



Latitude:34.79251, Longitude:-93.92208

Route:28 Section:02 Log:6.938

Arnold Road ID:63x28x2xA, Arnold Log mile:6.93

District 04, 127 - Scott County

Owner: 1 - State Highway Agency

Inspection Direction: 4 - W to E

### Bridge Posting Information

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

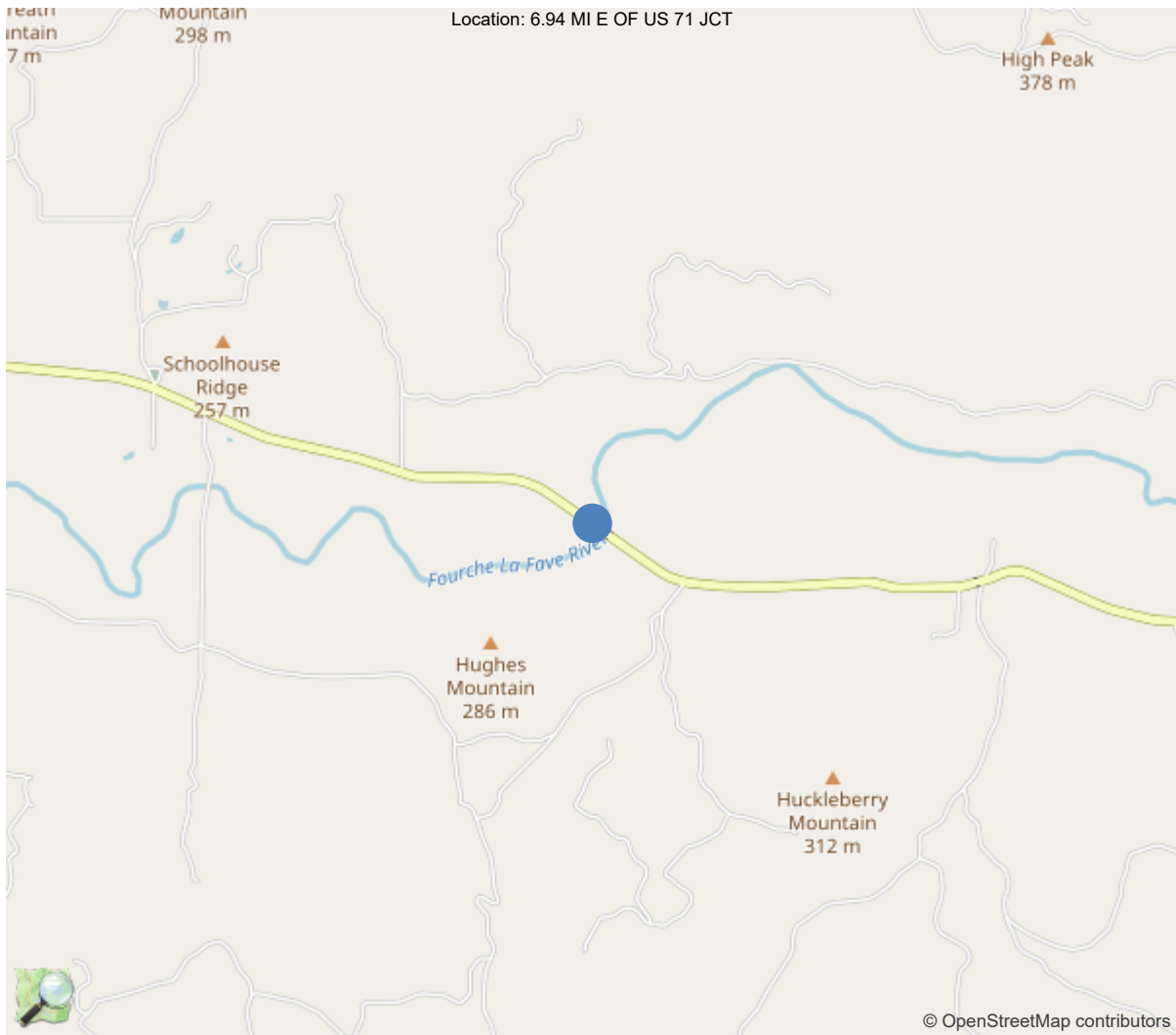
70 - Bridge Posting: 5 - Equal to or above legal loads

Legal Load	Calculated Capacity	Beginning of Bridge Sign Current Value	End of Bridge Sign Current Value
Code 4 (22 Tons)	37		
Code 9 (31 Tons)	40		
Code 5 (40 Tons)	44		

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



34.79251, -93.92208



Asset #03447(Routine)

State Highway 28 over Fourche La Fave River

Location: 6.94 MI E OF US 71 JCT

Team Lead: Eric West Inspection Date: 06/20/2024

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	03447
(5) Inventory Route	1
(2) Highway Agency District	04 - District 04
(3) County Code	127 - Scott County
(4) Place Code	0
(6) Features Intersected	Fourche La Fave River
(7) Facility Carried	State Highway 28
(9) Location	6.94 MI E OF US 71 JCT
(11) Mile Point	6.938 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000000
(16) Latitude	34.79251
(17) Longitude	-93.92208
(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	9
(46) No. of Approach Spans	0
(107) Deck Structure Type	1 - Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	6 - Bituminous
Type of Membrane	0 - None
Type of Deck Protection	0 - None
AGE AND SERVICE	
(27) Year Built	1961
(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	280
(30) Year of ADT	2018
(109) Truck ADT	1 %
(19) Bypass, Detour Length	14 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	83 ft
(49) Structure Length	559.1 ft
(50) Curb or Sidewalk Width	
Left	1 ft
Right	1 ft
(51) Bridge Roadway Width Curb to Curb	24 ft
(52) Deck Width Out to Out	28.5 ft
(32) Approach Roadway Width (W/Shoulders)	24 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	24 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	7 - Rural Major Collector
(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	0 - The inventory route is not
(20) Toll	3 - On free road. The structure
(21) Maintain	1 - State Highway Agency
(22) Owner	1 - State Highway Agency
(37) Historical Significance	5 - Bridge is not eligible for
CONDITION	
(58) Deck	4
(59) Superstructure	5
(60) Substructure	5
(61) Channel & Channel Protection	5
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	2 - M 13.5 / H 15
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1 - Load Factor(LF)
Rating	47
(65) Inventory Rating Method	1 - Load Factor(LF)
(66) Inventory Rating	
Type	
Rating	28
(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	5
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	6
(72) Approach Roadway Alignment	7
(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	5 - Bridge foundations determined to
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	366
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date	06/20/2024		
(91) Frequency	24		
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No		
B: Underwater Inspection	Yes	24	03/02/2022
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.			



**General Observation**

06/20/2024 - EJW & JPW - Routine Inspection conducted on this date. Structure accessed from the ground, from a boat and with the use of a video pole and binoculars.

