



Latitude:35.33691, Longitude:-94.39094

Route:45 Section:02 Log:3.74

Arnold Road ID:65x45x2xA, Arnold Log mile:3.72

District 04, 131 - Sebastian County

Owner: 1 - State Highway Agency

Inspection Direction: 2 - S to N

Bridge Posting Information

41 - Structure Open/Posted/Closed: A - Open, no restriction

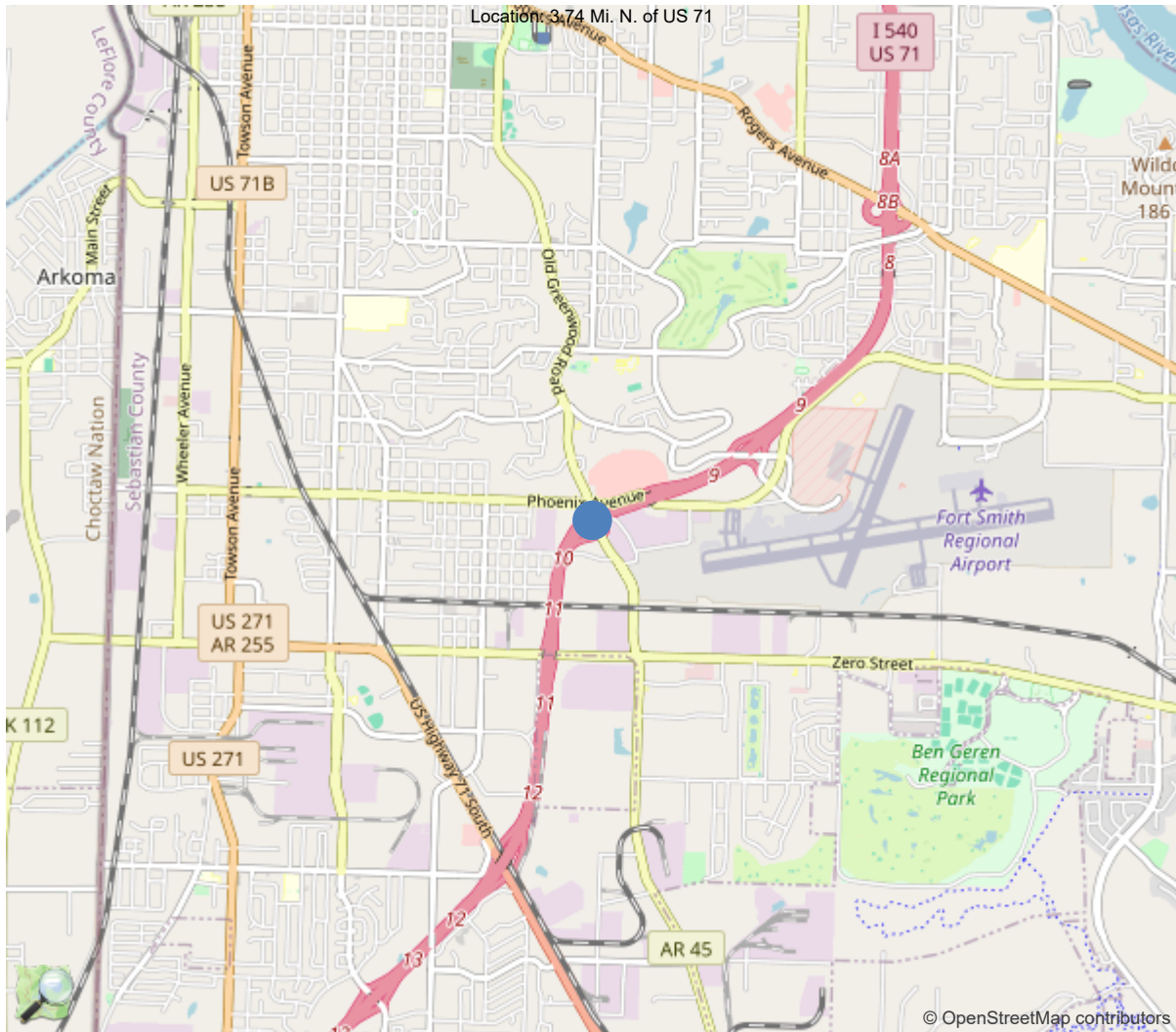
70 - Bridge Posting: 5 - Equal to or above legal loads

