FEHILY TIMONEY

CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

ARDCAHAN BRIDGE REPAIR AND REHABILITATION

EIA Screening Report

Prepared for:

Cork County Council

Comhairle Contae Chorcaí
Cork County Council

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Abstract: Fehily Timoney and Company is pleased to submit this EIA Screening Report having been prepared in support of a Section 177AE application to An Bord Pleanála for approval of repair and rehabilitation works of the existing structure of Ardcahan Bridge c. 4km north of Dunmanway, Co. Cork.

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1. INTRODUCTION

1.1 Introduction

Fehily Timoney and Company have been commissioned by Cork County Council (CCC) to provide consultancy services, including the preparation of this Environmental Impact Assessment (EIA) Screening report, for approval of repair and rehabilitation works of the existing structure of Ardcahan Bridge c. 4km north of Dunmanway, Co. Cork.

This EIA report presents an assessment of whether or not the proposed repair and rehabilitation works at Ardcahan Bridge should be subject to Environmental Impact Assessment (EIA). This assessment is based upon the EPA (2022) Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR), as well as the other guidance documents as set out in Section 1.3, and considers the characteristics of the proposed repair and rehabilitation works and the likelihood of significant effects on the environment.

1.2 EIA Legislative Background

The requirement for EIA derives from Directive 2014/52/EU in 2014. In determining the requirement for EIA, the Directive differentiates between the projects that always require EIA and those for which an EIA may be required. These projects are listed in Annex I and Annex II of the Directive, as transposed into Irish law by the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018.

Annex I Projects

These are projects which are considered as having significant effects on the environment and require a mandatory EIA. Project types requiring mandatory EIA are listed in the following legislation:

- First Schedule of European Communities (Environmental Impact Assessment) Regulations (S.I. No. 349 of 1989) as amended;
- Schedule 5 of the Local Government (Planning and Development) Regulations, 2001 (S.I. No. 600 of 2001) as amended;
- Section 50 (1) of the Roads Act 1993 as amended;
- Article 8 of the Roads Regulations 1994; and
- European Communities (Environmental Impact Assessment) (Agriculture) Regulations 2011 (S.I. No. 456 of 2011).

The regulations identify the following road-related developments as requiring mandatory EIA:

- Construction of motorways and express roads;
- Construction of a motorway, busway or service area;
- The construction of a new road of four or more lanes, or the realignment or widening of an existing road so as to provide four or more lanes, where such new, realigned or widened road would be eight kilometres or more in length in a rural area, or 500 metres or more in length in an urban area;
- Infrastructure projects including car parks with 400 or more spaces;
- Urban development projects which would involve greater than 2 hectares in the case of a business district, 10 Hectares in the case of other built-up areas and 20 hectares elsewhere;
- The construction of a new bridge or tunnel which would be 100 metres or more in length;

- Over 4km length of field boundary to be removed;
- Re-contouring of farm holding above 5 ha; and
- Area of lands to be restructured by removal of field boundaries above 50ha.

Further details on the proposed project are provided in Section 2 of this report.

The Ardcahan Bridge repair and rehabilitation works project is not of a type requiring mandatory EIA under the EIA Directive. However, Cork County Council has requested a EIA Screening Report to provide a comprehensive assessment of the planning requirement needed for the proposed works at Ardcahan Bridge.

Annex II Projects

These are projects where Member States decide whether an EIA is needed. This is done by the screening procedure, which determines the effects of projects on the basis of thresholds/criteria or a case by case examination. The projects listed in Annex II are in general those not included in Annex I which may be considered to have a lesser environmental impact.

Annex II lists the "*Construction of roads, harbours and port installations, including fishing harbours (projects not included in Annex I)*" as projects to undergo the screening procedure to determine the need for EIA.

The criteria to be considered when determining whether an Annex II (or sub-threshold) project should be subject to EIA are set out in Schedule 7 of the Planning and Development Regulations, 2001 (as amended) and are addressed under three headings as follows:

1. Characteristics of the Proposed Repair and Rehabilitation works;
2. Location of the Proposed Repair and Rehabilitation works; and
3. Types and Characteristics of Potential Impacts.

Schedule 7A of the Regulations lists information which must be provided by the Applicant or Developer in order to allow the Competent Authority to assess the project against the criteria prescribed in Schedule 7.

> *"1. A description of the proposed development, including in particular—*
>
> *(a) a description of the physical characteristics of the whole proposed development and, where relevant, of demolition works, and*
>
> *(b) a description of the location of the proposed development, with particular regard to the environmental sensitivity of geographical areas likely to be affected.*
>
> *2. A description of the aspects of the environment likely to be significantly affected by the proposed development.*
>
> *3. A description of any likely significant effects, to the extent of the information available on such effects, of the proposed development on the environment resulting from—*
>
> *(a) the expected residues and emissions and the production of waste, where relevant, and*
>
> *(b) the use of natural resources, in particular soil, land, water and biodiversity."*

1.3 EIA Screening Guidelines

In order to assist the Competent Authority in their assessment, this report has been structured so as to present the information required under Schedule 7A against the criteria set out in Schedule 7.