**58 - Deck** (4 - POOR CONDITION - advanced section loss, deterioration, spalling or scour)

Overall, the driving surface of the deck appears to be in good condition. It has recently received an asphalt overlay and chip seal wearing surface. The undersurface of the deck appears to be in poor condition with concrete deterioration, concrete delaminations, concrete cracking and spalling with exposed reinforcing steel.

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

The superstructure is generally in fair condition, the beam ends and bearings have areas with active corrosion, pack rust and section loss.

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

The substructure is generally in fair condition with concrete deterioration, concrete cracking, concrete delamination's and spalling with exposed reinforcing steel.

**61 - Channel/Channel Protection** (5 - Bank protection is being eroded. River control devices and/or embankment have major damage. Trees and brush restrict the channel.)

The channel is generally in fair condition, the banks are vegetated with erosion along the banks from past high water events and areas of streambed material accumulation that partially restrict channel flow.

ArDOT Drawing # 11261 General Notes State that concrete footings shall be poured directly against excavated surface of rock. Excavate a minimum of 2'-0" into solid rock or shale.

ArDOT Drawing # 11264 Indicates that the footing thickness for Bents # 7 & 8, (Plan Drawing labels the bents as Pier # 2 & 3) is 3'-0" thick.

**A-44 - Load Rating Notes** (Changed Item 113 to 5 due to observed scour.)

Changed Item 113 to 5 due to observed scour.

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

Bearings

Bearings have active corrosion and layers of rust.

**A-60 - Full Girder Painting Needed** (Y)

Superstructure-

The girders have a failing paint system with random areas of active corrosion forming.



#### **A-114 - Underwater Inspection General Observation**

Engineer of Record: Samuel Williams, PE

Team Leader: Samuel Williams, PE

Team Members: AR, LA, CK

Total Substructure Units: 10

Substructure Units in Water: Piers 2-3

Inventory Direction: W to E

Direction of Flow: S to N

Deepest Water Depth: 11.6 ft

Water Velocity: 0.5 FPS

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

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**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 well aligned with the substructure units, and there is timber debris around both Piers 2 and 3 that does not adversely affect flow through the channel. The banks upstream and downstream of the bridge are stable and well vegetated. The banks under the bridge are stable with sparse vegetation.

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**A-116 - Underwater Inspection Substructure Condition (B.C.15)** (6 - SATISFACTORY CONDITION - structural elements show some minor deterioration.)

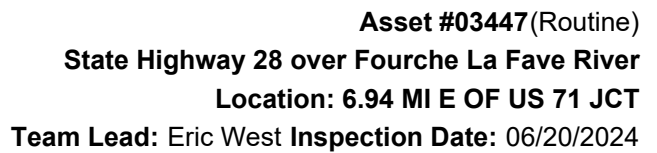
Overall the substructure units are in satisfactory condition with minor spalls in isolated locations on the columns and footings. All defects are quantified in the element level portion of this report.

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**A-117 - Underwater Scour Condition** (4 - Bridge foundations determined to be stable for assessed or calculated scour conditions; field review indicates action is required to protect exposed foundations (see HEC 23).)

General scour has lowered the channel bottom 4' (+/-) since construction, exposing the footings at Piers 2 and 3. At Pier 2, only the tops of the footings are partially exposed. At Pier 3, there is up to 36" of vertical footing exposure that consists of a 16"H section of finished/smooth concrete and up to a 20"H section of rough concrete below the finished section, with the maximum vertical height measured at the upstream nose of the pier. No undermining of the Pier 2 or 3 footings was found during the inspection. According to the bridge layout drawings dated December 19, 1960, the footings were to be poured directly against excavated surfaces of solid rock or shale, with a minimum excavation depth of 2'. Test boring data also indicate sandy clay, gravel, and boulders in the vicinity of the pier footings. Based on the findings of this inspection, it appears that the Pier 3 footings were constructed on shale that has eroded over time and exposed the section of the footings that was designed to be located below the channel bottom (in the excavated area). It is recommended to install engineered scour countermeasures to mitigate additional erosion and potential future undermining of the Pier 3 footings.

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(12) 05/22/2023 - RSM & SPC: Special Recurring Inspection conducted this date to monitor the condition of the deck with an NBIS Rating of 4. Inspection performed utilizing a Snooper Truck to gain access to the deck undersurface. Previously documented defects in the driving surface are not visible this inspection due to an ACHM overlay applied since last inspection. The ACHM driving surface was applied continuously over the sliding plate expansion joint assemblies at the intermediate bents with transverse reflective cracking visible. Previous inspection documented areas marked out on the deck driving surface indicating preparations for future repairs. It is unclear the extent of repairs made before the ACHM overlay was applied. There are several areas with wooden forms attached to the deck undersurface indicating deck repairs were made in some locations. The deck undersurface has numerous areas of scaling, leaching, delaminated and spalled areas with exposed reinforcing steel. Previous defect quantities retained.

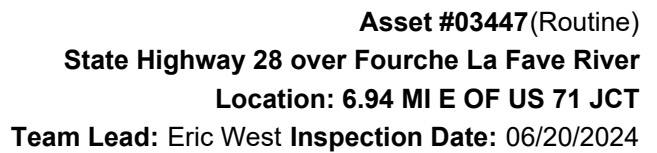
- Numerous areas of scale visible from the undersurface of the deck and overhangs. Most extreme case is span # 4.
- Span # 2 undersurface has areas of scaling with mapcracking and leaching in all bays. Bays # 1 and 4 are the most notable areas.
- Span # 3 undersurface in bays # 1 and # 2 has areas of scaling, mapcracking with efflorescence and leaching. Bay # 2 undersurface has an 8" spall with exposed reinforcing steel near mid-span.
- Span # 4 undersurface has large areas of leaching, map cracking and 2" deep concrete deterioration with exposed reinforcing. Span # 4 undersurface in bay # 4 approximately 15' from bent # 5 has an area approximately 10' long x 4' wide that is delaminated with spalling that exposes the reinforcing steel. The delaminated area appears to be sagging in areas. Exposed longitudinal reinforcing steel is corroded into with a 6" long section of the bar missing.
- Span # 4 undersurface in bay # 3 near mid-span has a 5' long x 3' wide delaminated area with a 16" spall with exposed reinforcing steel in the affected area. Exposed reinforcing steel has an estimated 50% section loss.
- Span # 4 undersurface on exterior side of beam # 5 has an area of concrete deterioration approximately 7' long adjacent to the deck drain that exposes reinforcing steel with active corrosion and initial section loss.
- Span # 5 undersurface in bay # 1 has areas of scaling with mapcracking.
- Span # 6 undersurface has cracking and scaling in all bays. Bays # 1 and 2 are the most notable areas.
- Span # 7 undersurface in bays # 1 and 4 has areas of light scaling. Span # 7 undersurface in bay # 4 approximately 15' from bent # 8 has a 15" x 8" spall with exposed reinforcing steel. The areas surrounding the spall is delaminated with efflorescence and leaching.
- Span # 8 undersurface in bay # 3 has an 18" x 5" spall with exposed reinforcing steel located approximately 15' from bent # 8 and a 3' long delaminated area located approximately 15' from bent # 9. Bay # 4 undersurface approximately 15' from bent # 9 has an 8" x 4" spall with exposed reinforcing steel. The area surrounding the spall is delaminated.
- Span # 9 undersurface in bay # 4 has an area of mapcracking with leaching that extends from abutment # 2 to the first diaphragm from abutment.

