Filtered Permeability Scheme at Convent Road, Co. Meath

Appropriate Assessment Screening Report

September 2022

Client

Meath County Council
Buvinda House
Dublin Road
Navan
Co. Meath
C15 Y291

Consulting Engineer

Roughan & O'Donovan
Arena House
Arena Road
Sandyford
Dublin 18
D18 V8P6

Filtered Permeability Scheme at Convent Road, Navan Co. Meath

Appropriate Assessment Screening Report

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Background

Roughan & O'Donovan (ROD) was appointed by Meath County Council to prepare an Appropriate Assessment (AA) Screening Report in respect of the Filtered Permeability Scheme at Convent Road ("the Project"). The AA Screening Report is intended to determine whether or not the Project is likely to have a significant effect on areas designated as being of European Union importance for nature conservation ("Natura 2000 sites"), either individually or in combination with other plans or projects and in view of best scientific knowledge and the sites' conservation objectives, thereby enabling Meath County Council ("the Competent Authority") to comply with 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 (the Habitats Directive). During preparation of the AA Screening Report, the statutory consultee, the National Parks & Wildlife Service (NPWS), provided data on the designations of sites, habitats and species (including birds) of conservation interest.

This document comprises the AA Screening Report in respect of the Project and was prepared by ROD on behalf of Meath County Council and in accordance with the requirements of the Habitats Directive as defined in Part XAB of the Planning and Development Act, 2000 (as amended) ("the Planning and Development Acts"). The aim of this AA Screening Report is to inform and assist the Competent Authority in carrying out its AA Screening by determining whether or not the proposed development, either individually or in combination with other plans and projects, has the potential to significantly affect one or more European sites in view of their Conservation Objectives.

It is the considered opinion of ROD, as the author of this AA Screening Report, that the proposed development, either individually or in combination with other plans or projects, in view of best scientific knowledge, is not likely to have a significant effect on any European site.

1.2 Competent Experts

The AA Screening Report was prepared Patrick O'Shea MCIEEM. Patrick is an Ecologist with nine years' experience in ecological consultancy and research. Patrick has a BA (Hons) in Natural Sciences from Trinity College Dublin and an MSc in Ecological Management and Conservation Biology from Queen's University Belfast.

1.3 Legislative Context

The Habitats Directive and Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds ("the Birds Directive") list habitats and species which are, in a European context, important for conservation and in need of protection. This protection is afforded in part through the designation of sites that, in a European context, support significant examples of habitats or populations of species. These sites are generally referred to as "European sites". Specifically, sites designated for wild birds are termed "Special Protection Areas" (SPAs) and sites designated for natural habitat types or other species are termed "Special Areas of Conservation" (SACs). The complete network of European sites is referred to as "Natura 2000".

In order to ensure the protection of European sites in the context of land use planning and development, Article 6(3) of the Habitats Directive requires that:

"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives."

The Court of Justice of the European Union (CJEU) has interpreted this requirement as follows[1]:

"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."

In accordance with the Precautionary Principle, the ECJ interpreted the word "likely" as meaning that as long as it cannot be conclusively demonstrated that a given effect will not occur, that effect is considered "likely" to occur. A likely effect considered to be "significant" only if it interrupts or causes delays in progress towards achieving the Conservation Objectives[2] of the relevant European site(s).

In its judgment in *People Over Wind*[3], the CJEU concluded that the determination of whether or not AA is required in respect of a project must be completed without consideration of "*measures that are intended to avoid or reduce the harmful effects of the envisaged project on the site concerned*".

In Ireland, this requirement for AA is transposed into national law by Part 5 of the Habitats Regulations and Part XAB of the Planning and Development Acts, and the process is termed "Appropriate Assessment" (AA). Stage 1 of the process, i.e. determining whether or not a plan or project meets the above criteria for requiring AA, is referred to as "AA Screening".

Article 6(3) of the Habitats Directive goes on to specify that AA must be carried out by the "competent national authorities". In Ireland, the "competent authority" is the relevant planning authority for each plan or project, e.g. the local authority or An Bord Pleanála. Consequently, the responsibility for carrying out AA Screening lies solely with the competent authority. In that respect, the AA Screening Report is not in itself an AA Screening, but provides the competent authority with the information it needs in order to carry out its AA Screening.

1.4 Screening Methodology

At this stage of the process, the AA Screening Report assesses the potential impacts from the plan or project on the European sites within the likely zone of impact and evaluates them in view of the sites' Conservation Objectives.

Best practice in undertaking AA Screening involves five steps as follows:

---

[1] Landelijke Vereniging tot Behoud van de Waddenzee, Nederlandse vereniging tot Bescherming van Vogels *v.* Staatssecretaris van Landbouw, Naturbeheer en Visserij (Waddenzee) [2004] C-127/02 ECR I-7405.

[2] Conservation Objectives are referred to, but not defined, in the Habitats Directive. In Ireland, Conservation Objectives are set for Qualifying Interests (the birds, habitats or other species for which a given European site is selected) and represent the overall target that must be met for that Qualifying Interest to reach or maintain favourable conservation condition in that site and contribute to its favourable conservation status nationally.

3 People Over Wind and Peter Sweetman *v*. Coillte Teoranta (People Over Wind) [2018] C-323/17.

1. The first step involves gathering the information and data necessary to carry out a screening assessment. These include, but are not limited to, the details of all phases of the plan or project, environmental data pertaining to the area in which the plan or project is located, e.g. rare or protected habitats and species or invasive species present or likely to be present, and the details of the Natura 2000 sites within the likely zone of impact.
2. The second step involves an examination of the information gathered in the first step and a scientific analysis of the potential impacts of the Project on the receiving environment within the likely zone of impact, focussing on the Natura 2000 sites designated in that zone.
3. The third step evaluates the impacts analysed in the second step against the Conservation Objectives of the relevant Natura 2000 sites, thereby determining whether or not those impacts constitute "likely significant effects", within the meaning of Article 6(3) of the Habitats Directive.
4. The fourth step involves the consideration of the potential for likely significant effects to arise from the combination of the impacts of the plan or project with those of other plans or projects. If it is determined in the third step that Stage 2 (AA) is required, consideration of potential cumulative impacts may be deferred to the NIS that will be prepared at that stage. In the case of an absence of likely significant effects arising from the plan or project individually, consideration of potential cumulative impacts may only be disregarded where preceding steps found that there would be no effects whatsoever or that any effects would be imperceptible.
5. The last step involves the issuing of a statement of the determination of the AA Screening. Notwithstanding the recommendation made in the AA Screening Report, the responsibility for completing this step lies solely with the competent authority in each case.

The following guidance documents informed the assessment methodology:

- EC (2021) *Assessment of plans and projects in relation to Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*. Environment Directorate-General of the European Commission.
- EC (2018) *Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC*. European Commission, Brussels.
- DEHLG (2010) *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities*. Department of the Environment, Heritage and Local Government, Dublin.
- NPWS (2010) *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities*. Circular Letter NPWS 1/10 & PSSP 2/10. National Parks & Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- OPR (2021) *Appropriate Assessment Screening for Development Management*. Office of the Planning Regulator, Dublin.

1.5 Desk Study

During preparation of the AA Screening Report, the statutory consultee, the National Parks & Wildlife Service (NPWS), provided data on designations of sites, habitats, and species (including birds) of conservation interest.

This included reports pursuant to Article 17 of the Habitats Directive[4] (NPWS, 2013a,b) and the Site Synopses, Natura 2000 Standard Data Forms and Conservation Objectives (including supporting documents) for the relevant European sites.

The desk study involved thorough reviews of existing information relating to ecology in the vicinity of the Project. A number of web-based geographic information systems (GISs) were used to obtain information relating to the natural environment surrounding the Works. These included the NPWS *Map Viewer* (NPWS, 2022), which provided information on the locations of protected sites.

The data gathered and examined as part of the desk study was used in the assessment in the Section 4 of this Report.

[4] Under Article 17, to report to the European Commission every six years on their status and on the implementation of the measures taken under the Directive.

2.0 DESCRIPTION OF THE PROJECT

2.1 General Description

The Project will involve the following elements:

- Closure of Convent Road to vehicular traffic from the Riverside development to Athlumney Castle, with local access provided;
- Traffic calming on Convent Road in proximity to the entrance to the Loreto Secondary School;
- Enhanced public lighting;
- Landscaping measures;
- Road resurfacing;
- Erection of signage; and
- Ancillary works.

Regarding the resurfacing, this will be minimal intrusive works, with the majority of works to the pavement consisting of applying anti-skid surfacing to the existing pavement. There will be some areas of pavement improvements which will involve the removal of the existing surface to a depth of approx. 40mm and reinstatement of a new surface layer. The proposed speed cushion will involve the localised planing of 40mm of existing surface and the construction of the speed cushion.

2.2 Site Location

The Project is located along Convent Road in Navan, Co. Meath, between Athlumney (R153) and Elm Park. The total length of the Project is 600m. The location of the Project is shown in Figure 3.1, and in the project drawings in Appendix A to this report.