This assessment was undertaken having regard to the following guidance:

- Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) *(*EPA, 2022);
- Guidance on EIA Screening (Directive 2011/92/EU as amended by 2014/52/EU), European Commission, 2017;
- Environmental Impact Assessment (EIA) Guidance for Consent Authorities regarding Sub-threshold Development DEHLG (updated December 2020);
- Environmental Impact Assessment of National Road Schemes – A Practical Guide (NRA, 2008);
- Office of the Planning Regulator Practice Note (PN02) 'Environmental Impact Assessment Screening' (OPR, 2021); and

2. PROJECT DESCRIPTION

2.1 Project Overview

2.1.1 Purpose of the Project

The purpose of the project is to provide repair and rehabilitation works to Ardcahan Bridge as the steel beams supporting the deck were observed to have significant corrosion issues. The strength of the bridge is at risk and urgent intervention is required to repair and rehabilitate the corroded areas and to restore the structure of the bridge to full strength.

In addition to the key issues above, additional repairs and rehabilitation works such as resurfacing, deck waterproofing and parapet repair are also required at the structure.

2.1.2 Description of the Development

2.1.2.1 Scope, Size and Scale

Ardcahan Bridge is a six-arch structure, with each span being c. 5-6m in width, which carries the R587 over the river Bandon connecting Dunmanway to Toonbridge. The R587 road has a history of flooding in this area, and frequently becomes impassable to road traffic. Due to the road speed, traffic volumes and visibility issues in the hours of darkness, the flooding on this road presents significant risk to the safety of road users.

The proposed repair and rehabilitation work on Ardcahan Bridge are as follows:

- Address corrosion within the bridge structure;
- Instillation of a temporary site compound;
- Deck works to include resurfacing, deck waterproofing and bridge parapet repair.

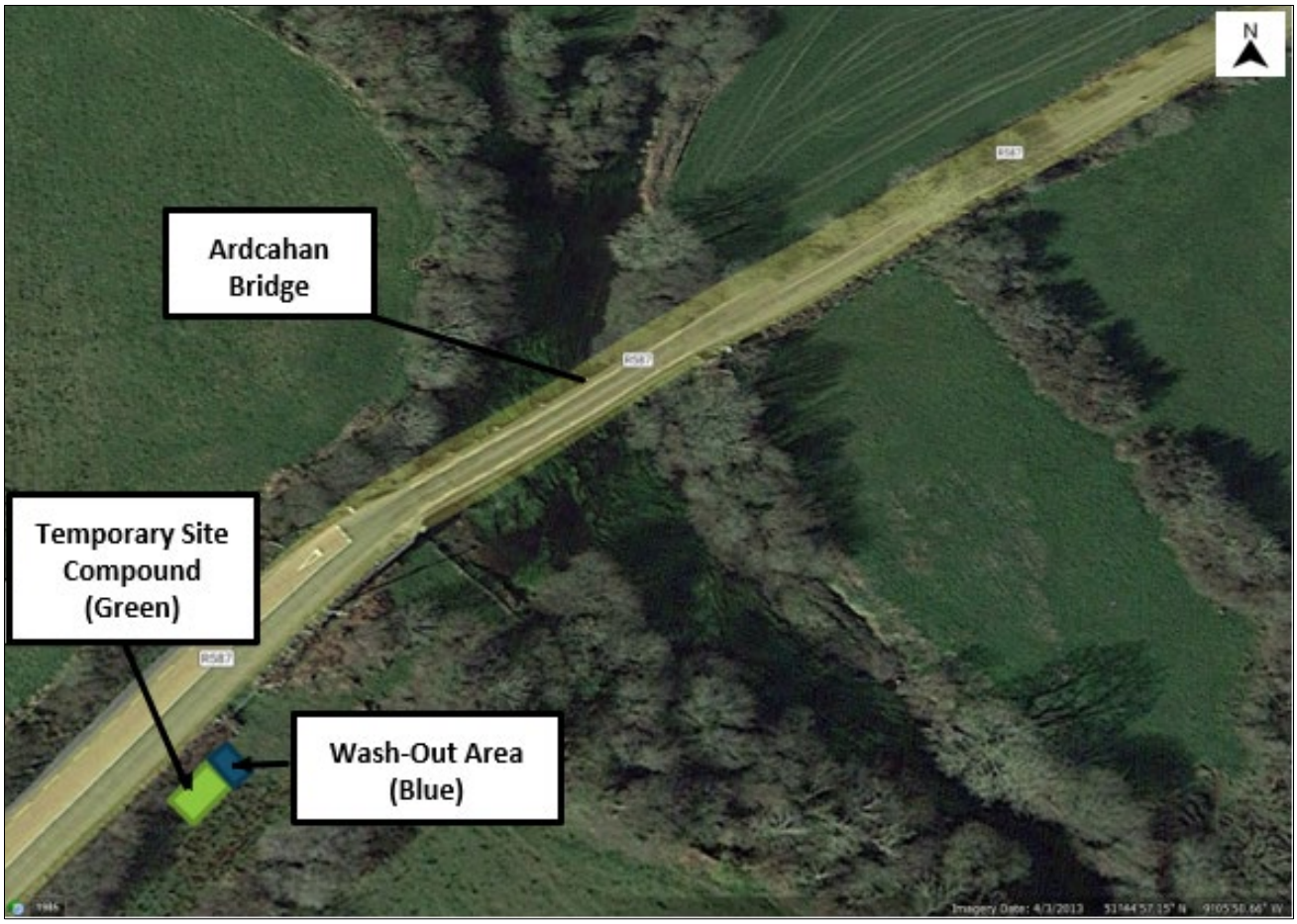

Figure 2-1: Ardcahan Bridge and Site Compound/Wash-out Area

2.1.2.2 Construction Phase (Repair and Rehabilitation works)

It should be noted that the 'construction' phase relates to the repair and rehabilitation works on the structure of Ardcahan Bridge.