- The deck has numerous asphalt patches covering the delaminated and spalled areas with exposed reinforcing steel and failing concrete repairs.
- Heavy scale in the gutters.
- Transverse cracking at approximately 12" centers with isolated areas of exposed reinforcing steel with initial section loss.

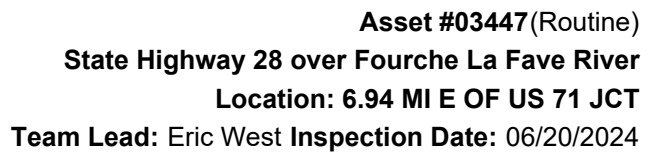


ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
-Concrete deterioration in the curbs. -Span # 1 has several spalls with exposed reinforcing, delaminated areas, and temporary asphalt patches. -Span # 2 left gutter has a 5' wide concrete repair the entire length of span. The repair appears to be sound this inspection. -Span # 2 adjacent to beam # 5 has an area of spalling with exposed reinforcing steel at the deck drain. -Span # 3, left gutter has soft deteriorated concrete approximately 2" deep with exposed reinforcing steel for the entire length of the span. -Span # 4 right lane on the driving surface of the deck has a previous patched area that is over a spalled area with exposed reinforcing steel visible from the undersurface. -The driving surface of span # 5 has map cracking, transverse cracking with delaminated areas and a few isolated shallow spalls. -Span # 6 has numerous temporary asphalt patches covering the driving surface of the deck. -Span # 8 has numerous temporary asphalt patches, delaminated areas, and shallow spalling. -Span # 9 has a few temporary asphalt patches with map cracking, delaminated areas, and shallow spalls.							
107	Steel Open Girder/Beam	LF	2785	2547	0	238	0
1000	Corrosion	LF	238	0	0	238	0
515	Steel Protective Coating	SF	18800	17318	0	1482	0
3440	Effectiveness (Steel Protective Coatings)	LF	1482	0	0	1482	0
(107) -Superstructure has isolated areas of active corrosion at the ends of beams. -Some areas have flaking rust. -Most extreme case is the top flange of Beam # 5 in Span # 2 adjacent to the deck drain. Top flange has approx. 3/16" section loss with flaking rust during this inspection. -There is active corrosion with flaking rust where the concrete expansion dams make contact with the beam ends. -Active corrosion was not hammered off the beams during this inspection.							
205	Reinforced Concrete Column	EA	12	1	1	10	0
1080	Delamination/Spall/Patched Area	EA	1	0	1	0	0
1090	Exposed Rebar	EA	6	0	0	6	0
1130	Cracking (RC and Other)	EA	4	0	0	4	0
(205) -Bent # 2 has a 4' vertical spall in the Left column that has been covered with caulking as a type of repair. Concrete is delaminated adjacent to the caulked repair. -Bent # 3 has a 6' vertical delaminated area with spalls in the Right column that has been covered with caulking as a type of repair. The left column has vertical cracking. -Bent # 4 has vertical cracks with spalls that have exposed reinforcing steel in both columns. -Bent # 5 has a 4' vertical crack with a 10" spall with exposed reinforcing steel in the Right column. The left column has vertical cracking on the left edge. -Bent # 5 has a 4' vertical crack in the Left column. -Bent # 7, Column # 1 has two 24" horizontal spalls with exposed reinforcing steel located approximately 12' below the base of cap in the Lt column. -Bent # 7, Column # 2 has a vertical crack on the Inlet side and light cracking at the base of the cap. -Bent # 8, Column # 1 has vertical cracking and there is one 12" spall with exposed reinforcing steel at the water elevation. -Reinforcing steel that is exposed in the columns has section loss that ranges from initial to approximately 1/8" section loss with active corrosion.  2022 Underwater - substructure units numbered according to layout drawing dated December 19, 1960 2022 Underwater - Pier 2/Column 1: spall 9"W x 2"H x 1/4"D, with exposed rebar that has up to 20% section loss, located on the northeast corner at the waterline 2022 Underwater - Pier 2/Column 2: spall 7"H x 2"W x 1"D, located on the southeast corner 4" below WL							
210	Reinforced Concrete Pier Wall	LF	74	45	29	0	0
1130	Cracking (RC and Other)	LF	29	0	29	0	0





ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
(210) -Bent # 6 has 3 full width horizontal cracks in the pier wall. -Bent # 6 - Both ends of the pier has light diagonal cracking. -Bent # 9 has vertical cracks and light map cracking on the Right end of the pier wall.  2022 Underwater - no defects noted on the Pier 2 or Pier 3 web walls							
215	Reinforced Concrete Abutment	LF	68	46	9	13	0
1080	Delamination/Spall/Patched Area	LF	6	0	6	0	0
1130	Cracking (RC and Other)	LF	3	0	3	0	0
4000	Settlement	LF	13	0	0	13	0
(215) -Bent # 1 has areas of shallow honeycombing from the construction process. -Erosion and earth settlement that exposed the steel piling still exist at the East abutment (Bent # 10) left half of the abutment. -Vertical cracks typical at the abutments.							
220	Reinforced Concrete Pile Cap/Footing	LF	17	0	15	2	0
1080	Delamination/Spall/Patched Area	LF	1	0	0	1	0
6000	Scour	LF	16	0	15	1	0
(220) 2022 Underwater -- Qty Update: 16 LF total - Pier 2: 1 LF (Footing 1) + 2 LF (Footing 2) = 3 LF - Pier 3: 7 LF (Footing 1) + 7 LF (Footing 2) = 14 LF  (1080-220) 2022 Underwater - Footing 3-2: spall up to 9"H x 3"W x 1.5"D, located on the northeast corner. (1LF, CS3) In addition, the lower area of the footing at the upstream nose is irregularly shaped indicating it was poured into an excavation in the channel bottom at construction and is now exposed due to scour.  (6000-220) 2022 Underwater - Pier 2/Footing 1: 1' section of the top of the footing is exposed on the south/upstream side (1LF, CS2) 2022 Underwater - Pier 2/Footing 2: 2' section of the top of the footing is exposed on the west side (2LF, CS2) 2022 Underwater - Pier 3/Footing 1: the full length of the footing (6.5') is exposed up to 16"H (7LF, CS2) 2022 Underwater - Pier 3/Footing 2: the full length of the footing (6.5') is exposed up to 36"H (1LF, CS3 / 5LF, CS2)							
225	Steel Pile	EA	3	0	0	3	0
1000	Corrosion	EA	3	0	0	3	0
(225) 04/21/2020 - JCJ & TJL - Maintenance forces have placed concrete adjacent to, and under Bent # 10, covering the exposed steel piling. -COVERED-Bent # 10 has 3 exposed steel H-Piles exposed on the left half of the abutment, these piles have active corrosion, layers of flaking rust and initial section loss where exposed.							
234	Reinforced Concrete Pier Cap	LF	208	141	43	24	0
1080	Delamination/Spall/Patched Area	LF	7	0	5	2	0
1090	Exposed Rebar	LF	19	0	0	19	0
1130	Cracking (RC and Other)	LF	41	0	38	3	0
(234) -Bent # 2 has a 10' horizontal crack located approx. 6" below the top of cap. -Bent # 2 has a 2'x 2' spall with exposed reinforcing steel & delaminated areas in the Rt side of cap. The left side of the cap has a shallow delamination and a spall that has been filled with caulking. -Bent # 3 has a 16' horizontal crack located approx. 6" below the top of cap. -Bent # 3 has three 12" spalls and delaminated areas in the cap. -The Lt end of Bent # 4 has areas of spalling with exposed reinforcing steel. -The Rt half of Bent # 4 has five 10" spalls with exposed reinforcing steel. The undersurface in the cantilevered portions have shallow placed exposed reinforcing steel.							

