AtkinsRéalis

EIA Screening Report

Mayo County Council

July 2025

N5 KNOCKAVRONY BRIDGE REHABILITATION WORKS

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

Comhairle Contae Mhaigh Eo
Mayo County Council

Notice

This document and its contents have been prepared and are intended solely as information for Mayo County Council and use in relation to Knockavrony Bridge Rehabilitation Works.

AtkinsRéalis Ireland Limited assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

Document history

Document title: Knockavrony Bridge EIA Screening

Document reference: 0088572DG0069

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
0.0	Issue for Comment	OW	EE	DE	DE	08/07/2025
1.0	Issue for Planning	OW	EE	DE	DE	11/07/2025

Client signoff

Client	Mayo County Council
Project	TASK ORDER NO.315 MAYO BRIDGE ASSESSMENTS & STRENGTHENING 2023
Job number	0088572
Client signature/date	

Contents

Tables

Figures

1. Introduction

Mayo County Council (MCC) have appointed AtkinsRéalis to prepare an Environmental Impact Assessment (EIA) Screening Report for the rehabilitation works to Knockavrony Bridge in the townlands of Knockavrony and Redhill, Co. Mayo (hereafter referred to as the proposed works). This report has been prepared to support MCC in their Section 177AE application to An Coimisiún Pleanála in relation to the proposed works. The EIA screening report will be submitted as part of a planning application for the proposed works.

1.1 Location and Context

The proposed works are located ca. 1.4km east of Ballyvary village, Co. Mayo on a bridge at the border of the Knockavrony and Redhill townlands. The existing bridge structure carries the N05 National Primary Road across the Strade River (Figure 1-1).

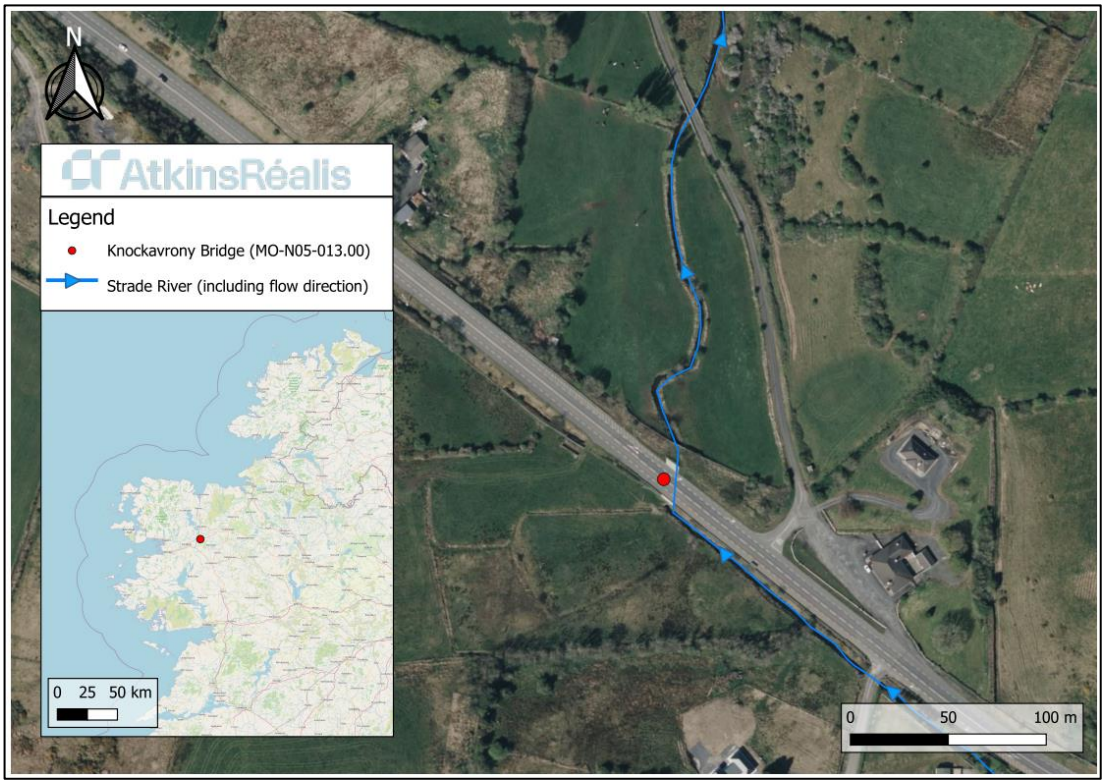

Figure 1-1 - Location of Knockavrony Bridge near Ballyvary, Co. Mayo on the N05 road

1.2 Description of Existing Structure

Knockavrony Bridge comprises a single span corrugated steel pipe extended to the north by a reinforced concrete deck slab supported on mass concrete abutments. The corrugated steel arch structure has a width of 25.2m and the concrete deck slab section has a width of 7.5m, giving an overall width out to out of 32.7m along the centreline of the structure. The structure has a square span of 2.6m and a maximum skew span of 3.99m with a skew of 40 degrees. The structure carries a single carriageway measuring 10.15m wide with raised concrete rubbing strips located on both sides of the carriageway. A 500mm high 300mm wide concrete parapet is located at the north elevation with a vehicle safety barrier provided along the south elevation.

Refer to Figure 1-2 below for the existing site layout plan.

Plate 1 - View of the north elevation

Plate 2 - View of the south (upstream) elevation

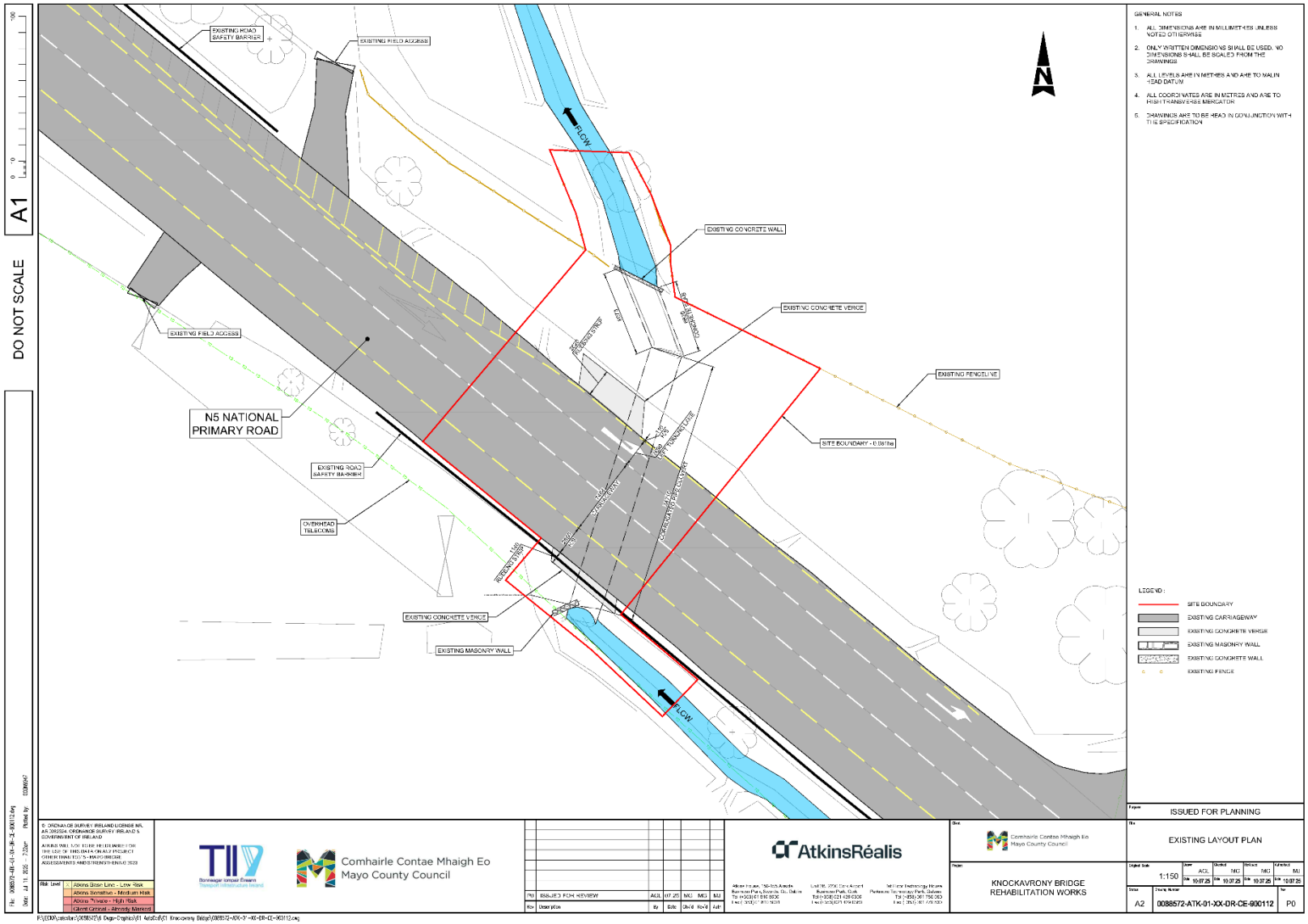

Figure 1-2 - Existing layout of Knockavrony Bridge

1.3 Description of Proposed Works

The proposed works to the existing Knockavrony Bridge structure comprise the installation of a 150mm thick concrete invert throughout the length of the corrugated pipe section of the structure to prevent further corrosion of the existing corrugated steel. The purpose of the concrete invert is to protect the steel section from further corrosion, with surface corrosion evident along both side walls of the pipe. If not protected, the steel corrosion would continue with section loss eventually occurring which could result in the failure of the structure (AtkinsRéalis, 2025a). In addition, the north embankment over the reinforced concrete slab section of the structure requires to be excavated to apply waterproofing to the concrete slab. Works also include the repair to minor areas of spalling within the reinforced concrete slab section of the structure and installation of fencing across the north elevation to increase the parapet containment height.

Installation of the concrete invert requires full dewatering of the river channel with an over pumping mechanism.

Refer to Figure 1-3 below for the proposed site layout plan.

