

Bridge Inspection Report

03781

SH 140-02- LM 9.09

over

NATIONAL DITCH



Inspection Date:

Inspected By:

Inspection Type(s):

Inspector:

Structure Number: 03781

Inspection Date:

Facility Carried: SH 140-02- LM 9.09

Bridge Inspection Report

National Bridge Inventory

IDENTIFICATION		INSPECTIONS	
(1) STATE CODE	056 - Arkansas	(90) INSPECTION DATE	06/12/2017
(8) STRUCTURE NUMBER	03781	(91) DESIGNATED INSPECTION FREQUENCY	24
(5) INV. ROUTE (ON/UNDER)	1 3 1 140 0	(92) CRITICAL FEATURE INSPECTION	(93) CFI DATE
(2) HIGHWAY AGENCY	10 (3) COUNTY CODE 093	A. FRACTURE CRITICAL DETAIL	N
(4) PLACE CODE	00000	B. UNDERWATER INSPECTION	N
(6) FEATURES INTERSECTED	NATIONAL DITCH	C. OTHER SPECIAL	N
(7) FACILITY CARRIED	SH 140-02- LM 9.09		
(9) LOCATION	1.7 MI E JCT SH 77		
(11) MILEPOINT 9.080	(12) BASE HIGHWAY NETWORK 1		
(13A) LRS INVENTORY ROUTE	0000140020 (13B) SUBROUTE NUMBER 00		
(16) LATITUDE 35.69857	(17) LONGITUDE -90.14863		
(98A) BORDER BRIDGE CODE			
PERCENT RESPONSIBILITY	(99) BORDER BRIDGE STRUCT		
STRUCTURE TYPE AND MATERIAL		CONDITION	
(43) STRUCTURE TYPE, MAIN		(58) DECK	4
A) KIND OF MATERIAL/DESIGN: 3 - Steel		(59) SUPERSTRUCTURE	4 (60) SUBSTRUCTURE 5
B) TYPE OF DESIGN/CONSTR: 02 - Stringer/Multi-beam or Girder		(61) CHANNEL & CHANNEL PROTECTION	7 (62) CULVERT N
(44) STRUCTURE TYPE, APPROACH SPANS			
A) KIND OF MATERIAL/DESIGN: 0 - Other			
B) TYPE OF DESIGN/CONSTR: 00 - Other			
(45) NUMBER OF SPANS IN MAIN 5	(46) NUMBER OF APPROACH 0		
(107) DECK STRUCTURE TYPE 1	(108A) WEARING SURFACE 6		
(108B) DECK MEMBRANE 0	(108C) DECK PROTECTION 0		
AGE OF SERVICE		LOAD RATING AND POSTING	
(27) YEAR BUILT 1967	(106) YEAR RECONSTRUCTED 0000	(31) DESIGN LOAD	5
(42) TYPE OF SERVICE ON 1 UNDER 5		(63) METHOD USED TO DETERMINE OPERATING RATING	1
(28) LANES ON 02 UNDER 00		(64) OPERATING RATING	24
(29) AVERAGE DAILY TRAFFIC 3400	(19) BYPASS DETOUR LENGTH 8	(65) METHOD USED TO DETERMINE INVENTORY RATING	1
(30) YEAR OF AVERAGE DAILY TRAFFIC 2014		(66) INVENTORY RATING	14
(109) AVERAGE DAILY TRUCK TRAFFIC 1		(70) BRIDGE POSTING	1
		(41) STRUCTURE OPEN/POSTED/CLOSED	P
GEOMETRIC DATA		APPRAISAL	
(48) LENGTH OF MAX SPAN (ft.) 45	(49) STRUCTURE LENGTH (ft.) 228	(67) STRUCTURAL EVALUATION	4
(50) CURB/SIDEWALK WIDTHS (ft.) LEFT 1.5 RIGHT 1.5		(68) DECK GEOMETRY	4
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.)	27.9	(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	N
(52) DECK WIDTH, OUT-TO-OUT (ft.)	33.7	(71) WATERWAY ADEQUACY	9
(32) APPROACH ROADWAY WIDTH (ft.)	36.1	(72) APPROACH ROADWAY ALIGNMENT	8
(33) BRIDGE MEDIAN 0	(34) SKEW (DEG.) 35	(36) TRAFFIC SAFETY FEATURE	
(35) STRUCTURE FLARED 0	(10) INV RTE, MIN VERT CLEAR (ft.) 99.99	36A) BRIDGE RAILINGS:	0
(47) TOTAL HORIZONTAL CLEARANCE (ft.)	30.8	36B) TRANSITIONS:	0
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.)	99.99	36C) APPROACH GUARDRAIL:	0
(54) VERTICAL UNDER CLEARANCE (ft.)	N 0	36D) APPROACH GUARDRAIL ENDS:	0
(55) LATERAL UNDER CLEARANCE RIGHT (ft.)	N 99.9	(113) SCOUR CRITICAL BRIDGES	5
(56) MIN LATERAL UNDER CLEARANCE (ft.)	0	SUFFICIENCY RATING	1 STATUS 9.6
PROPOSED IMPROVEMENTS		CLASSIFICATION	
(75A) TYPE OF WORK PROPOSED	(75B) WORK DONE BY	(112) NBIS BRIDGE LENGTH	Y
(76) LENGTH OF STRUCTURE IMPROVEMENT (ft.) 0		(104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE	0
(94) BRIDGE IMPROVEMENT COST (\$)	0	(26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE	06
(95) ROADWAY IMPROVEMENT COST (\$)	0	(100) STRAHNET HIGHWAY DESIGNATION	0
(96) TOTAL PROJECT COST	0	(101) PARALLEL STRUCTURE DESIGNATION	N
(97) YEAR OF IMPROVEMENT COST ESTIMATE		(102) DIRECTION OF TRAFFIC	2
(114) FUTURE ADT 3417	(115) YEAR OF FUTURE ADT 2028	(103) TEMP STRUCTURE	
		(105) FEDERAL LANDS HIGHWAYS	0
		(110) DESIGNATED NATIONAL NETWORK	0
		(20) TOLL	3
		(21) MAINTENANCE RESPONSIBILITY	01
		(22) OWNER	01
		(37) HISTORICAL	5
		NAVIGATION DATA	
		(38) NAVIGATION CONTROL	0
		(111) PIER OR ABUTMENT PROTECTION	5
		(39) NAV VERT CLEARANCE (ft.)	0
		(116) MIN NAVIGATION VERT CLEARANCE, VERT LIFT BRIDGE (ft.)	0
		(40) NAV HORIZONTAL CLEARANCE (ft.)	0

