



INSPECTION DEPARTMENT
North side tower (top) inspection of all elements accessible.
DATE. .

As requested a visual / principal was conducted of all accessible elements on the North side tower top both East and West , following are photographic and written information with regards to current status related to

- Concrete
- Support beams.
- Support brackets.
- Flexi duct hangers & Flexi ducts/ flanges , fixings.
- Stringer elastomeric bearings
- Welds
- Fixings.
- Pipe-work & support brackets & fixings.
- Side-span concrete corbel support blocks and top chord support columns.
- Top lateral connection to side tower , side – span side.
- Viaduct runway beam to side tower support brackets.
- D & A line walkway support brackets (South face)

Concrete. : One of the primary functions was to carry out a close up inspection of the cycle track support concrete beams. This area has never been as accessible before now,



West



East

All Cycle track support beam slabs remain in very good condition both East & West. There are no signs of any longitudinal or transverse cracking or concrete spalling on any of the soffits of the beams. No evidence of any reinforcement movement, beam deflection or beam distortion at time of inspection.

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Concrete outer cycle track side tower well support beam . : The cycle track outer support beam . Externally this concrete is in very good condition, there are no visible signs of any longitudinal or transverse cracking , reinforcement exposure or concrete spalling on any of the soffits or external faces of the beams. No evidence of any reinforcement movement, beam deflection or beam distortion at time of inspection.



West. Outer face



West. Inner face



East. Outer face



East. Inner face



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Flexi duct support brackets , ducts & fixings. :



Side- tower to Side-span flexi – ducts. : All flexi- ducts both East and West side remain in a satisfactory condition. Paint breakdown and Heavy corrosion evident around some flange mating faces bolts and nuts. There are some clamp arrangement fittings which are missing but this does not affect their function all ducts remain fitted and secure . The condition of these clamps have been highlighted in Past side-span inspection reports . All flexi- ducts remain in a satisfactory condition , with no deterioration evident. all support hangers remain intact, secure but heavy corrosion is evident.



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Viaduct box girder to side tower flexi- ducts and hangers. : All flexi- ducts both East and West side remain in a satisfactory condition, paint breakdown and medium to heavy corrosion is evident around all flange mating faces , clamp arrangement fittings bolts and nuts. The condition of these clamps have been highlighted in Past viaduct external inspection reports . All flexi- ducts remain in a satisfactory condition , with no deterioration evident. all galvanised support hangers which are fitted into the joints of the cycle track concrete support beams remain secure and intact . All support hangers have medium to heavy corrosion evident.





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Side- span Stringer elastomeric support bearing pads. : All side- span stringer to side-tower ledge elastomeric support pads both East and West remain in good condition , All fixings remain in a satisfactory condition. Evidence of slight cracking on painted face surfaces slight corrosion evident on fixing bolt heads evident at time of inspection.

West



East



Stringer No 4 East. Picture showing gap between plate face & underside of nut on North bolt. (East side)

Spanner set on bolt . No movement evident.



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Pipe-work , support brackets & fixings.: All ring-main pipe-work on the viaduct to side tower well and inner balustrade , both East and West sides their connection flanges, support brackets, u- hangers & fixings remain in a satisfactory condition. All ring-main crossover pipe-work from side tower north face to side span inner balustrade sides of the side tower remains in a satisfactory condition.



Side-span concrete corbel support blocks and top chord support columns.: All top chord support corbel blocks remain in a satisfactory condition , no deterioration of concrete evident at time of inspection. All column connection bolts and nuts have slight corrosion evident but remain in good condition, all remain secure and intact. All protection sleeves and welds remain in good condition. All attached side tower to top chord support columns both East and west remain in a satisfactory condition, although there is a small area of corrosion located on the West side South face.





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Top lateral connection to side tower , side – span side. Remains in a satisfactory condition, Slight staining evident on face and nuts. No movement .
Discolouration/staining slight corrosion , this is due to location, Constant exposure to water and road detritus being distributed on to it from both carriageway fast lanes.
Concrete surrounding plate in a satisfactory condition. All lateral bolts in location and secure , slight corrosion to nuts evident.





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Stringer top flange to concrete deck soffit bolts



Pictures show missing bolts located on the stringer top flange to concrete deck on stringers No 2 & 3 on the west side. (It should be noted that that information related to these bolts were recorded on the maint data base under structure number 7276 on inspection date 27/10/98 by Bridge inspector G.Hamilton.)

Stringer bottom flange to bearing mounting plate.



Picture shows missing bolt located on the stringer bottom flange to bearing mounting plate on stringer No 1 on the East side. (It should be noted that information related to this bolt were recorded on the maint data base under structure number 7275 on inspection date 27/10/98 by Bridge inspector G.Hamilton.)



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Viaduct runway beams to side tower support brackets. (North face) . : Viaduct runway beam support brackets located on the north face all remain in a satisfactory condition, slight staining / discolouration evident at mating faces of runway beam to support bracket. Location fixings intact, secure and in a satisfactory condition. . No movement at tower face evident.



D & A line walkway support brackets (South face) side span side. Support brackets remain in a satisfactory condition on “ A ” line East & West and “ D ” line walkway connections to side tower. Plate location anchor bolts & nuts now showing signs of medium to heavy corrosion, No plate movement evident with all concrete in a satisfactory condition





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Plate located under concrete on South face of side tower side span side , both East and west sides directly below grillage which runs through from PP.00. carriageway expansion joint on the North side span. Plate movement evident. Infill support material missing below plate in some areas., noise evident. There are also defects on the top plate at PP 00 N/E related to top plate deflection/ deterioration. This work is recorded on the Maint data base under structure No 7281 .

These defects discussed by Bridge inspector/ Maintenance inspector and work will be carried out to repair as required.

West.



East.



On the North side of the South face of the side tower (East side) there is a frame (which is heavily corroded and serving no purpose) attached by “U” brackets to ducts . (Requires to be removed.

East.





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Viaduct box girder air extraction fan and splice plates. Both extractor fan units and splice plates located on the soffit of the box girder both East & West side remain in a satisfactory condition. All splice bolts & nuts remain intact and secure and in good condition..



In conclusion , all elements inspected remain in a satisfactory condition, actually some in very good condition. All inspected concrete especially All Cycle track support beam slabs, cycle track outer support beam and corbel bearing blocks.

All steelwork and associated fixings in general remain in good condition. There are areas as indicated in individual photographic descriptions and information that require to have some remedial paint work carried out. All support hangers tied in to the cycle track support beam slabs, galvanized protective coating breaking down, medium to heavy corrosion evident. Flexi – ducts remain intact and secure although some of the clamp arrangement that secures them to the receptive pipe ducts which protrude from the face of the side tower are not present, There are heavier areas of corrosion evident on flange faces .

Bridge inspector. :



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