2.1.2.3 Temporary Compound & Facilities

During the Construction Phase (repair and rehabilitation works), it will be necessary to provide 1 no. temporary compound to provide storage and welfare facilities for construction personnel, as shown in Figure 1-1, above and Figure 3-1 of the CEMP. This temporary compound is located near the entrance to the site and is proposed to be set back c. 30m from the south west corner of the bridge, as shown in Figure 3-1 of the Construction Environmental Management Plan (CEMP) which accompanies this application. The temporary compound shall be constructed with crushed rock aggregate hard standings with low dust content. On completion of the repair and rehabilitation works at Ardcahan Bridge, the temporary compound and all storage and welfare facilities will be removed, and the lands fully reinstated.

The temporary site compound will include the following:

- Staff welfare facility;
- Employee parking;
- Contractor lock-up facility;

- Bottled water for potable supply;
- Water tanker to supply water used for other purposes;
- Bunded fuel storage;
- Diesel generator;
- Storage areas;
- Waste management areas.

2.1.2.4 Vehicles, Equipment and Materials Use and Storage

All washouts will be carried out in a dedicated area of the temporary compound, as shown in Figure 3-1 of the CEMP, which accompanies this application.

Small mortar mixers will be required to be cleaned in a designated concrete wash-out area, (Figure 3-1 of CEMP) with fuels, paints, generators stored within a bunded storage area. A purpose-built concrete wash-out facility will be installed to separate solids and liquids. Solids shall be removed to an appropriate waste management facility and wastewater will be collected in a secondary holding tank for recycling in the washing process. Any diesel or fuel oils stored on site will be bunded to 110% of the capacity of the storage tank. Design and installation of fuel tanks will be in accordance with best practice guidelines BPGCS005 (Oil Storage Guidelines). Mobile bowsers, tanks and drums will be stored in a secure, impermeable storage area, away from drains and open water. Ancillary equipment such as generators, fuel storage tanks will be contained within a bunded area.

To complete the repair and rehabilitation works, small amounts of concrete, no more than c. 2m^3, will be batched on site. Wash-out facilities will be positioned away from drainage features and fuel storage areas. Upon completion of the repair and rehabilitation works, the wash-out area will be removed from the site of the temporary compound and the area reinstated. The area will be re-vegetated following the completion of works. Silt fencing will be left around any bare ground areas until they have re-vegetated.

Wheel wash facilities will be located at the site entrance to reduce construction traffic fouling public roads. Each wheel wash will come with a water tank which will be filled regularly. These units will be self-contained and will filter the waste for ease of disposal. Waste will be removed from each unit and from the site to an appropriate waste management facility by the proposed contractor.

Paint will be stored in a bunded container. Statutory check to be carried out on machinery weekly (GA2 Form).

Sand stored in the compound will be covered in a secure area and surrounded by silt barriers. These silt barriers prevent the movement of sediment-laden water from a disturbed area to a watercourse or a drainage system and help to protect aquatic habitats and water quality.

Cement and any other mortar constituents required will be stored in secure watertight containers, preventing washout.

Oils/hydrocarbons will be stored in a designated secure bunded area in watertight containers, preventing washout or disturbance of containers.

Any generators stored in the compound will be bunded to 110% capacity.

Distributed overland minimum drainage will be required to the site compound as the washout facility will be used. Silt fencing will be erected on the downslope side of the site compound location which will prevent the movement of sediment-laden water from a disturbed area to a watercourse or a drainage system and help to protect aquatic habitats and water quality. .

Note that the site compound and wash-out facilities are both located in agricultural land within the Bandon River SAC, and as described within the Natura Impact Statement (NIS) and documents included with this application, particular be given to ensure the area is contained and no runoff occurs to River Bandon (see Figure 1-1, above).

2.1.2.5 Operational Phase

The 'operational' phase of the structure being the bridge to remain in-situ and to continue functioning as it currently exists following completion of proposed repair and rehabilitation works.

2.1.2.6 Decomissioning Phase

There are no plans for a 'decommissioning' phase for the bridge structure following completion of all proposed repair and rehabilitation works. Works will be conducted to remove the temporary compound and restore the location of the temporary compound to its former land use.

2.2 Receiving Environment

Section 171A of the Planning and Development Act outlines the aspects of the environment likely to be significantly affected by a proposed repair and rehabilitation works, which must be considered in an EIA. These are:

- Population and Human Health;
- Biodiversity and Land;
- Soil and Water;
- Air and Climate;
- Material Assets; and
- Cultural Heritage and Landscape.

A summary of each of the above topics as they relate to the receiving environment is provided below.

2.2.1 Population and Human Health

The area containing Ardcahan Bridge is a sparsely populated agricultural landscape, with no residential dwellings or commercial premises adjacent to or in close proximity to the bridge. Repair and rehabilitation work on Ardcahan Bridge are outlined in the Construction Environmental Management Plan (CEMP) which accompany this application, which describe the following:

- Safety and Health Management Plan: This outlines the management of safety and health during the design, construction, and operation, ensuring compliance with statutory obligations and the welfare of all involved.
- Emergency Response Plan: The includes protocols for immediate threats to the health and safety of the public or personnel, medical protocols, and emergency response procedures.
- Environmental Management Plan (EMP): The EMP includes measures to protect from impacts due to dust, noise, and vibration generated by traffic and construction works.

