



Latitude:35.34271, Longitude:-94.42251

Route:71 Section:14 Log:2.899

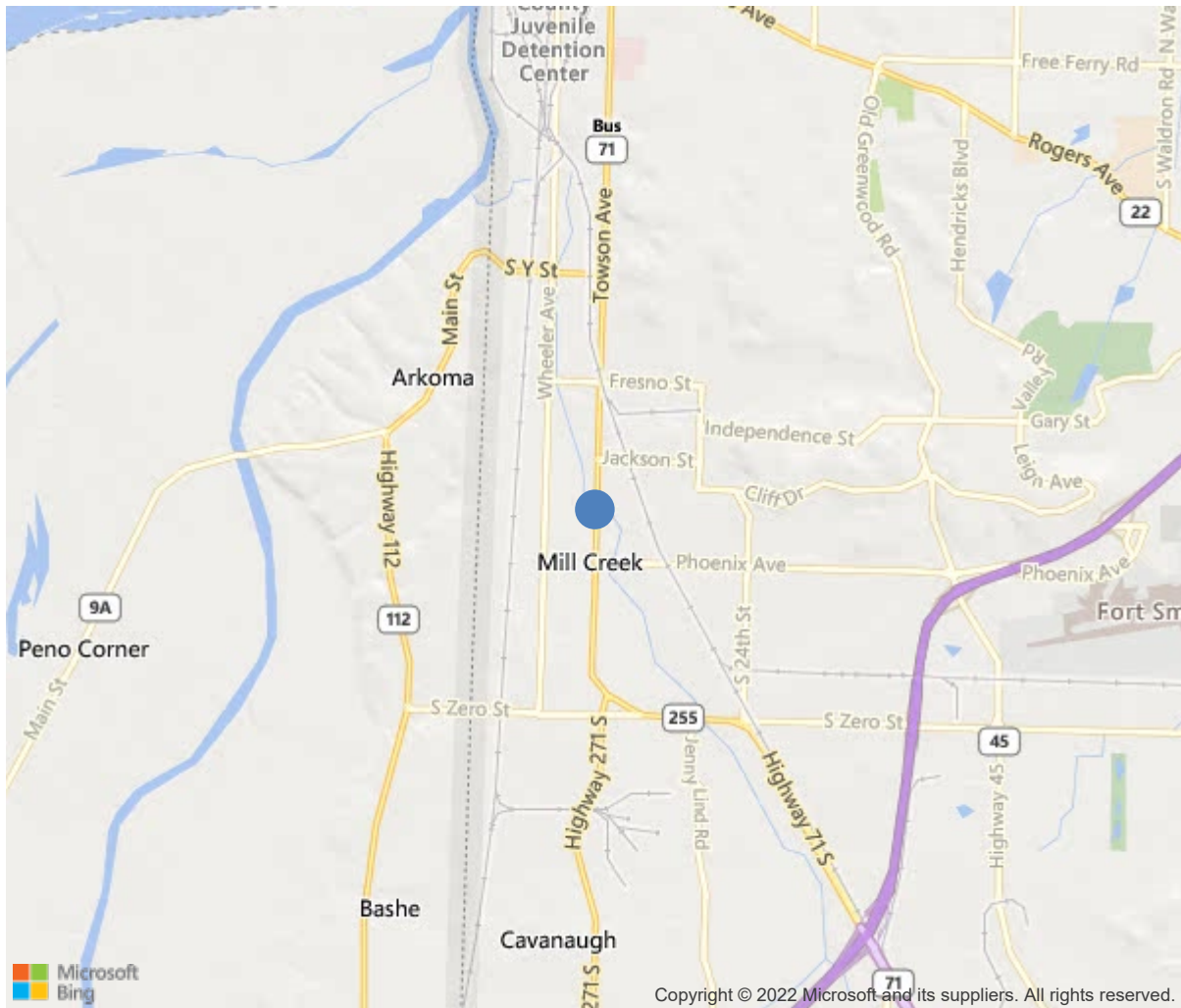
Arnold Road ID:65x71x14BxA, Arnold Log mile:2.863

District 04, Sebastian County

Owner: 1-State Highway Agency

Place Code: 24550 - Fort Smith

0.25 Mi N Jct Phoenix Ave



35.34271, -94.42251

Inspection Direction : S to N



Bridge #00329(Routine, Underwater type 2)

US 71B over Mill Creek Sebastian Co.