Legal Load	Calculated Capacity	Beginning of Bridge Sign Current Value	End of Bridge Sign Current Value
Code 4 (22 Tons)	40		
Code 9 (31 Tons)	50		
Code 5 (40 Tons)	60		

If calculated Capacity is less than the Legal Load Listed, the Bridge Legally Requires Posting Signs to be installed by the Bridge Owner



30"x36" AR



35.33691, -94.39094



Asset #07176(Routine)

S.H. 45 - Sec. 2 over I-540 Sebastian Co.

Location: 3.74 Mi. N. of US 71

Team Lead: Bob McEntyre Inspection Date: 11/25/2024

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	07176
(5) Inventory Route	1
(2) Highway Agency District	04 - District 04
(3) County Code	131 - Sebastian County
(4) Place Code	24550
(6) Features Intersected	I-540 Sebastian Co.
(7) Facility Carried	S.H. 45 - Sec. 2
(9) Location	3.74 Mi. N. of US 71
(11) Mile Point	3.74 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000000
(16) Latitude	35.33691
(17) Longitude	-94.390938
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	42
Material	4 - Steel continuous
Type	2 - Stringer/Multi-beam or girder
(44) Approach Structure Type	00
Material	0 - Other
Type	0 - Other
(45) No. of Spans in Main Unit	2
(46) No. of Approach Spans	0
(107) Deck Structure Type	1 - Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	0 - None (no additional concrete thickne
Type of Membrane	0 - None
Type of Deck Protection	1 - Epoxy Coated Reinforcing
AGE AND SERVICE	
(27) Year Built	2012
(106) Year Reconstructed	0
(42) Type of Service	51
On	5 - Highway-pedestrian
Under	1 - Highway, with or without pedestrian
(28) Lane	
On	5
Under	4
(29) Average Daily Traffic	18000
(30) Year of ADT	2018
(109) Truck ADT	6 %
(19) Bypass, Detour Length	2 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	102.5 ft
(49) Structure Length	188 ft
(50) Curb or Sidewalk Width	
Left	6.5 ft
Right	12 ft
(51) Bridge Roadway Width Curb to Curb	61 ft
(52) Deck Width Out to Out	83.6 ft
(32) Approach Roadway Width (W/Shoulders)	58.1 ft
(33) Bridge Median	0 - No median
(34) Skew	8 Deg
(35) Structure Flared	0 - No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	61 ft
(53) Min Vert Clear Over Bridge Rdwy	99.9 ft
(54) Min Vert Underclear	16.5 ft
Ref:	
(55) Min Lat Underclear RT	35.6 ft
Ref:	
(56) Min Lat Underclear LT	6.6 ft
NAVIGATION DATA	
(38) Navigation Control	N - Not applicable, no waterwa
(111) Pier Protection	5 - None present but re-evalua
(39) Navigation Vertical Clearance	0 ft
(116) Vert-Lift Bridge Nav Min Vert Clear	0 ft
(40) Navigation Horizontal Clearance	0 ft

CLASSIFICATION	
(112) NBIS Bridge Length	Y
(104) Highway System	0
(26) Functional Class	16 - Urban Minor Arterial
(100) Defense Highway	0 - The inventory route is not
(101) Parallel Structure	N - No parallel structure exis
(102) Direction of Traffic	2 - way traffic
(103) Temporary Structure	
(105) Federal Lands Highways	0 - N/A
(110) Designated National Network	0 - The inventory route is not
(20) Toll	3 - On free road. The structu
(21) Maintain	1 - State Highway Agency
(22) Owner	1 - State Highway Agency
(37) Historical Significance	5 - Bridge is not eligible for
CONDITION	
(58) Deck	7
(59) Superstructure	8
(60) Substructure	8
(61) Channel & Channel Protection	N
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	A - HL93
(63) Operating Rating Method	3
(64) Operating Rating	
Type	3 - Load and Resistance Factor(LRFR)
Rating	43
(65) Inventory Rating Method	3 - Load and Resistance Factor
(66) Inventory Rating	
Type	
Rating	33
(70) Bridge Posting	5 - Equal to or above legal loads
(41) Structure Open/Posted/Closed	A - Open, no restriction
APPRAISAL	
(67) Structural Evaluation	
(68) Deck Geometry	6
(69) Clearances, Vertical/Horizontal	3
(71) Waterway Adequacy	N
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	1 - Inspected feature meets current
(36B) Transitions	1 - Inspected feature meets current
(36C) Approach Guardrail	0 - Inspected feature does not meet
(36D) Approach Guardrail Ends	0 - Inspected feature does not meet
(113) Scour Critical Bridges	N - Bridge not over waterway.
PROPOSED IMPROVEMENTS	
(75) Type of Work	
(76) Length of Structure Improvement	ft
(94) Bridge Improvement Cost	\$
(95) Roadway Improvement Cost	\$
(96) Total Project Cost	\$
(97) Year of Improvement Cost Estimate	
(114) Future ADT	18000
(115) Year of Future ADT	2030

