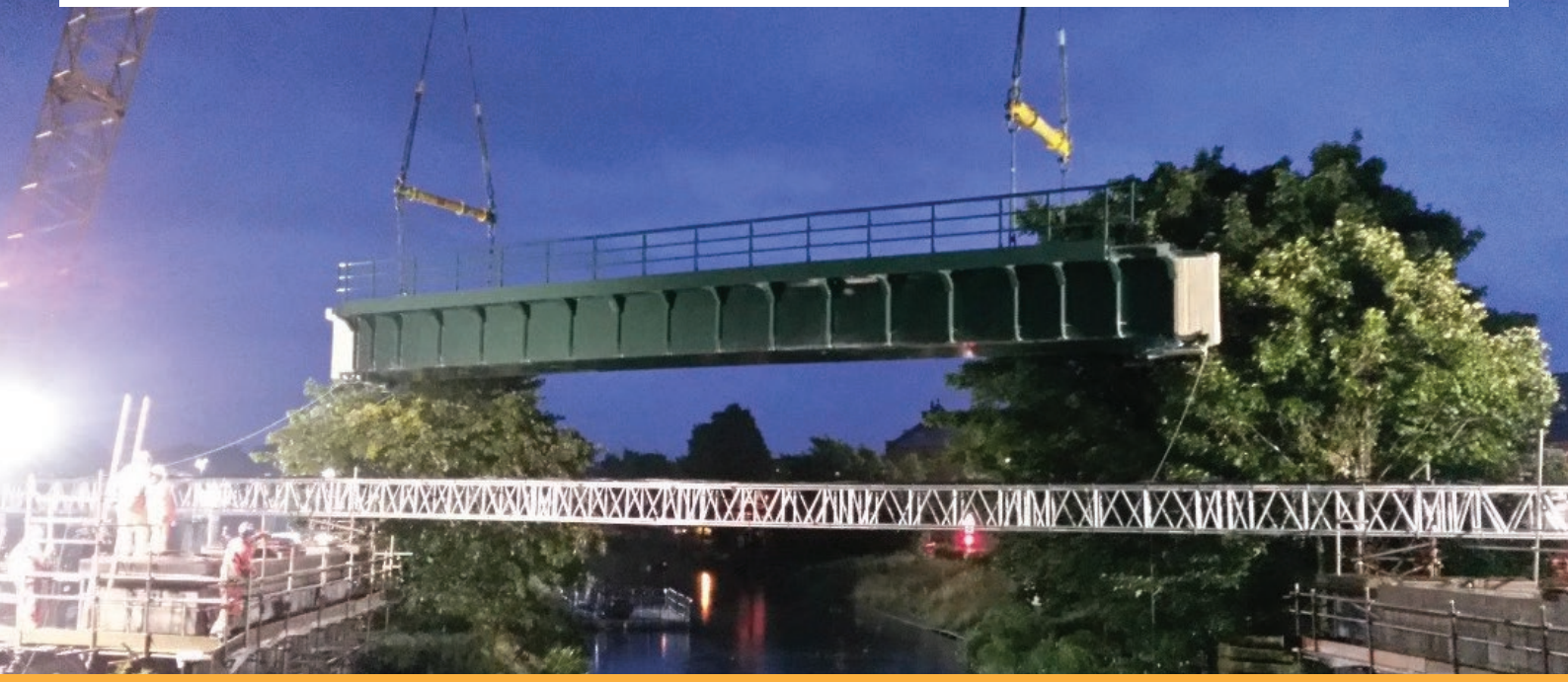
AMCO·GIFFEN



RIVER WITHAM UNDERBRIDGE RECONSTRUCTION

Project Location: Lincoln

Project Timeframes:
May 2017 to December 2017

Client: Network Rail IPSNE

AmcoGiffen Discipline/Sector:
Rail, civils, environmental

Project Overview

Protecting the rich heritage of Lincolnshire's railway infrastructure, AmcoGiffen were contracted to deliver the replacement of a 4 span weight restricted underbridge which crosses the river Witham and adjacent highways in the centre of Lincoln.

As part of the Network Rail Renewals Portfolio within the Control Period 5 (CP5) delivery plan, the overall aim of the project was to provide increased freight capacity on the route whilst maintaining the historically significant grade 2 listed box girders in context for future generations.

AmcoGiffen's Scope of Works

Successfully engaging with representatives from Network Rail IP, Route and third party stakeholders – including RAMs, possession and town planners, designer specialists and our fabrication partner – we successfully developed and coordinated the project from initial brief through to completion.

Our scope of works included:

- Permanent designs for all civils and associated P-Way works, including new bridge decks, ballast retention and track throughout
- Temporary works designs to facilitate the reconstruction, including piled foundations for a large capacity 1200T crane, service-bridge for lineside cables and a pedestrian footbridge crossing the river
- Liaison and gaining of consents to facilitate the works with associated statutory bodies including Canal and River Trust, Environment Agency, local authority and utility providers
- Provision of detailed documentation to assist Network Rail in obtaining necessary planning approval to undertake the physical works on a Grade 2 listed structure
- Planning and delivery of all on site activities, including the core works which were delivered during a 9 day OROR possession of the railway

> "A very big thank you from me to all involved. The weak bridge has been replaced with new, whilst the historic Span 2 has been successfully retained, refurbished and reinstated. The finished bridge looks fantastic - it just looks right – with a new above old, in different colours...Great job.
>
> **Sam De'Ath, Asset Engineer, Network Rail**

Innovation Applied

Developing our delivery through innovation and hard work, we adopted standard U deck designs whilst incorporating the refurbished box beams as a façade on the river span.

We also employed the use of Self-Propelled Modular Transporters (SPMTs) to transport redundant and new bridge spans within a congested worksite.

Development of an innovative ballast 'chute' adjacent to the structure allowed for arisings to be removed efficiently from the existing decks, rather than employing time consuming RRV/trailer movements back and forth from the track access point.

Benefits Provided

Successfully delivering the project on time and to budget, and meeting all objectives, the new structure replaced the life expired bridge, safeguarding the infrastructure with a 120 year design life, while still maintaining the heritage and aesthetics of the Grade II listed structure.

Further benefits of the project include:

- Removal of the Heavy Axle Weight (HAW) restrictions, improving capacity and allowing freight movements to resume
- BT services were removed from the structure and permanently diverted, reducing cost and improving access to service providers

Project Contact

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