on water quality have been identified. Similarly, no significant cumulative impacts in relation to noise and disturbance have been identified.

9. Screening conclusion and statement

This AA screening report has been prepared to assess whether the proposed development, individually or in-combination with other plans or projects, and in view of best scientific knowledge, is likely to have a significant effect on any European site(s).

The screening exercise was completed in compliance with the relevant European Commission guidance, national guidance, and case law. The potential impacts of the proposed development have been considered in the context of the European sites potentially affected, their qualifying interests or special conservation interests, and their conservation objectives.

Through an assessment of the source-pathway-receptor model, which considered the ZoI of effects from the proposed development and the potential in-combination effects with other plans or projects, the following findings were reported:

- The proposed development at Dromdeegy and Cooranig, Dunmanway. Co. Cork either alone or in-combination with other plans and/or projects, does not have the potential to significantly affect any European Site, in light of their conservation objectives.

Therefore, a Stage 2 Appropriate Assessment is deemed not to be required.

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Appendices

Appendix 1 – Natura 2000 Site Synopsis

Site Name: Bandon River SAC Site Code: 002171

The Bandon River SAC consists of relatively short adjoining stretches of the Bandon and Caha Rivers. These rivers flow in a southerly direction to the east of Dunmanway, Co. Cork. Towards the southern end of the site the Bandon River takes an easterly course. The predominant rock formations are Old Red Sandstone to the north and Carboniferous slate stretching south of Dunmanway. Soils in the northern section consist of peats, podzols and skeletal soils. The southern section consists of alluvial soils and Brown Podzolics.

The east-west exposure of Old Red Sandstone to the north of Dunmanway displays distinct ridgelines of bare rock with poor pasture and scrub. In this area around Lovers Leap the Bandon River cuts a narrow channel southwards, cascading over a series of rock steps through a narrow valley. Below this and above Long Bridge the river widens and meanders through a fertile floodplain. Immediately south of Long Bridge the reduced flow gradient and broad, flat valley permit the main channel to split and extend into a network of braided streams forming islands.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[3260] Floating River Vegetation

[91E0] Alluvial Forests*

[1029] Freshwater Pearl Mussel (Margaritifera margaritifera)

[1096] Brook Lamprey (Lampetra planeri)

Wet broadleaved semi-natural woodland is found in an undisturbed area of braided river channels and islands below Dunmanway. The river channels are well defined and the islands appear solid. Canopy dominants are Hazel (*Corylus avellana*) and Sessile Oak (*Quercus petraea*), with scattered Downy Birch (*Betula pubescens*), Ash (*Fraxinus excelsior*), Rusty Willow (*Salix cinerea* subsp. *oleifolia*) and Alder (*Alnus glutinosa*). There is a very sparse understorey composed of Hawthorn (*Crataegus monogyna*), Holly (*Ilex aquifolium*) and saplings of Hazel and Sessile Oak. Epiphytes are abundant on trees, including species such as Ivy (*Hedera helix*), Honeysuckle (*Lonicera periclymenum*) and bryophytes such as *Isothecium myosuroides*. The ground flora is dominated by Ramsons (*Allium ursinum*), Wood Anemone (*Anemone nemorosa*) and Ivy, along with Lesser Celandine (*Ranunculus ficaria*) and Irish Spurge (*Euphorbia hyberna*). Goldilocks Buttercup (*Ranunculus auricomus*), a very rare plant in Co. Cork, has been recorded from this woodland.