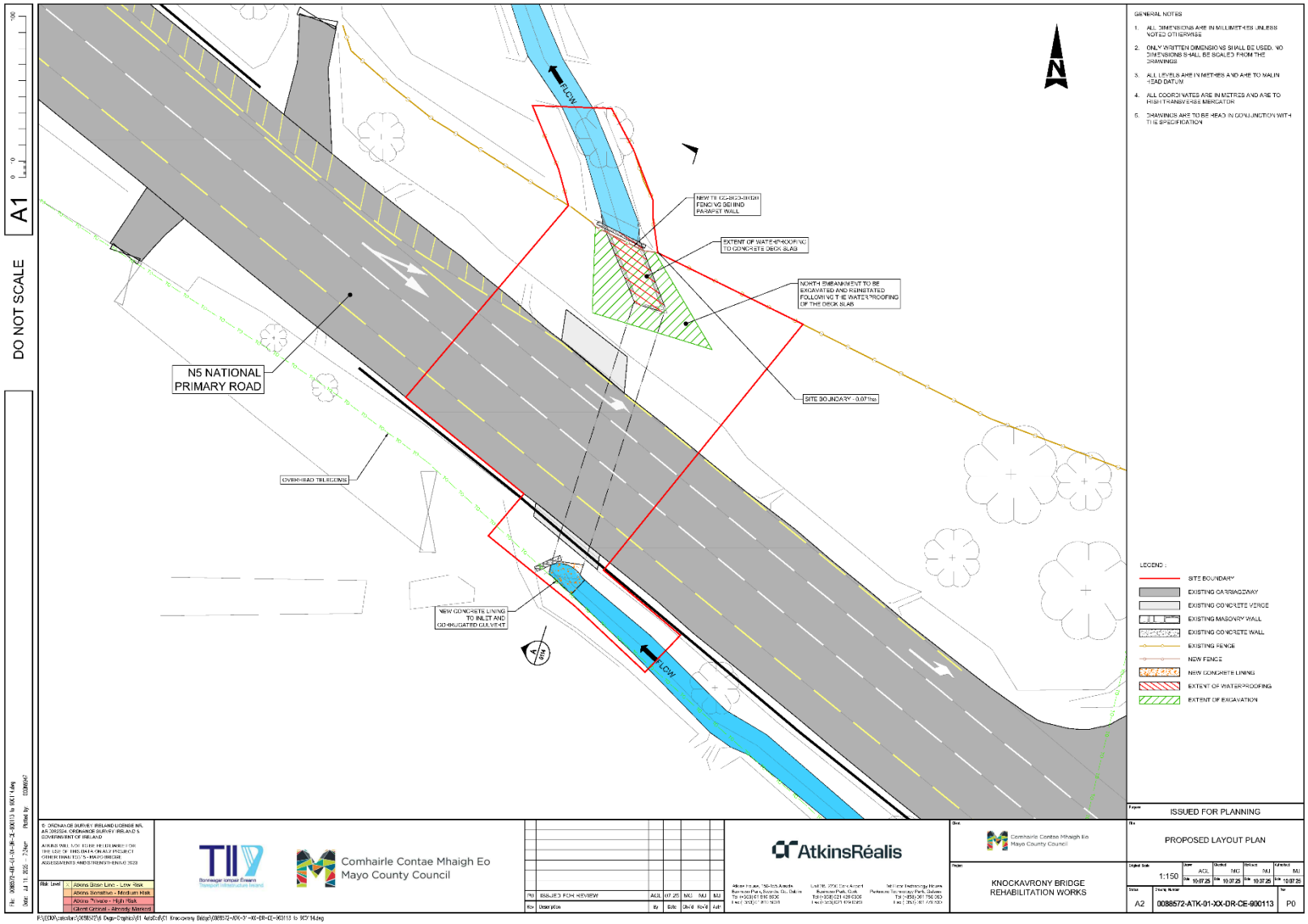

Figure 1-3 – Proposed layout plan

1.4 Purpose of this Report

This report has been prepared to support the planning application on behalf of MCC in relation to Knockavrony Bridge Rehabilitation Works. The purpose of this report is to determine whether the project requires the preparation of an Environmental Impact Assessment Report (EIAR). The proposed works have been screened to generate a summarised overview of the potential impacts on the receiving environment, and in the context of relevant statutory requirements.

A Natura Impact Statement (NIS) has also been prepared for the proposed works (AtkinsRéalis, 2025). The proposed works has been assessed with regards to the likely significant effects of the works on the Natura 2000 sites in its Zone of Influence. The NIS Report concluded that:

"Given the prescription of the mitigation measures detailed in Section 7 of this NIS it can be concluded beyond reasonable scientific doubt that the proposed development will not, either individually or in combination with other plans or projects, give rise to any impacts which would constitute adverse effects on the River Moy SAC or any other Natura 2000 site, in view of their conservation objectives. Therefore, it is the recommendation of the authors of this report that An Coimisiún Pleanála, as the competent authority in this case, may determine that the proposed development, either individually or in combination with other plans or projects, will not adversely affect the integrity of any Natura 2000 site, provided that the mitigation prescribed in this NIS is fully and properly implemented'"

2. Receiving Environment

The proposed works are located on the N5 ca. 1.4km east of Ballavary, Co. Mayo. The existing bridge structure carries the N05 National Primary Road across the Strade River.

2.1 Hydrology

The Proposed Works is located within the Moy & Killala Bay Water Framework Directive (WFD) Catchment area (no. 34) and Moy_SC_070 sub-catchment.

The Breandrum stream is crossed by the Proposed Works and flows in a generally north direction where it connects to the Strade River (River_Waterbody_Code: IE_WE_34S040800). The Strade is classified as '*High*' under the River Waterbody WFD Status 2016-2021 and is '*Not at Risk*' of failing to meet WFD goals by 2027 (EPA, 2025). Refer to Figure 2-1. The Strade River is an important tributary of the River Moy, the joining of which is located ca. 6.8km downstream (from the culvert). The River Moy rises in the Ox Mountains in Co. Sligo and flows in an anti-clockwise loop before heading northwards towards Ballina, Co. Mayo and into the sea at Killala Bay. It is considered to be one of Ireland's best salmon rivers and is known to provide good angling for sea trout (O'Reilly, 2002).

The Q-Value system is a biotic metric used by the EPA to categorise river water quality using macroinvertebrate assemblages as indicators of water quality. The closest records to Knockavrony Bridge lie ca. 3.17km downstream, where a sampling site, last sampled in 1993, returned a Q-value of 4-5 which reflects 'High' water quality status. The Little River (EPA code 34L02) is a tributary of the Strade River and was sampled in 2022, achieving a Q-value of 4-5. This sampled site lies ca. 3.1km upstream from where it joins the Strade River (c. 1.5km upstream from Knockavrony Bridge). 'High' Q-values refer to unpolluted, satisfactory conditions at the site sampled. The Strade River is categorised as 'High' status under the Water Framework Directive (WFD) (2016-2021) both upstream and at Knockavrony Bridge, and transitions to 'Good' status downstream just before joining with the River Moy. High status as according to the EPA in terms of the WFD refers to '*No or only minor difference from reference condition – Normal community structure, sensitive species present. Ecological processes functioning normally*'.

21% of rivers within the Moy and Killala Bay catchment are categorised as 'High' status while 49% are categorised as 'Good' status, under the WFD.

Based on the findings of the Stage 1 Appropriate Assessment Screening report (AtkinsRéalis, 2025) '*it can be concluded that, based on the scale of the proposed works at each location, the mitigation measures that will be followed to minimise adverse effects and the brief duration of both the works themselves and any impacts arising from them, they will not give rise to likely significant effects on the River Moy SAC or any other European site, in combination with other plans or projects.*

In view of best scientific knowledge, and on the basis of objective information, and given the full and proper implementation of the mitigation prescribed, the proposed works at the Knockavrony Bridge along the Strade River, individually, will not adversely affect any of the qualifying interests of the River Moy SAC, or any European site'.

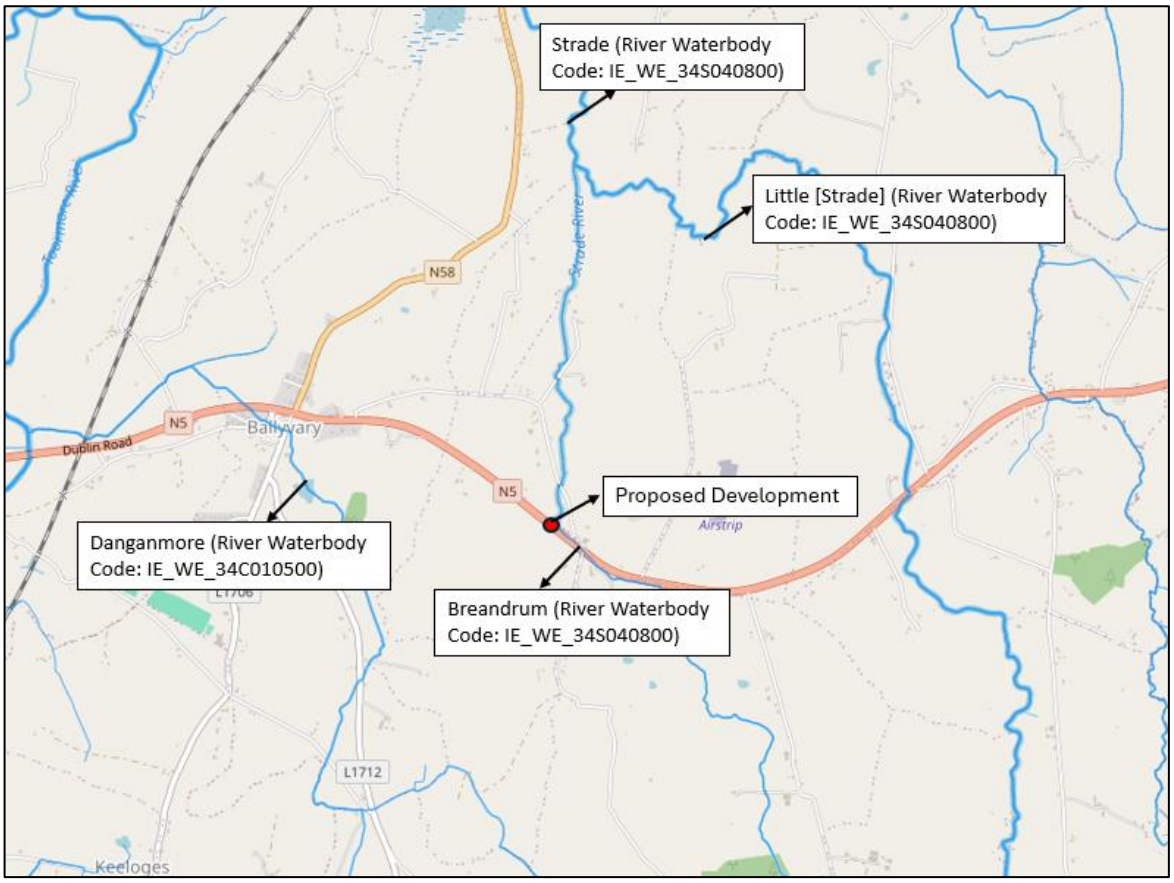

Figure 2-1 - Hydrology around the Proposed Works

2.2 Ecology

There are no Special Protection Areas (SPA) or Special Conservation Areas (SAC) within the immediate vicinity of the Proposed Works. The closest is the River Moy SAC (Site Code: 002298) located ca. 3.9km upstream of the Proposed Works (site code: 002298). Further downstream (> 30km) lies the Killala Bay/Moy Estuary SAC (000458) and Killala Bay/Moy Estuary SPA (004036). Lough Conn and Lough Cullin SPA (004228) lies ca. 5.2km over land from Knockavrony Bridge. There are no other Natura 2000 sites with connectivity to Knockavrony Bridge

Qualifying Interests of the River Moy SAC include Otter (*Lutra lutra*), Salmon (*Salmo salar*), White-clawed Crayfish (*Austropotamobius pallipes*), Sea Lamprey (*Petromyzon marinus*), Brook Lamprey (*Lampetra planeri*), Active raised bogs, Degraded raised bogs still capable of natural regeneration, Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis)* , Alkaline fens, Depressions on peat substrates of the Rhynchosporian, Old sessile oak woods with Ilex and Blechnum in the British Isles and Alluvial forests with Alnus glutinosa and Fraxinus excelsior (*Alno-Padion, Alnion incanae, Salicion albae*).

Knockavrony Bridge was most recently surveyed by Inland Fisheries Ireland (IFI) in 2023 at a site ca. 2.9km downstream from the structure as part of an IFI catchment-wide assessment (Fleming et al., 2024). Species recorded include White-clawed crayfish (*Austropotamobius pallipes*) (two individuals found at the site) as well as Atlantic salmon (*Salmo salar*), Brown trout (*Salmo trutta*), Minnow (*Phoxinus phoxinus*), and Stickleback (*Gasterosteus aculeatus*). At the surveyed site, numbers of salmon recorded exceeded twenty individuals per 5 minutes of electrofishing (Fleming et al. 2024).

The closest NHA to Knockavrony Bridge is Cunnagher More Bog NHA (site code: 002420) which lies ca. 7.5km northwest over land with no hydrological connectivity. The Moy Valley pNHA (site code: 002078) lies ca. 5.1km

downstream from Knockavrony Bridge. Killala Bay/Moy Estuary is also designated as a pNHA for the same species and habitats as the SAC and SPA.

The downstream Killala Bay/Moy Estuary SPA is also internationally recognised as a Ramsar[1] site as it is considered a wetland of importance. Other wetlands in the vicinity of the Proposed Works include: Carrownaraha Ponds North located ca. 0.55km southeast (Site Code: MIW_MA789), classified as '*F Rating: Unknown value, survey required'.* The Bellavary Lake South is located ca. 0.84km southwest of the Proposed Works and is classified as '*C+ Rating: County Conservation value - This site is split into two distinct habitats. A smaller eastern area of transition mire with a diverse assemblage of Carex spp. and larger western swamp area dominated by Equisetum spp. Whole area mapped as a Mill Pond on 1910s OS map'* (WSI, 2025).

The Breandrum stream runs ca. 26m from the Proposed Works and flows in a generally north direction where is connects to the Strade River (River_Waterbody_Code: IE_WE_34S040800). The Strade is classified as '*High*' under the River Waterbody WFD Status 2016-2021 and is '*Not at Risk*' of failing to meet WFD goals by 2027 (EPA, 2025).

