



Latitude:34.84391, Longitude:-90.63845

Route:79 Section:16 Log:9.44

Arnold Road ID:39x79x16xA, Arnold Log mile:9.439

District 01, 77 - Lee County

Owner: 1 - State Highway Agency

Inspection Direction: 4 - W to E

Bridge Posting Information

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

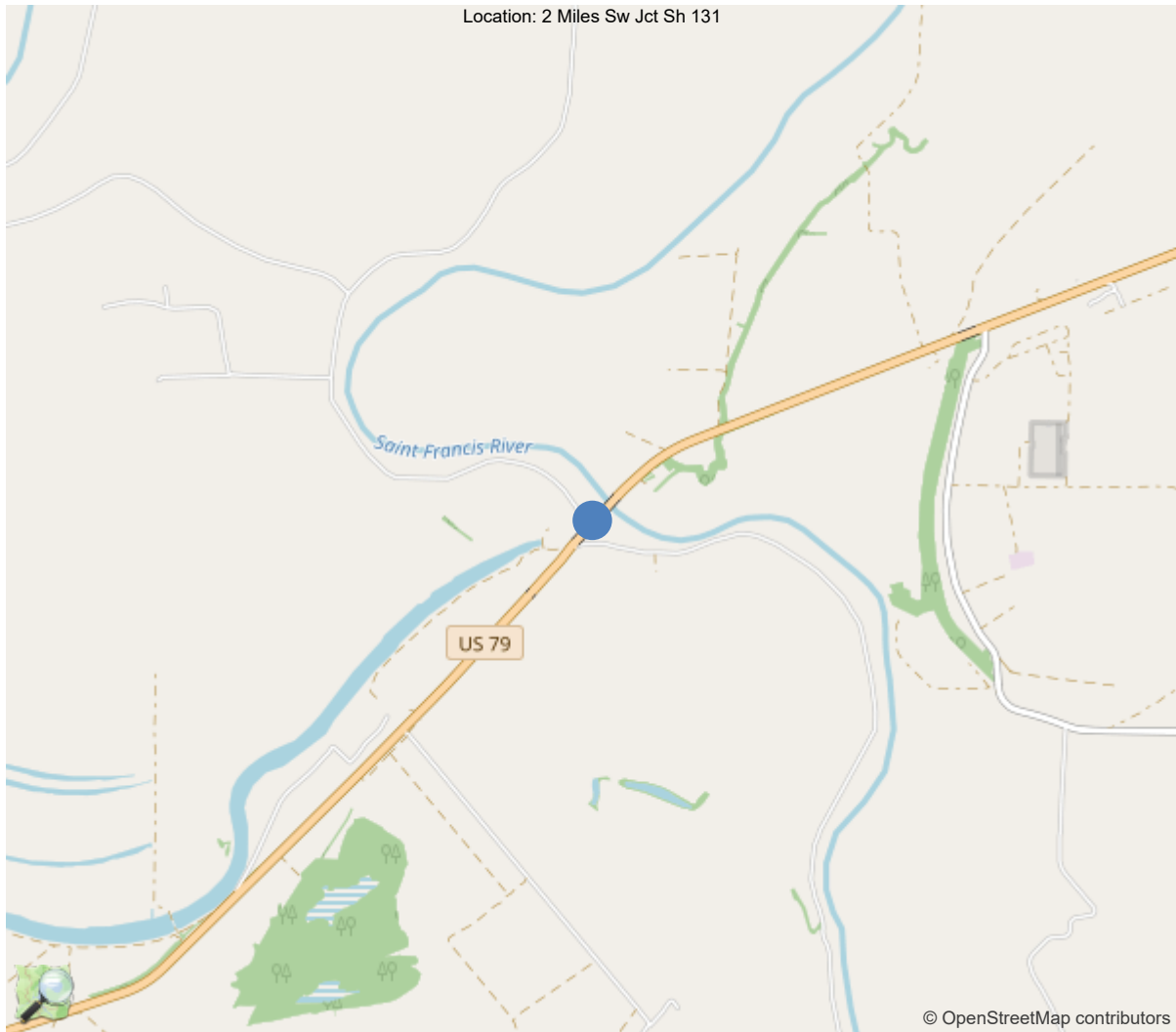
70 - Bridge Posting: 5 - Equal to or above legal loads

Legal Load	Calculated Capacity	Beginning of Bridge Sign Current Value	End of Bridge Sign Current Value
Code 4 (22 Tons)	38		
Code 9 (31 Tons)	40		
Code 5 (40 Tons)	43		

