

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

Suff. Rating: 59.7
SD

Health Index :
77.9

NBI No.: 13653

Structure No.: 6702 0880 X

Local ID:-1

IDENTIFICATION
Description: 45'-50'-45' I-BM. SPANS SK60 DEG. WITH 2-18' SAFETY CURBS
1. State: Oklahoma 2. SHD District: Division 3
3. County Code: SEMINOLE 4. Place Code: Unknown
Admin. Area: Unknown
5. Inventory Route (Route On Structure) : 1 - 2 - 1 - 00270 - 0
6. Feature Intersected: UP R.R. UNDER
7. Facility Carried: U.S. 270 U.S. 270
9. Location: 6.6 MI SE SH 3 11. Mile Post: 8.798 mi
13. LRS Inv. Route./ Subroute.: 6702 0000 05
16. Latitude: 35 10 26.42 17. Longitude: 096 34 50.71
98. Border Br. Code: Jkknown (P) % Resp. : 0 99. Border Br. #: Unknown

STRUCTURE TYPE AND MATERIALS
43. Main Span Material and Design Type
Steel Stringer/Girder
44. Approach Span Material and Design Type
Unknown (NBI) Unknown (P)
45. No. of Spans Main Unit: 3 46. No. of Approach Spans: 0
107. Deck Type: 1 Concrete-Cast-in-Place
108A. Wearing Surface: 6 Bituminous
108B. Membrane: 8 Unknown
108C. Deck Protection: 8 Unknown

AGE AND SERVICE
27. Year Built: 1956 106. Year Reconstructed: Unknown
28A. Lanes on: 2 28B. Lanes Under: 0 19. Detour Length: 3.7 mi
29. ADT: 6100 30. Year of ADT: 2015 109. Truck ADT %: 16
42A. Type of Service on: 1 Highway
42B. Type of Service under: 2 Railroad

GEOMETRIC DATA
10. Inv. Rte. Min. Vert. Clr.: 328.1 ft
32. Approach Roadway Width (W/ Shoulders): 44.0 ft
Deck Area: 4,402.4 sq. ft 33. Median: 0 No median
34. Skew: 23 35. Structure Flared: 0 No flare
47. Inv. Rte. Total Horiz. Clr.: 28.0 ft
48. Length Maximum Span: 49.9 ft 49. Structure Length: 142.1 ft
50A. Curb/Sdwk Wdh L: 0.0 ft 50B. Curb/Sidewalk Width R: 0.0 ft
51. Width Curb to Curb: 28.0 ft 52. Width Out to Out: 31.0 ft
53. Minimum Vertical Clearance Over Bridge: 328.1 ft
54A/54B. Min. Vert. Underclearance : R Railroad beneath struc 23.0 ft
N/E S/W
Meas. -1 -1 -1 -1 -1
Post. DO NOT U DO NOT U DO NOT U DO NOT U IE -1
55A/55B. Minimum Lateral Underclearance R: R Railroad beneath struc 10.8 ft
56. Minimum Lateral Underclearance L: 0.0 ft

200c. Temperature: 80
200d. Weather: CLOUDY
201. Structural Steel ASTM Desig.: -1 -1
202. Waterproof Membrane : -1
Date Installed : 1/1/1901
203. Type Exp. Dev. : Other Type
204. Type of Handrail: SFP-1
205. Material and Quantity : 577.0
208. Type of Abutment : Skeleton
Type of Foundation : Concrete Piling
209. Type of Pier / Found.: 1 Pier Yes
No Piling or Drilled Shaft
210. Foundation Elev. -1.0 -1.0
-1.0 -1.0 -1.0
211. Wear. Surf. Prot. System : None
Date Installed : 1/1/1901
213. Utilities Attached : -1
-1 -1 -1
-1 -1 -1

