



Latitude:36.11943, Longitude:-94.14548

Route:71 Section:17 Log:1.82

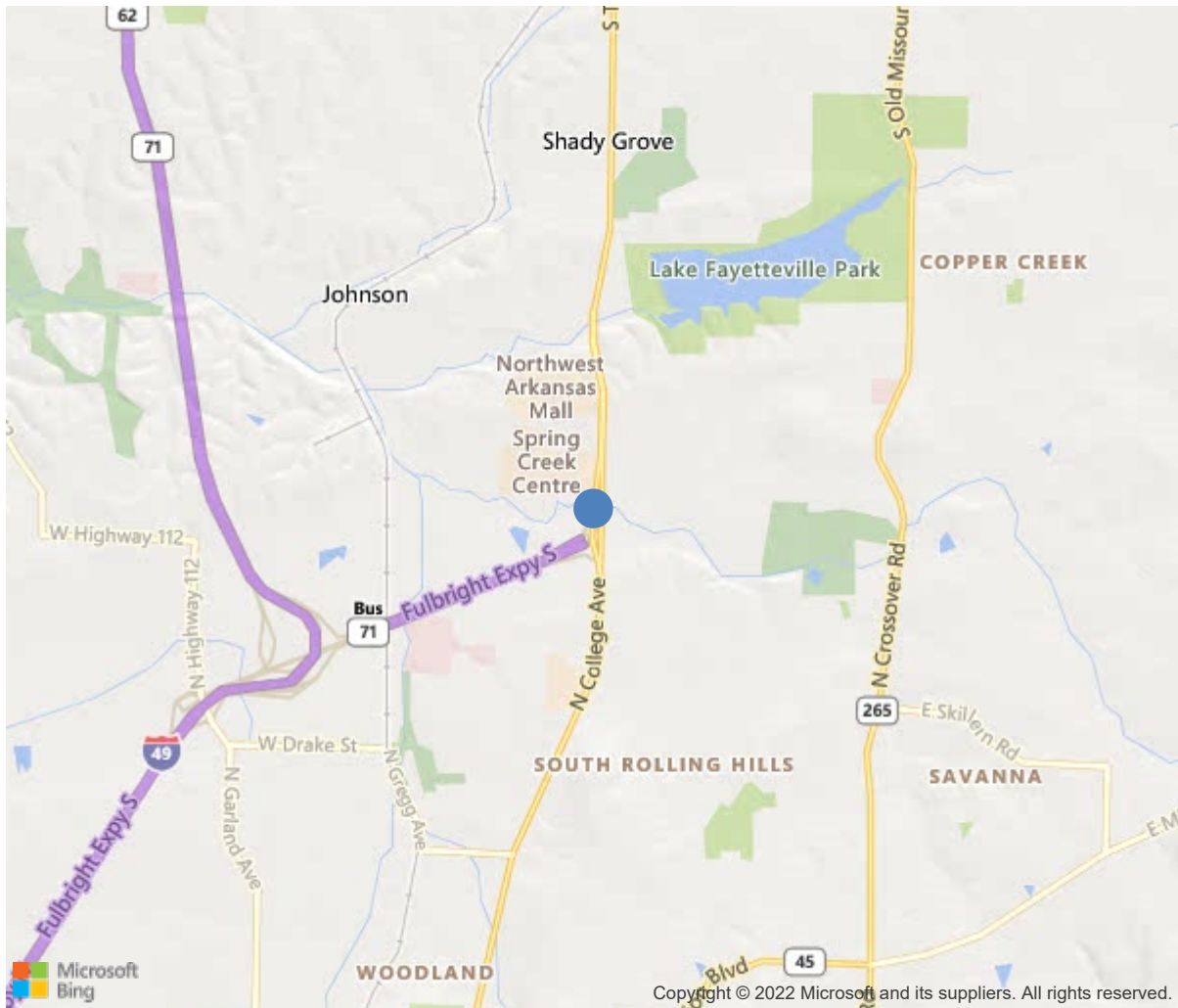
Arnold Road ID:72x71x17BxB, Arnold Log mile:6.018

District 04, Washington County

Owner: 1-State Highway Agency

Place Code: 23290 - Fayetteville

6.24 MI N JCT US 71 & 62



36.11943, -94.14548

Inspection Direction : S to N



Bridge #05077(Routine)