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



34.84391, -90.63845



Asset #05952(Routine, Underwater type 2)

Us-79/Sec-16/L9.44 over St Francis River

Location: 2 Miles Sw Jct Sh 131

Team Lead: Drew Melton Inspection Date: 04/10/2023

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	05952
(5) Inventory Route	1
(2) Highway Agency District	01 - District 01
(3) County Code	77 - Lee County
(4) Place Code	0
(6) Features Intersected	St Francis River
(7) Facility Carried	Us-79/Sec-16/L9.44
(9) Location	2 Miles Sw Jct Sh 131
(11) Mile Point	9.44 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000079160
(16) Latitude	34.84391
(17) Longitude	-90.63845
(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	14
(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	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	1900
(30) Year of ADT	2019
(109) Truck ADT	1 %
(19) Bypass, Detour Length	50 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	98 ft
(49) Structure Length	912.2 ft
(50) Curb or Sidewalk Width	
Left	0 ft
Right	0 ft
(51) Bridge Roadway Width Curb to Curb	40 ft
(52) Deck Width Out to Out	42.8 ft
(32) Approach Roadway Width (W/Shoulders)	40 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	40 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	1
(26) Functional Class	2 - Rural Principal Arterial -
(100) Defense Highway	0 - The inventory route is not
(101) Parallel Structure	N - No parallel structure exists
(102) Direction of Traffic	2 - way traffic
(103) Temporary Structure	
(105) Federal Lands Highways	0 - N/A
(110) Designated National Network	1 - The inventory route is par
(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	7
(60) Substructure	6
(61) Channel & Channel Protection	6
(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	45
(65) Inventory Rating Method	1 - Load Factor(LF)
(66) Inventory Rating	
Type	
Rating	27
(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	7
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	8
(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	1 - Inspected feature meets current
(113) Scour Critical Bridges	5 - 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	1936
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date	04/10/2023		
(91) Frequency	24		
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No		
B: Underwater Inspection	Yes	60	03/23/2022
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 #05952(Routine, Underwater type 2)

Us-79/Sec-16/L9.44 over St Francis River

Location: 2 Miles Sw Jct Sh 131

Team Lead: Drew Melton **Inspection Date:** 04/10/2023

General Observation

Drawing numbers: 25098, 25110-126, 25102, 25099, 25137-150.

Abutment #1 right approach gutter has settled and has large void under it.
Bent #2, and #14 have vegetation growing on piles, and caps.
Two foot sink hole at abutment #1 right side fifty foot from bridge end.
Small trees and vegetation are growing beside and under bridge.

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

Deck is in good condition with areas of open cracks and a few small spalls.

59 - Superstructure (7 - GOOD CONDITION - some minor problems.)

Superstructure is in good condition with surface rust full length little to no section loss. Girders have a few areas of steel delaminations, and minor bent areas probably from construction.

60 - Substructure (6 - SATISFACTORY CONDITION - structural elements show some minor deterioration.)

04/10/2017 Lowered substructure from 8 to 6 due to exposed footings.

Substructure is in satisfactory condition with some exposed footings, and some minor cracks and spalls on caps.

61 - Channel/Channel Protection (6 - Bank is beginning to slump. River control devices and embankment protection have widespread minor damage. There is minor stream bed movement evident. Debris is restricting the channel slightly.)

04/10/2023 lowered channel from 7 to 6 due to exposed footings and vegetation hanging into channel reducing water flow.

Channel has good alignment with the structure. Channel banks have large vegetation some hanging into water restricting water flow slightly. Bridge structure has some footings that are exposed.

A-54 - Sealable Deck Cracks (Y)

All spans have sealable deck cracks.

A-55 - Deck Washing Needed (Y)

Deck has a small amount of debris in gutters.

A-57 - Girder End and Bearing Painting Needed (Y)

Girders have surface rust full length with no section loss some small areas of paint peeling. Rest of paint is chalky. Corrosion heaviest at bent on bottom flange Span #13 being the worst.

A-58 - Cap Cleaning/Flushing Needed (Y)

Bent #5 cap has six inches of dirt and debris full length.

A-59 - Joint Repair Needed (Yes)

Abutment #1 joint seal has one 6" and a 2" tear in left lane and 1' of lost adhesion at center line.
Bent #5 joint seal has 4' of lost adhesion in right lane 1' of loss of adhesion in center, and 2 small holes.
Abutment #2 pourable joint seal has a 1" hole in right lane.



