



Screening for Appropriate Assessment Report

Rathmullan Cycleway

Rathmullan Co. Meath



For: Meath County Council

By: Ian Douglas

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Abbreviations

Abbreviation	Term
AA	Appropriate Assessment
BH	Borehole(s)
CJEU	Court of Justice of the European Union
EC	European Commission
KM	Kilometres
IROPI	Imperative Reasons of Overriding Public Interest
LSE	Likely Significant Effects
NHA	Natural Heritage Areas
NIS	Natura Impact Statement
pNHA	proposed Natural Heritage Areas
LSE	Likely Significant Effect(s)
NPWS	National Parks and Wildlife Service
OPR	Office of the Planning Regulator
QI	Qualifying Interest
SAC	Special Area of Conservation
SPA	Special Protection Area
SI	Site Investigation
TFEU	Treaty on the Functioning of the European Union
TP	Trial Pit(s)
UNESCO	United Nations Educational, Scientific and Cultural Organisation
ZOI	Zone of Influence

Definitions

Definition	Term
Appropriate Assessment (AA)	An assessment of the potential adverse effects of a plan or project (in combination with other plans or projects) on Special Areas of Conservation and Special Protection Areas
Department of Environment, Heritage and Local Government	Previous name for Department of Housing, Local Government and Heritage. The Irish government department responsible for housing, local government (including planning) and heritage.
European Commission (EC)	The executive body of the European Union responsible for proposing legislation, enforcing European law, setting objectives and priorities for action, negotiating trade agreements and managing implementing European Union policies and the budget.
Habitats Directive (92/43/EEC)	European Directive relevant to the on the conservation of natural habitats and of wild fauna and flora.
Natura 2000 / European Site	A network of sites selected to ensure the long-term survival of Europe's most valuable and threatened species and habitats. European site" replaced the term "Natura 2000 site" under the EU (Environmental Impact Assessment and Habitats) Regulations 2011 S.I. No. 473 of 2011
Receptor	Environmental component that may be affected, adversely or beneficially, by the project.
Special Protection Areas (SPAs).	Areas of protected habitats and species as defined in the Habitats Directive (92/43/EEC).
Special Areas of Conservation (SACs)	Sites classified in accordance with Article 4 of the EC Birds Directive (79/409/EEC) which came into force in April 1979. They are classified for rare and vulnerable birds (as listed on Annex 1 of the Directive), and for regularly occurring migratory Species.
Qualifying Interest (QI)	Relates to the habitats and/or (non-bird) species for which an SAC or SPA is selected.
Zone of Influence (Zoi)	Spatial extent of potential impacts resulting from the project.

1 Introduction

Works are proposed for the creation of a cycleway and walkway in Rathmullan Co. Meath. This will extend along the Rathmullan Road as it runs adjacent to the Louth Meath border for approximately 380m and will connect the existing River Boyne Ramparts and Greenway to the Riverbank Square housing estate, St. Olivers Community College and other areas around South Drogheda.

This report provides information regarding the ecological status of the location of the proposed development. The report also presents the scientific information to make an objective and robust determination regarding the potential for likely significant effects (LSEs) from the proposed development on the European sites; comprising Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

2 Legislative Context

The Habitats Directive has been transposed into Irish law by the Planning and Development Act 2000 (as amended) and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477/2011) (as amended).

The decision making process for plans and projects likely to affect European sites is set out in Articles 6(3) and 6(4) of the Habitats Directive and is commonly referred to as 'Appropriate Assessment' (which in fact refers to Stage 2 in the sequence under the Habitats Directive Article 6 assessment).

Article 6 of the Habitats Directive sets out provisions which govern the conservation and management of European sites. Article 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment:

"Any plan or project not directly connected with or necessary to the management of the (Natura2000) 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 implication for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."

Article 6(4) states:

"If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory

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measures necessary to ensure that the overall coherence of the Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.”

The AA process has four stages. Each stage determines whether a further stage in the process is required. If, for example, the conclusions at the end of Stage One are that there will be no LSEs on the European site, there is no requirement to proceed further. The four stages are:

1. Screening to determine if an appropriate assessment is required.
2. Appropriate assessment
3. Consideration of alternative solutions
4. Imperative Reasons of Overriding Public Interest/Derogation

Stage 1: Screening

This is to determine if an AA is required. Screening is applied to determine if the project or plan would be likely to have significant effect(s) on any European site(s) either alone or in-combination with other plans or projects. For European sites, where LSEs are identified, either alone or in combination with other plans or projects, further assessment is necessary to determine if there will be an adverse impact on the integrity of the European site(s) i.e. Stage 2 AA.

Stage 2. Appropriate Assessment

Stage 2 assesses the impact of a plan or project on the integrity of the European site, either alone or in combination with other plans or projects, with respect to the site's structure, function and conservation objectives. Where there are adverse impacts, an assessment of the potential mitigation of these impacts is also required. This stage is documented within a Natura Impact Statement (NIS).

Stage 3. Assessment of Alternative Solutions

If it is concluded that, subsequent to the implementation of measures, a plan or project will have an adverse impact on the integrity of a European site, it must be objectively concluded that no alternative solutions exist before the plan or project can proceed.

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Stage 4. Imperative Reasons of Overriding Public Interest/Derogation

Where no alternative solutions exist and where adverse impacts remain but imperative reasons of overriding public interest (IROPI) exist for the implementation of a plan or project, an assessment of compensatory measures that will effectively offset the damage to the European site will be necessary.

The European Court of Justice has made a number of relevant rulings in relation to when an Appropriate Assessment is required and its purpose: *“Any plan or project not directly connected with or necessary to the management of the site is to be subject to an appropriate assessment of its implications for the site in view of the site’s conservation objectives if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site, either individually or in combination with other plans or projects”* and that the plan or project may only be authorised *“where no reasonable scientific doubt remains as to the absence of such effects”*.

