

# Bridge Inspection Report

**B5098**

**I-540 Northbound**

**over**

**Phoenix Street - Seb. Co**



**Inspection Date:**

**Inspected By:**

**Inspection Type(s):**

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Inspector:

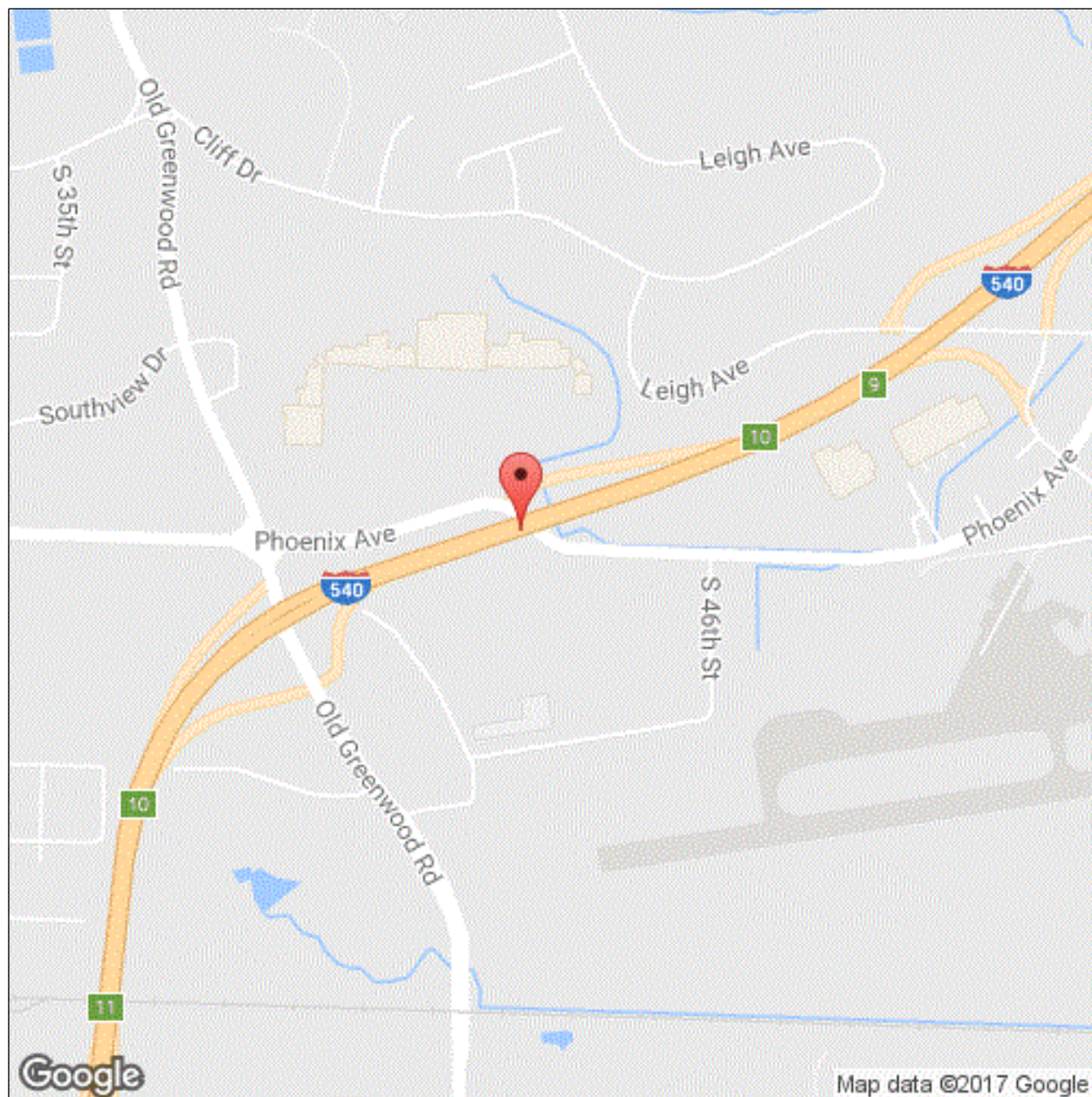
Structure Number: B5098

Inspection Date:

Facility Carried: I-540 Northbound

## Bridge Inspection Report

### Location Map



Latitude: 35.33849

Longitude: -94.38631



Inspector:

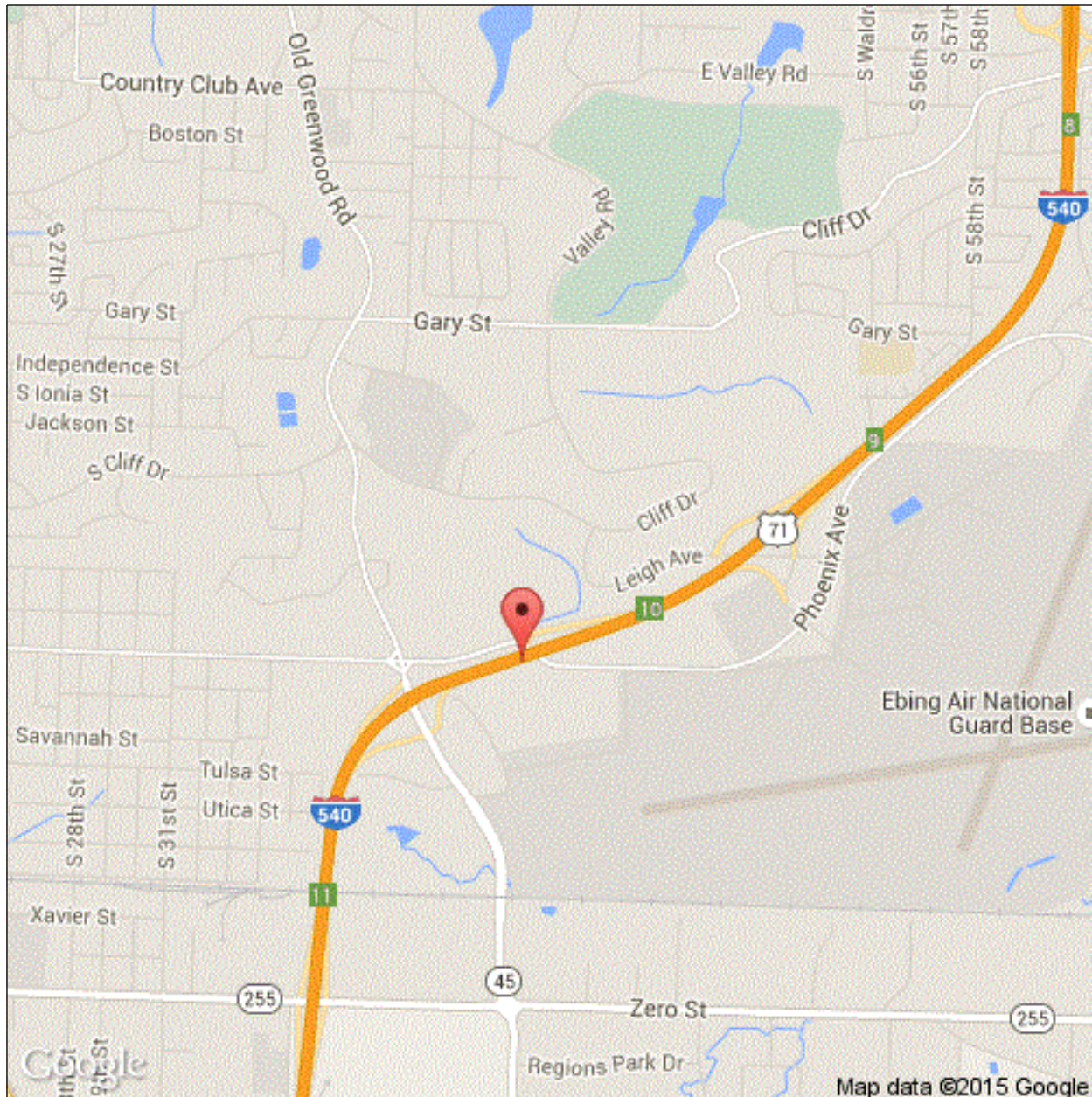
Structure Number: B5098

Inspection Date:

Facility Carried: I-540 Northbound

## Bridge Inspection Report

### Location Map



Latitude: 35.33849

Longitude: -94.38631



Inspector:

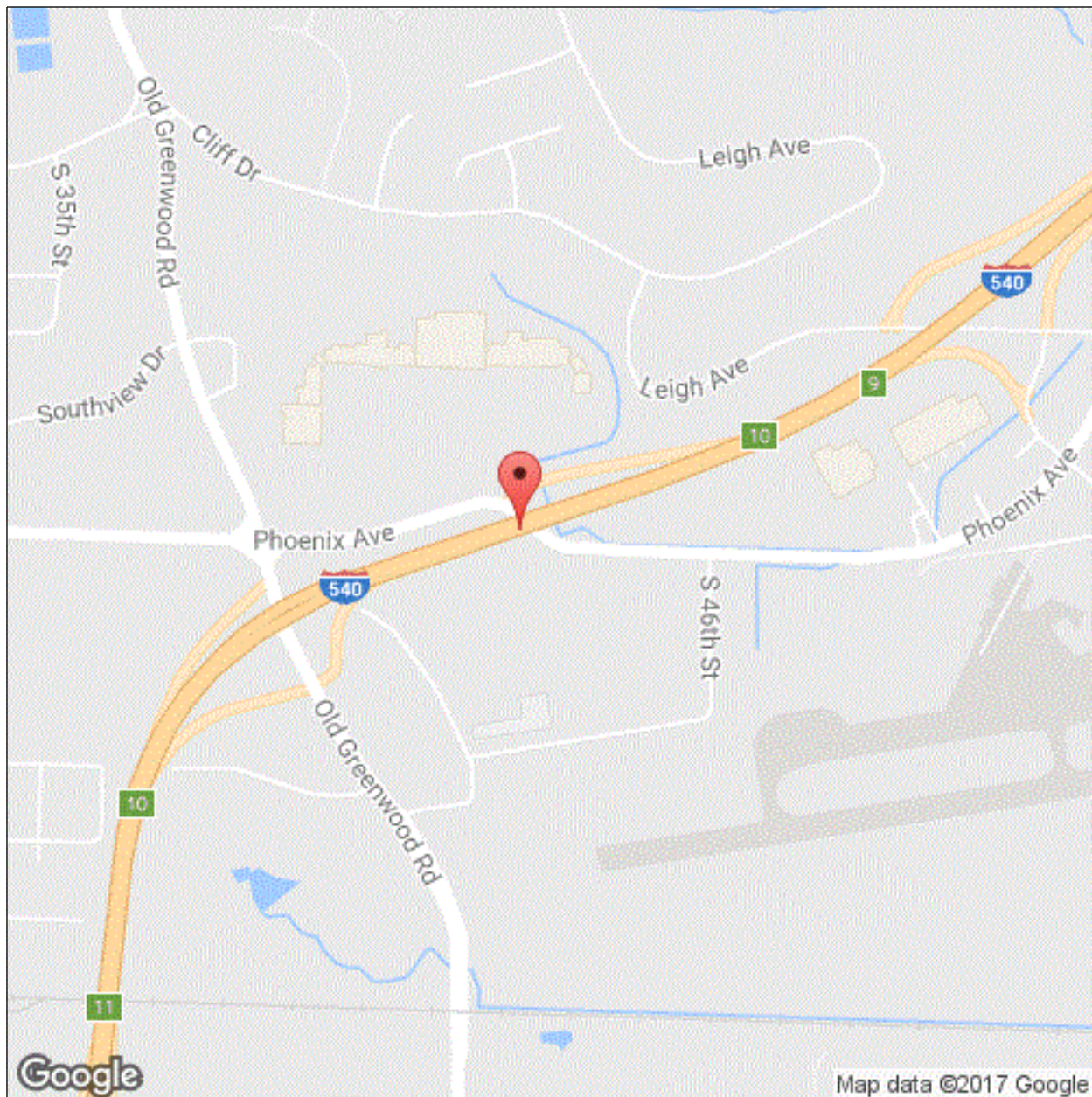
Structure Number: B5098

Inspection Date:

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## Bridge Inspection Report

### Location Map



Latitude: 35.33849

Longitude: -94.38631

Inspector:

Structure Number: B5098

Inspection Date:

Facility Carried: I-540 Northbound

## Bridge Inspection Report

### Executive Summary

06/06/2017 - JCJ & JML - Vertical underclearances were actual field verified this date.