Floating river vegetation is found along the length of the river and is dominated by water-crowfoots (*Ranunculus* spp). Other aquatic plants found include Alternate Water-milfoil (*Myriophyllum alterniflorum*), Broad-leaved Pondweed (*Potamogeton natans*) and at least four water-starwort species (*Callitriche* spp.). Mosses present on rocks and attached to tree roots include *Fontinalis antipyretica* in slack flow areas, and *Fontinalis squamosa, Rhynchostegium riparioides* and *Amblystegium riparium* in moderate flows. The landward fringe of deep pools supports Yellow Water-lily (*Nuphar lutea*), Bogbean (*Menyanthes trifoliata*), Marsh-marigold (*Caltha palustris*), Water Mint (*Mentha aquatica*) and Fool's Water-cress (*Apium nodiflorum*). Shoreweed (*Littorella uniflora*) and Six-stamened Waterwort (*Elatine hexandra*) are two species of local importance which are found in the river. In moderate current flow below the Long Bridge, the larger stones are covered by the moss *Brachythecium rivulare* and the liverwort *Chiloscyphus polyanthos* var. *polyanthos.* Boulders covered in *Nostoc* algae are probably of local occurrence in Ireland. The liverwort *Riccardia chamaedryfolia* and the moss *Fissidens crassipes* found under the Long Bridge are considered to be rare in Ireland.

Heath in mosaic with wet grassland, exposed rock, scrub and improved grassland covers up to 30% of the site north of Long Bridge. Typical heath plants growing in association with the rocks are abundant Western Gorse (*Ulex gallii*), Heather (*Calluna vulgaris*), Bell Heather (*Erica cinerea*), Cross-leaved Heath (*Erica tetralix*), Tormentil (*Potentilla erecta*), Heath-grass (*Danthonia decumbens*), stonecrops (*Sedum* spp.), small amounts of St Patrick's-cabbage (*Saxifraga spathularis*) and many lichen species.

Some small areas of woodland occur within the site north of Long Bridge. Tree species such as Sessile Oak, Beech (*Fagus sylvatica*), Scots Pine (*Pinus sylvestris*) and Downy Birch are found with an understorey of Holly, Hazel, Rowan and Rusty Willow.

Two Red Data Book plant species have been recorded in the past from within or close to the site - Greater Broomrape (*Orobanche rapum-genistae*), a species that grows on the roots of legumes, and Small-white Orchid (*Pseudorchis albida*), a species of upland pastures and heaths that is protected under the Flora (Protection) Order, 1999.

The river below Long Bridge is an important inland site in Cork for Mute Swan and approximately 20 individuals are present throughout the year along this stretch. Several hundred Snipe use the site during the winter. Other birds seen regularly within the site are Grey Heron, Cormorant and Mallard, while low numbers of Lapwing and Teal visit during the winter. The Kingfisher, listed under Annex I of the E.U. Birds Directive, breeds along the river.

A population of Freshwater Pearl Mussel is found in the river. This species is listed on Annex II of the E.U. Habitats Directive. The river also supports populations of protected fish species, notably Brook Lamprey and Salmon (*Salmo salar*), both of which are also listed on Annex II of the E.U. Habitats Directive.

The site also supports many of the mammal species occurring in Ireland. Those which are listed in the Irish Red Data Book include Badger, Irish Hare, Daubenton's Bat and Pipistrelle bat. The two bat species can be seen feeding along the river and roosting under the old bridges. Otter, another species listed on Annex II of the E.U. Habitats Directive, is also found within the site.

Land use at the site consists mainly of sheep grazing in the northern section and cattle grazing on improved grasslands below Lovers Leap and further south. In the area between Milleenanannig and Bealaboy Bridge land reclamation and drainage is taking place. In the area of exposed rock on the higher terrain above Ardcahan Bridge some land reclamation and forestry is carried out.

This site contains good examples of two habitats listed on Annex I of the E.U. Habitats Directive - alluvial forest and floating river vegetation - and supports populations of four Annex II species - Otter, Salmon, Brook Lamprey and Freshwater Pearl Mussel. The presence of a number of Red Data Book plant and animal species adds further interest to the site.

