

## Inspection Report with SI&A Data

**Structure Description:** 390.09 Foot - 3 Span Steel continuous Stringer/Multi-beam or Girder

**2 District:** 09      **3 County:** Bath      **16 Latitude:** 38°07'24.00"      **7 Longitude:** 83°46'17.00"

**7 Facility Carried:** I-64

**Milepoint:** 120.020

**6A Feature Intersected:** KENDALL SPRNGS RD&SLTE C

**9 Location:** EBL 1.0 MI W OF KY 36 NTR

NBI	X
Element	X
Fracture Critical	
Underwater	
Special	

NBI CONDITION RATINGS			
<b>58 Deck:</b>	7	<b>61 Channel:</b>	7
<b>59 Superstructure:</b>	4	<b>62 Culvert:</b>	N
<b>60 Substructure:</b>	6	<b>Sufficiency Rating:</b>	53

GEOMETRIC DATA		
<b>48 Max Length Span:</b>		140.092 ft
<b>49 Structure Length:</b>		390.092 ft
<b>32 Approach Roadway:</b>		37.073 ft
<b>33 Median:</b>		(0) No Median
<b>34 Skew:</b>		16°
<b>35 Flare:</b>		No Flare
<b>50A Curb/Sidewalk Width L:</b>		0.000 ft
<b>50B Curb/Sidewalk Width R:</b>		0.000 ft
<b>47 Horiz. Clearance:</b>		30.184 ft
<b>51 Width Curb to Curb:</b>		30.184 ft
<b>52 Width Out to Out:</b>		34.449 ft

DESIGN	
<b>Substandard:</b>	No
<b>Fracture Critical:</b>	No
<b>43A Main Span Material:</b>	(4) Steel Continuous
<b>43B Main Span Design:</b>	(02) Stringer / Girder
<b>45 Number of Spans Main:</b>	3
<b>44A Approach Span Material:</b>	(1) Concrete
<b>44B Approach Span Design:</b>	(02) Stringer / Girder
<b>46 Number of Approach Spans:</b>	1
<b>107 Deck Type:</b>	(1) Concrete-Cast-in-Place
<b>108A Wearing Surface:</b>	(3) Latex Concrete/Similar
<b>108B Membrane:</b>	(0) None
<b>108C Deck Protection:</b>	(0) None
<b>Overlay Y/N:</b>	Yes
<b>Overlay Type:</b>	Latex
<b>Overlay Thickness:</b>	1.000 in
<b>Overlay Date:</b>	

ADMINISTRATIVE		
<b>27 Year Built:</b>		1967
<b>106 Year Reconstructed:</b>		-4
<b>42A Type of Service On:</b>		(1) Highway
<b>42B Type of Service Under:</b>		(6) Hyw - Waterway
<b>37 Historical Significance:</b>		(5) Not Eligible
<b>21 Custodian:</b>		(01) State Hwy Agency
<b>22 Owner:</b>		(01) State Hwy Agency
<b>101 Parallel Structure:</b>		(R) Right of II Structure

APPRAISAL		
<b>36A Bridge Railings:</b>	(1) Meets Standards	
<b>36B Transitions:</b>	(1) Meets Standards	
<b>36C Approach Guardrail:</b>	(1) Meets Standards	
<b>36D Approach Guardrail Ends:</b>	(1) Meets Standards	
<b>71 Waterway Adequacy:</b>	(8) Equal Desirable	
<b>72 Approach Alignment:</b>	(8) Equal Desirable Crit	
<b>113 Scour Critical:</b>	(8) Stable above footing	
<b>Recommended Scour Critical:</b>	(9) On Dry Land	

CLEARANCES		
<b>10 Vert. Clearance:</b>		99.999 ft
<b>53 Min. Vert. Clearance Over:</b>		99.999 ft
<b>54A Vert. Under Reference:</b>		(H) Hwy beneath struct.
<b>54B Min. Vert. Underclearance:</b>		37.001 ft
<b>55A Lateral Under Reference:</b>		(H) Hwy beneath struct.
<b>55B Min. Lat. Underclearance R:</b>		9.186 ft
<b>56 Min. Lat. Underclearance L:</b>		0.000 ft

LOAD RATINGS		
<b>63 Operating Type:</b>	(1) Load Factor (LF)	
<b>64 Operating Rating:</b>	63.1 tons	
<b>65 Inventory Type:</b>	(1) Load Factor (LF)	
<b>66 Inventory Rating:</b>	37.0 tons	
<b>Truck Capacity Type I:</b>	56 tons	
<b>Truck Capacity Type II:</b>	58 tons	
<b>Truck Capacity Type III:</b>	60 tons	
<b>Truck Capacity Type IV:</b>	67 tons	

POSTINGS		
<b>41 Posting Status:</b>		(A) Open, No Restriction
<b>Signs Posted Cardinal:</b>		No
<b>Signs Posted Non-Cardinal:</b>		No
<b>Field Postings Gross:</b>		tons
<b>Field Postings Type I:</b>		tons
<b>Field Postings Type II:</b>		tons
<b>Field Postings Type III:</b>		tons
<b>Field Postings Type IV:</b>		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	13,438.2	12,631.91	94%	806.29	6%	0	0%	0	0%
In the spring of 2013 this bridge received a new latex overlay. At the time of this inspection, the overlay was in good condition. See photos.									

