EIA Quality Mark
Case Study

Loughor Railway Viaduct

Key Issues
The case study will focus on the following aspects:

- The approach adopted in relation to stakeholder engagement. The project spans 2 local authorities – Carmarthenshire County Council (CCC) and City and County of Swansea (CCS) and also includes marine works, the responsibility of the Marine Consents Unit (MCU) of Welsh Government. It was agreed that CCC would act as the lead authority, with CCS and MCU as consultees.

- Agreement of information required to support the associated Habitat Regulations Assessment (HRA) with Countryside Council for Wales (CCW), Environment Agency Wales (EAW) and Marine Consents Unit (MCU) – due to proximity to European designations.

- Confirmation of proposed construction methodology for a site with restricted access that would minimise the need for line closures/service disruption.

- Consultation regarding design with the Design Commission for Wales (DCfW).

- Dealing with associated consents required for the works, including Flood Defence Consent, SSSI assent/consent and Listed Building Consent.

Purpose of the project
- Replacement of a Grade II listed railway viaduct to facilitate the Gowerton Redoubling Scheme (this involves relaying six miles of track between Cockett West and Duffryn West and the re-opening of the eastbound platform at Gowerton Station).

- Client: Network Rail

Description of the project
Loughor Railway Viaduct spans the Loughor Estuary between Swansea and Llanelli. The timber viaduct is approximately 220m in length and consists of eighteen 12m spans supported by 17 timber trestles. It was originally constructed in 1852. The viaduct forms the northern boundary of the Burry Inlet Special Protection Area (SPA) and Ramsar site and crosses the Carmarthen Bay and Estuaries Special Area of Conservation (SAC). Together these sites comprise the Carmarthen Bay and Estuaries European Marine Site.

The replacement structure is designed for 120 year life and construction is expected to take approximately 18 months.
Lessons learnt

Initial feasibility assessments commissioned by Network Rail confirmed that it would not be practically feasible to reinstate two lines over the existing timber structure and that a new structure would be needed in order to meet design requirements (regarding capacity and design life).

Conservation officers from CCC, CCS and Cadw were consulted early in order to obtain their input to the design process. Alternative alignments were examined to see if it would be possible to allow the timber structure to be retained. A route to the north was not possible due to conflict with the existing A484 to the north. Routes to the south were dismissed on environmental and economic grounds. Listed Building Consent for demolition was eventually granted on condition that 3 of the timber trestles were retained in situ and a 2-span section of the bridge was rebuilt on adjacent land. Mitigation agreed also included a comprehensive heritage report, full photographic record and laser scan of the structure.

Design and construction methodology workshops were held with statutory consultees and local stakeholders on site throughout scheme development. This allowed ecologists from CCC, CCS, CCW and EAW to see issues first hand and agree acceptable approaches and the scope of the HRA. Studies required included detailed scour modelling to confirm that effects of the new structure would be localised. Parallel liaison was also undertaken with the MCU from Welsh Government regarding the assessments needed to inform the marine consent.

Lessons learnt cont.

Liaison with the local community was carried out through workshops at the Loughor Boating Club, display material at Gorseinon Library and newspaper adverts. All stakeholder workshops were attended by the successful contractor (Carillion) and Network Rail project team. This proved invaluable in explaining construction constraints, building trust with consultees and co-developing construction methodology to minimise impact of the works.

Early design concepts were presented to DCfW and comments incorporated. This included re-design of crosshead supports to provide a more unified structure.

By developing a close working relationship with consultees, it was possible to obtain other consents and approvals efficiently – these have included SSSI assent/consent, Flood Defence Consent and Marine Consent for both permanent and temporary works (including site investigation).

It should be noted that from 1st April 2013, CCW and EAW will be combined within Natural Resources Wales (NRW). The new body will also be responsible for marine licencing.

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