3.0 IDENTIFICATION OF LIKELY SIGNIFICANT EFFECTS

3.1 Establishing the Likely Zone of Impact

Section 3.2.3 of the Department of Environment, Heritage and Local Government's *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities* (DEHLG, 2010) outlines the procedure for selecting the Natura 2000 sites to be considered in AA Screenings. It states that Natura 2000 sites potentially affected should be identified and listed, bearing in mind the potential for direct, indirect and/or cumulative effects. It also states that the specific approach to Screening in each case is likely to differ depending on the scale and likely effects of the plan or project. However, it advises that the following sites should generally be included:

- *All Natura 2000 sites within or immediately adjacent to the plan or project area;*
- *All Natura 2000 sites within the likely zone of impact of the plan or project; and,*
- *In accordance with the Precautionary Principle, all Natura 2000 sites for which there is doubt as to whether or not they might be significantly affected.*

The "likely zone of impact" of a plan or project is the geographic extent over which significant ecological effects are likely to occur. In the case of plans, this zone should extend to a distance of 15km in all directions from the boundary of the plan area. In the case of projects, however, the guidance recognises that the likely zone of impact must be established on a case-by-case basis, with reference to the following key variables:

- *The nature, size and location of the project;*
- *The sensitivities of the ecological receptors; and,*
- *The potential for cumulative effects.*

For example, in the case of a project that could affect a watercourse, it may be necessary to include the entire upstream and/or downstream catchment in order to capture all Natura 2000 sites with water-dependent Qualifying Interests

Having regard to the above key variables, the likely zone of impact was defined as the footprint of the proposed development plus a 1 km buffer. This was based on the nature and scale of the project and the maximum extent of impacts.

A geographical representation of the likely zone of impact was generated in ArcGIS 10.4 using the Project boundary, publicly available basemaps (OpenStreetMap) and Environmental Protection Agency (EPA) shapefiles. This was used in combination with NPWS shapefiles to identify the boundaries of European sites in relation to the likely zone of impact (Table 3.1; Figure 3.1). It was determined that two Natura 2000 sites, namely the River Boyne and River Blackwater SAC and the River Boyne and River Blackwater SPA occur within the likely zone of impact of the Project.

Table 3.1 European sites located within and adjacent to the likely zone of impact.

European site [site code]	Are there potential pathways for impacts from the proposed development to this site?
River Boyne and River Blackwater SAC [002299]	**Yes.** The shortest absolute distance from the Project to this site is <10 m west to the site from the Athlumney Church Graveyard. This distance is over land and this location is within the likely zone of impact. The shortest distance from the proposed development to the site via a hydrological connection is <10 m west, through surface water connections. Therefore, the effective distance to the site is considered to be <10 m.
River Boyne and River Blackwater SPA [004232]	**Yes.** The shortest absolute distance from the Project to this site is 46m west to the banks of the River Boyne. This distance is over land and this location is within the likely zone of impact. The shortest distance from the proposed development to the site via a hydrological connection is 46 m west through surface water connections. Therefore, the effective distance to the site is considered to be 46 m.

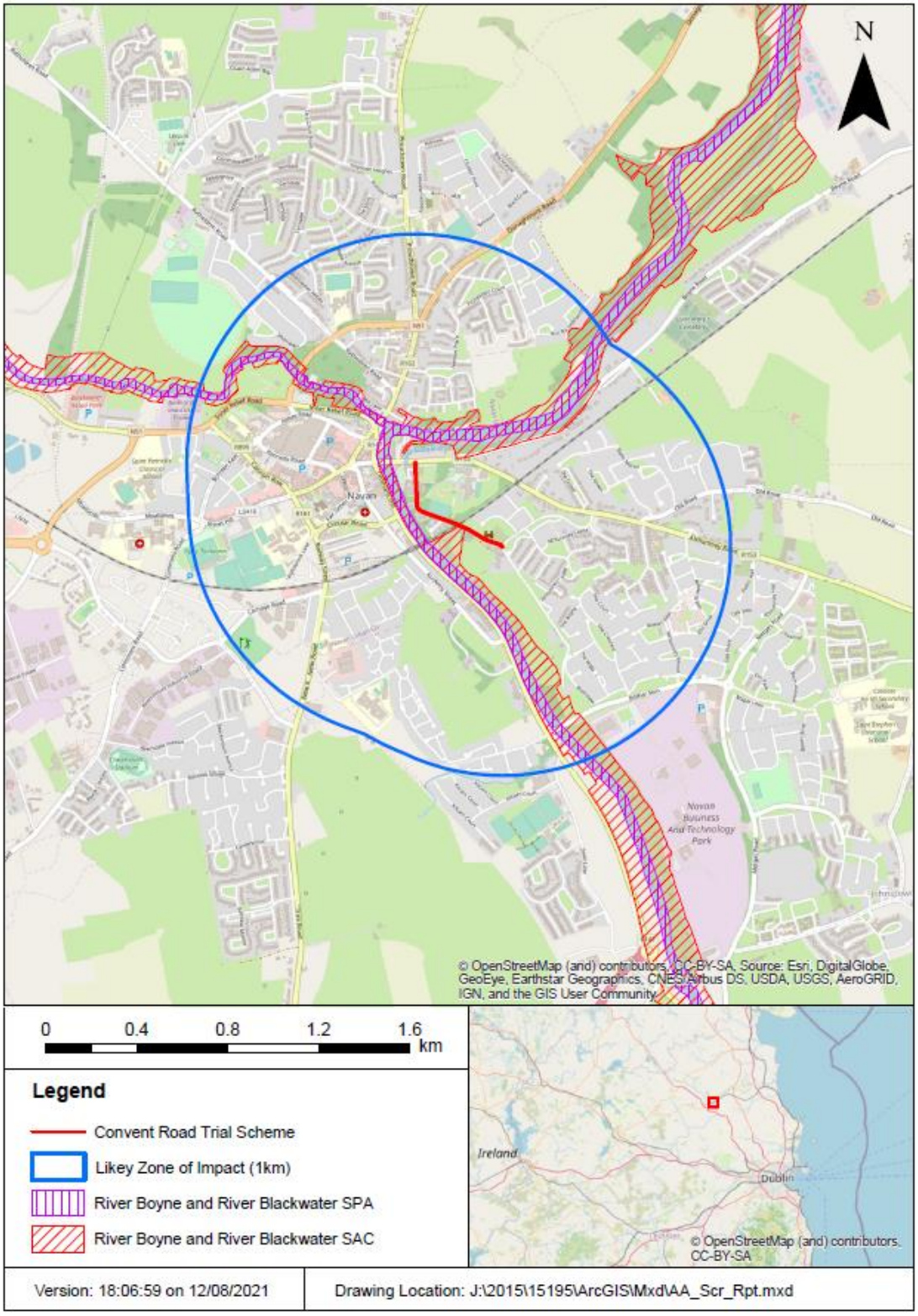


Figure 3.1 Location and Natura 2000 sites within proximity of the Project

3.2 Site Descriptions

River Boyne and River Blackwater SAC

This site comprises the freshwater element of the River Boyne as far as the Boyne Aqueduct, the Blackwater as far as Lough Ramor and the Boyne tributaries including the Deel, Stoneyford and Tremblestown Rivers. These riverine stretches drain a considerable area of Meath and Westmeath, and smaller areas of Cavan and Louth.

The Boyne and its tributaries form one of Ireland's premier game fisheries and the area offers a wide range of angling, from fishing for spring salmon and grilse to sea trout fishing and extensive brown trout fishing. Atlantic Salmon (*Salmo salar*) use the tributaries and headwaters as spawning grounds.

This site is also important for the populations of two other species listed on Annex II of the E.U. Habitats Directive which it supports, namely River Lamprey (*Lampetra fluviatilis*), which is present in the lower reaches of the Boyne River, and Otter (*Lutra lutra*), which can be found throughout the site. In addition, the site also supports many more of the mammal species occurring in Ireland. Those which are listed in the Irish Red Data Book include Pine Marten, Badger and Irish Hare. Common Frog, another Red Data Book species, also occurs within the site. All of these animals, with the addition of the Stoat and Red Squirrel, which also occur within the site, are protected under the Wildlife Act, 1976.

The site supports populations of several species listed on Annex II of the Habitats Directive, and habitats listed on Annex I of this Directive, as well as examples of other important habitat types. Although the wet woodland areas appear small there are few similar examples of this type of alluvial wet woodland remaining in the country, particularly in the north-east. The semi-natural habitats, particularly the strips of woodland which extend along the river banks, and the marsh and wet grasslands, increase the overall habitat diversity and add to the ecological value of the site, as does the presence of a range of Red Data Book plant and animal species and the presence of nationally rare plant species.

The site is designated as an SAC under the Habitats Directive. The following species and habitats are listed as the Qualifying Interests of the site:

[7320] Alkaline Fens

[91E0] Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)

[1099] River Lamprey (*Lampetra fluviatilis*)

[1106] Salmon (*Salmo salar*)

[1355] Otter (*Lutra lutra*)

River Boyne and River Blackwater SPA

The River Boyne and River Blackwater SPA is a long, linear site that comprises stretches of the River Boyne and several of its tributaries; most of the site is in Co. Meath, but it extends also into Cos. Cavan, Louth and Westmeath. It includes the following river sections: the River Boyne from the M1 motorway bridge, west of Drogheda, to the junction with the Royal Canal, west of Longwood, Co Meath; the River Blackwater from its junction with the River Boyne in Navan to the junction with Lough Ramor in Co. Cavan; the Tremblestown River/Athboy River from the junction

with the River Boyne at Kilnagross Bridge west of Trim to the bridge in Athboy, Co. Meath; the Stoneyford River from its junction with the River Boyne to Stonestown Bridge in Co. Westmeath; the River Deel from its junction with the River Boyne to Cummer Bridge, Co. Westmeath. The site includes the river channel and marginal vegetation.

