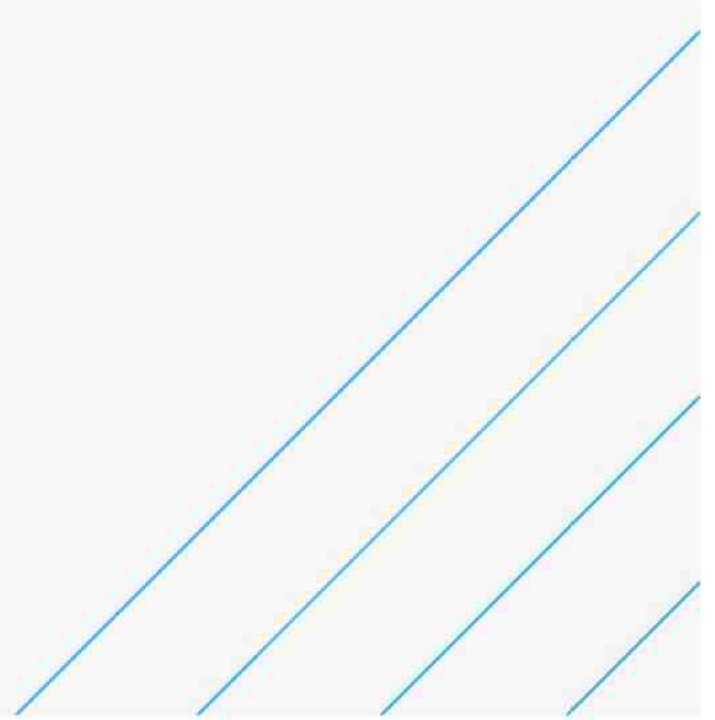


TO 334 Munster Bridges Term Maintenance Contract No. 4

Waterville Bridge - Natura Impact Statement

Transport Infrastructure Ireland

04/03/2024



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1. Introduction

AtkinsRéalis was commissioned by Transport Infrastructure Ireland (TII) to prepare a Natura Impact Statement (NIS) for the proposed works at Waterville Bridge (EIRSPAN structure ID No. KY-N70-039.00) in Waterville, Co. Kerry. The site location is shown in Figure 1-1 below. This document comprises the NIS for the proposed works and is intended to provide TII, in its capacity as the competent authority, with objective information to inform its Appropriate Assessment (AA) determination on the implications of the proposed works for European sites.

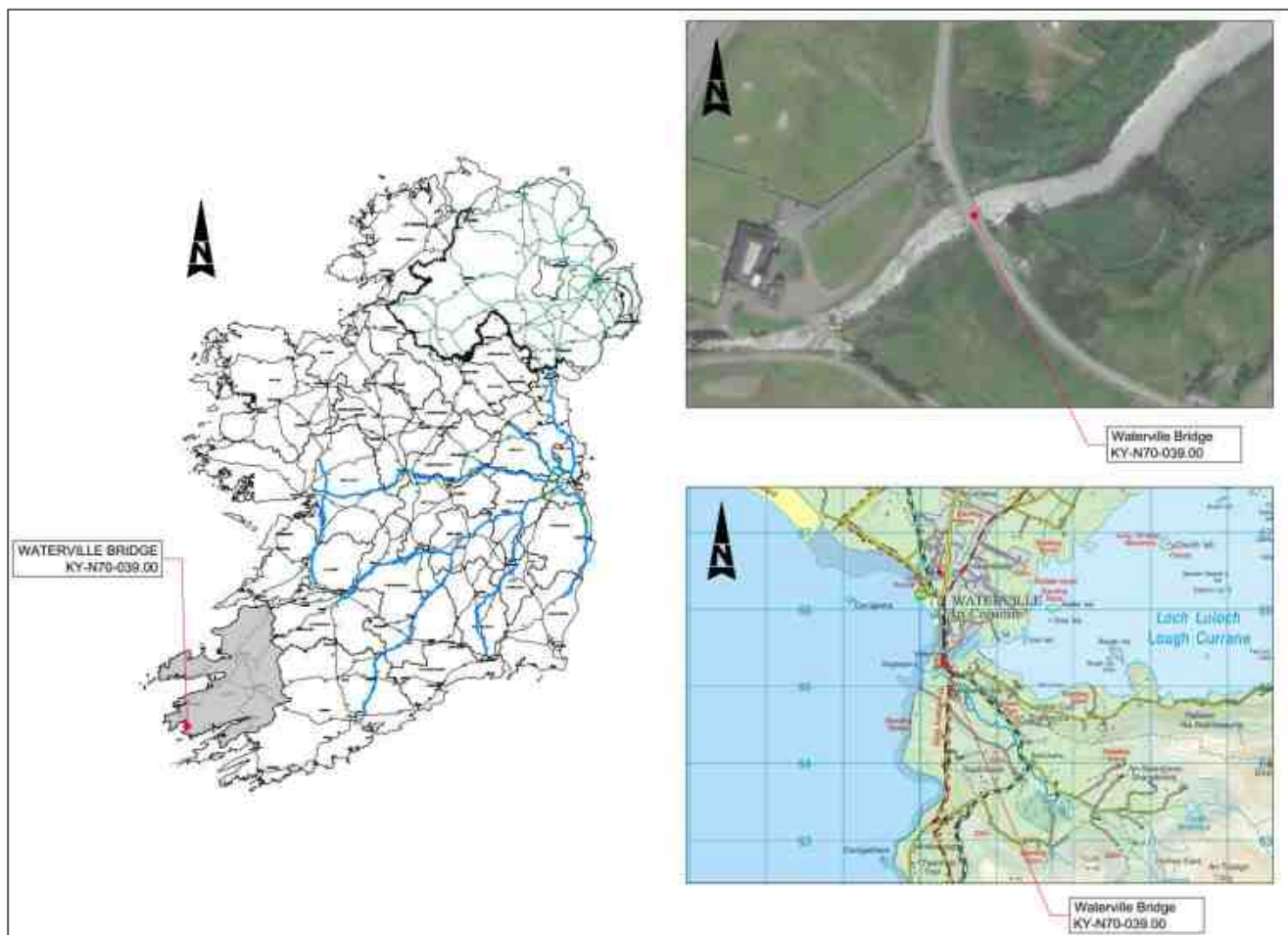


Figure 1-1 - Site location (see at original scale in Appendix A).

1.1. Background

Waterville Bridge (KY-N70-039.00) is a three-span masonry arch bridge across the Currane River, which flows from Lough Currane into Ballinskelligs Bay. The bridge is located c. 0.5km south of the town of Waterville, on the western end of the Iveragh Peninsula in Co. Kerry (as shown in Figure 1-1 above). The three spans are each c. 7.13m long and the substructure consists of 2 no. masonry abutments and 2 no. masonry piers. The southern abutment and northern pier both have concrete scour skirts. There are masonry parapets on both sides of the carriageway.

During a routine structural inspection by AtkinsRéalis in March 2023, an underwater inspection by Equibrant Ltd in September 2023 and a non-routine maintenance inspection by AtkinsRéalis in December 2023, a number of issues with the structure were identified as requiring maintenance and remedial works. These included routine items such as mortar loss and vegetation growing from masonry joints, as well as more serious issues, most notably significant scouring and undermining of the concrete scour protection, significant mortar loss and damage to pier and abutment masonry below the waterline, and cracking and mortar loss in the arch barrels and voussoirs above the scour damage. Figure 1-2 below shows photos of the bridge and the main damage identified.



Figure 1-2 - Damage noted during inspection (see at original scale in Appendix A).

1.2. Proposed Works

The design of the proposed works is described as follows and illustrated in the drawings in in Appendix A:

- Embankments/revetments: All vegetation within 1m of structure to be cut back (c. 20m²).
- Bridge surface: Removal of vegetation from road edges and all debris, silt and vegetation to be removed from bridge drainage gullies (4 no.).
- Southern abutment: Masonry repairs followed by concrete repairs to the scour protection below the water line and repointing to masonry.
- Southern pier: Masonry repairs and repointing above and below water line on all faces.
- Northern pier: Removal of cracked sections from the concrete scour protection, primarily on the western (downstream) elevation, not to be repaired/replaced; masonry repairs and repointing above and below water line.
- Northern abutment: No works.
- Riverbed: Installation of 'rip-rap' below the riverbed adjoining abutments and piers (except the northern abutment).

- Arch barrels and wing/spandrel/retaining walls: Removal of light vegetation (manually) and repointing, where necessary.
- Parapets: Localised masonry reconstruction and coping repairs (c. 1m length); removal of light vegetation (manually) and repointing, where necessary.

The total expected quantities for the above works are as follows:

- Excavations:
 - Soft verges (removal of vegetation): 2m³
 - Riverbed: 5m³
 - Hard material (if encountered): 0.5m³
- Imported fill - “Rip-Rap” (400mm-600mm rock armour, washed) to riverbed at piers and abutment: 2.5m³
- Fill over rip-rap - acceptable material arising from excavation of the riverbed, supplemented as required by imported clean, washed river gravels (50mm-76mm diameter): 1.5m³
- Replacement of missing and defective stonework to abutments and piers (below the waterline): 4.2m³
- Castellated coping to parapet: 1m³
- In-situ concrete for scour protection skirts (below the waterline): 1m³
- Masonry repointing:
 - Abutments and piers (NHL5 lime mortar): 24m²
 - Arch barrels (NHL3.5 lime mortar): 6m²
 - Spandrel and wingwalls (NHL3.5 lime mortar): 30m²
- Disposal of unacceptable material: 6m³

1.3. Works Methodology

The works methodology is summarised as follows:

- Vegetation removal is limited to manual removal of light vegetation from the embankments/revetments, bridge surface, parapets and wing/spandrel/retaining walls. It does not involve the removal of any trees or large shrubs or the use of herbicide.
- All works to the bridge surface, as well as parapet coping repairs/reconstruction and repointing to the roadside face of the parapets, will be undertaken from the bridge deck. Cleaning of drainage gullies will be by suction, with no power-hosing permitted.
- In order to enable the in-stream works, it will be necessary to isolate and dewater part of the river channel to create a dry area where works can be carried out within disturbing or contaminating the river. This will be achieved as follows:
 1. Sealed 1-ton bags of sand will be delivered to site by truck. A crane or 360° teleporter set up on the road will lift the bags individually from the truck and place them in the river, starting at the southern riverbank upstream of the bridge and tapering towards the southern pier. The 1-ton bags may need to be double-stacked, depending on water levels. Smaller hessian sandbags will be used to seal between the 1-ton bags where required.

2. The sandbags will connect to the upstream face of the southern pier to complete the upstream dam, ensuring that at least half of the cutwater face is exposed to facilitate the repairs.
 3. The crane or 360° teleporter will then change position to create the dam on the downstream side of the bridge in the same manner, starting from the downstream face of the southern pier (again ensuring that at least half is left exposed) and working towards the southern riverbank.
 4. Once the dam is complete and sealed, fish rescue will take place (under the appropriate licence) to remove any fish from within the dammed area. Once this is complete, water will be pumped out using a 3-inch pump (with a screen/mesh fitted to prevent intake of aquatic life). A secondary 4-inch pump will be kept on site as a back-up.
 5. Once the area has been successfully dewatered, the crane or 360° teleporter will lift a 0.75-tonne excavator into the dry works area.
 6. Once the works to the southern abutment and southern half of the southern pier are completed, the sandbag dam system will be rearranged so that the works to the remainder of the southern pier and the entirety of the northern pier can be carried out.
 - In this second phase, the sandbag dam will connect to the northern riverbank and the southern abutment, ensuring that all parts of the southern pier not accessible in the first phase are now accessible.
 - All of the same methodology and precautions will be followed in the second phase.
 - No further phases of water management are necessary to facilitate the works.
- Southern abutment: As indicated on Drawing No. 5219386-ATK-Z1-XX-SK-CE-901 in Appendix A, works to the southern abutment will involve:
 1. Excavation of the riverbed immediately in front of the abutment to competent masonry or bedrock to a minimum depth of 500mm below the existing bed level,
 2. Breaking out of the defective/undermined concrete scour protection and taking down of defective masonry to competent stonework (if no competent stonework is encountered, a concrete footing will need to be provided),
 3. Building up of new masonry to match the original,
 4. Erection of shuttering for the new concrete scour protection and placement of hessian sandbags around shuttering, followed by pouring of concrete (ready-mix concrete will be delivered to site in a volumetric lorry and pumped directly to the shuttering),
 5. Removal of the shuttering, followed by placement of 'rip-rap' (400mm-600mm boulders) in the excavated riverbed (top of rip-rap to be 150mm below existing bed level) and re-laying of the top 150mm of riverbed substrate, and
 6. Masonry repointing of the abutment above the new scour protection.
 - Southern pier: As indicated in Drawing No. 5219386-ATK-Z1-XX-SK-CE-901 in Appendix A, works to the southern pier will involve removal of defective/undermined masonry, replacement with new masonry to match the original, and installation of rip-rap, followed by masonry repointing to all defective joints (all by the same methodology described for the southern abutment, except that new concrete scour protection is to be provided). Works to the southern pier will be carried out in two phases, as dictated by the water management described above.
 - Northern pier: As indicated in Drawing No. 5219386-ATK-Z1-XX-SK-CE-901 in Appendix A, works to the northern pier will involve excavation and breaking out of defective/undermined concrete scour protection and masonry, installation of new masonry but no new concrete scour protection, and installation of rip-rap, followed by masonry repointing to all defective joints (all by the same methodology described for the

southern abutment). This is primarily to the western (downstream) face of the pier, and to a lesser degree, the southern face.

- Vegetation removal and repointing over water will be carried out from an underbridge set up on the road. Catch trays will be used during repointing to prevent any mortar falling into the river.
- All in-stream works will be completed in the period beginning on 1st July and ending on 30th September.
- Working hours will be from 08:00 and 17:00. Any works outside of these hours will only be permitted following consultation with the relevant stakeholders and will not be permitted beyond daylight hours.
- The total duration of the proposed works is expected to be c. 4-6 weeks.

Prior to commencement of works, the Contractor will prepare a detailed Risk Assessment & Method Statement (RAMS), which will elaborate on the above, taking into account all of the mitigation prescribed in this NIS.

1.4. Post-works Monitoring

Following completion of the works, there will be a 12-month defects period. On completion, AtkinsRéalis will carry out an inspection of the works on behalf of TII to identify any defects. The structure will also be subject to routine maintenance inspections as part of the TO 334 Munster Bridges Term Maintenance Contract No. 4 in January or February 2025, and again for a further two years beyond the defects period. Any structural, hydromorphological or ecological issues that are identified during the defects period shall be addressed as defects of the works.

2. Scope of Study

2.1. Legislative Context

Natura 2000

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (“the Habitats Directive”) is a legislative instrument of the European Union (EU) which provides legal protection for habitats and species of Community interest. Article 2 of the Directive requires the maintenance or restoration of such habitats and species at a favourable conservation status, while Articles 3 to 9, inclusive, provide for the establishment and conservation of an EU-wide network of special areas of conservation (SACs), known as Natura 2000, which also includes special protection areas (SPAs) designated under Article 4 of 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”). Both SACs and SPAs are commonly referred to as “European sites” or “Natura 2000 sites”.

SACs are selected for natural habitat types listed on Annex I to the Habitats Directive and the habitats of species listed on Annex II to the Habitats Directive. SPAs are selected for species listed on Annex I to the Birds Directive and other regularly occurring migratory species. The habitats and species for which a Natura 2000 site is selected are referred to as the “qualifying interests” of that site and each is assigned a “conservation objective” aimed at maintaining or restoring its “favourable conservation condition” at the site, which contributes to the maintenance or restoration of its “favourable conservation status” at national and European levels.

Appropriate Assessment

Article 6 of the Habitats Directive deals with the management and protection of Natura 2000 sites. Articles 6(3) and (4) set out the decision-making process, known as “Appropriate Assessment” (AA), for plans or projects in relation to Natura 2000 sites. Article 6(3) states: -

“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. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.”

The first sentence of Article 6(3) provides a basis for determining which plans and projects require AA, i.e. those “not directly connected with or necessary to the management of [one or more Natura 2000 sites] but likely to have a significant effect thereon, either individually or in combination with other plans or projects”. In *Waddenzee* (C-127/02), the Court of Justice of the European Union (CJEU) ruled that significant effects must be considered “likely” if “it cannot be excluded, on the basis of objective information”, that they would occur. This clearly sets a low threshold, such that AA is required wherever there is a reasonable possibility of significant effects on a Natura 2000 site. In the same judgment, the CJEU established that the test of significance relates specifically to the conservation objectives of the site concerned, i.e. “significant effects” are those which, “in the light, inter alia, of the characteristics and specific environmental conditions of the site”, could undermine the site’s conservation objectives. In addition to the effects of the plan or project on its own, the combined effects arising from the plan or project under consideration and other plans and projects must also be assessed (see Section 8.1 below for more details).

The last part of the first sentence of Article 6(3) defines AA as an assessment of the “implications [of the plan or project] for the site in view of the site’s conservation objectives”. In the second sentence, Article 6(3) requires that, prior to agreeing to a plan or project, the competent authority must “ascertain” that “it will not adversely affect the integrity of the site concerned”. In *Sweetman v. An Bord Pleanála* (C-258/11), the CJEU ruled that a plan or project “will adversely affect the integrity of that site if it is liable to prevent the lasting preservation of the constitutive characteristics of the site that are connected to the presence of a priority natural habitat whose conservation was the objective justifying the designation of the site in the list of sites”. On that basis, EC (2019) described the “integrity of the site” as “the coherent sum of the site’s ecological structure, function and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and/or populations of species for which the site is designated”. As such, the “integrity” of a specific site is defined by its conservation

objectives and is “adversely affected” when those objectives are undermined. In *Waddenzee*, the CJEU ruled that the absence of adverse effects can only be ascertained “*where no reasonable scientific doubt remains*”.

The “precautionary principle” applies to all of the legal tests in AA, i.e. in the absence of objective information to demonstrate otherwise, the worst-case scenario is assumed. Where the tests established by Article 6(3) cannot be satisfied, Article 6(4) applies (see explanation in Section 2.2 below).

Competent authority

The requirements of Articles 6(3) and (4) are transposed into Irish law by, inter alia, Part 5 of the European Communities (Birds and Natura Habitats) Regulations, 2011 (as amended) (“the Habitats Regulations”) and Part XAB of the Planning and Development Act, 2000 (as amended) (“the Planning and Development Acts”). As per the second sentence of Article 6(3), it is the “competent national authorities” who are responsible for carrying out AA and, by extension, for determining which plans and projects require AA. The competent authority in each case is the authority responsible for consenting to or licensing a plan or project, e.g. local authorities, An Bord Pleanála, Transport Infrastructure Ireland (TII) or a Government Minister. In all cases, it is the competent authority who is ultimately responsible for determining whether or not a plan or project requires AA and for carrying out the AA, where required.

2.2. Appropriate Assessment Process

The AA process can be described as being made up of three distinct stages, as described below, the need to progress to each stage being determined by the outcome of the preceding stage.

Stage 1: Screening – This stage involves a determination by the competent authority as to whether or not a given plan or project required AA. As explained in Section 2.1, AA is required in respect of any plan or project not directly connected with or necessary to the management of a Natura 2000 site, but for which the possibility of likely significant effects on one or more Natura 2000 sites cannot be excluded. The CJEU’s Judgment on *Eco Advocacy v. An Bord Pleanála* (C-721/21) and the Opinion of Advocate General Kokott in the same case set out the principles for identifying any aspects of a plan or project which may constitute what the CJEU termed in *People Over Wind* (C-323/17) “*measures intended to avoid or minimise harmful effects on a Natura 2000 site*” and, as such, cannot be taken into account in making an AA Screening determination. Consideration of the potential for in-combination effects is also required at this stage.

Stage 2: Appropriate Assessment – This stage involves a detailed assessment of the implications of the plan or project, individually and in combination with other plans and projects, for the integrity of the Natura 2000 site(s) concerned. This stage also involves the development of appropriate mitigation to address any adverse effects and an assessment of the significance of any residual impacts following the inclusion of mitigation. In *Kelly v. An Bord Pleanála* (IEHC 400), the High Court ruled that a lawful AA must contain complete, precise and definitive findings based on examination and analysis, and conclusions and a final determination based on an evaluation of the findings. In the same judgment, the High Court stressed that, in order for the findings to be complete, precise and definitive, the AA must be carried out in light of best scientific knowledge in the field and cannot have gaps or lacunae. In *Holohan v. An Bord Pleanála* (C-461/17), the CJEU clarified that AA must “*catalogue the entirety of habitat types and species for which a site is protected*” (i.e. the qualifying interests of the site) and assess the implications of the plan or project for the qualifying interests, both within and outside the site boundaries, and other, non-qualifying interest habitats and species, whether inside or outside the site boundaries, “*provided that those implications are liable to affect the conservation objectives of the site*”. The proposer of a plan or project requiring AA is furnishes the competent authority with the scientific evidence upon which to base its AA by way of a Natura Impact Statement (NIS) or Natura Impact Report (NIR). If it is not possible to ascertain that the plan or project will not adversely affect one or more Natura 2000 sites, authorisation can only be granted subject to Article 6(4).

Stage 3: Article 6(4) – If a plan or project does not pass the legal test at Stage 2, alternative solutions to achieve its aims must be considered and themselves subject to Article 6(3). If no feasible alternatives exist, authorisation can only be granted where it can be demonstrated that there are imperative reasons of overriding public interest (IROPI) justifying its implementation. Where this is the case, all compensatory measures must be taken to protect the overall coherence of Natura 2000.

The three stages described above are illustrated in Figure 2-1 below.