INSPECTIONS *			
(90) Inspection Date	11/25/2024		
(91) Frequency	24		
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No		
B: Underwater Inspection	No		
C: Other Special Inspection	No		
* The inspection date and frequency information in this box contains the current NBI date and frequency information. Please refer to the report header for the date this inspection was conducted.			

**General Observation**

11/25/2024 - RSM & TTN: Routine Inspection conducted this date. See element notes for documentation.

Inspection Procedure: Inspection performed with Binoculars from the roadway below.

Inspection Equipment: Range Poles, Binoculars, Flashlights.

7-18-2023 - CLL - LiDAR Collection of URC. No Change.

11/01/2022 - JCJ & TJL - Bent # 1, South Mechanically Stabilized Earth Wall (MSE) still appears misaligned and bulging. Bent # 3 MSE wall with the settled bottom panel under Beam # 7 has had the gap filled with backer rod and covered with a silicone type product as a type of repair. No evidence of further settlement to this panel. There are no apparent changes or leakage of fill material since the last inspection.

58 - Deck (7 - GOOD CONDITION - some minor problems.)

The deck is overall good condition. The driving surface of the deck has sealable transverse and longitudinal cracking in all spans. The epoxy type sealant previously used to seal the transverse cracks appears to be failing in most locations. The deck has a few pop outs due to shale inclusion in the concrete from the construction process. The undersurface of the deck overhangs have transverse cracking with light efflorescence.

59 - Superstructure (8 - VERY GOOD CONDITION - no problems noted.)

11/25/2024 - RSM - The superstructure is in very good condition with no apparent noteworthy deficiencies.

60 - Substructure (8 - VERY GOOD CONDITION - no problems noted.)

11/25/2024 - RSM - The substructure is in very good condition. The top of the backwall's at both abutments # 1 have transverse cracks. The cracks propagate down the vertical face of backwalls with efflorescence visible in some locations. MSE walls have isolated areas with minor misalignment of the pre-cast units with minor spillage of granular material.

A-15 - Late Reason (N/A)

11/25/2024 - RSM - Routine Inspection conducted late due to heavy workload.

A-54 - Sealable Deck Cracks (Y)

The driving surface of the deck has sealable transverse and longitudinal cracking. The epoxy based sealant previously used to seal the transverse cracks has failed in most locations.

A-56 - Joint Cleaning/Flushing Needed (Y)

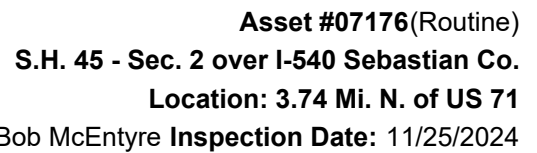
Expansion joint assemblies have dirt and debris accumulation.

A-59 - Joint Repair Needed (Y)

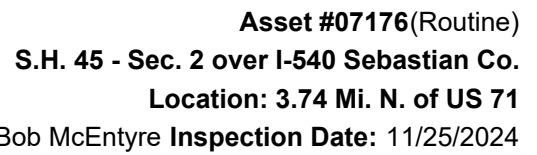
Few isolated areas of tears/ rips in the sealant allowing water to leak onto the substructure and superstructure.

