



Latitude:36.11941, Longitude:-94.14480

Route:71 Section:17 Log:1.82

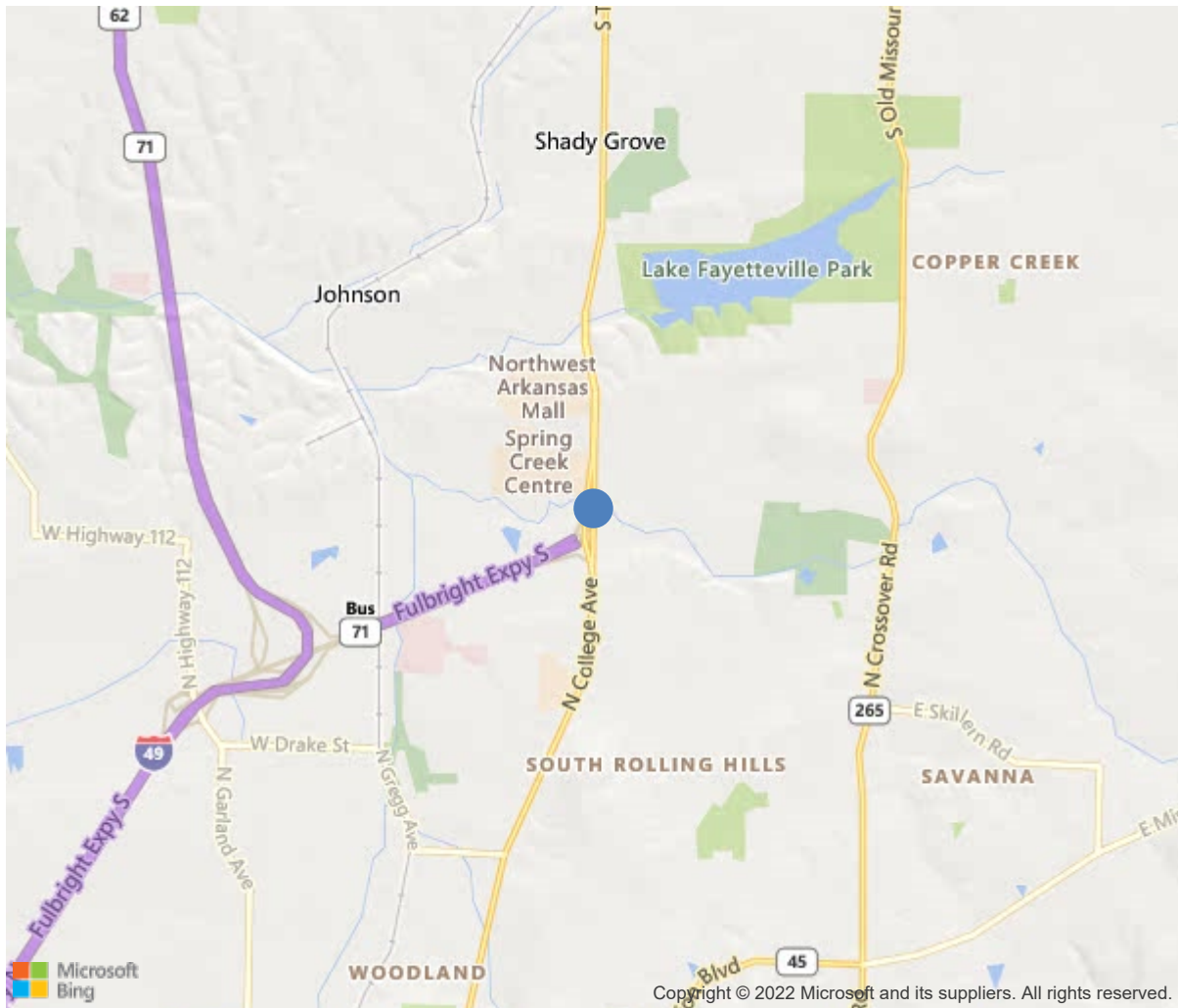
Arnold Road ID:72xNCOLLEGEAVEx1xA, Arnold Log mile:4.04

District 04, Washington County

Owner: 1-State Highway Agency

Place Code: 23290 - Fayetteville

1.98 MI N INT 71 & 71B



36.11941, -94.14480

Inspection Direction : S to N



Bridge #A0698(Routine)

