

Bridge Inspection Report

02157

US 71 Benton 1

over

LITTLE SUGAR CREEK



Inspection Date:

Inspected By:

Inspection Type(s):

Inspector:

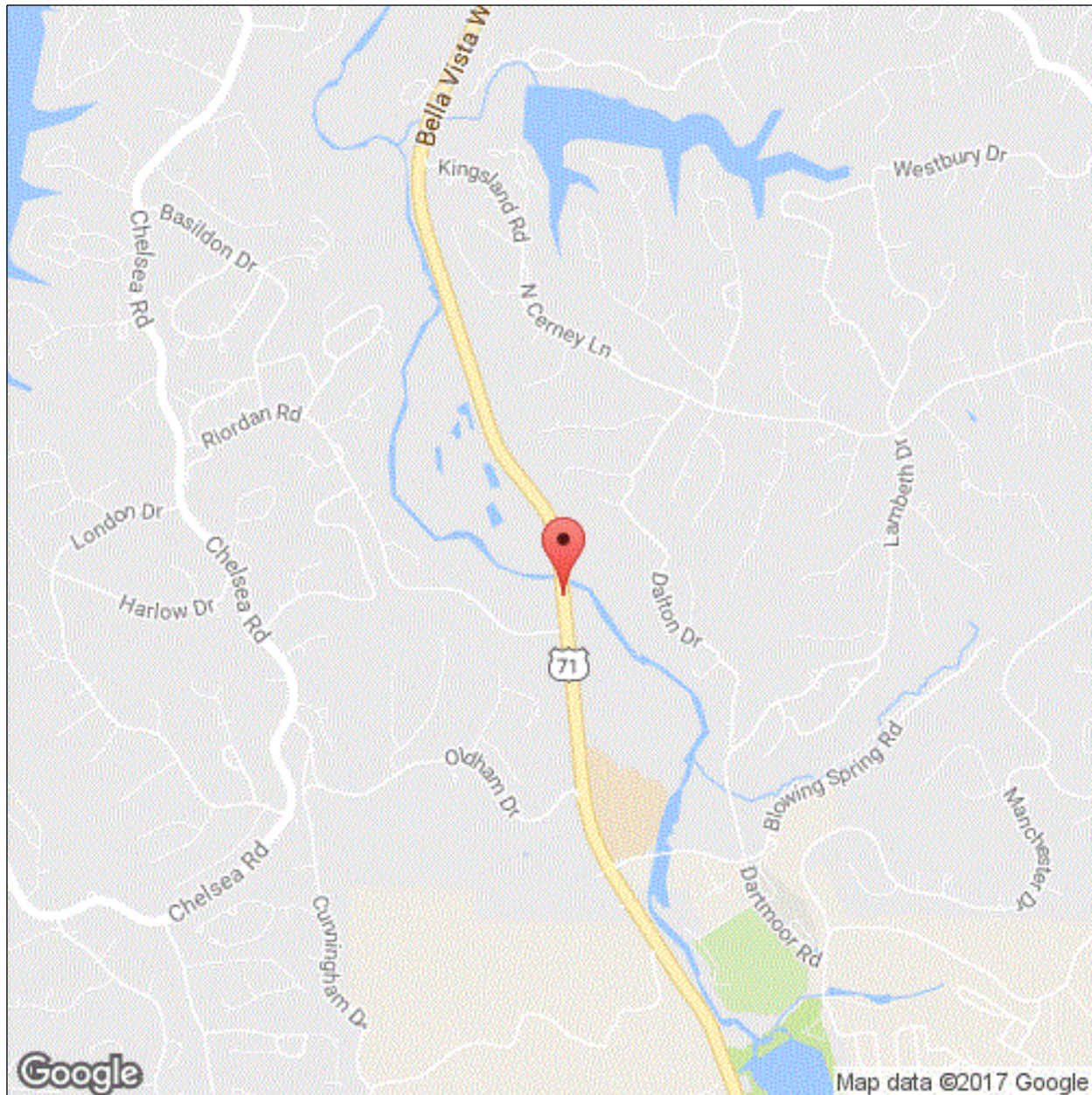
Structure Number: 02157

Inspection Date:

Facility Carried: US 71 Benton 1

Bridge Inspection Report

Location Map



Latitude: 36.44693

Longitude: -94.23917

Inspector:

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Location Map



Latitude: 36.44693

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Bridge Inspection Report

Executive Summary

TAD/BDS 5/10/16 Routine and underwater type 2 inspections. Numerous spalls with rebar exposed in north and south bound lanes. Shallow spalls with rebar exposed on various locations of columns and pier caps. Expansion joints are leaking onto caps and abutments resulting in heavy corrosion to bearings at both abutments. Span #4 girders #8,#11 at end and span #6 bay #7 at diaphragm #2 Diaphragm clip bolts loose or missing. Pier #2, columns #4,#6 and right end of concrete cap has spalls, deterioration and rebar exposed , and Pier #4,5 left end of concrete cap has deterioration and cracking with leaching.

See picture dated 5/07/2014 of deck span # 3 SBL 1.7% area span # 3 spalled.

Sufficiency Rating Calculation Accepted by tehe576 at 2013-03-12 11:34:42 Spalls with rebar exposed exists in deck span # 3 in southbound lanes, see digital photo dated 5/5/2010, also see Deficiency Sketch of concrete cap spalls and delamination at Pier #4 Right Side of Cap dated 05/03/2006& see digital photo dated 5/5/2010.

See bridge pictures deck spalls with rebar exposed & joint deterioration dated 5/08/2012. See channel soundings dated 5/08/2012. Pier # 4 right end concrete cap spall has been repaired. Item # 60, # 61 & # 515 lowered rating due to minor stream bed movement.