A-61 - Polymer Overlay Advised (Y)

The driving surface of the deck has sealable cracking and appears to be a good candidate for a polymer wearing surface based on the condition of the deck at time of inspection.



ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	15560	10391	5169	0	0
1120	Efflorescence/Rust Staining	SF	28	0	28	0	0
1130	Cracking (RC and Other)	SF	5141	0	5141	0	0
<p>(12) There is debris accumulation on the Left sidewalk. The driving surface of the deck has sealable transverse and longitudinal cracking in all spans. The epoxy type sealant previously used to seal the transverse cracks appears to be failing in most locations. The undersurface of the deck overhangs have transverse cracking with light efflorescence. The deck has a few pop outs due to shale inclusion in the concrete from the construction process.</p>							
107	Steel Open Girder/Beam	LF	1860	1860	0	0	0
515	Steel Protective Coating	SF	20150	20149	1	0	0
3420	Peeling/Bubbling/Cracking	LF	1	0	1	0	0
<p>(107) Paint system appears to be functioning as intended. Span # 1 superstructure paint system. No apparent problems during this inspection. Span # 2, Girder # 5, Near Bent # 3 has a 1' area with paint peeling on the bottom flange. There are no visible cracks apparent in the steel beams during this inspection.</p>							
205	Reinforced Concrete Column	EA	5	5	0	0	0
(205) Columns have no apparent noteworthy deficiencies during this inspection.							
215	Reinforced Concrete Abutment	LF	169	119	50	0	0
1120	Efflorescence/Rust Staining	LF	10	0	10	0	0
1130	Cracking (RC and Other)	LF	40	0	40	0	0
<p>(215) The top of the backwall's at abutments # 1 and 2 have transverse cracks. Abutment # 1 backwall has vertical hairline cracks with light efflorescence in the face of the backwalls. Abutment # 2 has a few isolated vertical hairline cracks at the steps of the abutment stem. Mechanically Stabilized Earth Wall / MSE Wall: Abutment # 1 (South) MSE wall: Abutment # 1 MSE wall still appears misaligned and bulging on the right side under girder # 10. Grout under the MSE wall cap under girder # 10 indicates no apparent recent movement in the MSE wall where it is misaligned from the construction process. No evidence of further settlement to this panel. Abutment # 1 MSE Wall has minor leakage of granular material at base of wall under Girder # 7. Abutment # 2 (North) MSE wall: Abutment # 2 MSE wall with the settled bottom panel under beam # 7 has had the gap filled with backer rod and covered with a silicone type product as a type of repair. Abutment # 2 MSE wall under girder # 6 has minor leakage of granular fill visible at the base of the wall. The mse wall panel adjacent the the joint filled with silicone (West Side) has minor fill material leakage throughout the joint.</p>							
234	Reinforced Concrete Pier Cap	LF	85	64	21	0	0
1130	Cracking (RC and Other)	LF	21	0	21	0	0
(234) Bent # 2 cap undersurface has several transverse hairline cracks.							



ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
301	Pourable Joint Seal	LF	169	164	5	0	0
2310	Leakage	LF	5	0	5	0	0
(301) Few isolated areas where the expansion joint seals are leaking.							
310	Elastomeric Bearing	EA	30	10	20	0	0
2220	Alignment	EA	20	0	20	0	0
515	Steel Protective Coating	SF	81	81	0	0	0
(310) The bearings have minor expansion of the elastomeric bearings visible at both abutments. Elastomeric bearings over Abutment # 2 are expanded more than the bearings over Abutment # 1.							
330	Metal Bridge Railing	LF	558	558	0	0	0
515	Steel Protective Coating	SF	188	188	0	0	0
(330) The Right side of the structure is for pedestrian traffic with metal bicycle railing. No apparent noteworthy deficiencies to the metal railing on top of the Right parapet or the bicycle railing adjacent to the pedestrian sidewalk. No apparent noteworthy deficiencies to the metal railing on top of the Left parapet.							
331	Reinforced Concrete Bridge Railing	LF	372	301	71	0	0
1130	Cracking (RC and Other)	LF	71	0	71	0	0
(331) Right Bridge Railing: Top of concrete bridge railing has transverse cracks at random locations. Left bridge Railing, Span # 2: Insignificant scrape marks near abutment # 2 that appear to be from traffic impact. Left bridge railing has numerous vertical cracks that correspond with the sawn joints and other random locations.							



