



Latitude:35.69857, Longitude:-90.14863

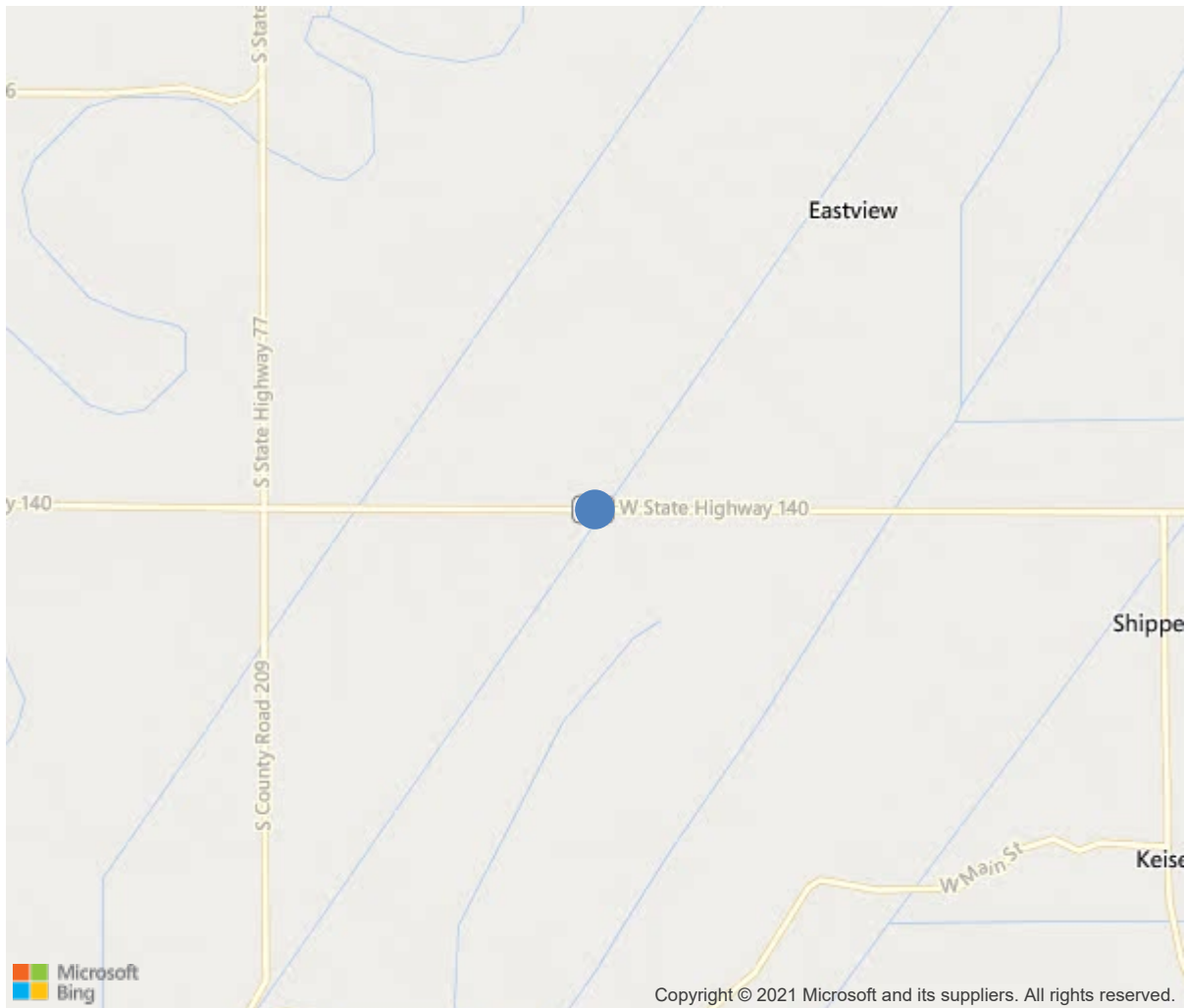
Route:140 Section:02 Log:9.08

Arnold Road ID:47x140x2xA, Arnold Log mile:9.08

District 10, Mississippi County

Owner: 1-State Highway Agency

1.7 MI E JCT SH 77



35.69857, -90.14863



Bridge #03781(Routine)
SH 140-02- LM 9.08 over NATIONAL DITCH

Location: 1.7 MI E JCT SH 77

Team Lead: Richard Jones Inspection Date: July 28, 2021

IDENTIFICATION	
(1) State Names	Arkansas
(8) Structure Number	03781
(5) Inventory Route	140
(2) Highway Agency District	10
(3) County Code	93-Mississippi County, Arkansa
(4) Place Code	0
(6) Features Intersected	NATIONAL DITCH
(7) Facility Carried	SH 140-02- LM 9.08
(9) Location	1.7 MI E JCT SH 77
(11) Mile Point	9.08 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000140020
(16) Latitude	35.69857
(17) Longitude	-90.14863
(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	5
(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	1967
(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	2900
(30) Year of ADT	2018
(109) Truck ADT	17 %
(19) Bypass, Detour Length	8 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	45 ft
(49) Structure Length	227.5 ft
(50) Curb or Sidewalk Width	
Left	1.5 ft
Right	1.5 ft
(51) Bridge Roadway Width Curb to Curb	28 ft
(52) Deck Width Out to Out	33.5 ft
(32) Approach Roadway Width (W/Shoulders)	36.1 ft
(33) Bridge Median	0-No median
(34) Skew	35 Deg
(35) Structure Flared	No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	28 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	5-None present but re-evaluation
(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	6-Rural Minor 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	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	4
(59) Superstructure	4
(60) Substructure	5
(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	5
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	4
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	9
(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	5-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	3417
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date			07/2021
(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	Yes		06/2020
* 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.			



Bridge #03781(Routine)

SH 140-02- LM 9.08 over NATIONAL DITCH