Asset #05952(Routine, Underwater type 2)

Us-79/Sec-16/L9.44 over St Francis River

Location: 2 Miles Sw Jct Sh 131

Team Lead: Drew Melton **Inspection Date:** 04/10/2023

A-60 - Full Girder Painting Needed (Y)

Girders have surface rust full length with no section loss some small areas of paint peeling. Rest of paint is chalky. Corrosion heaviest at bent on bottom flange Span #13 being the worst.

A-61 - Polymer Overlay Advised (Y)

All spans have sealable deck cracks.

A-63 - Missing/Incorrect Log Mile Signage (Y)

Log mile sign on bridge reads 9.43 signs should read 9.44.

A-114 - Underwater Inspection General Observation

Engineer of Record: Samuel Williams, PE

Team Leader: Samuel Williams, PE

Team Members: BG, LA, CK

Total Substructure Units: 15

Substructure Units in Water: Bents 10-13

Inventory Direction: W to E

Direction of Flow: N to S

Deepest Water Depth: 28.5 ft

Water Velocity: 1.0 FPS

Attachments: Channel Profile/Contour Map, Soundings Table, Inspection Procedures, Stamped Final Report

A-115 - Underwater Inspection 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.)

Overall, the channel is in good condition. The upstream channel is skewed to the west causing flow to approach the bents at an approximate 10 degree angle. There is timber debris on the bents in the main channel that does not adversely affect flow. The banks upstream and downstream of the bridge are stable and well vegetated. The east bank under the bridge is stable and protected with light vegetation. The west bank under the bridge was flooded during this inspection.

A-116 - Underwater Inspection Substructure Condition (B.C.15) (7 - GOOD CONDITION - some minor problems.)

Overall the substructure units are in good condition with minor defects in isolated locations. These defects consist of scaling on Bent 10 that is quantified in the element level portion of this report.

A-117 - Underwater Scour Condition (8 - Bridge foundations determined to be stable for the assessed or calculated scour condition. Scour is determined to be above top of footing (Example A) by assessment (i.e., bridge foundations are on rock formations that have been determined to resist scour within the service life of the bridge4), by calculation or by installation of properly designed countermeasures (see HEC 23).)

Based on field observations and available data, there are no signs of scour at the bridge site.

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
Span #6 girder #3 right side 2nd diaphragm has 1 lower bolt loose. Span #7 girder #4 right side center span center of web has area of gouges where welds have been removed.							
205	Reinforced Concrete Column	EA	55	54	1	0	0
1190	Abrasion/Wear (PSC/RC)	EA	1	0	1	0	0
(205) 2022 Underwater - Bent 10/Column 1: pockets of scaling up to 1"D on the upstream quadrant (1EA, CS2)							
(1190-205) 2022 Underwater - Bent 10/Column 1: pockets of scaling up to 1"D on the upstream quadrant (1EA, CS2)							
215	Reinforced Concrete Abutment	LF	122	100	20	2	0
1120	Efflorescence/Rust Staining	LF	10	0	10	0	0
1130	Cracking (RC and Other)	LF	10	0	10	0	0
6000	Scour	LF	2	0	0	2	0
(215) Abutment back walls have vertical cracks half with light efflorescence spaced 6' apart. Abutment #2 cap left and right ends exposed up to 1" for 3'. Abutment back walls have vertical cracks half with light efflorescence spaced 6' apart.							
220	Reinforced Concrete Pile Cap/Footing	LF	264	252	12	0	0
6000	Scour	LF	12	0	12	0	0
(220) Bents #3,5,6,7,8 right side channel is eroded exposing sub caps. Bents #4,5 right end is undermined sub cap 6" to 1'. 2022 Underwater - Bent 13 pile cap inspected, with no defects noted. Bent #14 footing is exposed on each end for a few feet.							
226	Prestressed concrete piles	EA	12	12	0	0	0
(226) 2022 Underwater Inspection - No defects noted. This element was added for the 12 concrete piles at Bent 13.							
234	Reinforced Concrete Pier Cap	LF	520	519	1	0	0
1090	Exposed Rebar	LF	1	0	1	0	0
(234) Caps have hairline vertical cracks spaced 3' apart. Bent #9 cap on step up between girders #5,6 has a 6" spall with exposed rebar. Bent #5 cap has 6" of dirt and debris full length.							
301	Pourable Joint Seal	LF	129	120	1	8	0
2310	Leakage	LF	9	0	1	8	0
(301) Joint steel has surface rust full length with little to no section loss. Abutment #2 pourable joint seal has a 1" hole in right lane. Joint steel has surface rust full length with little to no section loss. Abutment #1 joint seal has one 6" and a 2" tear in left lane and 1' of lost adhesion at center line. Bent #5 joint seal has 4' of lost adhesion in right lane 1' of loss of adhesion in center, and 2 small holes.							
303	Assembly Joint with Seal	LF	80	0	80	0	0
2340	Seal Cracking	LF	80	0	80	0	0
(303) Top plate has no paint on it road side no section loss rest of joint steel has surface rust with little to section loss. Seal has a few inches of debris in them. Seal have some weathering.							