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Bridge Inspection Report

National Bridge Inventory

IDENTIFICATION		INSPECTIONS	
(1) STATE CODE	056 - Arkansas	(90) INSPECTION DATE	05/30/2018
(8) STRUCTURE NUMBER	02157	(91) DESIGNATED INSPECTION FREQUENCY	24
(5) INV. ROUTE (ON/UNDER)	1 2 1 71 0	(92) CRITICAL FEATURE INSPECTION	(93) CFI DATE
(2) HIGHWAY AGENCY 09	(3) COUNTY CODE 007	A. FRACTURE CRITICAL DETAIL	N
(4) PLACE CODE	00000	B. UNDERWATER INSPECTION	N
(6) FEATURES INTERSECTED	LITTLE SUGAR CREEK	C. OTHER SPECIAL	N
(7) FACILITY CARRIED	US 71 Benton 1		
(9) LOCATION	2 MI S JCT SH 340- US 71		
(11) MILEPOINT 2.690	(12) BASE HIGHWAY NETWORK 1		
(13A) LRS INVENTORY ROUTE	0000071190	(13B) SUBROUTE NUMBER	00
(16) LATITUDE	36.44693	(17) LONGITUDE	-94.23917
(98A) BORDER BRIDGE CODE			
PERCENT RESPONSIBILITY	(99) BORDER BRIDGE STRUCT		
STRUCTURE TYPE AND MATERIAL		CONDITION	
(43) STRUCTURE TYPE, MAIN		(58) DECK	6
A) KIND OF MATERIAL/DESIGN:	4 - Steel continuous	(59) SUPERSTRUCTURE	6
B) TYPE OF DESIGN/CONSTR:	02 - Stringer/Multi-beam or Girder	(60) SUBSTRUCTURE	5
(44) STRUCTURE TYPE, APPROACH SPANS		(61) CHANNEL & CHANNEL PROTECTION	6
A) KIND OF MATERIAL/DESIGN:	3 - Steel	(62) CULVERT	N
B) TYPE OF DESIGN/CONSTR:	02 - Stringer/Multi-beam or Girder		
(45) NUMBER OF SPANS IN MAIN	3	(46) NUMBER OF APPROACH	3
(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	1940	(106) YEAR RECONSTRUCTED	1976
(42) TYPE OF SERVICE	ON 1 UNDER 5	(31) DESIGN LOAD	5
(28) LANES	ON 04 UNDER 00	(63) METHOD USED TO DETERMINE OPERATING RATING	1
(29) AVERAGE DAILY TRAFFIC	35000	(64) OPERATING RATING	52.0
(30) YEAR OF AVERAGE DAILY TRAFFIC	2014	(65) METHOD USED TO DETERMINE INVENTORY RATING	1
(109) AVERAGE DAILY TRUCK TRAFFIC	1	(66) INVENTORY RATING	31.0
		(70) BRIDGE POSTING	5
		(41) STRUCTURE OPEN/POSTED/CLOSED	A
GEOMETRIC DATA		APPRAISAL	
(48) LENGTH OF MAX SPAN (ft.)	75	(49) STRUCTURE LENGTH (ft.)	319
(50) CURB/SIDEWALK WIDTHS (ft.)	LEFT 0 RIGHT 0	(67) STRUCTURAL EVALUATION	5
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.)	86.9	(68) DECK GEOMETRY	9
(52) DECK WIDTH, OUT-TO-OUT (ft.)	90	(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	N
(32) APPROACH ROADWAY WIDTH (ft.)	71.9	(71) WATERWAY ADEQUACY	8
(33) BRIDGE MEDIAN	2	(72) APPROACH ROADWAY ALIGNMENT	8
(34) SKEW (DEG.)	20	(36) TRAFFIC SAFETY FEATURE	
(35) STRUCTURE FLARED	0	36A) BRIDGE RAILINGS:	1
(10) INV RTE, MIN VERT CLEAR (ft.)	99.99	36B) TRANSITIONS:	0
(47) TOTAL HORIZONTAL CLEARANCE (ft.)	87.9	36C) APPROACH GUARDRAIL:	0
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.)	99.99	36D) APPROACH GUARDRAIL ENDS:	0
(54) VERTICAL UNDER CLEARANCE (ft.)	N 0	(113) SCOUR CRITICAL BRIDGES	5
(55) LATERAL UNDER CLEARANCE RIGHT (ft.)	N 99.9	SUFFICIENCY RATING	69.1
(56) MIN LATERAL UNDER CLEARANCE (ft.)	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	2
(96) TOTAL PROJECT COST	0	(101) PARALLEL STRUCTURE DESIGNATION	N
(97) YEAR OF IMPROVEMENT COST ESTIMATE		(102) DIRECTION OF TRAFFIC	2
(114) FUTURE ADT	46540	(103) TEMP STRUCTURE	
(115) YEAR OF FUTURE ADT	2028	(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

Inspection Date:

Facility Carried: US 71 Benton 1

Element Inspection

[illegible]

Inspector:

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Bridge Inspection Report

Element Inspection

234 - Reinforced Concrete Pier Cap	1- Ben.	460	ft.	320	140	0	0
	05/30/2018: -NB lanes bent 5 ahead side spalling to pier wall and cap with steel exposed. -NB lanes bent 5 behind side spalling with steel exposed above column 4.						
1080 - Delamination/Spall/Patched Area		140		0	140	0	0
302 - Compression Joint Seal	1- Ben.	480	ft.	106	284	62	28
	05/30/2018: -All compression joint seal's have areas of cracking allowing leakage onto superstructure. Some have lost adhesion in places. The worst case is NB lanes at bent 4 joint material has been displaced.						
2310 - Leakage		284		0	284	0	0
2320 - Seal Adhesion		90		0	0	62	28
311 - Movable Bearing	1- Ben.	72	each	0	54	18	0
	05/30/2018: -All bearings have active corrosion due to leakage from deck compression joint seal.						
1000 - Corrosion		72		0	54	18	0
313 - Fixed Bearing	1- Ben.	48	each	0	36	12	0
	05/30/2018: -All bearings have active corrosion due to leakage from deck compression joint seal.						
1000 - Corrosion		48		0	36	12	0
321 - Reinforced Concrete Approach Slab	1- Ben.	3480	sq. ft.	3480	0	0	0
	05/30/2018: -No noteworthy deficiencies apparent this inspection.						
331 - Reinforced Concrete Bridge Railing	1- Ben.	638	ft.	0	638	0	0
	05/30/2018: -Both left and right bridge railing have map cracking the entire length of bridge. -In the SB lanes span 4 honeycomb in parapet left due to loss of aggregate.						
1080 - Delamination/Spall/Patched Area		35		0	35	0	0
1130 - Cracking (RC and Other)		603		0	603	0	0

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Bridge Inspection Report

Pictures

PHOTO 1

Description

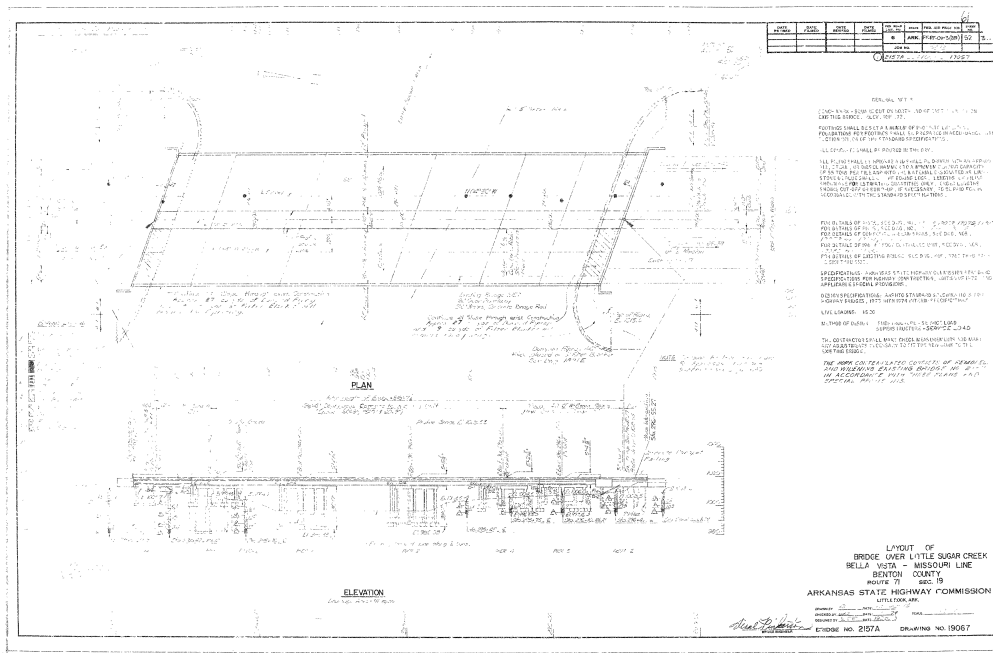


PHOTO 1

Description

Inspector:

Inspection Date:

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Bridge Inspection Report

Pictures

PHOTO 2

Description

Inspector:

Inspection Date:

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Bridge Inspection Report

Sketches

Inspector:

Structure Number: 02157

Inspection Date:

Facility Carried: US 71 Benton 1

Bridge Inspection Report

Maintenance Needs

Date Reported: 5/8/2012 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Span #4 girders #8,#11 at end and span #6 bay #7 at diaphragm #2
Diaphragm clip bolts loose.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Inspector:

Structure Number: 02157

Inspection Date:

Facility Carried: US 71 Benton 1

Bridge Inspection Report

Maintenance Needs

Date Reported: 5/8/2012 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Span #4 girders #9, #10, #11 at end threaded bearing pin nut isn't fully threaded.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Typical anchor bolts with excessive projection.