Location: 0.25 Mi N Jct Phoenix Ave

Team Lead: Jeff Jones Inspection Date: June 02, 2022

IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	00329
(5) Inventory Route	71
(2) Highway Agency District	04
(3) County Code	131-Sebastian County, Arkansas
(4) Place Code	24550
(6) Features Intersected	Mill Creek Sebastian Co.
(7) Facility Carried	US 71B
(9) Location	0.25 Mi N Jct Phoenix Ave
(11) Mile Point	2.899 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	000007114B
(16) Latitude	35.34271
(17) Longitude	-94.42251
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	14
Material	1-Concrete
Type	4-Tee beam
(44) Approach Structure Type	00
Material	0-Other
Type	0-Other
(45) No. of Spans in Main Unit	2
(46) No. of Approach Spans	0
(107) Deck Structure Type	1-Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	6-Bituminous
Type of Membrane	0-None
Type of Deck Protection	0-None
AGE AND SERVICE	
(27) Year Built	1928
(106) Year Reconstructed	1952
(42) Type of Service	55
On	5-Highway-pedestrian
Under	5-Waterway
(28) Lane	
On	4
Under	0
(29) Average Daily Traffic	20000
(30) Year of ADT	2018
(109) Truck ADT	3 %
(19) Bypass, Detour Length	2 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	30 ft
(49) Structure Length	60 ft
(50) Curb or Sidewalk Width	
Left	5 ft
Right	5 ft
(51) Bridge Roadway Width Curb to Curb	44.6 ft
(52) Deck Width Out to Out	57.3 ft
(32) Approach Roadway Width (W/Shoulders)	54.1 ft
(33) Bridge Median	0-No median
(34) Skew	30 Deg
(35) Structure Flared	No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	55.1 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	0 ft
Ref:	
(55) Min Lat Underclear RT	99.9 ft
Ref:	
(56) Min Lat Underclear LT	0 ft
NAVIGATION DATA	
(38) Navigation Control	0-No navigation control on water
(111) Pier Protection	1-Navigation protection not requ
(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	14-Urban Other Principal Arterial
(100) Defense Highway	0-The inventory route is not a S
(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 part of the
(20) Toll	3-On free road. The structure is toll-
(21) Maintain	1-State Highway Agency
(22) Owner	1-State Highway Agency
(37) Historical Significance	5-Bridge is not eligible for the NRHP
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	4-M 18 / H 20
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1-Load Factor(LF)
Rating	55
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	2
Rating	33
(70) Bridge Posting	5-Equal to or above legal loads
(41) Structure Open/Posted/Closed	A-Open, no restriction
APPRAISAL	
(67) Structural Evaluation	5
(68) Deck Geometry	2
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	0-Inspected feature does not meet cur
(36B) Transitions	0-Inspected feature does not meet cur
(36C) Approach Guardrail	0-Inspected feature does not meet cur
(36D) Approach Guardrail Ends	0-Inspected feature does not meet cur
(113) Scour Critical Bridges	8-Bridge foundations determined to be
PROPOSED IMPROVEMENTS	
(75) Type of Work	Replacement of bridge or other
(76) Length of Structure Improvement	85 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 341
(96) Total Project Cost	\$ 693
(97) Year of Improvement Cost Estimate	2002
(114) Future ADT	24000
(115) Year of Future ADT	2038

INSPECTIONS *			
(90) Inspection Date	06/2022		
(91) Frequency	24 Months		
(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.			