US 71 SEC 17B, SB over Mud Creek-Washington

Location: 6.24 MI N JCT US 71 & 62

Team Lead: Bob McEntyre Inspection Date: November 08, 2021

IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	05077
(5) Inventory Route	71
(2) Highway Agency District	04
(3) County Code	143-Washington County, Arkansas
(4) Place Code	23290
(6) Features Intersected	Mud Creek-Washington
(7) Facility Carried	US 71 SEC 17B, SB
(9) Location	6.24 MI N JCT US 71 & 62
(11) Mile Point	1.82 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	000007117B
(16) Latitude	36.11943
(17) Longitude	-94.14548
(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	4
(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 placed)
Type of Membrane	0-None
Type of Deck Protection	0-None
AGE AND SERVICE	
(27) Year Built	1971
(106) Year Reconstructed	0
(42) Type of Service	15
On	1-Highway
Under	5-Waterway
(28) Lane	
On	3
Under	0
(29) Average Daily Traffic	13000
(30) Year of ADT	2018
(109) Truck ADT	1 %
GEOMETRIC DATA	
(48) Length of Maximum Span	37 ft
(49) Structure Length	150 ft
(50) Curb or Sidewalk Width	
Left	0.4 ft
Right	0.4 ft
(51) Bridge Roadway Width Curb to Curb	39 ft
(52) Deck Width Out to Out	42 ft
(32) Approach Roadway Width (W/Shoulders)	40 ft
(33) Bridge Median	0-No median
(34) Skew	0 Deg
(35) Structure Flared	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	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	L-The left structure of parallel
(102) Direction of Traffic	1 - way traffic
(103) Temporary Structure	
(105) Federal Lands Highways	0-N/A
(110) Designated National Network	0-The inventory route is not part of
(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	6
(60) Substructure	6
(61) Channel & Channel Protection	7
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	5-MS 18 / HS 20
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1-Load Factor(LF)
Rating	60
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	4
Rating	36
(70) Bridge Posting	5-Equal to or above legal loads
(41) Structure Open/Posted/Closed	A-Open, no restriction
APPRAISAL	
(67) Structural Evaluation	6
(68) Deck Geometry	3
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	1-Inspected feature meets currently a
(36B) Transitions	1-Inspected feature meets currently a
(36C) Approach Guardrail	1-Inspected feature meets currently a
(36D) Approach Guardrail Ends	1-Inspected feature meets currently a
(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	180 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 247
(96) Total Project Cost	\$ 703
(97) Year of Improvement Cost Estimate	1994
(114) Future ADT	24613
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date			11/2021
(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.			



**Team Lead:** Bob McEntyre, **Inspection Date:** November 08, 2021

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	6068	0	5677	391	0
1080	Delamination/Spall/Patched Area	SF	291	0	160	131	0
1090	Exposed Rebar	SF	1	0	0	1	0
1120	Efflorescence/Rust Staining	SF	18	0	18	0	0
1130	Cracking (RC and Other)	SF	1285	0	1026	259	0
1190	Abrasion/Wear (PSC/RC)	SF	4473	0	4473	0	0
(12)							
-Spans # 1 and # 3 have sealable diagonal cracks on the driving surface of the deck. Span # 1 driving surface is the most notable with numerous moderate width diagonal cracks over the majority of the span. -There are numerous large spalls in the driving surface of all spans that are up to approximately 1 1/2" deep with failing temporary asphalt patches. Span # 2 appears to be the most extreme case at this inspection. -Span # 3 has spalls and delaminated areas adjacent to bent # 4 expansion joint assembly. -There are delaminated areas in the deck. -There is concrete deterioration with delaminated areas visible from the undersurface of the deck overhangs adjacent to the deck drains and the expansion joints in the overhangs. -There are transverse cracks at variable spacing visible from the undersurface of the deck. -The shoulders on the deck and approach roadways have heavy dirt and debris accumulation that restricts the deck drains and the drop inlet at the North approach.							
107	Steel Open Girder/Beam	LF	1036	991	26	19	0
1000	Corrosion	LF	45	0	26	19	0
515	Steel Protective Coating	SF	6182	6115	48	0	19
3440	Effectiveness (Steel Protective Coatings)	SF	67	0	48	0	19
(107)							
-Superstructure has areas of active corrosion in the bottom flanges and the base of webs adjacent to the bearings where the deck joint seals leak water and debris. -The ends of the beams at abutment # 2 have flaking rust with up to approximately 1/16" of section loss to the bottom flange. -The exterior beams have active corrosion in the top flanges adjacent to the expansion joints.							
205	Reinforced Concrete Column	EA	9	3	6	0	0
1130	Cracking (RC and Other)	EA	1	0	1	0	0
1190	Abrasion/Wear (PSC/RC)	EA	5	0	5	0	0
(205)							
-There is light abrasion at the base of columns at bents # 3 & 4. -Bent # 3, column # 3 has vertical cracking located 1' foot from the bottom of cap.							
215	Reinforced Concrete Abutment	LF	114	104	10	0	0
1080	Delamination/Spall/Patched Area	LF	9	0	9	0	0
1130	Cracking (RC and Other)	LF	1	0	1	0	0
(215)							



ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
-Abutments have water stains and minor debris accumulation that cover the bridge seats. -The top of abutment # 1 back wall has a patched that is approximately 9' long located near the center line. The repair appears to be holding at this inspection.							
234	Reinforced Concrete Pier Cap	LF	123	112	7	4	0
1080	Delamination/Spall/Patched Area	LF	2	0	2	0	0
1090	Exposed Rebar	LF	4	0	0	4	0
1120	Efflorescence/Rust Staining	LF	1	0	1	0	0
1130	Cracking (RC and Other)	LF	4	0	4	0	0
(234)							
-Bent # 2 cap, left end appears to have 2 baseball sized spalls with exposed reinforcing steel. -The right side of bent # 2 has two 3" spalls with exposed reinforcing steel visible from the undersurface of the cap. -The caps at bents # 3 & 4 have minor 3" spalls with exposed reinforcing steel visible from the undersurface of the edges of the caps. -Substructure caps have water stains and debris accumulation where the deck joints leak.							
302	Compression Joint Seal	LF	215	5	32	28	150
2310	Leakage	LF	150	0	0	0	150
2330	Seal Damage	LF	28	0	0	28	0
2360	Adjacent Deck or Header	LF	32	0	32	0	0
(302)							
-Compression joint seals are torn, deteriorated, and leak water and debris on the substructure caps, bearings, and ends of the beams. -Portions of the deck joint seals are missing during this inspection. -There are numerous patched areas adjacent to the expansion joints.							
311	Movable Bearing	EA	28	13	0	15	0
1000	Corrosion	EA	15	0	0	15	0
515	Steel Protective Coating	SF	28	20	0	0	8
3440	Effectiveness (Steel Protective Coatings)	SF	8	0	0	0	8
(311)							
-Bearings have active corrosion with layers of rust between the masonry plate and the sole plate. -Some bearings are covered in debris where the deck joints leak. -There are areas of fretting between the sole plates and masonry plates.							
313	Fixed Bearing	EA	28	12	0	15	1
1000	Corrosion	EA	15	0	0	15	0
2210	Movement	EA	1	0	0	0	1
515	Steel Protective Coating	SF	28	13	9	6	0
3440	Effectiveness (Steel Protective Coatings)	SF	15	0	9	6	0
(313)							
-Bearings have active corrosion with layers of rust between the masonry plate and the sole plates.							

**Team Lead:** Bob McEntyre, **Inspection Date:** November 08, 2021

[illegible]



Elevation looking East.



Span 1, bearing 2 over bent 2-Fretting with noise under live load.





Span 2, bearings 2 and 3 at bent 2.



Bent 2 cap, left end-Spalls with exposed reinforcing steel.





Abutment 2 beam #5



Beam #3 at abutment #2





Abutment 2 bearing #3



Span #4 bay #1 scaling to the undersurface





Bent #4 cap ahead face .



Abutment #2





Columns 2&3 bent 3



Aheadface of bent #2





Span #2 left



Bent 3





Live action



Dirt and debris accumulation on bent 2 cap.





Span 1, bearing 4 at abutment 1-Corrosion.



Abutment 1.





Span 3 undersurface.



Bent 4.





Span 2 undersurface.



Bent 2.





Span 3, beam 7 over bent 4-Corrosion to top flange.



Span 3, left side-Spall / delaminated area adjacent to deck drain.





The left bridge railing has minor collision damage at bent # 3.



Abutment 2.



