

# Bridge Inspection Report

00382

State Highway 22

over

Short Mountain Creek



**Inspection Date:**

**Inspected By:**

**Inspection Type(s):**

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Inspector:

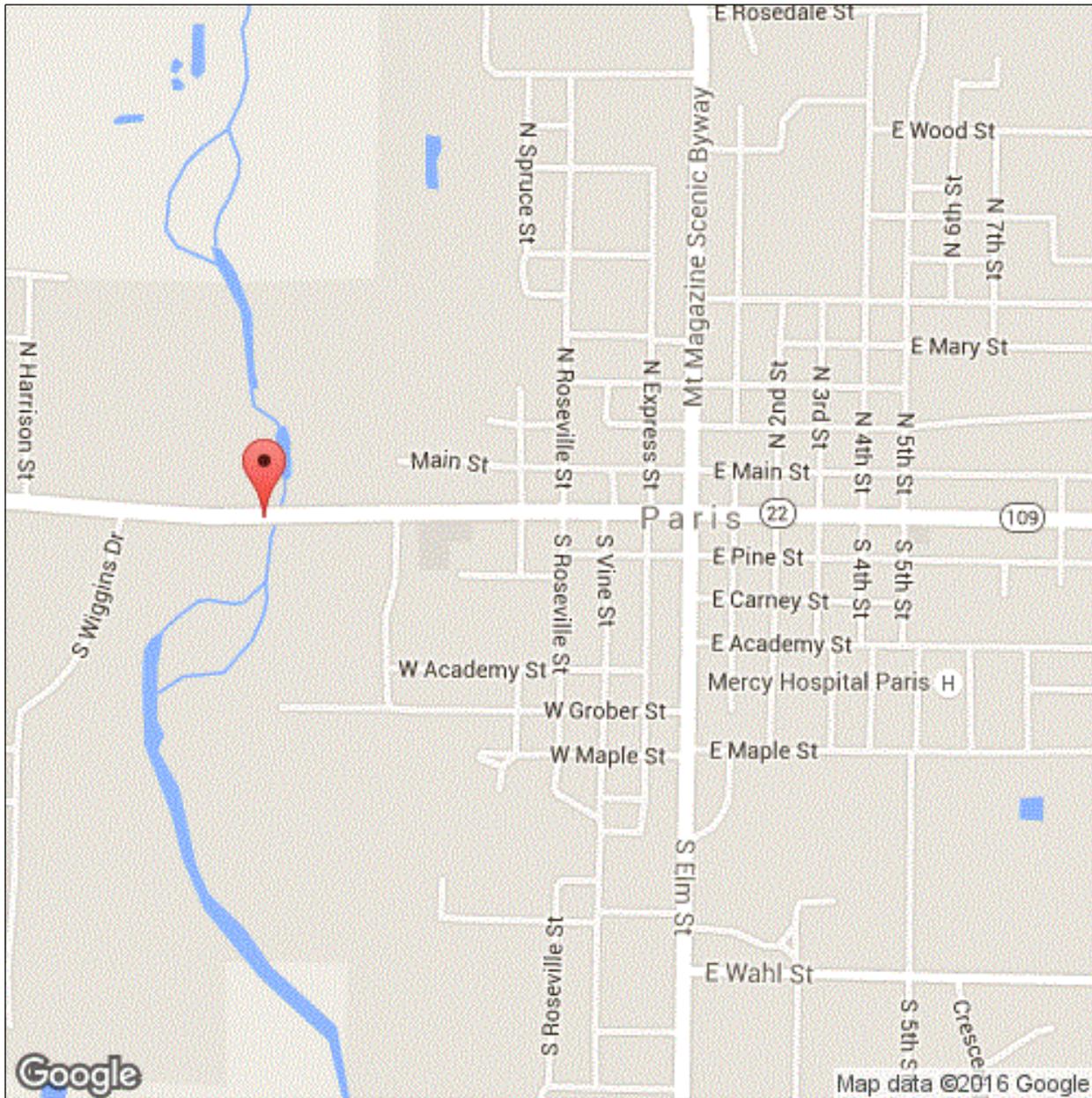
Structure Number: 00382

Inspection Date:

Facility Carried: State Highway 22

### Bridge Inspection Report

### Location Map



Latitude: 35.29207

Longitude: -93.73849

Inspector:

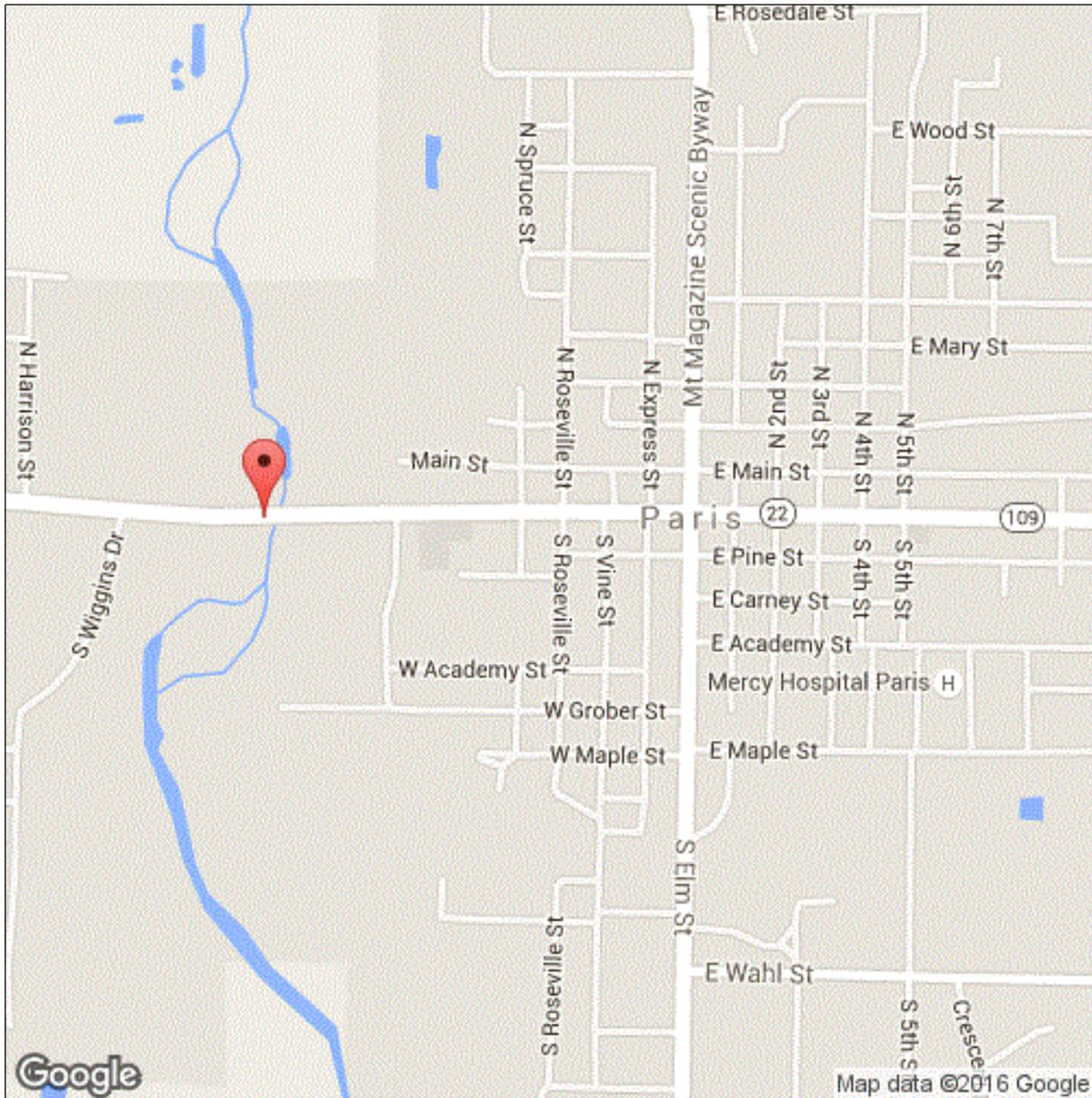
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### Bridge Inspection Report