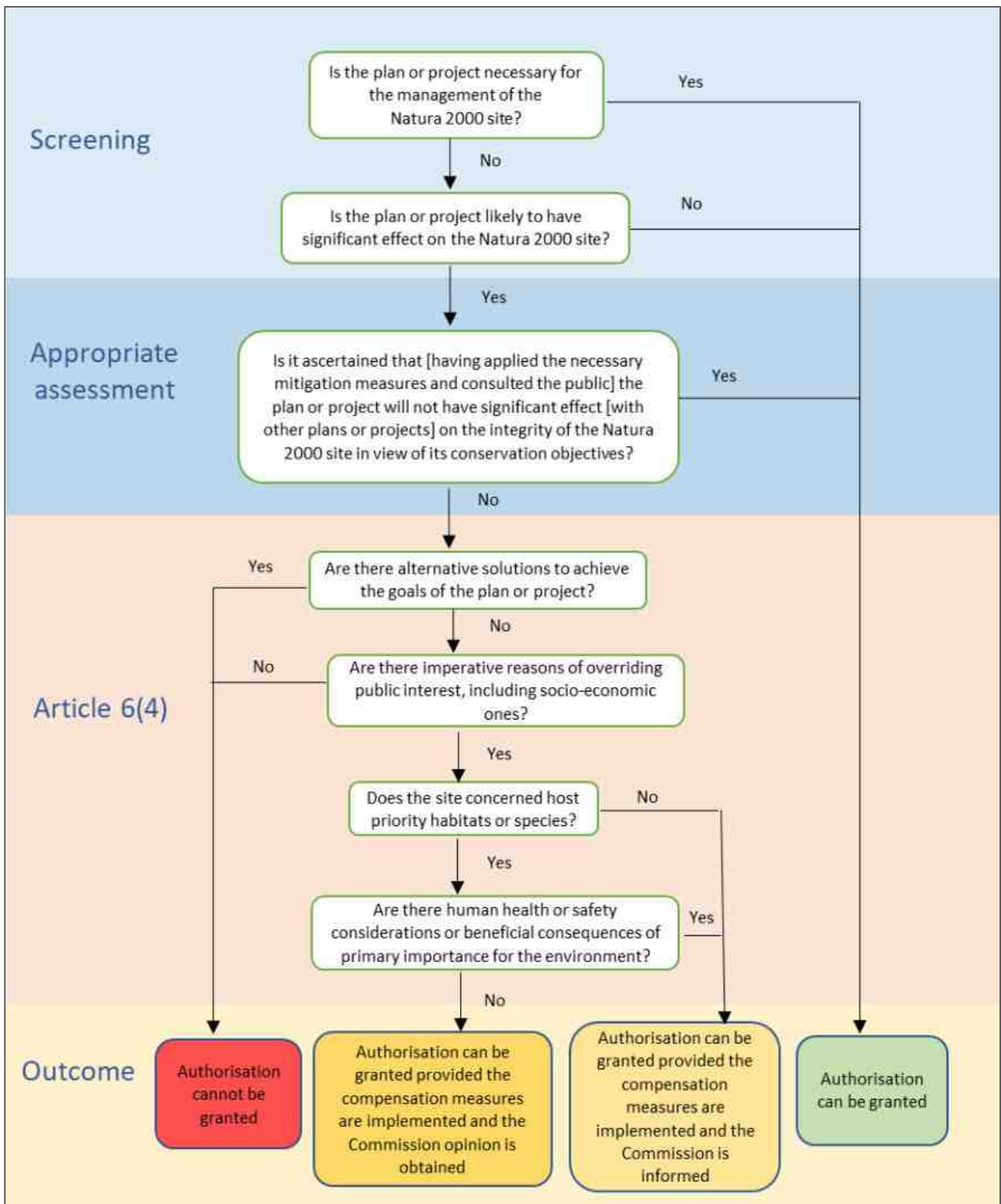


Figure 2-1 - Stages of the Appropriate Assessment process (EC, 2021a).

3. Methodology

3.1. Sources of Guidance

This report was prepared with due regard to the relevant European and Irish legislation, case law and guidance, including but not limited to: -

- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna. *Official Journal of the European Communities* L 206/7-50.
- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds. *Official Journal of the European Union* L 20/7-25.
- European Communities (Birds and Natural Habitats) Regulations, 2011. S.I. No. 77/2011 (as amended) (“the Habitats Regulations”).
- Planning and Development Act, 2000. No. 30 of 2000 (as amended) (“the Planning and Development Acts”).
- Planning and Development Regulations, 2001. S.I. No. 600/2001 (as amended) (“the Planning Regulations”).
- EC (2019). *Managing Natura 2000 sites – The provisions of Article 6 of the Habitats Directive 92/43/EEC*. European Commission, Brussels. *Official Journal of the European Union* C 33/1-62.
- EC (2021a). *Assessment of plans and projects in relation to Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC*. European Commission, Brussels. *Official Journal of the European Union* C 437/1-107.
- EC (2021b) *Guidance document on the strict protection of animal species of Community interest under the Habitats Directive*. C(2021) 7301. European Commission, Brussels.
- DG Env (2022) *Guidance document on assessment of plans and projects in relation to Natura 2000 sites – A summary*. Directorate-General for Environment, European Commission, Brussels. Publications Office of the European Union, Luxembourg.
- DEHLG (2010a) *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. Revised 11/02/2010*. Department of the Environment, Heritage and Local Government, Dublin.
- DEHLG (2010b) *Circular NPW 1/10 & PSSP 2/10. Dated 11/03/2010*. Department of the Environment, Heritage and Local Government, Dublin.
- NPWS (2012) *Marine Natura Impact Statements in Irish Special Areas of Conservation. A Working Document. April 2012*. National Parks & Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin.
- NPWS (2021) *Guidance on the Strict Protection of Certain Animal and Plant Species under the Habitats Directive in Ireland. National Parks & Wildlife Service Guidance Series 1*, Department of Housing, Local Government and Heritage, Dublin.
- Mullen, E., Marnell, F. and Nelson, B. (2021) *Strict Protection of Animal Species – Guidance for Public authorities on the Application of Articles 12 and 16 of the EU Habitats Directive to development/works undertaken by or on behalf of a Public authority. National Parks & Wildlife Service Guidance Series 2*, Department of Housing, Local Government and Heritage, Dublin.
- OPR (2021) *Appropriate Assessment Screening for Development Management. OPR Practice Note PN01*. Office of the Planning Regulator, Dublin.

- Case law, including *Waddenzee* (C-127/02), *Sweetman v. An Bord Pleanála* (C-258/11), *Kelly v. An Bord Pleanála* (IEHC 400), *Commission v. Germany* (C-142/16), *People Over Wind* (C-323/17), *Holohan v. An Bord Pleanála* (C-461/17), *Eoin Kelly v. An Bord Pleanála* (IEHC 84), *Heather Hill* (IEHC 450) and *Eco Advocacy v. An Bord Pleanála* (C-721/21).
- Sundseth, K. and Roth, P. (2014) *Article 6 of the Habitats Directive – Rulings of the European Court of Justice*. Ecosystems LTD (N2K Group), Brussels.

3.2. Desk Study

Baseline data regarding the receiving environment, including Natura 2000 sites, was gathered through a thorough desk study.

The boundaries of Natura 2000 sites were downloaded from *NPWS: Maps and Data* <<https://www.npws.ie/maps-and-data>>. Information on sites, including their overall structures and functions, qualifying interests, conservation objectives and threats/pressures and activities therein, was found in the Site Synopsis, Natura 2000 Standard Data Form, Conservation Objectives and supporting documents for each site. Spatial data for site-specific conservation objectives of Natura 2000 sites, and boundary data for other designated sites, such as Natural Heritage Areas, was also retrieved from *NPWS: Maps and Data*. Reporting under Article 17 of the Habitats Directive (NPWS, 2019a-c; *Article 17 web tool*) and Article 12 of the Birds Directive (NPWS, 2024c; *Article 12 web tool*) provided further information on the habitats and species concerned at the national level.

Information relating to recent and historical records of species was obtained from the National Biodiversity Data Centre (NBDC) *Biodiversity Maps* <<https://maps.biodiversityireland.ie/Map>>, while data for other features of the natural environment, e.g. known occurrences of non-qualifying interest Annex I habitats and the Department of Agriculture Food and the Marine's forest inventory, were viewed on the *Environmental Sensitivity Mapping (ESM) Webtool* <<https://airomaps.geohive.ie/ESM/>>. Spatial data for known populations of Freshwater Pearl Mussel (*Margaritifera margaritifera*) received from the National Parks & Wildlife Service (NPWS) was also reviewed. In addition, TII provided an excerpt from Tailte Éireann's National Land Cover Map¹ for the area surrounding the proposed works.

The Environmental Protection Agency (EPA) map viewer *EPA Maps (Water)* <<https://gis.epa.ie/EPAMaps/Water>> and spatial data for river, lake, canal, transitional and coastal waterbodies downloaded from the *EPA Geoportal* <<https://gis.epa.ie/GetData/Download>> was used to identify any hydrological connection between the proposed works and Natura 2000 sites or connected features. Satellite and aerial imagery from Google Earth, Bing Maps and Ordnance Survey Ireland (OSi) was reviewed to identify hedgerows, treelines and other potential ecological features.

In addition, reports from ecological surveys and site visits previously undertaken at the location of the proposed works were also reviewed, having due regard to the *Advice note on the lifespan of ecological reports and surveys* (CIEEM, 2019). In particular, the results of bat roost suitability assessments [REDACTED] in 2020 were reviewed.

In order to inform the assessment of potential in-combination effects, planning applications from the surrounding area were reviewed using the National Planning Application Database, An Bord Pleanála's online map viewer and the EIA Portal.

3.3. Site Visit

A site visit was undertaken AtkinsRéalis ecologists Owen O'Keefe and Caroline Downey on 26th January 2024. The purpose of this site visit was to identify any additional ecological features in close proximity to the proposed works not identified through the desk study. This site visit focussed on identifying the presence or likely presence of aquatic and riparian Annex I habitats, Otter (*Lutra lutra*), Kingfisher (*Alcedo atthis*), suitable habitat for Atlantic Salmon (*Salmo salar*), Sea Lamprey (*Petromyzon marinus*) and River/Brook Lamprey (*Lampetra fluviatilis* or *L. planeri*), invasive alien plant species, e.g. Japanese Knotweed (*Fallopia japonica*) or Himalayan Balsam (*Impatiens glandulifera*), and other ecological features within and in close proximity to the proposed works area.

¹ <https://www.tailte.ie/en/blog/a-new-national-landcover-map-for-ireland.html>

3.4. Statement of Authority

The Screening for Appropriate Assessment report was prepared by Owen O'Keefe, while Paul O'Donoghue provided peer review and support.

Owen O'Keefe is a Senior Ecologist at Atkins. Owen holds a BSc (Hons) in Ecology from University College Cork (2015) and is a Full Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). He has 8 years' professional experience in ecological consultancy, specialising river ecosystems and Appropriate Assessment.

Kevin Mc Caffrey has a BSc (Hons) in Applied Freshwater and Marine Biology and a MSc in Environmental Sustainability. He is a Senior Ecologist with over 10 years' experience in freshwater and marine ecology, environmental surveying, impact assessment and as an Ecological clerk of Works. He has prepared and reviewed a wide range of technical reports including Environmental Impact Assessment Reports, AA Screening Reports, Natura Impact Statements and sanitary surveys.

4. Existing Environment

4.1. Designated Sites

The proposed works are located where the Ballinskelligs Bay and Inny Estuary SAC (site code: 000335) and the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (site code: 000365) meet, the former being to the west (downstream) of the bridge while the latter is to the east (upstream). 1 no. SPA, namely the Iveragh Peninsula SPA (site code: 004154), is located c. 4.7km south-west of the proposed works, at its closest point. Connectivity, i.e. pathways for impacts and effects, between the proposed works and these Natura 2000 sites are examined in Section 5.2.

2 no. nationally designated sites, namely the Ballinskelligs Bay and Inny Estuary proposed Natural Heritage Area (pNHA) (site code: 000335) and the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment pNHA (site code: 000365) also meet at Waterville Bridge. The nearest Natural Heritage Area (NHA) is the Knockroe Bog NHA (site code: 000366), c. 15km north-east of the proposed works, in the Inny catchment. However, there is no ecological connectivity between the proposed works and the features of interest of this site, i.e. peatlands.

There are no areas designated internationally as Wetlands of International Importance (WIIIs) under the Ramsar Convention² or nationally as statutory Nature Reserves or Wildfowl Sanctuary in close proximity to or connected to the proposed works. The nearest National Park is Killarney National Park, which is also designated as a UNESCO Biosphere Reserve, situated >40km to the east. There is no connectivity between the proposed works and this site.

4.2. Habitats and Species

4.2.1. General Context

As noted above, the proposed works are located at Waterville Bridge, a three-span masonry arch bridge carrying the N70 national road across the Currane River, which flows from Lough Currane to Ballinskelligs Bay.

The excerpt of the National Land Cover Map provided by TII notes the following land cover categories as being present within 200m of Waterville Bridge: Improved grassland; Amenity grassland; Wet grassland; Broadleaved forest and woodland; Scrub; Hedgerows; Rivers and streams; Lakes and ponds; Exposed rock and sediments; Buildings; Ways (roads); and, Other artificial surfaces.

During the site visit, it was determined that the habitats present within the works area and immediately adjoining it were limited to the following types, as per the Fossitt (2000) classification: -

- The metalled surface of the N70 and other roadways, i.e. 'Buildings and artificial surfaces' (BL3),
- The masonry surfaces of Waterville Bridge and reinforced sections of the riverbank, i.e. 'Stone walls and other stonework' (BL1),
- The Currane River, i.e. 'Eroding/upland rivers' (FW1) or 'Depositing/lowland rivers' (FW2), depending on which process is predominant at a precise location,
- 'Amenity grassland (improved)' (GA2) on the northern bank of the river, both upstream and downstream of the bridge, with a gravel path leading through this to the northern arch from the downstream side, i.e. 'Spoil and bare ground' (ED2),
- 'Dry meadows and grassy verges' (GS2) and 'Reed and large sedge swamps' (FS1) at the south-eastern corner of the bridge, and

² Convention on Wetlands of International Importance especially as Waterfowl Habitat (as amended).

- 'Wet grassland' (GS4) on the southern bank of the river, downstream of the bridge.

Adjoining these areas, the following was also noted:

- North-east of the bridge there is a small area of 'Scrub' (WS1) with some 'Dense bracken' (HD1), beyond which is an area of 'Oak-ash-hazel woodland' (WN2). This woodland is on steeply sloping ground and is dominated by Ash (*Fraxinus excelsior*), all of which appears to be affected by ash dieback disease, with Holly (*Ilex aquifolium*) frequent. The non-native Montbretia (*Crocasmia x crocosmiiflora*) is abundant in the ground layer.
- On the southern bank, upstream of the bridge, there is extensive 'Reed and large sedge swamps' (FS1) dominated by Common Reed (*Phragmites australis*).
- Approximately 100m downstream of the bridge, there is a large stand of the legally restricted invasive species Japanese Knotweed (*Fallopia japonica*). Stands of this species are abundant for several kilometres along the Finglas River from this point.

4.2.2. Currane River

The Currane River (also known as the Waterville River) is a fifth-order watercourse draining Lough Currane into Ballinskelligs Bay. The proposed works at Waterville Bridge are located c. 300m downstream of Lough Currane and c. 400m upstream of Ballinskelligs Bay. The only other crossing of this watercourse is a pedestrian bridge over a fishing weir c. 100m downstream of the proposed works, immediately upstream of the confluence with the Finglas River at Butlers Pool.

The following points were noted during the field survey: -

- a. It was not considered safe to enter the river during the site visit. From the bridge, the average depth of the river was c. 1m and the substrate was dominated by coarse gravel and cobbles. The water level (as well as velocity and turbidity) in the river in the works area appears to be relatively stable, likely due to the attenuation provided by the lake. On the day of the site visit, other rivers in the locality were observed to have much more elevated flows and high turbidity following recent heavy rain. From c. 100m downstream of the bridge, the river level is likely influenced by the tide.
- b. Vegetation within the river was difficult to see due to the combination of depth and glare. However, where the in-stream vegetation was visible it was typical of fast-flowing lowland rivers, with abundant water-crowfoots (*Ranunculus* spp., subgenus *Batrachion*). This vegetation likely corresponds to Annex I 'Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation' (3260), which is a qualifying interest of the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC.
- c. The right-hand (northern) bank of the river has been subject to modification, i.e. the bank is vertical and formed by rock armour, which has been constructed using large, slightly rounded cobbles, which appear to have been taken from the river itself. The banktop is intensively managed amenity grassland to facilitate anglers and there is a stone-built boathouse with steel roof c. 50m upstream of the bridge.

Water Quality

As noted above, the Currane River is a short stretch of river, only c. 700m, which drains from Lough Currane into Ballinskelligs Bay. The main rivers which feed Lough Currane are the Cumberagh River and the Isknagahiny River (also known as the Capall River). The Finglas River also joins the Currane River c. 125m downstream of Waterville Bridge.

A review of *EPA Maps* found that the EPA has grouped the Currane River, as well as several of the smaller rivers and streams discharging to Lough Currane, together with the Finglas River under the EPA river waterbody name "FINGLAS (WATERVILLE)_010". The only water monitoring station on this river waterbody is located on the Finglas River itself, c. 300m upstream of its confluence with the Currane River. The Water Framework Directive (WFD) status for this river waterbody is 'Good' and its risk status is 'Review' (following the precautionary principle, this is taken as meaning that the waterbody is 'At risk' of not achieving its WFD objectives by 2027). However, given the location of the monitoring station, it must be acknowledged that this is not necessarily reflective of the

true status of the Currane River at Waterville Bridge, particularly given that the WFD status of Lough Currane, which is only c. 300m upstream and directly monitored, is 'Moderate' and 'At risk'. All of the river waterbodies in the Cumberagh and Isknagahiny catchments are assigned WFD status 'Good' but 'At risk', while all of the lakes in those catchments are assigned 'High' and 'Not at risk', except Lough Namona, which is assigned 'High' and 'Review'. Ballinskelligs Bay coastal waterbody is assigned WFD status 'High' and 'Review'.

Q-values available for 3 no. monitoring stations on the Cumberagh River: just downstream of Lough Derriana was Q4 'Good' in 2021, at a ford downstream of Cumberagh Bridge it was Q3-4 'Moderate' in 2022, and at Drumkeare Bridge it was Q4-5 'High' in 2021. Q-values are also available for 1 no. station on the Isknagahiny River: at a bridge north-west of Caunteens it was Q4 'Good' in 2021.

4.2.3. Aquatic Fauna

Salmonids, Lampreys and Other Fish

Through the desk study and consultation with Inland Fisheries Ireland (IFI), it was established that the Currane River is an extremely important watercourse for salmonids, i.e. Atlantic Salmon (*Salmo salar*) and Brown Trout (*S. trutta*) and is a world-renowned fishery for Sea Trout (migratory ecotype of Brown Trout). Furthermore, redds are observed every winter just upstream of the bridge. Salmon is a qualifying interest of the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC.

The possibility that Sea Lamprey (*Petromyzon marinus*) and/or River Lamprey (*Lampetra fluviatilis*) may migrate through the works area cannot be excluded. However, as there does not appear to be suitable habitat for juvenile lampreys ("ammocoetes") in the vicinity of downstream, these species are considered unlikely to spawn here. Both of these species are qualifying interests of the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC. The river is likely unsuitable for all life stages of Brook Lamprey (*L. planeri*).

The catadromous species European Eel (*Anguilla anguilla*), which is Critically Endangered both nationally and globally, also likely migrates through the works area and may also be resident in this stretch of river. This species is not listed on Annex II to the Habitats Directive and as such is not a qualifying interest of any SAC.

Freshwater Pearl Mussel

Waterville Bridge and the Currane River are not within any *Margaritifera*-sensitive Area, i.e. any area subject to the European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations, 2009, and there are no records of Freshwater Pearl Mussel (*Margaritifera margaritifera*) in the Currane River or Lough Currane. However, the Cumberagh and Isknagahiny/Capall catchments upstream of Lough Currane together form the 'Cumberagh - Currane' *Margaritifera*-sensitive Area, which is categorised under 'Catchments of SAC populations listed in S.I. 296 of 2009', [REDACTED]. [REDACTED]

4.2.4. Riparian Birds

There is no suitable nesting habitat for Kingfisher (*Alcedo atthis*) in close proximity to the works area and almost no suitable feeding habitat. The arch barrels of the bridge may provide suitable nesting habitat for Irish Dipper (*Cinclus cinclus hibernicus*) and/or other riparian birds, e.g. Grey Wagtail (*Motacilla cinerea*). No evidence of these species, such as droppings on boulders along the stream, was observed during the site visit. However, there was no access under the central or southern arches due to flow conditions.

4.2.5. Mammals

Otter

Otter (*Lutra lutra*) is a qualifying interest of the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC and is also strictly protected under Article 12 of the Habitats Directive, as transposed in Ireland by Regulation 51 of the Habitats Regulation.

An examination of the records for Otter on *NBDC: Biodiversity Maps* showed that while there are no records of this species from the proposed works area or the immediate vicinity, there are multiple recent records of direct observations of otters and evidence of otters from both coastal and freshwater habitats in the wider locality.

During the site visit, evidence of otter in the form of spraint was observed on the grassy path between the bridge and the boathouse on the northern bank of the river c. 30m upstream of the bridge. This sprainting site appeared to be regularly used. Furthermore, there is suitable habitat for couches and holts nearby, though no evidence of couching or holting was observed.

Bats

The bridge was last inspected for potential roost features for bats in May 2020 [REDACTED]. At that time, it was noted that the masonry pointing was in very good condition and, as such, there were no cracks or crevices suitable for roosting bats, though there was a crack on the upstream spandrel wall with some suitability. While deterioration in the condition of the masonry, in particular mortar loss, over the period since 2020 has likely led to the emergence of suitable cracks and crevices for bats, it was also noted at that time that there is architectural lighting under the bridge and that the site is very exposed. This continues to be the case and, therefore, the potential for roosting bats remains low. Nevertheless, the Contractor's ecologist will carry out a full inspection of the structure immediately prior to works commencing and mark any potential bat roost features for retention.

Other Mammals

No evidence of Badger (*Meles meles*) or other protected mammals was observed during the survey. The works area and immediate vicinity do not provide suitable breeding or resting places for these species, but feeding and commuting through the area cannot be ruled out. However, as the works will be limited to daylight hours, any risk of impacts such as disturbance or barriers to connectivity for such species are negligible.

4.3. Invasive Alien Species

Invasive alien species (IAS) are species which are caused to spread outside their natural range due to human activities and become problematic in their new habitats. Such species can have significant negative effects on biodiversity and related ecosystem services, human health and safety, and the economy. *Ireland's invasive and non-native species – trends in introductions* (O'Flynn *et al.*, 2014) presented a risk assessment of 377 recorded non-native species and 342 non-native potential invaders and categorised them as 'High-impact', 'Medium-impact' and 'Low-impact' species, according to their environmental, social and economic impacts.

Part 1 of the Third Schedule to the Habitats Regulations lists invasive alien plants requiring legal restrictions to prevent their spread. Regulation 49(2) and (3) of the Habitats Regulations make it an offence to cause or allow the spread of any of these species (or their hybrids, cultivars etc.), except where all reasonable steps have been taken and due diligence exercised to avoid committing the offence. As such, these species are of particular concern with regard to site development and construction works.

