



Location PP. 20 N/W North west side Span. .
Bolt change report.

Please excuse lack of photographic evidence supporting work procedures. Involvement in carrying out work resulted in the minimum of photographs being taken. This combined with heavy winds and rain minimised opportunities to do so. Various stages as below as previous bolt changes.

Personnel Present at Operation:

Monday 23/04/12.

Works carried out.

Prior to fitting the temporary cable band at PP. 20 N/W, an area on the lower half of the main cable approx 1 metre below the cable band required to be stripped of the protective membrane. This procedure was carried out between approx 13.30 – 15.00 PM by bridge inspectors

This concludes all works carried out on the above date.

Tuesday 24/04/12.

On Tuesday morning 24/04/12 the temporary cable band was transported to location by cradle and positioned on the main cable by Alps. This was secured in position by the use of ratchet straps and chain pulls until lower half was positioned.

At approx 13.00 PM lower half of temporary cable band was transported to location by cradle, and again This was secured in position by the use of ratchet straps and chain pulls until lower half was positioned. All 8 M36 bolts located in position and secured. All plates and washers positioned as per (Aecom drawings) and tightened by spanner. **(All M36 bolts were give as specified thread extensions on the tensioned end of a minimum of 1.5 times thread diameter. ie M36 = 55mm . Dead end to have minimum of 2 in No threads showing below nut. (As per method statement.)**

No photographic record taken.



Tuesday 24/04/12.

15.00. PM. All required tensioning and hydraulic equipment transported to working platform.

15.10. PM All temporary cable band M36 bolts rechecked to ensure required extensions as per method statement .

15.20.PM. PS. 2 tensioners fitted and hydraulic circuit completed.

15.25- 16.20. PM. Circuit pressurised and taken up in increments as requested with continual monitoring observations being carried out on clamp and PS 2 tensioners until required pressure of 16610 psi @ 350 kn (1130 bar) was achieved.

Pressure . 1. taken to 17.000 PSI.

Due to time restraint circuit was only pressurised once, required specified method of pressurising the system 3 times would be completed on return to main cable the following day.

No photographic records taken .



Wednesday 25/04/12.

Inclement weather delayed the return to location.

Returned to location at 11.30 pm..

11.50 pm. This procedure was carried out as specified in method statement a further twice under tensioning of temporary cable band bolt.

Pressures recorded between 11.00 and 11.10 AM. were -

Pressure 2. - 17000 psi.

Pressure 3. - 17000 psi.

12.25 pm. . Operations to release load on dead side of defective bolt "B" began using RSL 6.

12.30 pm. Bolt began to turn, flogging spanner applied to live side to counteract this movement.





12.40 pm. Bolt released .

Visit from Engineering services manager C. Tracey and Health and safety advisor M. Grimmer to observe work procedures and bolt removal and replacement.

12.55. pm. Bolt "B" removed. New Bolt fitted.

13.00 pm. PS4. tensioner applied to dead side of bolt "B".



13.10 pm. Bolt "B" tightened up using hand pump to pressure as specified , pressure to be between 18,488psi and 19,578 psi.



Pressure taken up to 19,000 psi. this procedure was carried out a further two times as specified.