US 71 B, NB LNS over Mud Creek-Washington

Location: 1.98 MI N INT 71 & 71B

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

IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	A0698
(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 B, NB LNS
(9) Location	1.98 MI N INT 71 & 71B
(11) Mile Point	1.82 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	000007117B
(16) Latitude	36.11941
(17) Longitude	-94.1448
(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	3
(46) No. of Approach Spans	0
(107) Deck Structure Type	1-Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	6-Bituminous
Type of Membrane	0-None
Type of Deck Protection	0-None
AGE AND SERVICE	
(27) Year Built	1928
(106) Year Reconstructed	1971
(42) Type of Service	15
On	1-Highway
Under	5-Waterway
(28) Lane	
On	3
Under	0
(29) Average Daily Traffic	31000
(30) Year of ADT	2018
(109) Truck ADT	1 %
GEOMETRIC DATA	
(48) Length of Maximum Span	30 ft
(49) Structure Length	90 ft
(50) Curb or Sidewalk Width	
Left	0.4 ft
Right	0.4 ft
(51) Bridge Roadway Width Curb to Curb	57.1 ft
(52) Deck Width Out to Out	60.2 ft
(32) Approach Roadway Width (W/Shoulders)	58.1 ft
(33) Bridge Median	1-Open 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	57.7 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	R-The right structure of paralle
(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	5
(60) Substructure	5
(61) Channel & Channel Protection	6
(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	59
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	3
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	5
(68) Deck Geometry	9
(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	
(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	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

[illegible]



Bridge #A0698(Routine)

US 71 B, NB LNS over Mud Creek-Washington

Location: 1.98 MI N INT 71 & 71B

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

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
205	Reinforced Concrete Column	EA	8	0	6	2	0
1080	Delamination/Spall/Patched Area	EA	2	0	1	1	0
1190	Abrasion/Wear (PSC/RC)	EA	6	0	5	1	0
(205)	-Light to medium abrasion at the base of the columns. -Bent # 2, column # 1 has a 12" shallow spall with no exposed reinforcing steel in the ahead face.						
210	Reinforced Concrete Pier Wall	LF	26	0	21	5	0
1080	Delamination/Spall/Patched Area	LF	4	0	4	0	0
1090	Exposed Rebar	LF	5	0	0	5	0
1120	Efflorescence/Rust Staining	LF	4	0	4	0	0
1130	Cracking (RC and Other)	LF	4	0	4	0	0
1190	Abrasion/Wear (PSC/RC)	LF	9	0	9	0	0
(210)	-Spalling with exposed reinforcing steel in the left pier wall at bent # 2 with initial section loss to exposed reinforcing steel. -Patched areas on the backface of bent # 3 pier wall on the left side are delaminated and sound hollow. The left side of bent # 3 pier wall has an 8" spall with exposed reinforcing steel in the backface located mid-way up the wall. The upper portion of the wall in the same location has a 16" spall due to a failing repair. Spalls with exposed reinforcing steel have active corrosion with up to approximately 1/8" section loss visible during this inspection. -The bent # 3 pier wall under bay # 5 (centerline) has light map cracking with efflorescence and discoloration of the concrete were water discharges on the substructure through the leaking deck joint. The ahead face of bent # 3 pier wall at centerline has a 16" spall with exposed reinforcing steel located just below cap. -There is light abrasion at the base of the pier walls.						
215	Reinforced Concrete Abutment	LF	150	52	90	8	0
1080	Delamination/Spall/Patched Area	LF	3	0	0	3	0
1120	Efflorescence/Rust Staining	LF	38	0	33	5	0
1130	Cracking (RC and Other)	LF	23	0	23	0	0
1190	Abrasion/Wear (PSC/RC)	LF	34	0	34	0	0
(215)	-The original portion of abutment # 1 left has a horizontal crack that measures 0.020" located approximately 7' above the ground elevation. -There is minor hairline map cracking in the exterior edges of the abutments. Abutment # 2: -The base of abutment # 2 has a 2' area with soft deteriorated concrete with up to 4" of concrete section loss located near the right side of the original portion of the abutment at centerline. -The base of abutment # 2 stem wall has light abrasion. -Streambed material accumulation in upstream channel appears to be causing lateral stream migration and directing channel flow into abutment # 2 causing scour along the abutment exposing the top and approximately 16" of the vertical face of footing at the inlet end. The Northeast embankment has erosion that has caused loss of embankment material behind the right wing wall at abutment # 2.						
220	Reinforced Concrete Pile Cap/Footing	LF	66	35	31	0	0

