Asset #05909(Routine)
SH 112-Wash Co. over Brush Creek
Location: 0.5 MI SO BENTON CO LN
Team Lead: Eric West **Inspection Date:** 09/06/2023

Latitude:36.20464, Longitude:-94.23525

Route:112 Section:01 Log:10.328

Arnold Road ID:72x112x1xA, Arnold Log mile:10.294

District 04, 143 - Washington County

Owner: 1 - State Highway Agency

Inspection Direction: 2 - S to N

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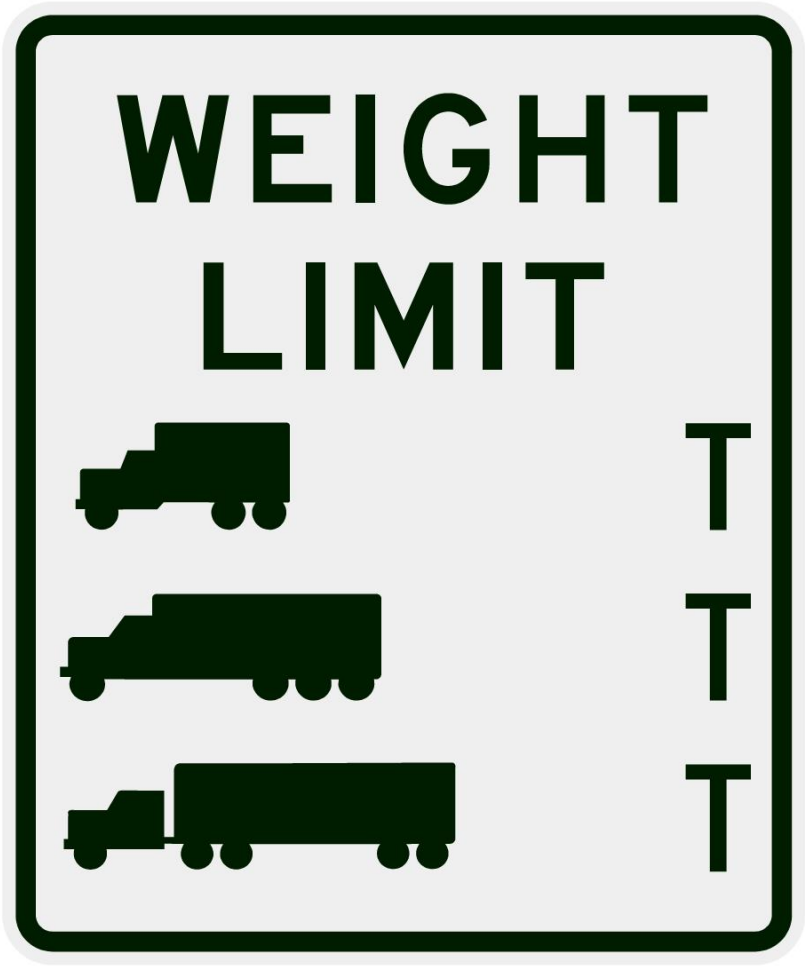
Bridge Posting Information