A list of relevant rulings are provided below:

Table 1: Case law relevant to the AA screening for the Proposed Road Development

Case	Ruling
People Over Wind and Sweetman v Coillte Teoranta (C-323/17)	The ruling of the CJEU in this case requires that any conclusion of ‘no Likely Significant Effect’ on a European site must be made prior to any consideration of measures to avoid or reduce harm to the European site. The determination of Likely Significant Effects should not, in the opinion of the CJEU, constitute an attempt at detailed technical analyses. This should be conducted as part of the AA.
Waddenzee (C-127/02)	The ruling in this case clarified that AA must be conducted using best scientific knowledge, and that there must be no reasonable scientific doubt in the conclusions drawn. The Waddenzee ruling also provided clarity on the definition of ‘significant effect’, which would be any effect from a plan or project which is likely to undermine the conservation objectives of any European site.
Holohan and Others v An Bord Pleanála (C-461/17)	The conclusions of the Court in this case was that consideration must be given during AA to: effects on qualifying habitats and/or species of a SAC or SPA, even when occurring outside of the boundary of a European site, if these are relevant to the site meeting its conservation objectives; and,

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Case	Ruling
	effects on non-qualifying habitats and/or species on which the qualifying habitats and/or species depend and which could result in adverse effects on the integrity of the European site.
T.C Briels and Others v Minister van Infrastructuur en Milieu (C-521/12)	The ruling of the CJEU in this case determined that compensatory measures cannot be used to support a conclusion of no adverse effect on site integrity.

2.1 Guidance Documents

This report has been prepared with regard to the following guidance documents on Appropriate Assessment, where relevant:

- 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 NPWS 1/10 & PSSP 2/10;
- 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 (European Commission Environment Directorate-General, 2001 and updates April 2015 and September 2021). The guidance within this document provides a non-mandatory methodology for carrying out assessments required under Article 6(3) and (4) of the Habitats Directive;
- Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC (EC Environment Directorate-General, 2018); and
- Communication from the Commission on the precautionary principle. European Commission (2000). · OPR (2021) Appropriate Assessment Screening for Development Management. Practice Note PN01. Office of the Planning Regulator. March 2021.

2.2 About the Authors

Flynn Furney Environmental Consultants have 20 plus years of experience in ecological surveying and management. We have detailed knowledge on the principles and implementation of both Irish and European environmental legislation. We have worked closely with statutory bodies including the National

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Parks and Wildlife Service (NPWS) and Waterways Ireland on habitat management and protection projects. Other expertise includes Ecological Impact Assessment, Habitat and Floral Surveys, Bird Surveying, Bat Surveying, Fish and Waterways Surveys.

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Ian Douglas (MSc, BSc, H Cert.Ag) an Ecologist and Agri-environmental Consultant specialising in appropriate assessment, ecological impact assessment, habitats classification, soil science, GIS mapping and regenerative agriculture. Ian has worked on projects including large road developments, power infrastructure projects, planning and design of nature trails, constructed wetland creation and on farm habitat development.

2.3 Methodologies

This screening report was informed by a desk study of all relevant environmental information and also included a review of the ecological field survey data recorded during early spring 2022. The screening then incorporated the following steps (broadly based on EC [2000]):

- Determine if the proposed works are directly connected with or necessary to the management of the site;
- Describe the proposed works;
- Describe the baseline environment;
- List 'Relevant' European sites which are those sites potentially connected to the proposed works by source-pathway-receptor linkages; and
- Conclude if linkages to 'Relevant' sites have the potential to give rise to Likely Significant Effects (LSE).

2.3.2 The Source-Pathway-Receptor Model

The standard 'source-pathway-receptor' conceptual model is a standard tool in environmental assessment. In order for an effect to occur, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism means there is no likelihood for the effect to occur. An example of this model is provided below:

- Source (s); – e.g. Piling;
- Pathway (s); e.g. Vibration; and
- Receptor (s); e.g. Underground otter resting site at risk of collapse

The model evaluates the receptors as the qualifying interests (QIs) for which individual European sites are designated, with reference to the latest conservation objectives from the NPWS website, or substitute detailed objectives from other European sites where only generic objectives are available.

European sites are at risk of significant effects as a result of the proposed works where a source-pathway-receptor link exists between any elements of the proposed works and the European site. In order for an impact to occur there must be a risk enabled by having a 'source' (e.g. proposed works), a 'receptor' (e.g. a SAC/SPA or their QI habitats/species), and a pathway between the source and the receptor (e.g. a watercourse which connects the impact source at a site of proposed works to a SAC/SPA). The risk of the impact does not automatically mean it will occur, nor that it will be significant. However, identification of the risk does mean that there is a possibility of ecological or environmental impact occurring, with the level and significance of the impact depending upon the nature and exposure to the risk, and the characteristics of the receptor.

Likely significant effects to European sites are identified by applying the source-pathway-receptor model to define receptor-specific 'zones of influence' (i.e. the area over which effects may occur). This is explained further in Section 2.3.3

2.3.3 Zones of Influence and Potential Impacts and Effects

The proposed development has the potential to result in a number of direct and indirect effects. These are set out in Table 2 which identifies the "zones of influence" for each effect (i.e. the area over which effects may occur).

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Table 2: Potential Impacts, Effects and their Zone of Influence

Potential Impact and Effect	Description	Zone of Influence for possible impacts or effects
Land-take resulting in habitat loss or degradation.	The permanent loss or degradation of the habitat present in the footprint of the works site or within the footprint of the broad works area including temporary access routes and storage areas.	Land within the proposed footprint of works footprint and access routes.
Changes in water quality and quantity/distribution resulting in habitat loss or degradation. Or impacts to key species upon which water quality is a key indicator of conservation value.	Reduction in the habitat quality, loss of habitats and direct or indirect impacts to species who rely upon good water quality as a result of surface water pollution (e.g. sedimentation or from other polluting materials like hydrocarbons)	Changes in surface water quality, as a result of construction works 50m upstream and 150m downstream of the proposed development site. Other indirect impacts to pray species may also leading to wider reaching impacts.
Noise and vibration resulting in disturbance.	Direct impacts on feature species reducing their ability to forage or breed.	Generally assessed within 500m of proposed works for birds and 150m for otter underground sites.
Human presence resulting in disturbance to highly sensitive bird species.	Indirect impacts on QI species due to reduced breeding success, or disruption to key resting, roosting or feeding sites within the European site	Generally assessed within 500m of the proposed development. As works are within close proximity of the River Boyne and River Blackwater SAC which is designated for Otter. Human presence is considered at with 150m as with noise and vibration.

