

Inspection Report with SI&A Data

Structure Description: 257.99 Foot - 3 Span Steel continuous Stringer/Multi-beam or Girder

2 District: 06 **3 County:** Kenton **16 Latitude:** 39°02'27.00" **7 Longitude:** 84°35'06.00"

7 Facility Carried: I-75 NC

Milepoint: 185.760

6A Feature Intersected: NS (CNO&TP) SYSTEM

9 Location: .5 MI SW JCT KY NBL

NBI	X
Element	X
Fracture Critical	
Underwater	
Special	

NBI CONDITION RATINGS			
58 Deck:	7	61 Channel:	N
59 Superstructure:	7	62 Culvert:	N
60 Substructure:	7	Sufficiency Rating:	98

GEOMETRIC DATA		
48 Max Length Span:		99.997 ft
49 Structure Length:		257.989 ft
32 Approach Roadway:		69.997 ft
33 Median:		(0) No Median
34 Skew:		48°
35 Flare:		No Flare
50A Curb/Sidewalk Width L:		1.499 ft
50B Curb/Sidewalk Width R:		1.499 ft
47 Horiz. Clearance:		69.997 ft
51 Width Curb to Curb:		69.997 ft
52 Width Out to Out:		72.995 ft

DESIGN	
Substandard:	No
Fracture Critical:	Yes
43A Main Span Material:	(4) Steel Continuous
43B Main Span Design:	(02) Stringer / Girder
45 Number of Spans Main:	3
44A Approach Span Material:	Not Applicable
44B Approach Span Design:	Not Applicable
46 Number of Approach Spans:	0
107 Deck Type:	(1) Concrete-Cast-in-Place
108A Wearing Surface:	(1) Monolithic Concrete
108B Membrane:	(0) None
108C Deck Protection:	(1) Epoxy Coated Reinforcing
Overlay Y/N:	No
Overlay Type:	None
Overlay Thickness:	-1.000 in
Overlay Date:	

ADMINISTRATIVE		
27 Year Built:		1993
106 Year Reconstructed:		0
42A Type of Service On:		(1) Highway
42B Type of Service Under:		(2) Railroad
37 Historical Significance:		(5) Not Eligible
21 Maintenance Responsibility:		(01) State Hwy Agency
22 Owner:		(01) State Hwy Agency
101 Parallel Structure:		(L) Left Of II Structure

APPRAISAL	
36A Bridge Railings:	(1) Meets Standards
36B Transitions:	(1) Meets Standards
36C Approach Guardrail:	(1) Meets Standards
36D Approach Guardrail Ends:	(1) Meets Standards
71 Waterway Adequacy:	(N) Not Applicable
72 Approach Alignment:	(9) Above Desirable Crit
113 Scour Critical:	(N) Not over Waterway
Recommended Scour Critical:	(N) Not over Waterway

CLEARANCES		
10 Vert. Clearance:		99.999 ft
53 Min. Vert. Clearance Over:		99.999 ft
54A Vert. Under Reference:		(R) Railroad beneath struct.
54B Min. Vert. Underclearance:		23.291 ft
55A Lateral Under Reference:		(R) Railroad beneath struct.
55B Min. Lat. Underclearance R:		24.098 ft
56 Min. Lat. Underclearance L:		0.000 ft

LOAD RATINGS	
63 Operating Type:	(1) Load Factor (LF)
64 Operating Rating:	78.0 tons
65 Inventory Type:	(1) Load Factor (LF)
66 Inventory Rating:	47.0 tons
Truck Capacity Type I:	tons
Truck Capacity Type II:	tons
Truck Capacity Type III:	tons
Truck Capacity Type IV:	tons

POSTINGS	
41 Posting Status:	(A) Open, No Restriction
Signs Posted Cardinal:	No
Signs Posted Non-Cardinal:	No
Field Postings Gross:	-1 tons
Field Postings Type I:	-1 tons
Field Postings Type II:	-1 tons
Field Postings Type III:	-1 tons
Field Postings Type IV:	-1 tons

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12: Re Concrete Deck									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
SQ.FT	18,832	18,724	99%	108	1%	0	0%	0	0%
<p>Top of deck exhibits polished wheel paths with minor areas of aggregate starting to become exposed. There are small shallow spalls (without exposed reinforcement) forming at the interface of the deck and armored edges as well as on top of the back wall (deck portion) at both abutments. The underside of deck at Girder 1 at Abutment 4 exhibits a 3sf delamination/spall (approximately 3/4" deep). At the time of this routine inspection there was no significant roadway debris forming along the gutter lines of the deck.</p>									