The rehabilitation works on Ardcahan Bridge will have minimal interaction with populated areas or impacts on human health.

2.2.2 Biodiversity and Land

The proposed repair and rehabilitation works are located within the Bandon River SAC (site code 002171). One other European site is located within 15 km of Ardcahan Bridge. Both sites are discussed in full in the Appropriate Assessment (AA) screening, Natura Impact Statement (NIS) and Ecological Appraisal Report provided with the planning application.

The NIS provides the necessary information to enable the competent authority to perform the required Appropriate Assessment for the repair and rehabilitation works at Ardcahan Bridge on the River Bandon. Thereby, enabling the competent authority to perform its statutory function and comply with Article 6(3) of Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora ('Habitats Directive'), in addition to the European Communities (Birds and Natural Habitats) Regulations 2011-2021.

The NIS has considered the potential for the proposed works to give rise to adverse effects on the integrity of the Bandon River SAC (002171), either alone and in combination with other plans and projects, considering the site's structure, function and conservation objectives. Where potentially negative effects were identified, mitigation measures have been recommended to prevent these effects.

However, due to the relatively non-intrusive nature of the proposed repair and rehabilitation works to the bridge and following a comprehensive evaluation of the effects on the qualifying interests and conservation objectives for the SAC following the implementation of the proposed mitigation measures, it has been concluded that there will be no residual effects. Therefore, the proposed bridge repair and rehabilitation works will not have an adverse effect on the integrity of the Bandon River SAC (002171).

As outlined in the Bat Survey Report, included with this application, no active bat roosts were identified within Ardcahan Bridge, with moderate bat roosting potential identified within the bridge structure.

As a precautionary measure, the bridge will be subject to a preconstruction endoscope survey (licensed) and emergence surveys (2 rounds) to re-confirm baseline conditions. If any new roosts are found during these surveys, a relevant bat derogation licence shall be sought prior to construction works commencing, and works will be carried out under the terms of the relevant derogation licence (a derogation license will be sought from NPWS to allow works to proceed in a manner which minimises disturbance and ensures no bats are harmed).

An Annex IV assessment and report shall be completed in the event that bats are present in the bridge Relevant guidance including the NRA (2006) Guidelines and Marnell et al. (2022) will be followed. If bats are found to be present, the Ecological Appraisal Report (included as part of this application) outlines a process for obtaining a derogation license from the National Parks & Wildlife Service (NPWS) to allow works to proceed with minimal disturbance and no harm to bats. Furthermore, an Ecological Clerk of Works (EcoW) will supervise works (accompanied by a bat specialist if required) to ensure they are carried out in a manner which minimises disturbance and ensures no bats are harmed.

It is noted that the bridge is located in an area which presents opportunities for foraging bats, but roosting opportunities in the bridge may be limited in terms of variety/conditions. As further outlined within the Ecological Appraisal Report, bat boxes will be installed under the bridge to enhance roosting potential and increase roosting options and capacity, with further details contained within the Ecological Appraisal Report to further enhance the landscape for bats post construction as a measure of good practice.

No tree removals are required as part of the Ardcahan Bridge repair and rehabilitation works. Trimming of tree branches within 2m of the bridge will be required for access to the bridge structure to facilitate clearance of vegetation on the internal side of the existing parapet and drainage outlets as part of the repair and rehabilitation, with an EcoW on site to supervise tree trimming to minimise the area affected.

Ardcahan Bridge is located within a landscape dominated by agricultural pastureland, with narrow strips of riparian woodland (WN5) dominated by grey willow (Salix cinerea) are present up and down stream of the bridge along the riverbanks.

As outlined within the Ecological Appraisal Report, several rare, threatened, or protected species were identified within or adjacent to the proposed bridge repair and rehabilitation works. Evidence of Otter (Lutra lutra) activity was recorded both upstream and downstream of the bridge, with Dipper (Cinclus cinclus) and Kingfisher (Alcedo atthis) observed during the winter bird survey. In reference to Atlantic Salmon (Salmo salar), The River Bandon, which flows under Ardcahan Bridge, is designated as a Special Area of Conservation (SAC) for Atlantic salmon.

The Ecological Appraisal Report outlines how the proposed works have been designed to avoid impacts on these species and their habitats, and recommends mitigation measures to further reduce potential impacts, such as works that could disturb Otters or birds protected under the Wildlife Act should be carried out outside of the breeding season. No in-stream works are required as part of the proposed repair and rehabilitation works, however, all works should be carried out in accordance with best practice to avoid impacts on Atlantic Salmon and other aquatic species, so the proposed works are unlikely to have an impact on these, or any other protected species.

The Ecological Appraisal identifies winter heliotrope (Petasites Fragrans) as an invasive species found in the road verge adjacent to the north-western corner of the bridge (Figure 5-1 of the Ecological Appraisal Report provided as with this application). This species is considered low impact and is not within the footprint or zone of influence of the proposed repair and rehabilitation works. Additionally, Canadian waterweed (Elodea canadensis), a high impact invasive species, was recorded in 2006, but not observed during the surveys near Ardcahan Bridge.