[illegible]



Elevation



Roadway



Driving surface: typical.



Undersurface, span # 1: typical.





Undersurface, span # 2: typical.



Undersurface, span # 3: typical.



Undersurface, span # 4: typical.



Undersurface, span # 5: typical.





Undersurface, Span # 6: typical.



Undersurface, Span # 7: typical.



Undersurface, Span # 8: typical.



Undersurface, span # 9: typical.





Abutment # 1: typical.



Abutment # 2: typical.



Bent # 2: typical.



Bent # 3: typical.





Bent # 4: typical.



Bent # 5: typical.



Bent # 6: typical.



Bent # 7: typical.

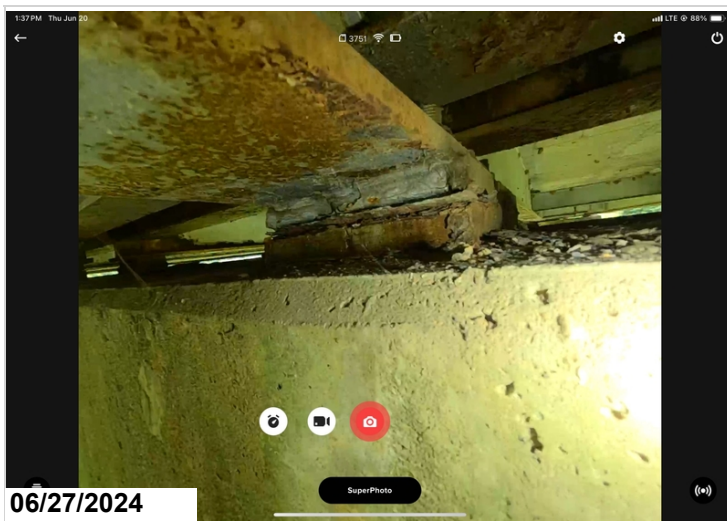




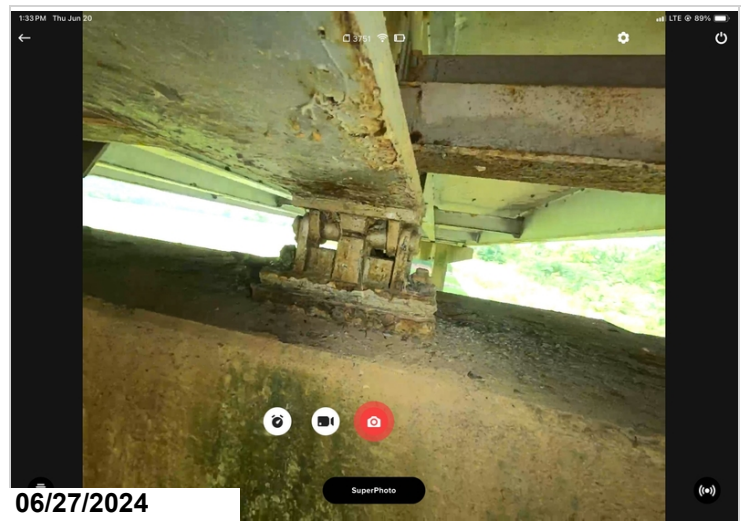
Bent # 8: typical.



Bent # 9: typical.



Bent # 5, bearing # 2, ahead: active corrosion and pack rust.



Bent # 6, bearing # 2, ahead: active corrosion and pack rust.





06/27/2024

Undersurface, span # 4: typical.



06/20/2024

Span # 4 undersurface in bay # 3 near mid-span has a 5' long x 3' wide delaminated area with a 16" spall with exposed reinforcing steel in the affected area. Exposed reinforcing steel has an estimated 50% section loss.



06/20/2024

Span # 4 undersurface has large areas of leaching, map cracking and 2" deep concrete deterioration with exposed reinforcing. Span # 4 undersurface in bay # 4 approximately 15' from bent # 5 has an area approximately 10' long x 4' wide that is delaminated with spalling that exposes the reinforcing steel. The delaminated area appears to be sagging in areas. Exposed longitudinal reinforcing steel is corroded into with a 6" long section of the bar missing.



06/20/2024

Span # 7 undersurface in bay # 4 approximately 15' from bent # 8 has a 15" x 8" spall with exposed reinforcing steel. The areas surrounding the spall is delaminated with efflorescence and leaching.