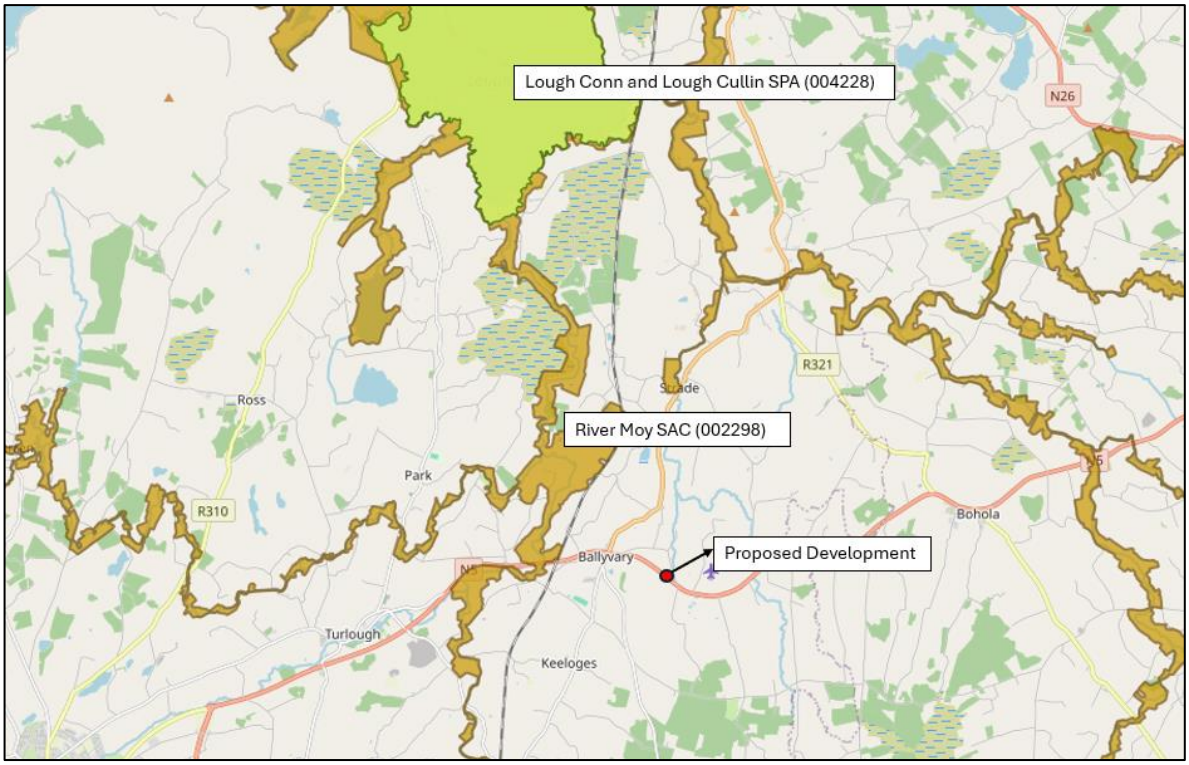

Figure 2-2 - European Sites Surrounding the Proposed Works

Site Survey

In a survey conducted by AtkinsRealis Ecologists in May 2025, there was no recorded evidence of Freshwater pearl mussel (via visual inspection and instream surveying) at the culvert (AtkinsRealis, 2025).

There was no evidence of freshwater pearl mussel (*Margaritifera margaritifera*), or white-clawed crayfish (*Austropotamobius pallipes*) recorded within the vicinity of the culvert structure. The riverbed at the location of the culvert structure is generally poor given the presence of filamentous algae and is unlikely to support these species. No other aquatic species, particularly those of qualifying interest to the River Moy SAC were recorded during the site visit.

[1] Irish Ramsar Wetlands Committee, available at: https://www.irishwetlands.ie/irish-ramsar-sites/

Dipper (*Cinclus cinclus*) was recorded within the vicinity of the culvert. A nest was recorded underneath the culvert structure, although the species to which it belongs is unclear. There were no other breeding bird species identified within the vicinity of the culvert structure during the site visit. Furthermore, there were no other terrestrial fauna recorded during the site visit.

There was no evidence of any protected or invasive alien species, either aquatic or terrestrial, within the vicinity of the culvert structure.

The AA Screening Report (AtkinsRéalis, 2025) states '*As detailed in the preceding sections within this NIS, it can be concluded that, based on the scale of the proposed works at each location, the mitigation measures that will be followed to minimise adverse effects and the brief duration of both the works themselves and any impacts arising from them, they will not give rise to likely significant effects on the River Moy SAC or any other European site, in combination with other plans or projects'.*

2.3 Hydrogeology

There are no wells within the project site, with the closest spring (1127NEW006, Treanagleara, Kiltimagh PWS) located ca. 4.9km southeast of the site. The well use is reported by the GSI (2025) as Public Supply and is located to a 5km locational accuracy.

The Pollavaddy Group Water Scheme is located ca. 7.75km south of the Proposed Works (GSI, 2025).

Excavation works are required for the installation of a new concrete apron at the upstream inlet and to expose the embankment on the north verge of the structure for full deck exposure and shallow perched water / groundwater may be encountered during such works. The works will be undertaken by a 13-ton excavator positioned on top of the embankment. The c. 30m³ excavated material will be set aside on the embankment for reinstatement following the works. Excavation works to the north verge are over land close to the N05 set back from the watercourse. Access to the works area is from the embankment and contained behind the existing north parapet, no instream works or works over water are required for excavation of the verge. Groundwater vulnerability underlying the site is classified as 'Extreme' and 'High' (Refer to Figure 2-3), and should groundwater be encountered, the following measures will be implemented:

- Any groundwater temporarily dewatered during the excavation works, will be stored in a contained area and treated off-site;
- The Contractor will be required to provide a Site-specific dewatering plan, clearly setting out proposed excavation methodology, estimated dewatering rates, details of proposed treatment system, and discharge location.
- The time period that excavations are left uncovered will be reduced in so far as reasonably practical with impermeable coverings being used to cover excavations over night or in times of heavy rainfall during working hours. These coverings will be secured at night to prevent mammals becoming trapped.
- Excavations will not be carried out during or following times of prolonged rainfall.

The Proposed Works is within the Swinford Groundwater Body and is currently 'Not at Risk' with respect to the WFD Groundwater Body Risk and is classified as 'Good' with respect of meeting WFD goals by 2027 (EPA Code: IE_WE_G_0033) (EPA, 2025).

The Proposed Works is underlain by a Regionally Important Aquifer – Karstified (conduit) (GSI, 2025).

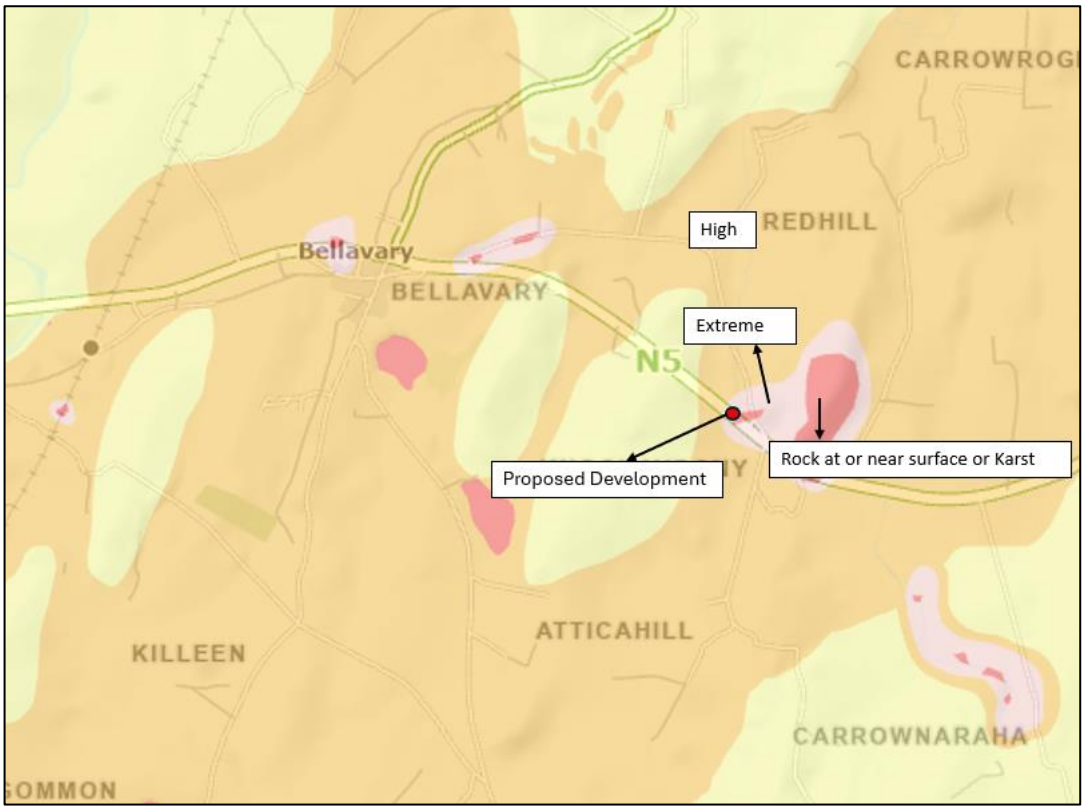

Figure 2-3 - Groundwater vulnerability underlying the Proposed Works

2.4 Geology

The Proposed Works is underlain by Dark fine-grained limestone and shale of the Aille Limestone Formation (GSI, 2025) (Refer to Figure 2-4). There are no karst features within the vicinity of the Proposed Works. The closest karst features; Spring (Karst ID: IE_GSI_40K_17146) and Swallow Hole (IE_GSI_Karst_40K_12256) are located ca. 7.63km and 5.89km west respectively of the Proposed Works. Verified Borehole (ID: 2747) located ca. 3.7km from Proposed Works.

There are no recorded landslide events in the vicinity of the site. Landslide susceptibility within the site and surrounds is classified as ‘Low’ (GSI, 2025).

There are no Geological Heritage Areas within the Proposed Works. The closest is Castlebar Westport Drumlins (MO028) and River Moy (MO089) located ca. 5km southwest and ca. 5.27km northeast of the Proposed Works.