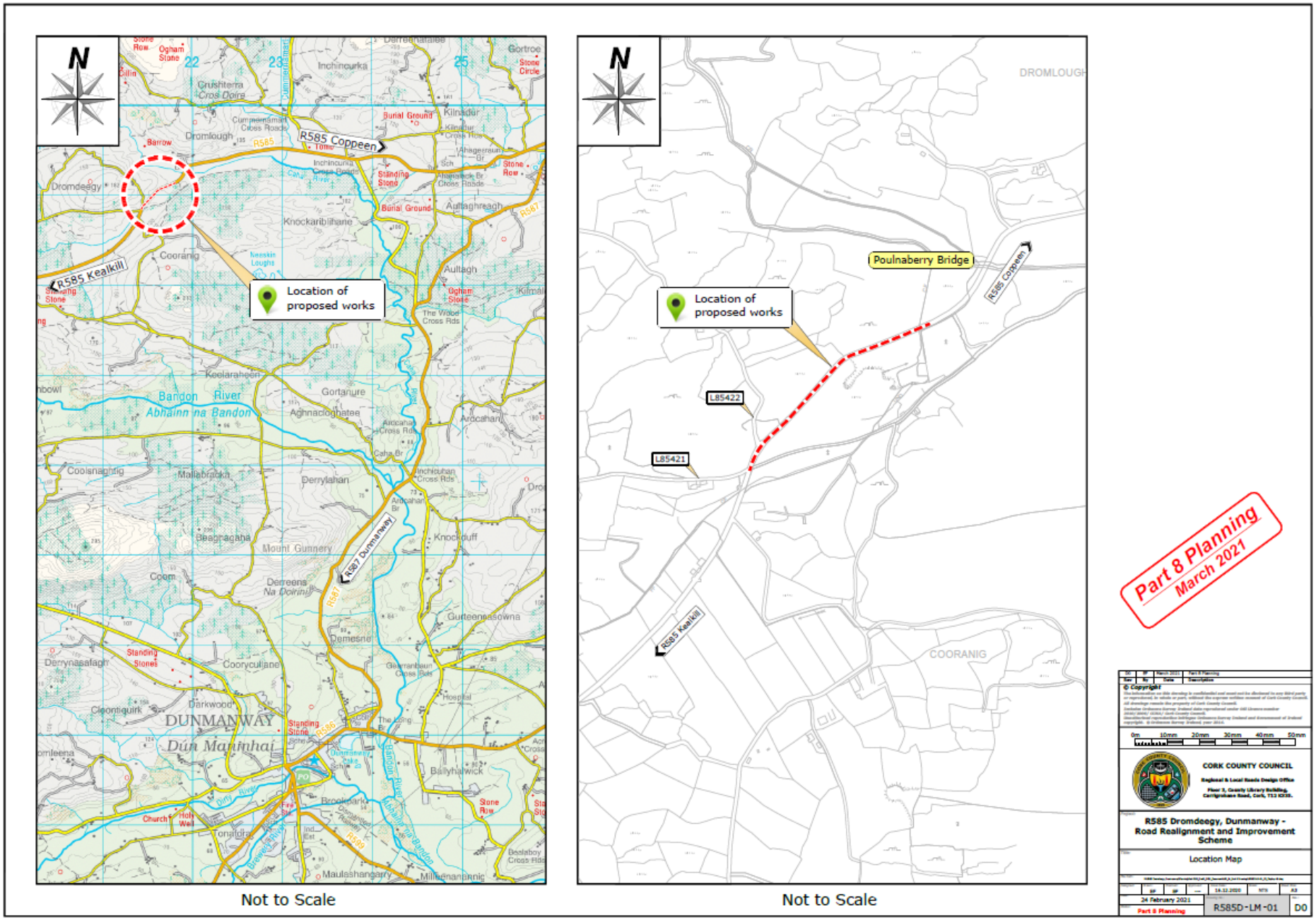

Figure 1 Project Location Map