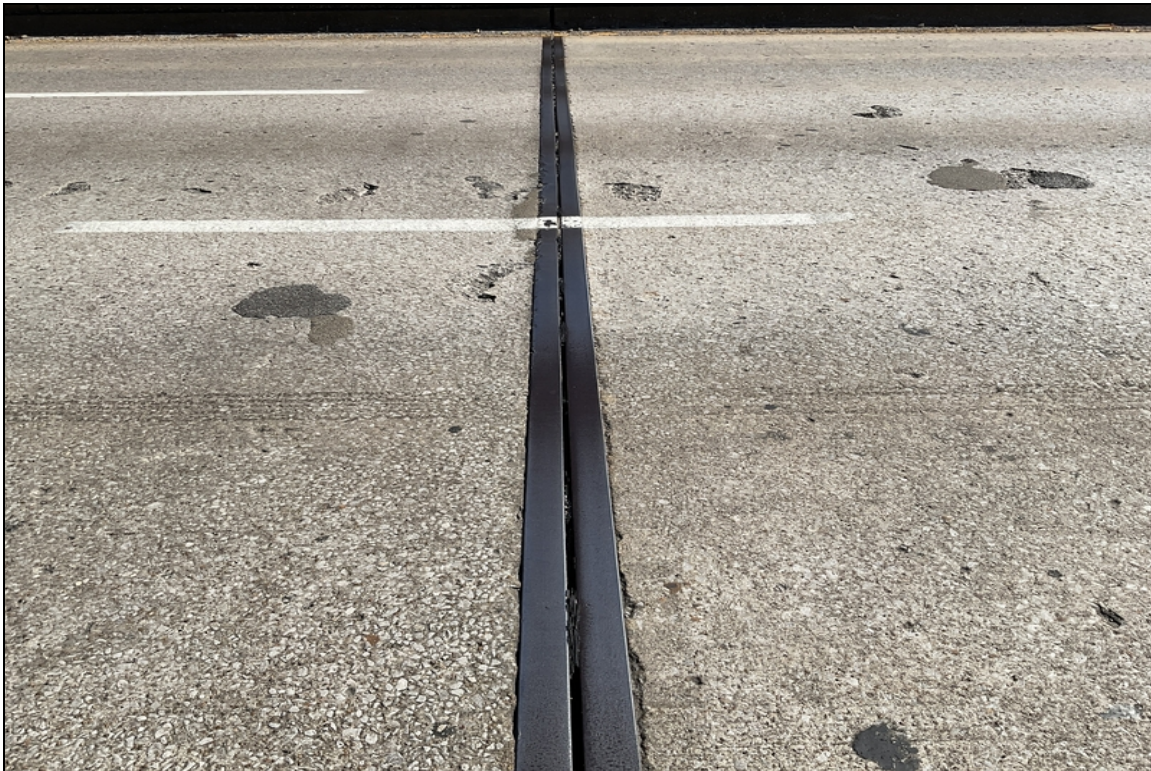


Span # 3 has spalls and delaminated areas adjacent to bent # 4 expansion joint assembly.



Span 3-Spalls in driving surface.





Bent 3 expansion joint.



Span 2-Spalls with failing repairs.





Spans 1 and 2 at bent 2-Spalls and delaminated areas.



Span 1 diagonal cracks.





Abutment 1 backwall-Epoxy patch.



Span # 1 driving surface has numerous moderate width diagonal cracks.





Abutment 1 expansion joint.



South approach slab-Abrasion with numerous pop outs.





Span 4-Spalls at abutment 2.



Abutment 1 expansion joint-Seal deteriorated.





Heavy dirt and debris in gutters.



The North approach gutter has heavy dirt and debris accumulation that restricts drop inlet.





North approach slab-Spall at roadway juncture.



North approach slab-Light abrasion with numerous pop outs.



## Maintenance Needs

**Date Reported:** 10/15/2013  
**Priority:** D- Routine  
**Type of Work:** Repair  
**Status:** Monitor  
**Component:** 107 - Steel Open Girder/Beam

---

## Deficiency Description

### Superstructure -

The superstructure has areas of active corrosion in the bottom flanges and the base of webs adjacent to the bearings where the deck joint seals leak water and debris.

Exterior Beams also have active corrosion in the top flange adjacent to the expansion joints.

## Remarks

---



Bent # 5. Beam # 3.



Beam # 1 over Bent # 4.





Span # 3, beam # 7 over bent # 4-Corrosion to top flange.



Beam # 3 at abutment # 2-Corrosion to beam end.