Location: 1.7 MI E JCT SH 77

Team Lead: Richard Jones, Inspection Date: July 28, 2021

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	6750	789	224	5737	0
1080	Delamination/Spall/Patched Area	SF	4309	0	224	4085	0
1090	Exposed Rebar	SF	43	0	0	43	0
1120	Efflorescence/Rust Staining	SF	1008	0	0	1008	0
1130	Cracking (RC and Other)	SF	601	0	0	601	0
510	Wearing Surfaces	SF	6300	6083	117	100	0
3210	Delam/Spall/Patched Area/Pothole	SF	183	0	117	66	0
3220	Crack (Wearing Surface)	SF	34	0	0	34	0
107	Steel Open Girder/Beam	LF	1125	270	847	6	2
1000	Corrosion	LF	850	0	844	6	0
1010	Cracking	LF	2	0	0	0	2
1900	Distortion	LF	3	0	3	0	0
515	Steel Protective Coating	SF	8175	818	0	6131	1226
3440	Effectiveness (Steel Protective Coatings)	SF	7357	0	0	6131	1226
215	Reinforced Concrete Abutment	LF	95	92	0	3	0
1090	Exposed Rebar	LF	1	0	0	1	0
1120	Efflorescence/Rust Staining	LF	2	0	0	2	0
227	Reinforced Concrete Pile	EA	20	10	10	0	0
1190	Abrasion/Wear (PSC/RC)	EA	10	0	10	0	0
234	Reinforced Concrete Pier Cap	LF	139	46	4	89	0
1080	Delamination/Spall/Patched Area	LF	7	0	4	3	0
1090	Exposed Rebar	LF	9	0	0	9	0
1120	Efflorescence/Rust Staining	LF	8	0	0	8	0
1130	Cracking (RC and Other)	LF	69	0	0	69	0
302	Compression Joint Seal	LF	249	0	0	199	50
2330	Seal Damage	LF	249	0	0	199	50
311	Movable Bearing	EA	25	0	2	23	0
1000	Corrosion	EA	25	0	2	23	0
313	Fixed Bearing	EA	25	0	2	23	0
1000	Corrosion	EA	25	0	2	23	0



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Location: 1.7 MI E JCT SH 77

Team Lead: Richard Jones, **Inspection Date:** July 28, 2021

ELEM	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
321	Reinforced Concrete Approach Slab	SF	1960	1960	0	0	0
330	Metal Bridge Railing	LF	450	448	2	0	0
7000	Damage	LF	2	0	2	0	0
515	Steel Protective Coating	SF	1516	1516	0	0	0
3440	Effectiveness (Steel Protective Coatings)	SF	1516	1516	0	0	0



Load posting at beginning



Load posting at end



wearing surface



Span 2 bay 1 full depth patch



Span 3 bay 2



Span 3 bent 4 girder 1



Span 5 bent 6 girder 1

Maintenance Needs

Date Reported: 09/17/2012
Priority: C - Important
Type of Work: None
Status: Monitor
Component: 302 - Compression Joint Seal

Deficiency Description

Compression seals are torn and separated with some portions missing allowing dirt build up on caps:

Bent 2 joint has 41' of seal missing see photo.