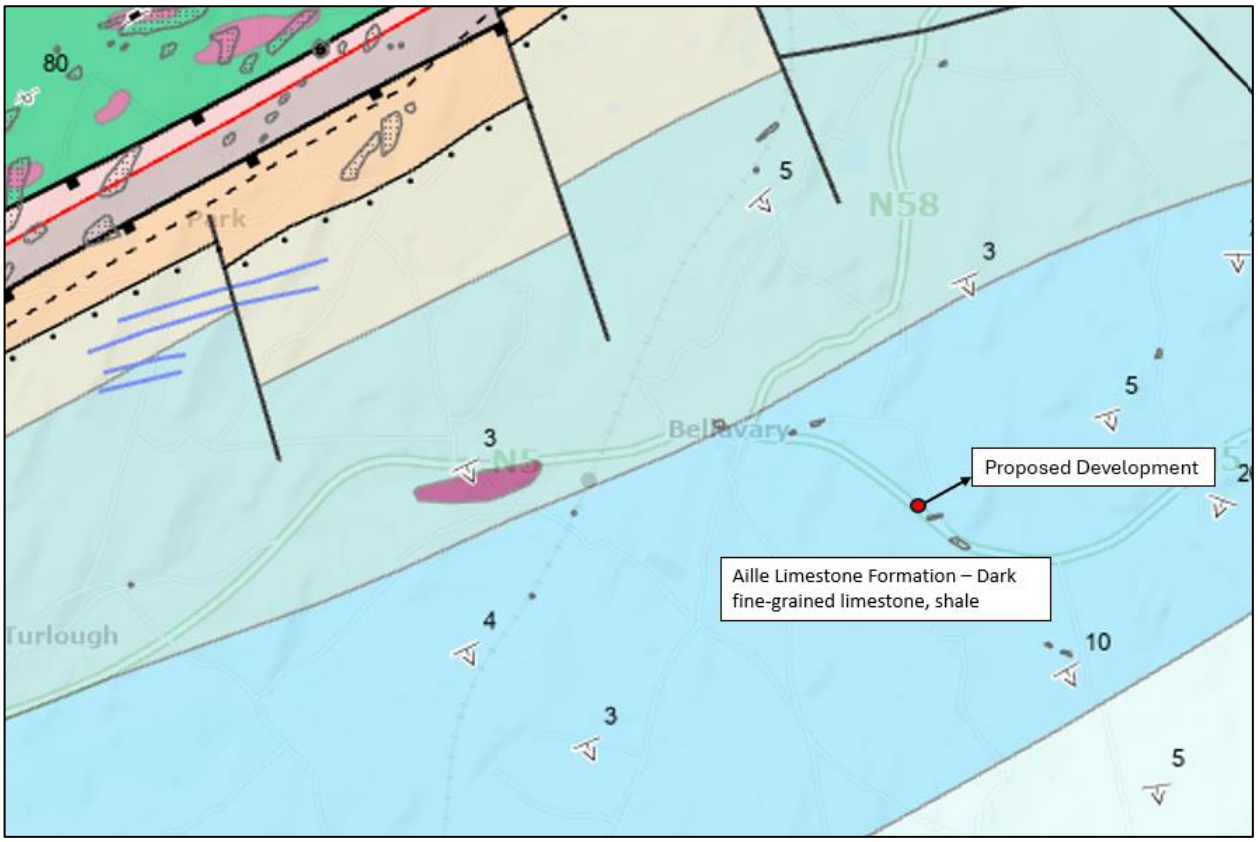

Figure 2-4 - Geological formations underlying the Proposed Works

2.5 Flood Risk

The site has been assessed in accordance with the "The Planning System and Flood Risk Management" Guidelines. As part of the sequential test, the OPW flood hazard maps have been consulted, as have the Catchment Flood Risk Assessment Maps produced by the OPW. The OPW (2025) Fluvial River Flood maps indicate Low and Medium probability of flooding on the Strade River.

Knockavrony Bridge and directly adjacent lands lie within the flood zone of the Strade River. The lands downstream of Knockavrony Bridge have historically flooded as according to Flood Maps[2] and as according to National Indicative Fluvial Mapping, high flood levels are classed at 'Medium' probability (once in one hundred years) at Knockavrony Bridge.

2.5.1 Hydraulic Modelling

A hydraulic assessment for Knockavrony Bridge (AtkinsRéalis, 2025a) was done to evaluate the flow behaviour under the design flood conditions. The design flood flow, corresponding to a 1% AEP (1 in 100-year event) with climate change allowance, was determined as 5.795 m³/s (Q100CC) while QMED and Q100 were 1.97 m³/s and 4.829 m³/s respectively. The effects of the proposed concrete invert on hydraulic performance were done and two hydraulic models were developed. The base model represented the hydraulic behaviour of the existing culvert while the second model simulated the same structure but included a roughened 150mm thick lining in the corrugated section as per the proposed works. These models allow for a comparative analysis of the hydraulic performance with and without

[2] OPW floodmaps, available at:https://www.floodinfo.ie/map/floodmaps/

the lining as the lining can potentially alter flow characteristics, reduce roughness, and improve flow efficiency. This report (AtkinsRéalis, 2025a) described that:

'In the baseline model, which simulates the existing culvert, the culvert operates under free-flow conditions during the design flood, with a freeboard of 0.525m at the inlet (37.67m soffit level with 37.145m design flood level). The outlet velocity is 3m/s. The existing culvert has a significant 0.21m head loss at the inlet mainly due to the sharp change in direction of the watercourse. Additionally, the head loss through the culvert barrel is 0.19m, excluding the culvert gradient.

To enhance the hydraulic performance at the culvert inlet and reduce head loss, it is proposed to provide a smoother transition of flow into the culvert by guiding the flow into the culvert with a new concrete invert upstream of the inlet. Bevelled edges would also be provided to the new concrete lining (referred to as 'apron' in this report) at the culvert inlet. The proposed works reduce the culvert inlet head loss to 0.09m. By improving flow entry these measures would help minimize turbulence and ensure more efficient water conveyance through the culvert.

The analysis model for the proposed culvert lining indicates that the culvert operates under free-flow conditions for the design discharge flow. During the design flood, the culvert maintains a freeboard of 0.809m at the inlet (37.67m soffit level with 36.861m design flood level) and 0.65m at the outlet (36.98m soffit level and 36.33m design flood level). The increased freeboard at the inlet compared to the existing structure is attributed to the improved hydraulic performance at the inlet. The outlet velocity is 3m/s, the same as the existing structure. The hydraulic loss through the culvert is determined to be 0.26m, excluding the culvert gradient.'

2.5.1.1 Low Flow Assessment

Additionally, the low flow values of the culvert were evaluated within the hydraulic assessment; to evaluate the availability of water in the culvert during low flow periods to further understand if depths are sufficient for fish passage within the structure. As a conservative measure, the lowest median annual maximum (QMED) was determined using the FSU2 7 variable equations, and the lower 95% confidence interval flow value was calculated as 0.885 m^3/s. This assessment found that baseline hydraulic modelling, which simulates the existing culvert conditions, shows that the outlet of the culvert has a tailwater height of 0.25m with a velocity of 1.67 m/s downstream at the outlet. The inlet has a headwater height of 0.65m with an inlet velocity of 0.75 m/s. With the introduction of a concrete invert in the corrugated pipe section, modelling shows that the outlet conditions do not show any significant change from the base model. The inlet headwater height would reduce to 0.42m with an increased velocity of 1.48m/s which is less than the velocity at the existing outlet. The calculated water depths are in excess of the minimum 150mm recommended for fish passage (IFI, 2016).

2.6 Archaeology and Cultural Heritage

There are no historical monuments including SMRs and NIAHs within the Proposed Works site. The closest is Enclosure MA070-161---- which is located ca. 0.76km west of the Proposed Works.

The environmental sensitivity of geographical areas likely to be affected by the Proposed Works are evaluated further within Section 3.4.2 of this report ('*Location of Proposed Works - The environmental sensitivity of geographical areas likely to be affected by the Proposed Works'*) as required under Schedule 7 of the relevant regulations.

2.7 Air Quality and Climate

According to the EPA (2025), the current baseline air quality index in the area is 'Good' for Zone D: Rural Ireland. It is noted that the information from monitoring instruments at representative locations in the location may not reflect local incidents of air pollution. The closest monitoring station to the Proposed Works is Castlebar Air Monitoring Site (Station Code: MO1) is located ca. 11.8km southwest of the Proposed Works and measures for PM_{10}, Ozone and

Oxides of Nitrogen. Data collected between February 1st 2025 and 29th April 2025 show that average concentrations of NO_2, Ozone and PM_{10} were 7.77µg/m^3, 58.95 µg/m^3 and 15.79µg/m^3 respectively[3].

Sensitive receptors within the vicinity of the Proposed Works include few residential properties and existing road users.

2.8 Noise

According to the EPA (2025), Lden noise levels on the N05 road ca. 1km from the Proposed Works range between 55-59dB to >75dB. Lnight levels ca. 1km from the Proposed Works range between 45-49dB to >70dB.

2.9 Landscape and Visual

The Proposed Works is not located along any of the identified Scenic Routes or views as per the Mayo County Development Plan 2022-2028. It is classified as '*Area K: East-Central Drumlin Spine*' under the Mayo County Development Landscape appraisal (2022), which states that:

'*This area is made up of glacial drumlins that are uniform at its western end near its transition with the distinct drumlins of Clew Bay. In the east, these become less uniform and severe, and the terrain merges into several sets of geologically distinct and isolated hills as the unit encapsulates the towns of Castlebar, Swinford, and Charlestown. The land cover is a mixture of bog/moorland, poor quality pasture and transitional woodland scrub with better quality pasture to the east and south*.

This area is characterised by a mixed land use pattern. Peat bogs and agricultural lands with significant areas of natural vegetation and transitional woodland scrub. There are also significant areas where pasturelands represent a major land use. Charlestown, Castlebar and Swinford towns display the significance of urban settlement areas in this region of the County.'

The land surrounding the Proposed Works comprise the existing road network, few residential or agricultural buildings and agricultural lands.

[3] Environmental Protection Agency, Air Quality available at: Readings | AirQuality.ie

3. Description of the Proposed Works

3.1 Nature and Extent of the Proposed Works

The proposed works to the existing Knockavrony Bridge structure comprise the installation of a 150mm thick concrete invert throughout the length of the corrugated pipe section of the structure to prevent further corrosion of the existing corrugated steel. The purpose of the concrete invert is to protect the steel section from further corrosion, with surface corrosion evident along both side walls of the pipe. If not protected, the steel corrosion would continue with section loss eventually occurring which could result in the failure of the structure (AtkinsRéalis, 2025a). In addition, the north embankment over the reinforced concrete slab section of the structure requires to be excavated to apply waterproofing to the concrete slab. Works also include the repair to minor areas of spalling within the reinforced concrete slab section of the structure and installation of fencing across the north elevation to increase the parapet containment height.

Installation of the concrete invert requires full dewatering of the river channel with an over pumping mechanism.

3.2 Construction Methodology

The construction methodology and sequence of works are as follows:

1. The site compound will be located within the site boundary along the N05 national road. All machinery and plant will be stored on site for the duration of works within the site boundary.

2. Traffic Management will be installed at the works location; this will comprise of an alternating single lane closure installed at culvert location. A detailed Traffic Management Plan to be provided by the successful contractor once appointed.

3. Construction of a dry working area; this requires full dewatering of the channel and will occur prior to all works following site setup. The construction of the dry working area is as follows:

    - There will be three sandbag dams erected in the watercourse; Dam 1 upstream of the culvert and Dams 2 and 3 situated down-stream of the culvert. Dam 2 and Dam 3 will be erected first (300mm high on the riverbed). Dam 1 will then be erected (800mm high on the riverbed), and the river flow pumped downstream of Dam 3. Instream access by operatives is required for the installation of the sandbag dams and silt fences.

    - Dams will be constructed of small sandbags filled with pea gravel. Each bag will be double bagged and sealed thoroughly. The base of each dam will be three times the height. The dam will also be wrapped in 1000-gauge polythene. Dam height will depend on water levels at the time of erection and the 14-day predicted rainfall.

    - The sandbags for the dam will be carried by hand and placed into position within ten meters downstream of the structure, 500mm in height, across the full width to prevent downstream water returning into the work area. Dam 2 will be constructed by hand upstream of Dam 3; Dam 2 will be raised to 500mm in height. Dam 1 will then be placed within ten metres upstream of the structure on the upstream elevation; Dam 1 will be raised to full height (Dam 2 and Dam 3 are built up more gradually).

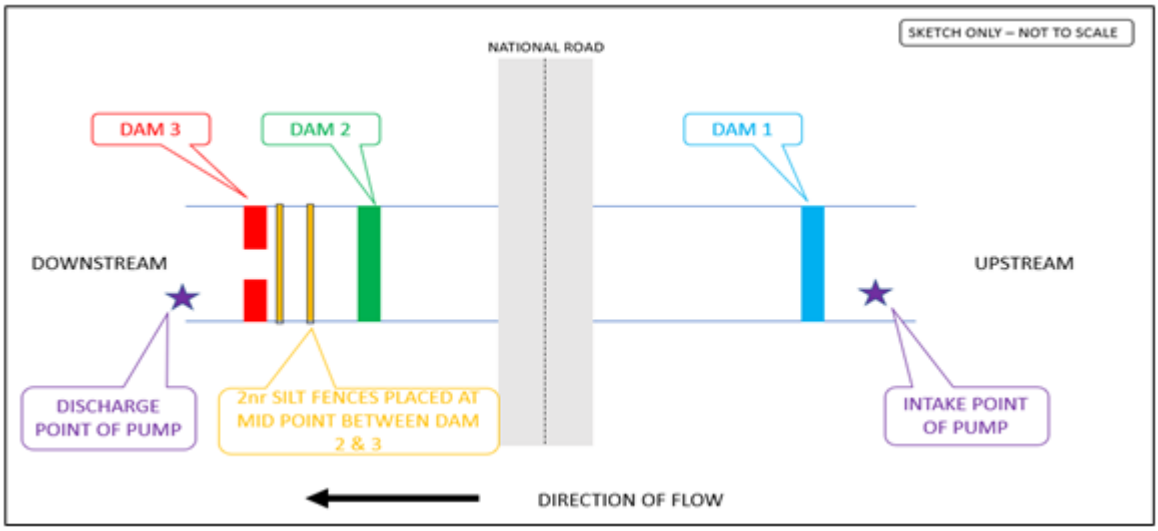

Figure 3-1 - Schematic of three dam dewatering system proposed at Knockavrony Bridge.

