

# Bridge Inspection Report

**06341**  
**SH 23 Madison Co.**  
**over**  
**SMYRNA CREEK**



**Inspection Date:**

**Inspected By:**

**Inspection Type(s):**

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Inspector:

Structure Number: 06341

Inspection Date:

Facility Carried: SH 23 Madison Co.

### Bridge Inspection Report

### Location Map



Latitude: 36.13109

Longitude: -93.73310

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### Location Map



Latitude: 36.13109

Longitude: -93.73310



Inspector:

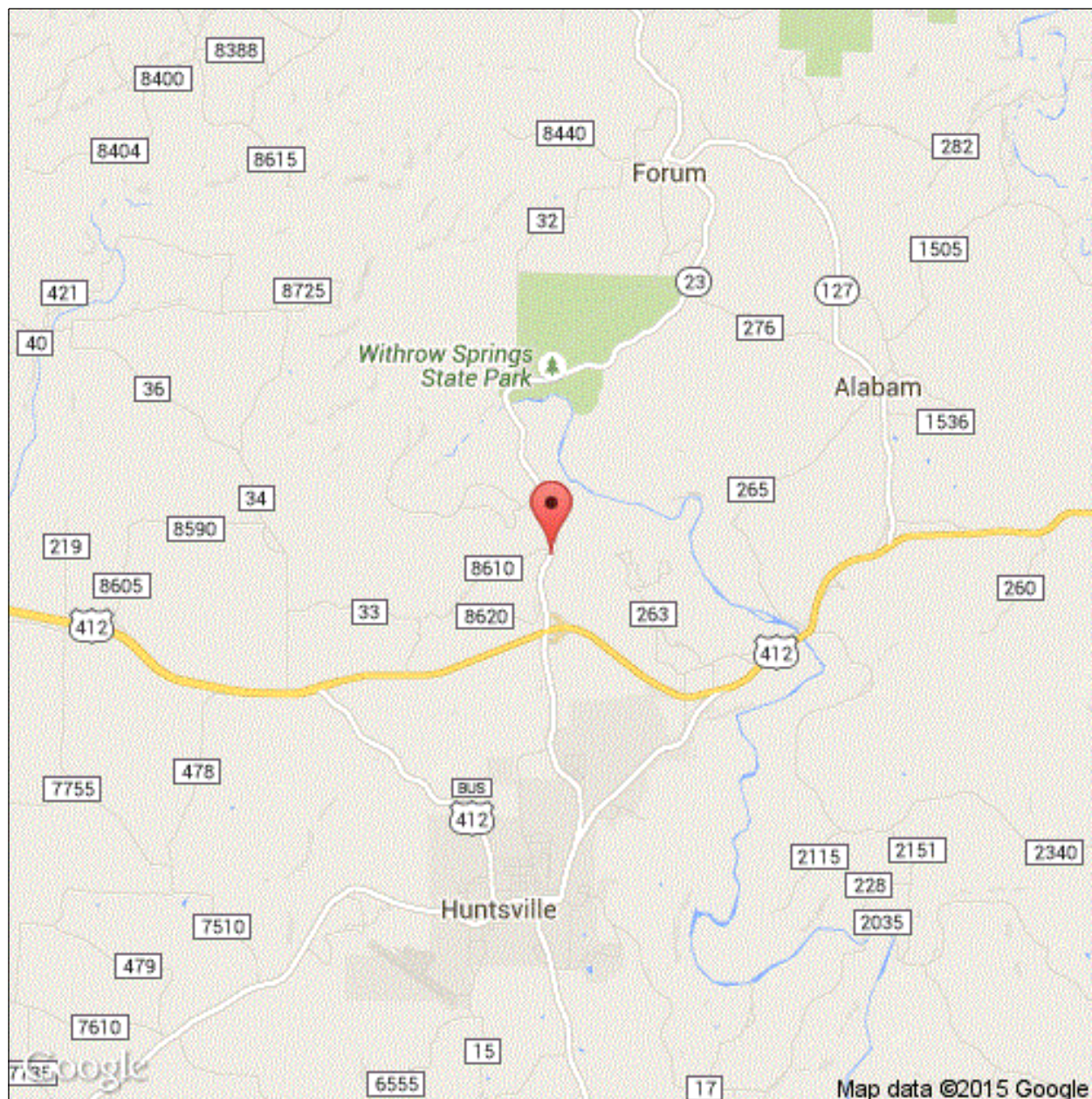
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## Bridge Inspection Report