214a. Posted Weight Limit: NR
b. Posted Speed Limit : NR
c. Narrow/One Lane Bridge sign : NO
d. Vertical Clearance Sign: NO
Advanced Warning Sign : NO
e. Navigation Lights : -
Working/Not Working : -
215. Overpass : C - US Highway
221. Substructure Cond. (U/W) : -
222. Fill over RCB: 0
223. Appr. Slab/Rdwy Cond.: Good
225. Paint Type : Inorganic Zinc 3 Coat
Overcoat : Not Applicable
226. Date Painted: 0606
227. Paint Coloring: Gray
233. Deck Forming: -
238. School Bus Rte: Current and Desired Route
240. Appr. Roadway Type: Asphalt/Bituminous

INSPECTION
Type Insp Req. Insp Done Freq. Insp. Date. Next Insp.:
NBI: Y 24 1/26/2018 1/26/2020
FC Freq.: N N NA NA NA
UW Freq.: N N NA NA NA
OS Freq.: N N NA NA NA

CLASSIFICATION
12. Base Hwy Network : On Base Network 20. Toll Facility: 3 On free road
21. Custodian: 01State Highway Agency 22. Owner: 01State Highway Agency
26. Functional Class: 06 Rural Minor Arteri 37. Historical Sig.: 5 Not eligible for NRHP
100. Defense Highway: 0 Not a STRAHNET h 101. Parallel Structure: No || bridge exists
102. Dir. of Traffic: 2 2-way traffic 103. Temp. Structure: Unknown (NBI)
104. Highway System: 0 Not on NHS 105. Fed. Land Hwy 0 N/A (NBI)
110. National Truck Network: 0 Not part of na 112. NBIS Length: Long Enough

CONDITION
58. Deck: 4 Poor 59. Super.: 6 Satisfactory 60. Sub.: 5 Fair
62. Culvert: N N/A (NBI) 61. Channel/Channel Protection: N N/A (NBI)
Flowline Notes:

ABANDONED RR BELOW

LOAD RATING AND POSTING
31. Design Load: 4 M 18 (H 20) 41. Posting status: A Open, no restriction
63. Op. Rating Method: 1 LF Load Factor-Ton Alt. Op. Rating Meth.: 1 LF Load Factor-To
64. Operating Rating (H / HS / 3-3) : 40.9 52.8 92.2
66. Inventory Rating (H / HS / 3-3) : 24.5 31.7 55.4
65. Inv. Rating Method: 1 LF Load Factor-Ton Alt. Inv. Rating Meth.: 1 LF Load Factor-To
70. Posting: 5 At/Above Legal Loads Date Rated : 3/1/2004

PROPOSED IMPROVEMENTS
94. Bridge Cost: \$654,780 75. Type of Work: 31 Repl-Load Capacit
95. Roadway Cost: \$1,080,387 76. Lgth. of Improvement: 259.8 ft
96. Total Cost: \$1,833,384 114. Future ADT: 9760
97. Year of Cost Est.: 2015 115. Year of Future ADT: 2035

NAVIGATION DATA
38. Navigation Control: NA-no waterway
39. Vertical Clearance: 0.0 ft 40. Horizontal Clearance: 0.0 ft
111. Pier Protection: 1 Not Required 116. Lift Bridge Vert. Clear.: 0.0 ft

APPRAISAL
36A. Bridge Rail: 1 Meets Standards 36C. Approach Rail: 1 Meets Standards
36B. Transition: 1 Meets Standards 36D. Approach Rail Ends: 1 Meets Standards
67. Str. Evaluation: 5 Above Min Tolerable 68. Deck Geometry: 2 Intolerable - Replace
69. Underclearance, Vertical and Horizontal: 4 Tolerable
71. Waterway Adequacy: N Not applicable
72. Approach Alignment: 7 Above Min Criteria
113. Scour Critical: N Not Over Waterway