Most of the site is underlain by Carboniferous limestone but Silurian quartzite also occurs in the vicinity of Kells and Carboniferous shales and sandstones close to Trim.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive of special conservation interest for the following species: Kingfisher. A survey in 2010 recorded 19 pairs of Kingfisher (based on 15 probable and 4 possible territories) in the River Boyne and River Blackwater SPA. A survey conducted in 2008 recorded 20-22 Kingfisher territories within the SPA. Other species which occur within the site include Mute Swan (90), Teal (166), Mallard (219), Cormorant (36), Grey Heron (44), Moorhen (84), Snipe (32) and Sand Martin (553) – all figures are peak counts recorded during the 2010 survey.

The River Boyne and River Blackwater Special Protection Area is of high ornithological importance as it supports a nationally important population of Kingfisher, a species that is listed on Annex I of the Birds Directive.

The site is designated as an SPA under the Birds Directive. The following species is listed as a Special Conservation Interest of the site:

[A229] Kingfisher (*Alcedo atthis*)

3.3 Evaluation against Conservation Objectives

Table 3.2 and Table 3.3 below detail the evaluation of the likely effects of the proposed development in view of the Conservation Objectives of the sites identified in Section 3.1 and described in Section 3.2. As explained in Sections 1.2 and 1.3, AA Screening is carried out in view of the Conservation Objectives of the relevant European sites, which are in turn defined by detailed Attributes and corresponding Targets. Therefore, the evaluation of whether or not a likely effect is significant (in view of the Conservation Objective in question) is made with regard to these Attributes and Targets.

Table 3.2 Identification of likely significant effects on the River Boyne and River Blackwater and SAC. Source: NPWS (2021a), unless specifically referenced. * = a "priority habitat" in danger of disappearing from the EU. Numbers in square brackets are Natura 2000 codes.

Qualifying Interest	Closest proximity	Extent and character	Conservation Objective	Attribute	Target	Likely Significant Effect
Alkaline Fens [7230]	There are no Alkaline Fens within 1 km of the Project	Alkaline fens are typically base-rich basin or flush fen systems with extensive areas of species-rich small sedge communities of the alliance *Caricion davallianae*. These fen systems are often a complex mosaic of habitats, with tall sedge beds, reedbeds, wet grasslands, springs and open water often co-occurring at one site. Alkaline fen habitat can occur beyond peat-forming fen systems, such as in dune slacks and wet grasslands. 36 SACs are designated for Alkaline fens in the Member State. It is estimated that a total of 6,349 ha of Alkaline fens occurs within the Natura 2000 network. This habitat forms *c*. 1.0% (23.21 ha) of the River Boyne and River Blackwater SAC, equivalent to *c*. 0.37% of the entire national Natura 2000 contribution for this QI. The overall conservation status of this habitat is Bad with the trend "unknown". Pressures and threats to this habitat type include drainage, reclamation of land from the sea, estuaries or marshes, diffuse pollution from agriculture and forestry and cessation of grazing.	**To maintain the favourable conservation condition of Alkaline Fens in the River Boyne and River Blackwater SAC.**	Habitat area	Area stable or increasing, subject to natural processes	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to a decline in the area of Alkaline Fens in the River Boyne and River Blackwater SAC.
				Habitat distribution	No decline, subject to natural processes	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to a decline in the distribution of Alkaline Fens in the River Boyne and River Blackwater SAC.
				Ecosystem function: soil nutrients	Maintain soil pH and nutrient status within natural ranges	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to a change in the soil pH within Alkaline Fens in the River Boyne and River Blackwater SAC.
				Ecosystem function: peat formation	Maintain active peat formation, where appropriate	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to a cessation in peat formation in Alkaline Fens in the River Boyne and River Blackwater SAC.
				Ecosystem function: hydrology- groundwater levels	Maintain, or where necessary restore, appropriate natural hydrological regimes necessary to support the natural structure and functioning of the habitat	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to any change in the hydrological regime which could affect Alkaline Fens in the River Boyne and River Blackwater SAC.
				Ecosystem function: hydrology- surface water flow	Maintain, or where necessary restore, as close as possible to natural or semi-natural, drainage conditions	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to changes in drainage that could affect Alkaline Fens in the River Boyne and River Blackwater SAC.
				Ecosystem function: water quality	Maintain appropriate water quality, particularly pH and nutrient levels, to support the natural structure and functioning of the habitat	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to changes in water quality that could affect Alkaline Fens in the River Boyne and River Blackwater SAC.

Qualifying Interest	Closest proximity	Extent and character	Conservation Objective	Attribute	Target	Likely Significant Effect
				Vegetation composition: community diversity	Maintain variety of vegetation communities, subject to natural processes	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to changes in vegetation composition in Alkaline Fens in the River Boyne and River Blackwater SAC.
				Vegetation composition: typical brown mosses	Maintain adequate cover of typical brown moss species	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to changes in vegetation composition in Alkaline Fens in the River Boyne and River Blackwater SAC.
				Vegetation composition: typical vascular plants	Maintain adequate cover of typical vascular plant species	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to changes in vegetation composition in Alkaline Fens in the River Boyne and River Blackwater SAC.
				Vegetation composition: native negative indicator species	Cover of native negative indicator species at insignificant levels	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to changes in vegetation composition in Alkaline Fens in the River Boyne and River Blackwater SAC.
				Vegetation composition: non-native species	Cover of non-native species less than 1%	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to changes in vegetation composition in Alkaline Fens in the River Boyne and River Blackwater SAC.
				Vegetation composition: trees and shrubs	Cover of scattered native trees and shrubs less than 10%	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to changes in vegetation composition in Alkaline Fens in the River Boyne and River Blackwater SAC.
				Vegetation composition: Algal cover	Cover of algae less than 2%	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to changes in vegetation composition in Alkaline Fens in the River Boyne and River Blackwater SAC.

Qualifying Interest	Closest proximity	Extent and character	Conservation Objective	Attribute	Target	Likely Significant Effect
				Vegetation structure: vegetation height	At least 50% of the live leaves/flowering shoots are more than either 5cm or 15cm above ground surface depending on community type	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to changes in vegetation structure in Alkaline Fens in the River Boyne and River Blackwater SAC.
				Physical structure: disturbed bare ground	Cover of disturbed bare ground not more than 10%	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to changes in the physical structure of Alkaline Fens in the River Boyne and River Blackwater SAC.
				Physical structure: tufa formations	Disturbed proportion of vegetation cover where tufa is present is less than 1%	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to changes in the physical structure of Alkaline Fens in the River Boyne and River Blackwater SAC.
				Indicators of local distinctiveness	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat; maintain features of local distinctiveness, subject to natural processes	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to a decrease in indicators of local distinctiveness in Alkaline Fens in the River Boyne and River Blackwater SAC.
				Transitional areas between fen and adjacent habitats	Maintain adequate transitional areas to support/protect the alkaline fen ecosystem and the services it provides	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alkaline Fens, there are no potential sources or pathways from the Project that could lead to a decrease transitional habitats around Alkaline Fens in the River Boyne and River Blackwater SAC.
Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)* [91E0]	The nearest confirmed Alluvial Forest 91E0 as per the NPWS National Survey of Native Woodland GIS Inventory is located 19 km, away west of Drogheda.	Alluvial forests occur on heavy soils that are periodically inundated by the annual rise of river levels, but which are otherwise well drained and aerated during low water. Also included in this classification are gallery forests of tall Willows (*Salicion albae*) in which tree roots are almost continuously submerged. They are dominated by *Salix alba*, *S. viminalis* and *S. triandra*, sometimes	**To restore the favourable conservation condition of Alluvial Forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) in the River Boyne and River**	Habitat area	Area stable or increasing, subject to natural processes	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alluvial forests, there are no potential sources or pathways from the Project that could lead to a decrease in the area of Alluvial forests in the River Boyne and River Blackwater SAC.

Qualifying Interest	Closest proximity	Extent and character	Conservation Objective	Attribute	Target	Likely Significant Effect
		with *S. cinerea* but Alder is relatively rare. 25 SACs are designated for this habitat type in the Member State. It is estimated that a total of 1,046 ha of 91E0 occurs within the Natura 2000 network. The Natura Standard Data Form (NPWS, 2014a) estimate states this habitat forms *c*. 1.0% (23.21 ha) of the River Boyne and River Blackwater SAC, equivalent to *c*. 2.22% of the entire national Natura 2000 contribution for this QI. The overall conservation status of this habitat is considered to be Bad but "Improving".	**Blackwater SAC.**	Habitat distribution	No decline, subject to natural processes.	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alluvial forests, there are no potential sources or pathways from the Project that could lead to a decrease in the area of Alluvial forests in the River Boyne and River Blackwater SAC.
				Woodland size	Area stable or increasing. Where topographically possible, large woods of at least 25 ha and small woods of at least 3 ha	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alluvial forests, there are no potential sources or pathways from the Project that could lead to a decrease in woodland size of Alluvial forests in the River Boyne and River Blackwater SAC.
				Woodland structure: cover and height	Total canopy cover at least 30%; median canopy height at least 7m; native shrub layer cover 10-75%; native herb/dwarf shrub layer cover at least 20% and height at least 20cm; bryophyte cover at least 4%	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alluvial forests, there are no potential sources or pathways from the Project that could lead to changes in the woodland structure of Alluvial forests in the River Boyne and River Blackwater SAC.
				Woodland structure: community diversity and extent	Maintain diversity and extent of community types	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alluvial forests, there are no potential sources or pathways from the Project that could lead to changes in the woodland structure of Alluvial forests in the River Boyne and River Blackwater SAC.
				Woodland structure: natural regeneration	Seedlings, saplings and pole age-classes of target species for 91E0* woodlands and other native tree species occur in adequate proportions to ensure survival of woodland canopy	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alluvial forests, there are no potential sources or pathways from the Project that could lead to changes in the woodland structure of Alluvial forests in the River Boyne and River Blackwater SAC.
				Hydrological regime: flooding depth/height of water table	Appropriate hydrological regime necessary for maintenance of alluvial vegetation	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alluvial forests, there are no potential sources or pathways from the Project that could lead to changes in the hydrological regime necessary for the maintenance of Alluvial forests in the River Boyne and River Blackwater SAC.