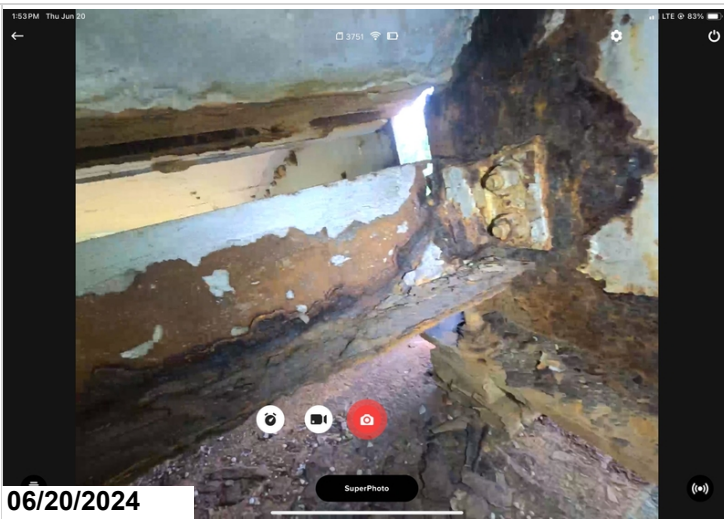




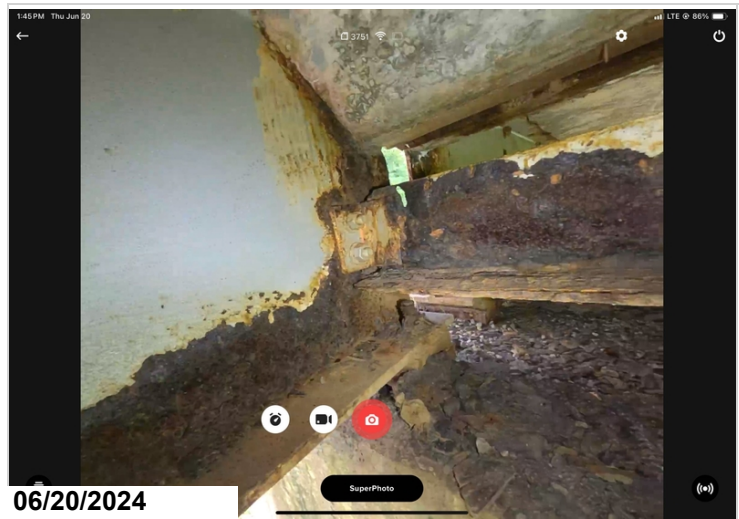
Span # 8 undersurface in bay # 3 has an 18" x 5" spall with exposed reinforcing steel located approximately 15' from bent # 8 and a 3' long delaminated area located approximately 15' from bent # 9.



Abutment # 1, girder # 1: active corrosion and pack rust.

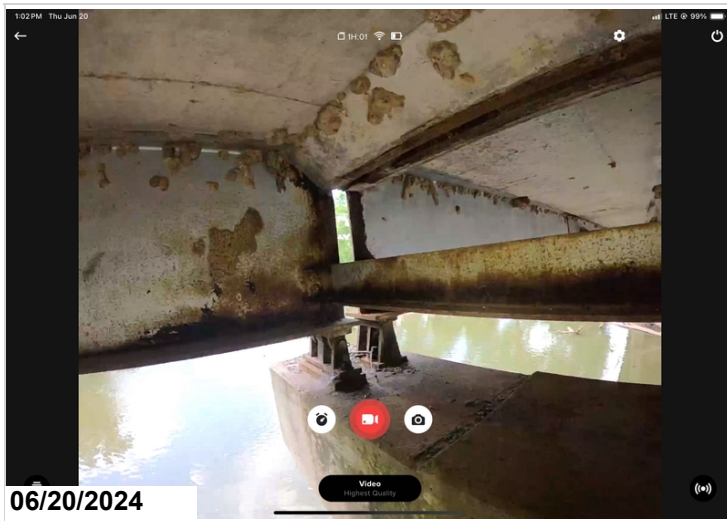


Bent # 3, girder # 5, back: active corrosion and pack rust with a hole in the diaphragm over Bent # 3.

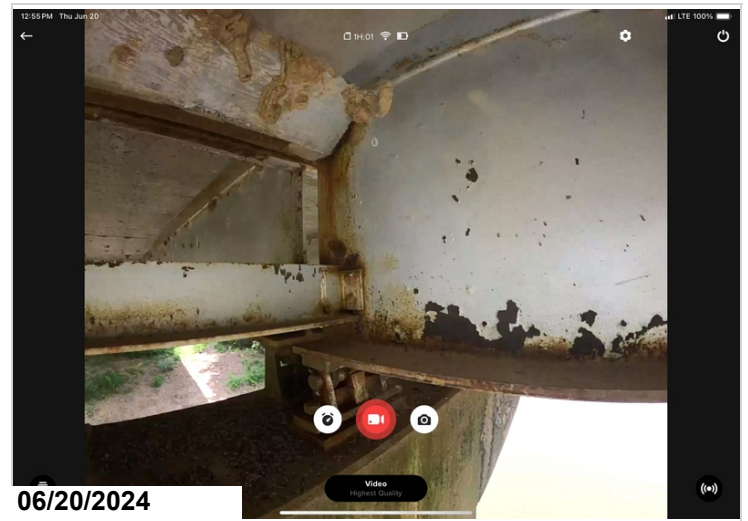


Bent # 4, , girder # 1, back: active corrosion and pack rust with a hole in the diaphragm over Bent # 4.





Bent # 8, girder # 5, ahead: active corrosion and pack rust.



Bent # 7, girder # 2, ahead: active corrosion with pack rust.



Bent # 2 has a 4' vertical spall in the Left column that has been covered with caulking as a type of repair. Concrete is delaminated adjacent to the caulked repair.



Bent # 3 has a 6' vertical delaminated area with spalls in the Right column that has been covered with caulking as a type of repair.





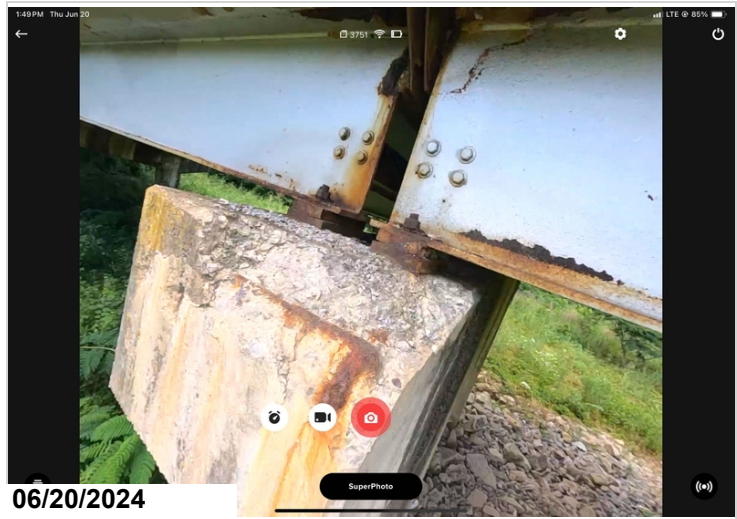
Bent # 4 has vertical cracks with spalls that have exposed reinforcing steel in both columns.



Bent # 7, Column # 1 has two 24" horizontal spalls with exposed reinforcing steel located approximately 12' below the base of cap in the Lt column.



Bent # 2 has a 10' horizontal crack located approx. 6" below the top of cap.



Bent # 3, right: concrete deterioration with exposed reinforcing steel adjacent to girder # 5 on the exterior top surface with up 4" of concrete section loss.





Bent # 5 has horizontal cracking approximately 6" below the top of the cap on the Span # 4 side.



Bent # 7, left has an 18" spall with exposed reinforcing steel in the Lt underside of cap.



Bent # 8 has spalling with exposed reinforcing steel on the underside of the right side of the cap and on the Span # 7 face approximately 3' from Column # 2.

