



Latitude:36.33843, Longitude:-94.46066

Route:102 Section:01 Log:8.92

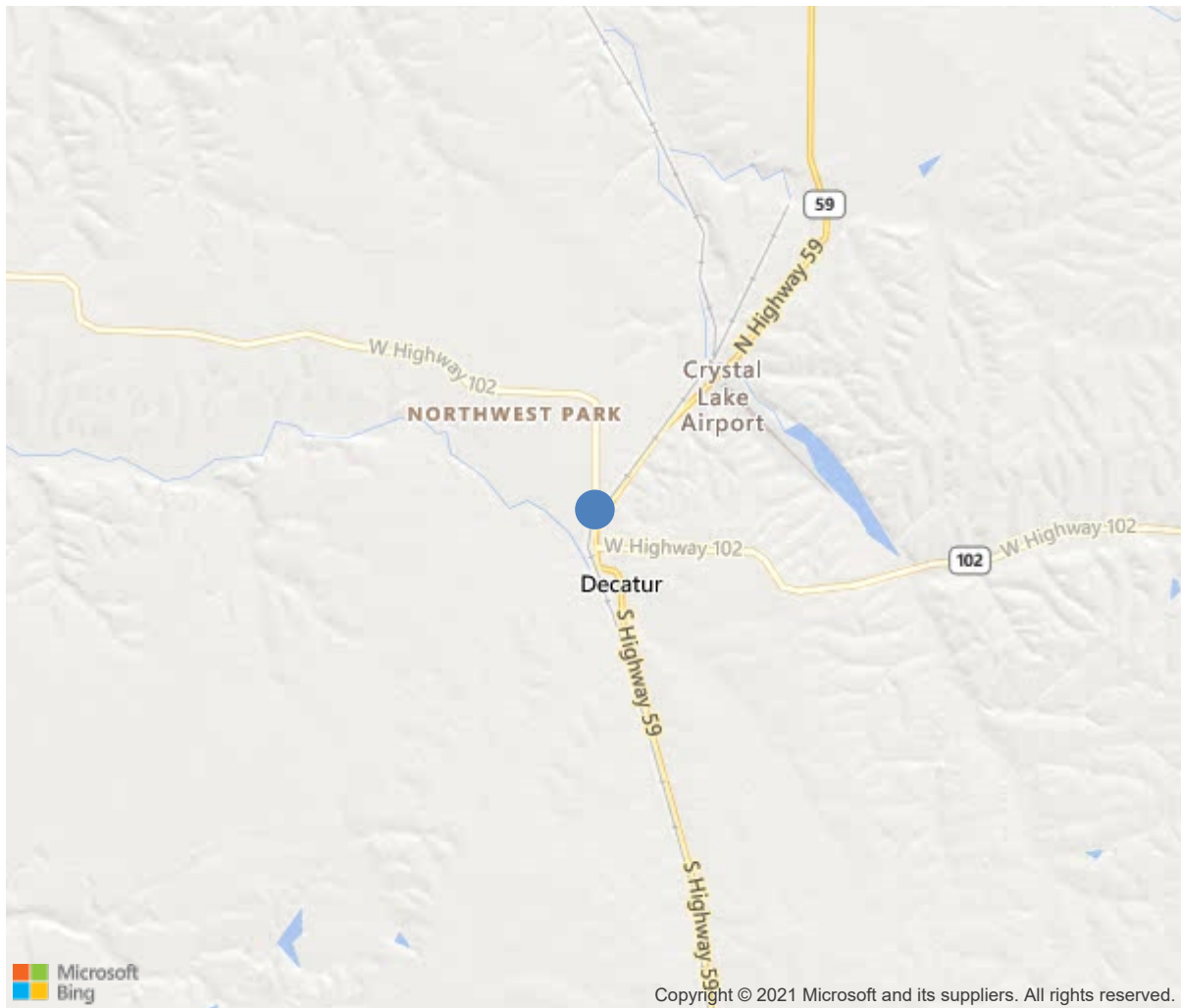
Arnold Road ID:4x102x1xA, Arnold Log mile:8.898