In addition, the EU Invasive Alien Species (IAS) Regulation (No. 1143/2014) (as amended) establishes rules to prevent, minimise and mitigate the negative effects of IAS within the EU. The species to which this Regulation applies are included in the official *List of Invasive Alien Species of Union concern* (DG Env, 2024). Given the environmental, social and economic effects of these species and the legal restrictions on them at an EU level, they are also of concern for planning and development.

4.3.1. Non-native Flora

As noted in Section 4.2.1 above, c. 100m downstream of the bridge, there is a large stand of the high-impact Japanese Knotweed (*Fallopia japonica*), which is restricted under the Habitats Regulations, and stands of this species are abundant for several kilometres along the Finglas River from this point. No evidence of Japanese Knotweed was observed closer to the works area during the site visit and there are no records of this species any closer to the works in the desk study sources consulted.

The non-native Montbretia (*Crococsmia crocosmiiflora*) is abundant in the woodland to the north-east of the works area, while a line of an African Lily (*Agapanthus*) ornamental hybrid is present along the bottom of the north-west wingwall of the bridge. Neither of these are Medium- or High-impact, nor are they subject to any IAS regulations.

The Medium-impact non-native tree Sycamore (*Acer pseudoplatanus*) is also likely present in the locality. This species is also not subject to any IAS regulations.

A search of the NBDC *Biodiversity Maps* found no records of non-native flora of potential concern in the vicinity of the proposed works. Species specifically searched for included Himalayan Balsam (*Impatiens glandulifera*), Giant Hogweed (*Heracleum mantegazzianum*), Three-cornered Leek (*Allium triquetrum*), Nuttall's Waterweed (*Elodea nuttallii*) and other *Elodea* spp., or Least Duckweed (*Lemna minuta*). Notwithstanding the absence of these and other invasive alien plant species from the works area and immediate vicinity during the site visit (which was conducted outside of the optimal survey season for plant species), and the absence of records of such species in the desk study, the Contractor's ecologist will carry out a thorough inspection for such species in advance of works commencing.

As noted in Section 4.2.1 above, ash trees in the vicinity of the proposed works are infected ash dieback disease, which is caused by a non-native ascomycete fungus *Hymenoscyphus fraxineus*. Prevention of further spread of this pathogen is an important biosecurity concern.

4.3.2. Non-native Fauna

Non-native fauna which are of particular concern in lowland rivers and lakes include Zebra Mussel (*Dreissena polymorpha*), Quagga Mussel (*D. rostriformis bugensis*), Asian Clam (*Corbicula fluminea*) and Chinese Mitten Crab (*Eriocheir sinensis*). A search of the NBDC *Biodiversity Maps* found no records of such species in close proximity the proposed works. Similarly, as the Currane River/Lough Currane and their catchment do not support the native/naturalised White-clawed Crayfish (*Austropotamobius pallipes*) or any other crayfish species, the non-native oomycete pathogen *Aphanomyces astaci* is not a concern at this location. Nevertheless, the Contractor will implement a strict biosecurity protocol to prevent the introduction of freshwater invasive alien species and diseases to this sensitive catchment.

A search of NBDC *Biodiversity Maps* found no records of American Mink (*Neovison vison*), a high-impact, Third Schedule species, in the vicinity of the proposed works. However, this species has been observed by the author of this report (in August 2023) on the southern shore of Lough Currane, c. 3km east of the Waterville Bridge. The works area provides suitable habitat for this species. As such, it is considered likely to be present within the works area at least occasionally. However, there is no means by which the proposed works could facilitate or encourage the further spread of this species. Therefore, it is not of concern with regard to the proposed works.

5. Connectivity to Natura 2000 Sites

5.1. Zone of Influence

The “Zone of Influence” of a plan or project is the area which may experience ecological effects as a result of its implementation, including any ancillary activities. The various impacts of a plan or project will each have their own characteristics, e.g. nature, extent, magnitude, duration etc. Accordingly, the area subject to each impact (“zone of impact”) will vary depending on characteristics of the impact and the presence of pathways for its propagation. Ecological features within or connected to one or more zones of impact could, depending on their sensitivities, be affected by the plan or project under consideration. The area containing such features may be regarded as the Zone of Influence. As such, in establishing the Zone of Influence for a plan or project, regard must be had to the characteristics of its potential impacts, potential pathways for impacts and the sensitivities of ecological features in the receiving environment.

In its guidance on selecting Natura 2000 sites to include in AA, *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities* (DEHLG, 2010a) recommends inclusion of sites in the following three categories: -

- Any Natura 2000 sites within or adjacent to the plan or project area,
- Any Natura 2000 sites within the Zone of Influence of the plan or project (generally within 15km for plans, to be established on a case-by-case basis for projects, having regard to the nature, scale and location of the project, the sensitivities of the ecological receptors and the potential for in-combination effects), and
- Following the precautionary principle, any other Natura 2000 sites for which the possibility of significant effects cannot be excluded, e.g. for a project with hydrological impacts, it may be necessary to check the full extent of the catchment for Natura 2000 sites with water-dependent qualifying interests.

In addition, *Assessment of plans and projects in relation to Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC* (EC, 2021a) recommends consideration of Natura 2000 sites hosting fauna which could move to the plan or project area or its zone(s) of impact, and the potential for the plan or project to sever ecological connectivity within or between Natura 2000 sites. *Appropriate Assessment Screening for Development Management* (OPR, 2021) emphasises the importance of employing the source-pathway-receptor model (rather than arbitrary distances such as 15km) when selecting Natura 2000 sites for inclusion in AA.

Based on the above considerations, the Zone of Influence for the proposed works was defined as the combination of the following zones of impact: -

- For direct impacts, all areas within and immediately adjoining the works area.
- For temporary disturbance to birds and other fauna, as well as effects associated with the spread of invasive alien species, all areas within a precautionary buffer of 500m from the works area.
- For water quality impacts, the Currane River within and downstream of the works area, and the Ballinskelligs Bay coastal waterbody up to 5km from the proposed works.
- For indirect effects, all other areas with potential ecological connectivity to the above zones of impact, i.e. Lough Currane and the River Inny with their catchments and the remainder of Ballinskelligs Bay.

Using QGIS3, spatial data for waterbodies and catchments from *EPA Geoportal* were viewed in conjunction with aerial imagery from *Bing Maps* to identify pathways and zones of impact from the proposed works, and other potential ecological connections to the wider landscape. These were then mapped in relation to Natura 2000 sites using spatial data from *NPWS: Maps and Data* (see Figures 5-1 and 5-2).

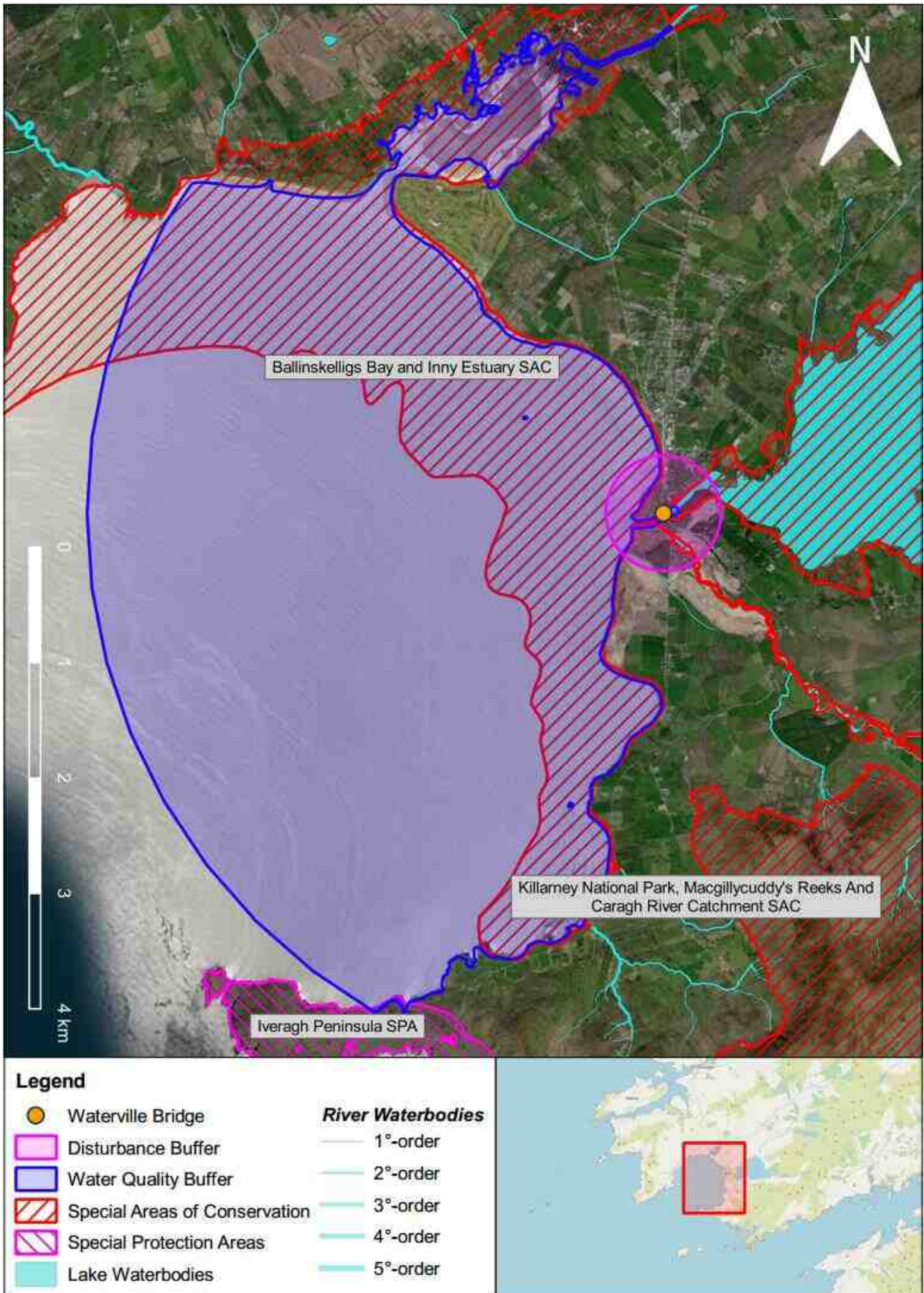


Figure 5-1 - The location of the proposed works and extents of their zones of impact in relation to Natura 2000 sites.

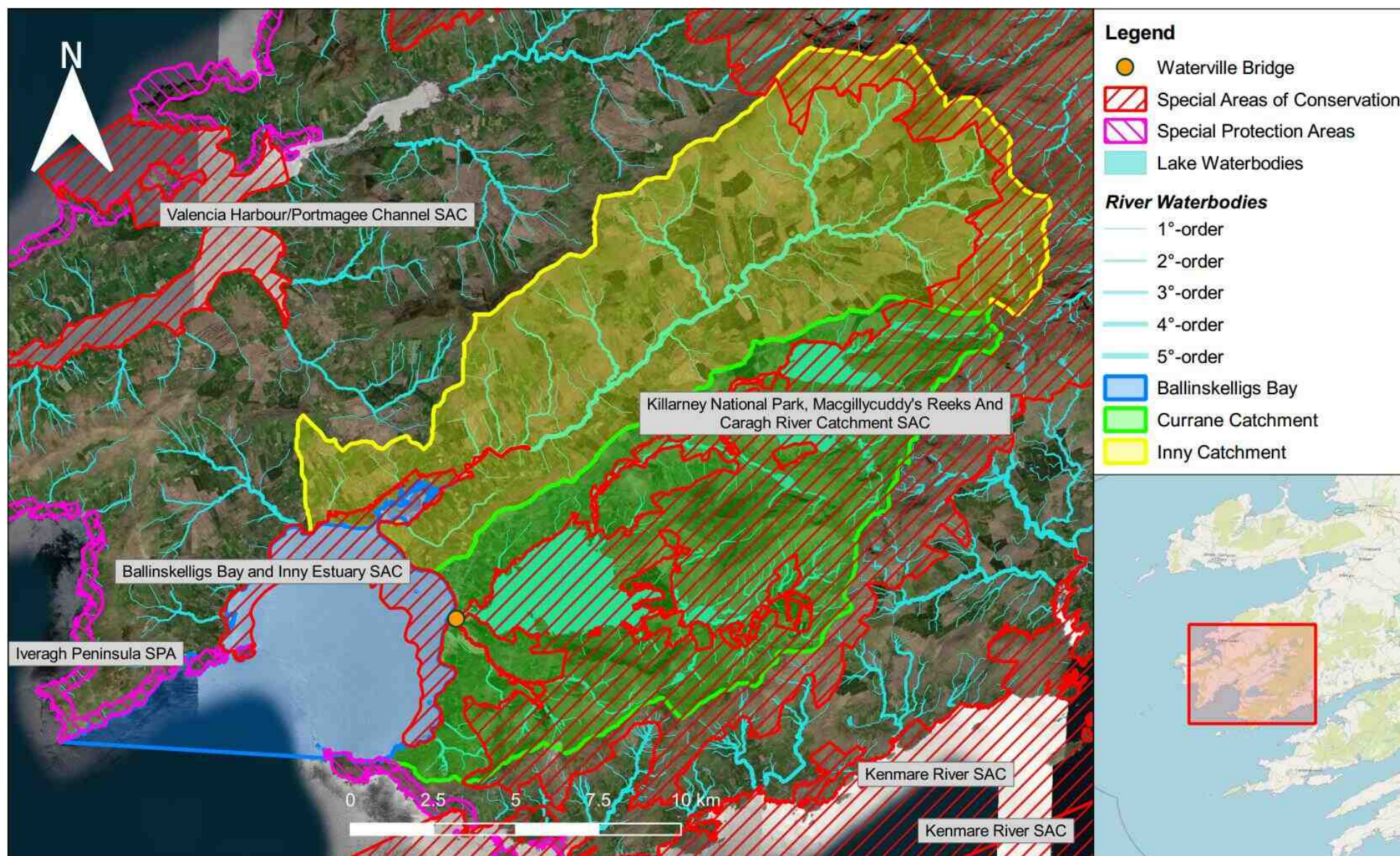


Figure 5-2 - The wider Zone of Influence of the proposed works in relation to Natura 2000 sites.

5.2. Identification of Sites

Direct Impacts

Direct impacts include those such as habitat loss and fragmentation which occur as a direct result of works. Such impacts are limited to the works footprint and the immediate vicinity. Both the Ballinskelligs Bay and Inny Estuary SAC (site code: 000335) and the Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment SAC (site code: 000365) are located in the immediate vicinity of the proposed works. Therefore, there is a risk of direct impacts to these sites.

Disturbance and Invasive Alien Species

Disturbance impacts include noise, visual and other forms of disturbance to animal species. The extent of such impacts is highly dependent on their magnitude and the sensitivity of the receptors. In the case of the proposed works, a precautionary distance of 500m from the works was used. Both the Ballinskelligs Bay and Inny Estuary SAC and the Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment SAC are located in the immediate vicinity of the proposed works. Only the latter is designated for animal species (both terrestrial and aquatic). Therefore, disturbance is considered to be a risk to the Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment SAC but not the Ballinskelligs Bay and Inny Estuary SAC.

Given the uncertainty and complexity of effects relating to the spread of invasive alien species, it is not possible to define a zone of impact. However, there is considered to be a risk to habitats in both the Ballinskelligs Bay and Inny Estuary SAC and the Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment SAC from species such as Japanese Knotweed (*Fallopia japonica*), which is present <100m from the proposed works and could, in the absence of appropriate controls, be caused to spread by the works.

Water Quality Impacts

Water quality impacts include pollution of surface waters and groundwater by sediment, cementitious materials (e.g. concrete), hydrocarbons (e.g. diesel, hydraulic oils and lubricating oils) and other deleterious matter arising from the proposed works. In the case of the proposed works, these include fine sediment from disturbance to the riverbed and banks, wet concrete and lime mortar, fuels and other hydrocarbons from vehicles and machinery, and waste from on-site welfare facilities.

The zone of impact is illustrated in Figure 5-1. Two Natura 2000 sites occur within this zone of impact, namely the Ballinskelligs Bay and Inny Estuary SAC and the Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment SAC. Both of these sites are designated for a range aquatic/coastal habitats and species which are sensitive to water quality impacts.

In addition, the Iveragh Peninsula SPA (site code: 004154) adjoins the zone of impact for water quality impacts, c. 4.7km south-west of the proposed development. This site is designated for 5 no. cliff-nesting bird species. While these birds may occasionally forage in close proximity to the proposed works or in the zone of impact for water quality impacts, given the availability of very large extents of more suitable foraging habitat and the small scale and short duration of any impacts on prey, it is concluded that there is no potential for significant effects.

Indirect Effects

There are no additional Natura 2000 sites within or adjoining the wider Zone of Influence of the proposed works, as illustrated in Figure 5-2 above.

Summary

Based on the above examination, the following Natura 2000 sites are selected for assessment: -

- Ballinskelligs Bay and Inny Estuary SAC (site code: 000335)
- Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment SAC (site code: 000365)

5.3. Site Descriptions

5.3.1. Ballinskelligs Bay and Inny Estuary SAC

Overview

The following description is taken from the Site Synopsis for the site (NPWS, 2013a).

“This site is located at the western end of the Iveragh Peninsula, Co. Kerry, close to the town of Waterville. It comprises the marine waters of Ballinskelligs Bay, as far out as the five-fathom line, some adjoining terrestrial areas and the estuary of the River Inny upstream to Breaigh townland. The site extends from Horse Island at the western end of the bay round to Rineen Point at its south-eastern side. Much of the site comprises shallow marine water, Ballinskelligs Bay, but it also supports a wide variety of other habitats, including intertidal mud/sand flats, sandy beaches, shingle, tidal river channels, sea cliffs, wet and dry grassland, freshwater marshes, swamps, cut-away bog, scrub, Bracken and saltmarsh.”

*“The site is of considerable conservation significance, particularly for the presence of two types of saltmarsh listed on Annex I of the E.U. Habitats Directive and of a population of *Petalophyllum ralfsii*, a species listed on Annex II of this Directive. Additionally, the site is of significance for the nationally important populations of Common Scoter and Ringed Plover that use it.”*

Qualifying Interests and Conservation Objectives

The Ballinskelligs Bay and Inny Estuary SAC was selected for the following qualifying interests: -

- Atlantic salt meadows (*Glauco-Puccinellietalia maritima*) (1330)
- Mediterranean salt meadows (*Juncetalia maritimi*) (1410)
- Petalwort (*Petalophyllum ralfsii*) (1395)

The conservation objectives of the Ballinskelligs Bay and Inny Estuary SAC are as follows (NPWS, 2014): -

- To maintain the favourable conservation condition of ‘Atlantic salt meadows (*Glauco-Puccinellietalia maritima*)’ and ‘Mediterranean salt meadows (*Juncetalia maritimi*)’ in the Ballinskelligs Bay and Inny Estuary SAC.
- To restore the favourable conservation condition of Petalwort in the Ballinskelligs Bay and Inny Estuary SAC.

The Conservation Objectives document for the site (NPWS, 2014) also states the following: *“Please note that this SAC overlaps with Iveragh Peninsula SPA (004154) and is adjacent to Killarney National Park, Macgillycuddy’s Reeks and Caragh River Catchment SAC (000365). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping and adjacent sites as appropriate.”*

Threats, Pressures and Activities

Human usage of the site includes fishing and tourist activities (NPWS, 2013a). Table 5-1 below lists the threats, pressures and activities with negative impacts on the site, as per its Natura 2000 Standard Data Form (NPWS, 2019d).

Table 5-1 - Threats, pressures and activities with negative impacts on the Ballinskelligs Bay and Inny Estuary SAC.

Rank	Threat, pressure or activity (code)	Threat, pressure or activity (description)	Inside, outside or both
High	G02.01	golf course	outside
Low	A08	Fertilisation	both
Low	E01	Urbanised areas, human habitation	outside
Low	E01.03	dispersed habitation	outside
Medium	A04	grazing	outside
Medium	C01.01	Sand and gravel extraction	inside
Medium	C01.01.02	removal of beach materials	inside
Medium	F02.03	Leisure fishing	inside
Medium	G01.02	walking, horseriding and non-motorised vehicles	inside

NPWS (2019d) and Eionet (2022).

5.3.2. Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC

Overview

The following description is taken from the Site Synopsis for the site (NPWS, 2013b).

“This very large site encompasses the mountains, rivers and lakes of the Iveragh Peninsula, and the Paps Mountains which stretch eastward from Killarney towards Millstreet. The majority of the site is in Co. Kerry, with a small portion in Co. Cork. This is the most mountainous region in Ireland and includes Carrauntoohil, the highest peak in the country at 1,039 m. The underlying geology is almost entirely Old Red Sandstone, although Carboniferous limestone occurs on the eastern shores of Lough Leane, and rhyolitic lavas occur above Lough Guitane. The dramatic sandstone ridges and valleys have been shaped by glacial processes and many of the lakes are impounded by glacial moraines. Located close to the Atlantic in the south-west of Ireland, the site is subject to strong oceanic influences. Generally, Lusitanian flora and fauna is well-represented, while the high peaks and cliffs support arctic-alpine relicts.”

“Overall, the site is of high ecological value because of the diversity, quality and extensiveness of many of the habitats, and impressive list of rare species of flora and fauna. In recognition of its importance the Killarney National Park has been designated a World Biosphere Reserve.”