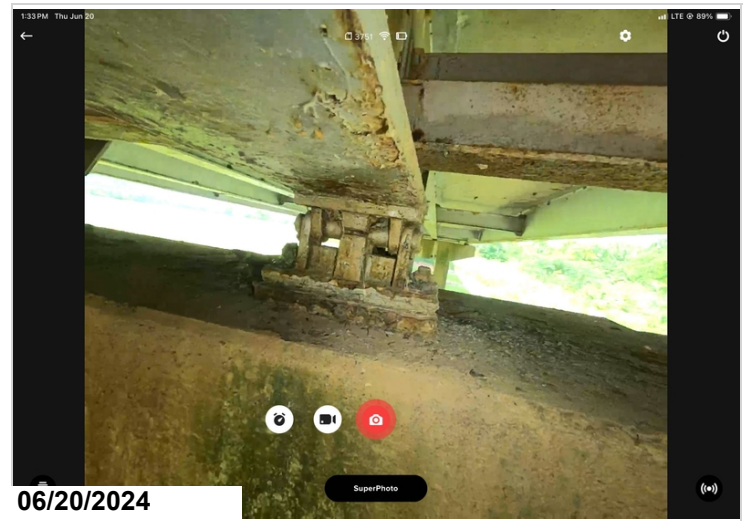


Bent # 6: typical.

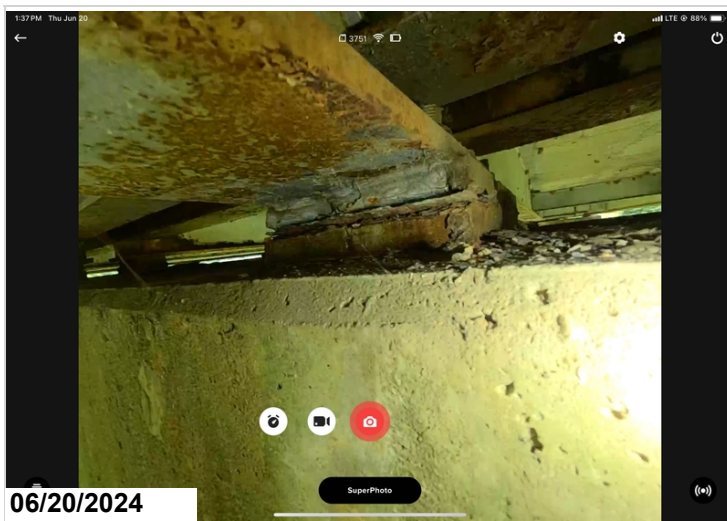




Abutment # 1: typical.



Bent # 6, bearing # 2, ahead: active corrosion and pack rust.



Bent # 5, bearing # 2, ahead: active corrosion and pack rust.



Metal bridge rail: typical.





06/20/2024

RC bridge rail: typical.

## Maintenance Needs

Date Reported: 05/22/2012

Priority: B - Pressing

Type of Work: Superstructure Repair

Status: Open

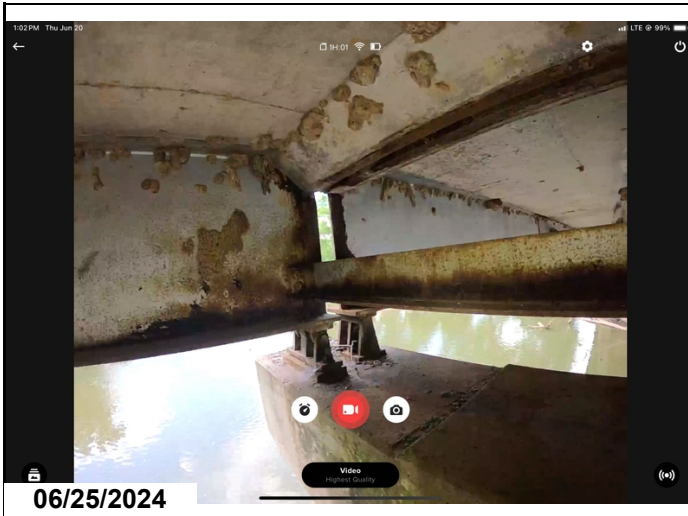
Component: Element

## Deficiency Description

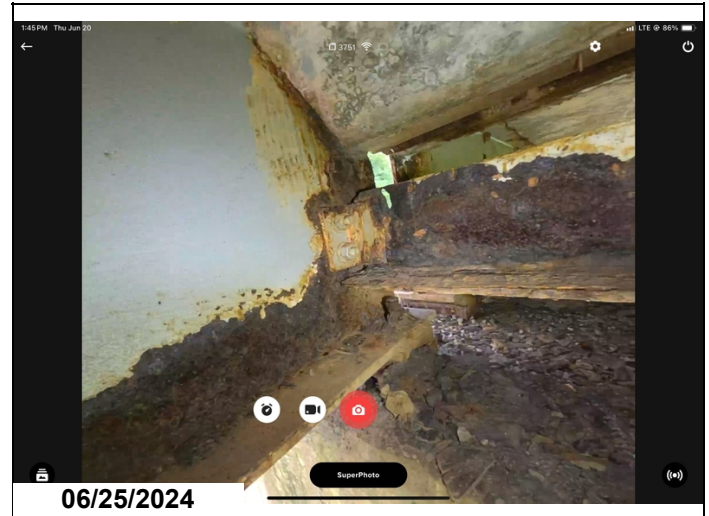
Superstructure

Superstructure has isolated areas of active corrosion at the ends of beams and near the deck drains. Some areas have flaking rust. The diaphragms have holes rusted through in locations.

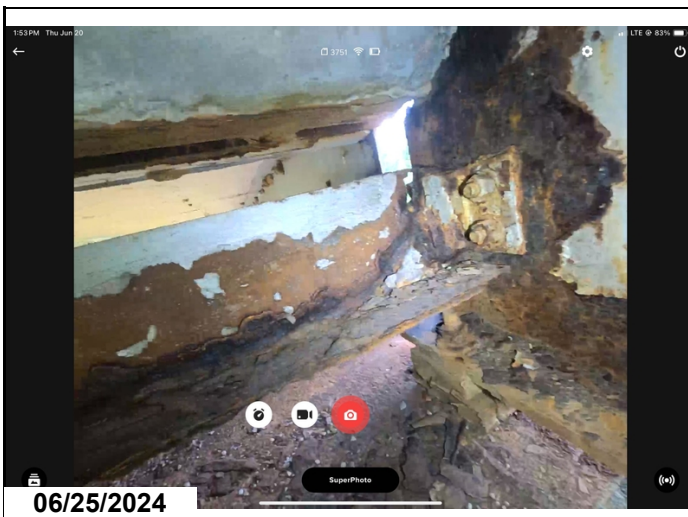
## Remarks



Bent # 8, girder # 5, ahead: active corrosion and pack rust.



Bent # 4, girder # 1, back: active corrosion and pack rust with a hole in the diaphragm over Bent # 4.



Bent # 3, girder # 5, back: active corrosion and pack rust with a hole in the diaphragm over Bent # 3.



Span # 4 adjacent to beam # 5 active corrosion in the beam.