**Date Reported:** 10/15/2013  
**Priority:** C - Important  
**Type of Work:** Repair  
**Status:** Monitor  
**Component:** 311 - Movable Bearing

---

### Deficiency Description

Bearings -  
Bent # 2, Beam # 2 Bearing is noisy with movement during heavy live load impacts.  
Bearings have active corrosion with layers of rust between the masonry plates and the sole plates.  
Some bearings are covered in debris where the deck joints leak.  
There are areas of fretting between the sole plates and masonry plates.

### Remarks

---



Bent # 2 cap.



Bent # 1. Beam # 2. Bearing.





Abutment # 2 bearing # 3-Corrosion.



Abutment # 2 bearing #5-Corrosion.





Span # 1, bearing 2 over bent # 2-Fretting with noise under live load.



**Date Reported:** 10/15/2013  
**Priority:** D- Routine  
**Type of Work:** Replace  
**Status:** Monitor  
**Component:** 302 - Compression Joint Seal

---

**Deficiency Description**

Expansion Joint Compression Seals -

Compression joint seals are torn, deteriorated, and leak water on the substructure caps, bearings, and ends of the beams.

**Remarks**

---



Abutment # 1 expansion joint.



Compression joint seals are torn, deteriorated, and leak water on the substructure caps, bearings, and ends of the beams.





Compression joint seals are torn, deteriorated, and leak water on the substructure caps, bearings, and ends of the beams.



**Date Reported:** 10/15/2013  
**Priority:** D- Routine  
**Type of Work:** Repair  
**Status:** Monitor  
**Component:** 234 - Reinforced Concrete Pier Cap

---

### Deficiency Description

#### Substructure Caps -

The left end of bent # 2 Cap has 2 5" spalls with exposed reinforcing steel. The right side of bent # 2 cap has two 3" spalls with exposed reinforcing steel visible from the undersurface of the cap. Bents # 3 & 4 have minor 3" spalls with exposed reinforcing steel visible from the undersurface of the edges of the caps. Substructure caps have water stains and debris accumulation where the deck joints leak.

### Remarks

---



Bent # 4 cap. Right side.



Left end of Bent # 2. Typical.





Bent 2 cap, left end-Spalls with exposed reinforcing steel.



**Date Reported:** 10/13/2015  
**Priority:** D- Routine  
**Type of Work:** Repair  
**Status:** Monitor  
**Component:** 12 - Reinforced Concrete Deck

---

**Deficiency Description**

Deck -

The driving surface of the deck has sealable cracking in all spans. Spans # 1 is the most extreme case with numerous moderate width diagonal cracks in the majority of the driving surface.

**Remarks**

---



Span # 1 numerous moderate width diagonal cracks.



**Date Reported:** 11/08/2021  
**Priority:** D- Routine  
**Type of Work:** Clean  
**Status:** Open  
**Component:** Approach

---

**Deficiency Description**

Deck / North approach Roadway -

The gutters on the deck and North approach roadway have heavy dirt and debris accumulation. The drop inlet on North approach roadway is restricted by heavy debris accumulation.

**Remarks**

---



The North approach gutter has heavy dirt and debris accumulation that restricts drop inlet.



Heavy dirt and debris in gutters.



**Date Reported:** 11/09/2021  
**Priority:** C - Important  
**Type of Work:** Repair  
**Status:** Open  
**Component:** 12 - Reinforced Concrete Deck

---

### Deficiency Description

#### Deck -

The driving surface of the deck in all spans have large delaminated / spalled areas with asphalt repairs. The asphalt repairs are failing in several locations creating potholes in the driving surface.

### Remarks

---



Spans 1 and 2 at bent 2-Spalls and delaminated areas.



Span # 3 has spalls and delaminated areas adjacent to bent # 4 expansion joint assembly.





**Bridge #05077**(Routine)

**US 71 SEC 17B, SB over Mud Creek-Washington**

**Location: 6.24 MI N JCT US 71 & 62**

**Team Lead:** Bob McEntyre **Inspection Date:** November 08, 2021

### **Inspection Comments**

11/08/2021 - RSM & SPC: Routine Inspection conducted this date. See element notes for documentation.

11/18/2019 - JCJ & TJL - Routine and Underwater Type 2 Inspections conducted on this date. Wading and probing along with visual observations during moderate water conditions indicate that the top of the footings at Bent # 3 are partially exposed during this inspection. The original form work from the construction process is still in place with no apparent scour problems during this inspection. Areas of hard blue shale are visible under the structure.