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

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
6000	Scour	LF	31	0	31	0	0
(220) -The footings for bent # 3 column # 3 and the portion of bent # 3 pier wall at centerline are exposed with approximately 12" of the vertical face of footings exposed at this inspection. -The top of abutment # 2 footing is exposed on the right side (Inlet end) of stem wall and Northeast wing wall with approximately 16" of the vertical face of footing exposed at this inspection. -Footings appear to be keyed into hard blue shale channel with no apparent scour problems during this inspection.							
234	Reinforced Concrete Pier Cap	LF	114	85	23	6	0
1080	Delamination/Spall/Patched Area	LF	9	0	9	0	0
1090	Exposed Rebar	LF	6	0	0	6	0
1120	Efflorescence/Rust Staining	LF	5	0	5	0	0
1130	Cracking (RC and Other)	LF	9	0	9	0	0
(234) -The original portions of the substructure caps have soft deteriorated concrete with map cracking and efflorescence where the deck joints leak water on the substructure. -Bent # 2 cap has horizontal cracking between girders # 2 & 3. -Bent # 2 cap has a 12" x 6" spall with exposed reinforcing steel in the backface under girder # 6 where a previous repair has failed. -Bent # 3 cap has soft deteriorated concrete with exposed reinforcing steel with active corrosion and flaking rust near centerline of roadway. The left side of bent # 3 cap has a large delamination in the widened portion of the cap. The right end of bent # 3 cap has spalling with exposed reinforcing steel in the undersurface.							
330	Metal Bridge Railing	LF	180	180	0	0	0
(330) -The metal portions of the bridge railing have no apparent noteworthy deficiencies during this inspection.							
331	Reinforced Concrete Bridge Railing	LF	180	65	115	0	0
1080	Delamination/Spall/Patched Area	LF	26	0	26	0	0
1090	Exposed Rebar	LF	23	0	23	0	0
1130	Cracking (RC and Other)	LF	66	0	66	0	0
(331) -Numerous shallow spalls with exposed reinforcing steel. -Areas with soft deteriorated concrete in the top of the curb.							



Inventory 1 looking North.



Embankment erosion behind abutment # 2 right wing wall due to lateral stream migration.



The Southeast approach railing end post on the right side of abutment # 2 has apparent collision damage that has a large spalled area with exposed reinforcing steel.



Pothole forming in asphalt driving surface in left lane at abutment # 1.



Asphalt cracking over bent 2.



Span 2, left railing-Shallow spalls with exposed reinforcing steel.



Span 3, left railing-Concrete deterioration.



Asphalt cracking over abutment 2.



Span 2, girder 10-Spall / Delaminated areas



Abutment 2, right side-Footing exposed.



Span 2, right side-Spalling with exposed reinforcing steel adjacent to deck drain.



Streambed material accumulation in upstream channel is causing lateral stream migration and directing channel flow into abutment # 2 causing scour along the abutment exposing the top and approximately 16" of the vertical face of footing at the inlet end.



Span 3, bay 3 adjacent to abutment 2-Form work left in place.



Abutment # 2-Concrete deterioration at base of stem wall near centerline.



Span # 3, bay # 4 adjacent to abutment # 2-Spalling with exposed reinforcing steel.



Bent 3, column 3-Abrasion / concrete deterioration.



The footings for the portion of bent # 3 pier wall at centerline and column # 3 are exposed with approximately 12" of the vertical face of footings exposed at this inspection.



Span 2, bay 8 over bent 2-Spalling with exposed reinforcing steel in expansion dam.



Bent 3, column 2-Abrasion.



Bent 3 pier wall at centerline-Cracking with efflorescence.



Span # 2, Beam # 7 has an 8" spall with exposed reinforcing steel adjacent to Bent # 2. There is a 10" Delaminated area adjacent to the spall.



Bent # 3 cap-Spalling with exposed reinforcing steel at centerline.



Bent 3, left side-Delaminated area in cap and spalling with failing repairs to pier wall backface.



Span 2 undersurface.



Span 2, girder # 1-Spalling in undersurface that exposes steel loading plate.



Span 2, bay 2-Cracking with efflorescence.



Bent 2, column 1-Shallow spall in ahead face.



Span # 1, girder # 1 at bent # 2 has light scaling.



Span # 1, girder # 1 at bent # 2 has an area of spalling in the undersurface of girder that exposes 3 of the primary longitudinal reinforcing bars. The exposed bars appear to be short pieces of reinforcing steel that terminate approximately 30" from the bent. The interior of girder at bent # 2 has light scaling.