Qualifying Interest	Closest proximity	Extent and character	Conservation Objective	Attribute	Target	Likely Significant Effect
				Woodland structure: dead wood	At least 19 stems/ha of dead wood of at least 20cm diameter	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alluvial forests, there are no potential sources or pathways from the Project that could lead to changes in the woodland structure of Alluvial forests in the River Boyne and River Blackwater SAC.
				Woodland structure: veteran trees	No decline	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alluvial forests, there are no potential sources or pathways from the Project that could lead to changes in the woodland structure of Alluvial forests in the River Boyne and River Blackwater SAC.
				Woodland structure: indicators of local distinctiveness	No decline in distribution and, in the case of red listed and other rare or localised species, population size	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alluvial forests, there are no potential sources or pathways from the Project that could lead to changes in the woodland structure of Alluvial forests in the River Boyne and River Blackwater SAC.
				Woodland structure: indicators of overgrazing	All five indicators of overgrazing absent	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alluvial forests, there are no potential sources or pathways from the Project that could lead to changes in the woodland structure of Alluvial forests in the River Boyne and River Blackwater SAC.
				Vegetation composition: native tree cover	No decline. Native tree cover at least 90% of canopy; target species cover at least 50% of canopy	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alluvial forests, there are no potential sources or pathways from the Project that could lead to changes in the woodland composition of Alluvial forests in the River Boyne and River Blackwater SAC.
				Vegetation composition: typical species	At least 1 target species for 91E0* woodlands present; at least 6 positive indicator species for 91E0* woodlands present	No Likely Significant Effect – Given the nature of the works and the distance between the Project and Alluvial forests, there are no potential sources or pathways from the Project that could lead to changes in the woodland composition of Alluvial forests in the River Boyne and River Blackwater SAC.

Qualifying Interest	Closest proximity	Extent and character	Conservation Objective	Attribute	Target	Likely Significant Effect
River Lamprey (*Lampetra fluviatilis*) [1099]	River Lamprey are considered to be present in the River Boyne. The distance between the project and the River Boyne is 45m over land and there is no direct hydrological connection.	The River Lamprey is one of three lamprey species recorded in Ireland. It is non-parasitic and non-migratory as an adult, living its entire life in freshwater. Adults spawn in spring and, after hatching, the ammocoetes drift or swim downstream before encountering areas of river bed with a fine silt composition. They burrow into this bed material and live as filter feeders over a period of years before transforming into young adult fish. The young adults overwinter before migrating short distances upstream to gravelled areas where they spawn and die. River Lamprey are protected under Annex II of the Habitats Directive and listed in the Irish Red Data Book as "least concern". 10 SACs are designated for this species in the Member State, containing 71 hectads (10 km grid squares) of the national resource of 753 hectads in which this species occurs. The SAC is considered to be of "good value" for the conservation of River Lamprey. The overall conservation status of the species is considered Favourable, with main pressures/threats including dredging and removal of sediments, changes in the sedimentation regimes, barriers to migration, pollution and Invasive Alien Species.	**To restore the favourable conservation condition of River Lamprey in the River Boyne and River Blackwater SAC.**	Distribution	Restore access to all water courses down to first order streams	No Likely Significant Effect – There are no in-stream works required as part of the Project and possible surface water impacts on the distribution of River Lamprey will not occur given the nature and size of the Project. No areas near the riverbed will be lit or subject to an increase in disturbance during operation. Standard construction methods will prevent impacts on the wider environment. Therefore, there will be no change in the distribution of River Lamprey as a result of the Project.
				Distribution of larvae	Not less than 50% of sample sites with suitable habitat positive for larval brook/river lamprey	No Likely Significant Effect – There are no in-stream works required as part of the Project and possible surface water impacts on the distribution of River Lamprey will not occur given the nature and size of the Project. No areas near the riverbed will be lit or subject to an increase in disturbance during operation. Standard construction methods will prevent impacts on the wider environment. Therefore, there will be no change in the distribution of larvae as a result of the Project.
				Population Structure of larvae	At least three age/size classes of larval brook/river lamprey present	No Likely Significant Effect – There are no in-stream works required as part of the Project and possible surface water impacts on the distribution of River Lamprey will not occur given the nature and size of the Project. No areas near the riverbed will be lit or subject to an increase in disturbance during operation. Standard construction methods will prevent impacts on the wider environment. Therefore, there will be no change in the population structure of larvae as a result of the Project.
				Larval lamprey density in fine sediment	Mean density of brook/river larval lamprey in sites with suitable habitat more than 5/m²	No Likely Significant Effect – There are no in-stream works required as part of the Project and possible surface water impacts on the distribution of River Lamprey will not occur given the nature and size of the Project. No areas near the riverbed will be lit or subject to an increase in disturbance during operation. Standard construction methods will prevent impacts on the wider environment. Therefore, there will be no change in the larval lamprey density in fine sediment as a result of the Project.

Qualifying Interest	Closest proximity	Extent and character	Conservation Objective	Attribute	Target	Likely Significant Effect
				Extent and distribution of spawning nursery habitat	No decline in extent and distribution of spawning and nursery beds	No Likely Significant Effect – There are no in-stream works required as part of the Project and possible surface water impacts on the distribution of River Lamprey will not occur given the nature and size of the Project. No areas near the riverbed will be lit or subject to an increase in disturbance during operation. Standard construction methods will prevent impacts on the wider environment. Therefore, there will be no change in the extent and distribution of spawning nursery habitat as a result of the Project.
Atlantic Salmon (*Salmo salar*) [1106]	Atlantic Salmon are considered to be present in the River Boyne. The distance between the project and the River Boyne is 45m over land and there is no direct hydrological connection.	The Atlantic Salmon is an anadromous species indigenous to the North Atlantic. Salmon use rivers to reproduce and as nursery areas during their juvenile phase. Adults spend 1 to 3 years at sea where growth rates are much greater. The Irish population generally comprises fish that spend 2 winters in freshwater before going to sea in April-June. Most Irish fish spend 1 winter at sea before returning to their natal rivers, mainly during the summer. Smaller numbers spend 2 winters at sea, returning mainly in spring. A small proportion of the adult population returns to sea post-spawning and can spawn again. *Salmo salar* is listed in the Irish Red Data Book as Vulnerable. It is protected under Annexes II and V of the Habitats Directive (in freshwater only) and under the OSPAR Convention. 26 SACs are designated for this species in the Member State, containing between *c*. 97,643 and *c.*146,464 individuals of the national population of *c.* 244,107. The SAC is nonetheless considered to be of "good value" for the conservation of Atlantic Salmon. The overall conservation status of the species is considered Inadequate but "stable", with major pressures/threats including agricultural intensification, disposal of household/recreational facility waste, poaching and pollution due to agriculture, forestry, household sewage and waste waters.	**To restore the favourable conservation condition of Atlantic Salmon in the River Boyne and River Blackwater SAC.**	Distribution: extent of anadromy	100% of river channels down to 2nd order accessible from estuary	No Likely Significant Effect – There are no in-stream works required as part of the Project and possible surface water impacts on the distribution of Atlantic Salmon are unlikely given the nature and size of the Project. Barriers to connectivity, both physical and noise related, will not be created as a result of the Project. No areas near the riverbed will be lit or subject to an increase in disturbance during operation. Standard construction methods will prevent impacts on the wider environment. Therefore, there will be no change in the distribution: extent of anadromy, as a result of the Project.
				Adult spawning fish	Conservation Limits for each system consistently exceeded	No Likely Significant Effect – There are no in-stream works required as part of the Project and possible surface water impacts on adult spawning Salmon are unlikely given the nature and size of the Project. Standard construction methods will prevent impacts on the wider environment. No areas near the riverbed will be lit or subject to an increase in disturbance during operation. Therefore, there will be no change in the number of adult spawning fish as a result of the Project.
				Salmon fry abundance	Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 fry per 5-minute sampling	No Likely Significant Effect – There are no in-stream works required as part of the Project and possible surface water impacts on fry abundance are unlikely given the nature and size of the Project. Standard construction methods will prevent impacts on the wider environment. No areas near the riverbed will be lit or subject to an increase in disturbance during operation. Therefore, there will be no decrease in salmon fry abundance as a result of the Project.