243. Girder Spacing/Number : -1.0 / -1
244. Span Lengths :
-1 -1 -1
-1 -1 -1
-1 -1
245. Girder Depth : 96.000
246. Type of Overlay : Chipseal
246. Overlay Thickness : 0.5
246. Overlay Date : 11/1/2001
246. Overlay Depth Changed > 1"? No
247. Protective Systems : 1: _
2: _ 3: _
4: _ 5: _
248. No. of Field Splices w/ Corrosion : -1
249. Scour Crit. POA exists?: _
250. Culvert Headwall Dist.: -1.0
256. Chan. Profile Up/Down Stream?: _
257a. OkiePROS Auto. Truck Routing Yes
258. Plans w/ found. are in file at ODOT:
259. Scour Eval. is in file at ODOT:
263. Interchange at Intersection: No Interchange
264. Interstate Milepoint: -1.00

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Inspection Date: 1/26/2018 Reported By: UFD3012
 Invoice No.: -1 Inspected With: Erik Cox
 Agency :



Structure / Inspection Notes

Three span structure consisting of: 45'-50'-45' simply supported steel beam spans.
 Future inspection items include: bowing in the webs of the beam ends, beam ends spacing at the piers, settlement at the east abutment, exposed abutment piles at both abutments, heavy spalling on piers, deterioration to deck.

Repair Recommendations Include:

- PX - Due to the quantity of temporary repairs and their condition, consider full deck replacement. If full deck replacement is not scheduled:
 - o Reseal the fixed joints and replace the expansion joint system, including class C repair of the adjacent deck.
 - o Perform destructive testing on the concrete parapet to determine the condition of the anchorage system.
- PX - Flame cut beam ends which are within 1/4-in of being in contact to allow expansion; monitor the separation between beam ends.
- PX - Install an additional transverse web stiffener plate at each beam end which has a transverse web stiffener plate that is aligned more than 2-in from the roller bearing.
- PX - Backfill and stabilize areas of erosion at each abutment.
- PX - Remove unsound concrete and patch delaminated and spalled areas of the pier cap.
- FX - Replace the northwest object marker.
- FX - Seal the crack in the west abutment breastwall.
- FX - Monitor the distortion of exterior beam end webs.
- FX - Clean and spot-paint the beam ends and bearings.
- FX - Monitor the lateral misalignment of beam ends.
- FX - Monitor the settlement of the east approach roadway, leveling as needed.

Elm.	Env.	Description	Un.	Qty.	Qty.St. 1	% 1	Qty.St. 2	% 2	Qty.St. 3	% 3	Qty.St. 4	% 4	Qty.St. 5	% 5
12	4	Reinforced Concrete Deck	(SF)	3,979	0	0 %	0	0 %	3,979	100 %	0	0 %	0	0 %
107	4	Steel Open Girder Beam	(LF)	560	560	100 %	0	0 %	0	0 %	0	0 %	0	0 %
210	4	Reinforced Conc Pier Wall	(LF)	69	69	100 %	0	0 %	0	0 %	0	0 %	0	0 %
215	4	Reinforced Conc Abutment	(LF)	120	69	58 %	41	34 %	10	8 %	0	0 %	0	0 %
227	4	Reinforced Conc Pile	(EA)	5	5	100 %	0	0 %	0	0 %	0	0 %	0	0 %
234	4	Reinforced Conc Cap	(LF)	69	24	35 %	15	22 %	30	43 %	0	0 %	0	0 %
301	4	Pourable Joint Seal	(LF)	70	0	0 %	0	0 %	70	100 %	0	0 %	0	0 %
311	4	Moveable Bearing (roller, sliding, etc.)	(EA)	15	0	0 %	5	33 %	10	67 %	0	0 %	0	0 %
313	4	Fixed Bearing	(EA)	15	0	0 %	0	0 %	15	100 %	0	0 %	0	0 %
321	4	Reinforced Conc Approach Slab w/ or w/o AC O	(EA)	2	0	0 %	1	50 %	1	50 %	0	0 %	0	0 %
331	4	Reinforced Conc Bridge Railing	(LF)	285	71	25 %	212	74 %	2	1 %	0	0 %	0	0 %
510	4	Wearing Surfaces	(SF)	3,979	0	0 %	1,193	30 %	1,592	40 %	1,194	30 %	0	0 %
515	4	Steel (Superstructure) Protective Coating	(SF)	6,057	0	0 %	6,057	100 %	0	0 %	0	0 %	0	0 %
859	4	Soffit of Concrete Decks and Slabs	(EA)	1	0	0 %	0	0 %	1	100 %	0	0 %	0	0 %
865	4	Steel Open Girder/Beam End (5 Ft.)	(LF)	150	0	0 %	90	60 %	60	40 %	0	0 %	0	0 %
909	4	Pourable Fixed Joint Seal	(LF)	70	0	0 %	0	0 %	70	100 %	0	0 %	0	0 %
957	4	Pack Rust	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %
958	4	Concrete Cracking	(EA)	1	0	0 %	0	0 %	1	100 %	0	0 %	0	0 %
960	4	Settlement	(EA)	1	0	0 %	0	0 %	1	100 %	0	0 %	0	0 %
963	4	Steel Section Loss	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %
966	4	Exposed Abutment Piling	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %
968	4	Erosion	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %
969	4	Out-Of-Plane Distortion/Loading	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %
973	4	Horizontal Force	(EA)	1	0	0 %	0	0 %	1	100 %	0	0 %	0	0 %