## Maintenance Needs

**Date Reported:** 05/22/2012

**Priority:** C - Important

**Type of Work:** Deck Repair

**Status:** Monitor

**Component:** Element

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## Deficiency Description

### Deck Undersurface -

The deck undersurface has numerous areas of scaling, leaching and delaminated / spalled areas with exposed reinforcing steel. Span # 4 undersurface in the most notable as noted below.

Span # 4 undersurface in bay # 4 approximately 15' from bent # 5 has an area approximately 10' long x 4' wide that is delaminated with an area of spalling that exposes the reinforcing steel. The delaminated area appears to be sagging in areas. Exposed longitudinal reinforcing steel is corroded into with a 6" long section of the bar missing. Span # 4 undersurface in bay # 3 near mid-span has a 5' long x 3' wide delaminated area with a 16" spall with exposed reinforcing steel in the affected area. Exposed reinforcing steel has an estimated 50% section loss.

Span # 4 undersurface on the right exterior side has an area of concrete deterioration approximately 7' long adjacent to the deck drain that exposes reinforcing steel with active corrosion and initial section loss.

## Remarks

05/22/2023 - RSM & SPC: Previously documented defects in the driving surface are not visible this inspection due to an ACHM overlay applied since last inspection. Previous inspection documented areas marked out on the deck driving surface indicating preparations for future repairs. It is unclear the extent of repairs made before the ACHM overlay was applied. There are several areas with wooden forms attached to the deck undersurface indicating deck repairs were made in some locations. The deck undersurface has numerous areas of scaling, leaching, delaminated and spalled areas with exposed reinforcing steel.

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06/25/2024

Span # 8 undersurface in bay # 3 has an 18" x 5" spall with exposed reinforcing steel located approximately 15' from bent # 8 and a 3' long delaminated area located approximately 15' from bent # 9.



06/25/2024

Span # 7 undersurface in bay # 4 approximately 15' from bent # 8 has a 15" x 8" spall with exposed reinforcing steel. The areas surrounding the spall is delaminated with efflorescence and leaching.



Span # 4 undersurface has large areas of leaching, map cracking and 2" deep concrete deterioration with exposed reinforcing. Span # 4 undersurface in bay # 4 approximately 15' from bent # 5 has an area approximately 10' long x 4' wide that is delaminated with spalling that exposes the reinforcing steel. The delaminated area appears to be sagging in areas. Exposed longitudinal reinforcing steel is corroded into with a 6" long section of the bar missing.



Span # 4 undersurface in bay # 3 near mid-span has a 5' long x 3' wide delaminated area with a 16" spall with exposed reinforcing steel in the affected area. Exposed reinforcing steel has an estimated 50% section loss.



Span # 6 with numerous failing temporary repairs.



### Maintenance Needs

**Date Reported:** 05/22/2012

**Priority:** D- Routine

**Type of Work:** Substructure Repair

**Status:** Monitor

**Component:** Element

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### Deficiency Description

#### Substructure - Columns

The concrete columns have numerous spalls with exposed reinforcing steel that has active corrosion with section loss, concrete delamination's, and cracking typical throughout the intermediate bents.

### Remarks

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Bent # 4 has vertical cracks with spalls that have exposed reinforcing steel in both columns.



Bent # 3 has a 6' vertical delaminated area with spalls in the Right column that has been covered with caulking as a type of repair.



Bent # 2 has a 4' vertical spall in the Left column that has been covered with caulking as a type of repair. Concrete is delaminated adjacent to the caulked repair.



Bent # 2 Column # 1 vertical spalling filled with caulking as a type of repair.



### Maintenance Needs

**Date Reported:** 05/22/2012

**Priority:** D- Routine

**Type of Work:** Substructure Repair

**Status:** Monitor

**Component:** Element

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### Deficiency Description

Substructure - Bent Caps

The bent caps have numerous spalls with exposed reinforcing steel, delamination's and horizontal cracks in the bearing area.

### Remarks

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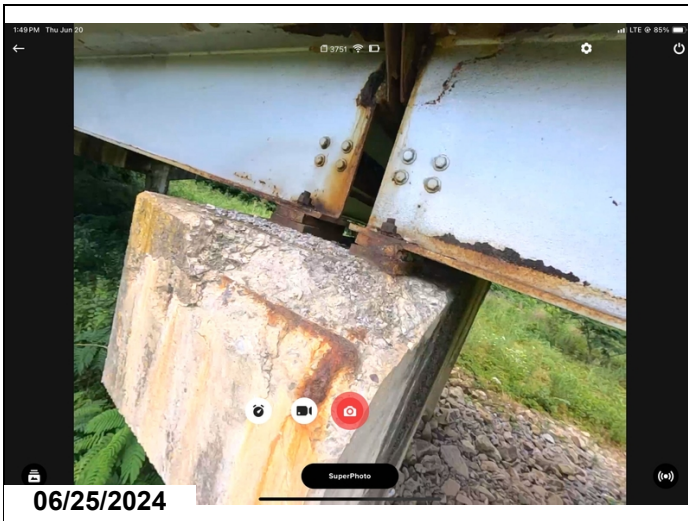
06/25/2024

Bent # 8 has spalling with exposed reinforcing steel on the undersurface of the right side of the cap and on the Span # 7 face approximately 3' from Column # 2.



06/25/2024

Bent # 5 has horizontal cracking approximately 6" below the top of the cap on the Span # 4 side.



Bent # 3, right: concrete deterioration with exposed reinforcing steel adjacent to girder # 5 on the exterior top surface with up 4" of concrete section loss.



Bent # 8 spalling with exposed reinforcing steel.





**Asset #03447**(Routine)  
**State Highway 28 over Fourche La Fave River**  
**Location: 6.94 MI E OF US 71 JCT**  
**Team Lead:** Eric West **Inspection Date:** 06/20/2024

#### Maintenance Needs

**Date Reported:** 03/17/2022

**Priority:** D- Routine

**Type of Work:** Repair (General)

**Status:** Assigned

**Component:** Element

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#### Deficiency Description

Based on the findings of the 2022 underwater inspection, it is recommended to install engineered scour countermeasures to mitigate additional erosion and potential future undermining of the Pier 3 footings.