510: Wearing Surfaces									
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	11,779.81	11,479.81	97%	300	3%	0	0%	0	0%
In the spring of 2013 this bridge received a new latex overlay. At the time of this inspection, the overlay was in good condition. See photos.									

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	1,360	1,210	89%	147	11%	2	0%	1	0%
<p>The beams along abutment 5 have had vertical stiffeners added in the past. Beam 1 and Beam 3 both have 3 vertical stiffeners on each side of the beam near the end of the beam. Beams 2 and 4 have 2 stiffeners on each side of the beam near the end. The beam ends at abutment 5 have moderate to heavy corrosion mostly along the lower flanges and webs. Beam 3 from upstream is in the worst condition out of the 4 beams at abutment 5. The lower flange has a crack near the beam bearing plate at abutment 5 that extends the entire of the width of the bottom flange. On the downstream edge of the crack, the beam has displaced approximately 1/8 inch. There is also a horizontal crack in the web near the weld between the lower flange/web on the end of beam 3 at abutment 5; this crack extends from the end of beam 3 to the second vertical stiffeners (east to west) of beam 3. This crack has visual movement when the bridge is loaded with traffic and extends past and connects to the to the crack across the bottom flange noted above. It appears that the where two cracks meet that a crack is starting to initiate upward into the web. The web near this crack is showing signs of buckling for 4 inch. starting at the bottom of the web on the beam end and extending upwards 4 inches. The exterior beam at abutment 5 has heavy flaking rust for approximately 4 feet starting on the beam end on both the interior and exterior side of the beam. Section loss is ~10% in this 4 feet. See photos.</p>									

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	8,839.2	5,303.52	60%	1,325.88	15%	1,325.88	15%	883.92	10%
Total paint areas obtained from central office. See parent element 107 for additional notes.									

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110: Re Conc 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	200	195	98%	5	3%	0	0%	0	0%
<p>Span 1 is the only span with concrete beams on this structure. These beams are in good condition with only areas of minor vertical cracking.</p>									

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	6	5	83%	1	17%	0	0%	0	0%
<p>The piers appear to be in good condition.</p>									

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	161	124	77%	7	4%	30	19%	0	0%
<p>Abutment 1 is in good condition. Abutment 5 has heavy spalling with exposed steel for the width of the abutment breast wall. See photos.</p>									

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	102	87	85%	0	0%	15	15%	0	0%
<p>The underside of the pier 2 cap has heavy spalling with exposed steel for the width of the pier cap (this needs to be patched in the near future). Otherwise the pier caps appear to be in good condition at this time. See photos.</p>									

### Inspection Report with SI&A Data

**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	36	36	100%	0	0%	0	0%	0	0%

The strip seal over pier 2 appears to have been replaced during the overlay of spring 2013. It is full of debris but is in good condition at this time. See photos.

**302: Compressn Joint Seal**

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	36	36	100%	0	0%	0	0%	0	0%

The compression joint seal at abutment 5 appears to have been replaced during the overlay of spring 2013. It appears to be in good condition, for now.

**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	8	4	50%	4	50%	0	0%	0	0%

The elastomeric bearings on abutment 5 are in good condition at this time. Under loading, the bearings under beams 2 & 3 have minor deflection. The bearings on pier 2 cannot be visually inspected from the ground. See photos.

**311: Moveable 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	4	4	100%	0	0%	0	0%	0	0%

The rockers on pier 3 appear to be in good condition at this time.

## Inspection Report with SI&A Data

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
EACH	2.23	1.77	79%	0.46	21%	0	0%	0	0%
See parent element 311 for notes.									

313: Fixed 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	4	4	100%	0	0%	0	0%	0	0%
The bearings on pier 4 appear to be in good condition.									

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
EACH	2.23	1.77	79%	0.46	21%	0	0%	0	0%
See parent element 313 for notes.									

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	828	823	99%	5	1%	0	0%	0	0%
This bridge has concrete parapets along both sides. Overall, the barriers walls are in good condition with only minor scaling and minor vertical cracking at this time. See photos.									

### Inspection Report with SI&A Data

**859: Vegetation**

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%	0	0%	1	100%	0	0%

A lot of brush and vines are growing up under and around the bridge and up the pier columns. this all needs cut away and sprayed.

**STRUCTURE NOTES**

-57.6

**INSPECTION NOTES**

Bridge Inspection by B.Jones.