- The section of river between Dam 1 and Dam 2 is required to be electro-fished by a licensed operator. All fish will be relocated downstream of the works area and discharge point of pump. Upon completion of the electro-fishing, Dam 2 will be raised to full height (up to 800mm) and a silt fence will be erected between Dam 2 and Dam 3. A second silt fence will then be erected just upstream of Dam 3 (Figure 3-1). These two silt fences will act as a final filter for sediment within potential surface water run-off before it re-enters the live watercourse.

- An over pumping pipe will be placed into a 225mm non-perforated pipe installed through the culvert at high level. It will be secured by temporary brackets that will be fixed along the existing abutment ledge wall. The pipe will be secured to allow for a gravity fall. The intake hose for over pumping will be positioned on the upstream side of Dam 1 and will be wrapped in a layer of silt fencing. The discharge hose will be position on the downstream side of Dam 3. A silt bag will be placed on the end of the discharge hose to prevent discharge of any suspended solids or unwanted material into the live watercourse.

- The works area between Dam 1 and Dam 2 will be pumped out and discharged between Dam 2 and 3 and before the silt fences. A small natural sump is located within the works area (between Dam 1 and 2) and a submersible pump will be used to over pump any water collected.

- All over pumping works will require the use of either a submersible pump or centrifugal dewatering pump which will be used to over pump any water collected. Collected water will be discharged to the upstream side of the silt fences between Dams 2 and 3.

4. A working platform will be installed upstream and downstream of the culvert once the dewatered area is dried out. The platform will consist of a layer of heavy-duty geotextile placed over the existing riverbed and a 250mm layer of washed, well graded clean aggregate placed on the geotextile to give a solid, clean base for operatives to access and work on the culvert concrete lining. The platform will cover the full width of the river and will be within 5m upstream and circa 5m downstream of the culvert. The aggregate will be placed using a 13-ton excavator placed on the embankments and verge that will reach the mouth of the culvert without entering the riverbed. On completion of the proposed works, the geotextile and aggregate will be removed and the riverbed reinstated. There is no excavation of the riverbed required for the installation of these upstream and downstream working platforms. The working platform is required for access to the inlet (requiring excavation; see Step 6 below) and for entry into the culvert to prevent damage to the riverbed.

5. The circa 4m³ of natural material (includes rocks and some gravels) within the pipe culvert will be removed by hand and stored for reinstatement post-works.

6. The existing riverbed at the south upstream elevation will be excavated to a depth of 600mm below the finished bed levels in order to construct the new concrete apron at the inlet, extending 2m upstream of the corrugated structure. The temporary working platform will be located upstream of this excavated area. The c. 5m³ excavated material will be stored away from the watercourse, within the existing road 'site compound' for reinstatement of the riverbed following the works. Excavation works will be undertaken using a long reach excavator positioned on the embankment. For access, a smaller excavator (5-ton) may require to enter the works area via the temporary working platform; this as note, will be done within the dewatered area with no instream access required.

7. The existing steel culvert will be cleaned by pressure washing. The washing unit generator will be positioned on the carriageway above the south elevation with the lance hose running down the bank into the mouth of the culvert. The washing will commence on upstream side and washing in the downstream direction. The culvert will be cleaned using a 25,000 PSI Hydro Power Washer removing the loose material on the existing steel culvert. It is expected that the power washing will remove all loose material, but as necessary small handheld angle grinders and wire brushes will be used to clean the steel to the ST3 finish. These areas will then be pressure washed again to ensure it is completely clean. Water from pressure washing the steel culvert will be collected in a sump at the interface with the slab section and over pumped with a submersible pump to discharge upstream of the silt fences between Dams 2 and 3. Arisings from the cleaning of the culvert lining will be collected within the culvert and disposed off-site to an appropriately licensed waste facility.

8. The exposed steel of the culvert shall be treated with a corrosion inhibitor and primer. The specified products are the corrosion inhibitor Galvafroid manufactured by Fosroc and the anti-corrosion steel primer, Nitoprime Zincrich Plus by Fosroc. These works will be undertaken in the dry within the culvert structure and will be placed by hand.

9. The A393 stainless steel mesh reinforcement will be lifted to the inlet of the culvert using a mobile crane positioned on the carriageway verge above the south elevation due to the steep slope. Operatives will then carry the mesh to the point of placement and fix into position as required.

10. The shotcrete pump and concrete delivery lorries will be positioned on the N05 carriageway above the south elevation of the structure with hoses (delivering the concrete) to be placed down the bank to the mouth of the culvert. A layer of polythene will be placed at ground level beneath the concrete discharge point from the concrete truck to the trough of the pump to capture any spillages that may occur. All concrete pumping and shotcreting (sprayed concrete) works will be undertaken within the dewatered, dry working area.

11. The concrete shotcreting will begin on the downstream end of the culvert and work upstream. Once a section of the concrete has been completed it will be provided with a suitable roughened finish as according to '*Design Guidance For Fish Passage On Small Barriers'* (OPW, 2021). The estimated concrete quantity required is 22m³. Shotcreting works will be undertaken by personnel standing within the culvert operating the shotcreting gun.

12. Once concrete works have been completed and concrete has cured, the temporary working platform covering the existing riverbed will be removed from the river and any material removed from the riverbed to facilitate the level positioning of the geotextile membrane will be reinstated. The removal of the temporary working platform involves specifically the removal of the geotextile membrane and aggregate placed upon installation of the platform; no removal of existing riverbed material is required or permitted.

13. Localised reinstatement of the existing riverbed immediately upstream of the new concrete apron will then be undertaken to align with existing upstream bed levels using suitably sized clean gravel material. The downstream outlet of the pipe culvert currently sits 200mm above the riverbed of the adjacent slab section with this drop retained for hydraulic purposes. The drop post installation of concrete invert will be 350mm in height.

14. The localised concrete repairs to the concrete deck slab will be undertaken by hand using a specialist high strength rapid repair mortar within the dry working area. The total extent of areas requiring repair is less than 1m².

15. Following the completion of works to the concrete invert and deck slab repairs, the dewatered channel will be demobilised. The removal of the dams will be completed on a two stage basis. The level of Dam 1 will be lowered to allow the area between Dam 1 and 2 to partially fill with water. The water within Dams 1 and 2 will be allowed to settle overnight and the remainder of the dams will then be removed completely the following morning to minimise any plumes of silt. The flow of the channel will return to existing condition.

16. The excavation of the embankment on the north verge of the structure will be undertaken to expose the full deck area of the concrete slab section of the structure. The works will be undertaken by a 13-ton excavator positioned on top of the embankment. The c. 30m^3 excavated material will be set aside on the embankment for reinstatement following the works. Excavation works to the north verge are over land close to the N05 set back from the watercourse. Access to the works area is from the embankment and contained behind the existing north parapet, no instream works or works over water are required for excavation of the verge.

17. Deck surface to be cleared of all dust and debris by sweeping with collected material removed from site to tip.

18. Spray applied epoxy waterproofing system to be installed by hand spraying to the deck surface and existing parapet upstand from on top of the deck surface. 30m^2 total area. A 100mm thick concrete screed protection layer is then to be installed to protect the deck waterproofing, pumped from a concrete truck positioned on the verge on top of the structure. Concrete pumping works here are set back from the watercourse contained on the existing parapet.

19. The embankment is then to be reinstated with the excavated material compacted in layers with additional imported topsoil provided as the surface layer and seeded.

20. Suitable fencing to TII standards is to be installed across the north elevation of the structure to increase the parapet containment height. Works here are adjacent to the N05 road and set back from the watercourse behind the existing north parapet.

21. Traffic management to be removed.

3.2.1 Demolition

There is no demolition works associated with the proposed works at Knockavrony Bridge. Works will be undertaken within the existing structure. Verge clearance is required above concrete deck however this will be reinstated upon completion of works.

3.2.2 Machinery

Machinery will be refuelled within the site area and away from the watercourse. No refuelling of heavy machinery is permitted at works site (adjacent to the river); all refuelling will be done within the site compound (i.e., within the single lane closure on the N05 road) Small jerry cans for usage for generators are permitted. Machinery required for the proposed works is as follows:

- 13-ton excavator (with long reach)
- 5-ton excavator
- Concrete lorry (and pump)
- Mobile crane

3.2.3 Programme

Works will take four weeks in total to complete and area anticipated to commence in Q3 of 2026 at the earliest. Works are limited to daytime working hours and follow the standard programme of 8am to 7pm midweek and 8am to 1pm on Saturdays. Instream works are permitted only between the 1st of July and 30th September.

3.2.4 Site Compound

As agreed with MCC, the successful Contractor will utilise the area within the site boundary as a site compound for the duration of works. The N05 national road is comprised of a wide carriageway and the northern embankment of the structure provides a suitable area for the works to be staged. There may be a requirement for temporary (mobile) lighting within the site compound area along the N05 should works extend to winter months, however this is not foreseen given the works window of July to September[4] required to facilitate instream works.

Upon completion of works the site compound area will cease to exist and will revert to fully operational road use.

3.2.5 Traffic Management

The proposed works at Knockavrony will require an alternating single lane closure of the N05 National Road for an estimated four weeks duration. There is no proposed traffic diversion route, only a single lane closure is required. The successful appointed Contractor will provide and implement a detailed Traffic Management Plan for the duration of works.

[4] https://www.fisheriesireland.ie/sites/default/files/migrated/docman/2016/Guidelines%20Report%202016.pdf

4. EIA Screening Process

4.1 Desk-Based Studies

In undertaking this EIA Screening Assessment, AtkinsRéalis completed a detailed desk-based assessment using data from the following sources:

- Relevant guidance documents and legislation (listed in Section 4.3 below).
- Relevant published data from Government websites like the EPA's website (www.epa.ie), the Geological Survey of Ireland (www.gsi.ie), the Mayo County Development Plan 2022-2028.
- AtkinsRéalis (2025) Natura Impact Statement (July 2025).

4.2 Site Visits and Assessments

A site visit was undertaken by AtkinsRéalis ecologists Kevin McCaffrey and Owen O'Keefe on the 7th May 2025.

Ecological survey methods were in general accordance with those outlined in the following documents: -

- A Guide to Habitats in Ireland (Fossitt, 2000).
- Best Practice Guidance for Habitat Survey and Mapping (Smith et al., 2011).
- Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes (NRA, 2009).

Potential sensitive ecological receptors present within the survey area were recorded, including the presence of protected species and habitats or habitats that would support protected species, in addition to noting connectivity to European sites. Any presence of non-native invasive species was also recorded.

4.3 EIA Screening Legislation and Guidance

The Project Types listed in Annex I and Annex II of the 2011 EIA Directive were transposed into Irish Planning & Development legislation in Schedule 5 Parts 1 and Part 2, respectively. These regulations amend the Planning and Development Regulations 2001 (S.I. No.600 of 2001); they seek to transpose EIA Directive 2014/52/EU and to give further effect to the 2011 Directive, as follows.

- An EIAR is required as a matter of course on specified large-scale projects which have a high likelihood of impacting on the receiving environment. These projects are listed in full within the Planning & Development Regulations (2001-2025), Schedule 5, Part 1 – Development for the purposes of Part 10.
- Each EU Member State has discretionary consideration for the requirement of an EIA in relation to Class 2 Project Types. These projects are listed in full within the Planning & Development Regulations (2001-2025), Schedule 5, Part 2 – Development for the purposes of Part 10. If the proposed project is listed under Schedule 5, Part 2, but does not exceed the relevant stated thresholds, it is considered to be sub-threshold. Part 10, Article 92 of the Planning & Development Regulations, 2001 as amended states 'sub-threshold development' means development of a type set out in Part 2 of Schedule 5, which does not equal or exceed, as the case may be, a quantity, area or other limit specified in that Schedule in respect of the relevant class of development". Any sub-threshold developments should be evaluated to determine if the project is likely to have a significant impact on the environment.