### Location Map



Latitude: 35.29207

Longitude: -93.73849

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**Bridge Inspection Report**

**Executive Summary**

Inspector:

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National Bridge Inventory

IDENTIFICATION		INSPECTIONS	
(1) STATE CODE	056 - Arkansas	(90) INSPECTION DATE	05/24/2018
(8) STRUCTURE NUMBER	00382	(91) DESIGNATED INSPECTION FREQUENCY	24
(5) INV. ROUTE (ON/UNDER)	1 3 1 22 0	(92) CRITICAL FEATURE INSPECTION	(93) CFI DATE
(2) HIGHWAY AGENCY	04 (3) COUNTY CODE 083	A. FRACTURE CRITICAL DETAIL	N
(4) PLACE CODE	50900	B. UNDERWATER INSPECTION	N
(6) FEATURES INTERSECTED	Short Mountain Creek	C. OTHER SPECIAL	N
(7) FACILITY CARRIED	State Highway 22	CONDITION	
(9) LOCATION	10.35 MI E OF FRANKLIN CO	(58) DECK	6
(11) MILEPOINT 10.348	(12) BASE HIGHWAY NETWORK 1	(59) SUPERSTRUCTURE	5 (60) SUBSTRUCTURE 5
(13A) LRS INVENTORY ROUTE	0000022030 (13B) SUBROUTE NUMBER 00	(61) CHANNEL & CHANNEL PROTECTION	7 (62) CULVERT N
(16) LATITUDE 35.29207	(17) LONGITUDE -93.73849	LOAD RATING AND POSTING	
(98A) BORDER BRIDGE CODE		(31) DESIGN LOAD	4
PERCENT RESPONSIBILITY	(99) BORDER BRIDGE STRUCT	(63) METHOD USED TO DETERMINE OPERATING RATING	1
STRUCTURE TYPE AND MATERIAL		(64) OPERATING RATING	48
(43) STRUCTURE TYPE, MAIN		(65) METHOD USED TO DETERMINE INVENTORY RATING	1
A) KIND OF MATERIAL/DESIGN:	3 - Steel	(66) INVENTORY RATING	29
B) TYPE OF DESIGN/CONSTR:	02 - Stringer/Multi-beam or Girder	(70) BRIDGE POSTING	5
(44) STRUCTURE TYPE, APPROACH SPANS		(41) STRUCTURE OPEN/POSTED/CLOSED	A
A) KIND OF MATERIAL/DESIGN:	1 - Concrete	APPRAISAL	
B) TYPE OF DESIGN/CONSTR:	04 - Tee Beam	(67) STRUCTURAL EVALUATION	5
(45) NUMBER OF SPANS IN MAIN	1 (46) NUMBER OF APPROACH	(68) DECK GEOMETRY	4
(107) DECK STRUCTURE TYPE	1 (108A) WEARING SURFACE	(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	N
(108B) DECK MEMBRANE	0 (108C) DECK PROTECTION	(71) WATERWAY ADEQUACY	8
		(72) APPROACH ROADWAY ALIGNMENT	8
AGE OF SERVICE		(36) TRAFFIC SAFETY FEATURE	
(27) YEAR BUILT	1928 (106) YEAR RECONSTRUCTED	36A) BRIDGE RAILINGS:	0
(42) TYPE OF SERVICE	ON 1 UNDER 5	36B) TRANSITIONS:	0
(28) LANES	ON 02 UNDER 00	36C) APPROACH GUARDRAIL:	0
(29) AVERAGE DAILY TRAFFIC	7000 (19) BYPASS DETOUR LENGTH	36D) APPROACH GUARDRAIL ENDS:	0
(30) YEAR OF AVERAGE DAILY TRAFFIC	2014	(113) SCOUR CRITICAL BRIDGES	8
(109) AVERAGE DAILY TRUCK TRAFFIC	1	SUFFICIENCY RATING	55.5 STATUS 0
GEOMETRIC DATA		CLASSIFICATION	
(48) LENGTH OF MAX SPAN (ft.)	82 (49) STRUCTURE LENGTH (ft.)	(112) NBIS BRIDGE LENGTH	Y
(50) CURB/SIDEWALK WIDTHS (ft.)	LEFT 1.5 RIGHT 1.5	(104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE	0
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.)	27.9	(26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE	06
(52) DECK WIDTH, OUT-TO-OUT (ft.)	31	(100) STRAHNET HIGHWAY DESIGNATION	0
(32) APPROACH ROADWAY WIDTH (ft.)	40.0	(101) PARALLEL STRUCTURE DESIGNATION	N
(33) BRIDGE MEDIAN	0 (34) SKEW (DEG.)	(102) DIRECTION OF TRAFFIC	2
(35) STRUCTURE FLARED	0 (10) INV RTE, MIN VERT CLEAR (ft.)	(103) TEMP STRUCTURE	
(47) TOTAL HORIZONTAL CLEARANCE (ft.)	29.9	(105) FEDERAL LANDS HIGHWAYS	0
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.)	99.99	(110) DESIGNATED NATIONAL NETWORK	0
(54) VERTICAL UNDER CLEARANCE (ft.)	N 0	(20) TOLL	3
(55) LATERAL UNDER CLEARANCE RIGHT (ft.)	N 99.9	(21) MAINTENANCE RESPONSIBILITY	01
(56) MIN LATERAL UNDER CLEARANCE (ft.)	0	(22) OWNER	01
PROPOSED IMPROVEMENTS		(37) HISTORICAL	5
(75A) TYPE OF WORK PROPOSED	(75B) WORK DONE BY	NAVIGATION DATA	
(76) LENGTH OF STRUCTURE IMPROVEMENT (ft.)	0	(38) NAVIGATION CONTROL	0
(94) BRIDGE IMPROVEMENT COST (\$)	0	(111) PIER OR ABUTMENT PROTECTION	1
(95) ROADWAY IMPROVEMENT COST (\$)	0	(39) NAV VERT CLEARANCE (ft.)	0
(96) TOTAL PROJECT COST	0	(116) MIN NAVIGATION VERT CLEARANCE, VERT LIFT BRIDGE (ft.)	0
(97) YEAR OF IMPROVEMENT COST ESTIMATE		(40) NAV HORIZONTAL CLEARANCE (ft.)	0
(114) FUTURE ADT	10067 (115) YEAR OF FUTURE ADT		2028