Elevation looking North.



Inventory 1



Right pedestrian sidewalk: General view.



Span # 1, Right Lane: Transverse cracks.



Span # 1, Right Lane: Transverse cracks.



Span # 2, Over Bent # 2: Transverse crack.



Span # 2, Over Bent # 2: Transverse crack.



The driving surface of the deck has sealable cracking and appears to be a good candidate for a polymer wearing surface based on the condition of the deck at time of inspection.



12/02/2024

Span # 2 driving surface. General view.



11/25/2024

Span # 1 Undersurface. General view.



11/25/2024

Span # 2 splice connections. General view.



11/25/2024

Span # 2 Girders: General view.



Span # 1 splice connections. General view.



Span # 1 Girders: General view.



Bent # 2 Columns: No apparent noteworthy deficiencies.



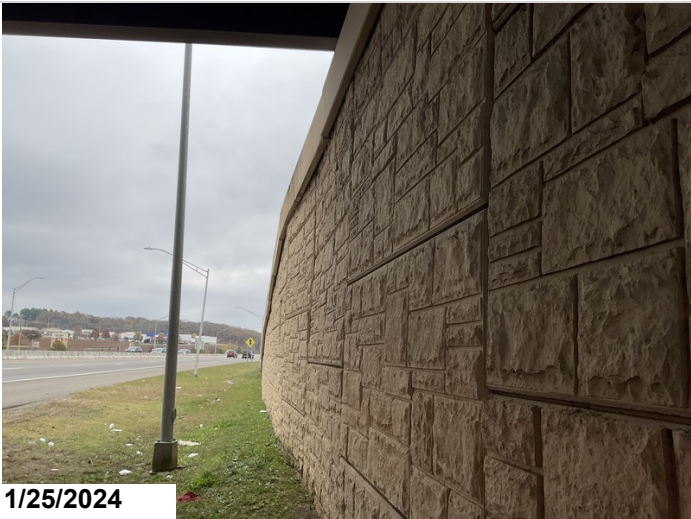
Abutment # 2: Transverse cracks in top of backwall.



Abutment # 2 bearing area: General view.



Abutment # 2 MSE Wall. General view.



Abutment # 1 MSE wall still appears misaligned and bulging on the right side under girder # 10.



Abutment # 1 Backwall, Bay # 2: Verticrack with efflorescence. 1LF CS2.



Abutment # 1, General view.



Abutment # 1 MSE wall. General view.



Abutment # 1 MSE wall still appears misaligned and bulging.



Bent # 2 Cap. General view.



Abutment # 1 Expansion Joint: General view.



Abutment # 2 Expansion Joint. General view.



Abutment # 2 Expansion Joint: Dirt and debris in assembly.



Abutment # 2 Expansion Joint: Dirt and debris in assembly.



11/25/2024

Abutment # 2 Expansion Joint, Right Lane: Full depth rip/puncture. 1LF CS4.



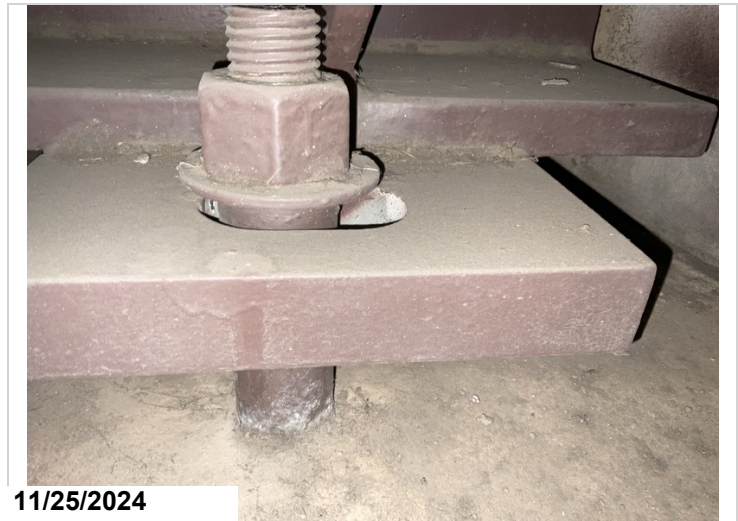
12/02/2024

Few isolated areas of tears/ rips in the sealant allowing water to leak onto the substructure and superstructure.



