

Bridge Inspection Report

03345

**U.S. 412 Madison
over
WAR EAGLE CREEK**



Inspection Date:

Inspected By:

Inspection Type(s):

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Inspector:

Structure Number: 03345

Inspection Date:

Facility Carried: U.S. 412 Madison

Bridge Inspection Report

Location Map



Latitude: 36.12055

Longitude: -93.69399

Inspector:

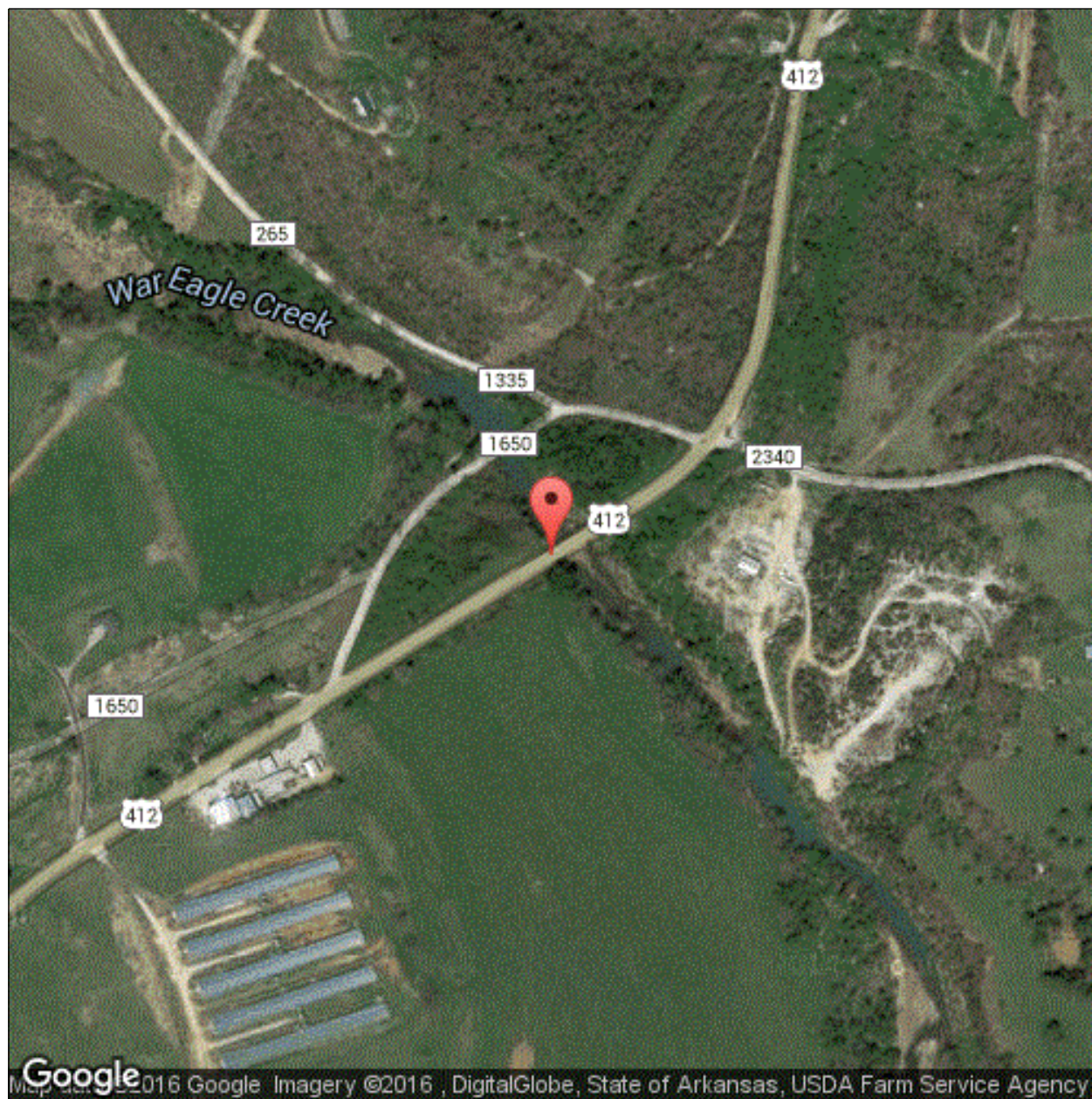
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Bridge Inspection Report

Location Map



Latitude: 36.12055

Longitude: -93.69399

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Bridge Inspection Report

Executive Summary

Logged West to East.