Qualifying Interest	Closest proximity	Extent and character	Conservation Objective	Attribute	Target	Likely Significant Effect
				Out-migrating smolt abundance	No significant decline	No Likely Significant Effect – There are no in-stream works required as part of the Project and possible surface water impacts on the abundance of out-migrating smolt are unlikely given the nature and size of the Project. Standard construction methods will prevent impacts on the wider environment. No areas near the riverbed will be lit or subject to an increase in disturbance during operation. Therefore, there will be no change in out-migrating smolt abundance.
				Number and distribution of redds	No decline in number and distribution of spawning redds due to anthropogenic causes	No Likely Significant Effect – There are no in-stream works required as part of the Project and possible surface water impacts on the number and distribution of redds are unlikely given the nature and size of the Project. Standard construction methods will prevent impacts on the wider environment. No areas near the riverbed will be lit or subject to an increase in disturbance during operation. Therefore, there will be no decline in the number or distribution of redds.
				Water quality	At least Q4 at all sites sampled by EPA	No Likely Significant Effect – There are no in-stream works required as part of the Project and possible surface water impacts on the water quality of the River Boyne are unlikely given the nature and size of the Project. Standard construction methods will prevent impacts on the wider environment. Therefore, there will be decrease in water quality as a result of the Project.
European Otter (*Lutra lutra*) [1355]	Otter are considered to be present along the River Boyne. The distance between the project and the River Boyne is 45m over a land buffer and there is no direct hydrological connection.	The Otter is a large carnivore with a long, slim body, short legs with webbed feet and a tapered tail. Adult males can reach 1 m in length and 10 kg in weight. Dramatic declines occurred in many European populations during the latter half of the 20th Century. As a result, Otter became extinct in several countries. However, Ireland has remained a strong-hold for the species. Otter are protected under Annexes II and IV of the Habitats Directive and under the Wildlife Act, 1976-2012. A Regulation 39 Threat Response Plan has been progressed for Otter in the Republic of Ireland. The species is listed in the Irish Red Data Book as Near Threatened. 45 SACs are designated for this species in the Member State, containing *c.*468–660 of the country's *c.*7,218–10,186 breeding females (Reid *et al.*, 2013). This SAC is considered to be of "excellent value" for the conservation of	**To maintain the favourable conservation condition of European Otter in the River Boyne and River Blackwater SAC.**	Distribution	No significant decline	No Likely Significant Effect – Construction will be temporary, and the operation of the Scheme will not result in an overall increase in disturbance. No areas near the riverbed will be lit or subject to an increase in disturbance during operation. Possible surface water impacts on water quality and associated prey species for Otter are unlikely given the nature and size of the Project. Standard construction methods will prevent impacts on the wider environment. The Project is at least 45m from the River Boyne, and is separated by private lands, which will provide a buffer between the Project and the River Boyne. Therefore, there will be no decline in the distribution of Otter as a result of the Project.

Qualifying Interest	Closest proximity	Extent and character	Conservation Objective	Attribute	Target	Likely Significant Effect
		Otter. The overall conservation status of the species is considered Favourable, with road mortalities constituting the major pressure at present.		Extent of terrestrial habitat	No significant decline. Area mapped and calculated as 447.6ha along river banks/ lake shoreline/around ponds	No Likely Significant Effect – Construction will be temporary, and the operation of the Scheme will not result in an overall increase in disturbance. There will be no land take from natural habitats. Convent Road is presently subject to moderate levels of noise and artificial light as would be expected in an urban environment. Any noise during construction will be temporary and during daylight hours. The increases in noise during operation will is considered negligible relative to the ambient levels and will not lead to a decline in terrestrial habitat extent. There will be no additional lighting to existing levels. Standard construction methods will prevent impacts on the wider environment. The Project is at least 45m from the River Boyne, and is separated by private lands, which will provide a buffer between the Project and the River Boyne including riparian/riverbank habitats. Therefore, there will be decline in the extent of terrestrial habitat as a result of the Project.
				Extent of freshwater (river) habitat	No significant decline. Length mapped and calculated as 263.3km	No Likely Significant Effect – Construction will be temporary, and the operation of the Scheme will not result in an overall increase in disturbance. There will be no land take from natural habitats. Convent Road is presently subject to moderate levels of noise and artificial light as would be expected in an urban environment. Any noise during construction will be temporary and during daylight hours. The increases in noise during operation will is considered negligible relative to the ambient levels and will not lead to a decline in terrestrial habitat extent. There will be no additional lighting to existing levels. Standard construction methods will prevent impacts on the wider environment. The Project is at least 45m from the River Boyne, and is separated by private lands, which will provide a buffer between the Project and the River Boyne. Therefore, there will be no decline in the extent of freshwater (river) habitat as a result of the Project.
				Extent of freshwater (lake) habitat	No significant decline. Area mapped and calculated as 31.6ha	No Likely Significant Effect – There are no lakes in the vicinity of the project, which is located in an urban area in Navan. Therefore, there will be no decline in the extent of freshwater (lake) habitat as a result of the Project.

Qualifying Interest	Closest proximity	Extent and character	Conservation Objective	Attribute	Target	Likely Significant Effect
				Couching sites and holts	No significant decline	No Likely Significant Effect – Possible surface water impacts on water quality and associated prey species for Otter are unlikely given the nature and size of the Project. Standard construction methods will prevent impacts on the wider environment. The Project is at least 45m from the River Boyne, and is separated by private lands, which will provide a buffer between the Project and the River Boyne. Therefore, there will be no decline in couching sites and holts as a result of the Project.
				Fish biomass available	No significant decline	No Likely Significant Effect – There are no in-stream works required as part of the Project and possible surface water impacts on the availability of fish biomass are unlikely given the nature and size of the Project. Standard construction methods will prevent impacts on the wider environment. The Project is at least 45m from the River Boyne and is separated by private lands, which will provide a buffer between the Project and the River Boyne. Therefore, there will be decline in the availability of fish biomass within the SAC as a result of the Project.
				Barriers to connectivity	No significant increase	No Likely Significant Effect – Barriers to connectivity, bother physical and noise related, will not be created as a result of the Project, either during construction or operation. The Project is at least 45m from the River Boyne and is separated by private lands, which will provide a buffer between the Project and the River Boyne. Therefore, there will be no increase in barriers to connectivity as a result of the Project.

Table 3.3 Identification of likely significant effects on the River Boyne and River Blackwater and SAC. Source: NPWS (2021b), Eionet (2021) and Gilbert, Stanbury & Lewis (2021), unless specifically referenced.

Special Conservation Interest	Closest proximity	Extent and character	Conservation Objective	Attribute	Target	Likely Significant Effect
Kingfisher (*Alcedo atthis)* [A229]	Kingfisher are considered to be present along the vegetated banks of the River Boyne. The distance between the project and the River Boyne is 45m over a land buffer and there is no direct hydrological connection.	The River Boyne and River Blackwater SPA is of high ornithological importance as it supports a nationally important Kingfisher population and is one of only 2 Natura 2000 sites listing Kingfisher as a SCI. This species is listed on Annex I of the Birds Directive. It is protected under the Wildlife Acts, 1976–2012 and is an Amber-listed Bird of Conservation Concern in Ireland (BoCCI) 2020-2026 (Gilbert, Stanbury & Lewis 2021). Kingfisher are widespread in Ireland throughout the year with little difference between the breeding and non-breeding distributions (Thomas & Crowe, 2007). Generally, Kingfisher do not disperse beyond a core range of approximately 9 km (Morgan & Glue, 1977). A survey in 2010 recorded 19 pairs of Kingfisher (based on 15 probable and 4 possible territories) in the SPA (Cummins *et al*., 2010). Cummins *et al*. (2010) estimated core breeding territory size in the River Boyne as *c*.10km.	**To maintain or restore the favourable conservation status of Kingfisher in the River Boyne and River Blackwater SPA.**	No Attributes or Targets are defined at present for the River Boyne and River Blackwater SPA or any SPA in the Member State where Kingfisher is listed as a Special Conservation Interest. The Attributes and Targets used below are the most commonly used for other Special Conservation Interests in SPAs.		
				Population trend: numbers	Long-term population stable or increasing	No Likely Significant Effect – The increase in disturbance from noise and vibration in the area of the Project, both during construction and operation, will be negligible relative to ambient noise levels and there will be no change in the population trend or distribution of Kingfisher in the SPA. Standard construction methods will prevent impacts on the wider environment. The Project is at least 45m from the River Boyne and is separated by private lands, which will provide a buffer between the Project and the River Boyne. Therefore, there are no decrease in the population or distribution of Kingfisher as a result of the Project.
				Distribution	No significant decrease in the number or range of areas used.	

4.2 Summary of Likely Significant Effects

In Section 3.1, it was established that two European sites, namely the River Boyne and River Blackwater SAC and the River Boyne and River Blackwater SPA, occur within the likely zone of impact of the Project. It was determined that potential pathways for effects exist between the proposed development and these sites. The sites were described in detail in Section 3.2.

In Section 3.3, it was established, in light of best scientific knowledge, that the proposed development will not give rise to ecological impacts which would constitute significant effects on either site, in view of the sites' Conservation Objectives. This finding had regard to the nature, size and location of the proposed development as well as the sensitivities of the Qualifying Interest of the sites concerned.

4.0 POTENTIAL IN-COMBINATION EFFECTS

A further requirement of Article 6(3) of the Habitats Directive is to determine whether or not the plan or project under assessment would be likely to have a significant effect any Natura 2000 site in combination with other plans or projects. As the intent of the in-combination provision is to take account of cumulative effects and, as these effects often only occur over long periods of time, plans or projects that are completed, approved or proposed should be considered in this context (EC, 2001).