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
16	Reinforced Concrete Top Flange	SF	2699	2573	113	13	0
1080	Delamination/Spall/Patched Area	SF	6	0	0	6	0
1120	Efflorescence/Rust Staining	SF	109	0	108	1	0
1130	Cracking (RC and Other)	SF	11	0	5	6	0
510	Wearing Surfaces	SF	2676	63	1307	1306	0
3220	Crack (Wearing Surface)	SF	2600	0	1300	1300	0
3210	Delam/Spall/Patched Area/Pothole	SF	13	0	7	6	0
(16)							
-The asphalt driving surface has reflective cracking over the expansion joints and the longitudinal construction joints. -The asphalt driving surface has map cracking and is breaking apart over the expansion joints. -There is spalling and leakage along the construction joints where the structure was widened. -The undersurface of Span # 1 over Abutment # 1 has delaminated areas in Bay # 3 at construction joint. -There are a few transverse cracks with light efflorescence visible from the undersurface of the deck. -There are isolated areas of hairline map cracking with light efflorescence adjacent to the abutments and along the construction joints. -Large spalling along the construction joint in Bay # 3 over Bent # 2. -The Left edge of the structure has a 3" and Right edge has 1" misalignment of the R.C. top flange over Bent # 2 with no apparent changes since the last inspection.							
(16-510)							
-Reflective cracking typical along the construction joints and the expansion joints. -Asphalt breaking apart over the expansion joints with patched areas at the abutments. -Asphalt wearing surface has map cracking.							
110	Reinforced Concrete Open Girder/Beam	LF	540	524	9	5	2
1080	Delamination/Spall/Patched Area	LF	1	0	0	1	0
1090	Exposed Rebar	LF	4	0	0	4	0
1120	Efflorescence/Rust Staining	LF	3	0	3	0	0
1130	Cracking (RC and Other)	LF	8	0	6	0	2
(110)							
-There are no apparent changes in the previously documented shear cracks in the girders. Crack locations are noted below. -There is one hairline shear crack in Girder # 3, Span # 1, adjacent to Abutment # 1. -There are vertical hairline flexure cracks at variable spacing in some of the girders. -There is longitudinal cracking in the base of the stem of Girder # 7, Span # 1, adjacent to Bent # 2. -There are spalls with exposed reinforcing steel in the ends of Girders # 2, 3, and 7 of Span # 1 over Bent # 2. -The spall in Girder # 3 is approximately 18" long. -Span # 2 Girder # 6 has a 8" vertical spall with exposed reinforcing steel adjacent to Bent # 2. -The exterior face of Girder # 9 of Spans # 1 and # 2 have spalling over Bent # 2. -There is a shear crack in Girder # 7 of Span # 2 adjacent to Bent # 3 that is approximately 1/16" wide. The shear crack is visible from both sides of girder. The girder has an additional diagonal crack on the Right side located approximately 2' from Bent # 3. No apparent change since the last inspection. -There is one short duration vertical crack with efflorescence in Girder # 8 of Span # 2 adjacent to Bent # 3.							

