



Latitude:36.17203, Longitude:-94.52800

Route:59 Section:02 Log:0.12

Arnold Road ID:4x59x2xA, Arnold Log mile:0.118

District 09, 7 - Benton County

Owner: 1 - State Highway Agency

Inspection Direction: 1 - N to S

### Bridge Posting Information

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

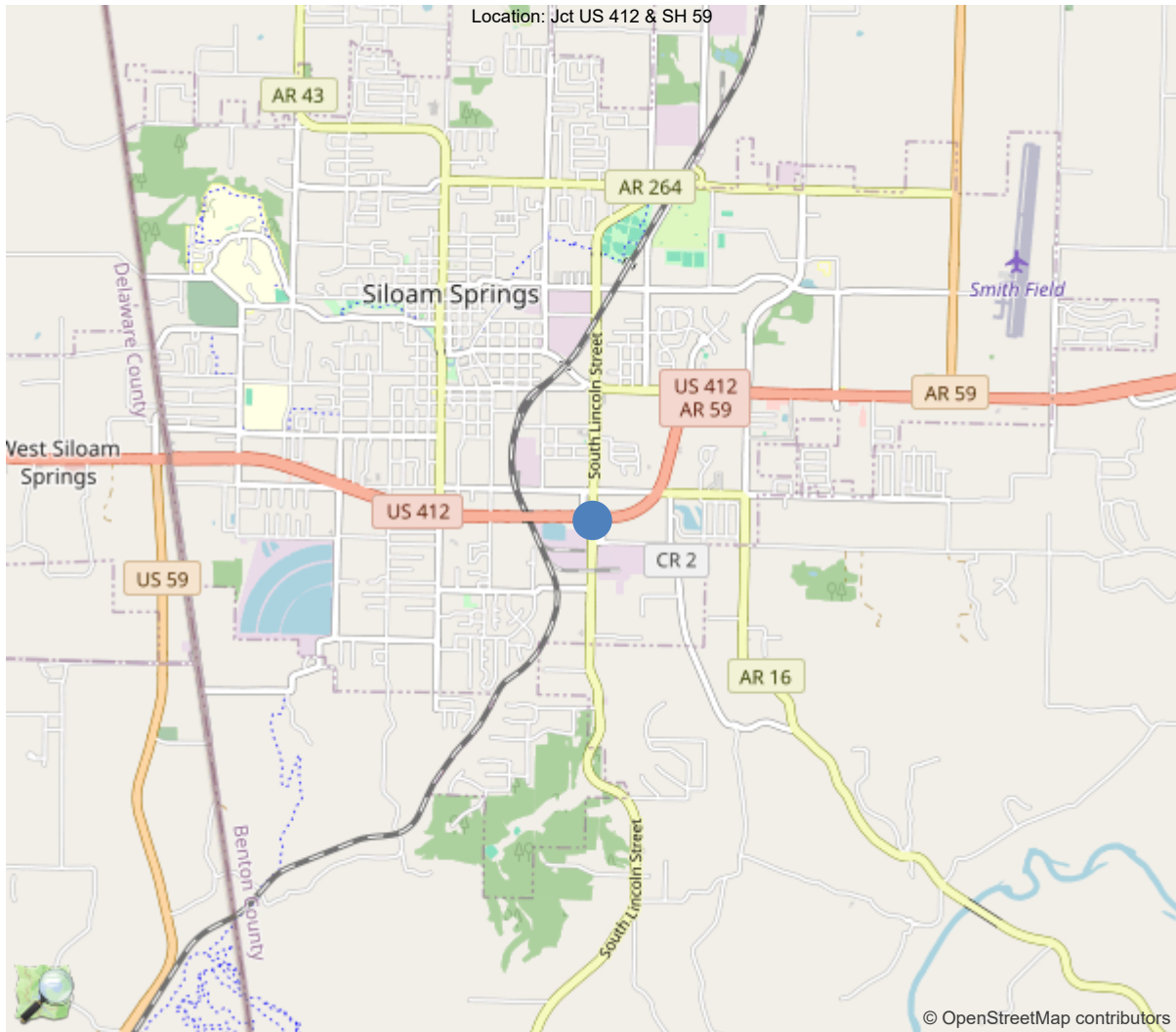
70 - Bridge Posting: 5 - Equal to or above legal loads