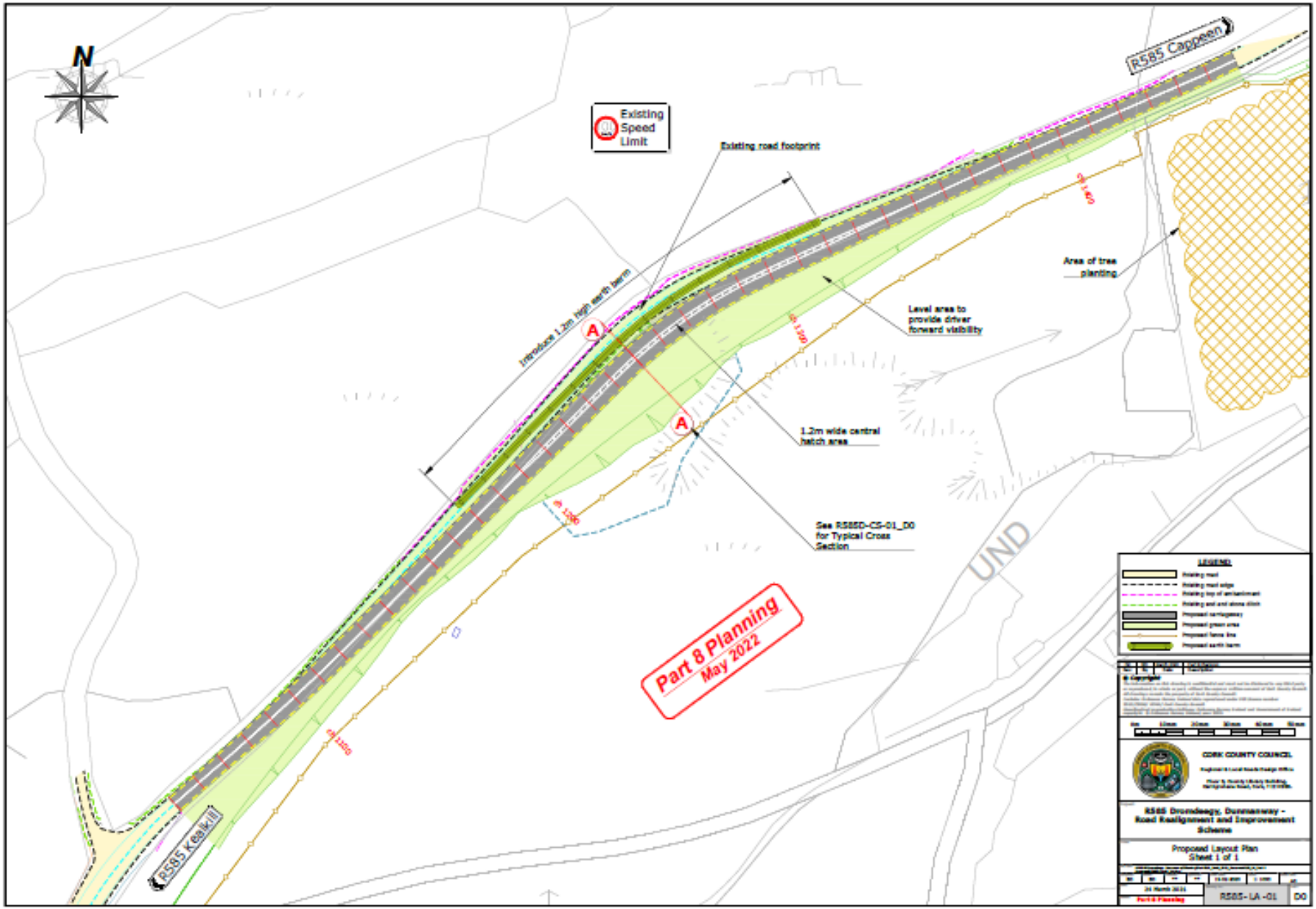

Figure 2 Project Overview Plan