Inspector:

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Bridge Inspection Report

National Bridge Inventory

IDENTIFICATION		INSPECTIONS	
(1) STATE CODE	056 - Arkansas	(90) INSPECTION DATE	05/29/2018
(8) STRUCTURE NUMBER	03345	(91) DESIGNATED INSPECTION FREQUENCY	24
(5) INV. ROUTE (ON/UNDER)	1 2 1 412 0	(92) CRITICAL FEATURE INSPECTION	(93) CFI DATE
(2) HIGHWAY AGENCY	09 (3) COUNTY CODE 087	A. FRACTURE CRITICAL DETAIL	N
(4) PLACE CODE	00000	B. UNDERWATER INSPECTION	N
(6) FEATURES INTERSECTED	WAR EAGLE CREEK	C. OTHER SPECIAL	N
(7) FACILITY CARRIED	U.S. 412 Madison		
(9) LOCATION	1.2 MI W SH 127&US412		
(11) MILEPOINT 2.550	(12) BASE HIGHWAY NETWORK 1		
(13A) LRS INVENTORY ROUTE	0000412040 (13B) SUBROUTE NUMBER 00		
(16) LATITUDE 36.12055	(17) LONGITUDE -93.69399		
(98A) BORDER BRIDGE CODE			
PERCENT RESPONSIBILITY	(99) BORDER BRIDGE STRUCT		
STRUCTURE TYPE AND MATERIAL		CONDITION	
(43) STRUCTURE TYPE, MAIN		(58) DECK	5
A) KIND OF MATERIAL/DESIGN: 3 - Steel		(59) SUPERSTRUCTURE 6	(60) SUBSTRUCTURE 6
B) TYPE OF DESIGN/CONSTR: 02 - Stringer/Multi-beam or Girder		(61) CHANNEL & CHANNEL PROTECTION 6	(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 7	(46) NUMBER OF APPROACH 0		
(107) DECK STRUCTURE TYPE 1	(108A) WEARING SURFACE 1		
(108B) DECK MEMBRANE 0	(108C) DECK PROTECTION 0		
AGE OF SERVICE		LOAD RATING AND POSTING	
(27) YEAR BUILT 1960	(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	60.0
(29) AVERAGE DAILY TRAFFIC 7700	(19) BYPASS DETOUR LENGTH 7	(65) METHOD USED TO DETERMINE INVENTORY RATING	1
(30) YEAR OF AVERAGE DAILY TRAFFIC 2014		(66) INVENTORY RATING	36.0
(109) AVERAGE DAILY TRUCK TRAFFIC 1		(70) BRIDGE POSTING	5
		(41) STRUCTURE OPEN/POSTED/CLOSED	A
GEOMETRIC DATA		APPRAISAL	
(48) LENGTH OF MAX SPAN (ft.) 65	(49) STRUCTURE LENGTH (ft.) 357	(67) STRUCTURAL EVALUATION	6
(50) CURB/SIDEWALK WIDTHS (ft.) LEFT 0.1 RIGHT 0.1		(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.) 33.6		(71) WATERWAY ADEQUACY	7
(32) APPROACH ROADWAY WIDTH (ft.) 27.9		(72) APPROACH ROADWAY ALIGNMENT	8
(33) BRIDGE MEDIAN 0	(34) SKEW (DEG.) 0	(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.) 28.2		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	8
(56) MIN LATERAL UNDER CLEARANCE (ft.) 0		SUFFICIENCY RATING 74.0	STATUS 0
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	1
(94) BRIDGE IMPROVEMENT COST (\$)	0	(26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE	02
(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 5959	(115) YEAR OF FUTURE ADT 2028	(103) TEMP STRUCTURE	
		(105) FEDERAL LANDS HIGHWAYS	0
		(110) DESIGNATED NATIONAL NETWORK	1
		(20) TOLL	3
		(21) MAINTENANCE RESPONSIBILITY	01
		(22) OWNER	01
		(37) HISTORICAL	5
		NAVIGATION DATA	
		(38) NAVIGATION CONTROL	0
		(111) PIER OR ABUTMENT PROTECTION	1
		(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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Bridge Inspection Report