Inspector:

Structure Number: 02157

Inspection Date:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 5/8/2012 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Abutment #1 and #2 caps have debris heavily corroded bearings.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Typical view of bearings at Abutment 2 SB lanes

Stage: Assigned



PHOTO 2 Description

Inspector:

Structure Number: 02157

Inspection Date:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 5/8/2012 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Approach guard fence
Non standard

Work Description:

Date Repairs Completed:

Maintenance Comments:

Inspector:

Structure Number: 02157

Inspection Date:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 5/8/2012 12:00:00 AM

Priority: C - Important

Work Code:

Deficiency Description:

Deck span #2,#3 south bound lanes and spans #4 thru #6 north bound lanes numerous spalls with rebar exposed.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Area with spalling, patching and steel exposed in SB lanes adjacent bent 2 in span 3

Stage: Monitor



PHOTO 2 Description General view of SB lanes span 3 looking north.

Inspector:

Inspection Date:

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Maintenance Needs

Stage: Monitor



PHOTO 3 Description Span 2 SB lanes left lane spalling with steel exposed approximately 7' from bent 1 road iron.

Inspector:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 5/8/2012 12:00:00 AM

Priority: C - Important

Work Code:

Deficiency Description:

Deck expansion joints

Excessive leakage, torn and moved from original position allowing free flow of water in some locations.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Bent 1 SB lanes joint material.

Stage: Assigned



PHOTO 2 Description SB lanes bent 5 joint material

Inspector:

Inspection Date:

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Bridge Inspection Report

Maintenance Needs

Stage: Assigned



PHOTO 3 Description Bent 4 SB lanes joint material

Inspector:

Structure Number: 02157

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Bridge Inspection Report

Maintenance Needs

Date Reported: 5/8/2012 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Piers #1, #3, #4 and #5
Numerous anchor bolts have excessive projection

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Typical anchor bolts with excessive projection.

Inspector:

Structure Number: 02157

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Bridge Inspection Report

Maintenance Needs

Date Reported: 5/8/2012 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Pier #2, columns #4,#6 and right end of concrete cap has spalls, deterioration and rebar exposed , and Pier #4,5 left end of concrete cap has deterioration and cracking with leaching.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description NB lanes bent 5 ahead side spalling to pier wall and cap with steel exposed.

Stage: Monitor



PHOTO 2 Description NB lanes bent 5 behind side spalling with steel exposed above column 4.

Inspector:

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Maintenance Needs

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

Priority: G - General/ Preventive maintenance

Work Code:

Deficiency Description:

Steel superstructure under deck expansion joints- Rust and corrosion

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Typical view of bearings at Abutment 2
SB lanes

Stage: Assigned



PHOTO 2 Description NB lanes span 5 bent 4 end of beam
corrosion.

Inspector:

Inspection Date:

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Bridge Inspection Report

Maintenance Needs

Stage: Assigned



PHOTO 3 Description Abutment 2 bearing 2 is free floating and is moving when under load.

Inspector:

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Bridge Inspection Report

Maintenance Needs

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

Priority: D - Routine

Work Code:

Deficiency Description:

Pier #1 cap- Minor spalls and cracking

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description NB lanes Bent 1 right column 6
cracking with delaminated areas.

Inspector:

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Inspection Date:

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Bridge Inspection Report

Maintenance Needs

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

Priority: C - Important

Work Code:

Deficiency Description:

Abutment #2 southbound lanes backwall road iron- Portion missing and loose.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description SB lanes abutment 2 road iron Missing.

Affected Area : Create Report Section.
Section Name : Table of Contents
Section Type : TOC
Detailed Message : Object reference not set to an instance of an
object.