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Element Inspection

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
12 - Reinforced Concrete Deck	1- Ben.	7680	sq. ft.	1963	601	5116	0
1080 - Delamination/Spall/Patched Area		4085				4085	
1090 - Exposed Rebar		23				23	
1120 - Efflorescence/Rust Staining		1008				1008	
1130 - Cracking (RC and Other)		601			601		
510 - Wearing Surfaces		6372	sq. ft.	0	0	0	6372
3230 - Effectiveness (Wearing Surface)		6372					6372
107 - Steel Open Girder/Beam	1- Ben.	1125	ft.	676	250	192	7
1000 - Corrosion		442			250	192	
1010 - Cracking		7					7
515 - Steel Protective Coating		8175	sq. ft.	0	3270	2165	2740
3440 - Effectiveness (Steel Protective Coatings)		8175			3270	2165	2740
215 - Reinforced Concrete Abutment	1- Ben.	95	ft.	95			
227 - Reinforced Concrete Pile	1- Ben.	20	each	10	10	0	0
1190 - Abrasion/Wear (PSC/RC)		10			10		
234 - Reinforced Concrete Pier Cap	1- Ben.	139	ft.	34	4	101	0
1080 - Delamination/Spall/Patched Area		4			4		
1090 - Exposed Rebar		5				5	
1120 - Efflorescence/Rust Staining		6				6	
1130 - Cracking (RC and Other)		90				90	
302 - Compression Joint Seal	1- Ben.	249	ft.	0	0	199	50
2330 - Seal Damage		249				199	50
311 - Movable Bearing	1- Ben.	25	each	0	0	25	0
1000 - Corrosion		25				25	
313 - Fixed Bearing	1- Ben.	25	each	0	0	25	0
1000 - Corrosion		25				25	
321 - Reinforced Concrete Approach Slab	1- Ben.	1960	sq. ft.	1960			
333 - Other Bridge Railing	1- Ben.	455	ft.	455			

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Bridge Inspection Report

Maintenance Needs

Date Reported: 06/09/2016

Priority: D - Routine

Work Code:

Deficiency Description:

Compression seals are torn and separated with some portions missing:

Bent 2 joint has 41' of seal missing

Bent 4 joint has 6' of seal missing

Bent 5 joint has 3' of seal missing

Work Description:

Date Repairs Completed:

Maintenance Comments:

Inspector:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 06/09/2016

Priority: C - Important

Work Code:

Deficiency Description:

Steel girders have 60% paint deterioration and areas of surface rust throughout spans.
Interior girders have 3 ft. on ends rusted with up to $\frac{1}{4}$ " of section loss on bottom flange, and $\frac{1}{8}$ " of section loss on web.
Exterior girders have areas of heavy section loss at bottom of web and bottom flange.

Span 1 bent 2 girder 1 has a 5" x 2" hole in web below haunch.
Span 2 bent 3 girder 4 has a 2" x $\frac{1}{2}$ " hole in web below haunch.
Span 3 bent 3 girder 2 has a 1" x $\frac{1}{2}$ " hole in web below haunch.
Span 3 bent 4 girder 3 has a 2 $\frac{1}{4}$ " x 1" hole in web below haunch. See photos

Work Description:

BT 5 SP 5 GR 5 FIXED WITH T SPLICE
11/26/2013
M A F
BT 5 SP 5 GR 1 FIXED WITH T SPLICE
12/11/2013
M A F

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description

Stage: Monitor



PHOTO 2 Description

Inspector:

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Bridge Inspection Report

Maintenance Needs

Stage: Monitor



PHOTO 3 Description

Stage: Monitor



PHOTO 4 Description

Stage: Monitor



PHOTO 5 Description

Inspector:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 06/09/2016

Priority: C - Important

Work Code:

Deficiency Description:

Asphalt wearing surface has some cracked areas.

Deck has several large patches, delaminated areas and spalls. Patches are in poor condition. Over 50% of deck area patched and/or delaminated.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description

Stage: Monitor



PHOTO 2 Description

Inspector:

Inspection Date:

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Bridge Inspection Report

Maintenance Needs

Stage: Monitor



PHOTO 3 Description

Stage: Monitor



PHOTO 4 Description

Stage: Monitor



PHOTO 5 Description

Stage: Monitor



PHOTO 6 Description

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Bridge Inspection Report

Maintenance Needs

Date Reported: 06/09/2016

Priority: C - Important

Work Code:

Deficiency Description:

Concrete caps at bents 2 - 5 have several vertical and horizontal cracks; some with efflorescence.

Caps have a few small spalls with rebar exposed.

Bent 4 cap has an open horizontal crack on ahead side 4" – 6" down from top of cap the entire length of cap. See photo

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description

Inspector:

Structure Number: 03781

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Bridge Inspection Report

Maintenance Needs

Date Reported: 06/09/2016

Priority: C - Important

Work Code:

Deficiency Description:

Span 2 Rt overhang has a large spall with rebar exposed under last bridge rail post near bent 3 & a 3 ft. x 6 ft. x 3 in deep spall on span 1 left overhang .

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description

Inspector:

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Maintenance Needs

Date Reported: 06/09/2016

Priority: B - Pressing; 6 month completion goal

Work Code:

Deficiency Description:

Several girders have heavy section loss on ends and are cracked at bottom of web. Girders are crushing and moving under traffic.

Span 1 bent 2 girder 4 has a 12" crack in bottom of web near bottom flange.(repaired 06/12/2017)

Span 2 bent 2 girder 5 has a 12" crack in bottom of web near bottom flange (repaired 06/12/2017).

Span 2 bent 3 girder 1 has a 14" crack in bottom of web near bottom flange. (repaired 06/12/2017).

Span 3 bent 4 girder 1 has a 14" crack in bottom of web near bottom flange. Girder is crushed $\frac{3}{4}$ " with movement under traffic

Span 3 girder 5 @ bent 3 has a 9 in. crack in web near bottom flange and is beginning to crush, see 2017 photo.

Span 3 bent 4 girder 1 has a 14" crack in bottom of web near bottom flange with a 2 in. x 4 in. hole in inside flange. Girder is crushed $\frac{3}{4}$ " with movement under traffic load. See 2017 photo.

Span 3 girder 5 @ bent 4 Has a 2 in. crack in web with 6 in. crushing on end, see 2017 photo.