Qualifying Interests and Conservation Objectives

The Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC was selected for the following qualifying interests: -

- Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) (3110)
- Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoëto-Nanojuncetea* (3130)
- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation (3260)
- Northern Atlantic wet heaths with *Erica tetralix* (4010)
- European dry heaths (4030)

- Alpine and Boreal heaths (4060)
- *Juniperus communis* formations on heaths or calcareous grasslands (5130)
- Calaminarian grasslands of the *Violetalia calaminariae* (6130)
- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (6410)
- Blanket bogs (* if active bog) (7130)
- Depressions on peat substrates of the *Rhynchosporion* (7150)
- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles (91A0)
- *Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) (91E0)
- **Taxus baccata* woods of the British Isles (91J0)
- Kerry Slug (*Geomalacus maculosus*) (1024)
- Freshwater Pearl Mussel (*Margaritifera margaritifera*) (1029)
- Marsh Fritillary (*Euphydryas aurinia*) (1065)
- Sea Lamprey (*Petromyzon marinus*) (1095)
- Brook Lamprey (*Lampetra planeri*) (1096)
- River Lamprey (*Lampetra fluviatilis*) (1099)
- Atlantic Salmon (*Salmo salar*) (1106)
- Lesser Horseshoe Bat (*Rhinolophus hipposideros*) (1303)
- Otter (*Lutra lutra*) (1355)
- Killarney Fern (*Trichomanes speciosum*) (1421)
- Slender Naiad (*Najas flexilis*) (1833)
- Killarney Shad (*Alosa fallax killarnensis*) (5046)

The conservation objectives of the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC are as follows (NPWS, 2017): -

- To maintain the favourable conservation condition of 'Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation', '*Juniperus communis* formations on heaths or calcareous grasslands', 'Calaminarian grasslands of the *Violetalia calaminariae*', Kerry Slug, Sea Lamprey, Brook Lamprey, River Lamprey, Atlantic Salmon, Lesser Horseshoe Bat, Otter, Killarney Fern and Slender Naiad in the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC.
- To restore the favourable conservation condition of 'Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*)', 'Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoëto-Nanojuncetea*', 'Northern Atlantic wet heaths with *Erica tetralix*', 'European dry heaths', 'Alpine and Boreal heaths', '*Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)', 'Blanket bogs (* if active bog)', 'Depressions on peat substrates of the *Rhynchosporion*', 'Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles', '*Alluvial forests

with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*), ‘**Taxus baccata* woods of the British Isles’, Freshwater Pearl Mussel, Marsh Fritillary and Killarney Shad in the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC.

The Conservation Objectives document for the site (NPWS, 2017) also states the following: “Please note that this SAC overlaps with Killarney National Park SPA (004038) and Iveragh Peninsula SPA (004154) and is adjacent to Ballinskelligs Bay and Inny Estuary SAC (000335), Castlemaine Harbour SAC (000343), Castlemaine Harbour SPA (004029), Blackwater River (Cork/Waterford) SAC (002170) and Blackwater River (Kerry) SAC (002173). [...] The conservation objectives for this site should be used in conjunction with those for the overlapping and adjacent sites as appropriate.”

Threats, Pressures and Activities

The main land use within the site is grazing by sheep. In and around the National Park deer grazing is also common. The extensive grazing has caused damage to many of the terrestrial habitats, resulting in degradation of heath and blanket bogs and prevention of woodland regeneration. In the upland habitats the erosion caused by grazing is exacerbated by the exposed nature of the terrain. Apart from grazing, the woodlands are particularly threatened by Rhododendron (*Rhododendron ponticum*) invasion: approximately two thirds of the oak woodlands are affected, although a Rhododendron removal programme is underway in the National Park. The yew wood has been adversely affected by heavy grazing for many years, but it is intended to control this in the near future by erection of a deer fence. The bogs are sensitive to grazing and are also threatened by turbary, burning and afforestation. Most of the lakes are very acid-sensitive and therefore vulnerable to afforestation within the catchment areas. Lough Leane has been subject to some eutrophication, although water quality appears to have improved since phosphates were removed from the sewage in 1985.

Table 5-2 below lists the threats, pressures and activities with negative impacts on the site, as per its Natura 2000 Standard Data Form (NPWS, 2018).

Table 5-2 - Threats, pressures and activities with negative impacts on the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC.

Rank	Threat, pressure or activity (code)	Threat, pressure or activity (description)	Inside, outside or both
Low	A03	mowing / cutting of grassland	inside
Medium	A04	grazing	outside
High	A04	grazing	inside
Medium	A08	Fertilisation	outside
Low	A08	Fertilisation	inside
Medium	B	Sylviculture, forestry	inside
Medium	B	Sylviculture, forestry	outside
Medium	C01.03	Peat extraction	inside
Medium	E01	Urbanised areas, human habitation	outside
Low	E01.03	dispersed habitation	outside
Medium	E01.03	dispersed habitation	inside
Low	F02.03	Leisure fishing	inside
Medium	F03.01	Hunting	inside
Low	G01.02	walking, horse-riding and non-motorised vehicles	inside
Low	G02.01	golf course	outside

Rank	Threat, pressure or activity (code)	Threat, pressure or activity (description)	Inside, outside or both
Medium	G02.06	attraction park	inside
High	I01	invasive non-native species	inside
Medium	J01	fire and fire suppression	inside
Medium	K01.01	Erosion	inside

NPWS (2018) and Eionet (2022).

6. Assessment of Adverse Effects

6.1. Identification of Potential Impacts

This section identifies potential impacts on the qualifying interests of the Natura 2000 sites concerned following the source-pathway-receptor model, i.e. by identifying the impacts from the proposed works (sources) to which the qualifying interests (receptors) are sensitive and establishing whether there are pathways for those impacts.

6.1.1. Ballinskelligs Bay and Inny Estuary SAC

Table 6-1 - Identification of potential impacts on the Ballinskelligs Bay and Inny Estuary SAC.

Qualifying interest	Identification of potential impacts	Potential impact
Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)	As illustrated in the mapping provided in NPWS (2014), the main occurrence of saltmarshes in this SAC is along the Inny Estuary, which is c. 4km north-west of the proposed works. Given this distance, the dilution capacity of Ballinskelligs Bay, the dominance of outward flow from the estuary and the fact that saltmarshes are only periodically inundated, the hydrological connection between the proposed works and these habitats is very weak. Furthermore, given the small scale and short duration of the proposed works and weakness of the hydrological connection, there is no risk of significant impacts on these habitats. In addition, following a thorough review of aerial imagery, suitable conditions for either of these saltmarsh types are very unlikely to occur closer to the proposed works. Therefore, the possibility adverse effects on the conservation objectives for these qualifying interests can be excluded at this stage.	No
Mediterranean salt meadows (<i>Juncetalia maritimi</i>)		No
Petalwort	The nearest known occurrence of this species is within a dune slack west of Inny Ferry, c. 4km north-west of the proposed works, as identified in Campbell et al. (2013) and NPWS (2014). There is no hydrological or other ecological connection between the proposed works and this location. Furthermore, this species has very specific habitat requirements and is only found in damp calcareous dune slacks and machair (Campbell, 2013). No such habitat occurs in close proximity or connected to the proposed works. Therefore, there are no pathways for impacts to this qualifying interest and the possibility adverse effects on its conservation objective can be excluded at this stage.	No

6.1.2. Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC

Table 6-2 - Identification of potential impacts on the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC.

Qualifying interest	Identification of potential impacts	Potential impact
Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>)	The nearest example of this qualifying interest to the proposed works is Lough Currane, c. 300m upstream of Waterville Bridge. As the lake is upstream of the works, there is no potential for direct water quality impacts. As the integrity of the lake habitat does not rely on species moving into the lake from downstream, there is also no potential for indirect impacts. Therefore, the possibility of any impacts can be ruled out at this stage.	No
Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoëto-Nanojuncetea</i>	Mapping in NPWS (2017) shows that all of the lakes in the Currane catchment represent the <i>Littorelletalia uniflorae</i> type, while the nearest lake of the <i>Littorelletea uniflorae</i> or <i>Isoëto-Nanojuncetea</i> type is Lough Brin in the Kerry Blackwater catchment. As there is no hydrological or other connectivity to this or any other lake supporting this habitat type, the possibility of any impacts can be ruled out at this stage.	No

Qualifying interest	Identification of potential impacts	Potential impact
Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	For the purpose of this NIS, all rivers and streams in the SAC are assumed to represent this habitat type. The nearest examples within the SAC are the Currane River at Waterville Bridge and the rivers and streams discharging to Lough Currane, as well as the Finglas River. Of these, it is only the Currane River in the vicinity of Waterville Bridge which is within the zone of impact for water quality impacts from the proposed works. Given the nature of the works and their location within the Currane River, there is a risk of significant impacts on this habitat. These impacts require further analysis and an evaluation of their potential to adversely affect the relevant conservation objective.	Yes
Northern Atlantic wet heaths with <i>Erica tetralix</i>	None of these three terrestrial habitat types occur in close proximity to the proposed works. These are generally restricted to the hillsides and higher mountains, rather than the mostly flat ground just above sea level where the proposed works are located. Therefore, the possibility of any impacts can be ruled out at this stage.	No
European dry heaths		No
Alpine and Boreal heaths		No
<i>Juniperus communis</i> formations on heaths or calcareous grasslands	This terrestrial habitat type does not occur in close proximity to the proposed works. It is generally restricted to the more isolated parts of the SAC, e.g. headlands and islands of the Upper Lake and Muckcross Lake. Therefore, the possibility of any impacts can be ruled out at this stage.	No
Calaminarian grasslands of the <i>Violetalia calaminariae</i>	Examples of the habitat type occur at the disused copper mine on the north shore of Muckcross Lake and at Ross Island, at a former copper and lead mine. This habitat type does not occur in close proximity to the proposed works. Therefore, the possibility of any impacts can be ruled out at this stage.	No
<i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)	The area of 'Wet grassland' (GS4) on the southern (left-hand) bank of the Currane River immediately downstream of Waterville Bridge has some potential to correspond to this Annex I habitat type. However, it is outside the SAC boundary and any impacts would be limited to light trampling around the wingwall, followed by short term recovery of vegetation. There will be no permanent loss or damage to this habitat. Therefore, the possibility of any effects can be ruled out at this stage.	No
Blanket bogs (* if active bog)	Neither of these peatland habitats occur in close proximity to the proposed works. Therefore, the possibility of any impacts can be ruled out at this stage.	No
Depressions on peat substrates of the <i>Rhynchosporion</i>		No
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles	Neither of these two woodland habitat types occur in close proximity to the proposed works. The nearest possible examples are found along the southern and western shores of Lough Currane and the slopes above. Therefore, the possibility of any impacts can be ruled out at this stage.	No
*Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)		No
* <i>Taxus baccata</i> woods of the British Isles		No
Kerry Slug	No suitable habitat for this species occurs in the vicinity of the proposed works. Therefore, the possibility of any impacts can be ruled out at this stage.	No
Freshwater Pearl Mussel	The proposed works are not within any <i>Margaritifera</i> -sensitive Area and there are no records of this species in the Currane River or Lough Currane. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	No

Qualifying interest	Identification of potential impacts	Potential impact
	<p>[REDACTED]</p> <p>[REDACTED] As such, water quality impacts from the proposed works within the Currane River have the potential to negatively affect the salmonid population upon which the pearl mussels in the SAC depend.</p> <p>However, as noted in NPWS (2017), pearl mussel glochidia rely on juvenile (0+ and 1+) salmonids, rather than migrating adults, and the presence of such fish is sufficient (high abundances are not required). As such, only a profound reduction in juvenile salmonid abundance would impact pearl mussel glochidia. The only pathway for such an effect from the proposed works would be through very significant impacts, across multiple consecutive years, on salmon and trout migrating through Currane River. Given the nature, scale and duration of the proposed works, such impacts can be ruled out and, consequently, the possibility of any impacts on Freshwater Pearl Mussel can be excluded.</p>	
Marsh Fritillary	The only known colony of this species within the SAC is located c. 50km to the east, between Lough Lene and Muckcross Lake (NPWS, 2017). However, NBDC <i>Biodiversity Maps</i> shows records of adult butterflies and there larval foodplant, Devil's-bit Scabious (<i>Succisa pratensis</i>), in the same hectad as the proposed works, and potentially suitable habitat occurs in the vicinity, e.g. in the wet grassland immediately south-west of the bridge. with the same 10 No habitat suitable for this species occurs within the footprint of the proposed works. However, given the nature, small scale and short duration of the works, the possibility of any significant impacts can be ruled out at this stage.	No
Sea Lamprey	As noted in section 4.2.3, the Currane River is very important for Salmon and redds are observed every winter just upstream of the bridge. Sea Lamprey and/or River Lamprey may also migrate through the works area. However, as there does not appear to be suitable habitat for ammocoetes downstream, these species are unlikely to spawn here. The river is likely unsuitable for all life stages of Brook Lamprey. Given the nature and extent of the in-stream works proposed, the possibility of significant impacts on these species cannot be ruled out at this stage.	Yes
Brook Lamprey		Yes
River Lamprey		Yes
Atlantic Salmon		Yes
Lesser Horseshoe Bat	No potential roosts were identified within or in close proximity to the works area during the site visit [REDACTED] and there are no known roosts of this species within 2.5km. Furthermore, there are no treelines or other linear features in close proximity to the works area which could support feeding or commuting corridors, the surrounding area is very exposed and the bridge is artificially lit. Given the lack of suitable habitat for this species, possibility of significant impacts can be ruled out.	No
Otter	Evidence of Otter (spraint) was observed in close proximity to the works area during the site visit, and the works area supports very suitable feeding habitat for this species. In light of this, and the nature of the works, there is a clear potential for impacts on Otter.	Yes
Killarney Fern	No suitable habitat for this species occurs in the vicinity of the proposed works. Therefore, the possibility of any impacts can be ruled out at this stage.	No
Slender Naiad	The nearest known possible occurrence of this aquatic macrophyte is in Lough Adoolig, c. 16.5km north-west (>20km upstream) of the proposed works, on the upper reach of the Cumberagh River. No suitable habitat occurs nearer the proposed works. Therefore, the possibility of any impacts can be ruled out at this stage.	No
Killarney Shad	As this species is restricted to Lough Leane, which is outside the Zone of Influence of the proposed works. Therefore, the possibility of any impacts can be ruled out at this stage.	No

6.1.3. Summary

As explained in Table 6-1 above, the possibility of adverse effects on the conservation objectives for any of the qualifying interests of the Ballinskelligs Bay and Inny Estuary SAC have been excluded at this stage on the basis that there are no pathways for impacts to any of the site's qualifying interests. As such, this site is not considered further.

However, with regard to the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC, potential impacts on the following qualifying interests could not be ruled out: -

- Water courses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation
- Sea Lamprey
- Brook Lamprey
- River Lamprey
- Atlantic Salmon
- Otter

The potential impacts on these qualifying interests are analysed and the significance of their effects evaluated, in view of their conservation objectives, in Section 6.2.

6.2. Analysis and Evaluation of Effects

This section analyses the potential impacts identified in Section 6.1 and evaluates the significance of their effects in view of the relevant conservation objectives, as defined by their specific attributes and targets.

6.2.1. Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC

Table 6-3 - Evaluation of effects on the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC.

Qualifying interest	Description of effects	Adverse effect
Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	<p>The attributes of the conservation objective for this habitat type relate to habitat area and distribution, hydrological regime (river flow and groundwater discharge), substratum composition (particle size range), water quality, typical species, floodplain connectivity (area) and riparian habitat (area and condition).</p> <p>Given the nature, small scale and location of the proposed works, they will not give rise to any effects on the area or distribution of this habitat type or any of its sub-types, or floodplain connectivity.</p> <p>During the works, there will be a temporary change to flow conditions as approximately half of the flow is displaced from one side of the channel to the other (each side sequentially). This change will be localised, unlikely perceptible more than 50m upstream or downstream of the bridge and will be limited to the duration of the works (c. 2 weeks either side). The likely impact is further reduced by the timing of the works during the period July-September, when flows are typically lower. Therefore, there will be no adverse effect on this attribute. There will be no alteration to groundwater discharge.</p> <p>Given that the works involve the effective reconstruction of part of the riverbed, there is potential for long-term changes to the substratum composition. However localised, given the importance of the substrate at this location, e.g. for spawning salmonids, this could give rise to an adverse effect. Therefore, mitigation is required.</p>	Yes

Qualifying interest	Description of effects	Adverse effect
	<p>Given the nature of the proposed works, particularly in-stream works and use of mortar over water, there is potential for water quality impacts which would constitute a brief or temporary low-magnitude adverse effect. Therefore, mitigation is required.</p> <p>Given the location and small scale of the works, they will not give rise to any adverse effect in terms of the presence or condition of typical species, e.g. Killarney fern (<i>Trichomanes speciosum</i>), Silver Hawkweed (<i>Hieracium argentatum</i>), Ivy-leaved Bellflower (<i>Wahlenbergia hederacea</i>), Pillwort (<i>Pilularia globulifera</i>) or the caddisflies <i>Hydroptila tigurina</i> and <i>Lepidostoma basale</i>.</p> <p>Similarly, given the localised and temporary nature of the proposed works, they will not give rise to any adverse effect on the area of condition of important riparian habitats.</p> <p>In summary, the proposed works have the potential to adversely affect the conservation objective for the qualifying interest habitat through impacts on substratum composition and water quality. As such, mitigation is required to avoid or minimise such impacts to ensure that they do not give rise to adverse effects.</p>	
Sea Lamprey	<p>The attributes of the conservation objective for the three lamprey species relate to distribution (percentage of river accessible), population structure of juveniles, juvenile density in fine sediment, extent and distribution of spawning habitat and availability of juvenile habitat.</p> <p>As the proposed works will not lead to any new barriers to movement of lampreys, there will be no adverse effect in terms of the distribution of these species. Similarly, as there is no suitable habitat for juvenile lampreys at or downstream of the proposed works, there will be no adverse effect on the population structure of juveniles, juvenile density in fine sediment or availability of juvenile habitat. Given the lack of juvenile habitat at and downstream of the proposed works, the gravels within the works area are not considered suitable spawning habitat. As such, there will also be no adverse effect on the extent or distribution of such habitat.</p> <p>In summary, the proposed works will not give rise to any impacts on the attributes of these conservation objectives and, therefore, there will be no adverse effect on these qualifying interests.</p>	No
Brook Lamprey		No
River Lamprey		No
Salmon	<p>The attributes of the conservation objective for Salmon relate to distribution (extent of anadromy), abundance of adult spawning fish, fry and out-migrating smolts, number and distribution of redds, and water quality.</p> <p>As the proposed works will not lead to any new barriers to migration of salmon, there will be no adverse effect in terms of the distribution, i.e. extent of anadromy, of this species. Given the nature of the proposed works, they will not adversely affect the numbers of adult fish entering the system to spawn or the ability of the catchment to exceed its Conservation Limit. Similarly, given the nature of the proposed works, they will not adversely affect the numbers (mean catchment-wide abundance) of fry and out-migrating smolts.</p> <p>Given the nature and location of in-stream works proposed, there is potential for loss of spawning redds in the vicinity of Waterville Bridge. This requires mitigation to ensure that the river substrate composition post-works is suitable for salmon spawning. As the works will be carried out within the period from 1st July to 30th September, there will be no impact during the spawning season.</p> <p>In addition, given the nature of the proposed works, particularly in-stream works and use of mortar over water, there is potential for water quality impacts. While not representing an adverse effect on the specific target for water quality, such impacts remain of concern for salmon and other aquatic species and require mitigation.</p> <p>In summary, the proposed works have the potential to adversely affect the conservation objective for Salmon through impacts on spawning redds and water quality. As such, mitigation is required to avoid or</p>	Yes

Qualifying interest	Description of effects	Adverse effect
	minimise such impacts to ensure that they do not give rise to adverse effects.	
Otter	<p>The attributes of the conservation objective for Otter relate to distribution, extent of habitat (terrestrial, river and lake), couching sites and holts, fish biomass available and barriers to connectivity.</p> <p>Given the nature and scale of the proposed works, they do not have any potential to adversely affect the distribution of otters. The exclusion of otters from a very small area of river and riparian habitat for during the c. 4-6 weeks of works does not constitute an adverse effect on the extent of these habitats. There will be no impact on lake habitats. Any water quality impacts from the proposed works will be of low magnitude and short duration, and therefore will not lead to a significant reduction in the prey biomass available (whether fish, crustaceans or other prey species).</p> <p>As noted in Section 4.2.5, there is suitable habitat for couching and holts in the surrounding area, and a sprinting site (possibly regularly used) was found c. 30m from the works area. However, no such sites were found and, given the restricted extent of the works, their small scale and short duration, there will be no loss of any couching sites or holts.</p> <p>Given the nature of the works and their location within the river and on the riverbank, there is potential for an effective barrier to connectivity along the riparian corridor for otters during the works (particularly during the works on the northern side, as there is effectively no passage for otters on the southern bank due to the abutment). While this is limited by the restriction of active works to daylight hours, further mitigation is required to ensure permeability for otters through the works area.</p> <p>In summary, the proposed works have the potential to adversely affect the conservation objective for Otter through impacts on connectivity. As such, mitigation is required to avoid or minimise such impacts to ensure that they do not give rise to adverse effects.</p>	Yes

6.2.2. Summary

The qualifying interests for which the possibility of adverse effects could not be excluded are as follows: -

- Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC
 - 'Water courses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation'
 - Salmon
 - Otter

As the possibility of adverse effects on the above qualifying interests could not be ruled out, appropriate mitigation is required in order to avoid or reduce the impacts of the proposed works on those qualifying interests such that they no longer represent adverse effects in view of the relevant conservation objectives.

7. Mitigation

7.1. Requirement and Approach

Section 6 of this NIS found that, in the absence of appropriate mitigation, the proposed works have the potential to adversely affect the conservation objectives for ‘Water courses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation’, Salmon and Otter in the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC. The potential for such effects arises due to the risk of water quality impacts, changes to substratum composition, particularly with regard to salmonid spawning gravels, and barriers to the movement of otters. This section prescribes mitigation measures to address these impacts and, thereby, eliminate the possibility of adverse effects.

The development of the mitigation measures prescribed in this section has followed the “mitigation hierarchy”, which prioritises avoidance over reduction, and actions at source over pathway over receptor, as follows: -

1. Eliminate the source of the impact,
2. Minimise or reduce the impact at its source,
3. Block or weaken the pathway for effects, and
4. Abate effects at the receptor.

This approach assists with more complete removal of the effects, minimises the risk of effects occurring by less obvious pathways, also protects non-target receptors, and minimises the risks of unintended harm associated with measures focussed at or near the receptors.

7.2. Mitigation Measures

7.2.1. Design Phase

Channel Profile

The proposed works comprise maintenance and like-for-like replacement and renewal of specific elements of the bridge structure. No additional structures or parts of structures are proposed, including no new scour protection on the southern pier. As such, the profile of the bridge (eastern or western elevation) will not change. This will ensure that there is no direct or indirect change to the channel profile (cross-section) or hydrology (flow velocities, shear stress, conveyance etc.).

Substratum Composition

The top 150mm of substratum material from the existing riverbed will be salvaged from excavated areas and this will be stored on site for re-laying over the new rip-rap (the finished bed level is to match the existing). This will ensure the preservation of the existing the substrate particle size distribution within the works area and also accelerate the re-establishment of benthic biota (invertebrates, algae, microbes etc.) post-works.

Any additional substratum material required to be imported shall be clean, washed river gravels of 50mm-76mm diameter for salmonid spawning, as requested by IFI during consultation.