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)	55		

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



36.17203, -94.52800



Asset #03051(Routine)  
S.H.59 Benton 2 Co over U.S. 412-SEC 1

Location: Jct US 412 & SH 59

Team Lead: Nathan Rowland Inspection Date: 12/07/2023

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	03051
(5) Inventory Route	1
(2) Highway Agency District	09 - District 09
(3) County Code	7 - Benton County
(4) Place Code	64370
(6) Features Intersected	U.S. 412-SEC 1
(7) Facility Carried	S.H.59 Benton 2 Co
(9) Location	Jct US 412 & SH 59
(11) Mile Point	0.12 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000059020
(16) Latitude	36.172031
(17) Longitude	-94.528
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	32
Material	3 - Steel
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	3
(46) No. of Approach Spans	0
(107) Deck Structure Type	1 - Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	1 - Monolithic Concrete (concurrently pl
Type of Membrane	0 - None
Type of Deck Protection	0 - None
AGE AND SERVICE	
(27) Year Built	1960
(106) Year Reconstructed	0
(42) Type of Service	61
On	6 - Overpass structure at an interchange or s
Under	1 - Highway, with or without pedestrian
(28) Lane	
On	2
Under	5
(29) Average Daily Traffic	5677
(30) Year of ADT	2018
(109) Truck ADT	6 %
(19) Bypass, Detour Length	1 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	71 ft
(49) Structure Length	183 ft
(50) Curb or Sidewalk Width	
Left	1.5 ft
Right	1.5 ft
(51) Bridge Roadway Width Curb to Curb	25.9 ft
(52) Deck Width Out to Out	31.6 ft
(32) Approach Roadway Width (W/Shoulders)	22 ft
(33) Bridge Median	0 - No median
(34) Skew	0 Deg
(35) Structure Flared	0 - No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	26.2 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	15.08 ft
Ref:	
(55) Min Lat Underclear RT	4.6 ft
Ref:	
(56) Min Lat Underclear LT	0 ft
NAVIGATION DATA	
(38) Navigation Control	N - Not applicable, no waterwa
(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	N
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	4 - M 18 / H 20
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1 - Load Factor(LF)
Rating	57
(65) Inventory Rating Method	1 - Load Factor(LF)
(66) Inventory Rating	
Type	
Rating	34
(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	2
(69) Clearances, Vertical/Horizontal	2
(71) Waterway Adequacy	N
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	0 - Inspected feature does not meet
(36B) Transitions	0 - Inspected feature does not meet
(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	31 - Replacement of bridge or
(76) Length of Structure Improvement	214 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 306
(96) Total Project Cost	\$ 949
(97) Year of Improvement Cost Estimate	2002
(114) Future ADT	7898
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date	12/07/2023		
(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.			





### General Observation

12/06/2023: Routine inspection conducted this date. See element notes for documentation.

Logged North to South

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**58 - Deck** (5 - FAIR CONDITION - all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.)

Looking West 15'7 wl 15'4 yl Westbound 15'3 15'4 east bound center lane 15'2 Eastbound bolted splice

12/5/2022 WNR: Maintenance forces have made significant repairs since last inspection raising NBI from a 4 to 5 as of this inspection.

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**59 - Superstructure** (5 - FAIR CONDITION - all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.)

12/5/2022 WNR: Maintenance forces have made significant repairs since last inspection raising NBI from a 4 to 5 as of this inspection.

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### A-54 - Sealable Deck Cracks

Deck has multiple driving surface sealable cracks

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### A-57 - Girder End and Bearing Painting Needed

Due to deck joints leakage beam ends have active corrosion and need new protective coating.

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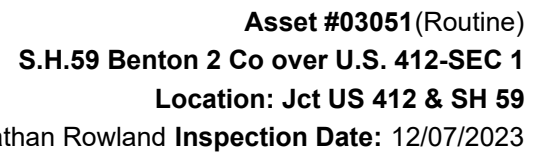
### A-59 - Joint Repair Needed

End bents have lost all expansion joint material

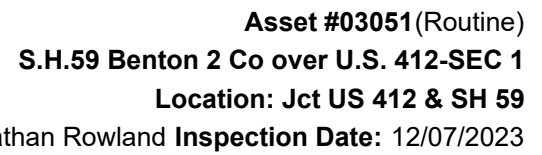
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### A-60 - Full Girder Painting Needed

