

## FOCUS ON: BANN BRIDGE BEARING REPLACEMENT



## projectupdate

## Completed Bridge

A look back at a recent successfully completed project carried out on behalf of NI Railways. FP McCann undertook and successfully delivered the Bann Bridge, Coleraine Bearing Replacement Scheme.

The Bann River Bridge was constructed in the early 1920's and officially opened in March 1924, and is a listed Industrial heritage Site. The bridge is a multi-span (10 spans) steel structure composed of Dorman Long steel girders on reinforced concrete piers, which themselves rest on precast concrete piles, with a central 25m long, single leaf bascule lifting span, counterbalanced by an underhung concrete block to permit access of river traffic into Coleraine Port Harbour. The bridge in total is approximately 240m or 800ft long carrying trains on a single track between Coleraine and Derry/Londonderry and is the only railway bascule bridge in Northern Ireland.

The project involved the removal and replacement of 36 Nr. Bearings without affecting the Coleraine to Derry/Londonderry rail operations which included but was not limited to the following;

- Provision of safe access to the reinforced concrete pier heads, i.e. provision of an underhung tuff coat encapsulated scaffolding system with fully boarded platform & walkways.
- Surveying the existing structure to determine the size of required steel strengthening plates, stiffeners, bearing components as well as concrete strengthening to the top of the piers.

- Modification of existing reinforced concrete pier head as required which included but was not limited to;
  - reduction in level, coring, and adding additional reinforced strengthening bars.
- Alteration to the concrete encapsulation of the steel transverse beams.
- Design and implementation of a temporary hydraulic jacking system to support the bridge spans during bearing replacement.
- Design, installation and removal of horizontal bracing of the superstructure.
- Design, fabrication and installation of the bearings, ancillary bearing steelwork, steel strengthening plates and stiffeners.
- Monitoring of vertical and horizontal superstructure displacements.
- Structural steel paint repairs.
- Replacement of the emergency refuges.
- Repairs to the track drainage.

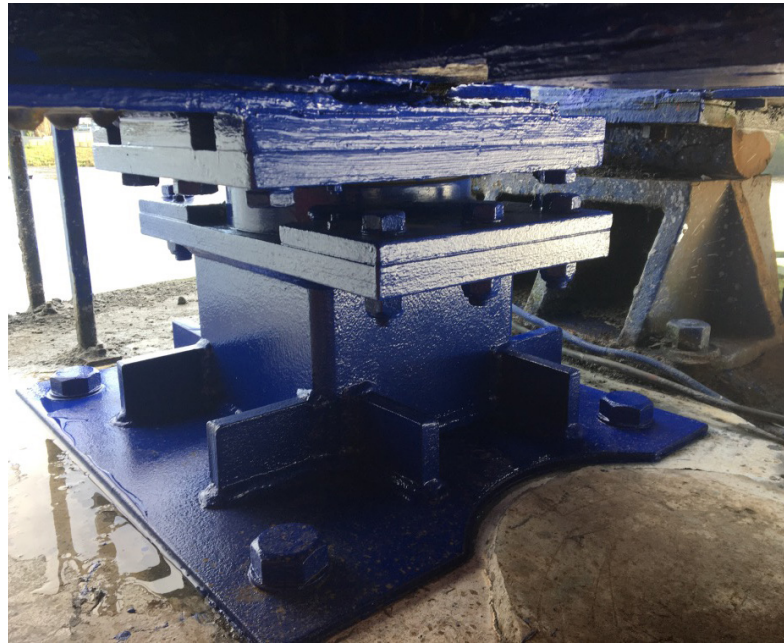
Work was completed under a marine licence due to the tidal nature of the river Bann and with the River Bann being a designated Area of Special Scientific Interest downstream.



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Pre-existing Bearings - Before



Bearing and Grillage Installations



Bearing Installation and Paint Repairs



Paint Repairs



Completed Track Drainage Repairs



Site Specific Complex Underhung Scaffolding





Steel Strengthening



Temporary Jacking



Completed Project Closeup

contactdetails



Principal Contractor:  
FP McCann Ltd

Contracts Manager:  
Hamilton Walker (028 7964 2558)

Client:  
Northern Ireland Railways (Known as Translink)

Principal Designer:  
AECOM

FP MCCANN LEADING THE WAY IN CONSTRUCTION WORKS