### Location Map



Latitude: 36.13109

Longitude: -93.73310



Inspector:

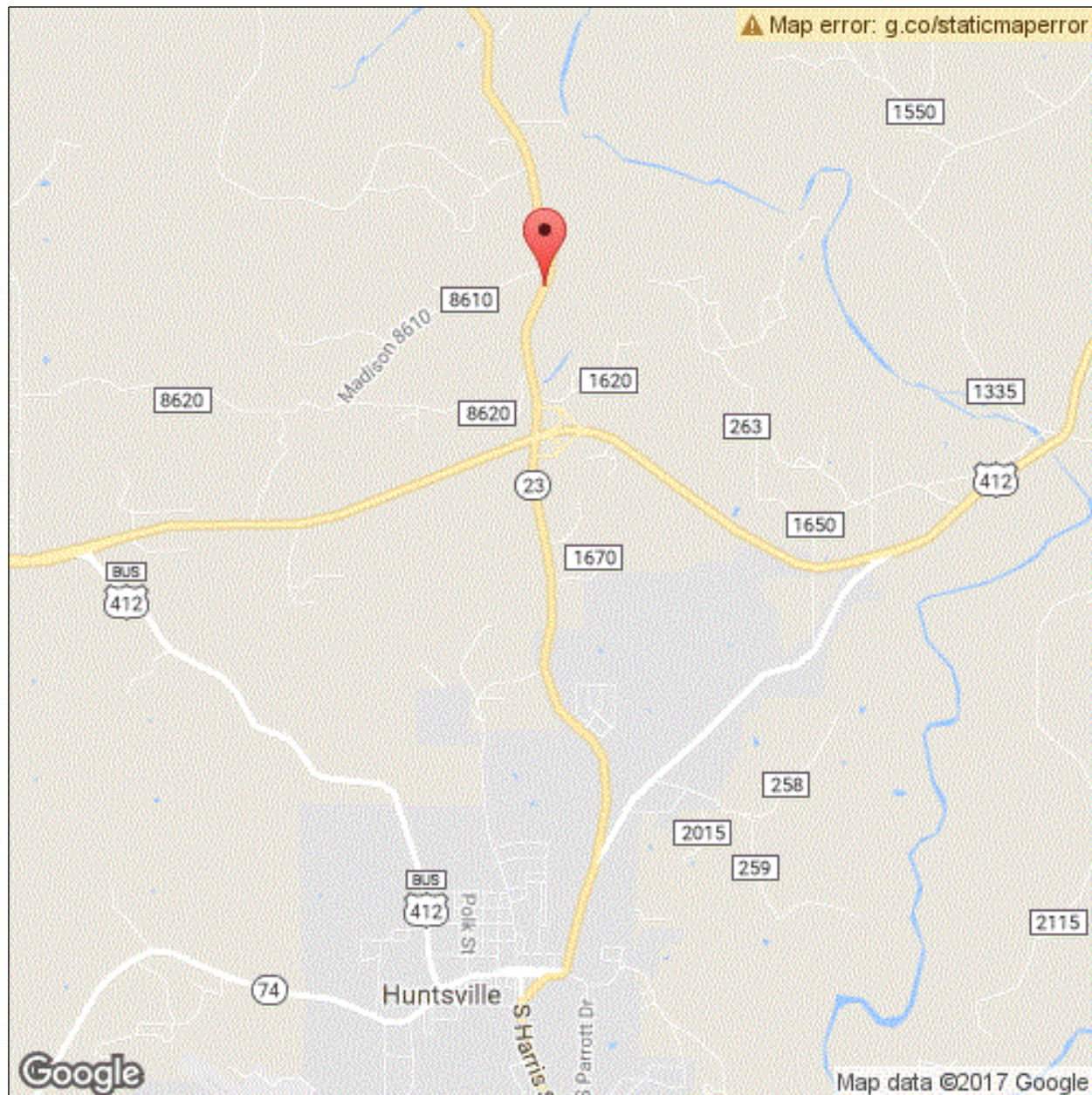
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### Location Map



Latitude: 36.13109

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## **Bridge Inspection Report**

### **Executive Summary**

Logged South to North.