2.3.4 In-combination Effects

Where source-pathway-effect linkages are identified between the proposed works and European sites the potential for in-combination effects with other plans and projects is also examined. If required, the in-combination assessment would include plans and projects, whose implementation is 'reasonably foreseeable', including:

- Projects given consent but not yet started;
- Projects that are subject to 'live' applications for consent (for which decisions remain outstanding);
- Projects that are subject to outstanding appeal procedures;
- Any known projects that are not subject to any consent;
- Ongoing projects subject to regulatory reviews, such as discharge consents or waste management licences;
- Policies and proposals that are not yet fully implemented in plans that are still in force; and
- Draft plans that are being brought forward by other public bodies. ned. If there are no identified pathways, there is no potential for the proposed works to have LSE, and also no potential for in-combination effects.

2.3.5 The Precautionary Principle

The Precautionary Principle has been defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2005) as: "*When human activities may lead to morally unacceptable harm [to the environment] that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. The judgement of plausibility should be grounded in scientific analysis*". Reasoned application of the 'Precautionary Principle' is fundamental to the Screening Stage (and AA).

The precautionary principle is referenced in Article 191 of the Treaty on the Functioning of the European Union (TFEU). It relates to an approach to risk management whereby if there is the possibility that a given policy or action might cause harm to the public or the environment and if there is still no scientific consensus on the issue, the policy or action in question should not be pursued.

The precautionary principle prevails where 'reasonable scientific doubt' cannot be ruled out. Known threats to QIs of relevant sites are analysed to avoid overlooking subtle or far-field effect pathways. The duration of potential effects is a key consideration, in particular because the European Court of Justice has recently ruled—albeit in specific reference to priority habitats—those effects to site integrity must be "lasting"

2.4 The Site

The study site is located in the townland Oldbridge Co. Meath which is on the boundary with Co. Louth. The study area comprises a roadway (Rathmullan road) bordered by ivy dominated scrubby woodland on both sides. The proposed cycleway will be constructed on the eastern side of the Rathmullan road. This roadway is surrounded by the Riverbank housing estate to the east and scrub and arable cropland to the west. The Rathmullan road falls steeply from the southern extent of the study area to its northern extent where the road meets the River Boyne. The Rathmullan road continues west along the banks of the River Boyne and passes under the Mary McAleese Bridge Boyne Valley Bridge. Between the road and the river is the Boyne Greenway. East along the Boyne at the northern extent of the study area is the Ramparts walkway and cycleway. This existing cycle infrastructure connects Old Bridge House to Drogheda town centre.

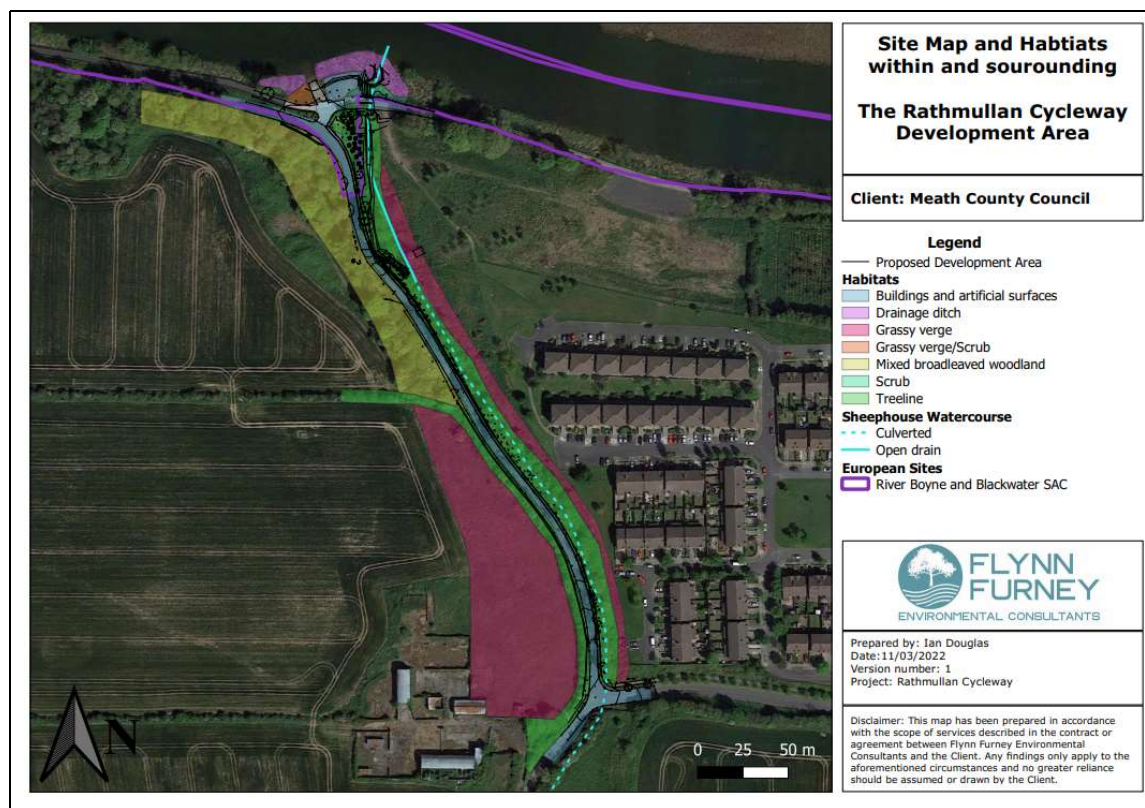
The Sheephouse stream runs adjacent to and underneath the verge upon which this cycleway is proposed. This watercourse is mostly culverted for the extent of the study area but becomes an open drain for approximately 50m before discharging into the River Boyne at the north of the study area. This watercourse is also connected to a number of existing surface water drains that channel water from the Rathmullan roadway and neighbouring housing estates into the Sheephouse stream and eventually into the Boyne. This watercourse is of poor quality with obvious signs of pollution including rubbish and a foul odour.