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
205	Reinforced Concrete Column	EA	9	0	3	6	0
1190	Abrasion/Wear (PSC/RC)	EA	9	0	3	6	0
(205)							
<p>-The bases of columns have medium / heavy abrasion.</p> <p>-Bent # 2, Columns # 5 and # 6 have areas of heavy abrasion with concrete section loss near the bases of the columns.</p>							
215	Reinforced Concrete Abutment	LF	196	109	70	15	2
1080	Delamination/Spall/Patched Area	LF	5	0	4	1	0
1090	Exposed Rebar	LF	2	0	0	2	0
1120	Efflorescence/Rust Staining	LF	23	0	23	0	0
1130	Cracking (RC and Other)	LF	57	0	43	12	2
(215)							
<p>-Both end bents have cracking and spalling at the construction joints.</p> <p>-Bent # 1 Left has a 9' long X approximately 1/16" wide diagonal crack under Girder # 2, Bay # 1.</p> <p>-Bent # 1 stem wall appears to have rotated approximately 3/4" toward the channel at the construction joint under Girder # 3. The stem wall has a 1/2" wide crack at the construction joint with 3/4" differential offset at the crack.</p> <p>-Bent # 1 has vertical hairline cracks at variable spacing.</p> <p>-There is one 12" spall in the stem that has been patched between girders # 6 & 7 and adjacent to the Right side of Girder # 7.</p> <p>-Bent # 1 Right has diagonal cracking under Girder # 9 with a 1/2" offset in the abutment stem (appears to be delaminated).</p> <p>-Bent # 1 Right end of the wing wall has concrete section loss and cracking with efflorescence.</p> <p>-Bent # 3 has vertical cracking at variable spacing with horizontal cracking propagating from the weep holes.</p> <p>-There is a 3' spall with exposed reinforcing steel in the vertical construction joint between Girders # 6 & 7.</p> <p>-The 09/08/1988 Inspection Report indicates that a 12" thick X 24' wide wall was placed in front of the Left side of Bent # 3 as a type of repair. Repair appears to be holding during this inspection.</p> <p>-The end of the Southeast wing wall has concrete deterioration and is beginning to spall along the top.</p> <p>06/02/2022 - JCJ & TJL - Research of the History files indicate that a Maintenance Need was issued 08/23/1988 for rotation in the Left side of Bent # 3. The 09/08/1988 Inspection Report indicates that a 12" thick X 24' wide wall was placed in front of that portion of the abutment as a type of repair.</p>							
220	Reinforced Concrete Pile Cap/Footing	LF	36	0	31	5	0
1190	Abrasion/Wear (PSC/RC)	LF	36	0	31	5	0
(220)							
<p>-Footings have medium abrasion along the top and sides with areas of heavy abrasion with minor concrete section loss below the water elevation.</p> <p>06/02/2022 - JCJ & TJL - Type 2 Underwater Inspection conducted this date.</p> <p>ArDOT Drawing Number 309 shows the concrete spread footings set 1.0' in Solid Rock Shale.</p> <p>Solid Rock Shale elevation is documented as 444.5'. As Built documentation for the base of footing is 443.5'.</p> <p>Research of the History files indicate that in the 07/14/1992 Inspection Report the City of Fort Smith made channel modifications to improve drainage and lowered the flowline of the channel, exposing the concrete spread footings.</p> <p>Wading and probing along with visual observations during low and clear water conditions indicate that all footings are exposed during this inspection.</p>							

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
There are minor voids along the edges of the footings that do not reach under the columns. The most notable area is the Span # 1 side of Column # 2 of Bent # 2 which has a void that penetrates up to approximately 6" under the edge of the footing. Probing indicates no apparent changes since the last inspection.							
234	Reinforced Concrete Pier Cap	LF	65	55	4	6	0
1080	Delamination/Spall/Patched Area	LF	6	0	1	5	0
1090	Exposed Rebar	LF	2	0	1	1	0
1120	Efflorescence/Rust Staining	LF	2	0	2	0	0
(234)							
-Bent # 2 cap has shallow spalls in the bearing area typical. -The Span # 1 side of Bent #2 has a basketball sized spall in the bearing area of Girders # 7, 8, & 9. -There are isolated spalls with exposed reinforcing steel over Column # 3. -The undersurface of Bent # 2 cap has an 8" spall with exposed reinforcing steel adjacent to Column # 6. -Span # 2 Girder # 4 haunch has a 8" concrete delamination at the beam interface. -Span # 1 Girder # 4, 5, & 6 cap haunch has cracking with efflorescence.							
330	Metal Bridge Railing	LF	120	26	90	4	0
1000	Corrosion	LF	90	0	90	0	0
7000	Damage	LF	4	0	0	4	0
515	Steel Protective Coating	SF	720	452	90	88	90
3440	Effectiveness (Steel Protective Coatings)	SF	268	0	90	88	90
(330)							
-Both end posts on the Right side of structure have spalling with exposed reinforcing steel in the upper portion of posts adjacent to the railing. -Post # 2 at Bent # 1 Left is fractured at the base of the rail post. -Post # 3 at Bent # 1 Left is cracked at the base of the rail post.							
(330-515)							
-The interior side of the metal bridge railing has a more recent paint system than the exterior side. The exterior side of railing has rust forming on the majority of the railing.							