Span 4 girder 5 @ bent 4 Has a 2 in. crack in web with 6 in. crushing on end near flange, see 2017 photo.

Span 4 bent 5 girder 1 has a 15" crack in bottom of web near bottom flange. Web is crushed 1.5" at end of girder and moving under traffic. Each side of bottom flange has an area of complete section loss. see photos.

Span 4 bent 5 girder 5 has a 12" crack in bottom of web near bottom flange.

Work Description:

Some girders (previously reported) have been repaired with T- splices:

Span 1 girder 1 @ bent 2: Repaired with a 1.0 ft. wide x 16 in. high plate, see photo.

Span 1 girder 4 @ bent 2: Repaired with a 4.0 ft. long T-splice, see photo.

Span 2 girder 5 @ bent 2: Repaired with a 6.6 ft. long T-splice, see photo.

Span 2 girder 1 @ bent 3: Repaired with a 4.0 ft. long T-splice, see photo.

Span 4 girder 1 @ bent 5: Repaired with a 6.0 ft. long T-splice, see photo.

Span 4 girder 5 @ bent 5: Repaired with a 2.5 ft. long T-splice, see photo.

Date Repairs Completed:

Maintenance Comments:

Discussed movement with Bridge crew for repairs/ maybe some blocking to limit further movement and deterioration

Stage: Open



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PHOTO 1 Description

Stage: Open



PHOTO 2 Description Span 4 girder 5 bent 5

Stage: Open



PHOTO 3 Description Span 4 girder 1 bent 5

Stage: Open



PHOTO 4 Description Span 2 girder 1 bent 3

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Maintenance Needs

Stage: Open



PHOTO 5 Description Span 2 girder 5 bent 2

Stage: Open



PHOTO 6 Description Span 1 girder 4 bent 2

Stage: Open



PHOTO 7 Description Span 1 girder 1 bent 2

Stage: Assigned



PHOTO 8 Description

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Bridge Inspection Report

Maintenance Needs

Stage: Open



PHOTO 9 Description

Stage: Open



PHOTO 10 Description

Stage: Open



PHOTO 11 Description

Stage: Open



PHOTO 12 Description

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Bridge Inspection Report

Maintenance Needs

Stage: Open



PHOTO 13 Description

Stage: Open



PHOTO 14 Description

Stage: Open



PHOTO 15 Description

Stage: Open



PHOTO 16 Description

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Bridge Inspection Report

Maintenance Needs

Stage: Open



PHOTO 17 Description

Stage: Open



PHOTO 18 Description

Inspector:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 06/13/2017

Priority: B - Pressing; 6 month completion goal

Work Code:

Deficiency Description:

Several girders have heavy section loss on ends and are cracked at bottom of web. Girders are crushing and moving under traffic.

Span 3 girder 5 bent 3 has a 9 in. crack in web near bottom flange and is beginning to crush, see 2017 photo.

Span 3 girder 1 bent 4 has a 14" crack in bottom of web near bottom flange with a 2 in. x 4 in. hole in inside flange.

Girder is crushed $\frac{3}{4}$ " with movement under traffic load. See 2017 photo.

Span 3 girder 5 bent 4 Has a 2 in. crack in web with 6 in. crushing on end, see 2017 photo.

Span 4 girder 5 bent 4 Has a 2 in. crack in web with 6 in. crushing on end near flange, see 2017 photo.

Span 4 girder 1 bent 5 has a 15" crack in bottom of web near bottom flange. Web is crushed 1.5" at end of girder and moving under traffic. Each side of bottom flange has an area of complete section loss. see photos.

Work Description:

Date Repairs Completed:

Maintenance Comments:

copy to bridge crew to temporarily block crushing areas and limit additional movement - KAW 7/6/17

Stage: Open



PHOTO 1 Description Span 3 girder 5 @ bent 3

Stage: Open



PHOTO 2 Description Span 3 bent 4 girder 1

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Maintenance Needs

Stage: Open



PHOTO 3 Description Span 4 bent 4 girder 5

Stage: Open



PHOTO 4 Description Span 3 bent 4 girder 5

Inspector:

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Maintenance Needs

Date Reported: 06/13/2017

Priority: C - Important

Work Code:

Deficiency Description:

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

Minor drift on bents 3 & 5.

Work Description:

Date Repairs Completed:

Maintenance Comments:

To Mississippi One Crew for review

Stage: Open



PHOTO 1 Description