11/25/2024

Abutment # 2 bearings: General view.



11/25/2024

Elastomeric bearings over Abutment # 2 are expanded more than the bearings over Abutment # 1.



Right metal bridge railing. General view.



Right pedestrian bicycle railing.



Span # 2, Left Railing: Vertical crack. 1LF CS2.

Maintenance Needs

Date Reported: 09/17/2020

Priority: C - Important

Type of Work: Repair (General)

Status: Monitor

Component: Substructure

Deficiency Description

Abutment MSE Walls -

The MSE walls have minor fill material leakage through the vertical construction joint near the base of the wall. Abutment # 1 MSE Wall has minor leakage of granular material at base of wall under Girder # 7. This leakage at MSE wall at abutment # 2 is near centerline of abutment and adjacent to the panel (West Side) that had fill material leakage in the past, the previous leaking joint was filled with backer rod and covered with silicone as a repair, the repair is still holding.

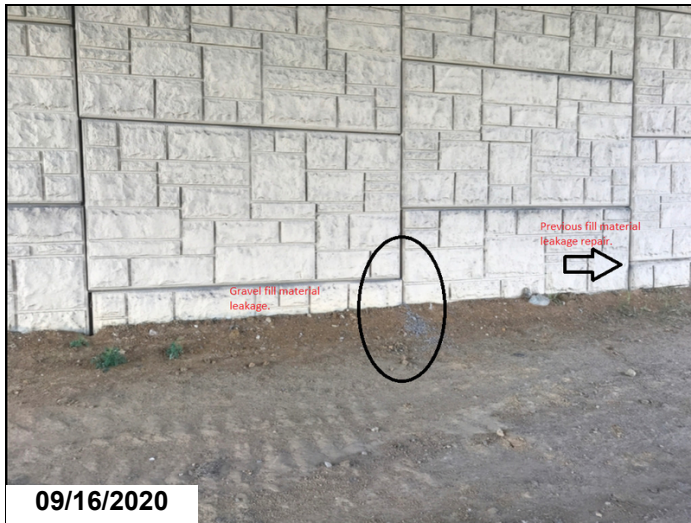
Remarks



North MSE wall under Girder # 6 has minor leakage of granular fill visible at the base of the wall.



North MSE wall under Beam # 6 has minor leakage of granular fill visible at the base of the wall.



Abutment # 2 MSE wall with minor gravel leakage through the joint.

Routine Maintenance

Check Box Maintenance Items

Type of Maintenance	Is recommended?
A-54 - Sealable Deck Cracks	Yes
A-55 - Deck Washing Needed	No
A-56 - Joint Cleaning/Flushing Needed	Yes
A-57 - Beam End and Bearing Paint Needed	No
A-58 - Cap Cleaning/Flushing Needed	No
A-59 - Joint Repair Needed	Yes
A-60 - Full Beam Painting Needed	No
A-61 - Polymer Overlay Advised	Yes
A-62 - Hydro and LMC Advised	No
A-63 - Missing/Incorrect Log Mile Signage	No
A-64 - Vegetation Removal Requested	No

A-54 - Sealable Deck Cracks (Yes)

The driving surface of the deck has sealable transverse and longitudinal cracking. The epoxy based sealant previously used to seal the transverse cracks has failed in most locations.



Span # 1, Right Lane: Transverse cracks.



Span # 2, Over Bent # 2: Transverse crack.

A-55 - Deck Washing Needed (No)

A-56 - Joint Cleaning/Flushing Needed (Yes)

Expansion joint assemblies have dirt and debris accumulation.



Abutment # 2 Expansion Joint: Dirt and debris in assembly.

A-57 - Girder End and Bearing Painting Needed (No)

A-58 - Cap Cleaning/Flushing Needed (No)

A-59 - Joint Repair Needed (Yes)

Few isolated areas of tears/ rips in the sealant allowing water to leak onto the substructure and superstructure.