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## Bridge Inspection Report

## National Bridge Inventory

IDENTIFICATION		INSPECTIONS	
(1) STATE CODE	056 - Arkansas	(90) INSPECTION DATE	08/19/2019
(8) STRUCTURE NUMBER	06341	(91) DESIGNATED INSPECTION FREQUENCY	24
(5) INV. ROUTE (ON/UNDER)	1 3 1 23 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	SMYRNA CREEK	C. OTHER SPECIAL	N 08/06/2015
(7) FACILITY CARRIED	SH 23 Madison Co.		
(9) LOCATION	2.69 MI N JCT US 412		
(11) MILEPOINT 2.690	(12) BASE HIGHWAY NETWORK 1		
(13A) LRS INVENTORY ROUTE	0000023090 (13B) SUBROUTE NUMBER 00		
(16) LATITUDE 36.13109	(17) LONGITUDE -93.73310		
(98A) BORDER BRIDGE CODE			
PERCENT RESPONSIBILITY	(99) BORDER BRIDGE STRUCT		
STRUCTURE TYPE AND MATERIAL		CONDITION	
(43) STRUCTURE TYPE, MAIN		(58) DECK	7
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 3	(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 1991	(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
(29) AVERAGE DAILY TRAFFIC 1900	(19) BYPASS DETOUR LENGTH 2	(65) METHOD USED TO DETERMINE INVENTORY RATING	1
(30) YEAR OF AVERAGE DAILY TRAFFIC 2014		(66) INVENTORY RATING	36
(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.) 35	(49) STRUCTURE LENGTH (ft.) 107	(67) STRUCTURAL EVALUATION	6
(50) CURB/SIDEWALK WIDTHS (ft.) LEFT 0	RIGHT 0	(68) DECK GEOMETRY	6
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.)	36.4	(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	N
(52) DECK WIDTH, OUT-TO-OUT (ft.)	39.3	(71) WATERWAY ADEQUACY	9
(32) APPROACH ROADWAY WIDTH (ft.)	24.0	(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:	1
(47) TOTAL HORIZONTAL CLEARANCE (ft.)	37.4	36B) TRANSITIONS:	1
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.)	99.99	36C) APPROACH GUARDRAIL:	1
(54) VERTICAL UNDER CLEARANCE (ft.)	N 0	36D) APPROACH GUARDRAIL ENDS:	1
(55) LATERAL UNDER CLEARANCE RIGHT (ft.)	N 99.9	(113) SCOUR CRITICAL BRIDGES	5
(56) MIN LATERAL UNDER CLEARANCE (ft.)	0	SUFFICIENCY RATING 99.7	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	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 2251	(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	4
		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
<b>12 - Reinforced Concrete Deck</b>	1- Ben.	3812	sq. ft.	3371	441	0	0
	08/19/2019 - WNR & DBM: -The driving surface of the deck has longitudinal cracking in the left and right lanes of all spans. -Span #1 has a transverse crack approximately 15' from abutment #1. -Spans #1 and #2 have a moderate width transverse crack in the left lane. -State Maintenance forces have place type of sealant on the majority of deck cracking.						
1130 - Cracking (RC and Other)		441		0	441	0	0
<b>107 - Steel Open Girder/Beam</b>	1- Ben.	525	ft.	343	182	0	0
	08/19/2019 - WNR & DBM: -The ends of beams have corrosion with flaking rust to the webs and bottom flanges in several locations due to failing expansion joint seals allowing water to leak onto the superstructure. The worse case of this is girders 1-3 in span #3 adjacent to abutment #2.						
1000 - Corrosion		182		0	182	0	0
515 - Steel Protective Coating		4376	sq. ft.	4313	0	63	0
<b>205 - Reinforced Concrete Column</b>	1- Ben.	10	each	9	0	1	0
	08/19/2019 - WNR & DBM: -Bent #1, column #2 has a baseball sized spall with exposed reinforcing steel in the upper portion of column.						
1090 - Exposed Rebar		1		0	0	1	0
<b>215 - Reinforced Concrete Abutment</b>	1- Ben.	116	ft.	107	9	0	0
	08/19/2019 - WNR & DBM: -The top of abutment #2 backwall has two transverse cracks with areas of shallow spalling visible from the driving surface. No exposed reinforcing steel in the spalled areas. -The vertical face of abutment #2 breastwall has two basketball sized spalls with exposed reinforcing steel under beam #3.						
1080 - Delamination/Spall/Patched Area		7		0	7	0	0
1130 - Cracking (RC and Other)		2		0	2	0	0
<b>234 - Reinforced Concrete Pier Cap</b>	1- Ben.	76	ft.	68	7	1	0
	08/19/2019 - WNR & DBM: -The left end of bent #1 cap has two baseball sized spalls with exposed reinforcing steel and a vertical spall along the edge of cap approximately 20" long with exposed primary steel with section loss. The cap has horizontal cracking that propagates from the spalled area. The cap has a horizontal crack under beam #3 and a vertical crack under beam #4.						
1080 - Delamination/Spall/Patched Area		1		0	1	0	0
1090 - Exposed Rebar		1		0	0	1	0
1130 - Cracking (RC and Other)		6		0	6	0	0