2.2.3 Soil and Water

Throughout the period of works, an area of c. 30m2 of grassland will be affected by construction of the proposed temporary site compound and concrete washout area, with vegetation in the footprint of the site compound covered with a geotextile for the duration of the repair and rehabilitation works (6-10 weeks). Vegetation along the access route will be disturbed during the construction phase, however, this will be reinstated on completion of the rehabilitation works.

The Construction Environmental Management Plan (CEMP) for the Ardcahan Bridge repair and rehabilitation works includes several measures to protect the soil during construction works, which include:

- Site Compound: Use of aggregate with low fines content and a geotextile layer under the hard standing to minimize soil disturbance.
- Washout Area: A designated area for cleaning small mortar mixers with a concrete wash-out facility to separate solids and liquids, ensuring no pollutants enter the soil.
- Soil Management: Implementation of a Soil Management Plan, including site-specific ground hazard assessment and daily preparation to protect the Bandon river from extreme weather impacts.
- Spill Control: Measures to prevent and manage spills of fuels, lubricants, and hydraulic fluids, including the use of spill kits and bunded storage areas.

During deck repair and rehabilitation works, measure will be taken to prevent debris or contaminated liquids entering the river. Impermeable membranes such as a field tent and bund will be used on work platforms and blocking of drainage eyelets in the bridge parapets will be carried out during deck works to prevent ingress of dust, sediment or pollutants during steel beam and bridge deck repairs. In case of heavy rainfall or rising water levels, an Emergency Procedure will be in place where works will cease, and measures will be taken to secure all materials and prevent pollution entering the river from Ardcahan Bridge or the site compound.

2.2.4 Air and Climate

The Construction Environmental Management Plan (CEMP) for the Ardcahan Bridge identifies measures which are implemented to control dust and emissions during the repair and rehabilitation works on Ardcahan Bridge. This involves the implementation of an Environmental Monitoring Plan (EMP) to monitor environmental measures for the duration of the repair and rehabilitation works, with these documents and records available for inspection in the site office.

These EMP measures includes the use of dust suppression techniques such as water sprays, and ensuring machinery and vehicles are well-maintained to minimize emissions. Furthermore, regular monitoring of air quality is to be conducted to identify any potential impacts from construction activities, with traffic management on and around the site implemented to reduce dust and emissions from vehicles in proximity to the river where possible.

2.2.5 Material Assets

Repair and rehabilitation work on Ardcahan Bridge will require no excavation works within the bridge structure, with no connections required for electricity, communications, natural gas or water supply as power and water will be provided via generator and tanked water.

A temporary compound will be required to provide storage and staff welfare facilities for the duration of the works. This temporary compound will be removed after completion of works and the compound site reinstated to its former agricultural land use.

2.2.6 Architectural and Cultural Heritage

Ardcahan Bridge is not a protected structure contained on the National Inventory of Architectural Heritage (NIAH). The exact construction date of Ardcahan Bridge is unknown, however, a structure referred to '*Ardcahan Bridge*' is shown to have been constructed at this location prior to 1829 due to its presence on the Ordnance Survey Map of Ireland (OSI 6inch Cassini), which was conducted between 1829 and 1842, which shows a bridge already in situ At this location.

The nearest feature of architectural or cultural heritage is a bridge crossing the Bandon River referred to as 'Caha Br.' (NIAH Ref. No. CO108-064). This bridge is located 0.3 km north east of Ardcahan Bridge and is described on the NIAH as a "*Gentle hump-backed road bridge over Bandon river; three semi-circular arches*.". The repair and rehabilitation work on Ardcahan Bridge will have no impact on architectural or cultural heritage assets in the vicinity.

3. ASSESSMENT AGAINST SCHEDULE 7 CRITERIA

Having considered the above environmental factors the aim of the next section is to address likely impacts on the environment by the implementation of the proposed repair and rehabilitation works. A brief overview of the sensitivities and impacts will be highlighted. Whether an EIA would be deemed relevant to the scale of the repair and rehabilitation works and the environment will then be determined. The following sections presents the EIA Screening based on the criteria contained in Schedule 7A of the Regulations and are grouped under the following headings:

1. Characteristics of the Proposed Repair and Rehabilitation works - Table 3-1
2. Location of the Proposed Repair and Rehabilitation works - Table 3-2
3. Types and Characteristics of Potential Impact - Table 3-3

Table 3-1: Characteristics of the Proposed Repair and Rehabilitation works

Criterion	Commentary
the size and design of the whole of the proposed repair and rehabilitation works	Ardcahan Bridge is a six-arch structure, with each span being c. 5-6m in width, which carries the R587 over the river Bandon connecting Dunmanway to Toonbridge. The R587 has a history of flooding in this area and frequently becomes impassable to road traffic. Due to the road speed, traffic volumes and visibility issues in the hours of darkness the flooding presents and significant risk to the safety of road users. The proposed rehabilitation works on Ardcahan Bridge are as follows: • Address corrosion within the bridge structure; • Instillation of a temporary site compound; • Deck works to include resurfacing and deck waterproofing. During the proposed repair and rehabilitation works on Ardcahan Bridge, it will be necessary to provide temporary facilities for construction personnel, with 1 no. temporary compound located near the entrance to the site which will include storage and welfare facilities. The location of the temporary site compound is proposed to be set back c. 30m from the south west corner of the bridge, as shown in Figure 3-1 of the CEMP included with this application. The temporary compound shall be constructed with crushed rock aggregate hard standings with low dust content. Temporary facilities will be removed, and the lands reinstated upon completion of the construction phase. Facilities to be provided in the temporary site compounds will include the following: • Welfare facility; • Employee parking; • Contractor lock-up facility; • Bottled water for potable supply; • Water tanker to supply water used for other purposes;

