

Bridge Inspection Report

B3604
I 540, NB LNS
over
Free Ferry St. Seb. Co.



Inspection Date:

Inspected By:

Inspection Type(s):

TABLE OF CONTENTS

	PAGE NUMBER
LOCATION MAP	3
NATIONAL BRIDGE INVENTORY	7
ELEMENTS	9
PICTURES	11
SKETCHES	12

Inspector:

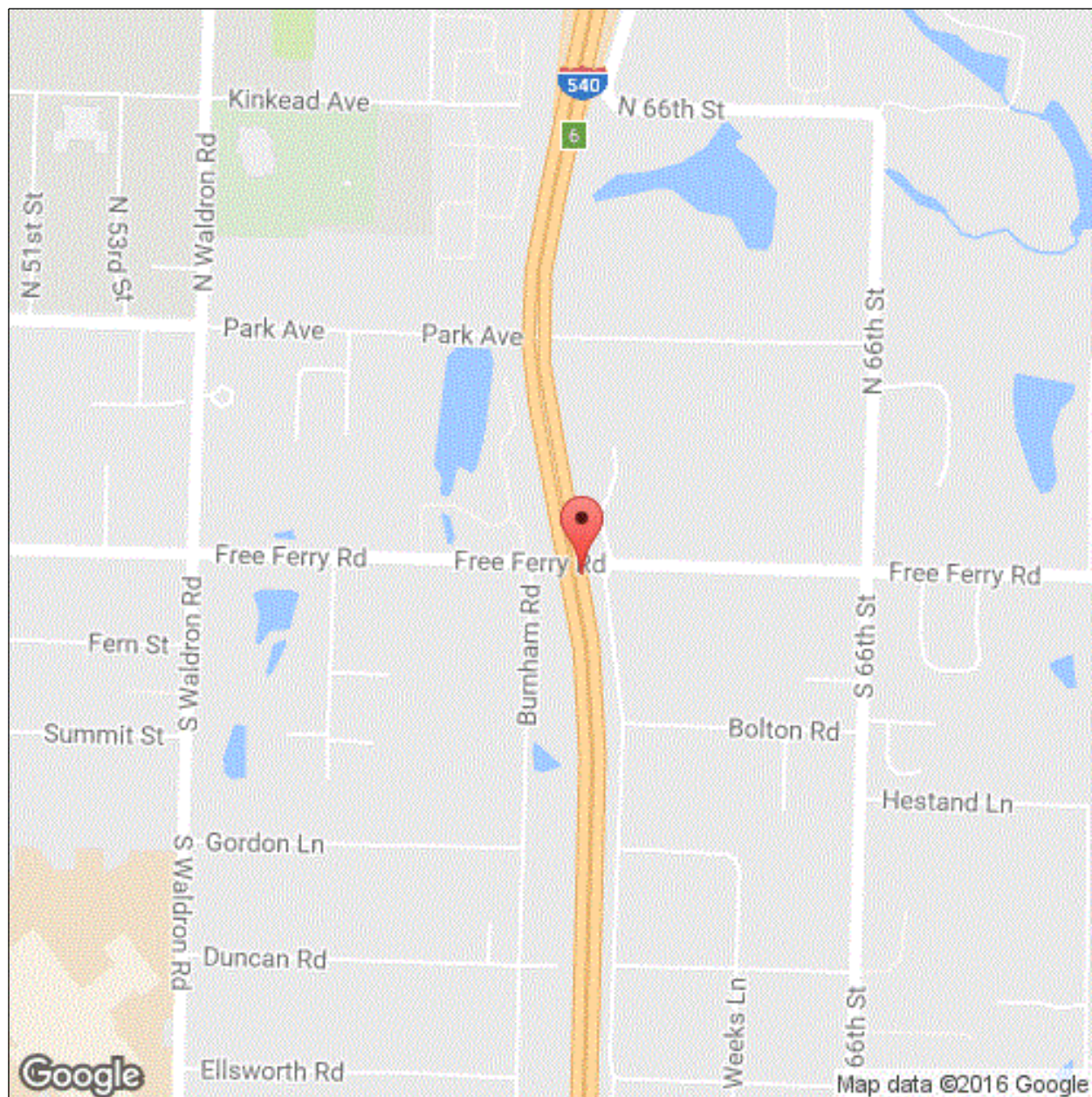
Structure Number: B3604

Inspection Date:

Facility Carried: I 540, NB LNS

Bridge Inspection Report

Location Map



Latitude: 35.374031

Longitude: -94.364853

Inspector:

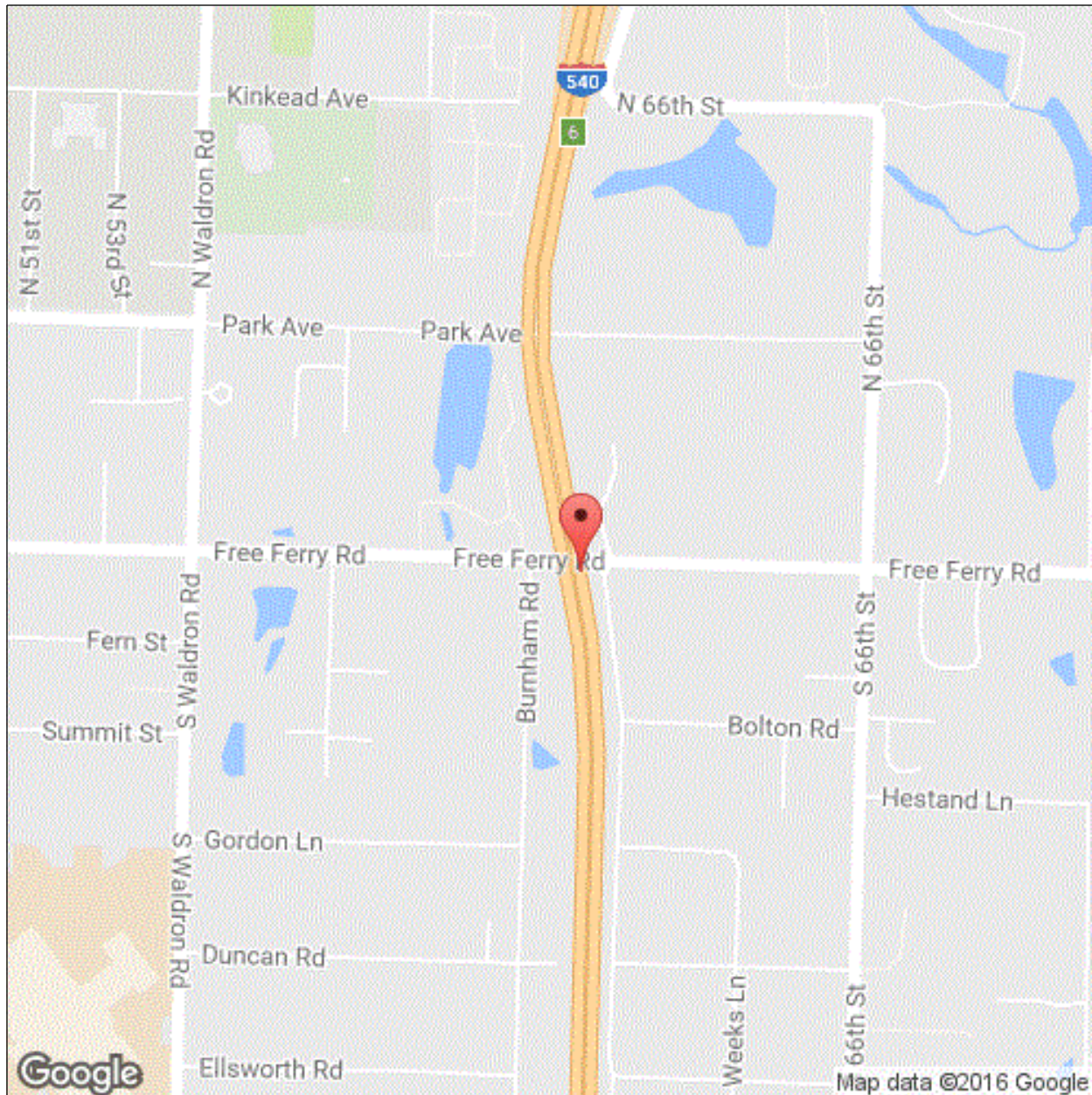
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Bridge Inspection Report

Location Map



Latitude: 35.374031

Longitude: -94.364853

Inspector:

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Bridge Inspection Report

Executive Summary

09/26/2016 - JCJ & JML - The Minimum Vertical Underclearances were Actual Field Measured this date. See the MicroStation drawing for this inspection for additional information.