520: Conc Re Prot Sys									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
SQ.FT	18,832	18,832	100%	0	0%	0	0%	0	0%
<p>Deck has epoxy coated reinforcement. The protection system cannot be inspected, but there are no visual indications of deficiencies. For this reason, during this routine inspection the system was considered fully effective.</p>									

1080: Delamination/Spall/Patched Area									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
SQ.FT	108	0	0%	108	100%	0	0%	0	0%
Empty description box									

107: Steel Opn Girder/Beam									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	2,838	2,838	100%	0	0%	0	0%	0	0%
<p>The girders are in good condition with no significant deficiencies noted during this routine inspection. A moderate amount of soot from train exhaust was found on span above train tracks.</p>									

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515: Steel Protective Coating									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	7,982.71	7,982.71	100%	0	0%	0	0%	0	0%
The steel protective coating appears to be fully effective at the time of this routine inspection.									

205: Re Conc Column									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	12	12	100%	0	0%	0	0%	0	0%
No significant deficiencies were noted during this standard inspection.									

210: Re Conc Pier Wall									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	140	140	100%	0	0%	0	0%	0	0%
The pier walls exhibit minor vertical and diagonal cracking (less than 0.012" wide) and moderate amounts of graffiti.									

215: Re Conc Abutment									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	196	156	80%	40	20%	0	0%	0	0%
Typically the abutments exhibit minor deterioration with light staining and minor vertical cracking in the back walls, caps and pedestals. In addition to the typical deficiencies, Abutment 1 exhibits 5 locations of vertical cracks, up to 0.025" wide and 27' of horizontal cracking, up to 0.025" wide in the abutment caps. Abutment 4 exhibits 8 locations of vertical cracking, up to 0.016" wide of the cap.									

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1130: Cracking (RC and Other)									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	40	0	0%	40	100%	0	0%	0	0%

234: Re Conc Pier Cap									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	140	140	100%	0	0%	0	0%	0	0%
No significant deficiencies were noted during this routine inspection.									

300: Strip Seal Exp Joint									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	146	0	0%	121	83%	10	7%	15	10%
The joint seals exhibit signs of failure (loss of adhesion/seal) and roadway debris build up. The joints are allowing minor leakage at this time. Specifically at Abutment 1 up to 15' of seal is missing or shows signs of adhesion loss. Also at Abutment 1, the armored edge is missing (due to vehicular impact damage) for about 6'. At Abutment 4 the armored edge is damaged/missing for about 4' (due to vehicular impact damage).									

2320: Seal Adhesion									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	15	0	0%	0	0%	0	0%	15	100%

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2350: Debris Impaction									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	121	0	0%	121	100%	0	0%	0	0%

2370: Metal Deterioration or Damage									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	10	0	0%	0	0%	10	100%	0	0%

310: Elastomeric Bearing									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	44	39	89%	5	11%	0	0%	0	0%
<p>The bearings at the abutments exhibit minor to moderate lateral movement. Arm's length inspection access to the pier bearings was not attainable during this standard inspection. From the ground the bearings at piers appear to functioning properly.</p>									

2220: Alignment									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	5	0	0%	5	100%	0	0%	0	0%
<p>-</p>									

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331: Re Conc Bridge Railing

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	516	456	88%	60	12%	0	0%	0	0%

The railings typically exhibit minor vertical cracking, minor scaling and masonry coating peeling for the entire length of bridge. The full height vertical cracks (0.012" to 0.025" wide) are at approximately 30 locations. Due to high traffic volume the west barrier was only inspected from the east shoulder of I-75 (therefore for quantity doubled the east barrier crack locations to account for the west barrier).

1130: Cracking (RC and Other)

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	60	0	0%	60	100%	0	0%	0	0%

857: Embankment Erosion

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
(EA)	1	0	0%	1	100%	0	0%	0	0%

Erosion is occurring along the front faces of the abutments. Holes are forming, undermining the abutments.

STRUCTURE NOTES

Plan # 23000

Paint Date 06/10

INSPECTION NOTES

The Standard Inspection was performed by Stantec Consulting Services, Inc. on November 16, 2015. The inspectors included Mike Lawler and Chad Evans. No specialized access equipment or lane closures were utilized for this inspection. The bridge was inventoried south to north (substructure naming convention - Abutment 1, Pier 2, Pier 3 & Abutment 4 - Beams 1 to 11, left to right facing north).

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WORK

Action: 1041 - Drainage-Repair Washouts / Erosion

Generated by user "mlawler" on 12/7/2015

- Repair erosion holes along abutments.

Action: 1047 - Joints-Replace

Generated by user "mlawler" on 12/7/2015, Concur with converted work candidate.

Generated by cbresch on 11/05/2013,

-Replace compression joint material at both the rear and forward abutment locations.

-Replace armored edge material at expansion joint locations where as needed.