District 09, Benton County

Owner: 1-State Highway Agency

Place Code: 17580 - DECATUR

0.1 MI N JCT SH 59 & 102



36.33843, -94.46066



Bridge #05669(Routine)

SH 102 Benton 2 over OVER KCS RR

Location: 0.1 MI N JCT SH 59 & 102

Team Lead: Nathan Rowland Inspection Date: June 16, 2020

IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	05669
(5) Inventory Route	102
(2) Highway Agency District	09
(3) County Code	7-Benton County, Arkansas
(4) Place Code	17580
(6) Features Intersected	OVER KCS RR
(7) Facility Carried	SH 102 Benton 2
(9) Location	0.1 MI N JCT SH 59 & 102
(11) Mile Point	8.92 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000000
(16) Latitude	36.33843
(17) Longitude	-94.46066
(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	11
Material	1-Concrete
Type	1-Slab
(45) No. of Spans in Main Unit	2
(46) No. of Approach Spans	2
(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	1977
(106) Year Reconstructed	0
(42) Type of Service	12
On	1-Highway
Under	2-Railroad
(28) Lane	
On	2
Under	0
(29) Average Daily Traffic	1600
(30) Year of ADT	2014
(109) Truck ADT	1 %
(19) Bypass, Detour Length	10 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	59 ft
(49) Structure Length	180 ft
(50) Curb or Sidewalk Width	
Left	0 ft
Right	0 ft
(51) Bridge Roadway Width Curb to Curb	29.9 ft
(52) Deck Width Out to Out	33 ft
(32) Approach Roadway Width (W/Shoulders)	29.9 ft
(33) Bridge Median	0-No median
(34) Skew	55 Deg
(35) Structure Flared	Yes, flared
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	30.8 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	21.42 ft
Ref:	
(55) Min Lat Underclear RT	14.5 ft
Ref:	
(56) Min Lat Underclear LT	0 ft
NAVIGATION DATA	
(38) Navigation Control	N-Not applicable, no waterway.
(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	0
(26) Functional Class	7-Rural Major Collector
(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	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	6
(59) Superstructure	7
(60) Substructure	5
(61) Channel & Channel Protection	N
(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	44
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	2
Rating	26
(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	5
(69) Clearances, Vertical/Horizontal	5
(71) Waterway Adequacy	N
(72) Approach Roadway Alignment	7
(36A) Bridge Railings	1-Inspected feature meets currently a
(36B) Transitions	0-Inspected feature does not meet cur
(36C) Approach Guardrail	0-Inspected feature does not meet cur
(36D) Approach Guardrail Ends	1-Inspected feature meets currently a
(113) Scour Critical Bridges	N-Bridge not over waterway.
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	1551
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date	06/2020		
(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: Nathan Rowland, **Inspection Date:** June 16, 2020