The northern extent of the proposed development site sits within the River Boyne and River Blackwater SAC. The River Boyne and River Blackwater SPA begins 430m west and upstream of the proposed development site boundary at the Mary McAleese Bridge Boyne Valley Bridge.

2.5 Ecological Survey and Habitat Mapping

An ecological field survey of the proposed development site was carried out on the 24th February 2022. Habitat survey and mapping followed the Heritage Council's Best Practice Guidance (Smith et al. 2011). Habitats were classified according to the Heritage Council scheme (Fossitt, 2000). A map indicating the habitats on the site is presented in Figure 1 with descriptions of habitats provided below. Habitat surveys were carried out at a suboptimal time of the year for flowering plants (February). However, habitats were readily identifiable by species and plant assemblages identifiable throughout the year.

Figure 1: Habitat map



2.5.1 Buildings and artificial surfaces (BL3)

Buildings and artificial surfaces (BL3) is represented by the tarmac roadway which runs north to south and includes a small area used for storing stone at the extreme north of the study area adjacent to the Boyne. No plant species were recorded here.

2.5.2 Hedgerows (WL1)/Treelines(WL2) and Mixed Broadleaved Woodland (WD1)

The Rathmullan roadway is flanked by one or another of these habitat types along its extent. Variability between these is subject only to structural characteristics including thickness and the abundance of trees. Tree species were dominated by Ash (*Fraxinus excelsior*) and Hawthorn (*Crataegus monogyna*). Blackthorn (*Prunus spinosa*), Sycamore (*Acer pseudoplatanus*), Holly (*Ilex aquifolium*) and Elder (*Sambucus nigra*) were occasional. The ground layer was dominated by Ivy (*Hedera helix*), Bramble (*Rubus fruticosus agg*) and Winter Heliotrope (*Petasites pyrenaicus*). Emerging Cow Parsley (*Anthriscus sylvestris*) and Lady-fern (*Athyrium filix-femina*) were also recorded.

2.5.3 Dry meadows and grassy verges (GS2)

Adjacent to the outside edge of both the woodland strip and the treelines/hedgerows that bound the route are areas of grassy verge. These are grasslands that are infrequently managed through cutting or grazing. Species included cock's-foot (*Dactylis glomerata*), bent grasses (*Agrostis spp.*), false oat-grass (*Arrhenatherum elatius*), fescues (*Festuca spp.*) and perennial rye-grass (*Lolium perenne*). Herbs included winter heliotrope (*Petasites pyrenaicus*) and nettle (*Urtica dioica*). Remnant stalks of plantain (*Plantago lanceolata*), wild carrot (*Daucus carota*) and common knapweed (*Centaurea nigra*).

2.5.4 Reed fringe (FS1)

The routes northern extent ends at the River Boyne, who's banks are dominated by reeds. Given the time of year most of these have died back and it was not possible to tell which species this habitat contained. However is it likely a combination of Reed Canary-grass (*Phalaris arundinacea*) and Common Reed (*Phragmites australis*).

2.5.5 Drains and Upland Eroding streams (FW1 and FW4)

The Sheephouse stream runs adjacent to and underneath the extent of the proposed development area. This watercourse was culverted for the majority of the route before becoming an open drain for its final 100 meters before discharging into the River Boyne. No aquatic plants were noted within the channel or on the banks. Plant species noted were typical of those of the surrounding habitat types.

The River Boyne conforms to upland eroding river as it passes the study area. The water level was high when this survey was conducted. No aquatic plants were recorded. Verge habitats noted around the river included reed fringe and areas of scrub.

2.5.6 Significance of Habitats

No annex I habitats were found within the study area. Much of the works footprint will occur within already sealed surfaces which are of negligible benefit for biodiversity. The remainder will occur in typical hedgerow and treeline habitat which is not likely to contain any annexed species or habitats. No rare, threatened, or protected species of plants as per the Red Data List (Wyse Jackson et al., 2016) were found. No species listed in the Flora Protection Order (2015) were found to be growing within the site. No such species were recorded within the area of works.

2.6 Fauna

Table 3: Fauna recorded during field survey work

Otter	There were no signs of otter along the shore adjacent to the development site or within the Sheephouse Stream.
Badger	There were no signs of badger observed in the walkover of the site.
Bats	Trees on this site are unlikely to provide bat roosting potential, but may however provide opportunities for foraging,
Birds	No King Fisher (<i>Alcedo atthis</i>) were recorded within or surrounding the proposed development site. The Sheephouse stream would not provide suitable King Fisher habitat.
Freshwater Species	No detailed freshwater survey was not carried out. The Sheephouse stream would not provide suitable habitat for any fish or lamprey species given the degree of alteration and short duration of its extent prior to becoming culverted. The River Boyne at the sites northern extent is suitable for a number of annexed freshwater species including River Lamprey (<i>Lampetra fluviatilis</i>) and Salmon (<i>Salmo salar</i>).

2.6.1 Significance of Fauna

No species listed on Annex II of the Habitats Directive were found to be occurring on the site. No evidence of any protected mammal species was found during the survey. The river Boyne which is adjacent to the northern end of this site is known to support populations of Otters, King fisher, River Lamprey and Salmon.