Criterion	Commentary
	• Bunded fuel storage; • Diesel generator; • Storage areas; • Waste management areas.
cumulation with other existing development and/or development the subject of a consent for proposed Repair and Rehabilitation works	According to the National Planning Application Database, there are 2 no. commercial developments within 1km of Ardcahan Bridge. The first is a quarry located c. 0.5 km east of Ardcahan Bridge, with the second being a 33kV underground electricity cable associated with a renewable energy development within the public road c. 0.25km to the north east of Ardcahan Bridge. There are no pending residential or commercial developments within 1km of the bridge approved during the last 5 years. Therefore, no planning applications or developments are expected to act cumulatively with the repair and rehabilitation works. Should any activities associated with proposed and existing developments identified in the future coincide with the works at Ardcahan Bridge, the Contractor should advise the local authority of these developments as part of the finalisation of the construction stage TMP so that they can be considered.
the nature of any associated demolition works	No demolition works are proposed, with repair and rehabilitation works on Ardcahan Bridge to involve addressing corrosion issues, resurfacing and waterproofing the deck of the bridge.
the use of natural resources, in particular land, soil, water and biodiversity	During the construction phase, it will be necessary to provide temporary facilities for construction personnel on agricultural land adjacent to the bridge. Natural resources will be used where the temporary compound shall be constructed with crushed rock aggregate hard standings with low dust content. A geotextile will be placed under the hard standing to minimise soil disturbance when aggregate is removed after completion of the repair and rehabilitation works. All temporary facilities will be removed, and the lands reinstated upon completion of the construction phase (bare areas will be allowed to recolonise naturally). The proposed works will result in the removal of vegetation from 2m of the bridge to allow access to the bridge structure. Trimming of trees will be limited to tree branches, with no main stems cut. As per the NIS, an ECoW will supervise tree trimming to minimise the area affected. With the implementation of the mitigation measures detailed in the Ecological Appraisal, the CEMP and the NIS accompanying this application, there will be no significant residual impacts from the bridge repair and rehabilitation works on biodiversity.
the production of waste	As described within the accompanying Ecological Appraisal Report's 'Waste Management Plan', during repair and rehabilitation works, all washouts will be carried out in a dedicated area of the temporary compound, as shown in CEMP Figure 3-1 accompanying this application.

Criterion	Commentary
	Small mortar mixers will be required to be cleaned in a designated concrete wash-out area (Figure 3-1). A purpose-built concrete wash-out facility will be installed to separate solids and liquids. Solids shall be removed to an appropriate waste management facility, wastewater will be collected in a secondary holding tank for recycling in the washing process. Wash-out facilities will be positioned away from drainage features and fuel storage areas. The area will be re-vegetated following the completion of works. Silt fencing will be left around any bare ground areas until they have re-vegetated. It will be the objective of the Developer, in conjunction with the appointed contractor, to prevent, reduce, reuse and recover as much of the waste generated on site as practicable, and to ensure the appropriate transport and disposal of residual waste off site. This is in line with the relevant National Waste Management Guidelines and the European Waste Management Hierarchy, as enshrined in the Waste Management Act 1996, as amended.
pollution and nuisances	Temporary localised nuisance is likely during the construction phase of the proposed works, which can be reduced and managed through standard environmental and construction best practice methods and controls such as dust dampening/ road sweeping, use of silt fences, use of noise mufflers/ barriers, control over times of operation etc. Given the location of the Ardcahan Bridge site within the River Bandon SAC, and the widespread decline of pearl mussel numbers within the catchment (NS2, 2010), it is critically important to prevent any silt or pollution escapement during bridge repair works through strict adherence to the water quality mitigation measures defined in the accompanying Construction Environmental Management Plan (CEMP). It is also important to monitor water quality throughout the construction period to prevent any spikes in siltation or pollution. Chemical and physico-chemical water testing will be undertaken to help ensure any pollution arising from steel beam repair and bridge deck works is prevented. All efforts to minimise pollution and siltation escapement to the river will be made and an Ecological Clerk of Works (EcoW) will be present to supervise the construction activities as informed by their knowledge of the site's ecological sensitivities. An emergency preparedness and response procedure are required to prevent environmental pollution incidents. Emergency Silt Control and Spillage Response Procedures are included in Section 4.3.3 of the accompanying CEMP. Suitable spill kits and absorbent material for dealing with oil spills will be maintained on site. In the event of pollution or potential risk of pollution the Local Authority should be informed immediately.

