

**Web Repair**

- 1) Remove corroded section and clean back repair area to sound metal
- 2) Cut to shape and fix backing plate, 8mm thick, to defective member repair area using 6mm butt and fillets welds (where appropriate)
- 3) Fill any voids with Locrite metal-filled compound paste. The compound should be skimmed to be flush with the existing web
- 4) Once sealed, affix 8mm thick front plate to face of repair with 6mm butt and fillet welds
- 5) After the repair has been completed, plates are to be painted

\*Minimum dimension of sound material for fillet weld

North Abutment

### Web Repair

- 1) Remove corroded section and clean back repair area to sound metal
- 2) Cut to shape and fix backing plate, 8mm thick, to defective member repair area with 6mm butt weld
- 3) Fill any voids with Loctite metal-filled compound paste. The compound should be skimmed to be flush with the existing web.
- 4) Once sealed, affix 8mm thick front plate to face of repair with 6mm butt weld
- 5) After the repair has been completed, plates are to be painted

### Flange Repair

- 1) Dress back and clean areas of severe corrosion
- 2) Apply Loctite metal-filled compound paste to underside of flange plate. The compound should be skimmed to provide a smooth and consistent substrate, and is flush with the edges of the flange
- 3) Offer up 8mm thick repair plate to underside of flange (plate to be pre-drilled with holes of sufficient size to accommodate the existing rivet heads) and temporarily clamp to secure in place
- 4) Secure new flange plate with 6mm fillet welds at the ends and butt welds along the length
- 5) On completion of plate repairs and welding, plates and rivets are to be painted

10\*

6mm thick fillet weld

6mm thick butt weld

300




\*Minimum dimension of sound material for fillet weld

8mm thick repair plates

Existing Ø19.05mm shank rivets retained

8mm thick repair plate 300mm long with Ø31.75mm cut outs at 101.6mm spacing to accommodate existing rivet heads

South Abutment

- Legend**
-  Full section loss
  -  Moderate section loss
  -  New dome headed HSFG bolt

**End Plate Repair**

- 1) Remove corroded section and clean back repair area to sound metal, cut edges of hole to form a clean rectangular aperture
- 2) Cut to shape and fix repair plate, 12mm thick, to defective member repair area using 6mm butt welds
- 3) Once sealed, affix 8mm thick front plate to face of repair with 6mm butt and fillet welds (where appropriate)
- 4) After the repair has been completed, plates are to be painted

Labels in diagram:

- 12mm thick repair plate
- Transverse girder No.8
- 8mm thick front plate
- 60
- 200
- All rivets to be grit-blast and re-painted

Diagram illustrating the locations of transverse girders (1 through 10) and associated repair details for a bridge deck. The diagram shows the North Abutment on the left and the South Abutment on the right. The girders are numbered 10 to 1 from left to right. Repair locations are indicated by arrows and text:

- Web repair to north end of east parapet girder. Refer to Repair Detail 1.
- Web and flange repairs to south end of east parapet girder. Refer to Repair Detail 2.
- Transverse girder No.8 end plate repair. Refer to Repair Detail 3.
- Web and flange repairs to transverse girder No.3 at abutment. Refer to Repair Detail No.4.
- Web and flange defects to west parapet girder. Refer to Repair Detail 5.

A warning sign (yellow triangle with a black border and the number 9) is located near the South Abutment.

### Web Repair

- 1) Remove corroded section and clean back repair area to sound metal
- 2) Cut to shape and fix backing plate, 8mm thick, to defective member repair area using 6mm butt weld
- 3) Fill any voids with Loctite metal-filled compound paste. The compound should be skimmed to be flush with the existing web.
- 4) Once sealed, affix 8mm thick front plate to face of repair with 6mm butt weld
- 5) After the repair has been completed, plates are to be painted

### Flange Repair

- 1) Dress back and clean areas of severe corrosion. Remove severely corroded rivets. 4No. rivets total to be removed from this location.
- 2) Apply Loctite metal-filled compound paste to underside of flange plate. The compound should be skimmed to provide a smooth and consistent substrate, and is flush with the edges of the flange
- 3) Offer up 12mm thick repair plate to underside of flange and temporarily clamp to secure in place. Plate to be pre-drilled with holes of sufficient size to accommodate the replacement bolts and existing rivets.
- 4) Install new HSFG bolts in place of corroded rivets
- 5) On completion of plate repairs, plates and bolts are to be painted

All rivets to be grit-blast and re-painted

12.7mm thick buckle plate

12.7mm thick buckle plate

8mm thick repair plates

4No rivets removed and replaced with M16 dome headed HSFG bolts\*

210

12mm thick repair plate 210mm long with appropriate cut outs to accommodate replacement HSFG bolts

South Abutment

356

\*Minimum dimension of sound material for fillet weld

\*\*Individual ex should be rem Every second riv before going ba Hence, adjacent during

8mm thick repair plates

12mm thick repair plate 525mm long with Ø19.05mm cut outs at 101.6mm spacing to accommodate replacement M16 HSF bolts

229


525

6mm thick butt weld

All rivets to be grit-blasted and re-painted

2 rows of 5 No. rivets removed and replaced with M16 dome headed HSF bolts (10 rivets total)\*\*

South Abutment

- |     |            |                     |                          |                                     |                                     |                          |
|-----|------------|---------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|
| 02  | 31/07/2023 | For Construction    | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| 01  | 31/07/2023 | Revised Form B      | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Rev | Rev. Date  | Purpose of revision | Orig                     | Check'd                             | Rev'd                               | Apprv'd                  |
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20 GEORGE HUDSON STREET, York, Y01 6WR  
Tel: +44 (0)1904 924 950  
WEBSITE: WWW.JACOBS.COM

Client

Historical Railways Estate on behalf of the DfT

Project

HRE Works Framework

Drawing title

STRUCTURE 7/3  
STRUCTURAL REPAIRS  
PROPOSED REPAIR DETAILS

Drawing status

FOR CONSTRUCTION

Suitability

Scale

Client No.

Client No.

AS NOTED @ A1

B38380DE

AGB/3

DO NOT SCALE

Rev

02

Drawing number

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