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ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	4758	3441	1167	150	0
1080	Delamination/Spall/Patched Area	SF	160	0	37	123	0
1090	Exposed Rebar	SF	27	0	0	27	0
1130	Cracking (RC and Other)	SF	394	0	394	0	0
1190	Abrasion/Wear (PSC/RC)	SF	736	0	736	0	0
(12) 12/06/2023: -Potholes forming in all spans. -Asphalt repairs are failing throughout the driving surface with new potholes forming. -Concrete repairs are starting to deteriorate and rubblized. -Large sealable transverse and longitudinal cracking throughout the driving surface and undersurface with minor scaling in the undersurface.  -The deck-driving surface has spalls with delaminated areas located in primarily in gutter area, spalling adjacent to expansion joint assembly's -Deck surface has numerous Sealable Hairline cracking ranging from longitudinal; transverse, and map is present at random locations throughout the entire deck. -The left and right gutter lines of the deck surface are the worst cases of spalling and delaminated areas. -Maintenance forces have placed concrete patches in gutter lines to repair previous major spalls this inspection 12/9/2019.							
107	Steel Open Girder/Beam	LF	905	529	285	90	1
1000	Corrosion	LF	376	0	285	90	1
515	Steel Protective Coating	SF	8387	4953	0	3354	80
3440	Effectiveness (Steel Protective Coatings)	LF	3434	0	0	3354	80
(107) 12/06/2023: -Areas of collision damage in Girder 1 & 4. Girder 4 has out of plane bending of 8"-10" approximately 20' from Bent 2 extending about 15'. The cover plate appears to have separated (fractured weld) in a 8" area in the center of the damage. Girder 1 appears to have two large gouges in the bottom flange with four fractured bolts in the diaphragm connection. No signs of change since last inspection. -Girders have active corrosion with up to 1/8" section loss at the abutments and over the intermediate bents. -Girder - has a failing paint system with areas of corrosion located at the ends of girders, exterior girders has peeling paint through out bottom flanges. -Girder #2 in span #3 over bent #2 completely section loss of web in haunch area.							
205	Reinforced Concrete Column	EA	4	2	1	1	0
1090	Exposed Rebar	EA	2	0	1	1	0
(205) 12/06/2023: Column: - Bent #1 column #1 ahead side has a spall with shallow steel exposed. - Bent #2 Column #2 has a large 2' spall with exposed reinforcing steel with section loss with a vertical crack that extends down to the ground.							
215	Reinforced Concrete Abutment	LF	56	39	3	14	0
1080	Delamination/Spall/Patched Area	LF	14	0	0	14	0
1130	Cracking (RC and Other)	LF	3	0	3	0	0
(215) 12/06/2023:							



ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
- Abutments have isolated areas of delamination's and vertical cracking. -Large amount of debris are on the bridge seats and bearings promoting corrosion.							
234	Reinforced Concrete Pier Cap	LF	56	24	27	5	0
1080	Delamination/Spall/Patched Area	LF	12	0	10	2	0
1090	Exposed Rebar	LF	3	0	0	3	0
1130	Cracking (RC and Other)	LF	17	0	17	0	0
(234) 12/06/2023:							
Cap - Bent #2 cap has large spalls on the ahead face of cap with exposed reinforcing steel initial section loss to exposed reinforcing steel. Minor areas of delamination's and light/medium vertical cracks.							
302	Compression Joint Seal	LF	54	0	0	0	54
2310	Leakage	LF	54	0	0	0	54
(302) 12/06/2023:							
- Compression joint seals are missing at the abutments allowing a free flow of water and debris onto the bridge seats. Spalling adjacent to the joint amour typical.							
305	Assembly Joint without Seal	LF	54	46	0	8	0
2360	Adjacent Deck or Header	LF	8	0	0	8	0
(305) 12/06/2023:							
-The deck surface is Spalling in the driving surface adjacent to assembly joints is typical throughout deck.							
311	Movable Bearing	EA	15	0	5	10	0
1000	Corrosion	EA	15	0	5	10	0
(311) 12/06/2023:							
-Bearing have active corrosion with flaking rust and are covered in debris typical.							
-Movable bearings - has active corrosion with flaking rust present from joint leaking water onto caps, bearing appear to be functioning as intended at this inspection.							
313	Fixed Bearing	EA	15	0	5	4	6
1000	Corrosion	EA	15	0	5	4	6
(313) 12/06/2023:							
-Bearing have active corrosion with flaking rust and are covered in debris typical.							
-Fixed bearings - has active corrosion with flaking rust present from joint leaking water onto caps, bearing appear to be functioning as intended at this inspection.							
330	Metal Bridge Railing	LF	366	363	0	3	0
1020	Connection	LF	3	0	0	3	0
515	Steel Protective Coating	SF	732	183	0	549	0
3440	Effectiveness (Steel Protective Coatings)	LF	549	0	0	549	0
(330) 12/06/2023:							
- Paint system has lost effectiveness.							
- Concrete curb has cracks on the under surface at approximately 5" spacing.							
- Isolated areas of deterioration on top side of curbs, span 2 right being the worst.							