7.2.2. Construction Phase

This section details the mitigation measures which will be implemented by the Contractor during the construction phase. These measures have been developed in consultation with the Contractor and shall be incorporated into the Contractor's Risk Assessment Method Statement (RAMS).

General Precautions

The following overarching measures shall apply to the construction phase: -

1. All works shall be undertaken within the agreed works area. No works shall be undertaken outside the works area.
2. As part of site induction, all persons entering the works area shall receive a 'tool-box talk' covering the environmental and ecological sensitivities of the site and the measures being implemented to avoid and minimise impacts on those sensitivities, as well as the responsibilities of persons on site in implementing those measures.
3. All in-stream and bankside works shall be carried out within the period beginning on 1st July and ending on 30th September. This includes all of the temporary enabling works, i.e. water management.
4. No works shall be undertaken before sunrise or after sunset.

Ecological Supervision

The Contractor shall retain the services of a suitably qualified and experienced ecologist ("Contractor's ecologist") for the duration of the works.

The qualifications and experience of the Contractor's ecologist shall include, as a minimum: -

- BSc (Hons) or above in Ecology or a related environmental discipline,
- Full membership of the CIEEM or equivalent membership of a similar professional body,
- Demonstrable experience in providing ecological/environmental oversight on construction sites, including sites where sensitive watercourses are present.

The main duties of the Contractor's ecologist shall include the following: -

1. Assist the Contractor in ensuring that the measures in this NIS, any conditions of consents/licences and relevant TII guidelines are fully and properly implemented during construction.
2. Undertake pre-construction surveys for legally restricted IAS, any breeding or resting places of species listed on Annex IV to the Habitats Directive, and nesting birds.
3. Prepare an IAS Management Plan and oversee its implementation, as described below.
4. Advise the Contractor on any requirement for a derogation licence under Regulation 54 of the Habitats Regulations due to the presence of breeding or resting places of species listed on Annex IV to the Habitats Directive, as identified during the pre-construction surveys.³
5. Directly supervise and record key activities on site, including: -
 - a. Set-up of water management measures,
 - b. Dewatering of the works area and fish rescue,
 - c. Excavation of the riverbed and salvage of substrate for re-use,
 - d. Pouring of concrete scour protection,
 - e. Re-laying of the top 150mm of river substrate, and

³ The Contractor, assisted by the Contractor's ecologist, shall be responsible for applying for the licence and observing its conditions.

- f. Rearrangement and removal of water management measures.
6. Carry out weekly inspections of the site and document the implementation of the measures in this NIS, any conditions of consents/licences and relevant TII guidelines. The Contractor's ecologist's records shall be available to TII or TII's Representative, the NPWS and IFI, on request.
7. Provide monthly updates to TII or TII's Representative on the implementation of the mitigation measures detailed in this NIS and any ecological/environmental incidents on site.

Water Management

In-stream works shall only begin once the working area is fully isolated and dewatered. The following measures apply specifically to the water management for in-stream works: -

1. IFI and the NPWS shall be notified in advance of these works commencing.
2. Fish present in the isolated area shall be rescued by electrofishing. This shall be carried out by IFI staff or another person authorised under Section 14 of the Fisheries (Consolidation) Act, 1959 (as amended).
3. Partial dewatering may be necessary to facilitate electrofishing, i.e. to reduce the depth and extent of the area to be fished. Pumps shall be screened to prevent the intake of fish.
4. All water removed from the works area shall be pumped to a mobile settlement tank with a hydrocarbon interceptor, which shall be placed in vegetated area at least 25m from the river and surrounded by a silt fence.
 - a. This system shall be checked on a daily basis by the Contractor and weekly by the Contractor's ecologist and any issues identified shall be addressed immediately and recorded.
 - b. Sediment and hydrocarbons built up in this system shall be removed as and when necessary and sent off-site for appropriate disposal and recorded.
5. Following dewatering, any water that seeps through the dams or the riverbed will flow to a low point or sump at the downstream end and be pumped out as described above.
6. A secondary 4-inch pump shall be stored on site as a back-up.

Water Quality

In addition to the water management mitigation detailed above, the following measures shall also apply to prevent water quality impacts generally: -

1. During all stages of construction, site management shall ensure that good housekeeping is maintained at all times and that all site personnel are made aware of the importance of the freshwater environments and the requirement to avoid pollution.
2. Safe handling of all potentially hazardous materials will be emphasised to all site personnel.
3. Tools and equipment shall not be cleaned in any watercourse and wash water shall not be discharged directly into any watercourse or road drains without appropriate treatment.
4. The Contractor's RAMS shall include an Emergency Response Procedure (ERP) as follows:
 - a. Prior to the commencement of works, the Contractor, assisted by the Contractor's ecologist, shall elaborate a detailed, project-specific ERP on the basis of the outline ERP and the mitigation in this NIS. The final ERP shall be agreed with TII.
 - b. The ERP shall be adhered to in order to address any pollution incidents on site, including from flooding, and in that regard shall pay particular attention to water management.

5. Notwithstanding that the proposed works will be carried out within the period beginning on 1st July and ending on 30th September, when there is a reduced risk of heavy rainfall, the Contractor shall make daily checks for elevated water levels/flows in the river and weather warnings or flood alerts from Met Éireann and/or Kerry County Council.
 - a. Should water levels in the river or overland flows pose a risk of overwhelming water quality control measures, or a weather warning for extreme rainfall or a flood alert covering County Kerry be in place,
 - i. All areas of exposed soil shall be securely covered with hessian matting,
 - ii. All stockpiles shall also be securely covered, and
 - iii. Works with a pollution risk, e.g. in-stream works, excavations, flow diversion, and works involving wet concrete, other cementitious materials or lime, shall be suspended and all vehicles, plant, equipment, construction materials and personnel shall be removed from the flood zone.
 - b. Works may resume once any flood waters have receded and any warning/alert been lifted.

In addition, the measures in the following sub-sections shall apply to control the risk of water quality impacts from specific sources.

Run-off

The following shall be implemented to minimise the quantity of any run-off entering the river and to minimise any contamination of run-off by fine sediment or other deleterious matter: -

1. Where possible, run-off from outside of the works area shall be intercepted before entering the works area and diverted around it.
2. Run-off from the dry (bankside) and dewatered works areas will generally drain to the low point or sump at the downstream end of the dewatered area and pumped to the settlement tank, as described above, where sediment and hydrocarbons will be trapped before the water is allowed to slowly filter back to the river.
3. Any stockpiles shall not be located within 25m of the river and shall be covered overnight.

Hydrocarbons

The following shall be implemented to control the risk of pollution from hydrocarbons, including fuels, hydraulic oils etc. on site: -

1. Storage of any fuels, oils and other hydrocarbons on site shall be in secure tanks/containers banded to 110% capacity.
2. Refuelling shall not be permitted within 50m of any watercourse. There is ample road-side space for refuelling c. 200m south along the N70 (near the entrance to the Hogs Head Golf Course).
3. All vehicles, plant, equipment etc. shall: -
 - a. Be free of any mechanical defects, and be well maintained so as to prevent fuel or oil leaks,
 - b. Be mechanically sound and checked before arriving on site,
 - c. Not be left idling when not in use, and
 - d. Be parked/stored on drip trays overnight.
4. Driving on the riverbed and banks shall be kept to a minimum.

5. All site personnel shall be familiar with their responsibilities in the event of spills. In particular: -
 - a. All construction personnel shall be trained in the use of the spill containment/pollution control kits which will be kept on site.
 - b. Any spillage of fuels, lubricants or hydraulic oils shall be immediately contained and a pollution control kit used. The contaminated soil shall be removed off site and properly disposed of.
 - c. Any spillage of fuels, lubricants or hydraulic oils, shall be reported immediately to the Contractor and the Contractor's ecologist.
6. Additional drip trays and spill kits shall be accessible from the site compound.

Concrete and Lime

The following shall be implemented to prevent contamination of the river by concrete, other cementitious materials or lime: -

1. Shuttering shall be used to contain the wet concrete and blinding and the shuttering shall be surrounded with hessian sandbags to prevent any contamination of any water in the works area.
2. Ready-mix concrete shall be delivered to site in a volumetric lorry, which shall set up at road level. A concrete pump shall be used to deliver concrete from the lorry into the works area.
3. Concrete lorries shall not be permitted to wash out on site.
4. An underbridge unit will be used during vegetation removal and repointing over water. Catch trays shall be used during repointing to prevent any mortar falling into the river.

Maintenance of Connectivity for Otter

The following shall be implemented to ensure permeability of the works area for Otter during the works: -

1. All works activities shall be restricted to daylight hours, avoiding the hours during which otters are most likely to move through the works area.
2. There shall be no artificial lighting of the works area (other than the existing architectural lighting installed on the bridge) outside of the permitted working hours.
3. Outside of working hours, excavations shall either be securely covered or have sloped sides/a ramp to allow any otters or any other mammals which may fall in to escape.
4. For the full duration of the works, when leaving each evening, the Contractor shall ensure that passage for otters is maintained along the northern riverbank through the works area. The Contractor's ecologist shall assist the Contractor in providing adequate and safe passage for otters while maintaining the safety and security of the site.

Terrestrial Habitat Loss/Disturbance

The following shall be implemented to minimise the effects of loss or disturbance of terrestrial habitats associated with the works: -

1. Site clearance and removal of vegetation shall be limited to the area required for the works. Vegetation outside of the agreed works area shall not be cleared or disturbed.
2. As the construction programme necessitates minor vegetation clearance during the bird nesting season, the Contractor's ecologist shall inspect vegetation to be cleared and identify any active nests. These shall be protected and surrounding cover not cleared until such time as they are no longer active, as advised by the Contractor's ecologist.

3. As part of the pre-construction survey, the Contractor's ecologist shall identify any breeding or resting places of species listed on Annex IV to the Habitats Directive, e.g. bat roosts in the bridge⁴ or otter holts near the works area, and assist the Contractor in applying any derogation licences under Regulation 54 of the Habitats Regulations which might be required. Where any such licence is granted, the works to which it relates shall be carried out in strict accordance with its conditions and the Contractor's ecologist shall assist the Contractor in this regard.

Invasive Alien Species

Terrestrial

This section outlines the biosecurity measures which shall be implemented to control the risks associated with invasive alien plant species (IAPS), based on the results of the surveys undertaken to inform this NIS. These measures shall be elaborated further in the IAPS Management Plan described below, based on the pre-construction IAPS survey.

The following shall be implemented prior to mobilisation and before any works commence on site (including advance works): -

1. The Contractor's ecologist shall carry out a detailed survey to map the distribution and extents of all IAPS within and adjoining the works area.
2. Any IAPS identified during the pre-construction survey shall be clearly demarcated. The areas of infestation and appropriate buffer zones shall be isolated with fencing or warning tape and 'Biosecure Zone' signs.
3. The Contractor's ecologist shall prepare an IAPS Management Plan, taking into account: -
 - a. The specific IAPS present and the scale and extent of infestation,
 - b. The sensitivity of the local environment, particularly the Currane River,
 - c. The growth stage/season of the plants, and
 - d. The construction sequence/programme.
4. The IAPS Management Plan shall be prepared in agreement with the Contractor and TII or TII's Representative and in accordance with the following: -
 - TII (2017) *The Management of Waste from National Road Construction Projects. GE-ENV-01101. December 2017.* Transport Infrastructure Ireland, Dublin.
 - TII (2020a) *The Management of Invasive Alien Plant Species on National Roads – Standard. GE-ENV-01104. December 2020.* Transport Infrastructure Ireland, Dublin.
 - TII (2020b) *The Management of Invasive Alien Plant Species on National Roads – Technical Guidance. GE-ENV-01105. December 2020.* Transport Infrastructure Ireland, Dublin.
5. The following measures relating to IAPS and Ash dieback disease shall form the basis of the IAPS Management Plan.

The following shall be implemented during the construction stage (including advance works): -

1. The IAPS Management Plan shall be implemented by the Contractor with the advice and assistance of the Contractor's ecologist.

⁴ Inspections, e.g. for potential bat roosts, of the central and southern arch barrels may only be possible following dewatering of these spans. As dewatering will not cause any significant disturbance to such features, there will be no adverse effect of the inspections being deferred until post-dewatering.

2. The 'toolbox talk' for all persons entering the site shall include an overview of the IAPS present on site, their identification, the importance of controlling them/preventing their spread, and the responsibilities of site staff in avoiding any spread of IAPS.
3. The Contractor shall ensure that all vehicles, plant, equipment and PPE intended for use on site are dry, clean and free from debris and plant material prior to being brought to site.
4. A dedicated and clearly marked cleaning facility/wash-down area shall be strategically placed in a contained area on site for use by staff, vehicles and machinery.
 - a. All vehicles and equipment that have been used in a contaminated zone shall be thoroughly pressure-washed in the wash-down area each time they leave site and once work in that zone is complete. This includes footwear, personal protective equipment (PPE), tools, and other light equipment.
 - b. This facility shall be located at least 25m from any watercourse and be appropriately bunded to prevent run-off.
 - c. Material gathered in this area shall be appropriately stockpiled and treated along with other contaminated material.
5. Soil management during the works shall be in accordance with Section 5.5 of TII (2006).
6. All imported materials shall be sourced from licensed suppliers who shall certify that in advance of delivery that any such materials are free from IAPS material, especially propagules such as seeds or rhizome fragments.
7. The Contractor shall implement appropriate controls on the movement of machinery and materials in IAPS-contaminated zones.
 - a. Where it is necessary to work in contaminated zones, every effort shall be made not to use vehicles with caterpillar tracks.
 - b. Vehicles leaving contaminated zones shall be confined to marked haulage routes protected by root barrier membranes or be pressure-washed before leaving the zone.
8. The removal of any Montbretia (*Crocsmia x crocosmiiflora*) within the works area shall be achieved by the excavation of the entire stand and disposal to a licensed landfill.
9. The removal of any Rhododendron (*Rhododendron ponticum*) within the works area shall be achieved, in the case of plants <20cm high, by manual pulling, ensuring that all of the roots are removed, and in the case of mature plants, mechanical uprooting. All material arising shall be disposed to a licensed landfill.
10. Any further measures required in relation to any additional species which may be identified on site during the Contractor's ecologist's pre-construction survey shall be included in the IAPS Management Plan.
11. Any Ash trees or fallen Ash branches or leaf litter to be removed shall be assumed to be infected with *Hymenoscyphus fraxineus*, the causal agent of 'Ash dieback disease'. Any Ash material arising that is suspected to have ash-dieback disease shall be dealt with in line with published best practice – such as e.g. Scottish Environmental Protection Agency (SEPA) advice on *Disposal of trees and plants infected with specific plant diseases*.⁵
12. The removal of any IAPS from the riverbank within the works area shall only be undertaken after the area has been successfully isolated and dewatered, with the water quality protection measures described above in place.

⁵ https://www.sepa.org.uk/media/154389/wst-q-037-disposal_of_trees_plants_with_specific_diseases.pdf

13. In relation to stockpiling of IAPS-contaminated material: -
 - a. Any such material shall be stockpiled separately from other material and clearly marked as contaminated.
 - b. The length of time for which such material is stored on site shall be kept to a minimum.
 - c. Any stockpiles containing IAPS material shall be secured to prevent any run-off which could convey IAPS propagules to the river.
14. Only vehicles that are deemed to be biosecure (i.e. sealed so that no soil can escape) shall be used to transport IAPS-contaminated material.
15. The Contractor's ecologist shall oversee and keep a record of the implementation of the IAPS Management Plan and all works relating to IAPS, as per TII (2020a,b). In particular, the Contractor's ecologist shall: -
 - a. Inspect the demarcation and signage of contaminated zones, the cleaning/wash-down area and IAPS material stockpiling area prior to their use,
 - b. Directly supervise and document all IAPS removal works,
 - c. Carry out weekly inspections of the site for compliance with the biosecurity measures detailed in the IAPS Management Plan, and
 - d. Provide monthly updates to TII or TII's Representative on the implementation of the IAPS Management Plan.
16. The works area shall be monitored for regrowth of any IAPS during the defects period and subsequent routine inspections under EIRSPAN programme. Any regrowth of treated IAPS on site shall be accurately mapped and reported to TII. Any removal of IAPS may be considered successful after two consecutive growing seasons with no sign of regrowth from removed stands.

Aquatic

The following biosecurity protocol shall be implemented to control risks from aquatic invasive alien species and pathogens: -

1. In-stream works shall be restricted to those described in this NIS. No other access into the river shall be permitted for plant, equipment or personnel.
2. The 'toolbox talk' for all persons entering the site shall include an overview of aquatic invasive alien species and pathogens, the importance of preventing their spread, and the responsibilities of site staff in avoiding any such spread.
3. Equipment, tools or PPE shall be treated using Virkon Aquatic or equivalent disinfectant before and after contact with the river. This shall be undertaken at least 25m from the river.
4. The Contractor's ecologist shall carry out weekly checks for compliance with the aquatic biosecurity measures.
5. IFI guidance in relation to aquatic biosecurity (documents available at <<https://www.fisheriesireland.ie/what-we-do/research/research-theme-biosecurity>>) shall be followed, as appropriate

7.2.3. Operational Phase

During the defects period and during future routine inspections as part of the EIRSPAN bridge management programme, the works area will be monitored for any growth of invasive alien plant species. Any such infestation shall be treated in accordance with the following guidance: -

- TII (2020a) *The Management of Invasive Alien Plant Species on National Roads – Standard*. GE-ENV-01104. December 2020. Transport Infrastructure Ireland, Dublin.
- TII (2020b) *The Management of Invasive Alien Plant Species on National Roads – Technical Guidance*. GE-ENV-01105. December 2020. Transport Infrastructure Ireland, Dublin.
- Maguire, C.M., Kelly, J. and Cosgrove, P.J. (2008) *Best Practice Management Guidelines Rhododendron (Rhododendron ponticum) and Cherry Laurel (Prunus laurocerasus)*. Invasive Species Ireland for the Northern Ireland Environment Agency and the National Parks & Wildlife Service.

7.3. Assessment of Residual Effects

Given the full and proper implementation of the mitigation prescribed in this section, the potential for residual impacts and effects from the proposed works can be summarised as follows: -

- The probability and likely magnitude, extent and duration of any water quality impacts from the proposed works have been reduced such that they will not result in adverse effects on 'Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation' or Salmon.
- In particular the likely magnitude of any water quality impacts has been reduced to low, while the likely extent of any such impacts has been reduced to the river within and adjoining the works area and up to c. 300m downstream and their likely duration has been reduced to brief or temporary.
- The design of the proposed works will now ensure that there is no change to the substratum composition (particle size distribution) of the riverbed, either directly or indirectly, and therefore there will be no loss of suitable spawning gravels for salmonids.
- The works methods now ensure that there will be no permanent or temporary barrier to connectivity for Otter moving along the river or riparian corridor through the works area.

Thus, the mitigation prescribed in Section 7.2 has successfully addressed all of the potential impacts from the proposed works such that they no longer represent a risk of adverse effects on any of the qualifying interests concerned, in view of their conservation objectives.

8. Potential In-combination Effects

8.1. Requirement for Assessment

The requirement for AA arising out of Article 6(3) of the Habitats Directive covers plans and projects that, “*either individually or in combination with other plans or projects*”, are likely to have a significant effect on one or more Natura 2000 sites. This means that AA is required for any plan or project that, in combination with other plans or projects, would have a significant effect on one or more Natura 2000 sites, irrespective of the presence or absence of such effects from that plan or project on its own. Therefore, regardless of the significance of the effects of the plan or project individually, the potential for significant effects in combination with other plans and projects must be considered in all cases.

8.2. Approach and Methodology

The objective of this requirement is to capture significant effects potentially arising from the cumulation or other interaction of non-significant effects from multiple plans and projects. Consequently, the assessment of potential in-combination effects is not a pair-wise assessment, rather, it considers the totality of the effects arising from all plans and projects affecting the Natura 2000 site(s) in question. In identifying the plans and projects to be included in this assessment, it is important to define an appropriate geographical scope and timescale over which potential in-combination effects are to be considered and the sources of information to be consulted, as described below. It is also important to consider the nature of the interactions between effects, which may be additive, antagonistic, synergistic or complex.

For practical reasons, the effects from the proposed works which are considered in the assessment of potential in-combination effects are the residual effects described in Section 7.3 above, rather than the potential effects in the absence of any mitigation. For this reason, this assessment is documented following the description of the mitigation measures and residual effects.

8.2.1. Geographical Scope

In defining the geographical scope for identifying potential in-combination effects, it is important to remember that effects are evaluated in view of the conservation objectives of the Natura 2000 site(s) concerned. As such, two or more effects relating to the same conservation objective for a given Natura 2000 site would combine even if their geographical extents did not overlap. For example, the loss of a small area of an Annex I habitat type listed as a qualifying interest of a Natura 2000 site would combine with the loss of an entirely unconnected area of the same habitat type from a remote part of the same site to produce an in-combination effect, the significance of which would need to be evaluated in view of the relevant conservation objective. On that basis, the scope of the assessment of in-combination effects extends to all plans and projects affecting the same conservation objectives as the plan or project under consideration, irrespective of whether those effects are significant or not.

However, given the small scale of the proposed works and localised extents of their residual impacts (which are limited to possible water quality impacts), it was deemed sufficient in this case to include only areas in close proximity to the proposed works and their zone of impact (for residual water quality impacts) in the geographical scope for identifying potential in-combination effects. For larger-scale plans and projects, this was extended to the full Zone of Influence of the proposed works.

8.2.2. Timescale

The proposed works will be completed by the end of September 2024. Given the nature and magnitude of their residual effects, there will be complete recovery of effects to Natura 2000 sites within a short period following their completion, with no effects whatsoever remaining beyond the end of 2024. On that basis, there are no effects from the proposed works which could act in combination with effects from other plans and projects beyond the end of 2024. Therefore, other plans and projects considered in this assessment included those with potential effects between now and the end of 2024.

8.2.3. Sources of Information

The following sources of information were consulted to gather information on other plans and projects: -

- *Kerry County Development Plan, 2022-2028*. Kerry County Council, Tralee.
- *National Planning Application Database* <<https://housinggov.ie/maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de>> [accessed via an ArcGIS Feature Service in QGIS3 on 13/02/2024].
- *Kerry County Council Online Planning Enquiry* <<https://www.kerrycoco.ie/planning/online-planning-enquiry/>> [accessed 13/02/2024].
- *EIA Portal* <<https://www.gov.ie/en/publication/9f9e7-eia-portal/>> [accessed via an ArcGIS Feature Service in QGIS3 on 13/02/2024].
- *EPA Maps (Water)* <<https://gis.epa.ie/EPAMaps/Water>> [accessed 13/02/2024].