Bent 4 joint has 6' of seal missing

Bent 5 joint has 3' of seal missing

Remarks





Bridge #03781 (Routine)
SH 140-02- LM 9.08 over NATIONAL DITCH

Location: 1.7 MI E JCT SH 77

Team Lead: Richard Jones **Inspection Date:** July 28, 2021



2021 - Typical joint

Date Reported: 09/17/2012
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: Deck

Deficiency Description

Asphalt wearing surface has some cracked areas & a few potholes and impending failures. Deck has several large patches, delaminated areas and spalls. Patches are in poor condition. Over 50% of deck area patched and/or delaminated.

Remarks







Bridge #03781 (Routine)
SH 140-02- LM 9.08 over NATIONAL DITCH

Location: 1.7 MI E JCT SH 77

Team Lead: Richard Jones Inspection Date: July 28, 2021





Bridge #03781 (Routine)
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2021 - Span 2



Bridge #03781 (Routine)
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Location: 1.7 MI E JCT SH 77

Team Lead: Richard Jones Inspection Date: July 28, 2021



2021 - Span 3



2021 - Span 5



Bridge #03781 (Routine)
SH 140-02- LM 9.08 over NATIONAL DITCH

Location: 1.7 MI E JCT SH 77

Team Lead: Richard Jones Inspection Date: July 28, 2021

Date Reported: 09/17/2012
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: Deck

Deficiency Description

Overhangs have longitudinal cracks, some with efflorescence. Overhangs have areas of concrete disintegration near drain openings and near joints over bents.

Span 1 Lt overhang has a 6' x 3' spall with exposed rebar.

Span 2 Rt overhang near bent 3 has a 3' long area of concrete disintegration under bridge rail post.

Remarks



Soffit over B3 right side



Typical weep



Bent 3 Rt



Bridge #03781 (Routine)
SH 140-02- LM 9.08 over NATIONAL DITCH
Location: 1.7 MI E JCT SH 77

Team Lead: Richard Jones Inspection Date: July 28, 2021

Date Reported: 06/14/2017
Priority: C - Important
Type of Work: None
Status: Assigned
Component:

Deficiency Description

Large drift and sediment buildup on bent 4, see 2017 photo.

Minor drift on bents 2,3 & 5.

Remarks

To Mississippi One Crew for review



Date Reported: 10/04/2018
Priority: C - Important
Type of Work: Repair
Status: Monitor
Component: Substructure

Deficiency Description

Concrete caps at bents 2 - 5 have several vertical and horizontal cracks; some with efflorescence. Caps have a few small spalls with exposed rebar. Caps have several delaminated areas along horizontal cracks near top and bottom edges of caps.

Remarks

Bent 2 cap has been cleaned and repaired by hbm 1/11/19



Span 2 Bent 2



Span 1 Bent 2



S3 side of b3 cap over piles 3, 4, & 5 delaminated with spalls and rebar exposed



S4 side b4 cap cracks and rebar exposed



S4 b5 cap





Bent 3 ahead



Bent 4 cap



Bent 4 ahead



Bent 5



Bridge #03781 (Routine)
SH 140-02- LM 9.08 over NATIONAL DITCH
Location: 1.7 MI E JCT SH 77

Team Lead: Richard Jones Inspection Date: July 28, 2021

Date Reported: 01/14/2019
Priority: D- Routine
Type of Work: None
Status: Monitor
Component:

Deficiency Description

Span 4 bent 4 bearing 5 has one loose anchor bolt sticking up out of cap.

Remarks

Date Reported: 06/20/2019
Priority: A - Safety deficiency; requires prompt action

Type of Work: Repair
Status: Assigned
Component: Superstructure

Deficiency Description

Span 2 bent 2 girder 2 has a 10.5" crack along bottom of web at end of girder. Web is bowed at diaphragm connection. Span 5 bent 5 girder 1 was T-spliced in the past. Web above splice has a 3.5" x 3" hole. Web has some possible out of plane bending at haunch.

Span 5 bent 5 girder 3 has an 8" crack along bottom of web at end of girder.

Span 5 bent 5 girder 5 was T-spliced in the past. Web has some out of plane bending above splice.

Remarks

to Dist Bridge Crew for review and repair when schedule allows KAW 6/25/19



S2 b2 g2 cracked



S5 b5 g1 crushing over tsplice



S2 b2 g2 cracked 8"



2021 - Span 2 bent 2 girder 2



2021 - Span 2 bent 2 girder 2 Rt



2021 - Span 2 bent 2 girder 2 Lt



2021 - Span 5 bent 5 girder 3



2021 - Span 5 bent 5 girder 3



2021 - Span 5 bent 5 girder 3



2021 - Span 5 bent 5 girder 5



Bridge #03781(Routine)
SH 140-02- LM 9.08 over NATIONAL DITCH

Location: 1.7 MI E JCT SH 77

Team Lead: Richard Jones **Inspection Date:** July 28, 2021



2021 - Span 5 bent 5 girder 1



Deck Notes

Spans have up to 2" lateral shift.