Inspector:

Structure Number: B3604

Inspection Date:

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Bridge Inspection Report

National Bridge Inventory

IDENTIFICATION				INSPECTIONS			
(1) STATE CODE	056 - Arkansas			(90) INSPECTION DATE	09/26/2016		
(8) STRUCTURE NUMBER	B3604			(91) DESIGNATED INSPECTION FREQUENCY	24		
(5) INV. ROUTE (ON/UNDER)	1	1	1	(92) CRITICAL FEATURE INSPECTION	(93) CFI DATE		
(2) HIGHWAY AGENCY	04	(3) COUNTY CODE	131	A. FRACTURE CRITICAL DETAIL	N		
(4) PLACE CODE	24060			B. UNDERWATER INSPECTION	N		
(6) FEATURES INTERSECTED	Free Ferry St. Seb. Co.			C. OTHER SPECIAL	N		
(7) FACILITY CARRIED	I 540, NB LNS			CONDITION			
(9) LOCATION	1 MI NO JCT SH 22			(58) DECK	5		
(11) MILEPOINT	7.750	(12) BASE HIGHWAY NETWORK	1	(59) SUPERSTRUCTURE	6	(60) SUBSTRUCTURE	6
(13A) LRS INVENTORY ROUTE	0000540010	(13B) SUBROUTE NUMBER	00	(61) CHANNEL & CHANNEL PROTECTION	N	(62) CULVERT	N
(16) LATITUDE	35.374031	(17) LONGITUDE	-94.364853	LOAD RATING AND POSTING			
(98A) BORDER BRIDGE CODE				(31) DESIGN LOAD	6		
PERCENT RESPONSIBILITY	(99) BORDER BRIDGE STRUCT			(63) METHOD USED TO DETERMINE OPERATING RATING	1		
STRUCTURE TYPE AND MATERIAL				(64) OPERATING RATING	60.0		
(43) STRUCTURE TYPE, MAIN				(65) METHOD USED TO DETERMINE INVENTORY RATING	1		
A) KIND OF MATERIAL/DESIGN:	3 - Steel			(66) INVENTORY RATING	36.0		
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:	0 - Other			APPRAISAL			
B) TYPE OF DESIGN/CONSTR:	00 - Other			(67) STRUCTURAL EVALUATION	6		
(45) NUMBER OF SPANS IN MAIN	3	(46) NUMBER OF APPROACH	0	(68) DECK GEOMETRY	7		
(107) DECK STRUCTURE TYPE	1	(108A) WEARING SURFACE	1	(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	6		
(108B) DECK MEMBRANE	0	(108C) DECK PROTECTION	0	(71) WATERWAY ADEQUACY	N		
AGE OF SERVICE				(72) APPROACH ROADWAY ALIGNMENT	8		
(27) YEAR BUILT	1965	(106) YEAR RECONSTRUCTED	0000	(36) TRAFFIC SAFETY FEATURE			
(42) TYPE OF SERVICE	ON 1	UNDER 1		36A) BRIDGE RAILINGS:	0		
(28) LANES	ON 02	UNDER 02		36B) TRANSITIONS:	1		
(29) AVERAGE DAILY TRAFFIC	54000	(19) BYPASS DETOUR LENGTH	3	36C) APPROACH GUARDRAIL:	1		
(30) YEAR OF AVERAGE DAILY TRAFFIC	2014			36D) APPROACH GUARDRAIL ENDS:	1		
(109) AVERAGE DAILY TRUCK TRAFFIC	1			(113) SCOUR CRITICAL BRIDGES	N		
GEOMETRIC DATA				SUFFICIENCY RATING	0	STATUS	84.2
(48) LENGTH OF MAX SPAN (ft.)	62	(49) STRUCTURE LENGTH (ft.)	134	CLASSIFICATION			
(50) CURB/SIDEWALK WIDTHS (ft.)	LEFT 1.5	RIGHT 1.5		(112) NBIS BRIDGE LENGTH	Y		
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.)	40.0			(104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE	1		
(52) DECK WIDTH, OUT-TO-OUT (ft.)	45.6			(26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE	11		
(32) APPROACH ROADWAY WIDTH (ft.)	38.1			(100) STRAHNET HIGHWAY DESIGNATION	1		
(33) BRIDGE MEDIAN	0	(34) SKEW (DEG.)	12	(101) PARALLEL STRUCTURE DESIGNATION	R		
(35) STRUCTURE FLARED	0	(10) INV RTE, MIN VERT CLEAR (ft.)	99.99	(102) DIRECTION OF TRAFFIC	1		
(47) TOTAL HORIZONTAL CLEARANCE (ft.)	43.0			(103) TEMP STRUCTURE			
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.)	99.99			(105) FEDERAL LANDS HIGHWAYS	0		
(54) VERTICAL UNDER CLEARANCE (ft.)	H		15.58	(110) DESIGNATED NATIONAL NETWORK	1		
(55) LATERAL UNDER CLEARANCE RIGHT (ft.)	H		19.2	(20) TOLL	3		
(56) MIN LATERAL UNDER CLEARANCE (ft.)	16			(21) MAINTENANCE RESPONSIBILITY	01		
PROPOSED IMPROVEMENTS				(22) OWNER	01		
(75A) TYPE OF WORK PROPOSED	(75B) WORK DONE BY			(37) HISTORICAL	5		
(76) LENGTH OF STRUCTURE IMPROVEMENT (ft.)	0			NAVIGATION DATA			
(94) BRIDGE IMPROVEMENT COST (\$)	0			(38) NAVIGATION CONTROL	0		
(95) ROADWAY IMPROVEMENT COST (\$)	0			(111) PIER OR ABUTMENT PROTECTION	1		
(96) TOTAL PROJECT COST	0			(39) NAV VERT CLEARANCE (ft.)	0		
(97) YEAR OF IMPROVEMENT COST ESTIMATE				(116) MIN NAVIGATION VERT CLEARANCE, VERT LIFT BRIDGE (ft.)	0		
(114) FUTURE ADT	52057	(115) YEAR OF FUTURE ADT	2028	(40) NAV HORIZONTAL CLEARANCE (ft.)	0		