Additional Elements _____

Elem.	Element Notes (Include Size and Location of Deterioration)
12	PX – There are asphalt and concrete patches in the asphalt wearing surface and the concrete deck throughout the driving surface. These patches are typically deteriorating and cracking. PX – The asphalt wearing surface is raveling within the wheel lines, causing water to become entrapped in the worn asphalt. There is a light accumulation of debris along each shoulder.
107	< none >
210	< none >
215	PX – West Abutment; a 6-ft L x 32-in W x 30-in D erosion ditch has formed along the base of the breastwall beneath Beam 4 due to water leaking through the joint above. The ditch has exposed one (1) concrete pile up to 12-in high. PX – East Abutment; erosion has undermined the breastwall, exposing four (4) concrete piles up to 12-in high with up to 48-in of penetration. FX – West Abutment breastwall; horizontal crack, 34-ft L x up to 1/8-in W. East Abutment breastwall; horizontal cracks with efflorescence up to 1/16-in wide extending from Beam 1 to Beam 4.
227	See element 215

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Elem.	Element Notes (Include Size and Location of Deterioration)
234	<p>FX – Pier 1 cap, south end of west face; vertical crack, full-height x 1/16-in wide.</p> <p>FX – Pier 1 cap, west face beneath Beam 1; an area of previous repair has deteriorated and is cracked and delaminated in a 22-in L x 18-in H area.</p> <p>FX – Pier 1 cap, Beam 2 pedestal; the repair on the northeast corner has failed, causing the pedestal to be spalled for the full height and width of the north and east faces. There is no exposed reinforcing or loss of bearing area.</p> <p>FX – Pier 1 cap, top face, Bay 4 adjacent to Bearing 5; spall with exposed reinforcing, 32-in W x 18-in L x 1 1/2-in D.</p> <p>FX – Pier 1 cap, Beam 5 pedestal, west face; delamination and spall, 22-in W x 6-in H x 2-in D, extending 5-in onto the top face. The delamination does not undermine the bearing.</p> <p>FX – Pier 2 cap, east face beneath Beam 3; delamination, 6-in H x 8-in L.</p> <p>FX – Pier 2 cap, Bay 4; the top edge is delaminated, 4-ft L x 5-in W on the top face x 2-in H on the west face.</p> <p>FX – Pier 2 cap, top face, Bay 4; spall with exposed reinforcing along the east edge, 4-ft L x 9-in W x 2-in D.</p> <p>FX – Pier 2 cap, Beam 5 pedestal; an area of previous repair on the east face of the pedestal has deteriorated and is cracked and delaminated, extending 6-in onto the top.</p>
301	<p>PX – The expansion joint at each pier has adjacent deck and asphalt patches, which typically have cracking and edge spalls. The joints have deteriorated or missing armor and sealant and are leaking along their full length.</p> <p>PX – The expansion joints are fully compressed.</p>
311	<p>FX – Roller bearings typically have surface corrosion. Roller bearings at Pier 1 also have pack rust up to 1-in thick beneath the masonry plate.</p>
313	<p>FX – The fixed bearings typically have freckled corrosion throughout with heavier surface corrosion around the masonry plate. The exterior fixed bearings have heavier laminar corrosion and painted over section loss</p>
