FORTH ROAD BRIDGE

INSPECTION DEPARTMENT
Main Tower Expansion Joints North & South
DATE. 2015.03.24.

(E2.1 Bridge)
REPORT No 4 **DATE: 2015.03.24.**
MAIN SPAN EXPANSION JOINTS N & S

A visual inspection of the North and South Main Tower Expansion Joints was carried out on the above date and the general information and current status is as follows:

Structural Steelwork: Although steelwork remains in a satisfactory condition, areas of corrosion evident on the majority of primary & secondary elements. Paint breakdown evident throughout .

Fixings: All fixings remain intact & secure. Paint breakdown with medium to heavy corrosion evident on the majority bolt heads & nuts .

Expansion Plate Failsafe System: All the expansion joint (both north & south) plate leaf connection failsafe system trains remain intact, secure & in a satisfactory condition. All associated fixings remain in a satisfactory condition, secure and functioning correctly. North & south main tower expansion joints continue to be inspected on a monthly basis.

Pins, Springs & Bushes: The pins and bushes located in the plate ends are still continuing to show signs of deterioration. Since time of last inspection, springs located at SE 5. (NMT) & ME. 3. have been replaced. There are currently 2 no. tongue plate springs on the North main tower expansion joints which require to be replaced . These are located in cells SE. 1. (West spring) and SE. 3 (west spring). these are currently with the Maintenance Supervisor to programme the works. Some of the springs have evidence of paint breakdown but remain in a satisfactory state.

Surface Plates: All surface plates condition commensurate with age . Perimeter steel apron plates in some areas are now at a stage where the material is so thin that previously repaired areas are breaking off . Repairs as and when required being carried out. All plates intact and secure.

Spring Dimensions: Spring dimensions were taken on all Rocker and Tongue plate springs; these remain satisfactory. There is still evidence of paint breakdown on the springs. (Survey Sheets Attached)
Bridge Inspectors:

FORTH ROAD BRIDGE

INSPECTION DEPARTMENT
South main tower Main tower expansion joint spring checks
DATE. 2015.03.20.

DIMENSION OF SPRING CHECK. 19.03.15.						
SOUTH EAST (MAINSPAN)	ME1	ME2	ME3	ME4	ME5	ME6
ROCKER PLT. SPRING COMPRESSION DIM.	140 mm	140 mm	136 mm	139 mm	139 mm	140 mm
TONGUE PLT. SPRING /E COMPRESSION DIM.	70 mm	70 mm	71 mm	71 mm	70 mm	71 mm
TONGUE PLT. SPRING /W COMPRESSION DIM.	69 mm	70 mm	70 mm	71 mm	70 mm	70 mm
DIMENSION OF SPRING CHECK . 19.03.15.						
SOUTH EAST (SIDESPAN)	SE1	SE2	SE3	SE4	SE5	SE6
ROCKER PLT. SPRING COMPRESSION DIM.	140 mm	141 mm	139 mm	140 mm	139 mm	139 mm
TONGUE PLT. SPRING /E COMPRESSION DIM.	70 mm	69 mm	71 mm	68 mm	69 mm	69 mm
TONGUE PLT. SPRING /W COMPRESSION DIM.	69 mm	68 mm	76 mm	69 mm	69 mm	69 mm

DIMENSION OF SPRING CHECK . 19.03.15.						
SOUTH WEST (MAINSPAN)	MW1	MW2	MW3	MW4	MW5	MW6
ROCKER PLT. SPRING COMPRESSION DIM.	140 mm	140 mm	140 mm	139 mm	140 mm	141 mm
TONGUE PLT. SPRING /E COMPRESSION DIM.	69 mm	70 mm	69 mm	68 mm	69 mm	70 mm
TONGUE PLT. SPRING /W COMPRESSION DIM.	69 mm	70 mm	69 mm	69 mm	69 mm	70 mm
DIMENSION OF SPRING CHECK . 19.03.15.						
SOUTH WEST (SIDESPAN)	SW1	SW2	SW3	SW4	SW5	SW6
ROCKER PLT. SPRING COMPRESSION DIM.	139 mm	139 mm	139 mm	138 mm	139 mm	138 mm
TONGUE PLT. SPRING /E COMPRESSION DIM.	69 mm	68 mm	69 mm	68 mm	68 mm	69 mm
TONGUE PLT. SPRING /W COMPRESSION DIM.	70 mm	69 mm	69 mm	68 mm	69 mm	70 mm

ME.3 Rocker plate spring replaced since last monthly inspection by engineer G. Hall. Replacement date 2015.03.11. New spring measurement = 136 mm.

FORTH ROAD BRIDGE

INSPECTION DEPARTMENT
Main Tower expansion joint North Expansion Joint Spring Checks
DATE. 2015.03.19..

DIMENSION OF SPRING PRE-COMPRESSION 19.03.15..						
NORTH EAST (MAINSPAN)	ME1	ME2	ME3	ME4	ME5	ME6
ROCKER PLT. SPRING COMPRESSION DIM.	140 mm.	140mm	138mm	140mm	140mm	137mm
TONGUE PLT. SPRING /E COMPRESSION DIM.	72 mm	71mm	71 mm	70 mm	71 mm	70 mm
TONGUE PLT. SPRING /W COMPRESSION DIM.	72mm	71 mm	71 mm	71 mm	72 mm	71 mm
DIMENSION OF SPRING CHECK. 19.03.15.						
NORTH EAST (SIDESPAN)	SE1	SE2	SE3	SE4	SE5	SE6
ROCKER PLT. SPRING COMPRESSION DIM.	141mm	136 mm	140 mm	139 mm	138 mm	138 mm
TONGUE PLT. SPRING /E COMPRESSION DIM.	68 mm	68 mm	71 mm	65 mm	66 mm	66 mm
TONGUE PLT. SPRING /W COMPRESSION DIM.	Cracked 65mm	67mm	Cracked 67 mm	65 mm	66 mm	67 mm

DIMENSION OF SPRING PRE-COMPRESSION 19.03.15.						
NORTH WEST (MAINSPAN)	MW1	MW2	MW3	MW4	MW5	MW6
ROCKER PLT. SPRING COMPRESSION DIM.	141mm	141 mm	141mm	140 mm	139 mm	140 mm
TONGUE PLT. SPRING /E COMPRESSION DIM.	70 mm	71 mm	72 mm	71 mm	Cracked 70 mm	70 mm
TONGUE PLT. SPRING /W COMPRESSION DIM.	70mm	71 mm	72 mm	69 mm	68 mm	71 mm
DIMENSION OF SPRING CHECK 19.03.15..						
NORTH WEST (SIDESPAN)	SW1	SW2	SW3	SW4	SW5	SW6
ROCKER PLT. SPRING COMPRESSION DIM.	141mm	141 mm	141mm	140 mm	139 mm	140 mm
TONGUE PLT. SPRING /E COMPRESSION DIM.	75 mm	75 mm	75 mm	76 mm	76 mm	79 mm
TONGUE PLT. SPRING /W COMPRESSION DIM.	74mm	76 mm	76 mm	77 mm	77 mm	75 mm

Springs that require to be replaced following this inspection.

Side span side. Tongue plate springs. : - Cell SE. 1. – West spring.
Cell SE. 3. – West spring.

Main span side. Tongue plate spring. : - Cell M W 5. – East spring.