Few isolated areas of tears/ rips in the sealant allowing water to leak onto the substructure and superstructure.

A-60 - Full Girder Painting Needed (No)

A-61 - Polymer Overlay Advised (Yes)

The driving surface of the deck has sealable cracking and appears to be a good candidate for a polymer wearing surface based on the condition of the deck at time of inspection.



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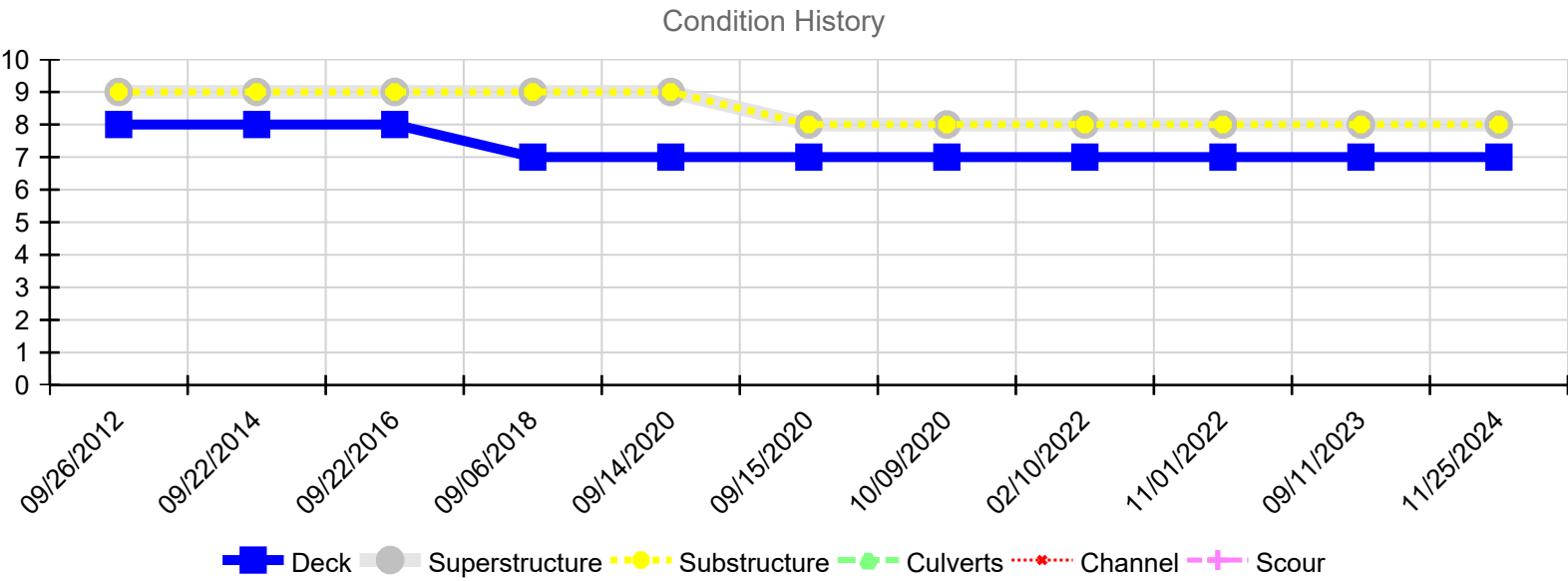
Location: 3.74 Mi. N. of US 71

Team Lead: Bob McEntyre Inspection Date: 11/25/2024

A-62 - Hydro and LMC Advised (No)

A-63 - Missing/Incorrect Log Mile Signage (No)

A-64 - Vegetation Removal Requested (No)



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
11/25/2024	7	8	8	N	N	N
09/11/2023	7	8	8	N	N	N
11/01/2022	7	8	8	N	N	N
02/10/2022	7	8	8	N	N	N
10/09/2020	7	8	8	N	N	N
09/15/2020	7	8	8	N	N	N
09/14/2020	7	9	9	N	N	N
09/06/2018	7	9	9	N	N	N
09/22/2016	8	9	9	N	N	N
09/22/2014	8	9	9	N	N	N
09/26/2012	8	9	9	N	N	N