The threats, pressures and activities with negative impacts on the Natura 2000 sites selected for inclusion in this assessment (see Section 5.3 of this NIS) were used to identify plans and projects which, by their nature, are likely to give rise to potential impacts on the sites concerned.

8.3. Assessment

Plans

The current Kerry County Development Plan (CDP) set out the policies and objectives of Kerry County Council with regard to the proper planning and sustainable development within its functional area for the period from 2022 to 2028. Volume 6 of the CDP includes a Biodiversity Action Plan (BDP) for the county, also covering the period 2022-2028. The CDP went through an AA process, as detailed in the Natura Impact Report (NIR) included in Volume 5. The AA identified the sensitivities of Natura 2000 sites in Co. Kerry plus a 15km buffer, and the aspects of the CDP with potential to adversely affect those sites. Amendments were recommended and then incorporated into the CDP “to ensure that the policies and objectives proposed and supported by the CDP are underpinned by the principles of sustainability of which the protection of Natura 2000 European Sites forms part”. As such, the adopted CDP provides for the protection of Natura 2000 sites (and biodiversity more generally). Therefore, there will be no adverse effects from the proposed works in combination with the CDP and, furthermore, the CDP will itself reduce the risk of in-combination effects arising from other projects.

Projects

Large-scale Projects

The review of projects on the *EIA Portal* found only one project within the Zone of Influence of the proposed works. This was application by Michael F. Quirke & Sons for continuation of use and extension of an existing quarry at Bunaderreen, Mastergeehy, >10km north-east of the proposed works, in the Inny catchment, outside any Natura 2000 site. However, this application was withdrawn (Kerry County Council planning ref. 22211). No other current large-scale projects were identified on either the *EIA Portal* or the *National Planning Application Database* (NPAD).

N70 Waterville to Ballybrack Road Improvement Scheme

The Kerry National Roads Office (KNRO), through TII, provided details of the N70 Waterville to Ballybrack Road Improvement Scheme, which is currently being progressed by Kerry County Council. The details of this project, as provided by KNRO, are as follows: -

“Kerry County Council (KCC) are proposing road improvement works along a section of the National Secondary Road N70, commencing in Waterville Town and extending south towards Eightercua, Ballybrack, Co. Kerry. The proposed development includes 1.373km of realigned and improved carriageway with a separate pedestrian and cycle lane facility provided on one side. The proposed

cycle lane facility will extend from the southern end of the promenade in Waterville town to the Benjamin Close housing development. The proposed development will provide a new bridge for shared pedestrian and cycleway use over the Currane River and adjacent (west) to the existing masonry road bridge.

In summary, the scheme will involve the removal of remnant hedgerows, the removal and replacement of stone walls, excavation and/or fill of route realignment, construction of a new independent, single span steel arch footbridge c.32m in length, overlay of the existing and all associated drainage works and other ancillary works.

KCC have carried out the necessary design and environmental evaluation works, and it is intended to make a submission to An Bord Pleanála (ABP) in Q1 of 2024, subject to the appropriate approvals being received. While it is difficult to determine the timeframe for an ABP decision being reached, KCC are confident that tender documents will be finalised in Q4 of 2024 with construction to commence in Q2 of 2025.”

KNRO also provided a location drawing and indicative layout of the scheme, as shown in Figure 8-1 below.

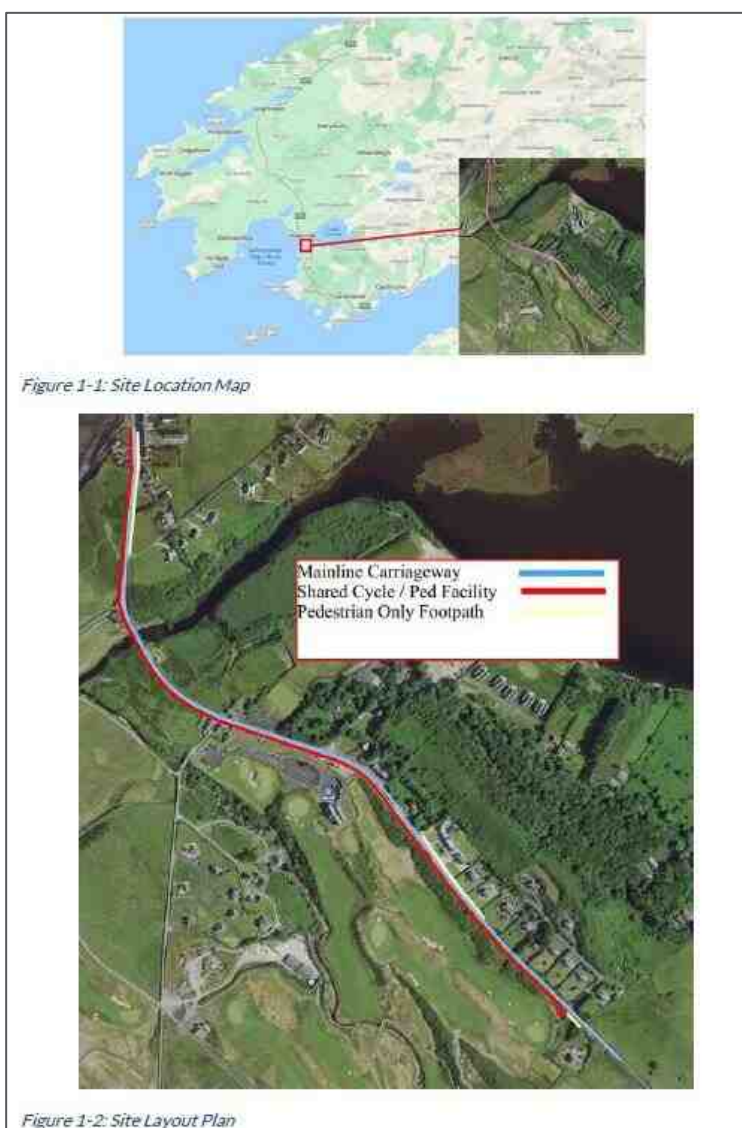


Figure 8-1 - N70 Waterville to Ballybrack Road Improvement Scheme.

As construction of the N70 Waterville to Ballybrack Road Improvement Scheme is unlikely to commence until Q2 of 2025, there will be no temporal overlap of impacts or effects from that project and the proposed works. Thus, there will be no adverse effects from the proposed works in combination with this project.

Small-scale Projects

Small-scale projects in the vicinity of the proposed works and Currane River and surrounding area were identified through the NPAD and *Kerry County Council Online Planning Enquiry* system. There are currently no projects in this area awaiting a planning decision.

The search found 2 No. projects which have been granted planning consent (not yet expired), as follows:

- Planning Ref. 19814 - *“Retain existing dwelling house as constructed within revised boundaries and permission to construct an adjoining split-level house with partial attic accommodation”* - This application is located c. 75m north of the proposed works and includes the construction of a new dwelling house just over the crest of the ridge between the existing house and the Currane River. Given the nature and scale of this project as well as the surface and foul water arrangements, it is not considered to have any potential to contribute to in-combination effects with the proposed works.
- Planning Ref. 19209 - *“Retain existing bungalow style dwelling house, adjoining garage and detached potting shed and permission to partially demolish existing external walls and construct a single storey extension with alterations to elevations including new windows and wall finishes, new roof windows, alteration to raised terrace, new site entrance with walls and piers, new fence to existing boundaries and all associated site works”* - This application is located c. 600m north-east of the proposed works. Given the scale of the project and distance of main construction works from watercourses connected to the Currane River, as well as the surface and foul water arrangements, this project is not considered to have any potential to contribute to in-combination effects with the proposed works

Regarding potential impacts to water quality, these projects will have to comply with the EPA’s Code of Practice for Wastewater Treatment Systems for Single Houses (EPA, 2009, 2021). These developments have conditions attached to their planning permission relating to sustainable development, such as siting of septic tanks and connection to the public sewer, foul surface water and effluent drainage, and clean surface water run-off. Therefore, it is not anticipated that these projects that have been granted permission will have any significant effects in combination with the proposed works.

Licensed Activities

The proposed works are located within the Waterville urban wastewater agglomeration. This agglomeration has a population equivalent (p.e.) of 1,648 and the wastewater treatment plant (WwTP) has capacity to provide secondary treatment to a p.e. of up to 3,000 (as reported in 2022). Thus, there is significant unused capacity at this WwTP and the risk of untreated discharges is low. Furthermore, the discharge point for this WwTP is in Ballinskelligs Bay, c. 600m north of the mouth of the Currane River. As such, the risk of any in-combination effects from the proposed development with the Waterville wastewater network is negligible.

The review of licensed activities through *EPA Maps (Water)* found that there are no Waste Facilities, Industrial Emissions (IE) licences or Integrated Pollution Control (IPC) licences registered within or adjacent to the Zone of Influence of the proposed works.

Other Activities

Farmers and landowners may also undertake general agricultural operations in areas adjacent to the proposed works and along the river, which could potentially give rise to impacts of a similar nature to those arising from the proposed works. This could potentially result in additional an increased risk to water quality. Many agricultural operations are periodic, not continuous in nature, and qualify as Activities Requiring Consent (ARCs) that require consultation with the NPWS in advance of the works, e.g. reclamation, infilling or land drainage within 30m of the river, removal of trees or any aquatic vegetation within 30m of the river, and harvesting or burning of reed or willow (NPWS, 2024a). Agricultural operations must also comply with the European Communities (Environmental Impact Assessment) (Agriculture) Regulations, 2011 (as amended) in relation to:

- Restructuring of rural land holdings,
- Commencing use of uncultivated land or semi-natural areas for intensive, and
- Land drainage works on lands used for agriculture.

Stage 2 AA is required under Regulation 9 if it is likely to have a significant effect on a Natura 2000 site. The drainage or reclamation of wetlands is controlled under the Planning and Development (Amendment) (No. 2) Regulations, 2011 and the European Communities (Amendment to Planning and Development) Regulations, 2011. Therefore, any in-combination effects of agricultural operations and the proposed works are not likely to be significant.

8.4. Conclusion

As detailed in the preceding sections, it can be concluded that, based on the small scale of the proposed works and the duration of the works themselves and any impacts arising from them, they will not give rise to adverse effects on any Natura 2000 site, in combination with other plans or projects.

9. Conclusion

This NIS has examined the details of the proposed works Waterville Bridge near Waterville, Co. Kerry and the Natura 2000 sites in their Zone of Influence. It has analysed the potential impacts of the proposed works on the receiving natural environment and evaluated their effects, both individually and in combination with other plans and projects, in view of the conservation objectives of the relevant Natura 2000 sites. This report has been prepared in line with the Habitats Directive, as transposed into Irish law by the Habitats Regulations, relevant case law and guidance from the European Commission, the Department of the Environment, Heritage and Local Government and the Office of the Planning Regulator, on the basis of objective information and adhering to the precautionary principle.

Given the mitigation measures detailed in Section 7 of this NIS, it can be concluded beyond reasonable scientific doubt that the proposed works will not, either individually or in combination with other plans or projects, give rise to any impacts which would constitute adverse effects on the Ballinskelligs Bay and Inny Estuary SAC, the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment 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 TII, as the competent authority in this case, may determine that the proposed works, 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.

10. References

- Article 12 web tool <<https://nature-art12.eionet.europa.eu/article12/>> [accessed 01/02/2024]. European Topic Centre on Biological Diversity, European Environment Agency, Copenhagen.
- Article 17 web tool <<https://nature-art17.eionet.europa.eu/article17/>> [accessed 01/02/2024]. European Topic Centre on Biological Diversity, European Environment Agency, Copenhagen.
- Brian Holohan and Others v. An Bord Pleanála* [2018] CJEU C-461/17.
- Campbell, C., Hodgetts, N. and Lockhart, N. (2013). *Petalophyllum ralfsii (Wils.) Nees & Gottsche (Petalwort) in the Republic of Ireland. Article 17 Report Backing Document 2013*. National Parks & Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin.
- CIEEM (2022). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.2*. Chartered Institute of Ecology and Environmental Management, Winchester.
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna. *Official Journal of the European Communities* L 206/7-50.
- DEHLG (2010a). *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. Revised 11/02/2010*. Department of the Environment, Heritage and Local Government, Dublin.
- DEHLG (2010b). *Circular NPW 1/10 & PSSP 2/10. Dated 11/03/2010*. Department of the Environment, Heritage and Local Government, Dublin.
- DG Env (2013). *Interpretation Manual of European Union Habitats – EUR28. April 2013*. Directorate-General for Environment, European Commission, Brussels.
- DG Env (2022) *Guidance document on assessment of plans and projects in relation to Natura 2000 sites – A summary*. Directorate-General for Environment, European Commission, Brussels. Publications Office of the European Union, Luxembourg.
- DG Env (2024). *List of Invasive Alien Species of Union concern* <<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02016R1141-20220802&from=EN>> [accessed 31/01/2024]. Directorate-General for Environment, European Commission, Brussels.
- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds. *Official Journal of the European Union* L 20/7-25.
- Eamon (Ted) Kelly v. An Bord Pleanála and Others* [2014] IEHC 400.
- EC (2019). *Managing Natura 2000 sites – The provisions of Article 6 of the Habitats Directive 92/43/EEC*. European Commission, Brussels. *Official Journal of the European Union* C 33/1-62.
- EC (2021a). *Assessment of plans and projects in relation to Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC*. European Commission, Brussels. *Official Journal of the European Union* C 437/1-107.
- EC (2021b). *Guidance document on the strict protection of animal species of Community interest under the Habitats Directive. C(2021) 7301*. European Commission, Brussels.
- EIA Portal <<https://www.gov.ie/en/publication/9f9e7-eia-portal/>> [accessed via an ArcGIS Feature Service in QGIS3 on 13/02/2024]. Department of Housing, Local Government and Heritage, Dublin.
- Eionet (2022). *Reference Portal for Natura 2000* <<https://cdr.eionet.europa.eu/help/natura2000>> [accessed 25/05/2022]. European Environment Information and Observation Network, European Environment Agency, Copenhagen.
- Environmental Sensitivity Mapping* <<https://airomaps.geohive.ie/ESM/>> [accessed 31/01/2024]. All-Island Research Observatory, Maynooth University.
- Eoin Kelly v. An Bord Pleanála* [2019] IEHC 84.
- EPA (2009). *Code of Practice: Wastewater Treatment Systems and Disposal Systems serving Single Houses (p.e. ≤10)*. Environmental Protection Agency, Wexford.
- EPA (2021). *Code of Practice: Domestic Waste Water Treatment Systems (Population Equivalent ≤10)*. March 2021. Environmental Protection Agency, Wexford.

- EPA Maps (Water) <<https://gis.epa.ie/EPAMaps/Water>> [accessed 13/02/2024]. Environmental Protection Agency, Wexford.
- EPA Geoportal <<https://gis.epa.ie/GetData/Download>> accessed 01/02/2024]. Environmental Protection Agency, Wexford.
- European Commission v. Federal Republic of Germany* [2017] CJEU C-142/16.
- European Communities (Birds and Natural Habitats) Regulations, 2011. *S.I. No. 477/2011*.
- European Communities (Birds and Natural Habitats) (Amendment) Regulations, 2013. *S.I. No. 499/2013*.
- European Communities (Birds and Natural Habitats) (Amendment) Regulations, 2015. *S.I. No. 355/2015*.
- European Union (Birds and Natural Habitats) (Amendment) Regulations, 2021. *S.I. No. 293/2021*.
- European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations, 2009. *S.I. No. 296/2009*.
- European Communities (Environmental Impact Assessment) (Agriculture) Regulations, 2011. *S.I. No. 456/2011*.
- European Communities (Environmental Impact Assessment) (Agriculture) (Amendment) Regulations 2017. *S.I. No. 407/2017*.
- European Communities (Amendment to Planning and Development Regulations) Regulations, 2011. *S.I. No. 464/2011*.
- European Communities (Quality of Shellfish Waters) Regulations, 2006. *S.I. No. 268/2006*.
- Fisheries (Consolidation) Act, 1959. *No. 14 of 1959* (as amended).
- Fossitt, J.A. (2000). *A Guide to Habitats in Ireland. Reprint 2007*. The Heritage Council, Kilkenny.
- Gilbert, G., Stanbury, A. and Lewis, L. (2021). Birds of Conservation Concern in Ireland 4: 2020-2026. *Irish Birds* 43:1-22.
- Heather Hill Management Company CLG v. An Bord Pleanála* [2019] IEHC 450.
- IFI: Biosecurity <<https://www.fisheriesireland.ie/what-we-do/research/research-theme-biosecurity>> [accessed 13/02/2024]. Inland Fisheries Ireland, Dublin.
- Kerry County Development Plan 2022-2028*. Kerry County Council, Tralee.
- Kerry County Council Online Planning Enquiry* <<https://www.kerrycoco.ie/planning/online-planning-enquiry/>> [accessed 13/02/2024]. Kerry County Council, Tralee.
- Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels v. Staatssecretaris van Landbouw, Natuurbeheer en Visserij* [2004] CJEU C-127/02.
- Maguire, C.M., Kelly, J. and Cosgrove, P.J. (2008) *Best Practice Management Guidelines Rhododendron (Rhododendron ponticum) and Cherry Laurel (Prunus laurocerasus)*. Invasive Species Ireland for the Northern Ireland Environment Agency and the National Parks & Wildlife Service.
- Mullen, E., Marnell, F. and Nelson, B. (2021) *Strict Protection of Animal Species – Guidance for Public authorities on the Application of Articles 12 and 16 of the EU Habitats Directive to development/works undertaken by or on behalf of a Public authority. National Parks & Wildlife Service Guidance Series 2*, Department of Housing, Local Government and Heritage, Dublin.
- National Planning Application Database* <<https://housinggov.ie/maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de>> [accessed via an ArcGIS Feature Service in QGIS3 on 13/02/2024]. Department of Housing, Local Government and Heritage, Dublin.
- NBDC: *Biodiversity Maps* <<https://maps.biodiversityireland.ie/Map>> [accessed 01/02/2024]. National Biodiversity Data Centre, Waterford.
- NPWS: *Maps and Data* <<https://www.npws.ie/maps-and-data>> [accessed 01/02/2024]. National Parks & Wildlife Service, Department of Housing, Local Government and Heritage, Dublin.
- NPWS (2012). *Marine Natura Impact Statements in Irish Special Areas of Conservation. A Working Document. April 2012*. National Parks & Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin.
- NPWS (2013a). *Site Synopsis: Ballinskelligs Bay and Inny Estuary SAC (site code: 000335). Version 20/08/2013*. National Parks & Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin.

- NPWS (2013b). *Site Synopsis: Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (site code: 000365). Version 20/08/2013*. National Parks & Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin.
- NPWS (2014). *Conservation Objectives: Ballinskelligs Bay and Inny Estuary SAC (site code: 000335). Version 1*. National Parks & Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin.
- NPWS (2017). *Conservation Objectives: Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (site code: 000365). Version 1*. National Parks & Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Dublin.
- NPWS (2018). *Natura 2000 Standard Data Form: Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (site code: 000365). Update September 2018*. National Parks & Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Dublin.
- NPWS (2019a). *The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview*. National Parks & Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Dublin.
- NPWS (2019b). *The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments*. National Parks & Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Dublin.
- NPWS (2019c). *The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments*. National Parks & Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Dublin.
- NPWS (2019d). *Natura 2000 Standard Data Form: Ballinskelligs Bay and Inny Estuary SAC (site code: 000335). Update September 2019*. National Parks & Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Dublin.
- NPWS (2021). *Guidance on the Strict Protection of Certain Animal and Plant Species under the Habitats Directive in Ireland. National Parks & Wildlife Service Guidance Series 1*, Department of Housing, Local Government and Heritage, Dublin.
- NPWS (2024a). *Activities Requiring Consent* <<https://www.npws.ie/farmers-and-landowners/activities-requiring-consent>> [accessed 01/02/2024]. National Parks & Wildlife Service, Department of Housing, Local Government and Heritage, Dublin.
- NPWS (2024b). *Development Consultations* <<https://www.npws.ie/development-consultations>> [accessed 01/02/2024]. National Parks & Wildlife Service, Department of Housing, Local Government and Heritage, Dublin.
- NPWS (2024c). *The status and trends of Ireland's bird species – Article 12 Reporting* <<https://www.npws.ie/status-and-trends-ireland%E2%80%99s-bird-species-%E2%80%93-article-12-reporting>> [accessed 01/02/2024]. National Parks & Wildlife Service, Department of Housing, Local Government and Heritage, Dublin.
- NPWS & VWT (2022). *Lesser Horseshoe Bat Species Action Plan 2022-2026*. National Parks & Wildlife Service, Department of Housing, Local Government and Heritage, and the Vincent Wildlife Trust, Ireland.
- NRA (2008). *Guidelines for the Crossing of Watercourses during the construction of National Road Schemes*. National Roads Authority, Dublin.
- O'Flynn, C., Kelly, J. and Lysaght, L. (2014). *Ireland's invasive and non-native species – trends in introductions. National Biodiversity Data Centre Series 2*. National Biodiversity Data Centre, Waterford.
- OPR (2021). *Appropriate Assessment Screening for Development Management. OPR Practice Note PN01*. Office of the Planning Regulator, Dublin.
- OPW (2021). *Design Guidance for Fish Passage on Small Barriers*. Office of Public Works with support from Inland Fisheries Ireland and the Department of Housing, Local Government and Heritage.
- People Over Wind and Peter Sweetman v. Coillte Teoranta* [2018] CJEU C-323/17.
- Perrin, P.M. and Daly, O.H. (2010). *A provisional inventory of ancient and long-established woodland in Ireland. Irish Wildlife Manuals 46*. National Parks & Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Peter Sweetman and Others v. An Bord Pleanála* [2013] CJEU C-258/11.
- Planning and Development Act, 2000. *No. 30 of 2000 (as amended)*. In: *Revised Acts* <<http://revisedacts.lawreform.ie/eli/2000/act/30/revised/en/html>> [accessed 15/02/2024]. Law Reform Commission, Dublin.

Planning and Development Regulations, 2001. *S.I. No. 600/2001* (as amended). *Unofficial consolidation (updated January 2024)* <<https://www.gov.ie/pdf/?file=https://assets.gov.ie/135619/1ef55833-465c-48da-afc0-592a164fdd1d.pdf>> [accessed 15/02/2024]. Department of Housing, Local Government and Heritage, Dublin.