Criteria to evaluate whether significant impacts on the receiving environment will arise from a Proposed Works are listed under Schedule 7 of the relevant Planning & Development Regulations (2001-2025). A list of the relevant

information to be provided by the applicant or developer for the purposes of sub-threshold EIA screening is presented in Schedule 7A of the Regulations and summarised below.

1. A description of the Proposed Development, including in particular:

- a description of the physical characteristics of the whole Proposed Development and, where relevant, of demolition works; and,
- a description of the location of the Proposed Development, with particular regard to the environmental sensitivity of geographical areas likely to be affected.

2. A description of the aspects of the environment likely to be significantly affected by the Proposed Development.

3. A description of any likely significant effects, to the extent of the information available on such effects, of the Proposed Development on the environment resulting from:

- the expected residues and emissions and the production of waste, where relevant; and,
- the use of natural resources, in particular soil, land, water and biodiversity.

The compilation of the information at paragraphs 1 to 3 shall take into account, where relevant, the criteria set out in Schedule 7.

Accordingly, the Proposed Works has been screened in accordance with:

- Section 3.2 of the 'Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022);
- European Commission (2017), Environmental Impact Assessment of Projects, Guidance on Screening;
- Department of the Environment, Heritage and Local Government (2003), Environmental Impact Assessment (EIA) Guidance for Consent Authorities regarding Sub-Threshold Developments;
- ORP Practice Note PN02 Environment Impact Assessment Screening (2021);
- Environmental Impact Directive (85/337/EEC) and all subsequent relevant amendments;
- Planning and Development Regulations (2001-2025); and,
- Roads Act, 1993-2021 and the European Union (Roads Act 1993) (Environmental Impact Assessment) (Amendment) Regulation 2019 (S.I. No. 279 of 2019).

Figure 4-1 provides a summary of the main steps involved in the EIA screening process.

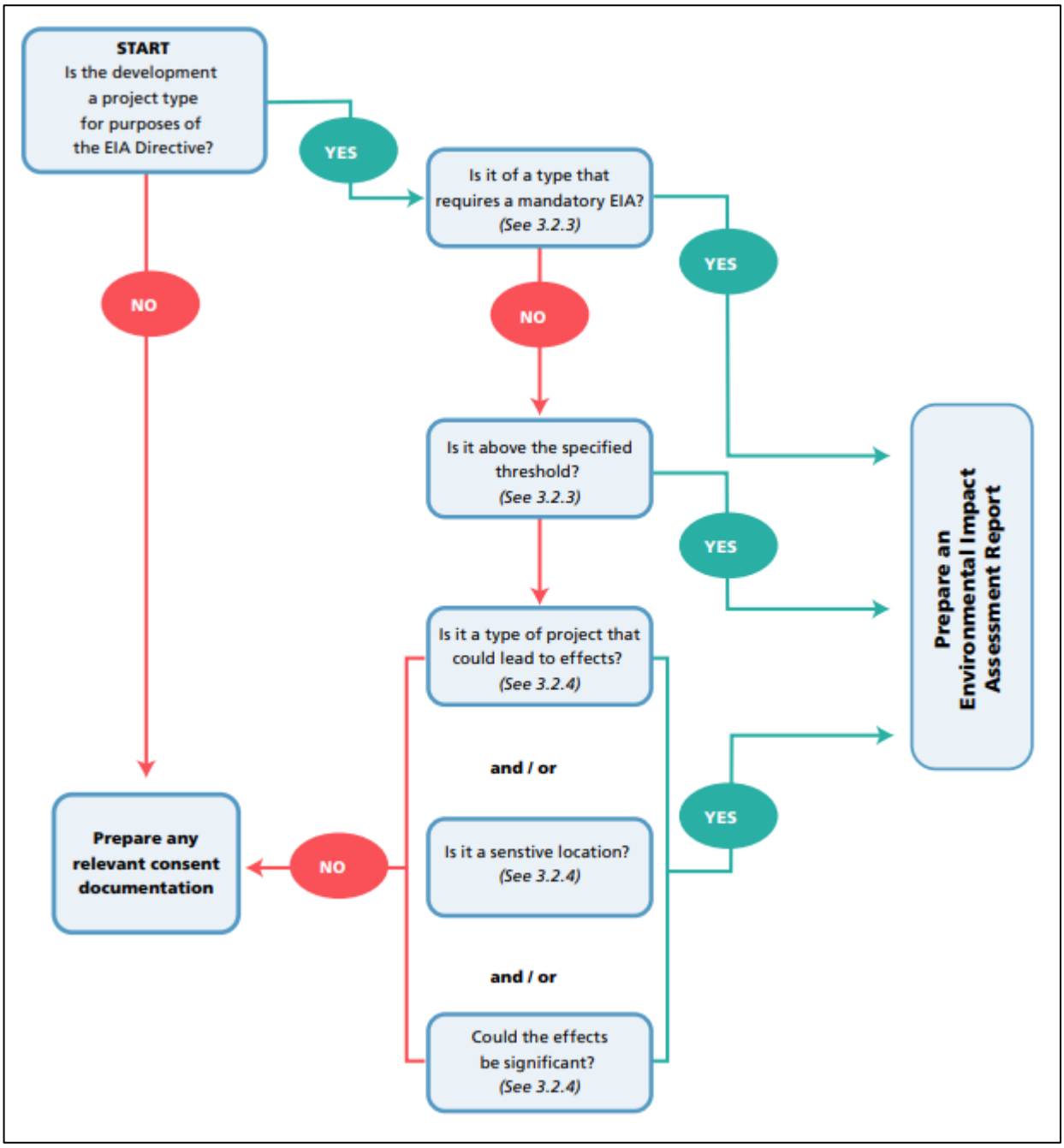

Figure 4-1 - EIA Screening Process (Source: 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (EPA, 2022)).

4.4 The Planning and Development Regulations 2001, as amended - Screening

The 2011 EU EIA Directive differentiates between those projects that automatically requires an environmental impact assessment (listed as Annex 1 projects) and those which may require an assessment if they are likely to have significant environmental effects (Annex II projects). These project types have been transposed into Irish legislation under Parts 1 and 2 respectively of Schedule 5 of the Planning and Development Regulations 2001, as amended.

The Proposed Works was screened using the following criteria:

- If the project is of a type listed in Schedule 5, Part 1; or,
- If not, whether:
  - it is listed in Schedule 5, Part 2;
  - it meets any of the relevant thresholds and criteria set out in Schedule 5, Part 2;
  - any part of it is located within sensitive area; or
  - it would be likely to have significant effects on the environment.

4.4.1 Part 1 Type Projects

The project has been screened against the list of Project Types which have a high likelihood of impacting on the receiving environment and therefore require a mandatory Environmental Impact Assessment, under Schedule 5 Part 1 of the Planning and Development Regulations 2001-2024.

This project does not fall within any category of development requiring a mandatory EIA; hence the preparation of an EIAR is not required under Schedule 5 Part 1.

4.4.2 Part 2 Type Projects

The project has been screened against the types of development, various processes and activities listed in Schedule 5 Part 2 of the Planning and Development Regulations 2001-2025. The Proposed Works may fall within the following categories which provide that an EIA must be completed – subject to specified thresholds being met or exceeded.

10. Infrastructure projects

(b) (iv)

Urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere.

13. Changes, extensions, development and testing

(a)

Any change or extension of development already authorised, executed or in the process of being executed (not being a change or extension referred to in part 1) which would: -

i. result in the development being of a class listed in part 1 or paragraphs 1 to 12 of Part 2 of this Schedule, and

ii. result in an increase in size greater than:

iii. - 25 per cent, or

iv. - an amount equal to 50 per cent of the appropriate threshold, whichever is the greater.

(In this paragraph, an increase in size is calculated in terms of the unit of measure of the appropriate threshold.)

15. Any project listed in this Part which does not exceed a quantity, area or other limit specified in this Part in respect of the relevant class of development, but which would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7.

4.4.2.1 Class 10 - Infrastructure Projects

The Proposed Works site is 0.1 hectares in size and is not located within a business district. The proposed works is below the other relevant thresholds (i.e. 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere).

Therefore, it could be considered that the Proposed Works may not fall under Schedule 5 Part 2 (10) (b) (ii) of the Planning and Development Regulations, 2001, as amended.

4.4.2.2 Class 13 - Changes, Extensions, Development and Testing

The Proposed Works (ca. 0.1 ha) will not result in an increase in size of the existing site by greater than 25% of the appropriate threshold (in this case the appropriate threshold is area – 10 ha).

Hence the preparation of an EIAR is not required under Schedule 5 Part 2 (13) (a).

4.4.2.3 Class 15 - Sub-threshold Development Likely to Have significant Effects on the Environment

It could be considered that the Proposed Works has the potential to have a significant effect on the environment. Therefore, an EIA screening to assess whether the works would be likely to have significant effects on the environment (having regard to the criteria set out in Schedule 7) is required for this project in accordance with Section 15 of Schedule 5 Part 2 of the Planning and Development Regulations, 2001, as amended.

5. Environmental Impact Assessment Screening

5.1 Determining if the project is likely to have significant effect on the receiving environment

All relevant information as required under Schedule 7 and 7A has been provided on behalf of Mayo County Council and is presented within this screening report. The potential for this project to pose a significant effect to the receiving environment has also been evaluated in accordance with criteria listed in the Planning & Development Regulations, 2001-2025 (Schedule 7), as presented in the tables below.

5.1.1 Characteristics of the Proposed Works

Table 5-1 below details the development characteristics criteria, as required under Schedule 7 of the Planning and Development Regulations 2001 as amended.

Table 5-1 - Characteristics of the Proposed Works

Screening Criteria	Proposed Works
Size and design of the project	
Will the size and design of the whole project be considered significant?	No. The site area is ca. 0.1 ha, and the scale and nature are not considered significant within the urban setting. Refer to the detailed description in Section 3 above.
Cumulation with other projects	
Will other existing project and/ or approved project be able to affect the project.	A search of the Mayo County Council Planning Applications, An Coimisiún Pleanála planning portal, Uisce Éireann and Transport Infrastructure Ireland project portals has been undertaken for the applications submitted within the past 5 years in the vicinity of the site (last reviewed 8/05/2025). Some of the granted applications have already been completed and of those which are not completed, most are generally small scale in nature (i.e., residential extension works, or property improvement works). Completed or granted applications of such small scale (such as residential improvements) have not been considered further in terms of potential for cumulative impacts. For the purposes of this study, only significant new developments that are likely to generate a significant number of trips and developments that may encroach nearby to the existing development have been considered, as follows: ▪ 2460703 - The proposed development will consist of the installation of a 36 metre lattice telecommunications support structure with a headframe carrying antennas, dishes, remote radio units (RRU's), associated equipment, together with ground based equipment cabinets, palisade fencing, cable ladder, cable trays, gantry poles, site lamp, concrete foundations, concrete plinths, GPS, access track and all associated site development works to provide for high-speed wireless data and broadband services.