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
310	Elastomeric Bearing	EA	108	95	13	0	0
1000	Corrosion	EA	12	0	12	0	0
1020	Connection	EA	1	0	1	0	0
(310) Bent #3 girder #4 left bearing nut is a half inch backed off. Bent #5 all 12 bearings the anchor bolts are corroded with laminations minor section loss.							
331	Reinforced Concrete Bridge Railing	LF	1820	1580	240	0	0
1090	Exposed Rebar	LF	240	0	240	0	0
(331) Bridge rails have small areas of exposed rebar due to poor concrete coverage. Bridge rails have small pieces of exposed rebar due to poor concrete coverage. Bridge rails have small pieces of exposed rebar due to poor concrete coverage. Span #7 left rail has two, 2' long spalls at top with no exposed rebar.							



Side view-elevation



Top view-inventory



Channel left side



Channel right side



Two foot sink hole abutment #1 right side fifty feet from bridge end.



Approach gutter abutment #1 right side has large void under it and has settled.



Bridge identification plate



Abutment #1 slope



Abutment #2 slope



Typical vegetation



Typical vines growing on bent



Abutment #1 joint



Bent #5 joint



Bent #9 joint



Bent #9 seal cracks and weathered



Bent #12 joint



Abutment #2 joint



Left bridge rail



Right bridge rail



Typical exposed rebar on bridge rail



Typical deck



Typical soffit-under surface



Typical soffit-under surface over hang



Typical deck cracks



04/10/2023

Typical debris in gutters



04/10/2023

Span #8 at bent #9 center and right lane has 2 one foot shallow spalls each with no exposed rebar.



04/10/2023

Span #11 at bent #12 joint has two six inch shallow spall in each lane with no exposed rebar.



04/10/2023

Span #13 right lane has a one foot achm patch.
Span #13 right lane has a 1' spall with exposed rebar.



Field splices on bottom of bottom flange are beginning to form pact rust little to no section loss.



Typical area of delaminated on bottom flange of girder.



Typical field splice



Typical interior paint condition



Typical outside girder condition



Span #2 girder #2 4' ahead of field splice has a small area bottom flange is bent upward slightly.



Span #7 girder #4 right side center span center of web has area of gouges where welds have been removed.



Span #10 girder #6 bottom flange has small ribbon of delamination in center section between field splices.



Span #11 girder #5 bottom flange has narrow ribbon of delamination full length.



Span #12 girder #5 has an area a quarter span on bottom of bottom flange for two feet that a thin layer of metal is delaminated.



Typical bearing



Typical crack in cap



Typical debris on cap bent #5



Bent #9 cap on step up between girders #5,6 has a 6" spall with exposed rebar.



Bent #14 footing is exposed on each end for a few feet.



Abutment #1



Abutment #2



Typical deck cracks



Typical debris in gutters



Typical debris on cap bent #5



Typical interior paint condition



Typical outside girder condition



Abutment #1 joint



Bent #5 joint



Abutment #2 joint



Typical interior paint condition



Typical outside girder condition



Typical deck cracks

Maintenance Needs

Date Reported: 04/10/2017

Priority: C - Important

Type of Work: Approach Leveling/Maintenance

Status: Repair Documented

Component: Approach

Deficiency Description

Abutment #1 approach roadway has settled one to two inches increasing impact loading on bridge.

Remarks

04/10/2023 Roadway has been leveled since last inspection



Abutment #1 approach roadway has settled 1"-2" increasing impact loading on bridge.



Abutment #1 approach roadway has been leveled since last inspection

Maintenance Needs

Date Reported: 03/27/2019

Priority: C - Important

Type of Work: Deck Repair

Status: Monitor

Component: Deck

Deficiency Description

Span #8 at bent #9 center and right lane has two 1' shallow spalls each with no exposed rebar.

Span #11 at bent #12 joint has two six inch shallow spall in each lane with no exposed rebar.

Span #13 right lane has a one foot achm patch.