Planning and Development (Amendment) (No. 2) Regulations, 2011. *S.I. No. 454/2011*.

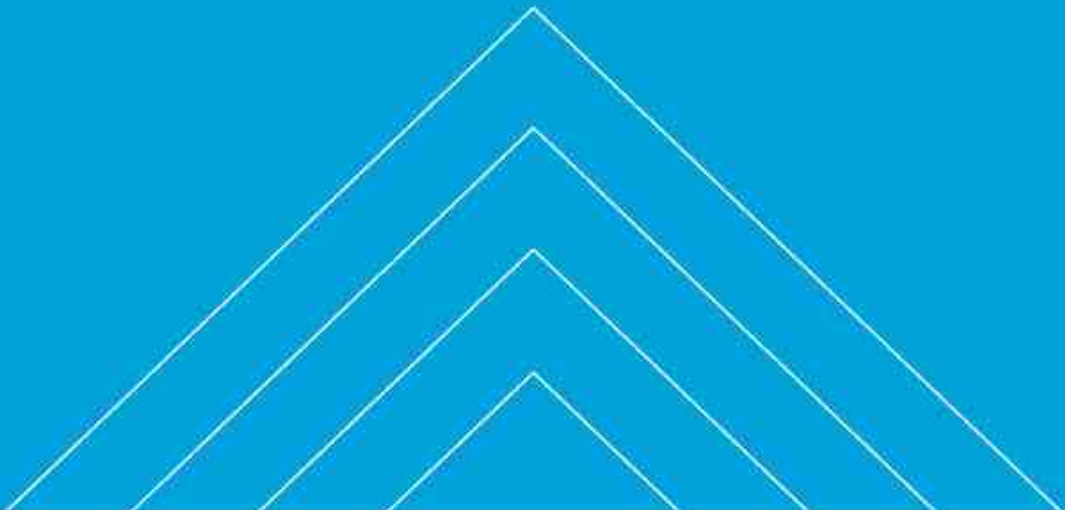
TII (2017). *The Management of Waste from National Road Construction Projects*. GE-ENV-01101. December 2017. Transport Infrastructure Ireland, Dublin.

TII (2020a). *The Management of Invasive Alien Plant Species on National Roads – Standard*. GE-ENV-01104. December 2020. Transport Infrastructure Ireland, Dublin.

TII (2020b). *The Management of Invasive Alien Plant Species on National Roads – Technical Guidance*. GE-ENV-01105. December 2020. Transport Infrastructure Ireland, Dublin.

Wildlife Act, 1976. No. 39 of 1976 (as amended). In: *Revised Acts* <<http://revisedacts.lawreform.ie/eli/1976/act/39/revised/en/html>> [accessed 15/02/2024]. Law Reform Commission, Dublin.

Appendices



Appendix A. Design and Construction Drawings

MUNSTER BRIDGES TERM MAINTENANCE CONTRACT NR.4 WATERVILLE BRIDGE

DRAWING SCHEDULE		
DRAWING NUMBER	DRAWING NAME	REVISION
5219386-ATK-Z1-XX-SK-CE-901003	COVER SHEET AND DRAWING SCHEDULE	-
5219386-ATK-Z1-XX-SK-CE-901004	WATERVILLE BRIDGE (KY-N70-039.00) SITE LOCATION MAP	-
5219386-ATK-Z1-XX-SK-CE-901005	WATERVILLE BRIDGE (KY-N70-039.00) EXISTING PHOTOGRAPHS	-
5219386-ATK-Z1-XX-SK-CE-901006	WATERVILLE BRIDGE (KY-N70-039.00) NON-ROUTINE MAINTENANCE PROPOSED PLAN	1
5219386-ATK-Z1-XX-SK-CE-901007	WATERVILLE BRIDGE (KY-N70-039.00) NON-ROUTINE MAINTENANCE PROPOSED ELEVATIONS	1
5219386-ATK-Z1-XX-SK-CE-901008	WATERVILLE BRIDGE (KY-N70-039.00) NON-ROUTINE MAINTENANCE PROPOSED DETAILS	1
5219386-ATK-Z1-XX-SK-CE-901009	WATERVILLE BRIDGE (KY-N70-039.00) NON-ROUTINE MAINTENANCE EXTRACTS FROM UNDERWATER INSPECTION REPORT	-

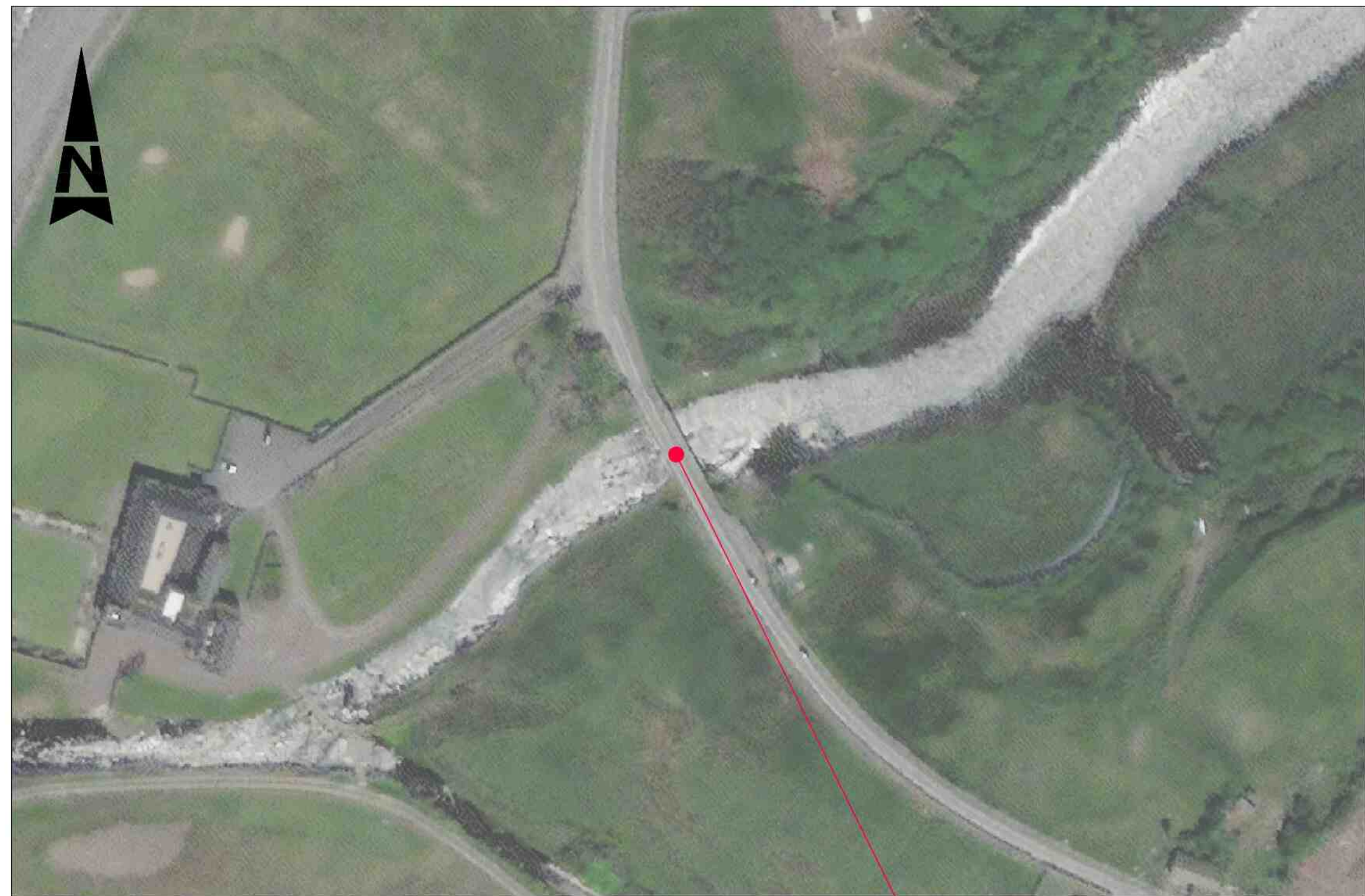
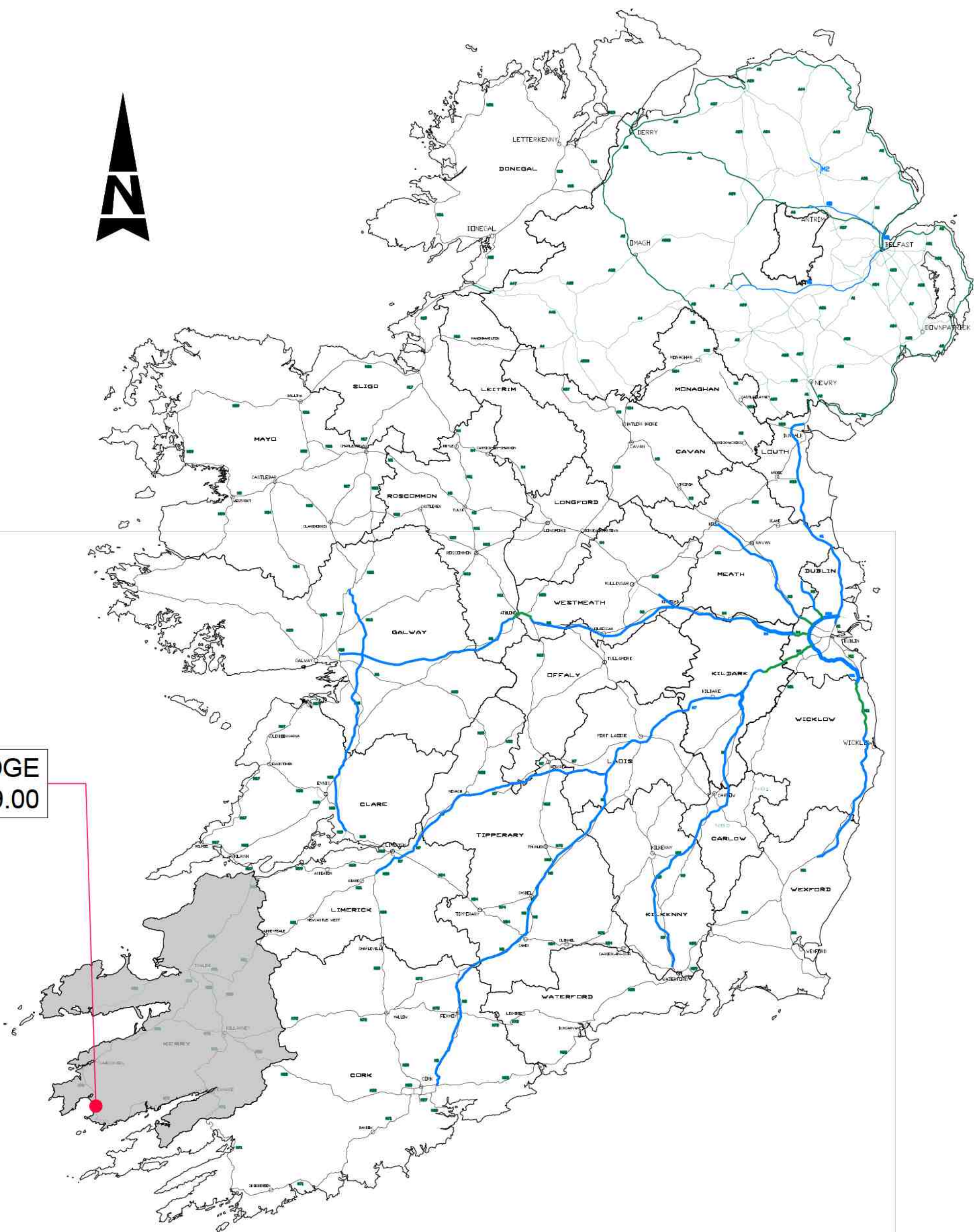
Review Issue

Volume A : Works Requirements
Part 2 : Drawings

December 2023



WATERVILLE BRIDGE
KY-N70-039.00



Waterville Bridge
KY-N70-039.00



Waterville Bridge
KY-N70-039.00

- GENERAL NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
 2. ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
 3. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
 4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR
 5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION

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-	ISSUED FOR REVIEW		12.23		



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Client: TRANSPORT INFRASTRUCTURE IRELAND (TII)

Project: MUNSTER BRIDGES TERM MAINTENANCE CONTRACT NR.4

Purpose	ISSUED FOR REVIEW				
Title	WATERVILLE BRIDGE (KY-N70-039.00) SITE LOCATION MAP				
Original Scale	NTS	Des/Drawn	Checked	Authorised	
Date	19.12.23	Date	19.12.23	Date	19.12.23
Status	P	Drawing Number	5219386-ATK-Z1-XX-SK-CE-901004	Rev	-

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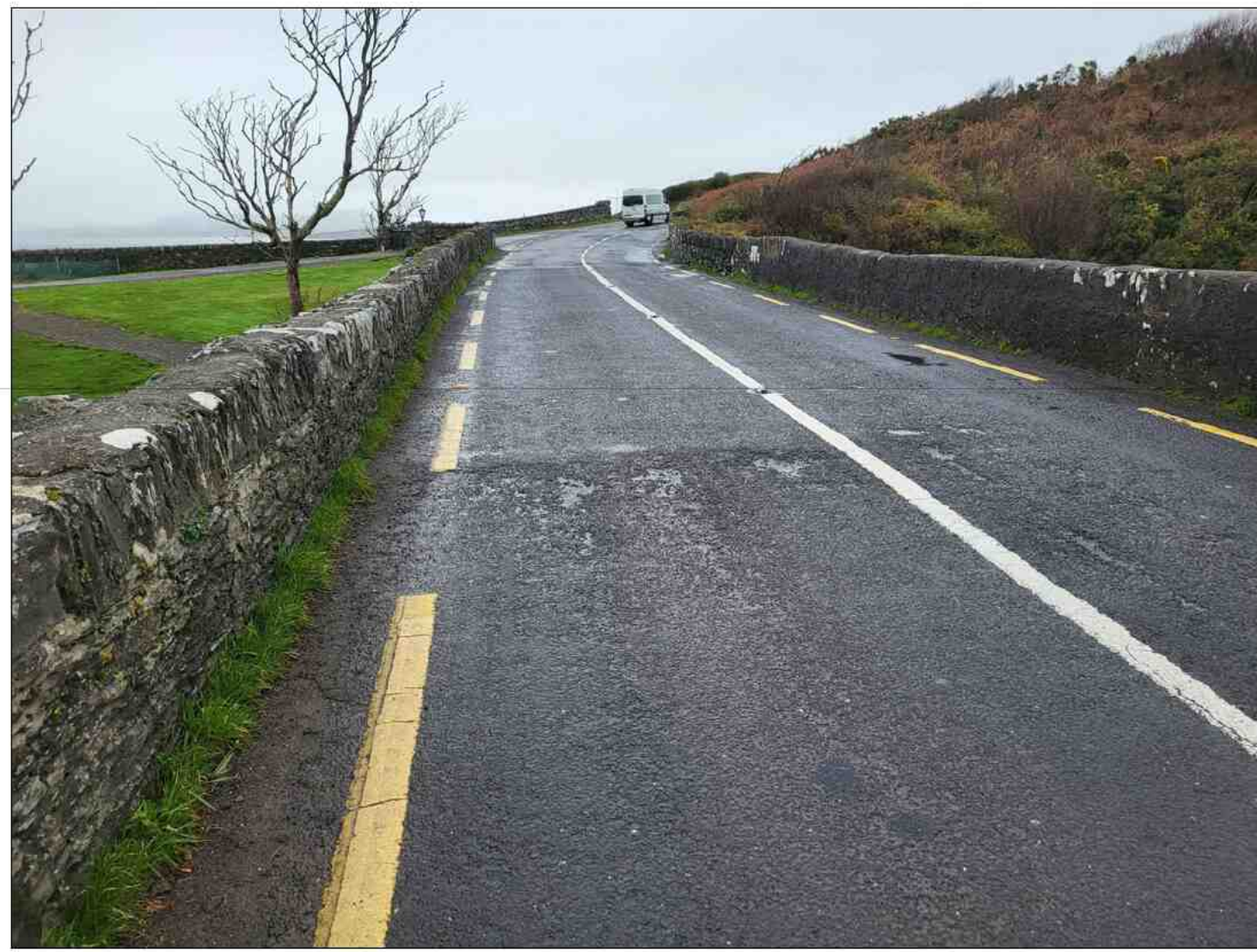
1. SOUTH APPROACH TO BRIDGE LOOKING NORTH



2. EASTERN ELEVATION



3. MISSING MASONRY TO EASTERN PARAPET COPING



4. SOFT VERGES ALONG EDGE OF CARRIAGEWAY



5. WESTERN SPANDREL WALL



6. SOUTHERN ABUTMENT WITH SCOUR BELOW WATERLINE AND SEPARATION OF VOUSSIOR STONES



7. SETTLEMENT CRACKS TO SOUTHERN PIER MASONRY



8. CRACKING AND UNDERMINING TO THE WEST END OF THE NORTHERN PIER SCOUR PROTECTION



9. UNDERMINING OF THE SCOUR PROTECTION AT THE WEST END OF THE NORTHERN PIER

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
2. ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
3. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
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Purpose ISSUED FOR REVIEW

Title WATERVILLE BRIDGE (KY-N70-039.00) EXISTING PHOTOGRAPHS

Original Scale	NTS	Drawn	Checked	Authorised	
Date	19.12.23	Date	19.12.23	Date	19.12.23

Status	P	Drawing Number	5219386-ATK-Z1-XX-SK-CE-901005	Rev	-
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-	12.23		
Rev	Description	By	Date



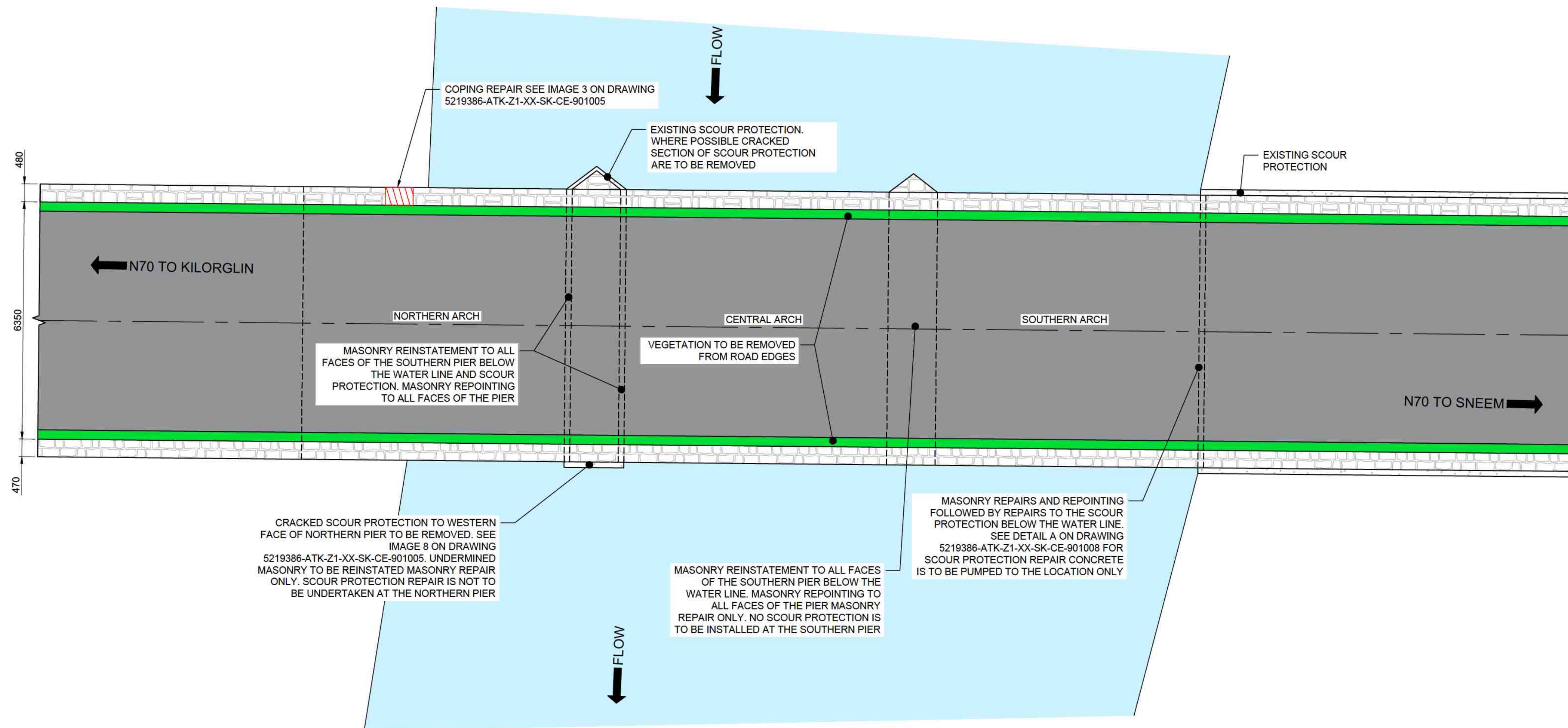
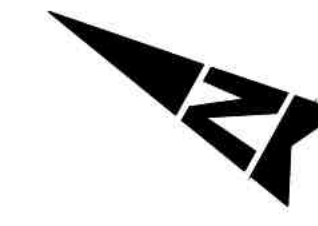
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Client TRANSPORT INFRASTRUCTURE IRELAND (TII)

Project MUNSTER BRIDGES TERM MAINTENANCE CONTRACT NR.4



PLAN
Scale at A1 1:75
Scale at A3 1:150

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 4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR
 5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION

- SERVICES NOTES**
1. POSITION OF EXISTING UNDERGROUND SERVICES SHALL BE ESTABLISHED ON SITE BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF ANY WORKS. CARE MUST BE TAKEN DURING OPERATIONS IN THE VICINITY OF EXISTING UNDERGROUND SERVICES TO PREVENT DAMAGE.
 2. ALL EIR TO BE TREATED AS FIBRE UNLESS NOTED OTHERWISE.

- GENERAL NOTES**
1. CONTRACTOR TO PROVIDE SUITABLE PROTECTION SYSTEMS TO PREVENT CONSTRUCTION MATERIALS FROM ENTERING WATERCOURSE.
 2. SCAFFOLDING WITH SUITABLE NON-POROUS PROTECTIVE SHEETING SHALL BE ERECTED OVER THE WATERCOURSE TO PREVENT ANY REMOVED VEGETATION OR LOOSE MORTAR ENTERING WATERCOURSE.