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)	48		
Code 5 (40 Tons)	56		

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

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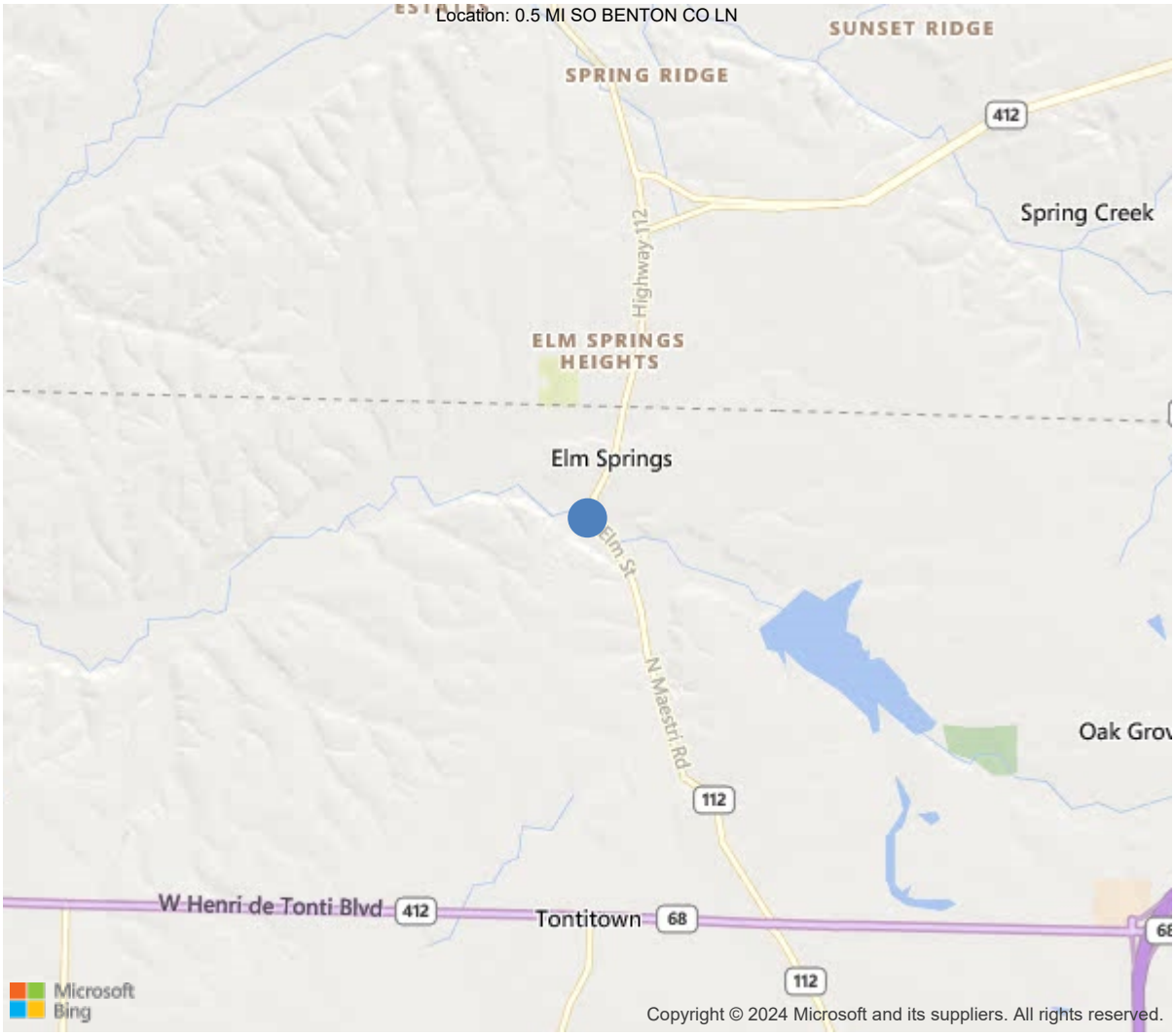

36.20464, -94.23525

Asset #05909(Routine)
SH 112-Wash Co. over Brush Creek
Location: 0.5 MI SO BENTON CO LN
Team Lead: Eric West **Inspection Date:** 09/06/2023