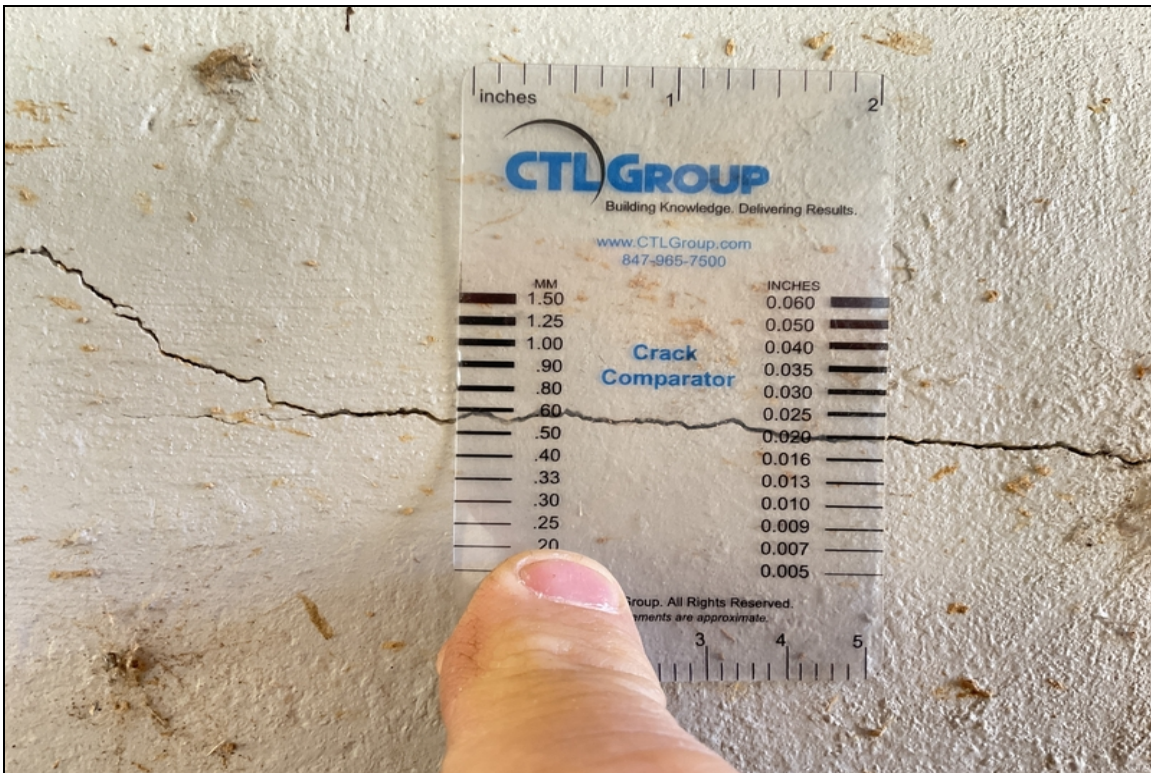
Span # 1, girder # 1 at bent # 2 has an area of spalling in the undersurface of girder that exposes 3 of the primary longitudinal reinforcing bars. The exposed bars appear to be short pieces of reinforcing steel that terminate approximately 30" from the bent. The interior of girder at bent # 2 has light scaling.



Bent 2, left side-Horizontal cracking in cap with spalling in pier wall.



Bent # 2 cap has a 12" x 6" spall with exposed reinforcing steel in the backface under girder # 6 where a previous repair has failed.



Abutment 1, left side-Horizontal crack.



Span 1, bay 2-Efflorescence.