Elevation. Outlet end of structure.



Elevation. Outlet end of structure.



Approach roadway facing North



Deck. Typical



Span 1 deck soffit. Typical



Deck. Typical.



Left edge of deck over Bent # 2.



Spalling in the deck soffit over Bent # 2, Bay # 3.



Span # 1 deck soffit. Typical.



Span # 2 deck soffit. Typical.



Decks Typical. Asphalt wearing surface has map cracking.



Asphalt breaking apart over the expansion joints.



Asphalt breaking apart over the expansion joints with patched areas at the abutments.



There is one hairline shear crack in Girder # 3, Span # 1, adjacent to Abutment # 1.



Span # 1 at Bent # 2 - Spall with exposed reinforcing steel in the end of Girder # 3.



Span # 1 superstructure. Typical.



Span # 1, Girders # 2 & 3 at Bent # 2 - Spalls with exposed reinforcing steel.



Superstructure. Typical.



Span # 2 Girder # 6 has a 8" vertical spall with exposed reinforcing steel adjacent to Bent # 2.



Concrete deterioration at the base of Columns # 5 & 6.



Substructure columns at Bent # 2. Typical.



Bent # 1. Typical.



Bent # 1 Left has a 9' long X approximately 1/16" wide diagonal crack under Girder # 2, Bay # 1.



Bent # 1 stem wall appears to have rotated approximately 3/4" toward the channel at the construction joint in Bay # 3 under Girder # 3. The stem wall has a 1/2" wide crack at the construction joint with 3/4" differential offset at the crack.



There is one 12" spall in the stem that has been patched between girders # 6 & 7 and adjacent to the Right side of Girder # 7.



Bent # 1 Right has diagonal cracking under Girder # 9 with a 1/2" offset in the abutment stem (appears to be delaminated).



Bent # 1 Right end of the wing wall has concrete section loss and cracking with efflorescence.



Bent # 3. Typical.



There is a 3' spall with exposed reinforcing steel in the vertical construction joint between Girders # 6 & 7.



Bent # 2 Column # 8 footing.



Span # 1 side of Bent # 2 footing at Column # 1.



Bent # 2. Typical.



The undersurface of Bent # 2 cap has an 8" spall with exposed reinforcing steel adjacent to Column # 6.



Left bridge railing. Typical.



Spall with exposed reinforcing steel in the Southeast end post.



Span # 1 Left side. Fractured concrete bridge railing post.



Typical backside of the metal bridge rail.

Maintenance Needs

Date Reported: 05/12/2014
Priority: D- Routine
Type of Work: Repair
Status: Monitor
Inspection Direction S to N
Component: 110 - Reinforced Concrete Open Girder/Beam

Deficiency Description

Superstructure -

The ends of concrete girders # 2 and # 3 of span # 1 have spalling with exposed reinforcing steel over bent # 2.

Remarks



Span #1, Girder 3 over Bent 2-Spalling with exposed reinforcing steel.



Spall with exposed reinforcing steel in Span 1. Girder 3. At Bent 2.



Span 1, girder 2 over Bent 2-Spalling.



Span # 1, Girder # 3, at Bent # 2. Spall with exposed reinforcing steel.

Date Reported: 05/12/2014

Priority: D- Routine

Type of Work: Repair

Status: Monitor

Inspection Direction S to N

Component: Substructure

Deficiency Description

Substructure -

Bent # 2 cap has shallow spalling in the bearing areas of girders # 7, 8, & 9.