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	3540	666	2874	0	0
1080	Delamination/Spall/Patched Area	SF	64	0	64	0	0
1130	Cracking (RC and Other)	SF	2810	0	2810	0	0
(12)							
06/16/2020 WNR & DBM: -Both left and right driving lanes have map cracking and minor aggregate pop outs throughout spans #1 & #2. -Span #1 has spalling and patched areas at or near the centerline.							
38	RC Slab	SF	2535	671	1864	0	0
1130	Cracking (RC and Other)	SF	1864	0	1864	0	0
(38)							
06/16/2020 WNR & DBM: -Spans #3 & #4 are concrete slabs. -The driving lanes of spans #3 & #4 have map cracking and minor aggregate pop outs.							
107	Steel Open Girder/Beam	LF	590	590	0	0	0
515	Steel Protective Coating	SF	3540	3540	0	0	0
(107)							
06/16/2020 WNR & DBM: -Spans #1 & #2 are the only two spans that have steel multi girders. -Span #2 girders are covered in locomotive exhaust residue.							
205	Reinforced Concrete Column	EA	6	4	2	0	0
1080	Delamination/Spall/Patched Area	EA	1	0	1	0	0
1090	Exposed Rebar	EA	1	0	1	0	0
(205)							
06/16/2020 WNR & DBM: -Bent 1 column 3 behind side has minor spalls with steel exposed. -Bent 2 column 1 left side has a delaminated area.							
210	Reinforced Concrete Pier Wall	LF	70	68	2	0	0
1130	Cracking (RC and Other)	LF	2	0	2	0	0
(210)							
06/16/2020 WNR & DBM: -Bent 2 behind side adjacent to both sides of column 2 has vertical cracking.							
215	Reinforced Concrete Abutment	LF	149	141	8	0	0
1130	Cracking (RC and Other)	LF	8	0	8	0	0
(215)							
06/16/2020 WNR & DBM:							



Bridge #05669(Routine)
SH 102 Benton 2 over OVER KCS RR
Location: 0.1 MI N JCT SH 59 & 102

Team Lead: Nathan Rowland, **Inspection Date:** June 16, 2020

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
-Both Abutments have full height vertical cracking in the backwall in random locations.							
225	Steel Pile	EA	7	0	5	2	0
1000	Corrosion	EA	7	0	5	2	0
515	Steel Protective Coating	SF	356	156	84	0	116
3440	Effectiveness (Steel Protective Coatings)	SF	200	0	84	0	116
(225)							
06/16/2020 WNR & DBM:							
-All 7 steel pile at bent #3 have minor to moderate corrosion localized to the base and tops of piling.							
-The worst cases are pilings 2, 4, 6, & 7. Where there areas of flaking rust in random locations.							
-Piling #4 behind side has flaking rust and minor section loss.							
234	Reinforced Concrete Pier Cap	LF	179	164	14	1	0
1080	Delamination/Spall/Patched Area	LF	3	0	3	0	0
1090	Exposed Rebar	LF	1	0	0	1	0
1130	Cracking (RC and Other)	LF	11	0	11	0	0
(234)							
06/16/2020 WNR & DBM:							
-Bent #1 cap has 5' vertical crack under girder #5.							
-Bent 2 underneath cap left side has spalling with steel exposed.							
-Bent 1 cap behind side left has large delaminated area.							
302	Compression Joint Seal	LF	156	100	56	0	0
2350	Debris Impaction	LF	56	0	56	0	0
(302)							
06/16/2020 WNR & DBM:							
-Deck joints at bents #2 & #3 leaking with debris build up in joints.							
311	Movable Bearing	EA	10	0	0	10	0
1000	Corrosion	EA	10	0	0	10	0
(311)							
06/16/2020 WNR & DBM:							
-All bearings at abut #1 have moderate corrosion. Anchor bolt missing at girder #4 at abut #1.							
313	Fixed Bearing	EA	10	10	0	0	0
(313)							
06/16/2020 WNR & DBM:							
-No noteworthy deficiencies apparent this inspection.							
331	Reinforced Concrete Bridge Railing	LF	447	284	162	1	0
1080	Delamination/Spall/Patched Area	LF	4	0	4	0	0
1090	Exposed Rebar	LF	1	0	0	1	0

Team Lead: Nathan Rowland, **Inspection Date:** June 16, 2020

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
1130	Cracking (RC and Other)	LF	158	0	158	0	0
(331)	06/16/2020 WNR & DBM: -Span 1 right has spalling with still exposed. -Span 4 right has spall due to collision damage. -The majority of railing left and right has map cracking.						



Inventory looking South.



Abutment #1 view of bearings.



View of span #2.



Bent #2 joint debris impaction.



Span #2 typical condition of deck.



Typical condition of deck surface.



General view of deck



Bent #1 joint debris impaction.