	▪ 211072 - construction of new detached dwelling house, construction of a domestic garage, proposed effluent treatment system and percolation area and all associated site works ▪ 20604- extension and alterations to an existing national school to include a recreation hall, a new classroom, toilets, hallways and all associated services including parking and traffic management, p12/259 refers. ▪ 20517 - construct new agricultural shed along with all ancillary site works ▪ 2159 - construct a proposed new dwelling house, garage, septic tank system and percolation area, complete with all associated works ▪ 22653 - change of use from a dwelling house to a pre-school facility and all ancillary site works and services ▪ 2460005 - Application for permission consequent on the grant of outline permission (Ref: P20/865), for a development of 26 houses comprising 8No. single storey two-bedroom semi-detached houses, 6No. Four-bedroom semi-detached houses, 8No. Three-bedroom semi-detached houses and 4No. four-bedroom detached houses, vehicular and pedestrian access, connections to public services and utilities together with associated siteworks and services on this site at6 Ballyvary, Castlebar, County Mayo. ▪ 2460038 - Construction of a Dwelling House
Nature of any associated demolition works	
Will the construction of the project include any significant demolition works.	There are no demolition works associated with the proposed works at Knockavrony Bridge. Works will be undertaken within the existing structure. Verge clearance is required to top of concrete deck section however this will be reinstated upon completion of works.
Use of natural resources	
Will construction or operation of the project use natural resources above or below ground which are non-renewable or in short supply?	The use of natural resources will be kept to a minimum; aggregates and soil will be re-used on site, where possible and if required. Should vegetation clearance be required along the Proposed Works, it would take place outside of the nesting season (February – August). If this is not possible, an ecologist will survey the vegetation for breeding birds no longer than 24 hours prior to clearance. If nesting birds are identified, then an alternative approach to the work will be used.
Production of waste	
Will the project produce wastes during construction or operation or decommissioning?	Construction waste will be kept to a minimum with only contaminated waste being removed off site. The following waste streams will be produced during the construction: ▪ Generic construction waste that may be generated during the construction of the footbridge. The waste will be separated into dedicated labelled skips and sent for recycling/disposal. All soil requiring disposal offsite will require waste classification in accordance with EPA requirements as set out in the documents 'Waste Classification List of Waste & Determining if Waste is Hazardous or Non-hazardous' (EPA, 2015), and 'Determining if waste is hazardous or non-hazardous' (EPA, 2018), and all relevant waste management legislation. In addition to screening against relevant WAC, the preparation of a waste classification tool (Hazwaste online / EPA paper tool or similar etc.) will be

	required to be carried out in order to determine the relevant LoW / EWC code for the transport of any waste soils which require offsite removal and disposal. Expected wastes that will be removed from the site will be made ground, tarmac and concrete.
Pollution and nuisances	
Will the project release any pollutants or any hazardous, toxic or noxious substances to air?	The current baseline air quality index in the area is 'Good' for Zone D: Rural Ireland. It is noted that the information from monitoring instruments at representative locations in the location may not reflect local incidents of air pollution. The closest monitoring station to the Proposed Works is Castlebar Air Monitoring Site (Station Code: MO1) is located ca. 11.8km southwest of the Proposed Works. Management of dust will be in line with relevant best practice measures such as those set out in 'Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes' (NRA, 2011). On Site dust management will form part of the CEMP for the site. Due to the nature and scale of the project detailed in Section 3, it is anticipated that the construction works, and operation of the Proposed Works will not have a significant effect on air quality.
Will the project cause:	
Noise and vibration.	Noise levels will not exceed the indicative levels of acceptability for construction noise in an urban environment as set out in the NRA guidance 'Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes' (NRA, 2014). The construction phase will have noise barriers in place as required, to minimise / eliminate noise disturbances to sensitive receptors. Works will be scheduled during day-time hours. Construction contractors will be required to comply with the requirements of the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations, 1988 as amended in 1990 and 1996 (S.I. No. 320 of 1988, S.I. No. 297 of 1990 and S.I. No. 359 of 1996), and the Safety, Health and Welfare at Work (Control of Noise at Work) Regulations, 2006 (S.I. No. 371 of 2006). Due to the nature and scale of the project, detailed in Section 3 it is anticipated that the construction works, and operation of the Proposed Works will not have a significant effect with regards to noise.
Release of light.	The lighting will be designed to minimise the effects of light pollution on neighbouring properties. Low energy LED lighting will be used to illuminate areas.
Heat.	The works will not cause release of heat.
Energy.	The works will not cause release of energy.
Electromagnetic radiation.	The works will not cause release of electromagnetic radiation.
Will the project lead to risks of contamination of land or water from releases of pollutants, including leachate, onto the ground or into surface waters,	The potential for accidents or incidents causing oil and chemical spillages are limited. With the adoption of site-specific risk management and remediation measures, as appropriate, during construction, no adverse impacts will arise and the residual effects on sensitive receptors would not be significant. Excavation works will be monitored and in the event that contaminated materials are encountered these will be segregated from uncontaminated soils, temporarily stored (any stockpiles will be lined and covered by heavy duty 1000-gauge plastic), sampled and analysed for

groundwater, coastal waters or sea?	relevant parameters (Waste Acceptance Criteria suite e.g., Rilta Disposal Suite). Any contaminated soils will be characterised as per the requirements of the relevant Waste Acceptance Criteria (WAC) under the relevant European Communities Council Decision (EC) (92003/33/EC). The waste material will be classified in accordance with the requirements of the EPA as set out in the following documents 'Waste Classification List of Waste & Determining if Waste is Hazardous or Non-hazardous' (EPA, 2018). Any contaminated soils will be transported by appropriately permitted hauliers and disposed of to an appropriate EPA licensed Waste Facility in accordance with all relevant waste management legislation. Waste disposal records will be maintained by the Contractor.
Risk of major accidents and/or disasters relevant to the project concerned	
Will there be any risk of major accidents (including those caused by climate change, in accordance with scientific knowledge) during construction, operation or decommissioning?	Ireland in general is at low risk of natural disasters: earthquakes are rare and of low magnitude, there are no active volcanos, and severe weather events are rarely experienced. Flooding is experienced throughout Ireland on a regular basis. The site has been assessed in accordance with the "The Planning System and Flood Risk Management" Guidelines. As part of the sequential test, the OPW flood hazard maps have been consulted, as have the Catchment Flood Risk Assessment Maps produced by the OPW. The OPW (2025) Fluvial River Flood maps indicate Low and Medium probability of flooding on the Strade River. Knockavrony Bridge and directly adjacent lands lie within the flood zone of the Strade River. In November 2024, Storm Bert caused flooding of the Strade River which saw inaccessible roads and minor damage to infrastructure along the N58 regional road. The lands around Knockavrony Bridge have historically flooded as according to Flood Maps and as according to National Indicative Fluvial Mapping, high flood levels are classed at 'Medium' probability (once in one hundred years) at Knockavrony Bridge. The appointed contractor will have an emergency plan in place in the event of any major accidents. This will be approved by Mayo County Council prior to works commencing. Major accidents affecting the development include generic risk of fire or explosion. All these events will be covered by risk assessments and contingency plans which apply to the Proposed Works. The chosen contractor will be required to liaise with Mayo County Council and familiarise themselves with Mayo County Council's emergency procedures. In the event of accidents or fire, measures will be in place to limit emissions to land, water and air, as far as practicable. With these arrangements in place the impact of emissions on human health and sensitive receptors in general will be mitigated such that adverse impacts will be unlikely to arise in the event of an accident.
Is the location susceptible to earthquakes, subsidence, landslides, erosion, or extreme /adverse climatic	The location is not susceptible to earthquakes, subsidence, landslides, erosion, or extreme/adverse climatic conditions.

conditions, e.g., temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	
The risks to human health	
Will the project present a risk to the population (having regard to population density) and their human health during construction, operation or decommissioning? (for example, due to water contamination or air pollution)	Construction will be undertaken in accordance with the commitments to be set out in a site-specific CEMP prepared by the appointed Contractor, such that no significant construction effects on construction workers, residents and the environment would arise. The Contractor will also comply with Mayo County Council's Emergency Procedures and Plans. Given the nature of the Proposed Works, impacts on population during operation, from water contamination, noise and vibration or air quality and climate are not anticipated to be significant.

5.1.2 Location of the development

Schedule 7 of the Planning and Development Regulations 2001 as amended, requires a description of the location of the Proposed Works, with regards to the environmental sensitivity of the geographical area likely to be affected by the project. Table 5-2 below details the criteria considered and provides an assessment relating to same.

Table 5-2 - Location of the Proposed Works

Screening Criteria	Proposed Works
Existing and approved land use	
Are there existing or approved land uses or community facilities on or around the location which could be affected by the project?	There are no existing approved land uses or community facilities located within or around the Proposed Works. The contractor will inform and work with all stakeholders to address concerns. Control measures to avoid/mitigate impacts will be included in the CEMP. The Contractor will develop and implement a Traffic Management Plan (TMP) for the construction stage. No existing, approved land uses for health, education, or community facilities in general, on, or around, the location will be affected by the Proposed Works. The construction, operation or decommissioning of the Proposed Works will not involve actions which will cause significant physical changes in the topography of the area.
The relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground	
Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the project?	Material will be imported for the works. As noted above, excavation works will be monitored and in the event that contaminated materials are encountered these will be segregated from uncontaminated soils, temporarily stored

	(any stockpiles will be lined and covered by heavy duty 1000-gauge plastic), sampled and analysed for relevant parameters (Waste Acceptance Criteria suite e.g., Rilta Disposal Suite). Any contaminated soils will be characterised as per the requirements of the relevant Waste Acceptance Criteria (WAC) under the relevant European Communities Council Decision (EC) (92003/33/EC). The waste material will be classified in accordance with the requirements of the EPA as set out in the following documents 'Waste Classification List of Waste & Determining if Waste is Hazardous or Non-hazardous' (EPA, 2018). Any contaminated soils will be transported by appropriately permitted hauliers and disposed of to an appropriate EPA licensed Waste Facility in accordance with all relevant waste management legislation. Waste disposal records will be maintained by the Contractor.
Absorption capacity of the natural environment	
Are there any other areas on or around the location which has the potential to impact on the absorption capacity of the natural environment, paying particular attention to wetlands, riparian areas, river mouths?	An NIS (AtkinsRéalis, 2025) prepared for the Proposed Works concluded that '*it can be concluded that, based on the scale of the proposed works at each location, the mitigation measures that will be followed to minimise adverse effects and the brief duration of both the works themselves and any impacts arising from them, they will not give rise to likely significant effects on the River Moy SAC or any other European site, in combination with other plans or projects.'* Based on the location of the Proposed Works, there is no potential for impact on the absorption capacity of the natural environment.
Has the project the potential to impact on the absorption capacity of the natural environment, paying particular attention to coastal zones and the marine environment?	The Proposed Works is located ca. 28km from Inner Clew Bay (Code: IE_WE_350_0000). Due to the proximity to the coast, it is not anticipated that the Proposed Works will have a significant impact on the coastal zone or marine environment.
Has the project the potential to impact on the absorption capacity of the natural environment, paying particular attention to mountain and forest areas?	There are no mountain or forest areas within 2km of the Proposed Works and therefore no impacts on this habitat type.
Has the project the potential to impact on the absorption capacity of the natural environment, paying particular attention to areas classified or protected under national legislation; Natura 2000 areas designated by Member States pursuant to Directive 92/43/EEC and Directive 2009/147/EC?	An NIS has been prepared for the Proposed Works (AtkinsRéalis, 2025) which investigated the potential for the Proposed Works to have significant effects on a European Site(s) either alone or in combination with other plans or developments. The AA Screening concluded that *'it can be concluded beyond reasonable scientific doubt that the proposed development will not, either individually or in combination with other plans or projects, give rise to any impacts which would constitute adverse effects on the River Moy SAC or any other Natura 2000 site, in view of their conservation objectives'*. *In view of best scientific knowledge, and on the basis of objective information, and given the full and proper implementation of the mitigation prescribed, the proposed*

	works at the Knockavrony Bridge along the Strade River, individually, will not adversely affect any of the qualifying interests of the River Moy SAC, or any European site'. Based on the location of the Proposed Works, there is no potential for impact on the absorption capacity of the natural environment.
Has the project the potential to impact on the absorption capacity of the natural environment, paying particular attention to areas in which there has already been a failure to meet the environmental quality standards, laid down in Union legislation and relevant to the project, or in which it is considered that there is such a failure?	The absorption capacity of the natural environment is characterised as follows: The area around the Proposed Works is agricultural in nature. Knockavrony Bridge (which is located in central Co. Mayo at the border of the Knockavrony and Redhill townlands) lies c. 3.9km upstream of the River Moy SAC (site code: 002298). Further downstream (> 30km) lies the Killala Bay/Moy Estuary SAC (000458) and Killala Bay/Moy Estuary SPA (004036). Lough Conn and Lough Cullin SPA (004228) lies c. 5.2km over land from Knockavrony Bridge. There are no other Natura 2000 sites with connectivity to Knockavrony Bridge. Based on the nature, scale and location of the Proposed Works as detailed in Section 3, there is no potential for impact on the absorption capacity of the natural environment. The Proposed Works are located over the Strade River, an important tributary of the River Moy, the joining of which lies approximately 6.8km downstream (from the culvert). The culvert lies within the Moy_SC_070 sub catchment, within both the Moy and Killala Bay catchment and hydrometric area (no. 34) Contamination of this watercourse via. siltation or hydrocarbon spillages, is a risk during the construction phase, however, best practice measures will be employed through adherence to the CEMP which will be prepared, and accidental spills and silt generation will be dealt with through prescribed spill response and silt collection measures.
Has the project the potential to impact on the absorption capacity of the natural environment, paying particular attention to densely populated areas?	No. There is no significant effect on the absorption capacity of the natural environment in relation to densely populated areas as a result of the Proposed Works.
Has the project the potential to impact on the absorption capacity of the natural environment, paying particular attention to landscapes and sites of historical, cultural or Archaeological significance?	No. There is no potential for impact on the absorption capacity of the natural environment in relation to landscapes and sites of historical, cultural or Archaeological significance.