2.7 Description of the Works

The total length of the proposed cycleway and footpath is approximately 388m with a total width of between 2m and 3m for sealed surfaces. Works are likely to involve the removal of trees and other vegetation, the removal and stock piling of surface soil and over burden material, groundwork, pouring of concrete kerbs and spreading of Bitumen. Stakeholders and Consultation

Table 4: Summary of Consultations

Stakeholder	Nature of Consultation	Outcome
Meath County Council	Highlighting the need for an Appropriate Assessment Screening Report	This report

3 Designated Sites

3.1 Desktop Study

A desktop study was carried out as part of the screening process. This included a review of available literature on the site and its immediate environs. Sources of information included the NPWS and National Biodiversity Data Centre databases on protected sites and species.

3.2 Designated Sites

Sites designated for the conservation of nature in Ireland include:

- Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- Natural Heritage Areas (NHA); and
- proposed Natural Heritage Areas (pNHA)

SACs and SPAs form the European/Natura 2000 network of sites. It is these sites that are of relevance to the screening process for the Appropriate Assessment. SPAs and SACs are prime wildlife conservation areas in the country, considered to be important on a European as well as Irish level. SPAs and SACs are designated under EU Habitats Directive, transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), as amended.

The following was considered when reviewing European sites:

1. Whether the proposed development was located within or adjacent to any European sites;
2. Whether any European sites were located within 15km of the proposed development; and
3. Whether any European sites that were more than 15km from the proposed development may potentially be impacted i.e. through a hydrological or bird foraging connection.

This stage in the process is used to determine whether any of the designated sites may be 'screened out'. That is, that they can be regarded as not being relevant to the process, having no potential to be significantly affected or impacted upon

3.3 Designated Sites Within 15km of the Proposed Works

All designated sites as described above within 15km of the proposed development were considered during the screening process for their potential to have likely significant effects to European sites. The site synopses and conservation objectives of these sites were examined during this stage of the survey. These sites are given in summary in the table 5 below with site synopses provided in Appendix 2. Table 2 also gives distances from the site of works and the outcome of this initial screening.

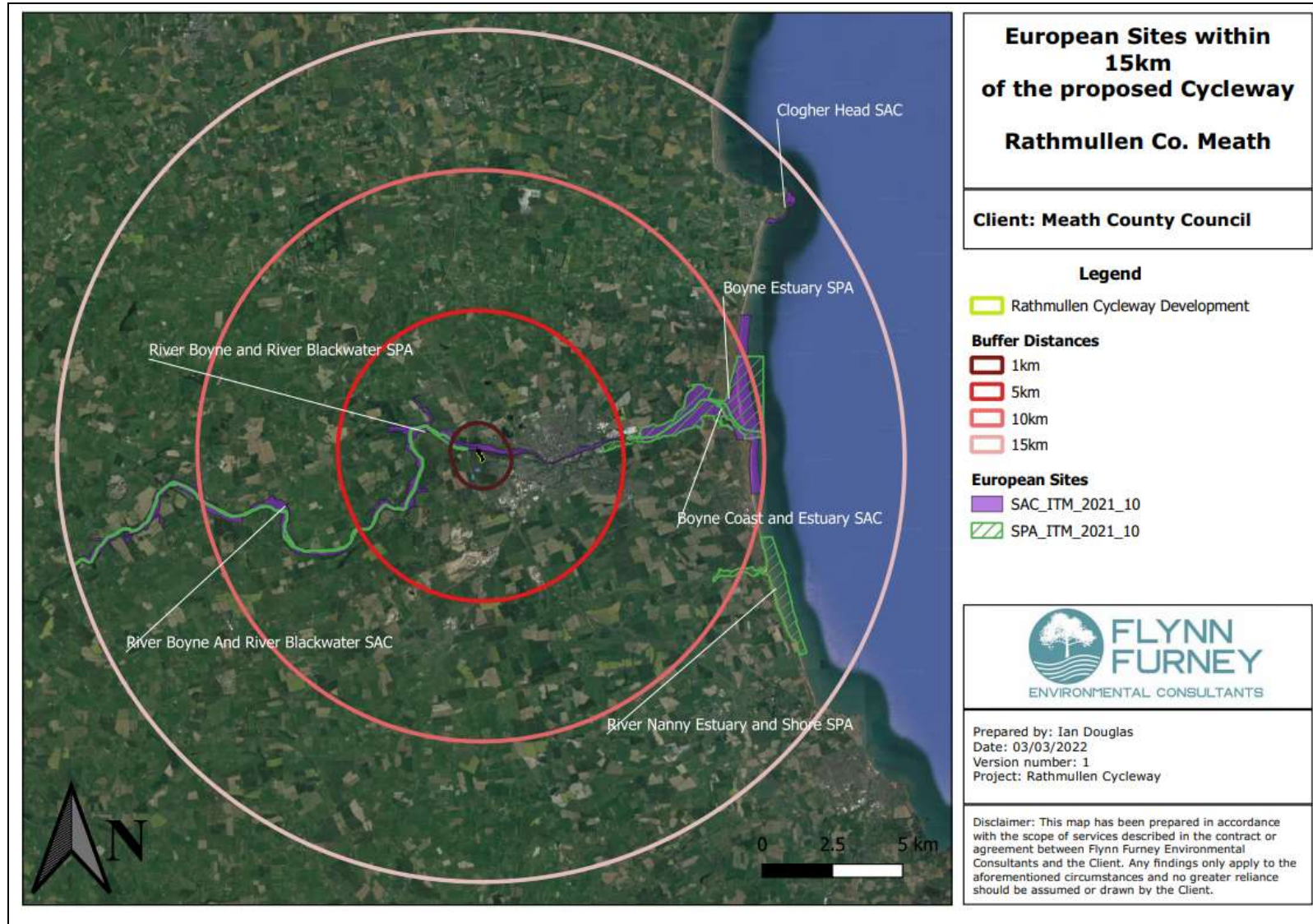
Table 5: Distances from the proposed development site to the nearest designated sites