Inspector:

Structure Number: B3604

Inspection Date:

Facility Carried: I 540, NB LNS

Bridge Inspection Report

National Bridge Inventory

UNDER RECORD 2

IDENTIFICATION

(1) STATE CODE	056 - Arkansas	(7) FACILITY CARRIED	I 540, NB LNS
(3) COUNTY CODE	131	(8) STRUCTURE NUMBER	B3604
(4) PLACE CODE	24060	(9) LOCATION	1 MI NO JCT SH 22
(5) INV. ROUTE (ON/UNDER)	2 5 1 21120 0	(11) MILEPOINT	2.249 (12) BASE HIGHWAY NETWORK 0
(6) FEATURES INTERSECTED	Free Ferry St.	(13A) LRS INVENTORY ROUTE	0000000000 (13B) SUBROUTE NUMBER 00
		(16) LATITUDE	35.374 (17) LONGITUDE -94.3648055555556

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE, MAIN A) KIND OF MATERIAL/DESIGN: 3 - Steel
B) TYPE OF DESIGN/CONSTR: 02 - Stringer/Multi-beam or Girder

AGE OF SERVICE

(19) BYPASS DETOUR LENGTH	3	(30) YEAR OF AVERAGE DAILY TRAFFIC	1983
(27) YEAR BUILT	1965	(42) TYPE OF SERVICE	ON 1 UNDER 1
(28) LANES	ON 02 UNDER 02	(109) AVERAGE DAILY TRUCK TRAFFIC	1
(29) AVERAGE DAILY TRAFFIC	2973		

GEOMETRIC DATA

(10) INV RTE, MIN VERT CLEARANCE	15.6	(48) LENGTH OF MAXIMUM SPAN	62 (49) STRUCTURE LENGTH	134
(47) TOTAL HORIZONTAL CLEARANCE	58.2			

CLASSIFICATION

(20) TOLL	3	(102) DIRECTION OF TRAFFIC	2
(26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE	16	(103) TEMP STRUCTURE	
(100) STRAHNET HIGHWAY DESIGNATION	0	(104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE	0
(101) PARALLEL STRUCTURE DESIGNATION	R	(110) DESIGNATED NATIONAL NETWORK	0