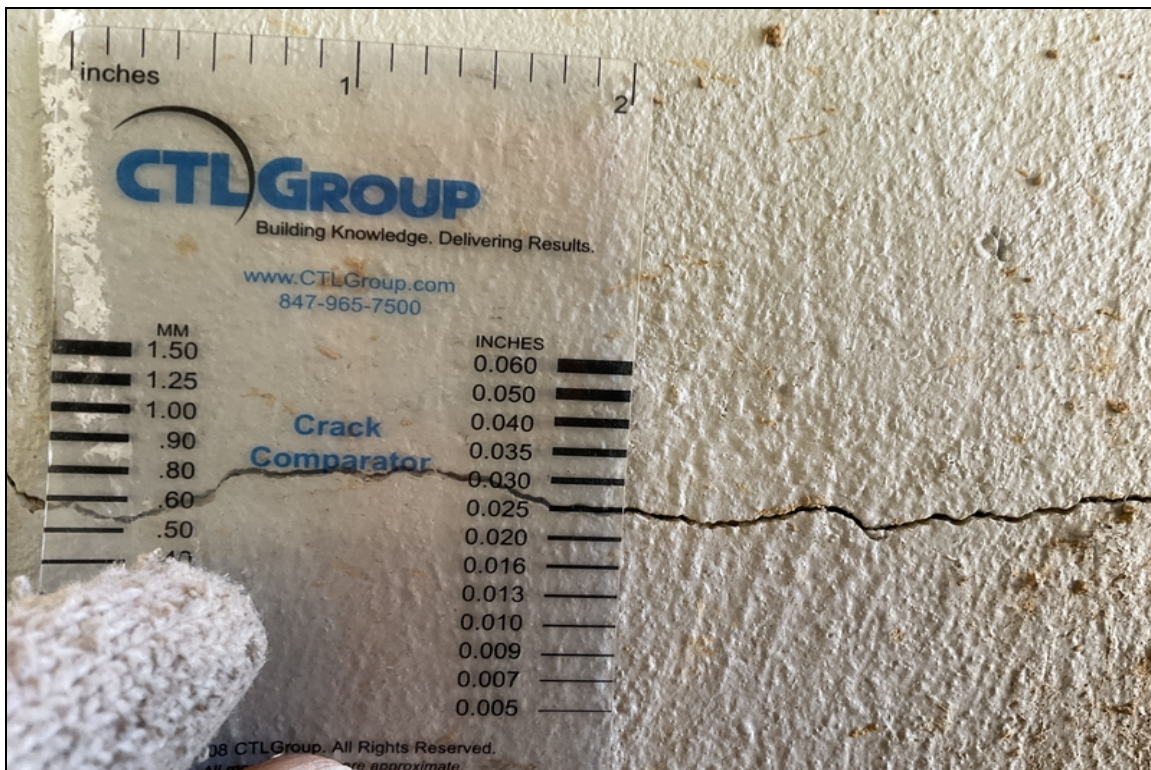
Pedestrian / bicycle trail under span 1.



Bent 2.



Span 1, left side-Spalling in deck overhang adjacent deck drain.



Horizontal crack on left side of abutment 1.

Maintenance Needs

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 original portions of the substructure caps have soft deteriorated concrete with map cracking and efflorescence where the deck joints leak water on the substructure.

Bent # 3 cap has soft deteriorated concrete with exposed reinforcing steel near centerline of roadway. Exposed reinforcing steel has active corrosion with flaking rust.

Remarks



Span # 3 side of Bent # 3 pier wall near centerline of structure.



Span # 1 side of Bent # 2. Left.



Bent # 3 cap-Spalling with exposed reinforcing steel at centerline.

Date Reported: 10/15/2013
Priority: D- Routine
Type of Work: Repair
Status: Monitor
Component: Substructure

Deficiency Description

Substructure, Columns and Pier walls -

Patched areas are delaminated and sound hollow in the left side of Bent # 3. Spalls with exposed reinforcing steel have active corrosion with up to 1/8" section loss visible during this inspection. The Bent # 3 pier wall under Bay # 5 has light map cracking with efflorescence and discoloration of the concrete where water discharges on the substructure through the leaking deck joint.

Remarks



Span # 3 side of Bent # 3 pier wall near centerline of structure.



Centerline of Bent # 4.



Left end of Bent # 3. Delaminated repairs.



Bent 2, left side-Horizontal cracking in cap with spalling in pier wall.



Bent 3, left side-Delaminated area in cap and spalling with failing repairs to pier wall backface.

Date Reported: 10/15/2013
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: 16 - Reinforced Concrete Top Flange

Deficiency Description

Bridge Deck -

Asphalt driving surface is rutted and breaking apart over the longitudinal construction joint where structure was widened near centerline of roadway. The asphalt is breaking apart over the expansion joints.

Map cracking with efflorescence visible from the undersurface of deck. The undersurface of Bays # 1 & 2 in Spans # 1 & 2 have map cracking with heavy efflorescence visible from the undersurface of the deck. Form work is still in place and repairs are still holding for the deck of Span # 3, adjacent to the North abutment. Span # 3 between girders # 4 & 5 at Bent # 4 has basketball sized spalls with exposed reinforcing steel. Spalls with exposed reinforcing steel in the overhang areas adjacent to the deck drains and in the deck expansion dams over the intermediate bents.