The main driver for addressing the effects of other plans and projects in combination with the plan or project under assessment is to ensure that any potential cumulative effects are captured. For example, the effects of a plan or project on water quality may be insignificant when considered alone, but when combined with the effects of increased pollution or abstraction from other plans or projects, may lead to significant effects on the site concerned.

As the construction and operation of the Project does not provide for any negative impacts whatsoever on the Qualifying Interests/ Special Conservation Interests of the River Boyne and River Blackwater SAC and the River Boyne and River Blackwater SPA or any other Natura 2000 site, it is not necessary to undertake an assessment of the potential effects of the Project in combination with other plans or projects (as explained in Section 1.3).

5.0 CONCLUSION

In accordance with Article 6(3) of the Habitats Directive, Part XAB of the Planning and Development Acts, the relevant case law, established best practice and the Precautionary Principle, this AA Screening Report has examined the details of the Filtered Permeability Scheme at Convent Road, Navan, Co. Meath, and the relevant European sites and has concluded, on the basis of objective information, that the Project, either individually or in combination with other plans or projects, in view of best scientific knowledge, is not likely to give rise to impacts which would constitute significant effects in view of the Conservation Objectives of the River Boyne and River Blackwater SAC and the River Boyne and River Blackwater SPA, or any other European site.

In light of this conclusion, it is the considered opinion of ROD, as the author of this AA Screening Report, that Meath County Council, as the Competent Authority, may find in completing its AA Screening in respect of the Filtered Permeability Scheme, that the proposed development, either individually or in combination with other plans and projects, is not likely to have a significant effect on the River Boyne and River Blackwater SAC and the River Boyne and River Blackwater SPA or any other European site, in view of best scientific knowledge and the Conservation Objectives of the site concerned. Therefore, it is the recommendation of the author of this AA Screening Report that the Competent Authority may determine that AA is not required in respect of the proposed development.

6.0 REFERENCES

Council Directive 92/43/EEC of 21 August 1992 on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive). Official Journal of the European Communities, *L206/7*.

Cummins, S, Fisher, J., Gaj McKeever, R., McNaghten, L & Crowe, O. (2010) *Assessment of the distribution and abundance of Kingfisher Alcedo atthis and other riparian birds on six SAC river systems in Ireland*. A report prepared by BirdWatch Ireland for the National Parks and Wildlife Service.

DEHLG (2010) *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities*. Department of the Environment, Heritage and Local Government, Dublin.

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (the Birds Directive). Official Journal of the European Union, *L20/7*.

EC (2018) *Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC*. European Commission, Brussels.

EC (2001) *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*. Environment Directorate-General of the European Commission.

EC (2012) *Commission Note on Setting Conservation Objectives for Natura 2000 sites. Doc. Hab. 23-11/21*. European Commission, Luxembourg.

Eionet (2021) *Article 12 web tool on population status and trends of birds under Article 12 of the Birds Directive* <http://bd.eionet.europa.eu/article12/> [Accessed 06/08/2021]. European Topic Centre on Biological Diversity, European Environment Agency, Copenhagen.

European Communities (Birds and Natural Habitats) Regulations, 2011. *SI No. 477/2011.*

European Communities (Birds and Natural Habitats) (Amendment) Regulations, 2013. *SI No. 499/2013.*

European Communities (Birds and Natural Habitats) (Amendment) Regulations, 2015. *SI No. 355/2015.*

Gilbert, G., Stanbury, A., & Lewis, L. (2021). Birds of Conservation Concern in Ireland 4: 2020–2026. *Irish Birds* 43: 1-22.

IFI (2016) *Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters*. Inland Fisheries Ireland, Dublin

Morgan, R., & Glue, D. (1977) *Breeding, mortality and movements of Kingfishers*. Bird Study, 24(1), 15-24.

NPWS (2010a) *Circular NPW 1/10 & PSSP 2/10 Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities*. Department of Environment, Heritage and Local Government, Dublin.

NPWS (2010b) *Site Synopsis for the River Boyne and River Blackwater SPA [004232]. Published 25/11/2010.* National Parks & Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin.

NPWS (2014) *Site Synopsis for the River Boyne and River Blackwater SAC [002299]. Published 06/01/2014.* National Parks & Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin.

NPWS (2019a) *The Status of EU Protected Habitats and Species in Ireland. Overview Report Volume 1.* Unpublished Report, National Parks & Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Dublin.

NPWS (2019b) *The Status of EU Protected Habitats and Species in Ireland. Species Assessments Volume 3. Version 1.0.* Unpublished Report, National Parks & Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Dublin.

NPWS (2019c) *The Status of EU Protected Habitats and Species in Ireland. Habitat Assessments Volume 2. Version 1.1.* Unpublished Report, National Parks & Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Dublin.

NPWS (2019d) *Natura 2000 Standard Data Form for the River Boyne and River Blackwater SAC [002299]. Update 09/2019.* National Parks & Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin.

NPWS (2020) *Natura 2000 Standard Data Form for the River Boyne and River Blackwater SPA [004232]. Update 10/2020.* National Parks & Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin

NPWS (2021a) Conservation objectives for River Boyne and River Blackwater SAC [002299]. Version 1.0 dated 03/12/2021. Department of Housing, Local Government and Heritage.

NPWS (2021b) Conservation objectives for River Boyne and River Blackwater SPA [004232]. Generic Version 9.0 dated 26/01/2022. Department of Housing, Local Government and Heritage.

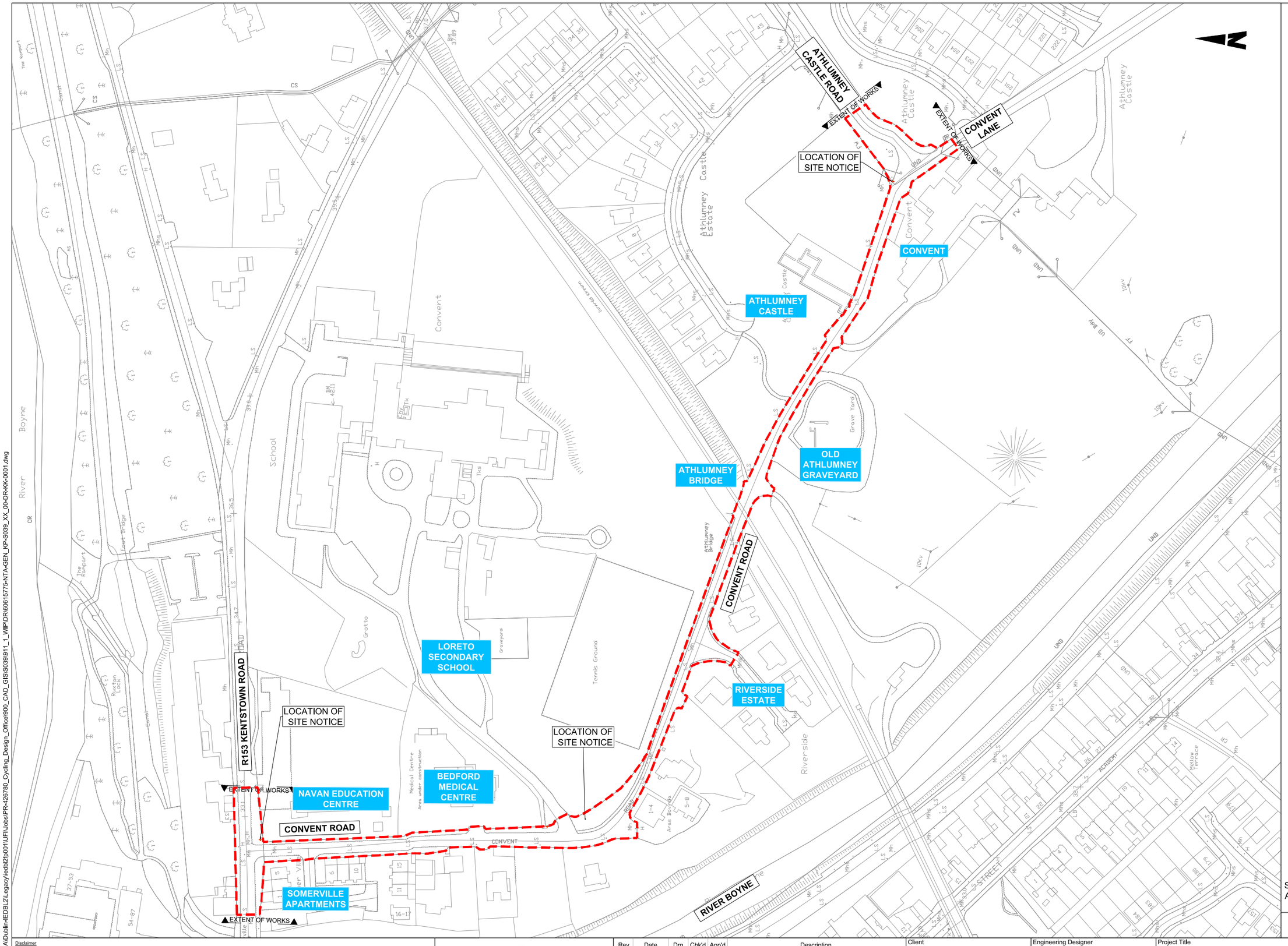
Office of the Planning Regulator (2021) Practice Note PN01: Appropriate Assessment Screening for Development Management. Office of the Planning Regulator, Dublin.

