

Section 5(h)

UB 240/131 – Kelvin Viaduct – Condition Led Repairs and Painting Methodology

1. Project Description / Scope of Works

UB 240/131 Kelvin Viaduct spans the river Kelvin between Partick and Charing Cross stations on the NEM3 (Bathgate to Helensburgh (via Singer)) line. The structure carries twin 40 mph tracks with 25kV AC overhead electrification. The structure has a 2no. span simply supported superstructure of varying metallic elements on pairs of masonry columns. The Span 1 Low Mileage end is shared with UB240/130A Yorkhill Viaduct, the last span (6) of which spans over a public footpath connecting a private car park with another footpath and the NCN7 cycle route which runs partially parallel with UB240/130A.

Structure details

Asset No 1

Description	UB 240/131 Kelvin Viaduct		
Location	Between Partick & Charing Cross		
ELR	NEM3	Mileage	0002 miles 1298 yards
Asset Number	UB 240/131	OS Grid Reference	NS 5592 6621
Proposed Works	See below.	Design Check Category	1b



Figure 1 – UB240/131 Kelvin Viaduct (Street View o- north facing)

Scope of works

The project scope is to carry out painting of existing metallic banding on the piers, prolonging the lifespan of the structure & safeguarding the railway infrastructure.

The works include:

- Site Establishment
- Surface Preparation to the Metallic Elements (Mechanical prep)

- Installation of a Corrosion Protection System (Paint) with a 15-year Life Cycle in a C3 Medium Environment.

The compound shall be situated in Network Rail land, north of the structure, off Castlebank Street. Access routes to the structure will be via the NCN7 cycle route.

2. Construction Methodology

Surface Preparation

All metallic banding shall be mechanically prepared using grinders & wire brushes. This will be done to a ST3 surface standard finish.

Painting Works

A protective coating system with a minimum design life of 15 years in a C3 environment shall be applied to the structure following the successful completion of the surface preparation works. The structure shall be painted in accordance with NR standards.

Invasive Species

Treatment & removal of invasive species (*Giant Hogweed*) shall be carried out by a specialist contractor JKS as required, and in accordance with the project PEA (ref: 19752 - 230124 - UB 240 131 Viaduct Condition Led Repairs and Painting PEA).

Management of Third Parties (Utilities, Access, Consents Etc)

Access to the site compound and structure will be via Castlebank Street, Glasgow, G11 6EH. The land is owned by NWR & the compound already established from an existing Story project at Ferry Rd Bridge.

Confirmed Sub-Contractors

Subcontractor	Discipline / Package
MHB Consultants	Permanent works designer
Bell Access & Engineering	Rope access/prep works & painting

Construction Materials

Activity	Material(s) Required
Paint	M20 Protective Coating

Construction Plant

Surface preparation	Handheld grinder, wire brush
Paint	Brush/Roller Paint Pots

Key Identified Risks & Mitigations

Key Risks	Mitigations
Railway Infrastructure	Ensure all personnel working within the railway environment

	<p>are clear on the methodology and the safe working limits. If any work strays from the methodology detailed in the WPP work must cease immediately and the work process must be reviewed. Works to remain at least 3m from the nearest line. Any works closer than this shall be considered working on/near the line and will be carried out under ROTR.</p>
Working with Small Plant	<p>Battery powered tools to be used where possible. Low voltage equipment (110v) shall be used as an alternative. Regular circuit / PAT tests to be carried out as required. PUWER checks to be carried out weekly. HAVs assessments to be undertaken & briefed. Helvetica Noise assessments to be undertaken & kept in site file. Defective batteries / tools to be put out of use & disposed of correctly</p>
Working at Height	<p>All technicians to hold a relevant work at height qualification. IRATA qualified Level 3 technicians to set up, supervise and monitor the use of fall protection and access system. Anchor selection to be appropriate to the type of system in use. Work at height PPE must be within periodic 6 monthly inspection and fit for purpose. Consider rope protection, direction of potential fall, under foot conditions, rescue, and extraction of casualty All technicians at risk of a fall must be attached to a rated fall protection system limiting any fall to a maximum 6kN impact force and limited distance of fall Ropes rigged at height must be checked pre-use by a competent IRATA level 3 technician prior to works starting Rescue provision must be in place prior to works starting. (i.e., releasable anchors - rig for rescue, secondary set of ropes for intervention-based rescue) Minimum deployment heights and rope stretch to be considered during operation and for casualty rescue.</p>
Working over deep water	<p>Rope access to be used throughout works.</p>