Wearing surface was milled and overlaid in 2019.

Wearing surface has spalls over joints. Deck has had partial or full depth failures at spans 2, 3, and 5 since it was overlaid.

Deck has been noted as having several large patches, delaminated areas, and spalls with exposed rebar. (over 50% of deck area patched or delaminated as per old notes). Wearing surface has several potholes.

Compression seals have been noted as being torn, separated, and having several areas missing.

Overhangs have longitudinal cracks, some with efflorescence. Overhangs have areas of concrete disintegration near drain openings and near joints over bents.

Span 1 Lt overhang has a 6' x 3' spall with exposed rebar.

Span 2 Rt overhang near bent 3 has a 3' long area of concrete disintegration under bridge rail post.

Superstructure Notes

Steel girders have areas of scattered freckled rust throughout. Majority of paint system has failed or is ineffective. A few girder ends at bents 1 and 4 have been cleaned and painted in the past.

Several girder ends have been repaired in the past by District and HB maintenance crews.

Span 1 bent 2 girder 1 was T-spliced in the past.

Span 1 bent 2 girder 3 has been repaired by HBM. Web has some out of plane bending between diaphragm connection and concrete haunch.

Span 1 bent 2 girder 4 was T-spliced in the past. HBM sand blasted bearing.

Span 1 bent 2 girder 5 has been repaired by HBM.

Span 2 masonry plates have been sand blasted by HBM

Span 2 bent 2 girder 1 was T-spliced in the past. Splice has flaking rust with some initial section loss.

Span 2 bent 2 girder 2 has a 10.5" crack along bottom of web at end of girder. Web is bowed at diaphragm connection.

Span 2 bent 2 girder 3 was T-spliced in the past. Web has some out of plane bending between diaphragm connection and concrete haunch.

Span 2 bent 2 girder 5 was T-spliced in the past.

Span 2 bent 3 girder 1 was T-spliced in the past.

Span 2 bent 3 girder 4 has a bolted plate at web below haunch.

Span 3 bent 3 girder 1 was T-spliced in the past.

Span 3 bent 3 girder 2 has a bolted plate at web below haunch.

Span 3 bent 3 girder 5 was T-spliced in the past.

Span 3 bent 4 girder 1 was T-spliced in the past.

Span 3 bent 4 girder 5 was T-spliced in the past.

Span 4 bent 4 girder 5 was T-spliced in the past.

Span 4 bent 5 girder 1 was T-spliced in the past.

Span 4 bent 5 girder 5 was T-spliced in the past.

Span 5 bent 5 girder 1 was T-spliced in the past. Web above splice has a 3.5" x 3" hole. Web has some possible out of plane bending at haunch.

Span 5 bent 5 girder 2 has a 2" x 1" hole in web below haunch.

Span 5 bent 5 girder 3 has an 8" crack along bottom of web at end of girder.

Span 5 bent 5 girder 5 was T-spliced in the past. Web has some out of plane bending above splice.

Span 5 bent 6 girders 1 and 5 have flaking rust with moderate to heavy section loss at web below haunch and along bottom flange.

Substructure Notes



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Team Lead: Richard Jones **Inspection Date:** July 28, 2021

Concrete caps at bents 2 - 5 have several vertical and horizontal cracks; some with efflorescence. Caps have a few small spalls with exposed rebar. Caps have several delaminated areas along horizontal cracks near top and bottom edges of caps.

Bent 1 abutment has a spall with exposed rebar in back wall. Cap has 2 vertical cracks with rust stains.

Bent 2 cap cracks were noted as being filled with an epoxy resin in 2018 by HBM.

Bent 3 cap has 15' of horizontal cracks. Cap has several delaminated areas along horizontal cracks near top and bottom edges of caps. Bottom of cap has 5' of spalls with rebar exposed.

Bent 3 & 4 piling have minor abrasion.

Minor drift is built up at bents 4 and 5.

Bent 4 cap has an open horizontal crack 4" – 6" down from top of cap the entire length. Cap has spalls with rebar exposed near Lt and Rt ends. Cap has vertical cracks over piles 1-5. Cracks over piles 3 & 5 extend into top of cap.

Bent 4 pile 5 was driven out of plumb.

Bent 5 cap has horizontal cracks and delaminated areas along back face near top. Cap has a spall with 2' of rebar exposed near girder 3.