#### Remarks

Scour contract job will handle this and more structures. 8/11/2022

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## Routine Maintenance

### Check Box Maintenance Items

Type of Maintenance	Is recommended?
A-54 - Sealable Deck Cracks	No
A-55 - Deck Washing Needed	No
A-56 - Joint Cleaning/Flushing Needed	No
A-57 - Beam End and Bearing Paint Needed	Yes
A-58 - Cap Cleaning/Flushing Needed	No
A-59 - Joint Repair Needed	No
A-60 - Full Beam Painting Needed	Yes
A-61 - Polymer Overlay Advised	No
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 (No)**

**A-55 - Deck Washing Needed (No)**

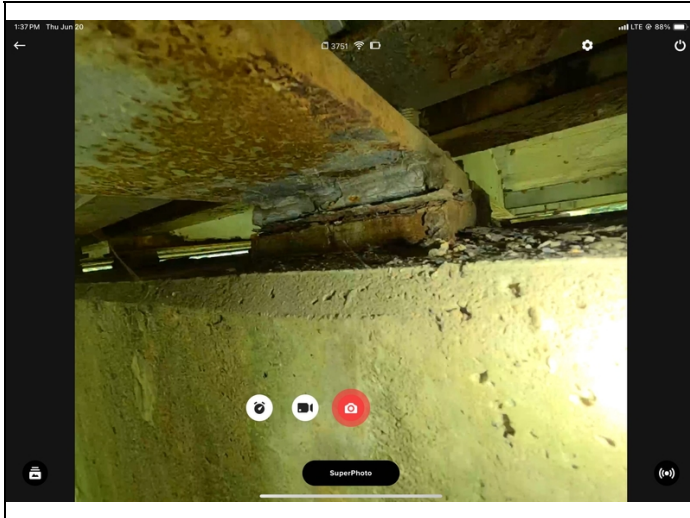
**A-56 - Joint Cleaning/Flushing Needed (No)**



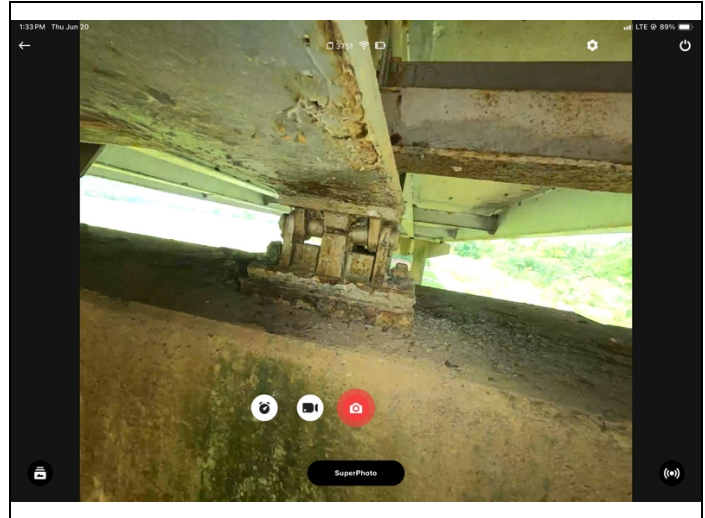
**A-57 - Girder End and Bearing Painting Needed (Yes)**

Bearings

Bearings have active corrosion and layers of rust.



Bent # 5, bearing # 2, ahead: active corrosion and pack rust.



Bent # 6, bearing # 2, ahead: active corrosion and pack rust.

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

**A-59 - Joint Repair Needed (No)**

**A-60 - Full Girder Painting Needed (Yes)**

Superstructure-

The girders have a failing paint system with random areas of active corrosion forming.



Undersurface, span # 4: typical.



**Asset #03447**(Routine)

**State Highway 28 over Fourche La Fave River**

**Location: 6.94 MI E OF US 71 JCT**

**Team Lead: Eric West Inspection Date: 06/20/2024**

**A-61 - Polymer Overlay Advised (No)**

**A-62 - Hydro and LMC Advised (No)**

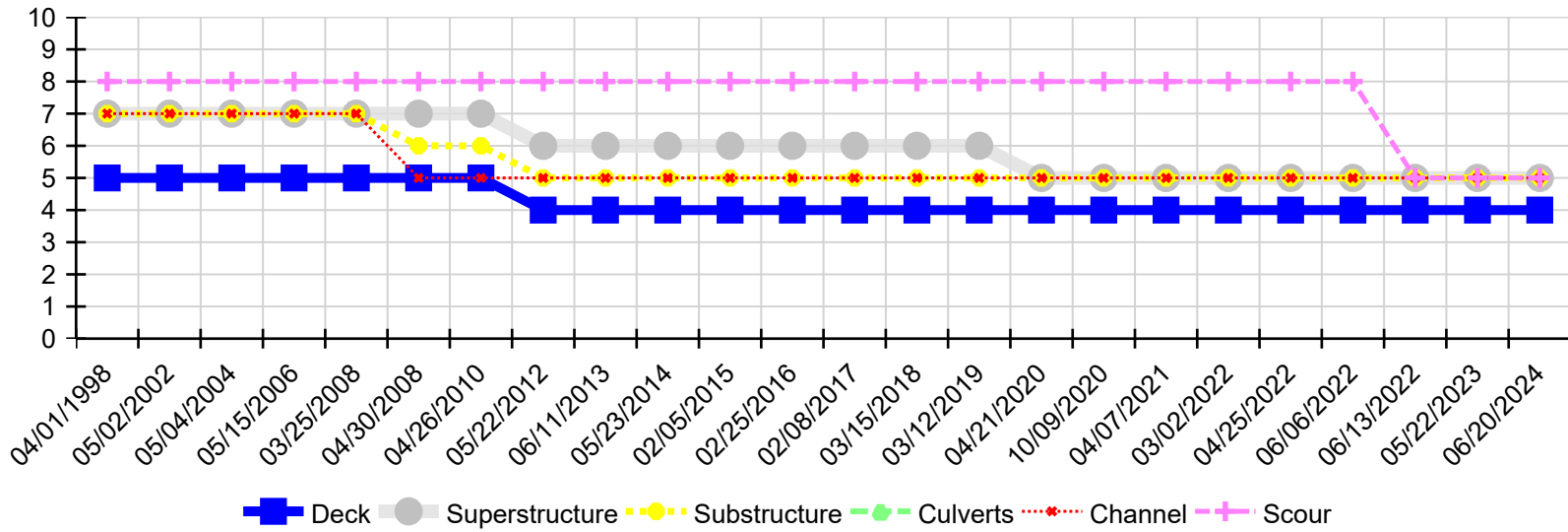
**A-63 - Missing/Incorrect Log Mile Signage (No)**

**A-64 - Vegetation Removal Requested (No)**





Condition History



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
06/20/2024	4	5	5	N	5	5
05/22/2023	4	5	5	N	5	5
06/13/2022	4	5	5	N	5	5
06/06/2022	4	5	5	N	5	8
04/25/2022	4	5	5	N	5	8
03/02/2022	4	5	5	N	5	8
04/07/2021	4	5	5	N	5	8
10/09/2020	4	5	5	N	5	8
04/21/2020	4	5	5	N	5	8
03/12/2019	4	6	5	N	5	8
03/15/2018	4	6	5	N	5	8
02/08/2017	4	6	5	N	5	8
02/25/2016	4	6	5	N	5	8
02/05/2015	4	6	5	N	5	8
05/23/2014	4	6	5	N	5	8
06/11/2013	4	6	5	N	5	8
05/22/2012	4	6	5	N	5	8
04/26/2010	5	7	6	N	5	8
04/30/2008	5	7	6	N	5	8
03/25/2008	5	7	7	N	7	8
05/15/2006	5	7	7	N	7	8
05/04/2004	5	7	7	N	7	8
05/02/2002	5	7	7	N	7	8
04/01/1998	5	7	7	N	7	8