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## Element Inspection

<b>302 - Compression Joint Seal</b>	1- Ben.	155	ft.	0	0	155	0
	08/19/2019 - WNR & DBM: - The compression joint assemblies have pack rust that has caused adhesion failure to the seals allowing water to leak onto the substructure.						
2310 - Leakage		155		0	0	155	0
<b>311 - Movable Bearing</b>	1- Ben.	15	each	7	4	4	0
	08/19/2019 - WNR & DBM: - The moveable bearings have abnormal weathering with corrosion and flaking rust due to leaking expansion joint seals. -Bent #1 has 4 bearings in CS3 due to flacking rust.						
1000 - Corrosion		8		0	4	4	0
515 - Steel Protective Coating		15	sq. ft.	7	0	8	0
3430 - Oxide Film Degradation Color/Texture Adherence(Steel Protective Coatings)		8		0	0	8	0
<b>313 - Fixed Bearing</b>	1- Ben.	15	each	2	0	13	0
	08/19/2019 - WNR & DBM: - The fixed bearings have corrosion with heavy flaking rust due to compression joint seals leaking. -Abutment #1 has 4 bearings in CS3. -Bent #1 has 4 bearings in CS3 due to flacking rust. -Abutment #2 has 5 bearings in CS3.						
1000 - Corrosion		13		0	0	13	0
515 - Steel Protective Coating		15	sq. ft.	4	0	11	0
3430 - Oxide Film Degradation Color/Texture Adherence(Steel Protective Coatings)		11		0	0	11	0
<b>331 - Reinforced Concrete Bridge Railing</b>	1- Ben.	210	ft.	182	25	3	0
	08/19/2019 - WNR & DBM: -The left and right bridge railing has vertical cracks that correspond with the construction joints. -The bridge railing on the right side of span #2 has three baseball sized spalls with exposed reinforcing steel at the base of bridge railing.						
1090 - Exposed Rebar		3		0	0	3	0
1130 - Cracking (RC and Other)		25		0	25	0	0