**WORK**

**Action:** 0 - Bridge deteriorates according to the TP matrix

Generated by user "BJONES" on 6/9/2015  
 Clean and repair beam ends @ the east abutment (abutment 5)  
 Patch abutment 5 and pier 2

**Action:** 0 - Bridge deteriorates according to the TP matrix

Generated by user "BJONES" on 6/9/2015  
 Remove vegetation from piers



End view from the west approach.



Elevation view from upstream and the west approach.



View upstream.



View downstream.





Elevation view of the west face of pier 3. Note the vegetation growth.



Looking up at the underside of span 2. Note the transverse cracks with efflorescence on the deck underside throughout the span; these cracks are more dominant near mid-span; there is evidence of water staining near mid-span on the deck underside. Note the areas of patching on the deck underside.



Elevation view of the east face of pier 2. Note the exposed rusting/corroding reinforcing steel in the pier and heavy rust staining on the pier cap see below photo for more info. Note 1 area with exposed rusting/corroding exposed vertical reinforcing steel in the east face of the cap (under beam 3 bearing). This pier cap needs to be cleaned and patched.



Looking up at the underside of the pier cap of pier 1. Note the heavily rusted and corroding (w/ section loss) exposed reinforcing steel. There is a deck joint directly above this pier (between the steel girder span and reinforced concrete girder span). The plans called for 2 rows of 6 #11 Bar. **4/19**



Looking at the embankment in-front of the west abutment. Note the minor erosion.



Exterior downstream beam @ pier 2. Note the 5'x2' spall with exposed rusting/corroding steel in the pier cap under the bearing of beam 4. Note the beam has an area above the bearing has light scaling and the start of light delimitation.



Looking up at the underside of the deck in span 1 between beams 3 & 4. Note the plywood forms still in place, minor vertical cracking in the concrete beams, minor map cracking on the underside of the bridge deck near abutment 1 and light scaling of concrete on the deck underside.



View of the abutment and diaphragm between beams 2 & 3 @ abutment 1.



Elevation view of west face of pier 1 see above notes for more details.



Bridge stamp from the deck replacement.



Elevation view of span 3 from upstream.



Elevation view of pier 3. Note the heavy vegetation growth.



Looking up at the underside of span 3.



Looking at the west face of pier 4.



Looking up at the pier cap of pier 4 and deck underside of span 3.



View of the underside of span 3. Note the transverse cracks with efflorescence on the underside of the downstream overhang.





Close-up of the above photo.



Elevation view from upstream and the east approach.



View of the cracking through the lower flange of beam 3 @ the bearing of abutment 5. This crack extends the entire length of the bottom flange. This photo is looking at the downstream face of the beam's bottom flange.



Looking at the beam web past the bearing @ abutment 5. Note the heavy active surface corrosion, light pitting (up to 1/8" section loss), crack in the beam web extending approximately 6" long from the back of the beam along the weld between the web and bottom flange and it appears that beam web is locally bowing/buckling @ this location.



Zoomed out view of the above 2 noted photos.



View of the bearing and beam end of beam 3 @ abutment 5. Note the heavy active corrosion and section loss at this location.



View of the abutment face between beams 1 & 2 of abutment 5. Note the heavy spalls and delimitations with exposed rusting/actively corroding reinforcing steel in the abutment face.



View of inspection of the bearing of beam 3 @ abutment 5.



View of wooden blocks placed under the bearing of beam 4. Note the section loss of the beam at the bearing and exposed rusting and actively corroding reinforcing steel of the abutment face. **15/19**



Looking up between beams 3 & 4 in span 4. Note the spalls with exposed reinforcing along the top flange of beam 4.



view of the underside of the superstructure in span 4.



Looking up between beams 1 & 2 in span 4. Note the spalls with exposed reinforcing along the top flange of beam 4.



View of the deck joint at abutment 5.



View of the downstream barrier wall. Note minor vertical cracking in the face of the barrier wall along the entire length of wall and many areas of scaling of the masonry coating on the face of the barrier wall.



Typical view of the bridge deck.





Deck joint over pier 2.



Transition between the west roadway approach and west end of the bridge deck.



Correction/update to page 13/19 of the Standard Inspection Photos dated 5/28/2015.

View of the crack through the lower flange of beam 3 @ the bearing at abutment 5. This crack extends the entire length of the bottom flange. This photo is looking at the downstream face of the beam's web and bottom flange. In addition to the above noted crack there is a crack along the weld between the web and bottom flange. This crack extends longitudinal along the beam starting at the end of the beam and extends to the second vertical stiffener (stiffeners # east to west). This crack extends past/connects to the above noted crack that extends across the bottom flange; it appears that at the point where these two cracks meet that a crack is initiating upward into the beam web.



View of the beam end located behind the first vertical stiffener (stiffeners # east to west) of beam 3 @ abutment 5. See the above photo on page 1 for notes.