5.1.3 Characteristics of potential impact

Table 5-3 below details the types and characteristics of potential impacts of the Proposed Works as required under Schedule 7 of the Planning and Development Regulations 2001 as amended.

Table 5-3 - Characteristics of the Proposed Works

Screening Criteria	Proposed Works
The magnitude and spatial extent of the impact (for example geographical area and size of the population likely to be affected)	
Outline the magnitude and spatial extent of the impact (for example, geographical area and size of the population likely to be affected).	The spatial extent of the Proposed Works measures ca. 0.1 hectares. Direct impacts associated with the proposed works are likely to be located within the environs of the site, chiefly associated with impacts on vehicular movement within the local area. Traffic management will be implemented during construction to minimise disruption to traffic flow. Due to the nature of the proposed works it is likely that the resident population would potentially be affected by the development.
Nature of the impact	
Outline the nature of the impact.	There could be potential adverse construction and operation impacts arising from temporary disruption or disturbance associated with the proposed works. This has potential to result in construction traffic, noise and air quality impacts but with the implementation of the control measures included in the CEMP it is unlikely that impacts would give rise to significant environmental effects. The design will be developed to reduce operational impacts by incorporating control measures. Mayo County Council will engage with stakeholders throughout the design and construction stages to address any concerns.
Transboundary nature of the impact	
Is the project likely to lead to transboundary effects?	Given the location of the site no transboundary impacts will occur.
The intensity and complexity of the impact	
Outline the intensity and complexity of the impact.	The impacts identified are unlikely to cause significant changes in environmental conditions within the site and surrounding area.
The probability of the impact	
Outline the probability of the impact.	During construction, conventional construction and best environmental practice techniques can be readily deployed. In order to minimise disruption, a CEMP will be implemented. There is no significant environmental impact during the operational phase anticipated, the Proposed Works will have an overall positive impact as it will provide active travel opportunities for the local population.
The expected onset, duration, frequency and reversibility of the impact	
Outline the expected onset, duration, frequency and reversibility of the impact.	Normal working hours during the construction period are expected to be Monday to Friday 08:00 to 18:00, and Saturday 09:00 to 13:00. During the construction stage it may be necessary to carry out some work outside of normal working hours however, this will be kept to a minimum and only undertaken following approval from Mayo County Council.

	The noise and air quality impact peaks during construction will be intermittent with a potential background level of nuisance as they will depend on the construction activities which are for their nature variable and not continuous. It is not expected that noise levels will be significant during the operational stage. The selection and implementation of established best practice procedures as set out by the appointed Contractor will ensure potential environmental impacts during the construction phase are offset.
Cumulation of the impact with the impact of other existing and/or approved development	
Could this project together with existing and/ or approved project result in cumulation of impacts together during construction/ operation phase?	Projects identified on the *EIA Portal* within the geographical scope of this assessment included: ▪ Flood relief works in the vicinity of the River Moy and its tributaries in Ballina, Co. Mayo (Portal no. 2025060 – Decision due 13/10/2025). ▪ Infilling of land using inert soil and stone, with reseeding of the site following completion in Ballina, Co. Mayo. Total area to be infilled is approximately 12,000m² (Poral no. 2024069). ▪ Construction of a 13-turbine wind farm and 80 MW hydrogen plant along with the associated related works including a 110kV grid connection, interconnector and upgrade works on the local roads. Conversion of an existing mill building ruin approximately 4km north-east of Bunnyconnellan, Co. Mayo (Portal no. 2023113). Given the nature of most of these projects and their remoteness from the River Moy SAC, they are unlikely to have any effect on these sites and, therefore, have no potential to give rise to any in-combination effects.
Possibility of effectively reducing the impact	
What measures can be adopted to avoid, reduce, repair or compensate the impact?	The design of the Proposed Works is being developed to reduce both construction and operational impacts. During construction the impact of the proposed works would be further reduced through the implementation of the CEMP. During operation, potential impacts would be reduced by the inclusion of design measures, operational control plans including Mayo County Council guidance and standards.

5.1.4 Schedule 7A

Table 5-4 below signposts the location of information for screening.

Table 5-4 - Information for Screening

1. A description of the proposed works, including:	
(a) A description of the physical characteristics of the whole Proposed works and, where relevant, of demolition works.	Refer to Table 5-1 and Section 3 of this report.
(b) A description of the location of the Proposed works, with particular regard to the environmental sensitivity of the geographical areas likely to be affected.	Refer to Table 5-2 and Section 4 of this report.

2. A description of the aspects of the environment likely to be significantly affected by the Proposed works.	Refer to Table 5-3.
3. A description of the likely significant effects, to the extent of the information available on such effects, of the Proposed works on the environment resulting from:	
(a) The expected residues and emissions and the production of waste, where relevant,	Refer to Table 5-1 – Production of Waste.
(b) the use of natural resources, in particular soil, land, water and biodiversity	Refer to Table 5-1 – soil, land, water and biodiversity.
4. The compilation of the information at paragraphs 1 to 4 shall take account, where relevant, the criteria set out in Schedule 7.	

6. Potential for Significant Effects on the Receiving Environment

All relevant information as required under Schedule 7A has been provided on behalf of the client and is presented within Section 5 of this screening report. The potential for this project to pose a significant impact to the receiving environment has also been evaluated in accordance with criteria listed Planning and Development Regulations (2001) (Schedule 7), as presented within Section 3.4 of this screening report.

The proposed works do provide for some impacts (not constituting likely significant effects) on '*Austropotamobius pallipes* (White-clawed Crayfish)', '*Petromyzon marinus* (Sea Lamprey)', '*Lampetra planeri* (Brook Lamprey)', '*Salmo salar* (Salmon)' and '*Lutra* lutra (Otter)' in the River Moy SAC.

However, it is considered that due to the size, nature, and characteristics of the Proposed Works, no significant effects on the receiving environment are expected; hence the preparation of a sub-threshold EIAR is not required.

7. Screening Conclusion

This EIA screening report has been carried out in accordance with the Planning and Development Regulations as amended 2001- 2025 (which give effect to the provisions of EU Directive 2014/52/EU). The report assessed the impact of the Proposed Works in conjunction with committed developments in the surrounding area.

Based on all available information, and taking account of the scale, nature and location of the Proposed Works, it is our opinion that the preparation of an EIAR is not a mandatory requirement (under Schedule 5, Part 1 and 2 of the Planning and Development Regulations 2001 - 2025). The project is deemed a sub-threshold development; hence the potential for significant environmental effects arising as a result of the Proposed Works has been evaluated, in accordance with the requirements of Schedule 7A and Schedule 7 of the Planning and Development Acts 2001-2025.

Key findings are summarised as follows;

- Due to the limited nature of the works, it is considered that there will be no significant cumulative impacts with other developments in the general area, however due to the agricultural nature of lands surrounding the Bridge, it is possible that in combination effects could occur with agricultural operations. These operations are periodic and not continuous in nature requiring consultation and consent with NPWS before taking place. Therefore, in combination affects are unlikely;
- Limited noise, vibration and dust emissions may be generated during construction; however, this is anticipated to be minimal in effect and will cause no significant impacts;
- The introduction of a concrete invert of 150mm to the existing corrugated pipe section of the Knockavrony Bridge is not anticipated to cause a barrier to fish movement;
- There will be no significant impact on biodiversity, groundwater, surface water or traffic; and,
- There will be no significant impacts on recorded monuments or historic features.

In summary, no significant adverse impacts to the receiving environment will arise as a result of the Proposed Works.

Accordingly, we consider that the preparation of an EIAR is not required for the Proposed Works. However, the competent authority will ultimately determine whether an EIA is required or not.

8. References

AtkinsRéalis (2025a) *Knockavrony Bridge Hydraulic Assessment*. AtkinsRéalis, Unit 2B, 2200 Cork Airport Business Park, Cork, T12 R279, Ireland.

AtkinsRéalis (2025c) *Natura Impact Statement for Strade River Bridge*. AtkinsRéalis, Unit 2B, 2200 Cork Airport Business Park, Cork, T12 R279, Ireland.

AtkinsRéalis (2025d) *Knockavrony Bridge Stage 2 Assessment Report*. Prepared by AtkinsRéalis on behalf of Transport Infrastructure Ireland. AtkinsRéalis, Unit 2B, 2200 Cork Airport Business Park, Cork, T12 R279, Ireland., February 2025.

Mayo County Council (2022), Mayo County Development Plan, 2022-2028.

Department of Housing, Planning and Local Government, (2018), Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.

Department of the Environment, Community & Local Government. (2013), *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.*

Department of the Environment, Heritage and Local Government (2003) *Guidance for Consent Authorities regarding sub-threshold Development.* Published by the Stationery Office.

Department of Transport (DT) and the Department of Environment, Heritage and Local Government (DoEHLG) (2015). ERM Public Safety Zones Report.

Environmental Protection Agency (EPA), 2022. '*Revised Guidelines on the Information to be contained in Environmental Impact Assessment Reports.'*

Environmental Resources Management (2001) *Guidance on EIA Screening.* Published by the European Commission.

Environmental Resources Management Ireland Ltd (2005) public Safety Zones (PSZs) at Ireland three principal airports; Cork, Dublin and Shannon

European Commission, (2015) *Environmental Impact Assessment – EIA, Overview, Legal context*.

European Council Directive (EC) 85/337/EU of 1985 on Environmental Impact Directive.

European Council Directive (EC) 97/11/EC of 3 March 1997 amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment.

European Council Directive (EU) 2009/31/EC on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006.

European Council Directive (EU) 2011/92/EU on the assessment of the effects of certain public and private projects on the environment

European Council Directive (EU) 2014/52/EU of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.

Fossette, J. (2000). *A Guide to habitats in Ireland*. The Heritage Council.

Geological Survey of Ireland (GSI) 2024. https://www.gsi.ie/en-ie/Pages/default.aspx. Consulted June 2025.

Health and Safety Executive. Notified Seveso Establishments https://www.hsa.ie/eng/Your_Industry/Chemicals/Legislation_Enforcement/COMAH/List_of_Establishments/. Consulted February 2024

Local Government (Planning and Development Act) 1963.

National Inventory of Architectural Heritage (2024). www.buildingsofIreland.com- Consulted February 2025.

National Monuments Service, Historic Environment Viewer http://webgis.archaeology.ie/historicenvironment/- Consulted February 2025.

National Parks & Wildlife Service. https://www.npws.ie/protected-sites/spa. Consulted June 2025.

NRA (2009). *Guidelines for Assessment of Ecological Effects on national road schemes*. Published by National Roads Authority.

NRA (2011) *Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes.* Published by the National Roads Authority

NRA (2014) *Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes.* Published by the National Roads Authority

Office of Public Works (2009). '*The Planning System and Flood Risk Management; Guidelines for Planning Authorities*'.

Office of Public Works (2024). OPW National Flood Hazard Mapping Web Site. Available at: - http://www.floodmaps.ie/. Consulted June 2025.

Statutory Instrument S.I. No. 12 of 2019. Planning and Development Act 2000 (Exempted Development) Regulations 2019.

Statutory Instrument S.I. No. 296 of 2018. European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018.

Statutory Instrument S.I. No. 349/1989. European Communities (Environmental Impact Assessment) Regulations, 1989.

Statutory Instrument S.I. No. 600 of 2001. Planning and Development Regulations 2001.

AtkinsRéalis

AtkinsRéalis Ireland Limited
Unit 2B
2200 Cork Airport Business Park
Cork
T12 R279