- VEGETATION REMOVAL**
1. ALL VEGETATION TO BE REMOVED FROM BOTH ELEVATIONS BY HAND, USING MECHANICAL METHODS FOR LOCATIONS AGREED WITH THE EMPLOYER'S REPRESENTATIVE.
 2. ALL CLEARED VEGETATION TO BE REMOVED FROM SITE AND DISPOSED OF IN A LICENCED FACILITY OFF SITE.
 3. NO HERBICIDE PERMITTED TO BE USED.

- MASONRY REPAIRS AND REPOINTING**
1. MASONRY REPAIRS SHALL BE UNDERTAKEN USING EXISTING STONE WHERE POSSIBLE WITH ANY IMPORTED MASONRY TO MATCH EXISTING.
 2. A SAMPLE OF ANY IMPORTED MASONRY SHALL BE PROVIDED TO THE EMPLOYER'S REPRESENTATIVE A MINIMUM OF 1 WEEK PRIOR TO THE RELEVANT REPAIR WORKS BEING UNDERTAKEN.
 3. MASONRY REPAIRS AND REPOINTING SHALL BE UNDERTAKEN USING NHL5 MORTAR.
 4. VOIDS MARKED FOR RETENTION BY THE BAT SURVEY SHALL BE LEFT UNTOUCHED.

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-	ISSUED FOR REVIEW		12/23		

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Tel (+353) 091 786 050

Client
TRANSPORT INFRASTRUCTURE IRELAND (TII)

Project
MUNSTER BRIDGES TERM MAINTENANCE CONTRACT NR.4

Purpose
ISSUED FOR REVIEW

Title
WATERVILLE BRIDGE (KY-N70-039.00)
NON-ROUTINE MAINTENANCE PROPOSED PLAN

Original Scale
1:75

Des/Drawn	Checked	Authorised
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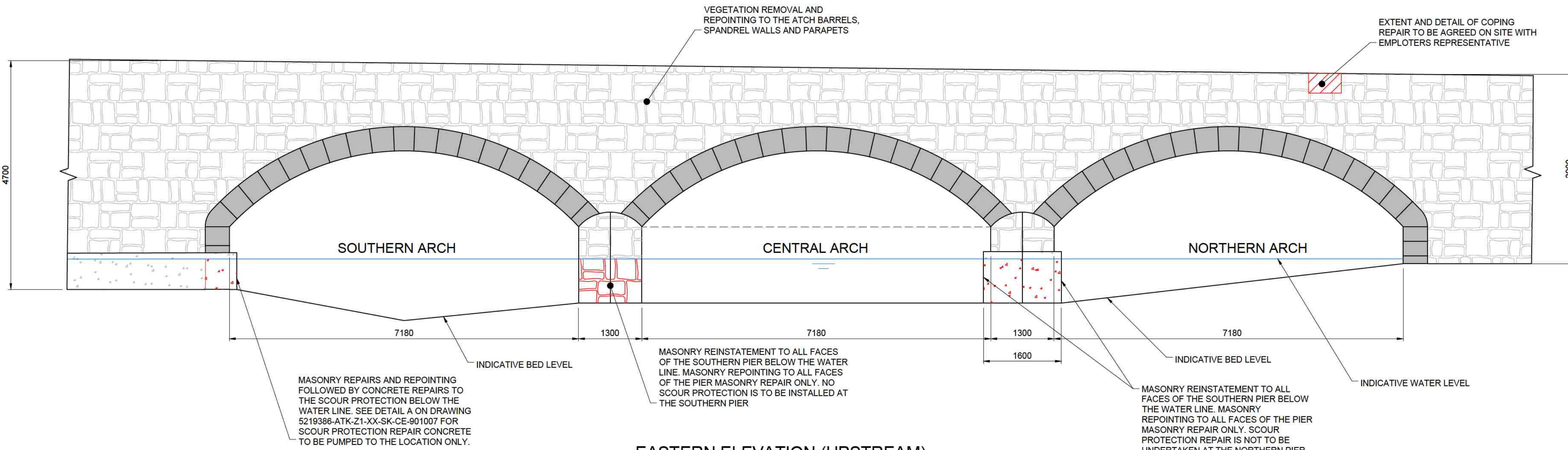
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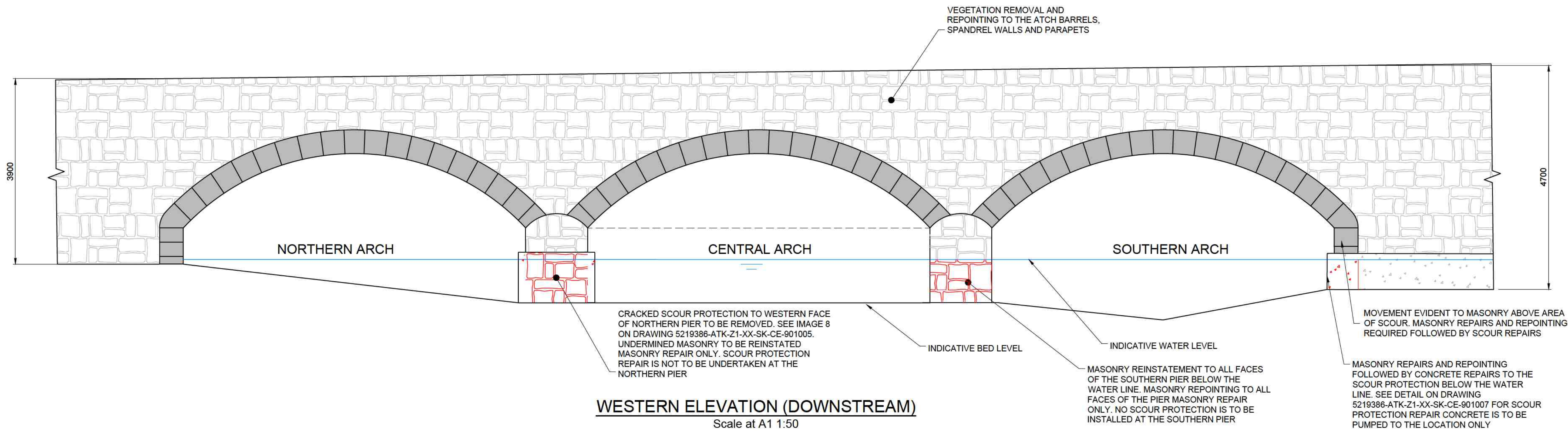
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EASTERN ELEVATION (UPSTREAM)

Scale at A1 1:50
Scale at A3 1:100



WESTERN ELEVATION (DOWNSTREAM)

Scale at A1 1:50
Scale at A3 1:100

- GENERAL NOTES**
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 3. MASONRY REPAIRS AND REPOINTING SHALL BE UNDERTAKEN USING NHL5 MORTAR.
 4. VOIDS MARKED FOR RETENTION BY THE BAT SURVEY SHALL BE LEFT UNTOUCHED.

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Rev	Description	By	Date	Chk'd	Auth
1	ISSUED FOR REVIEW		02/24		
-	ISSUED FOR REVIEW		12/23		

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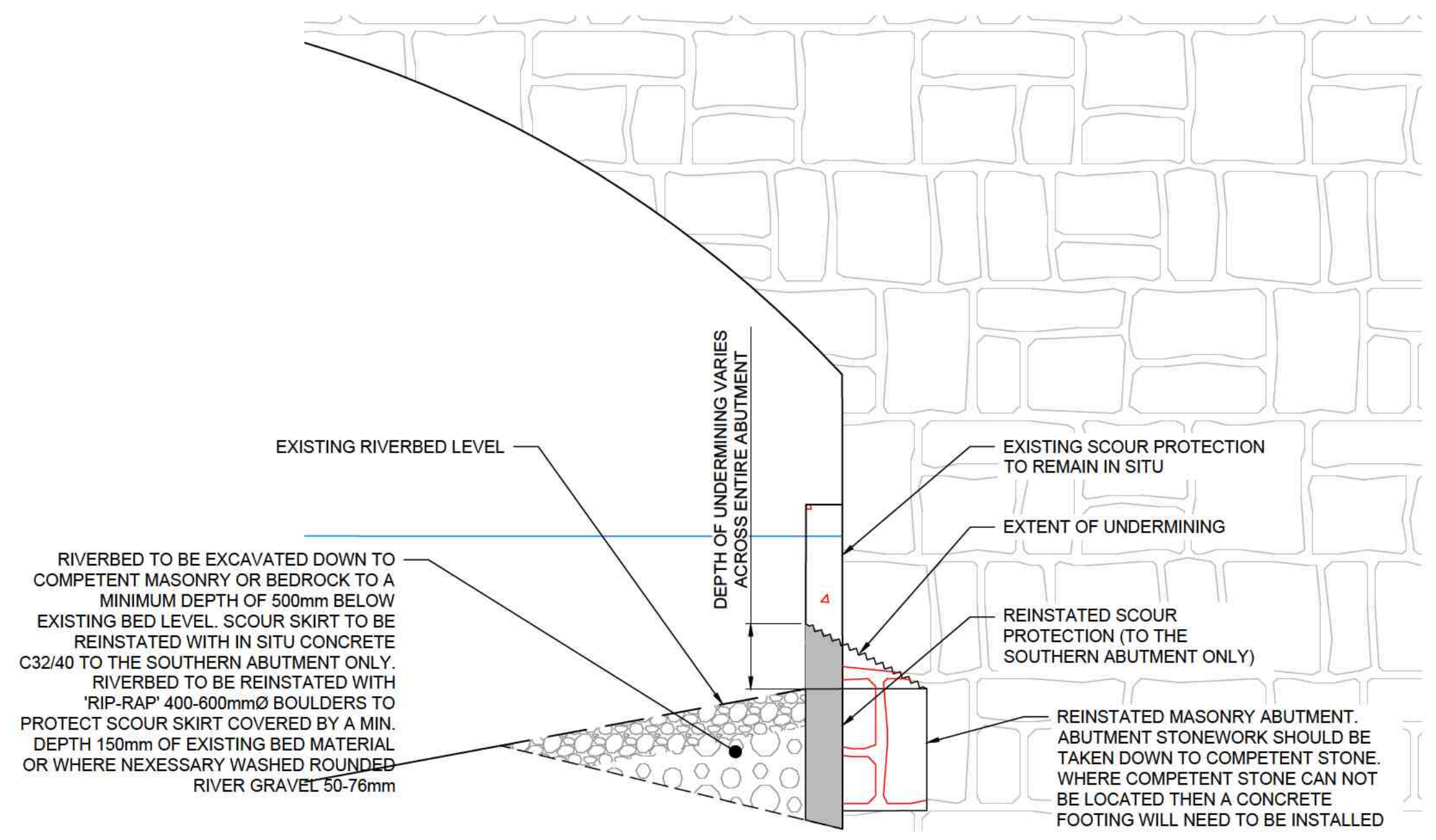
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Purpose	ISSUED FOR REVIEW		
Title	WATERVILLE BRIDGE (KY-N70-039.00) NON-ROUTINE MAINTENANCE PROPOSED ELEVATIONS		
Client	TRANSPORT INFRASTRUCTURE IRELAND (TII)		
Project	MUNSTER BRIDGES TERM MAINTENANCE CONTRACT NR.4		
Original Scale	1:50	Des/Drawn	Checked
Status	P	Drawing Number	5219386-ATK-Z1-XX-SK-CE-901007
Rev		Date	08.12.23

A1

DO NOT SCALE

File: 5219386-ATK-Z1-XX-SK-CE-901006-901009.dwg
Date: Feb 20, 2024 - 3:56pm Plotted by: SOConnor



DETAIL A - SOUTHERN ABUTMENT & PIERS UNDERMINING REPAIR

Scale at A1 1:20
Scale at A3 1:40

- GENERAL NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
 2. ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
 3. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
 4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR
 5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION

- SERVICES NOTES**
1. POSITION OF EXISTING UNDERGROUND SERVICES SHALL BE ESTABLISHED ON SITE BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF ANY WORKS. CARE MUST BE TAKEN DURING OPERATIONS IN THE VICINITY OF EXISTING UNDERGROUND SERVICES TO PREVENT DAMAGE.
 3. ALL EIR TO BE TREATED AS FIBRE UNLESS NOTED OTHERWISE.

- GENERAL NOTES**
1. CONTRACTOR TO PROVIDE SUITABLE PROTECTION SYSTEMS TO PREVENT CONSTRUCTION MATERIALS FROM ENTERING WATERCOURSE.
 2. SCAFFOLDING WITH SUITABLE NON-POROUS PROTECTIVE SHEETING SHALL BE ERRECTED OVER THE WATERCOURSE TO PREVENT ANY REMOVED VEGETATION OR LOOSE MORTAR ENTERING WATERCOURSE.

- VEGETATION REMOVAL**
1. ALL VEGETATION TO BE REMOVED FROM BOTH ELEVATIONS BY HAND, USING MECHANICAL METHODS FOR LOCATIONS AGREED WITH THE EMPLOYER'S REPRESENTATIVE.
 2. ALL CLEARED VEGETATION TO BE REMOVED FROM SITE AND DISPOSED OF IN A LICENCED FACILITY OFF SITE.
 3. NO HERBICIDE PERMITTED TO BE USED.

- MASONRY REPAIRS AND REPOINTING**
1. MASONRY REPAIRS SHALL BE UNDERTAKEN USING EXISTING STONE WHERE POSSIBLE WITH ANY IMPORTED MASONRY TO MATCH EXISTING.
 2. A SAMPLE OF ANY IMPORTED MASONRY SHALL BE PROVIDED TO THE EMPLOYER'S REPRESENTATIVE A MINIMUM OF 1 WEEK PRIOR TO THE RELEVANT REPAIR WORKS BEING UNDERTAKEN.
 3. MASONRY REPAIRS AND REPOINTING SHALL BE UNDERTAKEN USING NHL5 MORTAR.
 4. VOIDS MARKED FOR RETENTION BY THE BAT SURVEY SHALL BE LEFT UNTOUCHED.

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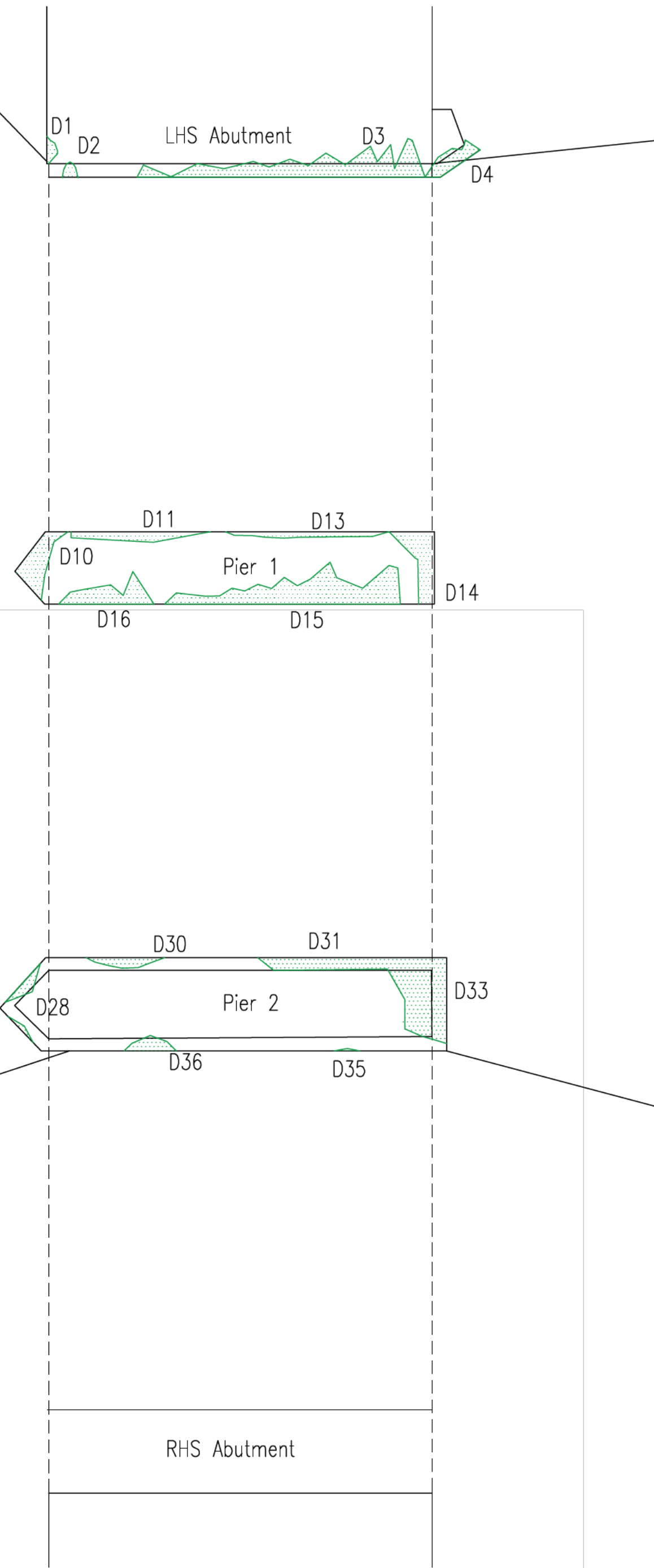
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Cient: TRANSPORT INFRASTRUCTURE IRELAND (TII)

Project: MUNSTER BRIDGES TERM MAINTENANCE CONTRACT NR.4

Purpose: ISSUED FOR REVIEW		Title: WATERVILLE BRIDGE (KY-N70-039.00) NON-ROUTINE MAINTENANCE PROPOSED DETAILS	
Original Scale: 1:20	Des/Drawn: []	Checked: []	Authorised: []
Status: P	Drawing Number: 5219386-ATK-Z1-XX-SK-CE-901008	Date: 08.12.23	Date: 08.12.23
Rev: 1			

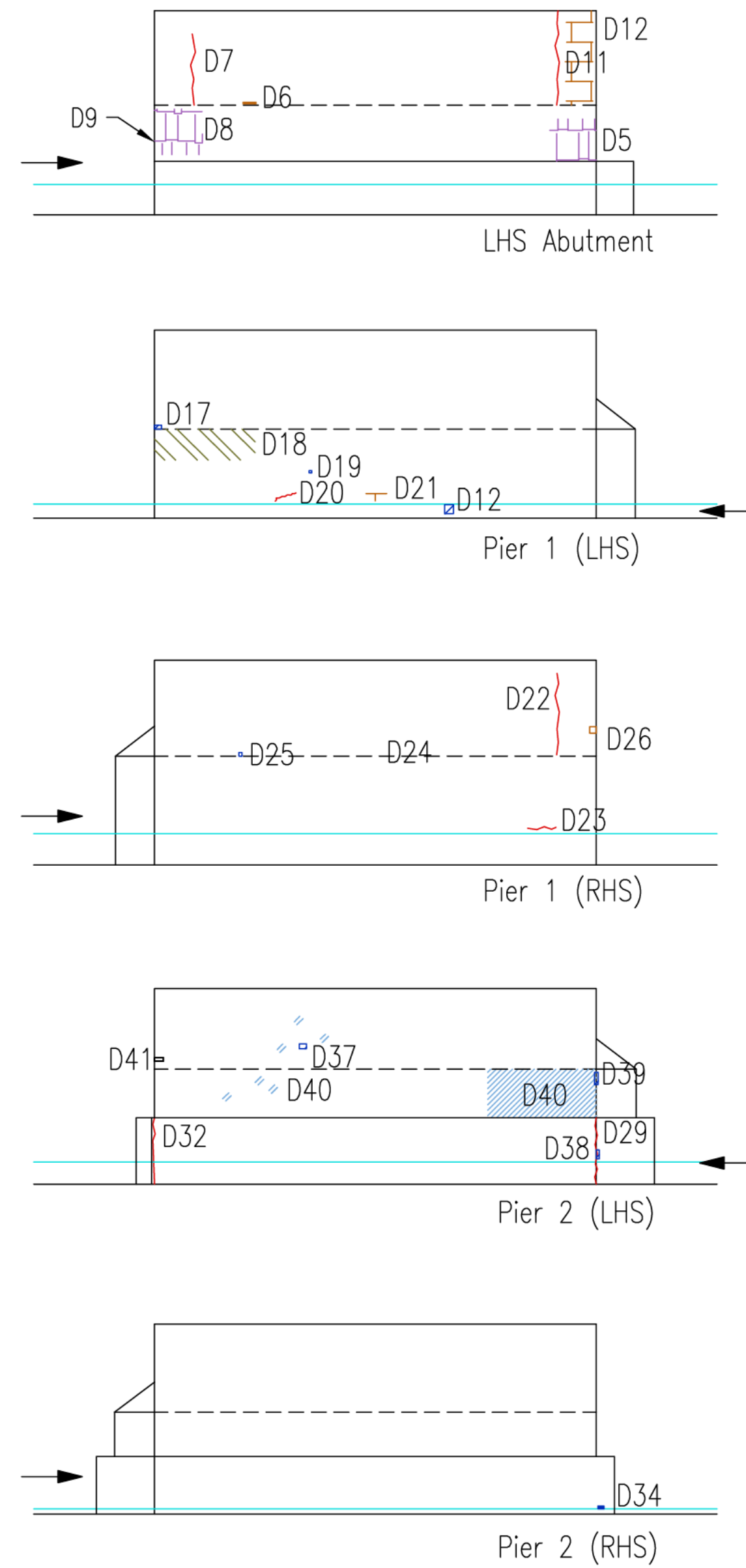
Plan View



Defect Key

- Under scour
- Flow Direction

Elevations



Defect Key

- Void
- Water Seepage
- Erosion
- Mortar Loss
- Block movement
- Crack
- Flow Direction
- Water Level

GENERAL NOTES

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BRIDGE DEFECTS

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Rev	Description	By	Date	Ch'g	Auth
-	ISSUED FOR REVIEW		02/24		

Client		TRANSPORT INFRASTRUCTURE IRELAND (TII)	
Project		MUNSTER BRIDGES TERM MAINTENANCE CONTRACT NR.4	

Purpose				ISSUED FOR REVIEW			
Title				WATERVILLE BRIDGE (KY-N70-039.00) NON-ROUTINE MAINTENANCE EXTRACTS FROM UNDERWATER INSPECTION RAPORT			
Original Scale	Des/Drawn	Checked	Authorised				
N.T.S.	08.12.23	08.12.23	08.12.23				
Status	Drawing Number	Rev					
P	5219386-ATK-Z1-XX-SK-CE-901009	-					

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