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	05909
(5) Inventory Route	1
(2) Highway Agency District	04 - District 04
(3) County Code	143 - Washington County
(4) Place Code	21430
(6) Features Intersected	Brush Creek
(7) Facility Carried	SH 112-Wash Co.
(9) Location	0.5 MI SO BENTON CO LN
(11) Mile Point	10.328 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000000
(16) Latitude	36.20464
(17) Longitude	-94.23525
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	11
Material	1 - Concrete
Type	1 - Slab
(44) Approach Structure Type	00
Material	0 - Other
Type	0 - Other
(45) No. of Spans in Main Unit	5
(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	0 - None
AGE AND SERVICE	
(27) Year Built	1984
(106) Year Reconstructed	0
(42) Type of Service	15
On	1 - Highway
Under	5 - Waterway
(28) Lane	
On	2
Under	0
(29) Average Daily Traffic	11000
(30) Year of ADT	2018
(109) Truck ADT	1 %
(19) Bypass, Detour Length	8 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	35 ft
(49) Structure Length	175 ft
(50) Curb or Sidewalk Width	
Left	0 ft
Right	0 ft
(51) Bridge Roadway Width Curb to Curb	32.2 ft
(52) Deck Width Out to Out	34.8 ft
(32) Approach Roadway Width (W/Shoulders)	32.2 ft
(33) Bridge Median	0 - No median
(34) Skew	45 Deg
(35) Structure Flared	0 - No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	33.1 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	0 ft
Ref:	
(55) Min Lat Underclear RT	0 ft
Ref:	
(56) Min Lat Underclear LT	0 ft
NAVIGATION DATA	
(38) Navigation Control	0 - No navigation control on w
(111) Pier Protection	1 - Navigation protection not
(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	5
(59) Superstructure	5
(60) Substructure	5
(61) Channel & Channel Protection	7
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	5 - MS 18 / HS 20
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1 - Load Factor(LF)
Rating	60
(65) Inventory Rating Method	1 - Load Factor(LF)
(66) Inventory Rating	
Type	
Rating	36
(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	4
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	6
(72) Approach Roadway Alignment	7
(36A) Bridge Railings	1 - Inspected feature meets current
(36B) Transitions	1 - Inspected feature meets current
(36C) Approach Guardrail	1 - Inspected feature meets current
(36D) Approach Guardrail Ends	0 - Inspected feature does not meet
(113) Scour Critical Bridges	8 - Bridge foundations determined t
PROPOSED IMPROVEMENTS	
(75) Type of Work	
(76) Length of Structure Improvement	0 ft
(94) Bridge Improvement Cost	$ 0
(95) Roadway Improvement Cost	$ 0
(96) Total Project Cost	$ 0
(97) Year of Improvement Cost Estimate	
(114) Future ADT	8158
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date			09/06/2023
(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.

Asset #05909(Routine)
SH 112-Wash Co. over Brush Creek
Location: 0.5 MI SO BENTON CO LN
Team Lead: Eric West **Inspection Date:** 09/06/2023

General Observation

09/06/2023 - EJW & JPW - Routine Inspection conducted on this date.

08/31/2021 - RSM & SPC: Routine and Underwater Type II inspections conducted this date. See element notes for documentation. Channel sounded / profiled this inspection. See Microstation sketch linked in “Files” tab for sounding measurements.

08/06/2019 - TJL - Elements were plan verified on this date.

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61 - Channel/Channel Protection (7 - Bank protection is in need of minor repairs. River control devices and embankment protection have a little minor damage. Banks and/or channel have minor amounts of drift.)
08/31/2021 - RSM & SPC: Underwater Type II Inspection: wading and probing in low water conditions revealed that the top of bent # 3, column # 2 footing is exposed. No apparent undermining or scour problems at this inspection.

A-15 - Late Reason (Optimize Schedule)

09/06/2023 - EJW - Structure inspected late due to heavy work load.

A-55 - Deck Washing Needed (Y)

R.C. Slab Span-
The slab shoulders and the approach roadway shoulders have significant dirt and debris accumulation.

A-59 - Joint Repair Needed (Y)

Expansion Joints -
The expansion joints have debris impaction with adhesion failure and deteriorated joint sealant. The joints leak water onto the substructure.

Asset #05909(Routine)
SH 112-Wash Co. over Brush Creek
Location: 0.5 MI SO BENTON CO LN
Team Lead: Eric West **Inspection Date:** 09/06/2023