Element Inspection

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
12 - Reinforced Concrete Deck	1- Ben.	9940	sq. ft.	4339	5601	0	0
05/29/2018: Deck Patched area's: Span 2 left lane 6'x18' Span 3 left lane 6'x24' Span 4 left lane 8'x24' Span 4 right lane 2'x6' Span 5 at CL 4'x8' Span 6 left lane 2'x5' = 2,660 sqft. under surface: -Span 1 bay 4 approximately 8'2" behind bent 1 cap - patch repair. -Span 1 right at deck drain spalling with steel exposed. -Span 2 bay 1 approximately 4' from bent 2 has and area of spalling and concrete deterioration. -Span 2 bay 1 full length of span has transverse cracking with efflorescence at random Spacing. Soffit: Span 3 bay 3 spall with 1' steel exposed. Span 4 bay 2 spall with 2 steel exposed.							
1080 - Delamination/Spall/Patched Area		2660		0	2660	0	0
1090 - Exposed Rebar		3		0	3	0	0
1130 - Cracking (RC and Other)		2938		0	2938	0	0
107 - Steel Open Girder/Beam	1- Ben.	1775	ft.	1775	0	0	0
05/29/2018: -Number of girders 5 Measurements: -Spans 3,4, & 5: Web 32" Flange 11.5" Thickness 1" Span length 195 Total: 8,190 sqft -Spans 1,2,6 & 7: Web 22" Flange 9" Thickness 0.75" Span length 162 Total: 4,860 sqft -All of superstructure painted May 2016.							
515 - Steel Protective Coating		13050	sq. ft.	13050	0	0	0
205 - Reinforced Concrete Column	1- Ben.	12	each	6	3	3	0
05/29/2018 -Bent 3 columns 1 and 2 have heavy abrasion and areas of spalling due to aggregate loss at base of columns. -Bent 4 column 2 right ahead side spalling due to aggregate loss. -Bent 5 column 1 behind side has baseball size spalls and cracking. -Bent #3 ahead side of right column exposed rebar. -Right column of bent #5 has 2' exposed rebar. Cracking in same areas.							
1080 - Delamination/Spall/Patched Area		1		0	0	1	0
1090 - Exposed Rebar		2		0	1	1	0