Remarks



Expansion joint over Bent # 4.



Deck. Typical.



Span # 1, bay # 2-Efflorescence.



Span # 2, bay # 8 over bent # 2-Spalling with exposed reinforcing steel in expansion dam.



Span # 3, bay # 4 adjacent to abutment # 2-
Spalling with exposed reinforcing steel.



Span # 2, right side-Spalling with exposed
reinforcing steel adjacent to deck drain.



Pothole forming in asphalt driving surface in left lane at abutment # 1.

Date Reported: 10/15/2013
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: 110 - Reinforced Concrete Open Girder/Beam

Deficiency Description

Superstructure -

The ends of the concrete girders at Bent # 2 have areas with light scale and efflorescence where the deck joints leak water on the girders.

Span # 1, girder # 1 at bent # 2 has an area of spalling in the undersurface of girder approximately 30" long that exposes 3 of the longitudinal reinforcing bars that are incorporated into the bent cap for the fixed girder. There is a softball sized spall with exposed reinforcing steel in the exterior edge of Girder # 1 of span # 2 over the bearing area of Bent # 2 that exposes the internal loading plate.

Span # 2, Beam # 7 has a softball sized spall with exposed reinforcing steel adjacent to Bent # 2.

Remarks



Girder # 10 at Bent # 3.



Span # 1. Bent # 2. Girder # 1.



Undersurface of a Girder # 1. Span # 2 at Bent # 2.



Span # 1, girder # 1 at bent # 2 has an area of spalling in the undersurface of girder that exposes 3 of the primary longitudinal reinforcing bars. The exposed bars appear to be short pieces of reinforcing steel that terminate approximately 30" from the bent. The interior of girder at bent # 2 has light scaling.



Span # 1, girder # 1 at bent # 2 has an area of spalling in the undersurface of girder that exposes 3 of the primary longitudinal reinforcing bars. The exposed bars appear to be short pieces of reinforcing steel that terminate approximately 30" from the bent. The interior of girder at bent # 2 has light scaling.



Span 2, girder # 1-Spalling in undersurface that exposes steel loading plate.

Date Reported: 10/15/2013
Priority: D- Routine
Type of Work: Repair
Status: Monitor
Component: 331 - Reinforced Concrete Bridge Railing

Deficiency Description

Bridge Railing and Curbs -

The Southeast end post has concrete spalling with exposed reinforcing steel at the approach guard railing attachment. No apparent section loss to the exposed reinforcing steel.

Concrete curb has light scale with shallow spalling with exposed reinforcing steel that has very little concrete cover from the construction process.

Remarks



Bridge railing. Typical.



Collision damage to the Southeast end post.



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Location: 1.98 MI N INT 71 & 71B

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



Right bridge railing.



Span # 2, left railing-Shallow spalls with exposed reinforcing steel.



The Southeast approach railing end post on the right side of abutment # 2 has apparent collision damage that has a large spalled area with exposed reinforcing steel.



Bridge #A0698(Routine)
US 71 B, NB LNS over Mud Creek-Washington

Location: 1.98 MI N INT 71 & 71B

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

Date Reported: 11/08/2021
Priority: C - Important
Type of Work: Repair
Status: Open
Component: Channel

Deficiency Description

Channel:

Streambed material accumulation in upstream channel appears to be causing lateral stream migration and directing channel flow into abutment # 2 causing scour along the abutment exposing the top and approximately 16" of the vertical face of footing at the inlet end. The Northeast embankment has erosion that has caused loss of embankment material behind the right wing wall at abutment # 2.

The top and approximately 12" of the vertical face of bent # 3, column # 3 and pier wall are exposed at this inspection.

Remarks



Bridge #A0698 (Routine)
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Location: 1.98 MI N INT 71 & 71B

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. NBI Condition Rating for item "61" lowered from "7" to "6" due to lateral streambed movement with embankment erosion.

11/18/2019 - TJL - Elements were plan verified on this date. 11/18/2019 - JCJ & TJL -

Routine and Underwater Type 2 Inspections conducted on this date. Wading and probing along with visual observations during moderate and clear water conditions indicate that

Bent # 2, center pier wall. Top of footing is exposed.

Bent # 3, Columns # 2, 3, & 4 have the tops of footings exposed. Bent # 4, Inlet end has the top of footing exposed. Footings appear to be keyed into hard blue shale channel with no apparent scour problems during this inspection.