Bents 2 & 3 share the same center column and small cap near the centerline median of both the A&B bridges.



Inspector:

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Inspection Date:

Facility Carried: I-540 Northbound

## Bridge Inspection Report

## National Bridge Inventory

IDENTIFICATION		INSPECTIONS	
(1) STATE CODE	056 - Arkansas	(90) INSPECTION DATE	06/06/2017
(8) STRUCTURE NUMBER	B5098	(91) DESIGNATED INSPECTION FREQUENCY	24
(5) INV. ROUTE (ON/UNDER)	1 1 1 540 2	(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	Phoenix Street - Seb. Co	C. OTHER SPECIAL	N
(7) FACILITY CARRIED	I-540 Northbound		
(9) LOCATION	0.3 MI NO OF SH 45		
(11) MILEPOINT 4.680	(12) BASE HIGHWAY NETWORK 1		
(13A) LRS INVENTORY ROUTE	0000540010 (13B) SUBROUTE NUMBER 00		
(16) LATITUDE 35.33849	(17) LONGITUDE -94.38631		
(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 7	(60) SUBSTRUCTURE 6
B) TYPE OF DESIGN/CONSTR: 02 - Stringer/Multi-beam or Girder		(61) CHANNEL & CHANNEL PROTECTION	N (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 1968	(106) YEAR RECONSTRUCTED 1988	(31) DESIGN LOAD	6
(42) TYPE OF SERVICE ON 6 UNDER 1		(63) METHOD USED TO DETERMINE OPERATING RATING	1
(28) LANES ON 02 UNDER 04		(64) OPERATING RATING	60.0
(29) AVERAGE DAILY TRAFFIC 41000	(19) BYPASS DETOUR LENGTH 1	(65) METHOD USED TO DETERMINE INVENTORY RATING	1
(30) YEAR OF AVERAGE DAILY TRAFFIC 2013		(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.) 159	(67) STRUCTURAL EVALUATION	6
(50) CURB/SIDEWALK WIDTHS (ft.) LEFT 0 RIGHT 0		(68) DECK GEOMETRY	7
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.) 41.0		(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	3
(52) DECK WIDTH, OUT-TO-OUT (ft.) 44		(71) WATERWAY ADEQUACY	N
(32) APPROACH ROADWAY WIDTH (ft.) 41.0		(72) APPROACH ROADWAY ALIGNMENT	8
(33) BRIDGE MEDIAN 0	(34) SKEW (DEG.) 30	(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.) 42.0		36B) TRANSITIONS:	1
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.) 99.99		36C) APPROACH GUARDRAIL:	1
(54) VERTICAL UNDER CLEARANCE (ft.) H 17.42		36D) APPROACH GUARDRAIL ENDS:	1
(55) LATERAL UNDER CLEARANCE RIGHT (ft.) H 2.5		(113) SCOUR CRITICAL BRIDGES	N
(56) MIN LATERAL UNDER CLEARANCE (ft.) 2.5		SUFFICIENCY RATING 2	STATUS 88.9
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	11
(95) ROADWAY IMPROVEMENT COST (\$)	0	(100) STRAHNET HIGHWAY DESIGNATION	1
(96) TOTAL PROJECT COST	0	(101) PARALLEL STRUCTURE DESIGNATION	R
(97) YEAR OF IMPROVEMENT COST ESTIMATE		(102) DIRECTION OF TRAFFIC	1
(114) FUTURE ADT 30970	(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

Inspector:

Structure Number: B5098

Inspection Date:

Facility Carried: I-540 Northbound

Bridge Inspection Report

National Bridge Inventory

UNDER RECORD 2

IDENTIFICATION

(1) STATE CODE	056 - Arkansas	(7) FACILITY CARRIED	I 540-SEC 1, EB LN
(3) COUNTY CODE	131	(8) STRUCTURE NUMBER	B5098
(4) PLACE CODE	24060	(9) LOCATION	0.3 MI NO OF SH 45
(5) INV. ROUTE (ON/UNDER)	2 5 1 45140 0	(11) MILEPOINT	2.110 (12) BASE HIGHWAY NETWORK 0
(6) FEATURES INTERSECTED	Phoenix Street	(13A) LRS INVENTORY ROUTE	0000000000 (13B) SUBROUTE NUMBER 00
		(16) LATITUDE	35. (17) LONGITUDE -94.3866666666667
			3383333333333