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
38	RC Slab	SF	6096	2544	3452	100	0
1080	Delamination/Spall/Patched Area	SF	65	0	61	4	0
1090	Exposed Rebar	SF	107	0	11	96	0
1130	Cracking (RC and Other)	SF	230	0	230	0	0
1190	Abrasion/Wear (PSC/RC)	SF	3150	0	3150	0	0
(38) Slab Driving Surface: -Utilizing a chain drag revealed that the left and right shoulder has a few isolated delaminated areas. -The right lane of span # 2 over bent # 3 has a 3' long cracked/delaminated area along the expansion joint that is beginning to spall. -The driving surface of the deck has light abrasion typical. -The left lane of span # 3 has delaminated areas in the wheel path with two 15" x 6" spalls that exposed reinforcing steel. Slab Undersurface: -Delaminated areas and concrete spalling with exposed reinforcing steel in the undersurface along the right edge of the slab adjacent to the drip groove. The exposed primary reinforcing steel has up to approximately 25% section loss. The exposed reinforcing steel has numerous areas that have debonded from the slab.							
205	Reinforced Concrete Column	EA	12	5	7	0	0
1190	Abrasion/Wear (PSC/RC)	EA	7	0	7	0	0
(205) -Light abrasion at the base of the columns.							
215	Reinforced Concrete Abutment	LF	100	96	2	2	0
1080	Delamination/Spall/Patched Area	LF	2	0	2	0	0
1090	Exposed Rebar	LF	2	0	0	2	0
(215) -Abutment # 1 has two 10" areas with shallow spalls that have exposed reinforcing steel near the center of the structure. -Abutment # 2 has a shallow spall at the right key way.							
220	Reinforced Concrete Pile Cap/Footing	LF	5	5	0	0	0
(220) -All footings have cover at this inspection.							
234	Reinforced Concrete Pier Cap	LF	208	178	20	10	0
1080	Delamination/Spall/Patched Area	LF	20	0	17	3	0
1090	Exposed Rebar	LF	5	0	0	5	0
1130	Cracking (RC and Other)	LF	5	0	3	2	0
(234) -Bent # 2 keyways have spalling with exposed reinforcing steel along with water leakage through deck joint. Reinforcing steel has up to initial section loss. -Bent # 2 cap undersurface has small shallow delaminated areas -Bent # 3 backface along the top of the cap has a 4' long concrete delamination in bay # 2 adjacent to column # 3 with efflorescence buildup. -Bent # 3 aheadface has 2 delaminated areas at the key ways that are 4' long in both locations. -Bent # 3 has a 2' spall with exposed reinforcing steel in the right end of cap. -Bent # 3 has a 30" delaminated area / spall with exposed reinforcing steel in the undersurface of the cap adjacent to column # 2 and a 10" delaminated area adjacent to column # 2 in bay # 2. -Bent # 4 Rt backface has light map cracking over column # 3.							

Asset #05909(Routine)
SH 112-Wash Co. over Brush Creek
Location: 0.5 MI SO BENTON CO LN
Team Lead: Eric West **Inspection Date:** 09/06/2023

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
-Bent # 5 cap ahead face in bay # 1 has two 12" spalls with exposed reinforcing steel and one 10" spall with no exposed reinforcing steel. The right side of ahead face in bay 2 has one 12" delaminated area. -Bent # 5 backface has shallow spalling adjacent to the center key way. -Bent # 5 cap undersurface in bay 2 has an 18" delaminated area adjacent to column # 3.							
301	Pourable Joint Seal	LF	200	0	151	49	0
2310	Leakage	LF	151	0	151	0	0
2350	Debris Impaction	LF	49	0	0	49	0
(301) -There is debris impacted in the joints over bents # 1 through # 6 that is causing joint material deterioration and leakage.							
331	Reinforced Concrete Bridge Railing	LF	350	345	5	0	0
1080	Delamination/Spall/Patched Area	LF	5	0	5	0	0
(331) -Minor shallow spalling at the base of the bridge rails in a few locations.							

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Elevation

Roadway

Typical driving surface.

Span # 1 typical undersurface of the slab.

Span # 2 typical undersurface of the slab.

Span # 3 typical undersurface of the slab.

Span # 4 typical undersurface of the slab.

Span # 5 typical undersurface of the slab.

Asset #05909(Routine)
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Span # 2 Rt spalling with exposed reinforcing steel.

Span # 4 Rt spalling with exposed reinforcing steel.

Span # 5 Rt spalling with exposed reinforcing steel.

Span # 3 Lt lane spalling and delaminating concrete.

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Bent # 3 Span # 2 deck spalling.

Abutment # 1 spalling with exposed reinforcing steel near the centerline.

Abutment # 2 typical.

Bent # 3 has a 2' spall with exposed reinforcing steel in the right end of cap.

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09/06/2023

Bent # 3 backface along the top of the cap has a 4' long concrete delamination in bay # 2 adjacent to column # 3 with efflorescence buildup.

09/06/2023

Bent # 3 has a 30" delaminated area / spall with exposed reinforcing steel in the undersurface of the cap adjacent to column # 2 and a 10" delaminated area adjacent to column # 2 in bay # 2.