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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
<b>12 - Reinforced Concrete Deck</b>	1- Ben.	2542	sq. ft.	2410	131	1	0
	-Span # 4 has large areas of cracking with light efflorescence on the undersurface of the deck. -The deck in span # 4 is approximately 1" lower than Span # 3 due to section loss of the masonry plates of Bent # 4.						
1090 - Exposed Rebar		1				1	
1120 - Efflorescence/Rust Staining		131			131		
510 - Wearing Surfaces		2276	sq. ft.	56	0	2220	0
3210 - Delamination/Spall/Patched Area/Pothole (Wearing Surfaces)		275				275	
3220 - Crack (Wearing Surface)		1945				1945	
<b>16 - Reinforced Concrete Top Flange</b>	1- Ben.	5580	sq. ft.	5467	105	8	0
	-Map cracking on the asphalt driving surface. -Asphalt is breaking apart over the deck joints. -Span # 1 has 2 shallow spalls with exposed reinforcing steel adjacent to Bent # 2. -Span 4 Lt has soft deteriorated concrete in the curb with exposed reinforcing steel. -The deck has a few full depth transverse cracks with light staining visible on the undersurface of the deck. -Span 6 & 7 has 2 shallow spalls with exposed reinforcing steel adjacent to Bent 7 in Bay 2 that have been painted but have layers of rust that is flaking the paint off. -The deck haunches in random areas over the intermediate bents have spalling with exposed reinforcing steel and active corrosion. This spalling appears to have been caused by leaking deck joints. -The Lt edge of Span 4 has map cracking with efflorescence that corresponds with the soft deteriorated concrete in the curb.						
1090 - Exposed Rebar		8				8	
1120 - Efflorescence/Rust Staining		105			105		
510 - Wearing Surfaces		4995	sq. ft.	4995			
<b>107 - Steel Open Girder/Beam</b>	1- Ben.	328	ft.	298	0	30	0
	-The paint system has areas along the bottom flanges and in random areas of the top flanges that has active corrosion and flaking rust with up to 1/8" section loss at the beam ends. -No visible cracks at this inspection.						
1000 - Corrosion		30				30	
515 - Steel Protective Coating		3681	sq. ft.	3448	0	143	90
3440 - Effectiveness (Steel Protective Coatings)		233				143	90

