



Comhairle Cathrach
& Contae **Luimnigh**

Limerick City
& County Council

Mohernagh Bridge, Co. Limerick

**Outline Construction & Environmental
Management Plan**

October 2023



**An Roinn Iompair
Turasóireachta agus Spóirt**

Department of Transport,
Tourism and Sport



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1 Introduction

Limerick City & County Council (LCCC) proposes to carry out repair works to Mohernagh Bridge in County Limerick as part of their LCCC 2021 Bridge Rehabilitation Scheme. The bridge at Mohernagh has been identified by LCCC following condition surveys carried out by LC&CC Engineers. PUNCH Consulting Engineers (PUNCH) have been engaged by LC&CC to assess and design as appropriate a structural repair scheme for the nominated bridge structures.

Contractor (TBC) have been appointed to carry out the proposed works at Mohernagh Bridge. The proposed repairs have been reviewed on site with a representative of Contractor (TBC) and they have estimated that the works will be completed in 120 days. Further details of the proposed works are outlined on PUNCH drawing 201156-PUNCH-16-XX-DR-C-002.

The Bridge is located on the River Owvane which is located c. 7.2rkm upstream of both the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA. A Screening for Appropriate Assessment determined that significant impacts on the conservation objectives of the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA were likely.

The contractor will prepare and submit a detailed construction and environmental management plan for approval by the Local Authority and the appointed Project Ecologist in advance of mobilizing to site. The Construction Environmental Management Plan will be a live document that will be updated by the Contractor as required throughout the project lifecycle.

This document has been prepared for the Competent Authority in relation to the proposed project and provides a site-specific Outline Construction and Environmental Management Plan for the proposed works.

2 Bridge Location & Description

Mohernagh Bridge is located c. 7.2rkm upstream of both the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA. The bridge is on a local access road c. 1.1km to the south-east of Ballyhahill Village and c. 5.2km west of Shanagolden Village. Although upstream of the SAC boundary, salmonid habitat is present at the site and there is potential for Salmon to be present here. There is also the potential for Brook / River lamprey and Otters to be present at the site. None of the habitats of the SAC or SPA are present at the site but are located downstream with a hydrological connection. The bird species of the SPA are unlikely to be present at the site but again are located downstream, with some previously recorded at the mouth of the River Owvane (Limerick) near the SPA boundary at Loughill. Impacts on the affected Qualifying Interests were identified as water quality, disturbance and invasive species.

