



INSPECTION DEPARTMENT
General Report – Main Span North & South
DATE. 2013.11.20

(E2.1 Bridge)
REPORT No 409.
MAIN SPAN NORTH & SOUTH

DATE: 02.09.13 to 20.11.13

The North and South Main Spans were inspected intermittently between the above dates, this was mainly due to other scheduled inspections, staff holidays, the ongoing principal inspection of the viaduct gantries and the weekly inspections which fell into these dates and which are required by management.

Structural Steelwork: On the deck soffit there are some prominent areas of salts evident on the steelwork, deck stiffeners and stringer soffits but in general the steelwork remains in a satisfactory condition. A wash-down programme being put into practice to remove these salts would benefit the steelwork and help to prevent any further breakouts. This inspection produced 3 no. new bolts; this takes the outstanding total of broken/sheared bolts to 88 no. throughout the main span.

Beams 3 & 8 E/W, Beam 4 & Top Lateral Upper Bolt Clusters: Road debris and detritus were again evident this inspection in the rainwater passage channels intermittently at beam nos. 3 & 8, not all the channels were blocked on the west side. With these drainage exits being blocked, the natural flow of water is not clearing properly or not at all from the upper levels. Beam no. 4 E/W would benefit from a thorough wash down; a washing programme was implemented over the summer months to remove excess blaze that had accumulated on the structure, but this was to wash down the steelwork not specifically to clear blocked drainage routes.

Deck Stiffeners: The current status of cracked trough welds at present is that there are 28 no. in total throughout the main span; these being trough nos. 1, 2, 4 & 5 with platforms being required for access (refer to structure nos. 7283 & 7284 for locations).

Runway Beams: Status remains unchanged since Principal Inspection of 2008, programme of works has yet to be implemented.

Billets: A billet survey was done by Bridge Inspectors in August last and a programme of works was created for repair works to be carried out. Another billet survey will be carried out in the near future so that a new programme of works can be compiled.

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Ducts and Conduits: Installation of new support brackets under the inner balustrade on the North East Main Span is still ongoing at present.

Inner/Outer Balustrades E/W: Since the last inspection was carried out a total of 12 no. cracked base welds were detected throughout the main span.

Grillage / Crash Barrier (Slow lane) : A program of works was introduced to replace the expansion sleeve detail incorporated in the top handrail at each deck panel section throughout the suspended structure (please refer to drawing detail). On this inspection it has become clear that because of the restricted movement on this detail, that more damage is being caused to the top rail vertical post base welds. This becomes more prominent when there is deck panel deflection through missing packers installed in the half joints. Excessive force is transferred downwards and upwards through heavy vehicle pass-over. This in turn stretches the bolt and eventually in certain positions pulls the bolt through the new installed section of rail and in other cases breaks the vertical base welds. It should be stated that works completed thus far is on the North side only. To record an accurate account of the total number of welds that have been broken, an independent inspection will be required to be carried out from the carriageway.

All defects are recorded and entered onto the structural report programme and all individual sheets distributed to the appropriate Maintenance Supervisor.

Bridge Inspectors



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