



Exposed deck plate and rivets
- from Balfour 2020 survey
- location unknown

Exposed deck plate where
ballast has been removed
- span 6

Rivet heads from connection
into transverse beam

Rivet heads from connection
into longitudinal beam



Existing ballast, waterproofing, and
potential P11 finishes removed locally
to give access to deck plate

Paired rivet heads from
connections into transverse
and longitudinal beams

New steel plate overlaid as panel over defective
existing deck plate
- bolted at perimeter into existing deck plate,
where sound, away from existing rivet connections
- plate thickness, bolt numbers TBC pending
confirmation of deterioration

New waterproofing layer
added prior to new finishes
- to be bonded into existing
sound waterproofing
assumed present

Transverse beam

Longitudinal beam

DECK SURFACE - EXAMPLE PHOTOGRAPHS

NTS



Loss of thickness
to deck and loose
debris at span 8



Existing deck plate
- shown as 3/8"
(9.5mm) thick on
archive drawings

Corrosion to longitudinal beam top
plate
- plus suspected associated corrosion
to deck plate
- location of water ingress through
waterproofing, span 3



Loss of thickness
to deck near piers
- span 3



Loss of thickness
to deck edge
- span 3

Tee stiffeners to deck
plate, orientated with
(and at 1/3 points
between) transverse
beams



Loss of thickness to
deck edge and
stiffener at span 7

NOTE: Defect examples taken from Arup 2024 MEWP survey UNO (covering only spans 2-4 inclusive) and otherwise Balfour 2020 survey (covering spans 2-8 inclusive). Each represents a discrete defect for a unique area of deck plate. Defect locations to be identified by re-survey.

REMEDIAL DETAIL

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Notes:

- These drawings shall be read in conjunction with all relevant Engineer's and Architect's drawings and with all relevant specifications
- Existing condition drawn with dimensions from original archive drawings. All existing dimensions to be verified by the Contractor prior to fabrication or construction.
- Drawing to be read in colour.
- Do not scale from this drawing
- For structural nomenclature refer to drawing CVI-ARUP-ZZ-ZZ-DR-S-1055. For structural notation of spans/beams/piers refer to drawing CVI-ARUP-ZZ-ZZ-DR-S-1056

H&S / CDM Risks:

- existing paintwork contains lead
 - limited structural capacity of viaduct deck plates
 - existing ballast contaminated with lead and hydrocarbons
 - working at height above water and public areas
- Refer to Arup risk register for further details.

Legend:

- Existing structure
- unchanged unless noted otherwise
- Proposed remedial
- Indicative extent of defect
 - typical loss of section or thickness due to corrosion
- Indicative packing plates
 - where required

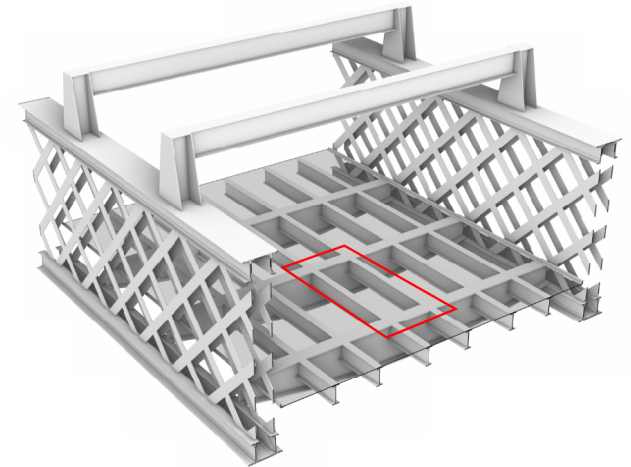
NOTE:

The remedial details shown consider the most likely corrective intervention based on the expected type/extent of defect. Extent of defect to be confirmed pending future brush down, removal of debris, and subsequent tactile surveys. Further defect types and consequent remedials may also be identified.

LOCATION / NUMBER OF REMEDIALS REQUIRED:

- TBC
- Refer to general notes drawing CVI-ARUP-ZZ-XX-DR-S-0001 for background context for proposed remedials

KEY PLAN:



T2	15/11/24	RR	GH	IWS4 Issue
T1	14/08/24	RR	GH	Preliminary Issue
Rev	Date	Chkd	Appd	Issue Notes

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Client

The National Trust

Project Title

Castlefield Viaduct
Phase 2

Drawing Title

Remedials
Deck Plate

Scale at A1 1 : 100 Drawn By OD

Role Structural

Status S2 - For Information

Arup Job No 282210 Rev T2

ID CVI-ARUP-ZZ-ZZ-DR-S-4025

DEFECT EXAMPLES

NTS