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Element Inspection

<b>110 - Reinforced Concrete Open Girder/Beam</b>	1- Ben.	900	ft.	894	0	6	0
<p>-Vertical hairline flexure cracking at approximately 12" centers typical in some beams.          -Isolated areas of shallow spalling with exposed reinforcing steel.          -The girders have areas of honeycomb from the construction process.</p>							
1090 - Exposed Rebar		6				6	
<b>205 - Reinforced Concrete Column</b>	1- Ben.	20	each	7	9	4	0
<p>-The columns have areas of shallow spalling with exposed reinforcing steel in random columns.          -The painted exposed reinforcing steel on the Rt column of Bent 4, Span 4 has active corrosion and flaking rust.          -The base of the columns have light / medium abrasion.          -Bent # 2 columns # 1-3 have full width horizontal cracking below the cap.          -Bent # 5 Column # 1 has voids at the base of the column from concrete deterioration.</p>							
1080 - Delamination/Spall/Patched Area		6			5	1	
1090 - Exposed Rebar		3				3	
1130 - Cracking (RC and Other)		4			4		
<b>210 - Reinforced Concrete Pier Wall</b>	1- Ben.	38	ft.	18	18	2	0
<p>-Bent # 4 &amp; 5 web walls.          -Webs have vertical cracks and abrasion at the bases.</p>							
1130 - Cracking (RC and Other)		2				2	
1190 - Abrasion/Wear (PSC/RC)		18			18		
<b>215 - Reinforced Concrete Abutment</b>	1- Ben.	70	ft.	70			
<p>No apparent noteworthy problems at this inspection.</p>							
<b>234 - Reinforced Concrete Pier Cap</b>	1- Ben.	180	ft.	142	21	17	0
<p>-Numerous spalls in the caps with exposed reinforcing steel.          -The spalling appears to be from water leakage through the deck joints.          -Previous painted repairs to the spalls with exposed reinforcing steel are deteriorated with layers of rust.          -The caps are stained from apparent water leakage.          -Bent 6 has concrete spalling on the haunch sections n under the cap between Columns 2 &amp; 3.</p>							
1080 - Delamination/Spall/Patched Area		5			2	3	
1090 - Exposed Rebar		13				13	
1130 - Cracking (RC and Other)		20			19	1	
<b>311 - Movable Bearing</b>	1- Ben.	4	each	0	0	0	4
<p>-The bearings at Bent # 4 have active corrosion and section loss to the base of the rockers.          -The masonry plates are covered with dirt and debris accumulation and have significant section loss that appears to have caused the deck to be approximately 1" lower than the adjacent span.          -The anchor bolts are nearly corroded into at Bent # 4.          -The pins have powdery red rust leaching from the connection that indicates possible pin wear.</p>							