Criterion	Commentary
the risk of major accidents, and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge	An emergency response plan is contained within Section 6 of the accompanying CEMP and outlines how any major accident or disaster in relation to the works on Ardcahan Bridge and watercourses will be addressed. The Management of Health and Safety during the Design Process include risk management procedures involving the identification and evaluation of risks and the development of mitigation measures to eliminate (where possible) or reduce those risks during the life cycle of the proposed works. In relation to water quality, the main impacts from the proposed bridge repair and rehabilitation works on the Bandon River SAC (002171) are expected to occur during the construction phase (repair and rehabilitation works). Primarily, these risks relate to water pollution and or contamination via siltation. The attached NIS prescribes mitigation for the protection of water quality. No risk of pollution given the implementation of NIS mitigation. The Environmental Management Programme will incidentally reduce the risk of fire through other measures. For example, as described in the attached CEMP, part of the Noise and Vibration programme describes how exhaust emissions will be minimised via the regular maintenance of machinery. This will also reduce the risk of faults developing and thus, the start of fires.
the risks to human health (for example, due to water contamination or air pollution)	Water contamination associated with the works are considered unlikely, with no water drinking sources within proximity of Ardcahan Bridge. As demonstrated within the documentation supplied as part of this application, all efforts will be made to minimise pollution and siltation escapement to the river. An Ecological Clerk of Works (EcoW) will be present to supervise the construction activities as informed by their knowledge of the site's ecological sensitivities. No significant risk to human health due to pollution is likely on the adoption of best practice construction methods. No significant risk to human health due to pollution is likely considering adoption of best practice construction methods and adoption of mitigation in the NIS. The principal source of potential air emissions during the works of renovation of the bridge will be dust arising from tree limb cutting activities and the temporary storage of excavated materials, the movement of construction vehicles, loading and unloading of aggregates/materials and the movement of material around the site. These emissions during the works phase can be minimized through best practice.

Table 3-2: Location of the Proposed Repair and Rehabilitation works

Criterion	Commentary
the existing and approved land use	The existing and approved land use of Ardcahan Bridge is a six-arch structure, which carries the R587 over the river Bandon connecting Dunmanway to Toonbridge. Surrounding land uses are agricultural, with a quarry located c. 5km to the east of the bridge.
the relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground.	The proposed repair and rehabilitation work on the bridge are small scale, with a temporary site compound proposed within agricultural lands to be set back c. 30m from the south west corner of the bridge. The temporary compound shall be constructed with crushed rock aggregate hard standings with low dust content. Temporary facilities will be removed, and the lands reinstated upon completion of the construction phase.
the absorption capacity of the natural environment, paying particular attention to the following areas: **(i) wetlands, riparian areas, river mouths;** **(ii) coastal zones and the marine environment; (iii) mountain and forest areas;** **(iv) nature reserves and parks;** **(v) areas classified or protected under legislation, including Natura 2000 areas designated pursuant to the Habitats Directive and the Birds Directive and;** **(vi) areas in which there has already been a failure to meet the environmental quality standards laid down in legislation of the European Union and relevant to the project, or in which it is considered that there is such a failure;** **(vii) densely populated areas;** **(viii) landscapes and sites of historical, cultural or archaeological significance.**	The proposed repair and rehabilitation work, site compound and wash-out facilities are located within the Bandon River SAC. Therefore, particular attention needs to be given to ensure the area is contained and no runoff occurs to the River Bandon. Appropriate controls will be set out so that the proposed works will not significantly affect the absorption capacity of the natural environment, with appropriate measures taken such as machinery will only be refuelled in the site compound, located a safe distance from the Bandon River or potential surface water pathways (i.e., ≥25m). Any diesel or fuel oils stored on site will be bunded to 110% of the capacity of the storage tank. Mobile bowsers, tanks and drums will be stored in a secure, impermeable storage area, away from drains and open water. Ancillary equipment such as generators, fuel storage tanks will be contained within a bunded area. Only designated trained operators will be authorised to refuel plant on site and emergency spill kits will be present at equipment for all refuelling events. An emergency spill kit with absorbers etc. is to be kept on site in the event of an accidental spill.

For criteria 3 ' Types and Characteristics of Potential Impact' the Regulations require that the likely significant effects on the environment of the proposed repair and rehabilitation works (in relation to criteria set out under 'Characteristics of the Proposed Development' and 'Location of the Proposed Development') are assessed for the environmental topics set out in section 171A of the Planning and Development Act (i.e. population and human health, biodiversity, land, soil, water, air and climate, material assets, cultural heritage and the landscape) taking into account—

(a) the magnitude and spatial extent of the impact (for example, geographical area and size of the population likely to be affected),

(b) the nature of the impact,

(c) the transboundary nature of the impact,

(d) the intensity and complexity of the impact,

(e) the probability of the impact,

(f) the expected onset, duration, frequency and reversibility of the impact,

(g) the cumulation of the impact with the impact of other existing and/or development the subject of a consent for proposed development for the purposes of section 172(1A)(b) of the Act and/or development the subject of any development consent for the purposes of the Environmental Impact Assessment Directive by or under any other enactment, and

(h) the possibility of effectively reducing the impact.

Table 3-3: Types and Characteristics of Potential Impact

Criterion	Commentary
Human Health	Potential for localised nuisance during the construction works through increase in noise and dust. Plant and machinery such as generators, excavators etc. will be required at various stages of the construction works. These will be relatively small units which will be operated on an intermittent basis. Although there will be an emission from these units, given their scale and the length of operation time, the impacts of emissions from these units will be negligible. In relation to site traffic, the noise impact from construction personnel movements to and from the site is expected to be low. **Significance of effect:** Likely Effects, Slight Effects, Temporary Effects. On completion of the proposed repair and rehabilitation works, there will be increased safety for those using the bridge due to improved structural integrity. **Significance of effect:** Positive Effects, Long-Term Effects.