Span #13 right lane has a 1' spall with exposed rebar.

Remarks



04/11/2023

Span #8 at bent #9 center and right lane has 2 one foot shallow spalls each with no exposed rebar.



04/11/2023

Span #11 at bent #12 joint has two six inch shallow spall in each lane with no exposed rebar.



04/11/2023

Span #13 right lane has a one foot achm patch.
Span #13 right lane has a 1' spall with exposed rebar.

Maintenance Needs

Date Reported: 04/10/2017

Priority: D- Routine

Type of Work: Miscellaneous

Status: Monitor

Component: Channel

Deficiency Description

Small trees and vegetation are growing beside and under bridge.

Remarks



Small trees and vegetation are growing beside and under bridge.



Trees and vegetation growing beside and under bridge.

Maintenance Needs

Date Reported: 04/10/2017

Priority: D- Routine

Type of Work: Miscellaneous

Status: Monitor

Component: Approach

Deficiency Description

Approach gutter abutment #1 right side has large void under it and has settled.

Remarks



Approach gutter abutment #1 right side has large void under it and has settled.



Void underneath abutment #1 right approach gutter.

Maintenance Needs

Date Reported: 02/28/2011

Priority: D- Routine

Type of Work: Miscellaneous

Status: Monitor

Component: Substructure

Deficiency Description

Bents # 2,14 back side have vines growing on columns and cap.

Remarks



Typical vegetation growing on bents



Vines growing up bent #2.

Maintenance Needs

Date Reported: 04/10/2017

Priority: D- Routine

Type of Work: Miscellaneous

Status: Monitor

Component: Approach

Deficiency Description

Two foot sink hole abutment #1 right side fifty feet from bridge end.

Remarks



2' sink hole abutment #1 right side 50' from bridge end.



2' sink hole abutment #1 right side 50' from bridge end.

Routine Maintenance

Check Box Maintenance Items

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

A-54 - Sealable Deck Cracks (Yes)

All spans have sealable deck cracks.



Typical deck cracks

A-55 - Deck Washing Needed (Yes)

Deck has a small amount of debris in gutters.



Typical debris in gutters

A-56 - Joint Cleaning/Flushing Needed

A-57 - Girder End and Bearing Painting Needed (Yes)

Girders have surface rust full length with no section loss some small areas of paint peeling. Rest of paint is chalky. Corrosion heaviest at bent on bottom flange Span #13 being the worst.



Typical interior paint condition



Typical outside girder condition

A-58 - Cap Cleaning/Flushing Needed (Yes)

Bent #5 cap has six inches of dirt and debris full length.



Typical debris on cap bent #5

A-59 - Joint Repair Needed (Yes)

Abutment #1 joint seal has one 6" and a 2" tear in left lane and 1' of lost adhesion at center line.
Bent #5 joint seal has 4' of lost adhesion in right lane 1' of loss of adhesion in center, and 2 small holes.

Abutment #2 pourable joint seal has a 1" hole in right lane.



Abutment #1 joint



Bent #5 joint



Abutment #2 joint

A-60 - Full Girder Painting Needed (Yes)

Girders have surface rust full length with no section loss some small areas of paint peeling. Rest of paint is chalky. Corrosion heaviest at bent on bottom flange Span #13 being the worst.



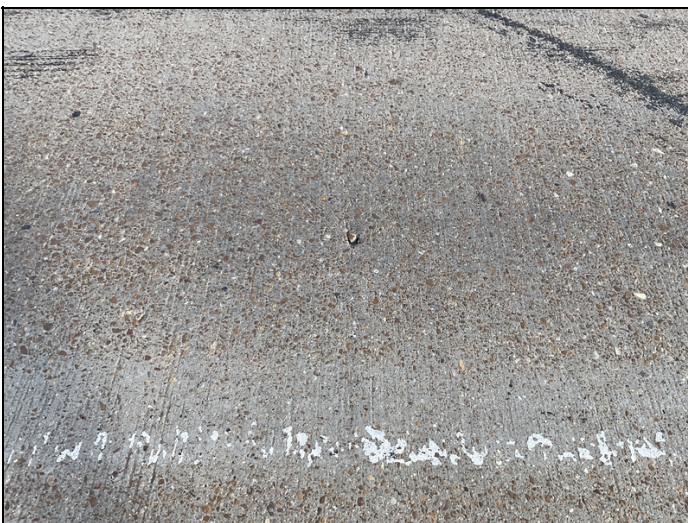
Typical interior paint condition



Typical outside girder condition

A-61 - Polymer Overlay Advised (Yes)

All spans have sealable deck cracks.