Elevation looking west



View of abutment #2 joint missing joint material



General view of deck



View of abutment #2





Inventory lookin south



Span #2 girder #5 retrofit bolted repair



View of bent #2 behind side



Elevation looking west





General view of deck



View of span #3 deck surface



View of span #2 deck surface



View of span #1 deck surface





Inventory looking south



Bridge has been raised since the last inspection.



View of bent #2 cap ahead side spalling with steel exposed



Inventory looking South





Deck General view of span #2



Ahead side of bent #2



Girder #2 in span #3 over bent #2 completely section loss of web in haunch area.



Abutment #1 dirt and debris build up.





Bent #2 cap ahead side spalling steel exposed and multiple delaminated areas.



Deck Span #1 right gutterline patch repair



Abutment #1 expansion joint material has been displaced.



Bent #2 joint





Repair to south of bridge.



View of joint over bent #1



Girders #2 in span #3 over bent #2 completely section loss of web in haunch area.



Span #2 Girder #4 out of plane bending.





General view of deck



General view of span #2 superstructure



View of dirt and debris build up at abutment #2 due to open joint.



Girder #4 span #2 collision damage still exists.





01/01/2020

Deck Span #1 left gutterline patch repair



01/01/2020

Elevation looking West



01/01/2020

View of bearings at bent #2



01/01/2020

Bent #1 column #2 has spall 2' tall with steel exposed with a vertical crack that extends down to the ground.





01/01/2020

Right gutterline repairs in spans #2 and #3.



01/01/2020

Girder #4 span #2 collision damage still exists.



12/07/2020

Inventory looking South



12/29/2021

Inventory looking South





Elevation looking West



Elevation looking east



View of deck surface



General view of deck





View of superstructure span #1



View of superstructure span #2



View of superstructure span #3



State maintenance forces have placed bolted spliced repairs





View of span #2



State maintenance forces have repaired haunch area with a bolted splice



Bent #1 girder #3 over bearing #3.



Bent #1 girder #3 over bearing #3.





Dirt and debris accumulation at abutment #1



Maintenance forces have raised bridge at bearings to help combat collision to girders.

**Maintenance Needs**

**Date Reported:** 12/01/2011

**Priority:** C - Important

**Type of Work:** (Inactive) (Inactive) 9 - None

**Status:** Monitor

**Component:**

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**Deficiency Description**

Bent #2 concrete cap ahead side ( per log ) - spalling with steel exposed and delaminations

**Remarks**

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Bent 3 ahead side.



Bent #2 cap ahead side spalling steel exposed and multiple delaminated areas.



### Maintenance Needs

Date Reported: 12/01/2011

Priority: C - Important

Type of Work: (Inactive) (Inactive) 9 - None

Status: Monitor

Component:

### Deficiency Description

Deck joints are open at abutments #1 and #2 - Excessive leakage and large amount of debris and gravel on caps.

### Remarks



Abutment #1 expansion joint material has been displaced.



View of dirt and debris build up at abutment #2 due to open joint.



Deck bent 4 left - expansion joint missing.



Abutment #1 dirt and debris build up.



### Maintenance Needs

Date Reported: 12/01/2011

Priority: D- Routine

Type of Work: (Inactive) (Inactive) 9 - None

Status: Monitor

Component:

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### Deficiency Description

Bridge rail right side span #1 - Few posts not bolted to bridge rail.

### Remarks

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01/01/2020  
Bridge rail right side span #1 - Few posts not bolted to bridge rail.



01/01/2020  
3 missing bolts in guard rail span 1 right.



**Maintenance Needs**

**Date Reported:** 12/12/2017

**Priority:** D- Routine

**Type of Work:** (Inactive) (Inactive) 9 - None

**Status:** Monitor

**Component:**

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**Deficiency Description**

Bent #1 Column #2 Spalling with exposed reinforcing steel.

**Remarks**

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Bent #1 column #2 cracking and spalling



Bent 2 Column 2 spall with exposed reinforcing steel.



Bent #1 column #2 has spall ' with steel exposed with a vertical crack that extends down to the ground.



## Routine Maintenance

### Check Box Maintenance Items

Type of Maintenance	Is recommended?
A-54 - Sealable Deck Cracks	
A-55 - Deck Washing Needed	
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	
A-60 - Full Beam Painting Needed	
A-61 - Polymer Overlay Advised	
A-62 - Hydro and LMC Advised	
A-63 - Missing/Incorrect Log Mile Signage	
A-64 - Vegetation Removal Requested	

#### A-54 - Sealable Deck Cracks

Deck has multiple driving surface sealable cracks

#### A-55 - Deck Washing Needed

#### A-56 - Joint Cleaning/Flushing Needed





Asset #03051(Routine)  
S.H.59 Benton 2 Co over U.S. 412-SEC 1  
Location: Jct US 412 & SH 59

Team Lead: Nathan Rowland Inspection Date: 12/07/2023

**A-57 - Girder End and Bearing Painting Needed**

Due to deck joints leakage beam ends have active corrosion and need new protective coating.