Reid, N, Hayden, B, Lundy, M.G, Pietravalle, S, McDonald R.A. & Montgomery, W.I. (2013) *National Otter Survey of Ireland 2010/12*. Irish Wildlife Manuals No. 76. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland

Thomas, C. & Crowe, O. (2007) *An Assessment of the Effects of Arterial Drainage Maintenance on Birds Dependent on Riparian Habitats*. A report prepared by BirdWatch Ireland for the Office of Public Works.

APPENDIX A

Project Drawings



ORDNANCE SURVEY IRELAND LICENCE NO **CYAL50217544**
©ORDNANCE SURVEY IRELAND / GOVERNMENT OF IRELAND

NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ENGINEERING DRAWINGS, ANY DISCREPANCIES, ERRORS OR OMISSIONS TO BE BROUGHT TO THE ATTENTION OF MEATH COUNTY COUNCIL.
2. ALL DIMENSIONS TO BE CHECKED BY THE CONTRACTOR ON SITE PRIOR TO COMMENCEMENT OF WORKS.
3. EMPLOYERS REP TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO THE COMMENCEMENT OF WORKS ON SITE.
4. DIMENSIONS OF ALL BOUNDARIES AND ADJOINING ROADS TO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORKS.
5. DO NOT SCALE, ALL MEASUREMENTS AND COORDINATES TO BE CHECKED ON SITE.

SITE OUTLINE SHOWN AS

PART 8 PLANNING

Project Ireland 2040 Building Ireland's Future

Rev	Date	Drn	Chk'd	App'd	Description
P01	31.08.2022	MWG	SK	MD	ISSUED FOR PART 8 PLANNING

Client: NTA Údarás Náisiúnta Iompair / National Transport Authority; comhairle chontae na mí / meath county council	Engineering Designer: CYCLING DESIGN OFFICE			
Date: 31.08.2022	Scale: 1:500@A1, 1:1000@A3	Drawn: MWG	Checked: SK	Approved: MD
Project Code: 60615775	Originator Code: NTA	QMS Code: S039		

Project Title: **CONVENT ROAD FILTERED PERMEABILITY SCHEME**

Drawing Title: SITE LOCATION AND SITE NOTICES SHEET 1 OF 1

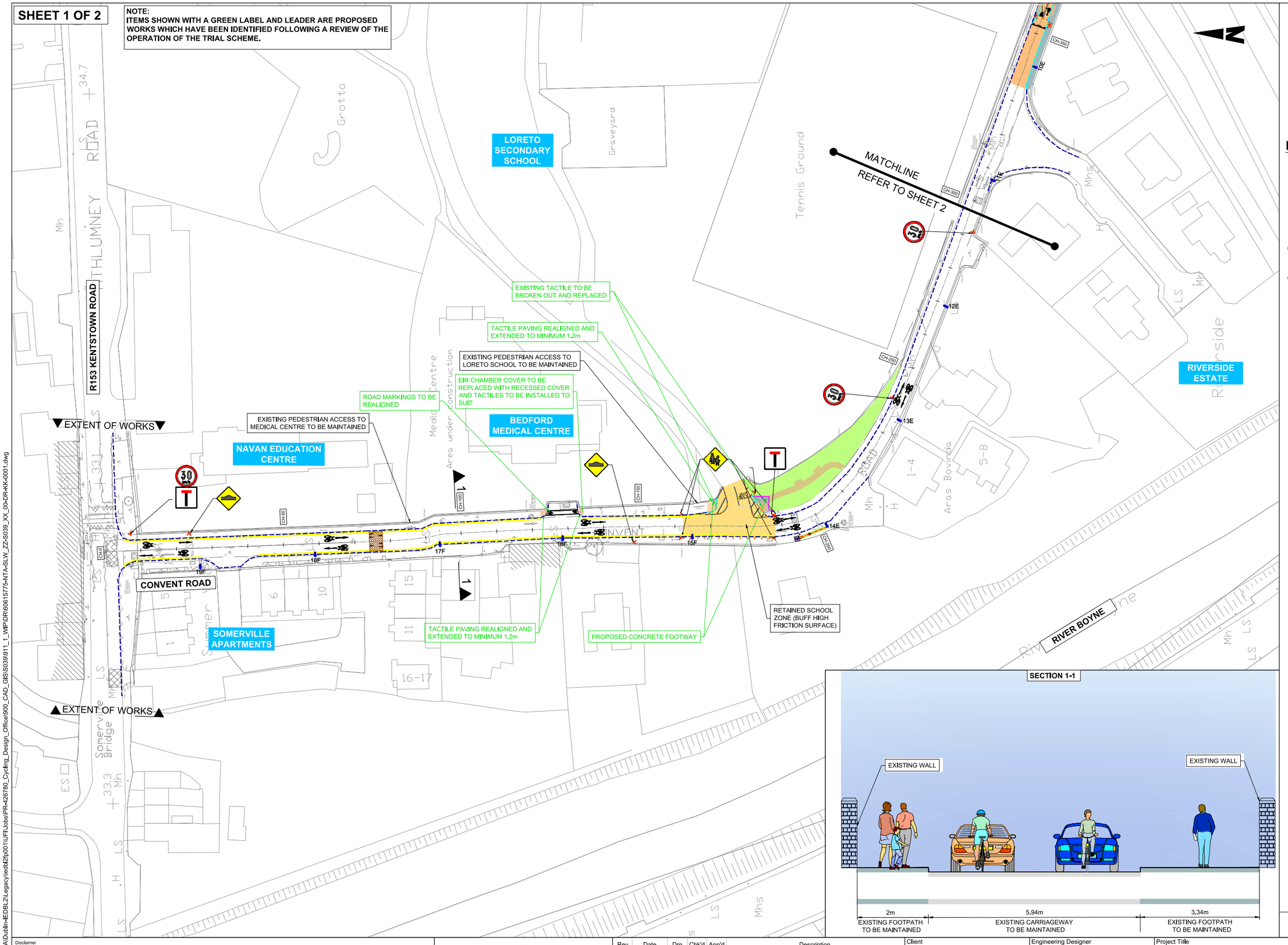
Drawing File Name	Sheet Number	Status	Rev
60615775-NTA-GEN_KP-S039_XX_00-DR-KK-0001	1 of 1	D4	P01

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

\\na.aecomnet.com\LFS\EMEA\Dublin-HEDBL2\Legacy\ied\f2\fp001\UFTJobs\PR-426780_Cycling_Design_Office\900_CAD_GIS\S039\911_1_WIP\DR\60615775-NTA-GEN_KP-S039_XX_00-DR-KK-0001.dwg

SHEET 1 OF 2

NOTE:
ITEMS SHOWN WITH A GREEN LABEL AND LEADER ARE PROPOSED WORKS WHICH HAVE BEEN IDENTIFIED FOLLOWING A REVIEW OF THE OPERATION OF THE TRIAL SCHEME.



SECTION 1-1

NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ENGINEERING DRAWINGS, ANY DISCREPANCIES, ERRORS OR OMISSIONS TO BE BROUGHT TO THE ATTENTION OF MEATH COUNTY COUNCIL.
2. ALL DIMENSIONS TO BE CHECKED BY THE CONTRACTOR ON SITE PRIOR TO COMMENCEMENT OF WORKS.
3. EMPLOYERS REP TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO THE COMMENCEMENT OF WORKS ON SITE.
4. DIMENSIONS OF ALL BOUNDARIES AND ADJOINING ROADS TO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORKS.
5. DO NOT SCALE, ALL MEASUREMENTS AND COORDINATES TO BE CHECKED ON SITE.

LEGEND:

- 125mm HIGH KERB AS PER DRAWING 60615775-NTA-SCD_ZZ-S039_XX_00-DR-KK-0001 DETAIL I
- DROP KERB AS PER DRAWING 60615775-NTA-SCD_ZZ-S039_XX_00-DR-KK-0001 DETAIL I
- CYCLE LANE BUFF SURFACE AS PER SPECIFICATION
- BUFF HIGH FRICTION SURFACE AT SCHOOL ZONE AS PER SPECIFICATION
- BUFF TACTILE PAVING AS PER DRAWING 60615775-NTA-SCD_ZZ-S039_XX_00-DR-KK-0001 DETAIL C
- TREE AS PER DRAWING 60615775-NTA-ENV_LA-S039_XX_00-DR-KK-0005
- PLANTERS AS PER DRAWING 60615775-NTA-ENV_LA-S039_XX_00-DR-KK-0005
- BOLLARD TYPE A AS PER DRAWING 60615775-NTA-SCD_ZZ-S039_XX_00-DR-KK-0001 DETAIL B
- BOLLARD TYPE B/C AS PER DRAWING 60615775-NTA-SCD_ZZ-S039_XX_00-DR-KK-0001 DETAIL B
- RAISED TABLE AS PER DRAWING 60615775-NTA-SCD_ZZ-S039_XX_00-DR-KK-0001 DETAIL A
- CCTV POLE AS PER DRAWING 60615775-NTA-ITS_TV-S039_XX_00-DR-KK-0001 & 0002
- FOOTPATH UPGRADE AS PER DRAWING 60615775-NTA-SCD_ZZ-S039_XX_00-DR-KK-0001 DETAIL D
- LANDSCAPING UPGRADE AS PER DRAWING 60615775-NTA-ENV_LA-S039_XX_00-DR-KK-0001 & 0002
- PEDESTRIAN PARK PATH AS PER DRAWING 60615775-NTA-ENV_LA-S039_XX_00-DR-KK-0001 & 0002
- PUBLIC LIGHTING HEAD ON EXISTING ESB POLE BY OTHERS
- PUBLIC LIGHTING HEAD ON NEW COLUMN
- EXISTING KERB
- EDGING KERB
- EXISTING KERB TO BE REMOVED
- TEMPORARY KERB