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Structure Number: B3604

Inspection Date:

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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.	5280	sq. ft.	135	1445	3700	0
	09/26/2016 - JCJ & JML - There are spalls with temporary asphalt patches in the driving surface of the deck at this inspection. The driving surface has numerous patched spalls and cracks that have been sealed in the past. Additional unsealed cracks still exist at this inspection. There is medium scaling along the Right gutter with areas of delamination and light scaling in the Left gutter.						
1080 - Delamination/Spall/Patched Area		220			220		
1120 - Efflorescence/Rust Staining		25			25		
1130 - Cracking (RC and Other)		2500				2500	
1190 - Abrasion/Wear (PSC/RC)		2400			1200	1200	
107 - Steel Open Girder/Beam	1- Ben.	924	ft.	589	223	112	0
	09/26/2016 - JCJ & JML - Paint system is deteriorating with active corrosion typical at the ends of the beams. Beam # 7 Span # 2 adjacent to Bent # 3 has flaking rust beginning to form at the base of the web adjacent to the bottom flange.						
	PAINT CONDITION FAILING. Paint system is peeling with active corrosion at the ends of the beams over the intermediate bents. Insignificant scrape marks in the bottom flanges.						
1000 - Corrosion		335			223	112	
515 - Steel Protective Coating		5966	sq. ft.	1006	3000	1700	260
3440 - Effectiveness (Steel Protective Coatings)		4960			3000	1700	260
205 - Reinforced Concrete Column	1- Ben.	4	each	4			
	09/26/2016 - JCJ & JML - The intermediate bent columns have no noteworthy deficiencies apparent at this inspection.						
215 - Reinforced Concrete Abutment	1- Ben.	100	ft.	91	9	0	0
	09/26/2016 - JCJ & JML - The backwall at Bent # 1 has a few vertical hairline cracks and 4 shallow spalls with exposed reinforcing steel that has active corrosion and flaking rust. The abutments have stains from apparent joint leakage.						
1090 - Exposed Rebar		4			4		
1130 - Cracking (RC and Other)		5			5		
234 - Reinforced Concrete Pier Cap	1- Ben.	88	ft.	74	8	6	0
	09/26/2016 - JCJ & JML - Bent # 2 has a horizontal crack between Beams # 3 and 4 located approximately 3 inches below the top of the cap. -Bent # 3 has 3 shallow spalls with exposed reinforcing steel in the undersurface of the cap, Right side. Reinforcing steel appears to have no concrete cover from the construction process. There is up to initial section loss to the exposed reinforcing steel at this inspection.						
1090 - Exposed Rebar		2			2		
1130 - Cracking (RC and Other)		12			6	6	

Inspector:

Structure Number: B3604

Inspection Date:

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Bridge Inspection Report

Element Inspection

305 - Assembly Joint without Seal	1- Ben.	164	ft.	148	4	12	0
	09/26/2016 - JCJ & JML - There are a few isolated spalled areas adjacent to the sliding plates. The sliding plate at Bent 4 sounds like the anchorage is loose in the Right lane and is noisy when impacted by traffic.						
2360 - Adjacent Deck or Header		16			4	12	
311 - Movable Bearing	1- Ben.	21	each	0	18	3	0
	09/26/2016 - JCJ & JML - Bearings have a failing paint system and active corrosion. The bearings at Bent # 2 & 3 appear to be almost fully expanded at the time of the inspection. The temperature at the time of inspection is approximately 75 degrees. There is airspace between portions of the rockers and the masonry plates at this inspection Pins connections have fretting due to apparent pin wear.						
1000 - Corrosion		18			18		
2210 - Movement		3				3	
313 - Fixed Bearing	1- Ben.	21	each	0	11	9	1
	09/26/2016 - JCJ & JML - The bearings at the abutments have pack rust between the masonry and sole plate. The shims placed between the masonry and sole plate has fallen out at Bent # 4 Beam # 4. Anchor bolts are sheared off at Bent # 1 Beams # 2, 3, 4, 5 & 6. The bearings have additional movement from section loss to the bearings when impacted by traffic. No apparent repairs since the last inspection. BT 4, BEARING # 4 HAS SECTION LOSS BETWEEN BEARING AND MASONRY PLATE THAT LEAVES A GAP OF APPROX. 3/8" THAT ALLOWS THE GIRDER TO DEFLECT WITH TRAFFIC. Bearings have active corrosion, pack rust, section loss, and several sheared anchor bolts. Steel shims placed by maintenance forces to bearing # 4 have fallen out as noted in the last inspection report						
1000 - Corrosion		17			11	6	
2210 - Movement		4				3	1
321 - Reinforced Concrete Approach Slab	1- Ben.	2800	sq. ft.	2376	424	0	0
	09/26/2016 - JCJ & JML - -The approach slabs, gutters and wing walls have been replace and appear new. There is water ponding on the Northeast approach gutter during this inspection. -The North approach slab has been ground to grade from the construction process with approximately 24' of transverse cracking.						
1130 - Cracking (RC and Other)		24			24		
1190 - Abrasion/Wear (PSC/RC)		400			400		
330 - Metal Bridge Railing	1- Ben.	268	ft.	250	18	0	0
	09/26/2016 - JCJ & JML - The metal portions of the bridge railing vibrate and make noise when the structure is impacted by traffic.						
1020 - Connection		18			18		