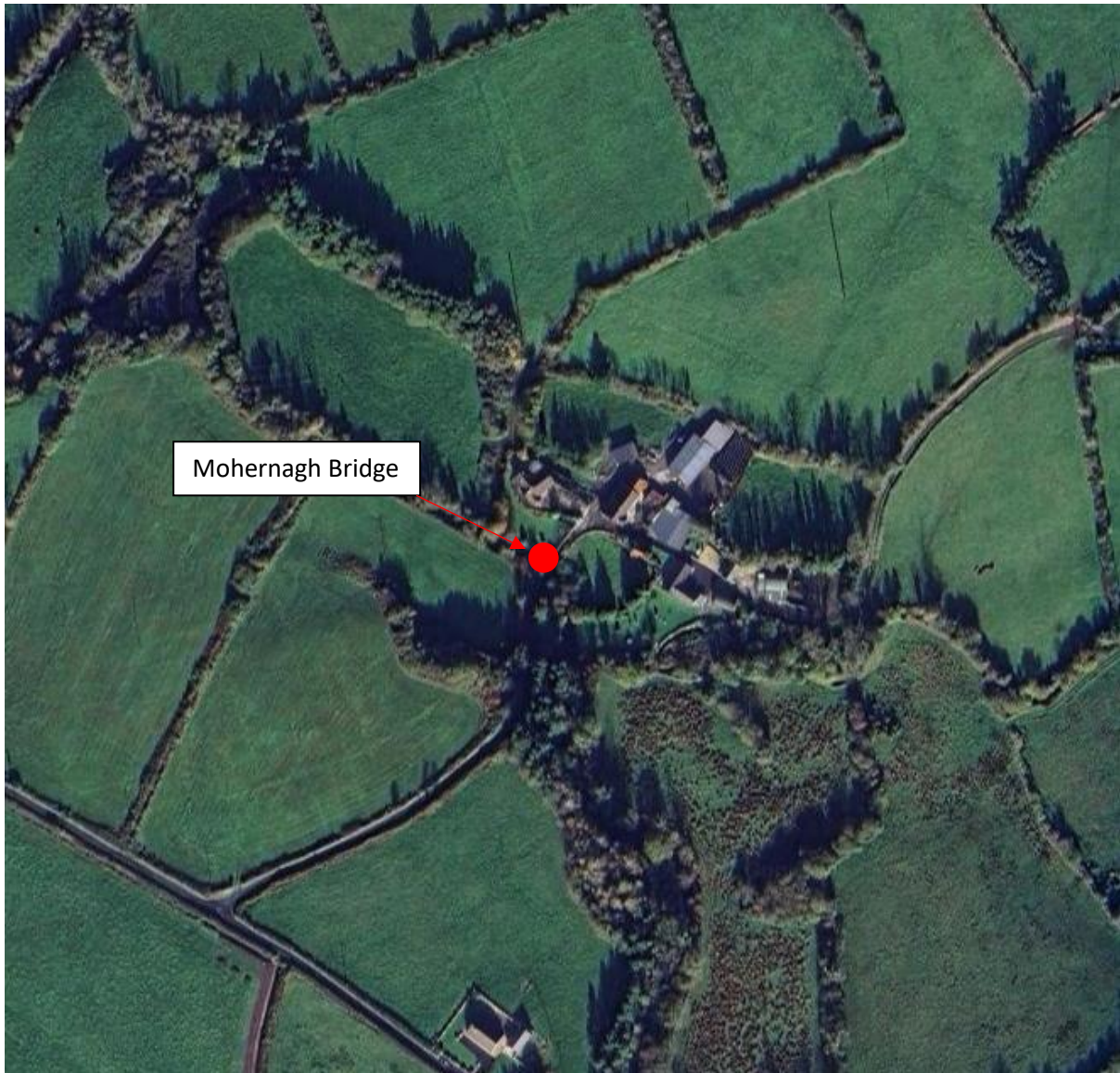


Figure 1: Site Location

3 Proposed Works

The proposed works at Mohernagh Bridge mainly comprise replacing the bridge deck, slab and beams with a new precast concrete culvert as well as constructing new reinforced concrete wing walls and foundations. The proposed works will involve instream work and excavation of the riverbed to a depth of up to 1.7m. Water quality impacts could arise from increased suspended solids, contaminants entering the watercourse, spillages of oils / fuels, cement / concrete and / or root herbicide. Dewatering of areas also poses risks to water quality. Disturbance may arise through increased noise and human activity on site. Invasive species could also be introduced on site through vectors such as machinery.

4 Construction & Environmental Management Plan

4.1 Outline Construction Methodology

It will be the responsibility of the contractor to prepare and submit a detailed construction and environmental management plan for approval from the Local Authority. The Construction Environmental Management Plan will be a live document that will be updated by the contractor as required throughout the project lifecycle.

The Contractor (TBC) has estimated that the works will be completed in 120 days. The proposed works will be undertaken during low level water periods.

The timing of the works will be in accordance with the requirements of Inland Fisheries Ireland (IFI) for work in rivers as given in the IFI *“Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters”* and agreed with IFI in advance of commencement.