The North abutment stem wall has shallow spalling in the bearing area of girder # 1.

Remarks



Span 1 side of Bent 2. Right side.



Bent #2 cap-Spalling in bearing area of girders #7 and #8.



Bent # 2 cap has shallow spalling in the bearing areas of girders # 7, 8, & 9.

Date Reported: 05/12/2014
Priority: D- Routine
Type of Work: Repair
Status: Monitor
Inspection Direction S to N
Component: 205 - Reinforced Concrete Column

Deficiency Description

Substructure -

Bent # 2, columns # 5 and # 6 have areas of heavy abrasion with concrete section loss near the bases of the columns.

Remarks



Base of column 6. Bent 2.



Column 5, bent 2, Span 2 side.



Concrete deterioration at the base of Bent # 2,
Column # 6.

Date Reported: 05/12/2014
Priority: D- Routine
Type of Work: Repair
Status: Monitor
Inspection Direction S to N
Component: 16 - Reinforced Concrete Top Flange

Deficiency Description

Undersurface of the deck -

The undersurface of the deck has spalling along the construction joints where the structure has been widened in the past.

Remarks



Bay 3. Span 1. Deck soffit.



Span #1-Delaminated area in deck at construction joint over abutment #1.



Delaminated area at the construction joint under
Span # 1.

Date Reported: 04/26/2016

Priority: D- Routine

Type of Work: Repair

Status: Monitor

Inspection Direction S to N

Component: Channel

Deficiency Description

There is minor embankment erosion behind the Northeast wing wall.

Remarks



Northeast wing wall



Minor erosion behind Northeast wing wall.



Embankment erosion behind the Northeast wing wall.

Date Reported: 04/26/2016
Priority: G - General/ Preventive maintenance
Type of Work: Repair
Status: Monitor
Inspection Direction S to N
Component: 110 - Reinforced Concrete Open Girder/Beam

Deficiency Description

Superstructure-

Span # 1, Girder # 3 at abutment # 1, and Span # 2, Girder # 7 at abutment # 2 have shear cracks. No apparent change in crack widths since last inspection.

Remarks



Shear Crack. Span 2, girder 7. Bent 3. Measures approximately 1/16" at this inspection



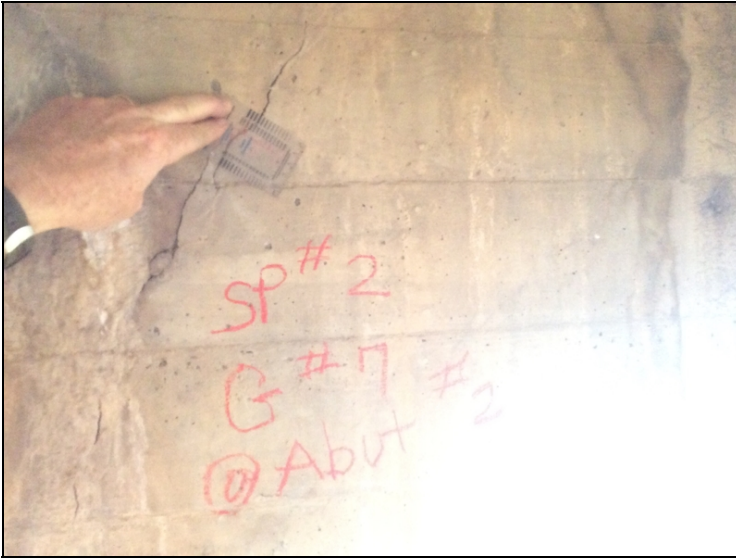
Open shear crack. Girder 7. Bent 3.



Span #1, girder #3 at abutment #1-Hairline shear crack.



Hairline shear crack in Span 1. Girder 3. Bent 1.



Span #2, girder #7 at abutment #2-Shear crack.



Girder 7. Bent 3.