321	<p>FX – The East Approach roadway has minor settlement.</p> <p>Each approach has longitudinal cracking and asphalt patches in the roadway.</p>
331	<p>PX - The concrete parapet typically has corrosion bleed-out along the base, indicating corrosion of the steel reinforcing attaching the railing to the curb.</p> <p>FX – The northwest object marker is leaning to the east.</p> <p>North parapet, Span 2 at Pier 2; spall with exposed reinforcing, 2-ft H x 2-ft L x 3-in D.</p>
510	<p>PX – There are asphalt and concrete patches in the asphalt wearing surface and the concrete deck throughout the driving surface. These patches are typically deteriorating and cracking.</p> <p>PX – The asphalt wearing surface is raveling within the wheel lines, causing water to become entrapped in the worn asphalt.</p> <p>There is a light accumulation of debris along each shoulder.</p>
515	<p>FX – Beam ends and bearings have surface corrosion with no significant section loss.</p>
859	<p>PX – The soffit is spalled with exposed reinforcing along the full length of the expansion joint at Pier 1 and along the joint in the exterior bays at Pier 2.</p> <p>The soffit has areas of dense map cracking with efflorescence throughout.</p> <p>The soffit has plywood forms beneath full-depth deck repairs in the exterior bays. The soffit around these patches is typically discolored with efflorescence and rust staining.</p>
865	<p>FX – Beam ends typically have surface and minor laminar corrosion along the top flange and pack rust between the deck and top flange.</p> <p>FX – The webs of the exterior beams are typically bowed up to 1/4-in at each abutment due to pack rust between the webs and end diaphragms.</p> <p>FX – The end of Beam 1 at the West Abutment has laminar corrosion along the web and both top and bottom flanges past the bearings with painted over section loss up to 1/8-in deep. There are isolated areas of active corrosion within this area.</p>
909	<p>PX – The fixed joint at each abutment typically has intermittent loss of adhesion. The fixed joint at the West Abutment has 7-ft of adhesion loss in the westbound lane.</p> <p>PX – There are areas of deck repair along the full length of the fixed joints; these repairs typically have cracking transverse to the joint.</p>
957	<p>See elements 311 and 865</p>
958	<p>See element 12</p>
960	<p>The misalignment of the beam ends and parapets at each pier may be an indication of settlement/rotation of the abutments.</p>
963	<p>See elements 311, 313 and 865</p>
966	<p>See element 968</p>
968	<p>PX - Erosion exists at both abutments exposing 4 piles at the east abutment and 1 pile at the west abutment.</p>
969	<p>FX – Beam ends at Pier 1 are misaligned laterally up to 1 1/4-in. See element 865</p>
973	<p>PX – Beam ends at the piers are typically within 1/16-in of being in contact at 80° F. At Pier 2, the Beam 5 ends are in contact.</p> <p>PX – The welded bearing stiffener plates at each beam end are typically 2-in to 3 3/4-in beyond the point of bearing (in expansion), at the time of inspection there was no web distortion in the bearing zone of beam ends above the roller bearings.</p> <p>See element 865</p>