Site Name and Designation	Site Code	Distance to the development	Source-Pathway-Receptor Link	Further Analysis for LSEs Required	Rationale (where European site is excluded)
Clogher Head SAC	1459	13.0km	No source-pathway-receptor links and no risk of a likely significant effects identified, either alone or in combination with other plans or projects.	No possible impacts identified	<ul style="list-style-type: none"> • Works are entirely outside the boundary of this European site • The nature of this development is not of a type likely to impact upon the QI's of this European site • No hydrological pathways were identified from the proposed development to this European site. Additionally, due to the distance from & the small scale nature of the proposed development, no direct or indirect impacts are anticipated.
Boyne Coast and Estuary SAC	1957	5.4km	Hydrological connection to this European site via the Sheephouse stream which discharges in the River Boyne which subsequently reaches this SAC. Possible indirect impacts due to run-off from the proposed development	Yes	
River Boyne And River Blackwater SAC	2299	Adjacent	Direct hydrological connection to this European site via the Sheephouse	Yes	

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			stream which discharges in the River Boyne		
River Boyne and River Blackwater SPA	4232	351m (upstream)	Direct hydrological connection to this European site via the Sheephouse stream which discharges in the River Boyne. However this SPA is upstream of the proposed development site.	Yes	
Boyne Estuary SPA	4080	4.4km	Hydrological connection to this European site via the Sheephouse stream which discharges in the River Boyne which subsequently reaches this SPA. Possible indirect impacts due to run-off from the proposed development	Yes	
River Nanny Estuary and Shore SPA	4158	9.2km	No source-pathway-receptor links and no risk of a likely significant effect identified, either alone or in combination with other plans or projects.		<ul style="list-style-type: none"> • Works are entirely outside the boundary of this European site • The proposed development site does not contain any habitats types that would support any of the QI species of this European site. • No hydrological pathways were identified from the proposed development to this European site. Additionally, due to the distance from & the small scale nature of the proposed development, no direct or indirect impacts are anticipated.

Figure 2: European sites within 15km



A total of 6 European sites have been identified within 15km of the proposed development site. The closest European site to the proposed development is the River Boyne And River Blackwater SAC which is directly adjacent to and within the proposed development site. The site is a Special Area of Conservation of the following:

River Nanny Estuary and Shore SPA

- Alkaline fens [7230]
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) [91E0]
- *Lampetra fluviatilis* (River Lamprey) [1099]
- *Salmo salar* (Salmon) [1106]
- *Lutra lutra* (Otter) [1355]

The proposed development also has connectivity to Boyne Coast and Estuary SAC, River Boyne and River Blackwater SPA and the Boyne Estuary SPA via the Sheepphouse stream and the River Boyne. Conservation objectives of these sites are provided in table 6 below.

Table 6: Conservation objectives of sites with hydrological connectivity to the proposed development site

Boyne Coast and Estuary SAC	River Boyne and River Blackwater SPA and the Boyne Estuary SPA	Boyne Estuary SPA
Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	Kingfisher (<i>Alcedo atthis</i>) [A229]	Shelduck (<i>Tadorna tadorna</i>) [A048] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Lapwing (<i>Vanellus vanellus</i>) [A142] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Redshank (<i>Tringa totanus</i>) [A162] Turnstone (<i>Arenaria interpres</i>) [A169] Little Tern (<i>Sterna albifrons</i>) [A195] Wetland and Waterbirds [A999]

Effects to these European sites have been identified as possible given hydrological connectivity between these sites and the proposed development site. To ensure all possible impacts are screened for and to ensure the precautionary

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principle is adhered to, these sites are considered further in this screening exercise. A detailed specific assessment of possible effects to these European sites is provided in Section 4 of this report.

1.1.1 In-combination Effects

A desktop planning application search, using publicly available data from MyPlan.ie’s National Planning Application database and Meath and Louth County Council planning portal and An Bord Pleanála’s (ABP) online database was undertaken to support the identification of other projects which may require consideration in this screening assessment. For the most part, these applications related to housing developments, standalone new home planning applications and home extensions/alterations.

The following plans and projects that were given consideration as part of the screening assessment included:

Table 7: Planning Application which possible cumulative or in combination associations to the proposed development

Planning Application Number:	Address:
SH305552	Rathmullan Road, Rathmullan, Drogheda Co. Meath
<p>This development is within lands directly adjacent to the west of the proposed development site and consists of the following project elements</p> <ul style="list-style-type: none"> (i) demolition of existing farm buildings/structures (1160sqm) on site; (ii) (ii) construction of 661 no. residential dwellings and a neighbourhood centre adjacent to the site’s eastern boundary, consisting of a childcare facility (486sqm), café (63sqm) and retail unit (318sqm); (iii) a 4-arm signalised junction and works to Rathmullan Road, including the widening of the existing carriageway to 6 metres and the provision of a 2 metre wide footpath linking the proposed development to the River Boyne Boardwalk; (iii) (iv) 2 no. priority junctions (one along the site’s eastern boundary to provide access to the neighbourhood centre and one along the site’s southern boundary to provide a second access to the development), realignment and upgrade works to the un-named local road along the site frontage to the south of the new signalised junction with Rathmullan Road; (iv) (v) Construction of a strategic foul water pumping station in the north-eastern corner of the site; and (vi) all associated site, landscaping and infrastructural works, including foul and surface water drainage, attenuation areas, open space areas, boundary walls and fences, internal roads and cycle paths and footpaths. The 661 no. residential dwellings consist of the following: <p>Planning permission has been conditionally granted for this development. This development has been screening for Appropriate Assessment was has had a Natura Impact Assessment conducted which concluded that with the implementation of appropriate mitigation measure that no impacts to any European site exist (Scott Cawley, 2019).</p>	

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Planning Application Number:	Address:
LB191536	Oldbridge Manor , Rathmullan Road , Drogheda Co. Meath
<p>This development is within lands directly adjacent to the east of the proposed development site.</p> <p>The proposed comprises of the replacement of 16 no. previously permitted detached two storey (4 bed) dwellings with 28 no. two storey semi-detached and terraced dwellings; comprising 24 no. x 3 bed and 4 no. 4 bed (an overall increase of 12 dwellings). The number of overall dwellings are proposed to increase from 156 no. dwellings permitted to a total of 168 no. dwellings proposed. All associated site development works including relocation of permitted pumping station 50 metres to the east. A Natura Impact Statement has been prepared in respect of this Planning Application.</p> <p>Planning permission has been conditionally granted for this development. This development has been screening for Appropriate Assessment was has had a Natura Impact Assessment conducted which concluded that with the implementation of appropriate mitigation measure that no impacts to any European site exist.</p>	

4 Article 6(3) Screening Assessment

This section of the report focuses solely on the potential for the proposed works to impact to the River Boyne And River Blackwater SAC, the Boyne Coast and Estuary SAC, River Boyne and River Blackwater SPA and the Boyne Estuary SPA. The potential for LES to these European sites is considered further below.

