

NetworkRail

Network Rail (Dewsbury to Leeds W4 Scheme) Trans-Pennine Route Upgrade

Jack Lane Underbridge (MDL1/24): Schedule of Materials

Network Rail

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1. INTRODUCTION

1.1 Background

1.1.1 The Trans-Pennine Route Upgrade (TRU) (herein referred to as the 'Programme') is a programme of works which will improve the Trans-Pennine railway between Manchester, Huddersfield, Leeds and York and improve connections between key towns and cities across the north of England. The TRU Programme is split into a number of different sections across the extent of the route, each delivered as separate schemes. The section of TRU between Westtown (Dewsbury) and Leeds is known (and henceforth referred to) as the W4 Scheme.

1.1.2 Under the Planning (Listed Buildings and Conservation Areas) Act 1990, consent is required from the local planning authority for any proposed works that would affect the character of a Listed Building. This Material Schedule has been compiled in support of an application for Listed Building Consent by Network Rail in respect of the proposed works to the Grade II Listed Jack Lane Underbridge (MDL1/24) (NHLE 1452193), Dewsbury, Kirklees, West Yorkshire.

1.2 Summary of proposal

1.2.1 In order to successfully achieve the TRU Programme objectives of improving the reliability and resilience of the railway, the Scheme will involve the replacement of the existing bridge deck at Jack Lane Underbridge (MDL1/24) with a pair of U-Type decks as well as new handrails, designed to respond to the significance and form of the Grade II Listed Building.

1.2.2 Works to Jack Lane Underbridge (MDL1/24) are required to ensure the historic structure is capable of withstanding the anticipated increase in line speed from 75mph to 100mph due to the electrification of the railway. The design has been sympathetically developed in an effort to retain the historic integrity of the Grade II Listed Bridge. This was undertaken through the retention of some original historic fabric elements which contribute towards the structure's overall significance as well as the sympathetic design of some elements to mimic the aesthetic of the original design and existing bridge deck. These works will ensure the underbridge remains in operational use, whilst meeting the TRU objectives.

1.2.3 These proposals and their impact upon heritage assets is discussed in more detail in Sections 3 and 4 of the Heritage Statement accompanying the application.

1.3 Information Included in this Document

1.3.1 This document details a Materials Schedule for the proposed works to the Grade II Listed Jack Lane Underbridge (MDL1/24). This comprises a schedule of the materials to be used as part of the proposed works at the structure.

1.3.2 We do not anticipate any need to depart from the information provided. However, there may be unforeseen circumstances which require us to revise proposals. In such circumstances Kirklees Council will be notified as soon as possible, and their agreement sought on the required change in materials through the established TRU Heritage Working Group.

2. JACK LANE UNDERBRIDGE (MDL1/24) - SCHEDULE OF MATERIALS

2.1.1 Table 2-1 below outlines the Schedule of Materials to be used in the proposed works to Jack Lane Underbridge (MDL1/24).

Table 2-1 Jack Lane Underbridge (MDL1/24) – Schedule of Materials

Item	Location	Proposal	Colour	Additional Requirements
Bridge Deck				
New Bridge Deck	Spanning between existing abutments	Two fabricated steel U-type single span decks	Holly Green (14-C-39)	<p>Steel U-type decks to be of standard Network Rail design.</p> <p>Type 2 Standard Network Rail Underbridge Walkways to be attached to the outermost east and west main girders (to be modified to accommodate bespoke parapet handrail, see below). Walkways designed in accordance with Network Rail standards NR/CIV/SD/1900 series.</p>
Existing Cast-Iron Edge Arch Beams	Fascia beams, both elevations	Re-use of existing cast-iron edge arch beam, re-painted	Holly Green (14-C-39) and White (00-A-01)	<p>If necessary, this will be deconstructed then reinstated using existing cast-iron edge arch beam after completion of the deck replacement.</p> <p>Paint colour pattern shown in Proposed Elevation drawings submitted as part of this LBC.</p>

Item	Location	Proposal	Colour	Additional Requirements
Existing Corner Cill	Under deck - four corners	Re-use of existing masonry	Similar to existing	If necessary, this will be deconstructed then reinstated using existing stonework after completion of the deck replacement
Central Cill Beam	Under deck - both sides	Reinforced concrete	Concrete dyed to reflect existing stone colour	The concrete will be dyed to match the colour of the stonework of the abutments, pilasters and wingwalls as closely as possible. Exact matches are difficult to achieve, but aim to match as closely as reasonably practicable.
Pot Bearings	Between cill beams and new deck	Mechanical bearings	Black	Deck to be fully articulated on mechanical bearings, designed in accordance with Network Rail standards NR/CIV/SD/1340 ¹ and 1342 ² .
Replaced Deck Surface	Atop the new deck.	Stirling Lloyd spray-system waterproofing	Yellow	Covering to be applied to aid with waterproofing of deck. Will be buried under ballast and won't be visible on completion of scheme.

¹ Network Rail. 2019, NR/CIV/SD/1340 U-Type Underbridges: Bearings: Notes.

² Network Rail. 2019, NR/CIV/SD/1342 U-Type Underbridges: Bearings: Standard Bearing Details to 20m Non-VCRD Option.

Item	Location	Proposal	Colour	Additional Requirements
Pilasters				
Existing Pilaster Capitals	Top of pilasters, all four sides	Re-use of existing masonry	Similar to existing	If necessary, this will be deconstructed then reinstated using existing stonework after completion of the deck replacement.
Parapet				
Parapet Handrail	Atop outermost east and west girders of new deck walkways	Bespoke galvanised steel	Black	<p>Design of parapets in accordance with requirements of Network Rail standard NR/L3/CIV/020 clause 10.14 – ‘Handrails for Underbridges’ geometric requirements, supported by BS EN 1991-2 ‘Eurocode 1: Actions on Structures’.</p> <p>Handrail to match the centres and diameters of the existing balusters.</p>
Mortar				
Bedding Mortar	Under cill units	Cementitious grout	N/A (natural colour)	Bedding mortar will be used under cill units to connect to existing abutment.
Pointing Mortar	Where repairs are required and for reinstatement of pilaster capitals (<i>if required</i>)	Lime mortar, NHL5, to match existing	To match existing	<p>Mortar mix with a ratio of 1:2 lime:sand.</p> <p>Re-pointing to be undertaken to meet Network Rail standards.</p>

3. CONCLUSION

3.1 Summary

- 3.1.1 As stated, this document is submitted in support of the application for Listed Building Consent for the proposed works to the Grade II Listed Jack Lane Underbridge (MDL1/24).
- 3.1.2 The works will be implemented with the materials used as agreed via this documentation. As detailed above in paragraph 1.3.2, any unforeseen circumstances leading to changes in the materials used will be communicated to Kirklees Council and changes in materials agreed accordingly via the TRU Heritage Working Group.

Network Rail
Waterloo General Office
London
SE1 8SW

www.networkrail.co.uk