Span #1 large spalled patched areas near centerline.



Abutment #1 joint.



Span 1 has spalled patched areas.



Large spall due to collision damage on railing left side span 3.



Bent 2 joint material has debris impaction



Bent 1 column 3 behind side has minor spalls with steel exposed.



Bent 2 column 1 left side has a delaminated area.



General view of bent 1 behind side.



General view of abutment 1 joint material.



Bent 3 piling number 4 has active corrosion with minor section loss.



Bent 3 piling number 4 has active corrosion with minor section loss.



Span 1 spalling adjacent to road iron at bent 2.



Span 1 right railing has spalling with steel exposed.



Bent 2 behind side has cracks in pier wall adjacent to column 2.



Inventory 1 looking south.



Span 1 typical wearing of driving surface.



Abutment 1 bay 3 backwall has vertical cracking.



Typical view of bearing corrosion.



Bent 1 cap behind side left has large delaminated area.



Bent 3 cap between steel piling 3 and 4 has spalling with steel exposed.



Span 3 left lane typical view of map cracking.



Bent 2 underneath cap left side has spalling with steel exposed.



Elevation looking East



Railing left in spans 3 and 4 has Collision damage.

Maintenance Needs

Date Reported: 06/27/2012

Priority: D- Routine

Type of Work: None

Status: Monitor

Component:

Deficiency Description

Collision Damage:

-Spans #3 & #4 left railing has collision damage.

Remarks



Railing left in spans 3 and 4 has Collision damage.



Large spall due to collision damage on railing left side span 3.



Concrete bridge railing span 4 left - collision marks.



Bridge #05669(Routine)
SH 102 Benton 2 over OVER KCS RR
Location: 0.1 MI N JCT SH 59 & 102

Team Lead: Nathan Rowland **Inspection Date:** June 16, 2020

Date Reported: 06/27/2012
Priority: G - General/ Preventive maintenance
Type of Work: None
Status: Assigned
Component:

Deficiency Description

Bent # 2 girder # 2 anchor bolt nut-Missing.

Remarks

Date Reported: 06/27/2012
Priority: D- Routine

Type of Work: None
Status: Monitor
Component:

Deficiency Description

Debris Impaction;
-Deck expansion joints at bents #2 & #3 have Excessive leakage and debris build up.

Remarks



Bent 2 joint material has debris impaction



Span 1 spalling adjacent to road iron at bent 2.



Deck joint bent 2 - debris impaction.



Deck joint bent 3 - debris impaction.

Date Reported: 06/27/2012
Priority: D- Routine
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Bent # 4 steel piles-Visible rust and corrosion.

Remarks



Bent 4 piling 4 - active corrosion and pitting.



Bent 3 piling number 4 has active corrosion with minor section loss.



Bent 3 piling number 4 has active corrosion with minor section loss.

Date Reported: 06/27/2012
Priority: C - Important
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Caps spalling with steel exposed:

-Bents #1 & #3 concrete caps- Deterioration, cracking and spalls with steel exposed. The undersurface of bent #3 has medium spalls with section loss to exposed steel.

Remarks



Bent 2 underneath cap left side has spalling with steel exposed.



Bent 2 cap right behind - vertical cracking.



Bent 3 cap between steel piling 3 and 4 has spalling with steel exposed.



Bent 2 cap behind left - delaminated area.



Bent #3 cap undersurface spalling with steel exposed section lose present in steel.



Bridge #05669(Routine)
SH 102 Benton 2 over OVER KCS RR
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Team Lead: Nathan Rowland **Inspection Date:** June 16, 2020

Inspection Comments

06/16/2020 WNR & DBM: Routine inspection conducted this date

Logged North to South. Girder measurement: Flange - 9" Web - 1' 10.5"

Substructure Notes

Due to the flaking rust and minor section lose to the steel piling at bent #3 NBI Item #60 is lowered to a 5.