4.1 Article 6(3) Assessment Criteria

Description of the individual elements of the project likely to give rise to impacts on the Natura 2000 site.

Works related to the excavation of soils and over burden material, the culverting of the Sheephouse River and the pouring of concrete and bitumen to create a new cycleway and walkway. This will link southwest Drogheda with the existing River Boyne Greenway and Ramparts Walkway. This development may potentially give raise to LSE to a number of European sites.

Description of any Likely Direct, Indirect or Secondary Impacts of the Project on the Natura 2000 Site.

Any likely direct, indirect or secondary impacts of the proposed development, both alone and in combination with other plans or projects, on any Natura 2000 sites by virtue of the following criteria: size and scale, land take, distance from the Natura 2000 site or key feature thereof, resource requirements, emissions, excavation requirements, transportation requirements and duration of construction, operational and decommissioning phases of the works are detailed in the table below.

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Table 8: Assessment of Likely Impacts

ASSESSMENT OF LIKELY IMPACTS	
Size and scale	The proposed works site is approximately 380m long and 2-3 meter wide at finished width. However works during construction, works will occupy a wider footprint. This gives as total approximate finished footprint of 0.78ha. Works of this project are unlikely to take more than 2 months. As such this is considered a small project of short duration.
Land-take	Works will not alter the size of any designated site. Therefore land-take is nil. Works will take place within the River Boyne And River Blackwater SAC. This area of the SAC has already been developed and includes a small bridge, a walkway and a roadway. A small area of scrub and woodland is also found in this area. See maps provided in Appendix 1. None of these are habitat types for which the River Boyne And River Blackwater SAC was designated or for which its conservation interests are reliant upon.
Distance from the Natura 2000 site or key features of the site;	River Boyne And River Blackwater SAC is found directly adjacent to the northern extent of the proposed development. The proposed development site has direct hydrological connectivity to this European site via the Sheep House river. Further hydrological connectivity exists to other European sites including the Boyne Coast and Estuary SAC, River Boyne and River Blackwater SPA and the Boyne Estuary SPA via the River Boyne.
Resource requirements (water abstraction etc.);	No materials for construction will be sourced from within any European site. Soil and overburden material may be excavated along the northern portion of the route to provide for a new hardcore base for the cycleway. This will not constitute a significant impact due to resource requirements as this area has been previously developed away from a semi-natural state. No water will be abstracted from the site during the construction or operation of the site. Therefore, there will be no impacts on this European site as a result of resource requirements.
Emissions (disposal to land, water or air);	Emissions to water are plausible as a result of the proposed development: Works involve the removal of topsoil and over burden material from the roadside verge along the Rathmullan road. This is a steeply sloping road that leads down to the River Boyne. Polluting material could potentially be lost to this SAC (and other hydrologically connected European sites) through

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	<p>overland flow particularly during periods of heavy rain or during the winter months.</p> <p>Works will involve bank works and culverting of the Sheephouse stream. This stream has direct hydrological connectivity to the River Boyne and its associated European sites. Polluting materials includes silts, hydrocarbons, concrete and bitumen could potentially become lost to this watercourse and reach the River Boyne. This could lead to direct and indirect LSE to a number of conservation objectives of the River Boyne And River Blackwater SAC. This could also potentially lead to indirect impacts to a number of other European sites which form part of the Boyne River system.</p>
Excavation requirements;	Excavations will take place within the River Boyne And River Blackwater SAC, however this is a very small area (less than 70m ²). Construction works will include including the excavations to allow a new hard core base layer to be created before concrete kerbs and a bitumen surface layer are added. These excavation works are not considered impactful to the SAC as the site of works is already an existing hardstand. Excavation works may lead to impacts related to emissions (see Emissions (disposal to land, water or air) above).
Transportation requirements;	Site has existing access via a local road and footpaths. No other means of access will be required during any phase of the project that would likely impact upon the River Boyne And River Blackwater SAC or any other European sites.
Duration of construction, operation, decommissioning, etc.;	Duration of works are not known at time of writing. However, these works are expected to be completed within 1 -3 months.
Timing of works	As yet unknown. As works are taking place within a water course works should comply with IFI guidelines. IFI should also be consulted on methodologies and timings.
Cumulative or In-combination Impacts with other Projects and Plans	A number of other projects have been considered as part of the screening process. A search of the planning websites of Louth and Meath County Council was carried out as part of the desktop study. A number of adjoining planning applications were noted. The large residential development of 661 housing units to the west of Rathmullan Road (SH305552) may potentially lead to cumulative or in combination impacts if both developments were to

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	impact water quality via direct losses of surface water runoff. Particularly during periods of heavy rain or at sensitive times for the SAC's QI species.
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4.2 Description of any Likely Changes to the Natura 2000 Sites

Any likely changes to the Natura 2000 site are described in the table below with reference to the following criteria: reduction of habitat area, disturbance to key species, habitat or species fragmentation, reduction in species density, changes in key indicators of conservation value and climate change.