To undertake the rehabilitation works to the river bed, the following methodology is envisaged;

- The river will be diverted and/or over pumped to allow the construction to proceed. The road is on a cul-de-sac serving few houses. A temporary pedestrian bridge and car-park will be constructed.
- All vegetation including trees, shrubs and the like will be removed for 10 m upstream and downstream of the bridge over a width of 30 m approximately. All efforts will be made to preserve mature and semi-mature trees, where possible.
- The bridge deck, slab and beams, will be removed. The riverbed will be excavated to a depth of up to 1.7 m below the existing riverbed. A subbase shall be formed at the new formation level consisting of a 500 mm subbase of graded granular material underlaid with a 300 mm thick lean-mix concrete base.
- The precast concrete culvert will be lowered into place in segments to form the core of the new bridge. The invert level of the culvert will be a minimum of 500

mm below the existing riverbed level and shall be laid to a gradient not steeper than 5%. The culvert bed will be backfilled with clean gravel to match the existing river profile and to initiate simulation of the riverbed. This will allow for the regeneration of a natural riverbed in the culvert. Reference shall be made to Inland Fisheries Ireland publication "Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters".

- Cast in-situ reinforced concrete wing walls and foundations will be constructed at both ends of the culvert to retain the embankment backfill.
- The remaining excavations, above the riverbed and outside the watercourse, will be backfilled with acceptable fill material to road formation level. The roadway will be reinstated using a surface course and binder (base), course of Dense Bitumen Macadam on a granular sub-base.
- In-situ reinforced concrete upstands for the parapet rails and raised plinths will be cast at the road edges on the bridge structure.
- Other ancillary items associated include; proprietary galvanised steel parapets; road side drainage; traffic signs; etc.

4.2 Environmental Considerations

A Natura Impact Statement (NIS) was developed following the findings of the Appropriate Assessment Screening required for the Bridge Site, as it lies within the curtilage of the Lower River Shannon SAC. The Contractor will be required to develop a Construction Environmental Management Plan (CEMP) to ensure full compliance with measures outlined in the NIS.

A non-exhaustive list of such environmental measures would include for:

- The procurement of a contractor with extensive and demonstrable experience in instream works and bridge works.
- Liaison with both the National Parks & Wildlife Service (NPWS) and Inland Fisheries Ireland (IFI) to be undertaken prior to the commencement of the works to ensure their requirements are satisfied under the Contractor's construction methodology.
- All mitigation measures will be completed in conjunction with NPWS and IFI in advance of the works, e.g. translocation of fish species by electrofishing with appropriate licensing.
- Referencing the weather forecast to ensure the works are timed to coincide with appropriately low water levels and prevent the need for temporary water management measures.
- Either an independent ecological clerk of works, or else a Local Authority Ecologist, is to be appointed to monitor the works.
- When materials are been delivered to the site compound or works area, all material such chemical admixtures, oils and lubricants will be transported in sealed containers to negate the potential of river water contamination.

Note: Refer to the NIS for a full schedule of environmental measures to be addressed as part of the Contractors CEMP.

4.3 Disposal of Water, Wastewater and Sewage

All site facilities during construction will be located entirely within the site. The facilities will include canteen, toilet block and drying room for all staff/workers. These facilities will be mobile and all arising waste material will be transported to a suitable waste disposal facility.

4.4 Control of Fuels & Lubricants

If required to provide fuel to the relevant items of plant on site, a certified double skinned metal fuel tank with integrated pump, delivery hose, meter, filter and locking mechanism will be situated in a secure area on the construction site. It will be situated within a bund. This tank will be certified for lifting when full.

Sand piles and emergency clean up spill kits will be readily available in the event of a fuel spill. A hazardous bin will also be available to contain any spent sand or soak pads.

New metal gerry cans with proper pouring nozzles will be used to move fuel around the site for the purposes of refueling items of small plant on site.

Drip trays will be used under items of small plant at all times. Any waste oils etc. contained in the drip trays or the bunded area will be emptied into a waste oil drum, which will be stored within the bund.

Metal gerry cans and any other items of fuel containers will be stored in certified metal bunded cabinets. Any gas bottles will be stored in a caged area at a secure location on the site. All will be properly secured at point of work.

4.5 Site Compound

The main site compound will not be located within 5m of the river and will be located on dry land.

4.6 Traffic Management Procedures

Existing traffic will be diverted away from the site

4.7 Working Hours

The proposed hours of work on site will be 07:00 hrs to 18:00 hrs Monday to Friday unless otherwise agreed with the Local Authority. All outside of hours work will first be agreed in writing with the Local Authority.