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## Pictures

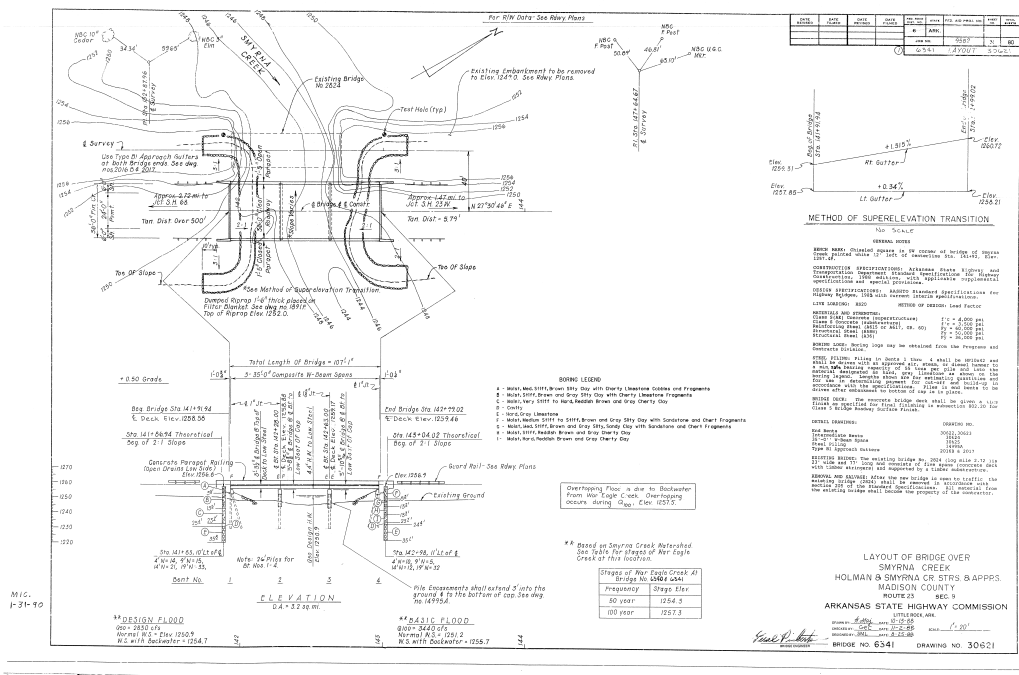


PHOTO 1

### Description

PHOTO 2

### Description

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**Bridge Inspection Report**

**Pictures**

PHOTO 2

Description

PHOTO 3

Description



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**Bridge Inspection Report**

**Pictures**

PHOTO 4

Description

PHOTO 5

Description

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**Bridge Inspection Report**

**Sketches**

Inspector:

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### Bridge Inspection Report

## Maintenance Needs

Date Reported: 08/06/2015

Priority: D - Routine

Work Code:

---

### Deficiency Description:

Channel - The inlet end of channel has heavy streambed material accumulation that appears to have caused the channel to migrate North directing channel flow into bent #2.

### Work Description:

---

Date Repairs Completed:

Maintenance Comments:

---

Stage: Monitor



PHOTO 1      Description      Streambed material accumulation with vegetation growing.

Stage: Monitor



PHOTO 2      Description      Channel flow directed into bent #2.

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## Bridge Inspection Report

### Maintenance Needs

Date Reported: 08/06/2015

Priority: D - Routine

Work Code:

---

#### Deficiency Description:

Deck expansion joints - The compression joint assemblies have moderate pack rust that has caused adhesion failure to the seals allowing water to leak onto the substructure.

#### Work Description:

---

Date Repairs Completed:

Maintenance Comments:

---

Stage: Monitor



PHOTO 1      Description      Deck joints - adhesion failure.

Stage: Monitor



PHOTO 2      Description      Abutment #1-Pack rust in compression joint assembly.



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### Maintenance Needs

Stage: Monitor



PHOTO 3      Description      Compression joints adjacent road irons have pack rust that is adding in joint leakage.

Stage: Monitor



PHOTO 4      Description      Bent #2 compression joint material

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## Maintenance Needs

Date Reported: 08/06/2015

Priority: D - Routine

Work Code:

### Deficiency Description:

Substructure - The left end of bent #1 cap has two baseball sized spalls with exposed reinforcing steel and a spall approximately 20" long with exposed primary steel with section loss. The cap has horizontal cracking and a delaminated area adjacent to the spalled area.

Column #2 of bent #1 has a baseball sized spall with exposed reinforcing steel in the upper portion of column. The vertical face of abutment #2 breastwall has two basketball sized spalls with exposed reinforcing steel under beam #3. with no exposed reinforcing steel.

### Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1      Description      Bent #1 cap, left side-Spalling with exposed reinforcing steel.

Stage: Open



PHOTO 2      Description      Bent #2 left - spall with exposed rebar.



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### Maintenance Needs

Stage: Monitor



PHOTO 3 Description Bent #1 cap, Left side-Delaminated area.

Stage: Monitor



PHOTO 4 Description Bent #1, column #2-Spalling with exposed reinforcing steel.

Stage: Monitor



PHOTO 5 Description Abutment #2-Spalling with exposed reinforcing steel.

Stage: Monitor



PHOTO 6 Description Left behind sided bent #1 has spalling with steel exposed with measurable section loss.

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## Bridge Inspection Report

### Maintenance Needs

Date Reported: 08/06/2015

Priority: C - Important

Work Code:

---

#### Deficiency Description:

Superstructure - The ends of beams and bearings have abnormal weathering with corrosion and flaking rust due to leaking expansion joint seals.

#### Work Description:

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Date Repairs Completed:

Maintenance Comments:

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#### Stage: Open



PHOTO 1      Description      Bent #4 beam #3 - bearing has active corrosion with flaking rust. Typical with all bearings.

#### Stage: Monitor



PHOTO 2      Description      Corrosion with flaking rust to beam ends typical.



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### Maintenance Needs

Stage: Monitor



PHOTO 3      Description      Abutment #1-Corrosion to bearings typical.

Stage: Monitor



PHOTO 4      Description      Typical flaking rust at the ends of girders.