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	1	(30) YEAR OF AVERAGE DAILY TRAFFIC	1983
(27) YEAR BUILT	1968	(42) TYPE OF SERVICE	ON 6 UNDER 1
(28) LANES	ON 02 UNDER 04	(109) AVERAGE DAILY TRUCK TRAFFIC	1
(29) AVERAGE DAILY TRAFFIC	4219		

GEOMETRIC DATA

(10) INV RTE, MIN VERT CLEARANCE	17.5	(48) LENGTH OF MAXIMUM SPAN	65 (49) STRUCTURE LENGTH	159
(47) TOTAL HORIZONTAL CLEARANCE	50.1			

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	1
(101) PARALLEL STRUCTURE DESIGNATION	R	(110) DESIGNATED NATIONAL NETWORK	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.	6519	sq. ft.	77	4111	2331	0
	06/06/2017 - JCJ & JML - Driving surface of the deck has medium scale in the gutters. There is sealable map cracking and sealable transverse cracking that ranges from 1' to 5' centers. Span # 1, Bay # 6 has a basketball size spall with exposed reinforcing steel located approximately 10' from Bent # 1 that is visible from the undersurface of the deck. Exposed reinforcing steel has initial section loss at this inspection. There is minor concrete cracking and spalling adjacent to the deck drains. There is 1 basketball size spall with an asphalt patch in the Right side of Span 3. There is 1" offset visible in the exterior edge of deck over Bent # 2.						
1080 - Delamination/Spall/Patched Area		414			411	3	
1090 - Exposed Rebar		3				3	
1130 - Cracking (RC and Other)		3925			1600	2325	
1190 - Abrasion/Wear (PSC/RC)		2100			2100		
107 - Steel Open Girder/Beam	1- Ben.	1113	ft.	1103	10	0	0
	06/06/2017 - JCJ & JML - The paint system has a few small areas with flaking paint, minor areas of light rust are beginning to show through the paint system at the beam ends from apparent joint seal leakage. There are isolated areas with active corrosion in the ends of the beams at Bent 4. No visible cracks are apparent in the beams at this inspection.						
1000 - Corrosion		10			10		
515 - Steel Protective Coating		7653	sq. ft.	7648	5	0	0
3420 - Peeling/Bubbling/Cracking (Steel Protective Coatings)		5			5		
205 - Reinforced Concrete Column	1- Ben.	8	each	0	5	3	0
	06/06/2017 - JCJ & JML - Minor scaling, cracking and spalling in areas from apparent water leakage through the expansion joint seals. Bent # 2, Column # 4 has medium scale with a full height vertical crack. Bent # 3, Column # 1 has 2 shallow Spalls that expose the secondary reinforcing steel. No apparent significant changes since the last inspection.						
1090 - Exposed Rebar		1				1	
1130 - Cracking (RC and Other)		7			5	2	
215 - Reinforced Concrete Abutment	1- Ben.	90	ft.	75	14	1	0
	06/06/2017 - JCJ & JML - The abutments have vertical hairline cracks in the back wall and stem walls at variable spacing. The Right end of Bent 4 has an 18" horizontal crack located approximately 4" below the top of cap. The Right end of Bent # 4 has a basketball size spall that is 2" deep with exposed reinforcing steel. Exposed reinforcing steel has initial section loss at this inspection.						
1090 - Exposed Rebar		1				1	
1130 - Cracking (RC and Other)		14			14		