Typical deck cracks

A-62 - Hydro and LMC Advised

A-63 - Missing/Incorrect Log Mile Signage (Yes)

Log mile sign on bridge reads 9.43 signs should read 9.44.



Asset #05952(Routine, Underwater type 2)

Us-79/Sec-16/L9.44 over St Francis River

Location: 2 Miles Sw Jct Sh 131

Team Lead: Drew Melton **Inspection Date:** 04/10/2023

A-64 - Vegetation Removal Requested



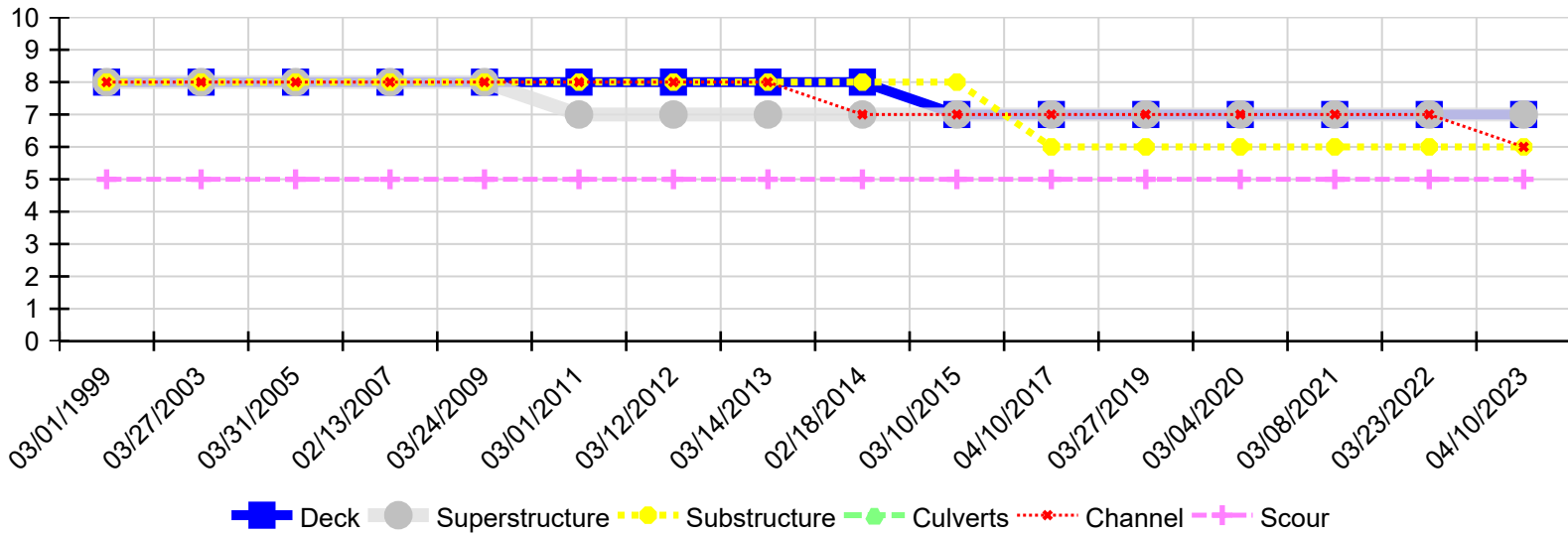
Asset #05952(Routine, Underwater type 2)

Us-79/Sec-16/L9.44 over St Francis River

Location: 2 Miles Sw Jct Sh 131

Team Lead: Drew Melton Inspection Date: 04/10/2023

Condition History



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
04/10/2023	7	7	6	N	6	5
03/23/2022	7	7	6	N	7	5
03/08/2021	7	7	6	N	7	5
03/04/2020	7	7	6	N	7	5
03/27/2019	7	7	6	N	7	5
04/10/2017	7	7	6	N	7	5
03/10/2015	7	7	8	N	7	5
02/18/2014	8	7	8	N	7	5
03/14/2013	8	7	8	N	8	5
03/12/2012	8	7	8	N	8	5
03/01/2011	8	7	8	N	8	5
03/24/2009	8	8	8	N	8	5
02/13/2007	8	8	8	N	8	5
03/31/2005	8	8	8	N	8	5
03/27/2003	8	8	8	N	8	5
03/01/1999	8	8	8	N	8	5

READINGS TAKEN FROM TOP OF BRIDGE RAIL