PART 8 PLANNING

Project Ireland 2040 Building Ireland's Future

Rev	Date	Drn	Chk'd	App'd	Description
P01	31.08.2022	MWG	SK	MD	ISSUED FOR PART 8 PLANNING

Client: NTA Údarás Náisiúnta Iompair / National Transport Authority; comhairle chontae na mí / meath county council

Engineering Designer: CYCLING DESIGN OFFICE

Project Title: CONVENT ROAD FILTERED PERMEABILITY SCHEME

Drawing Title: GENERAL ARRANGEMENT SHEET 1 OF 2

Date	Scale	Drawn	Checked	Approved
31.08.2022	1:500@A1 1:1000@A3	MWG	SK	MD

Project Code	Originator Code	QMS Code
60615775	NTA	S039

Drawing File Name	Sheet Number	Status	Rev
60615775-NTA-SLW_ZZ-S039_XX_00-DR-KK-0001	1 of 2	D4	P01

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

\\na.aecomnet.com\LFS\EMEA\Dublin-HEDBL2\Legacy\ied\f2fp001\UFTJobs\PR-426780_Cycling_Design_Office\900_CAD_GIS\S039\911_1_WIP\DR\60615775-NTA-SLW_ZZ-S039_XX_00-DR-KK-0001.dwg

SHEET 2 OF 2

NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ENGINEERING DRAWINGS, ANY DISCREPANCIES, ERRORS OR OMISSIONS TO BE BROUGHT TO THE ATTENTION OF MEATH COUNTY COUNCIL.
2. ALL DIMENSIONS TO BE CHECKED BY THE CONTRACTOR ON SITE PRIOR TO COMMENCEMENT OF WORKS.
3. EMPLOYERS REP TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO THE COMMENCEMENT OF WORKS ON SITE.
4. DIMENSIONS OF ALL BOUNDARIES AND ADJOINING ROADS TO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORKS.
5. DO NOT SCALE, ALL MEASUREMENTS AND COORDINATES TO BE CHECKED ON SITE.

LEGEND:

- 125mm HIGH KERB AS PER DRAWING 60615775-NTA-SCD_ZZ-S039_XX_00-DR-KK-0001 DETAIL I
- DROP KERB AS PER DRAWING 60615775-NTA-SCD_ZZ-S039_XX_00-DR-KK-0001 DETAIL I
- CYCLE LANE BUFF SURFACE AS PER SPECIFICATION
- BUFF HIGH FRICTION SURFACE AT SCHOOL ZONE AS PER SPECIFICATION
- BUFF TACTILE PAVING AS PER DRAWING 60615775-NTA-SCD_ZZ-S039_XX_00-DR-KK-0001 DETAIL C
- TREE AS PER DRAWING 60615775-NTA-ENV_LA-S039_XX_00-DR-KK-0005
- PLANTERS AS PER DRAWING 60615775-NTA-ENV_LA-S039_XX_00-DR-KK-0005
- BOLLARD TYPE A AS PER DRAWING 60615775-NTA-SCD_ZZ-S039_XX_00-DR-KK-0001 DETAIL B
- BOLLARD TYPE B/C AS PER DRAWING 60615775-NTA-SCD_ZZ-S039_XX_00-DR-KK-0001 DETAIL B
- RAISED TABLE AS PER DRAWING 60615775-NTA-SCD_ZZ-S039_XX_00-DR-KK-0001 DETAIL A
- CCTV POLE AS PER DRAWING 60615775-NTA-ITS_TV-S039_XX_00-DR-KK-0001 & 0002
- FOOTPATH UPGRADE AS PER DRAWING 60615775-NTA-SCD_ZZ-S039_XX_00-DR-KK-0001 DETAIL D
- LANDSCAPING UPGRADE AS PER DRAWING 60615775-NTA-ENV_LA-S039_XX_00-DR-KK-0001 & 0002
- PEDESTRIAN PARK PATH AS PER DRAWING 60615775-NTA-ENV_LA-S039_XX_00-DR-KK-0001 & 0002
- PUBLIC LIGHTING HEAD ON EXISTING ESB POLE BY OTHERS
- PUBLIC LIGHTING HEAD ON NEW COLUMN
- EXISTING KERB
- EDGING KERB
- EXISTING KERB TO BE REMOVED
- TEMPORARY KERB

MATCHLINE
REFER TO SHEET 1

RETAINED TYPE A BOLLARD

FOOTWAY REINSTATED FOLLOWING INSTALLATION OF CCTV DUCT ACROSS STRUCTURE

RETAINED TYPE A BOLLARD

CONVENT ROAD

ATHLUMNEY BRIDGE

ATHLUMNEY CASTLE

ATHLUMNEY CASTLE ROAD

EXTENT OF WORKS

CONVENT LANE

EXTENT OF WORKS

RIVERSIDE ESTATE

OLD ATHLUMNEY GRAVEYARD

CONVENT

Cé Gaisce Reachain agus Rothaithe EXCEPT CYCLISTS

Cé Gaisce Reachain agus Rothaithe EXCEPT FOR ACCESS AND CYCLISTS

Cé Gaisce Reachain agus Rothaithe EXCEPT FOR ACCESS AND CYCLISTS

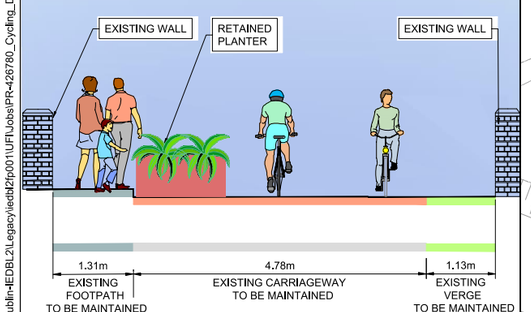
SEE INSET A

Crioch END

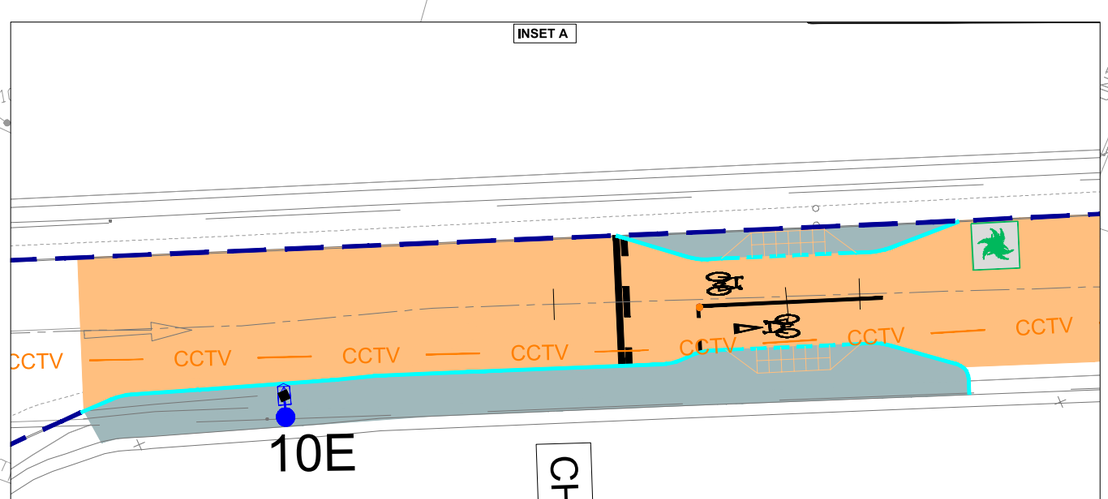
CH+000 CH+050 CH+100 CH+150 CH+200 CH+250 CH+300 CH+350 CH+400 CH+450 CH+500 CH+550 CH+600 CH+650

11E 10E 9A 8A 7A 6A 5A 4A 3C 27C 28C

SECTION 2-2



INSET A



PART 8 PLANNING

Project Ireland 2040 Building Ireland's Future

Rev	Date	Drn	Chk'd	App'd	Description
P01	31.08.2022	MWG	SK	MD	ISSUED FOR PART 8 PLANNING

Client: NTA Údarás Náisiúnta Iompair / National Transport Authority; comhairle chontae na mí / meath county council

Engineering Designer: CYCLING DESIGN OFFICE

Date	Scale	Drawn	Checked	Approved
31.08.2022	1:500@A1 1:1000@A3	MWG	SK	MD

Project Code	Originator Code	QMS Code
60615775	NTA	S039

Project Title: **CONVENT ROAD FILTERED PERMEABILITY SCHEME**

Drawing Title: GENERAL ARRANGEMENT SHEET 2 OF 2

Drawing File Name	Sheet Number	Status	Rev
60615775-NTA-SLW_ZZ-S039_XX_00-DR-KK-0002	2 of 2	D4	P01

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

\\na.aecomnet.com\LFS\EMEA\Dublin-HEDBL2\Legacy\ed0f2fp0011\UFI\Jobs\PR-426780_Cycling_Design_Office\900_CAD_GIS\S039\911_1_WIP\DR\60615775-NTA-SLW_ZZ-S039_XX_00-DR-KK-0002.dwg