**A-58 - Cap Cleaning/Flushing Needed**

**A-59 - Joint Repair Needed**

End bents have lost all expansion joint material

**A-60 - Full Girder Painting Needed**

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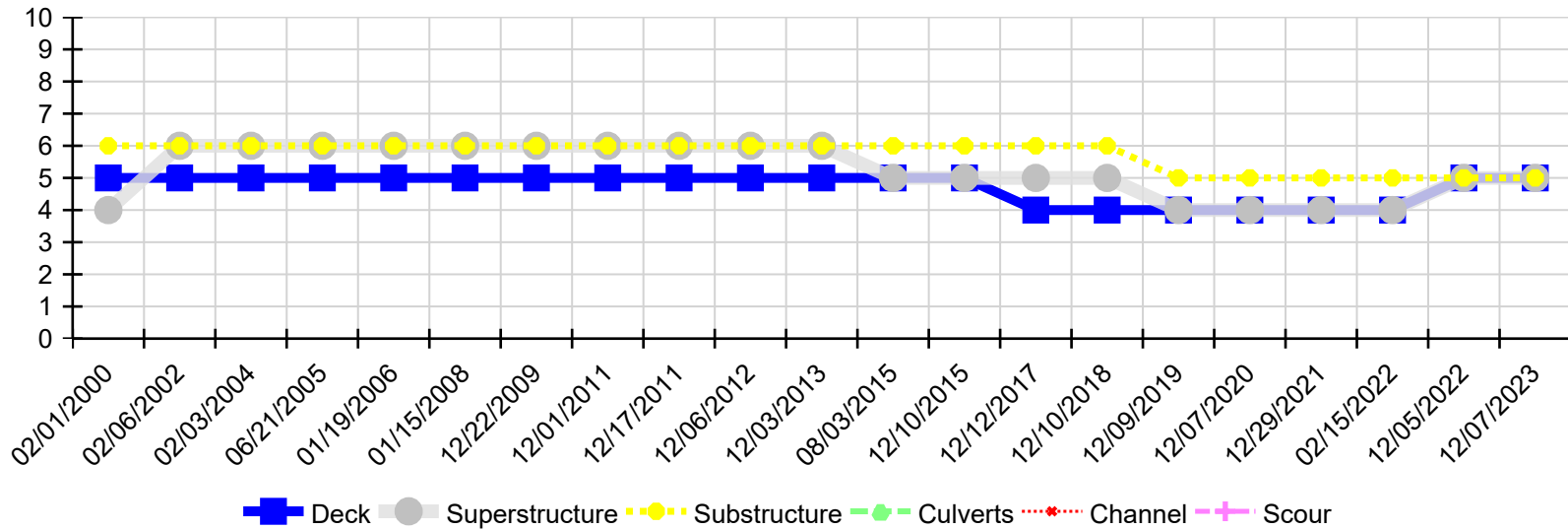
**A-61 - Polymer Overlay Advised**

**A-62 - Hydro and LMC Advised**

**A-63 - Missing/Incorrect Log Mile Signage**

**A-64 - Vegetation Removal Requested**

### Condition History



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
12/07/2023	5	5	5	N	N	N
12/05/2022	5	5	5	N	N	N
02/15/2022	4	4	5	N	N	N
12/29/2021	4	4	5	N	N	N
12/07/2020	4	4	5	N	N	N
12/09/2019	4	4	5	N	N	N
12/10/2018	4	5	6	N	N	N
12/12/2017	4	5	6	N	N	N
12/10/2015	5	5	6	N	N	N
08/03/2015	5	5	6	N	N	N
12/03/2013	5	6	6	N	N	N
12/06/2012	5	6	6	N	N	N
12/17/2011	5	6	6	N	N	N
12/01/2011	5	6	6	N	N	N
12/22/2009	5	6	6	N	N	N
01/15/2008	5	6	6	N	N	N
01/19/2006	5	6	6	N	N	N
06/21/2005	5	6	6	N	N	N
02/03/2004	5	6	6	N	N	N
02/06/2002	5	6	6	N	N	N
02/01/2000	5	4	6	N	N	N