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## Bridge Inspection Report

## Element Inspection

234 - Reinforced Concrete Pier Cap	1- Ben.	80	ft.	65	15	0	0
06/06/2017 - JCJ & JML - Bent # 3 has two 12" delaminated areas visible from the undersurface of the cap. The caps are stained and have areas of scale from apparent water leakage through the expansion joint seals.							
1080 - Delamination/Spall/Patched Area		5			5		
1130 - Cracking (RC and Other)		10			10		
302 - Compression Joint Seal	1- Ben.	170	ft.	0	20	25	125
06/06/2017 - JCJ & JML - Portions of the deck joint seals are missing. The expansion joint over Bent # 2 is completely closed along the exterior edge of deck at approximately 81 degrees Fahrenheit with a 1/4" elevation difference in the Right gutter. There is shallow spalling with no exposed reinforcing steel adjacent to the expansion joints.							
2310 - Leakage		150				25	125
2360 - Adjacent Deck or Header		20			20		
311 - Movable Bearing	1- Ben.	21	each	0	21	0	0
06/06/2017 - JCJ & JML - bearings have minor layers of rust between the bearing and the masonry plate. Fretting is visible in the expansion bearing pin connection at this inspection.							
1000 - Corrosion		21			21		
313 - Fixed Bearing	1- Ben.	21	each	0	21	0	0
06/06/2017 - JCJ & JML - The bearings have minor layers of rust between the bearing and the masonry plate.							
1000 - Corrosion		21			21		
321 - Reinforced Concrete Approach Slab	1- Ben.	1836	sq. ft.	0	1812	24	0
06/06/2017 - JCJ & JML - The South approach slab adjacent to Bent 1 appears to be approximately 1 1/2" below the asphalt roadway. There are 4 Spalls with asphalt patches near centerline of roadway.							
1080 - Delamination/Spall/Patched Area		12				12	
1130 - Cracking (RC and Other)		47			35	12	
1190 - Abrasion/Wear (PSC/RC)		1777			1777		
330 - Metal Bridge Railing	1- Ben.	159	ft.	159			
06/06/2017 - JCJ & JML - The concrete portions of the Right Bridge railing has Spalls with exposed reinforcing steel. The metal portions of the bridge railing have no apparent noteworthy deficiencies at this inspection.							
331 - Reinforced Concrete Bridge Railing	1- Ben.	159	ft.	147	12	0	0
06/06/2017 - JCJ & JML - The Left side of structure has 2 shallow Spalls with no exposed reinforcing steel and a few vertical hairline cracks in the New Jersey type parapet wall.							
1080 - Delamination/Spall/Patched Area		2			2		
1130 - Cracking (RC and Other)		10			10		



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## Bridge Inspection Report

Pictures

Inspector:

Inspection Date:

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## Bridge Inspection Report

Sketches



Inspector:

Structure Number: B5098

Inspection Date:

Facility Carried: I-540 Northbound

## Bridge Inspection Report

### Maintenance Needs

Date Reported: 06/18/2015

Priority: D - Routine

Work Code: Repair

#### Deficiency Description:

Ends of the beams and bearings

The ends of the beams and the bearings have areas of active corrosion and rust forming.

#### Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Open



PHOTO 1 Description Bent # 4 Beam # 2 Active corrosion in the bearings

Stage: Monitor



PHOTO 2 Description

Inspector:

Inspection Date:

Structure Number: B5098

Facility Carried: I-540 Northbound

## Bridge Inspection Report

### Maintenance Needs

Stage: Monitor



PHOTO 3 Description

Stage: Monitor

Stage: Monitor



PHOTO 5 Description

Stage: Monitor



PHOTO 4 Description



PHOTO 6 Description



Inspector:

Inspection Date:

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Facility Carried: I-540 Northbound