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Element Inspection

1130 - Cracking (RC and Other)		2		0	2	0	0
1190 - Abrasion/Wear (PSC/RC)		1		0	0	1	0
210 - Reinforced Concrete Pier Wall	1- Ben.	101	ft.	100	1	0	0
05/29/2018: -Bent 1 ahead side top right corner adjacent to column 1 approximately 1" of spalling with steel exposed.							
1090 - Exposed Rebar		1		0	1	0	0
215 - Reinforced Concrete Abutment	1- Ben.	76	ft.	70	6	0	0
05/29/2018: -top of back wall has longitudinal cracking.							
1130 - Cracking (RC and Other)		6		0	6	0	0
234 - Reinforced Concrete Pier Cap	1- Ben.	174	ft.	143	31	0	0
05/29/2018: -Bent 2 cap behind side has multiple areas of delamination. -Exposed rebar to right side of cap @ pier 6 - 3' of steel exposed. -Exposed rebar to right side of cap @ pier 4 - 5' of steel exposed. -Pier 5 right side of cap 15" exposed rebar. = Total: 9.3' Pier 4 Horizontal cracking both ahead and behind side of cap.							
1080 - Delamination/Spall/Patched Area		10		0	10	0	0
1090 - Exposed Rebar		9		0	9	0	0
1130 - Cracking (RC and Other)		12		0	12	0	0
300 - Strip Seal Expansion Joint	1- Ben.	232	ft.	0	232	0	0
05/29/2018: -Maintenance forces have washed bridge and cleaned out joint material..							
2350 - Debris Impaction		232		0	232	0	0
311 - Movable Bearing	1- Ben.	35	each	35	0	0	0
05/29/2018: All bearings were painted may 2016.							
515 - Steel Protective Coating		105	sq. ft.	105	0	0	0
313 - Fixed Bearing	1- Ben.	35	each	35	0	0	0
05/29/2018: -Span 5 Bent 5 bearing 4 between soul plate and bearing signs of fretting. All bearings were painted may 2016.							
515 - Steel Protective Coating		70	sq. ft.	70	0	0	0
330 - Metal Bridge Railing	1- Ben.	714	ft.	714	0	0	0
05/29/2018: -Both left and right railing have areas that are down to primer throughout railing. -Bridge railing posts in span 4 right have areas of spalling at base of posts. -Concrete curb left and right has multiple areas of large spalling and steel exposed with section loss due to concrete deterioration.							
515 - Steel Protective Coating		2142	sq. ft.	1060	1082	0	0

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Element Inspection

3440 - Effectiveness (Steel Protective Coatings)		1082		0	1082	0	0
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Bridge Inspection Report

Pictures

PHOTO 1

Description

PHOTO 1

Description 2014 Sounding

Inspector:

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Bridge Inspection Report

Pictures

PHOTO 1

Description

Inspector:

Inspection Date:

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Bridge Inspection Report

Sketches

Inspector:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 6/27/2012 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Pier # 5 left column & pier # 6 right column - Cracking & deterioration.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Bent 5 column 2 right side steel exposed.

Stage: Assigned



PHOTO 2 Description Bent 2 column 1 ahead side vertical cracking.

Inspector:

Inspection Date:

Structure Number: 03345

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Bridge Inspection Report

Maintenance Needs

Stage: Assigned



PHOTO 3 Description Bent 5 column 1 behind side sampling and cracking.

Inspector:

Structure Number: 03345

Inspection Date:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 6/27/2012 12:00:00 AM

Priority: C - Important

Work Code:

Deficiency Description:

Pier # 3 left & right columns ; Pier # 5 right column - Spalls, delamination, cracking & deterioration

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Bent 3 ahead side of right column 2 steel exposed.

Stage: Assigned



PHOTO 2 Description Bent 5 column 2 right side steel exposed.

Inspector:

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Bridge Inspection Report

Maintenance Needs

Stage: Assigned



PHOTO 3 Description Bent 3 column 2 ahead side side large areas of spalling with steel exposed.

Stage: Assigned



PHOTO 4 Description General view of bent 3 behind side.

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Bridge Inspection Report

Maintenance Needs

Date Reported: 6/27/2012 12:00:00 AM

Priority: C - Important

Work Code:

Deficiency Description:

Pier # 4 concrete cap _ Spalls with rebar exposed, delamination & cracking.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Exposed rebar to right end of bent 4.

Stage: Assigned



PHOTO 2 Description Bent 4 cap right has spalling with steel exposed.

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Bridge Inspection Report

Maintenance Needs

Date Reported: 6/27/2012 12:00:00 AM

Priority: C - Important

Work Code:

Deficiency Description:

Bridge railing span # 5 left side - Vehicle damage.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Inspector:

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Maintenance Needs

Date Reported: 6/27/2012 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Deck curb throughout - Spalls with rebar exposed.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description

Stage: Assigned



PHOTO 2 Description

Inspector:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 6/27/2012 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Piers # 1 & # 2 - Scour

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description General view of bent 3 behind side.