09/06/2023

Bent # 5 aheadface spalling with exposed reinforcing steel.

09/06/2023

Bent # 5 typical joint seal.

Asset #05909(Routine)
SH 112-Wash Co. over Brush Creek
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Bent # 4 typical joint seal.

Bent # 3 typical joint seal.

Bent # 2 typical joint seal.

Approach gutters restricted by dirt and debris.

Asset #05909(Routine)
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09/07/2023

Bent # 5 typical joint seal.

Asset #05909(Routine)
SH 112-Wash Co. over Brush Creek
Location: 0.5 MI SO BENTON CO LN
Team Lead: Eric West **Inspection Date:** 09/06/2023

Maintenance Needs

Date Reported: 09/14/2011

Priority: C - Important
Status: Monitor
Type of Work: Repair (General)
Component: Element

Deficiency Description

Slab Undersurface -
The undersurface of the slab on the right side of multiple spans have large spalls along the lower edge of the slab that exposed primary reinforcing steel. The exposed reinforcing steel has active corrosion, measurable section loss and has lost bond with the slab in numerous locations.

Remarks

09/06/2023 - EJW - Updated deficiency description on this date to reflect current conditions.

Span # 2 Rt spalling with exposed reinforcing steel.

Span # 4 Rt spalling with exposed reinforcing steel.

Span # 5-Spalling with exposed reinforcing steel.

Asset #05909(Routine)
SH 112-Wash Co. over Brush Creek
Location: 0.5 MI SO BENTON CO LN
Team Lead: Eric West **Inspection Date:** 09/06/2023

Maintenance Needs

Date Reported: 09/01/2021

Priority: C - Important
Status: Monitor
Type of Work: Repair (General)
Component: Element

Deficiency Description

Slab Driving Surface -
The left lane of span # 3 has delaminated areas in the wheel path with two 15” x 6” spalls that exposed reinforcing steel.

Remarks

Span # 3 Lt lane spalling and delaminating concrete.

The left lane of span # 3 has delaminated areas in the wheel path with two 15" x 6" spalls that exposed reinforcing steel.

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Maintenance Needs

Date Reported: 09/06/2023

Priority: C - Important
Status: Open
Type of Work: Channel Work/Drift Removal
Component: Channel

Deficiency Description

Channel-
Bents # 3 & 4 have minor drift accumulation.

Remarks

Channel-Bents # 3 & 4 have minor drift accumulation.

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Maintenance Needs

Date Reported: 09/14/2011

Priority: D- Routine

Status: Monitor

Type of Work: Repair (General)

Component: Substructure

Deficiency Description

Substructure -
Spalling with exposed reinforcing steel in the substructure caps.

Remarks

Bent # 3 has a 2' spall with exposed reinforcing steel in the right end of cap.

Bent # 5 aheadface spalling with exposed reinforcing steel.

Span # 5 side of Bent # 5-Spalling with exposed reinforcing steel.

Asset #05909(Routine)
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Maintenance Needs

Date Reported: 09/21/2015

Priority: D- Routine

Status: Monitor

Type of Work: Repair (General)

Component: Miscellaneous

Deficiency Description

Northeast Approach Guardrail -
The Northeast approach railing has light collision damage due to traffic impact.

Remarks

09/06/2023
The Northeast approach railing has light collision damage due to traffic impact.

01/01/2020
The Northeast approach railing has light collision damage due to traffic impact.

Routine Maintenance

Check Box Maintenance Items

Type of Maintenance	Is recommended?
A-54 - Sealable Deck Cracks	
A-55 - Deck Washing Needed	Yes
A-56 - Joint Cleaning/Flushing Needed	
A-57 - Beam End and Bearing Paint Needed	
A-58 - Cap Cleaning/Flushing Needed	
A-59 - Joint Repair Needed	Yes
A-60 - Full Beam Painting Needed	
A-61 - Polymer Overlay Advised	
A-62 - Hydro and LMC Advised	Yes
A-63 - Missing/Incorrect Log Mile Signage	
A-64 - Vegetation Removal Requested	

A-54 - Sealable Deck Cracks

A-55 - Deck Washing Needed (Yes)
R.C. Slab Span-
The slab shoulders and the approach roadway shoulders have significant dirt and debris accumulation.

Approach gutters restricted by dirt and debris.