Inspector:

Inspection Date:

Structure Number: B3604

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Bridge Inspection Report

Pictures

Inspector:

Inspection Date:

Structure Number: B3604

Facility Carried: I 540, NB LNS

Bridge Inspection Report

Sketches

Inspector:

Structure Number: B3604

Inspection Date:

Facility Carried: I 540, NB LNS

Bridge Inspection Report

Maintenance Needs

Date Reported: 9/18/2014 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Substructure -

Bent # 3 has shallow spalling with exposed reinforcing steel in the undersurface of the cap on the right side.

The back wall of the south abutment has several shallow baseball size spalls with exposed reinforcing steel at the juncture of the bridge seat.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description

Stage: Assigned



PHOTO 2 Description

Inspector:

Inspection Date:

Structure Number: B3604

Facility Carried: I 540, NB LNS

Bridge Inspection Report

Maintenance Needs

Date Reported: 09/26/2016

Priority: C - Important

Work Code:

Deficiency Description:

The metal portions of the bridge railing have loose connections.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Open



PHOTO 1 Description Loose bridge railing.

Inspector:

Structure Number: B3604

Inspection Date:

Facility Carried: I 540, NB LNS

Bridge Inspection Report

Maintenance Needs

Date Reported: 9/17/2012 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Superstructure -

The superstructure paint system is failing with areas of flaking paint and active corrosion. The beam ends over the intermediate bents are the most extreme case.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Beams 6&7. Bent 2

Stage: Assigned



PHOTO 2 Description Bent 3. Beam 7

Inspector:

Inspection Date:

Structure Number: B3604

Facility Carried: I 540, NB LNS

Bridge Inspection Report

Maintenance Needs

Stage: Assigned



PHOTO 3 Description Bent 2. Typical

Inspector:

Structure Number: B3604

Inspection Date:

Facility Carried: I 540, NB LNS

Bridge Inspection Report

Maintenance Needs

Date Reported: 9/18/2014 12:00:00 AM

Priority: C - Important

Work Code:

Deficiency Description:

Deck -

The driving surface of the deck has areas of heavy mapcracking with delaminated areas and spalls in the right lane of spans # 1 and # 3. The gutters have medium / heavy scaling with delaminated areas. The undersurface of the deck has mapcracking in several locations.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Span 3. Right gutter

Stage: Assigned



PHOTO 2 Description Span 3. Typical

Inspector:

Structure Number: B3604

Inspection Date:

Facility Carried: I 540, NB LNS

Bridge Inspection Report

Maintenance Needs

Stage: Assigned



PHOTO 3 Description Span 1. Typical

Stage: Assigned



PHOTO 4 Description Span 2. Right gutter

Inspector:

Structure Number: B3604

Inspection Date:

Facility Carried: I 540, NB LNS

Bridge Inspection Report

Maintenance Needs

Date Reported: 9/18/2014 12:00:00 AM

Priority: G - General/ Preventive maintenance

Work Code:

Deficiency Description:

Bearings - The bearings for beams # 2, 3, 4, 5, and 6 have sheared anchor bolts at the south abutment.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Assigned



PHOTO 1 Description Bent 1. Beam 4.