Criterion	Commentary
Biodiversity	The proposed scheme will result in the removal of localised and minimal removal of tree limbs c. 2m from the bridge. An ecologist will supervise vegetation removal prior to and during construction as appropriate (e.g., an ecologist may be required during some clearance works for areas where vegetation is too dense to check beforehand). This will ensure that any site-specific issues in relation to wildlife not currently present (e.g. otter holts) on site will be reconfirmed prior to commencement of works to allow appropriate mitigation measures to be put in place. Work in relation to the trimming of trees will only be permitted outside of the nesting season and therefore impacts to biodiversity are considered slight in this respect. **Significance of effect:** Likely Effects, Slight Effects, Temporary Effects. Best-practice mitigation measures will incorporate the recommendations arising from consultation with Inland Fisheries Ireland (Macroom) and National Parks and Wildlife Service (NPWS). These will be implemented in order to reduce or avoid potential impacts to aquatic qualifying interest species and habitats within the Bandon River SAC (002171). Due to the relatively non-intrusive nature of the proposed repair and rehabilitation works and site compound located on existing agricultural lands, it is unlikely that the proposed development would impact on the Bandon River SAC. **Significance of effect during construction stage:** Unlikely Effects, Slight Effects, Temporary Effects. **Significance of effect during operation stage:** Unlikely Effects, imperceptible. The invasive plant species *Winter Heliotrope (Petasites fragrans)* was recorded in the road verge adjacent to the north-western corner of the bridge. This species is not within the footprint or zone of influence of the proposed repair works. Canadian waterweed Elodea canadensis (Schedule III, High Impact invasive species; recorded in 2006). Canadian waterweed was not recorded during surveys at or near Ardcahan Bridge. Standard clean-check-dry biosecurity measures will be necessary to ensure compliance with Article 49 of the European Communities (Birds and Natural Habitats) Regulations 2011 in relation to the control of the spread of invasive species. **Significance of effect:** Unlikely Effects.

Criterion	Commentary
Land, soil, water	During the construction phase (repair and rehabilitation works), it will be necessary to provide temporary facilities for storage and construction personnel, with 1 no. temporary compound located near the entrance to the site which will include storage and welfare facilities. The location of the temporary site compound is proposed to be set back c. 30m from the south west corner of the bridge on land currently used for agriculture. The temporary compound shall be constructed with crushed rock aggregate hard standings with low dust content. Temporary facilities will be removed, and the lands and soils reinstated upon completion of the construction phase. **Significance of effect:** Likely Effects, Indeterminable Effects, Temporary Effects. Wash-out facilities will be positioned away from drainage features and fuel storage areas. Upon completion of the repair and rehabilitation works, the wash-out area will be removed from the site and the area reinstated with the material arising during excavation. The area will be re-vegetated following the completion of works. Silt fencing will be left around any bare ground areas until they have re-vegetated. **Significance of effect**: Likely Effects, Temporary Effects. Given the protective measures in place and nature of the proposed repair and rehabilitation works, there is no potential to alter groundwater hydrology. **Significance of effect:** Unlikely Effects, Imperceptible.
Air and climate	Localised impacts arising from machinery operation during the construction phase of the proposed repair and rehabilitation works will result in a temporary increase in dust and exhaust emissions. These emissions during the works phase can be minimized through best practice. All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the repair and rehabilitation works. Machinery that is used intermittently will be shut down or throttled back to a minimum during periods when not in use. **Significance of effect:** Likely Effects, Brief Effects.
Material assets	There may be impacts on traffic during the construction stage of the development. However, these will be temporary and managed as outlined in a Traffic Management Plan. A dedicated competent Traffic Management Coordinator will be appointed for the duration of the repair and rehabilitation works and this person will be the main point of contact for all matters relating to traffic management on the works.

Criterion	Commentary
	There will not be any requirement to cut supply of gas, water, electricity or telecommunications. **Significance of effect:** Likely Effects, Brief Effects.
Cultural heritage and the landscape	Ardcahan Bridge is not a protected structure contained on the National Inventory of Architectural Heritage (NIAH), with the proposed works not directly or indirectly interacting with any NIAH feature. No significant alteration of landscape character or effects on sensitive/scenic views or routes. **Significance of effect:** Neutral Effects.

4. CONCLUSION

No significant effects likely to arise associated with the characteristics of the proposed repair and rehabilitation works at Ardcahan Bridge. The proposed repair and rehabilitation work on the bridge is minor in character, with the temporary site compound located within an agricultural area.

No significant effects likely to arise associated with the location of the proposed repair and rehabilitation works. While the ecological resources within the area are considered sensitive receptors as described in the NIS included in this application, the nature of the works is such that it is considered that the receptor will not be significantly impacted. The cultural and landscape resources within the area are not particularly sensitive to the proposed scheme.

The Types and Characteristics of Potential Impacts associated with proposed scheme will not result in significant environmental effects. Potential impacts relate primarily to temporary impacts at construction stage and the implementation of the Best Practice Construction measures will provide safeguards to avoid significant impacts at this stage; particularly in relation to the protection of the Bandon SAC, protection of water bodies and reduction of noise and dust nuisance.

Overall Conclusion: No Negative/Adverse Effects or Significant Effects are likely to arise from the proposed repair and rehabilitation works at Ardcahan Bridge.

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