A-56 - Joint Cleaning/Flushing Needed

A-57 - Beam End and Bearing Painting Needed

A-58 - Cap Cleaning/Flushing Needed

A-59 - Joint Repair Needed (Yes)
Expansion Joints -
The expansion joints have debris impaction with adhesion failure and deteriorated joint sealant. The joints leak water onto the substructure.

Bent # 5 typical joint seal.

A-60 - Full Beam Painting Needed

A-61 - Polymer Overlay Advised

A-62 - Hydro and LMC Advised (Yes)

A-63 - Missing/Incorrect Log Mile Signage

A-64 - Vegetation Removal Requested

Asset #05909(Routine)
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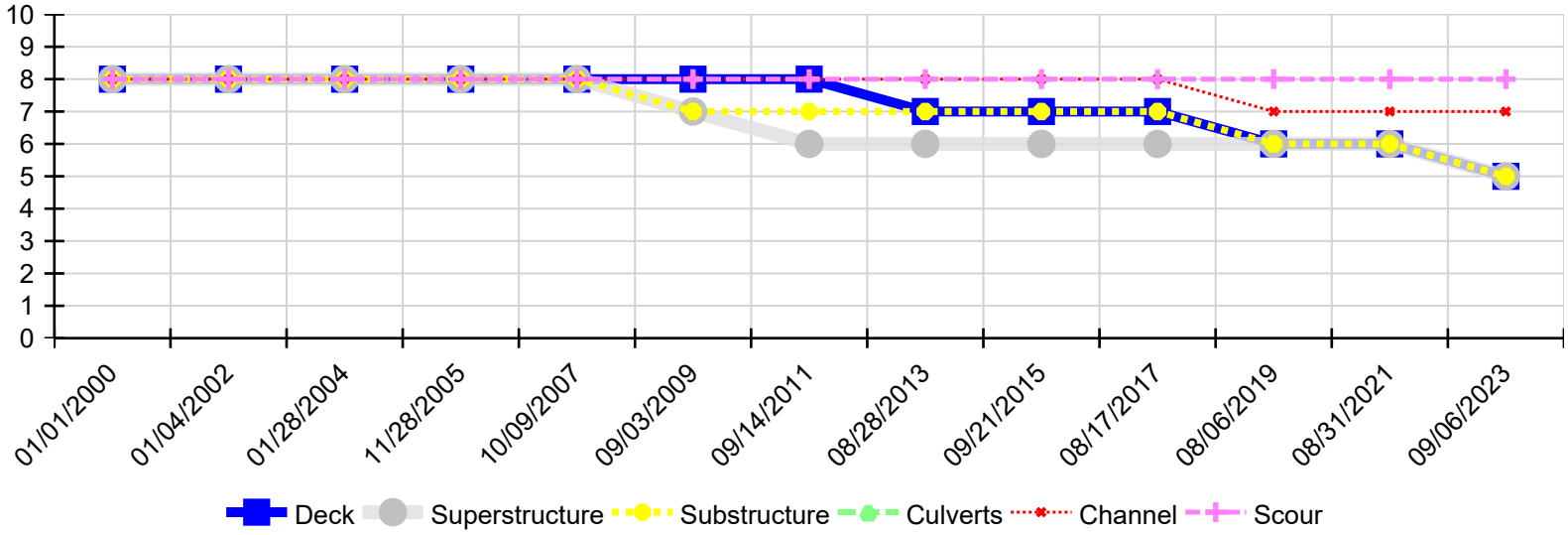
Condition History



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
09/06/2023	5	5	5	N	7	8
08/31/2021	6	6	6	N	7	8
08/06/2019	6	6	6	N	7	8
08/17/2017	7	6	7	N	8	8
09/21/2015	7	6	7	N	8	8
08/28/2013	7	6	7	N	8	8
09/14/2011	8	6	7	N	8	8
09/03/2009	8	7	7	N	8	8
10/09/2007	8	8	8	N	8	8
11/28/2005	8	8	8	N	8	8
01/28/2004	8	8	8	N	8	8
01/28/2004	8	8	8	N	8	8
01/28/2004	8	8	8	N	8	8
01/04/2002	8	8	8	N	8	8
01/01/2000	8	8	8	N	8	8