Table 9: Likely changes to the Nature 2000 site

Likely Changes to the Natura 2000 Site	
Reduction of habitat area	Works will take place within the boundary of the River Boyne And River Blackwater SAC in one small area. This works area is within an area of already highly altered built environment. This would not constitute a reduction of habitat area from the SAC.
Disturbance to key species	The River Boyne And River Blackwater SAC has been designed for the conservation of two freshwater species Salmon and River Lamprey. Water quality is a key indicator of good conservation status for both species. Impacts to water quality as a result of the proposed development cannot be ruled out at this stage. Indirect impact to water quality upon other QI species of other European sites with the Boyne river system including King Fisher in the River Boyne And River Blackwater SPA could also not be ruled out at this stage.
Habitat or species fragmentation	The majority of works will take place outside the boundary of the SAC. Works as they take place within the SAC occur just inside the boundary of the SAC and are within an area already highly modified for, cars, pedestrians and bicycle use. A small portion of this area is composed of scrub and hedgerow habitat. This again is highly modified in nature. None of the works areas form a key habitat for any of the species of this SAC or any other European sites. Therefore, there will be no impacts to the River Boyne And River Blackwater SAC or any other European sites with regard to habitat or species fragmentation.

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Reduction in species density	A reduction in species densities for Salmon and River Lamprey are possible given the probably of impacts to surface waters within the Boyne within the vicinity of the works area.
Changes in key indicators of conservation value (water quality etc.);	Habitat integrity and water quality are the most relevant of the key indicators of conservation value with regard to the River Boyne And River Blackwater SAC. Risks of any significant impacts on water quality within this European site as a result of the construction phase of the proposed development in particular are significant. Given the proximity and connectivity between the site of works and this European site.
Climate change	No damage to any Natura 2000 site as a result of or in combination with enhanced climate change is predicted as a result of the proposed development.

4.2.1 Likelihood of Interference with the key relationships that define the structure and function of the Natura 2000 Site as a whole:

As impacts to water quality could not be ruled out at this stage. Possible LSE upon the key relationships that define the structure and function of the River Boyne And River Blackwater SAC and other European sites contained within the Boyne River system may exist.

4.2.2 Indicators of Significance as a Result of the Identification of Effects

Indicators of significance as a result of the identification of effects as set out below in terms of loss, fragmentation, disruption, disturbance and changes to the key elements of site.

Table 10: Indicators of significance

Indicators of Significance	
Loss	There will be no loss of any habitat type for which any designated site has received its designation. Possible impacts to QI species may exist as discussed above.
Fragmentation	No habitat fragmentation will occur as a result of the proposed development. As QI species of the River Boyne And River Blackwater SAC and other European sites within the Boyne River system are transient and highly mobile. No species fragmentation is therefore likely to occur.

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Disruption	A significant risk of disruption to the normal function of a number of QI species of the River Boyne And River Blackwater SAC may occur as a result of possible impacts to water quality.
Disturbance	As above
Change to key elements of the site (e.g. water quality etc.)	No long-term changes to any key elements of any European site are predicted as a result of the climate change impacts associated with the proposed development, given the limited scale and duration of this project.

Description of any Likely Significant Impacts or Indeterminate Impacts of the Project on the Natura 2000 Site

The total length of the proposed cycleway and footpath is approximately 380m with a final total width of approximately 2 -3m for sealed surfaces. Works are likely to involve the removal of trees and other vegetation, the removal and stock piling of surface soil and over burden material, groundwork, pouring of concrete kerbs and spreading of bitumen.

Based on a consideration of the likely impacts arising from the proposed development as described above and a review of their significance in terms of the conservation interests and objectives of the River Boyne And River Blackwater SAC and other European sites within the Boyne River system likely significant effects as a result of the proposed development could not be ruled out.

4.3 Findings of Article 6(3) Screening Assessment

Name of project or plan: Rathmullan Cycleway, Rathmullan Co. Meath

Name and location of this European site: Works will take place in the townland of Oldbridge Co. Meath along the Rathmullan Road. The nearest designated site is the River Boyne And River Blackwater SAC.

Description of project or plan: The total length of the proposed cycleway and footpath is approximately 380m with a final total width of approximately 2 -3m for sealed surfaces. Works are likely to involve the removal of trees and other vegetation, the removal and stock piling of surface soil and over burden material, groundwork, pouring of concrete kerbs and spreading of bitumen.

Is the project or plan directly connected with or necessary to the management of the site?: The project is not directly connected with or necessary to the management of any European site

Are there other projects or plans that together with the project or plan being assessed could affect the site (provide details)? Cumulative or in combination impacts associated the proposed 661 unit housing development adjacent to the west of the proposed development site could not be ruled out at this stage.

4.3.1 Assessment of Significance of Effects

Describe how the project or plan (alone or in combination) is likely to lead to direct affects the Natura 2000 site:

- The proposed development may lead to direct impacts to water quality as a result of polluting material lost from the site of works to the River Boyne during the construction phase of the proposed development.
- Possible direct impacts to freshwater species include Salmon and River Lamprey within the River Boyne as a result of water quality impacts.

Indirect impacts upon the Natura 2000 Site:

- Possible significant changes in the chemical of physical composition of the River Boyne And River Blackwater SAC and other European sites within the Boyne River system as a result of the construction phase of the proposed development. These impacts may in turn impact upon the conservation status of a number of QI species.

Consultation with Agencies

- Contact with the client to highlight the need for this report.

4.4 Data collected to carry out the assessment.

The following sources of data were employed:

- NPWS protected species database and online mapping.
- Historical OSI Maps
- NPWS protected species database and online mapping.
- Meath and Louth County Council Planning Database

Level of assessment completed.

- Desk Study
- Field Study
- Site visit in February 2022

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Overall Conclusions

In our professional opinion and in view of the best scientific knowledge and in view of the conservation objectives of the European sites reviewed in the screening exercise, the risk of LSE associated with the proposed development individually/in combination with other plans and projects (either directly or indirectly) to the River Boyne And River Blackwater SAC and other European sites within the Boyne River system could not be ruled out at this stage. Therefore, an Appropriate Assessment is required.

5 References and Guidance Documents

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