Span # 1, Bent # 1, Girder # 3, hairline shear crack.

Date Reported: 05/07/2018
Priority: D- Routine
Type of Work: Repair
Status: Monitor
Inspection Direction S to N
Component: 215 - Reinforced Concrete Abutment

Deficiency Description

Abutment # 1-

The left side of abutment # 1 stem wall appears to have rotated toward the channel approximately 3/4" at the construction joint creating a wide (1/2") crack at the vertical construction joint with a 3/4" differential offset measured at the top of stem wall.

The Right side of abutment # 1 stem wall has diagonal cracking under girder # 9 with a 1/2" offset in the abutment stem (Appears to be delaminated).

Remarks



End Bent 1-Differential offset in stem wall.



Abutment #1-Wide racking in breastwall at construction joint.



Bent # 1 Rt diagonal cracking under girder # 9 with a 1/2 offset in the abutment stem.



The Right side of abutment # 1 stem wall has diagonal cracking under girder # 9 with a 1/2 offset in the abutment stem (Appears to be delaminated).



Bent # 1, Bay # 3 construction joint.



Bridge #00329(Routine, Underwater type 2)

US 71B over Mill Creek Sebastian Co.

Location: 0.25 Mi N Jct Phoenix Ave

Team Lead: Jeff Jones **Inspection Date:** June 02, 2022

Date Reported: 06/02/2022

Priority: D- Routine

Type of Work: Repair

Status: Open

Inspection Direction S to N

Component: Deck

Deficiency Description

Asphalt breaking apart over the expansion joints with patched areas at the abutments.

Remarks



Asphalt breaking apart over the expansion joints
with patched areas at the abutments.

Date Reported: 06/02/2022
Priority: C - Important
Type of Work: Repair
Status: Open
Inspection Direction S to N
Component: 330 - Metal Bridge Railing

Deficiency Description

- Both end posts on the Right side of structure have spalling with exposed reinforcing steel in the upper portion of posts adjacent to the railing.
- Post # 2 at Bent # 1 Left is fractured at the base of the rail post.
- Post # 3 at Bent # 1 Left is cracked at the base of the rail post.

Remarks



- Post # 2 at Bent # 1 Left is fractured at the base of the rail post.
- Post # 3 at Bent # 1 Left is cracked at the base of the rail post.



Bridge #00329(Routine, Underwater type 2)

US 71B over Mill Creek Sebastian Co.

Location: 0.25 Mi N Jct Phoenix Ave

Team Lead: Jeff Jones Inspection Date: June 02, 2022

Inspection Comments

06/02/2022 - JCJ & TJL - Routine Inspection and Type 2 Underwater Inspection conducted this date.

Substructure Notes

06/02/2022 - JCJ & TJL - Type 2 Underwater Inspection conducted this date.

ArDOT Drawing Number 309 shows the concrete spread footings set 1.0' in Solid Rock Shale.

Solid Rock Shale elevation is documented as 444.5'. As Built documentation for the base of footing is 443.5'.

Research of the History files indicate that in the 07/14/1992 Inspection Report the City of Fort Smith made channel modifications to improve drainage and lowered the flowline of the channel, exposing the concrete spread footings.

Wading and probing along with visual observations during low and clear water conditions indicate that all footings are exposed during this inspection.

There are minor voids along the edges of the footings that do not reach under the columns. The most notable area is the Span #1 side of Column # 2 of Bent # 2 which has a void that penetrates up to approximately 6" under the edge of the footing.

Probing indicates no apparent changes since the last inspection.

A profile of the channel was taken along both sides of the structure this date.

See channel profile documentation associated with this inspection for additional information.

05/13/2020 - EJW & JPW - Type 2 Underwater Inspection - Wading and probing during low water conditions indicate that the footings are exposed with minor voids along the edges that do not reach under the columns. Footings are constructed on solid rock channel that is exposed at this inspection. There are no apparent significant scour problems at this inspection.