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Element Inspection

1000 - Corrosion		4					4
515 - Steel Protective Coating		8	sq. ft.	0	0	0	8
3440 - Effectiveness (Steel Protective Coatings)		8					8
<b>313 - Fixed Bearing</b>	1- Ben.	4	each	0	0	0	4
-The bearings at Bent # 5 have dirt and debris accumulation. -The bearings are rusted with layer of flaking rust and measurable section loss that appears to be causing the deck to be approximately 3/8" lower than the adjacent span, at Bent # 5.							
1000 - Corrosion		4					4
515 - Steel Protective Coating		8	sq. ft.	0	0	0	8
3440 - Effectiveness (Steel Protective Coatings)		8					8
<b>330 - Metal Bridge Railing</b>	1- Ben.	524	ft.	509	0	15	0
-The paint system is failing with rust showing through in numerous areas. -Minor out of plane bending in the rail over the right side of Span 6. -26' of soft deteriorating concrete with exposed reinforcing steel in the left curb.							
1020 - Connection		4				4	
7000 - Damage		11				11	
515 - Steel Protective Coating		1046	sq. ft.	522	0	524	0
3440 - Effectiveness (Steel Protective Coatings)		524				524	

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**Pictures**

PHOTO 1

Description 00382 Layout.pdf

PHOTO 2

Description

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**Bridge Inspection Report**

**Pictures**

PHOTO 2

Description

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**Bridge Inspection Report**

**Sketches**

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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:

Substructure caps.

Substructure caps have delaminated areas and spalls with exposed reinforcing steel, the exposed reinforcing steel has active corrosion and section loss.

The base of Bent # 5 Column # 1 has concrete deterioration and section loss.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Bent # 6 Span # 6 exposed reinforcing steel in the haunches.

Stage: Assigned



PHOTO 2 Description Bent # 5 Column # 1 concrete deterioration at the base of the column.

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Maintenance Needs

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

Priority: C - Important

Work Code:

Deficiency Description:

Superstructure.

The superstructure in Span # 4 has active corrosion with flaking rust. Superstructure has 1/8" section loss in the flanges and web sections in the ends of the beams.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Bent # 5 beam ends with active corrosion and section loss.

Stage: Assigned



PHOTO 2 Description Active corrosion in the diaphragm over bent # 5.

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Maintenance Needs

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

Priority: B - Pressing; 6 month completion goal

Work Code:

Deficiency Description:

Bearings.

Bearings at Bents # 4 and 5 have active corrosion with layers of flaking rust. Bearings at Bent # 4 have approximately 75% section loss to the exterior edges of the rockers. The masonry plates have significant section loss. The deck appears to be approximately 1" lower than the adjacent span at Bent # 4 and approximately 3/8" lower at Bent # 5, this appears to have been caused by the section loss of the masonry plates and the rockers.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Bearings at Bents # 4 and 5 have active corrosion with layers of flaking rust. Bearings at Bent # 4 have approximately 75% section loss to the exterior edges of the rockers.

Stage: Open



PHOTO 2 Description

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## Maintenance Needs

Stage: Open



PHOTO 3 Description Bent # 4 Beam # 4 active corrosion in the bearings.

Stage: Open



PHOTO 4 Description Bent # 4 bearings with active corrosion and section loss to the bearings and masonry plate.

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Maintenance Needs

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

Priority: D - Routine

Work Code:

Deficiency Description:

Deck.

Asphalt driving surface of the deck is breaking apart over the expansion joints and has map cracking over the majority of the wearing surface.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description ACHM breaking apart over the deck joints.

Stage: Assigned



PHOTO 2 Description Potholes on the driving surface of the deck.

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## Maintenance Needs

Date Reported: 5/12/2014 12:00:00 AM

Priority: D - Routine

Work Code:

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### Deficiency Description:

Deck Joints

The deck joints leak water on the ends of the beams, bearings and the substructure caps.

### Work Description:

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Date Repairs Completed:

Maintenance Comments:

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Stage: Assigned



PHOTO 1 Description The deck joints leak water on the ends of the beams, bearings and the substructure caps.

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**Bridge Inspection Report**

**Maintenance Needs**

Date Reported: 5/12/2014 12:00:00 AM

Priority: D - Routine

Work Code:

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**Deficiency Description:**

Deck

The left curb in Span # 4 has several areas of soft deteriorated concrete with section loss and exposed reinforcing steel.

**Work Description:**

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Date Repairs Completed:

Maintenance Comments:

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Stage: Assigned



PHOTO 1 Description The left curb in Span 4 has several areas of soft deteriorated concrete with section loss and exposed reinforcing steel.