## Bridge Inspection Report

### Maintenance Needs

Stage: Open

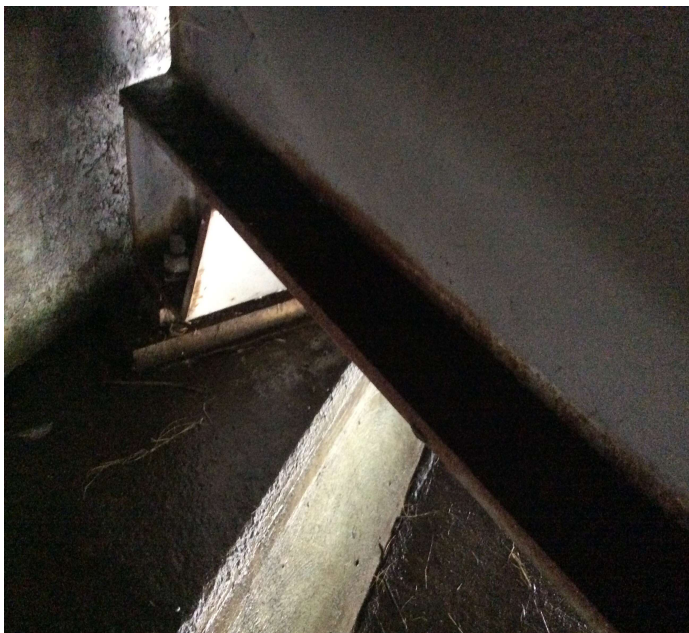


PHOTO 7	Description	Bent # 4 Beam #4 Active corrosion in the beam end
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Inspector:

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## Bridge Inspection Report

### Maintenance Needs

Date Reported: 6/24/2013 12:00:00 AM

Priority: D - Routine

Work Code: Repair

---

#### Deficiency Description:

Driving surface of the deck has medium scale in the gutters and light / medium wear on the driving surface. There is sealable map cracking and sealable transverse cracking that ranges from 1' to 5' centers. Span # 1, Bay # 6 has a basketball size spall with exposed reinforcing steel located approximately 10' from Bent # 1 that is visible from the undersurface of the deck. Exposed reinforcing steel has initial section loss at this inspection. There is minor concrete cracking and spalling adjacent to the deck drains. There is 1 basketball size shallow spall with no exposed reinforcing steel near the centerline of the roadway. There is 1" offset visible in the exterior edge of deck over Bent # 2.

#### Work Description:

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Date Repairs Completed:

Maintenance Comments:

---

Stage: Assigned



PHOTO 1      Description      Span # 1 Heavy map cracking in the driving surface

Stage: Assigned



PHOTO 2      Description      Span # 1 Bay # 6 Spalling with exposed reinforcing steel in the undersurface.



Inspector:

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## Bridge Inspection Report

### Maintenance Needs

Stage: Assigned



PHOTO 3 Description Expansion joint at Bent 4.

Stage: Assigned



PHOTO 4 Description Span 3 deck.

Stage: Assigned



PHOTO 5 Description Spall with asphalt patch in Span 3.

Stage: Assigned



PHOTO 6 Description Sealable deck cracks Span 3



Inspector:

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## Bridge Inspection Report

### Maintenance Needs

Stage: Assigned



PHOTO 7    Description    Span 3 deck. Typical

Stage: Assigned



PHOTO 8    Description    Span 1 deck. Typical

Inspector:

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Inspection Date:

Facility Carried: I-540 Northbound

## Bridge Inspection Report

### Maintenance Needs

Date Reported: 6/24/2013 12:00:00 AM

Priority: D - Routine

Work Code: Repair

---

#### Deficiency Description:

##### Expansion joints

Portions of the deck joint seals are missing. There are spalls in the outside curb and bridge railing over the expansion joint at Bent # 2, which is completely closed along the exterior edge of deck at approximately 81 degrees Fahrenheit.

#### Work Description:

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Date Repairs Completed:

Maintenance Comments:

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Stage: Assigned



PHOTO 1      Description      Bent # 3 missing joint seal

Stage: Assigned



PHOTO 2      Description      Span # 2 Spalling in the bridge rail



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## Bridge Inspection Report

### Maintenance Needs

Stage: Assigned



PHOTO 3      Description      Expansion joint over Bent 3. Fully closed with a 1/4" elevation difference in the Right gutter.

Stage: Assigned



PHOTO 4      Description      Bent 3 expansion joint in the driving lanes.

Inspector:

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## Bridge Inspection Report

### Maintenance Needs

Date Reported: 6/24/2013 12:00:00 AM

Priority: D - Routine

Work Code: Repair

---

#### Deficiency Description:

The Right end of Bent # 4 has a basketball size spall that is 2" deep with exposed reinforcing steel. Exposed reinforcing steel has initial section loss at this inspection. Bent # 3 has two 12" delaminated areas visible from the undersurface of the cap.

#### Work Description:

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Date Repairs Completed:

Maintenance Comments:

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Stage: Assigned



PHOTO 1      Description      Bent # 4 Bridge seat spalling with exposed reinforcing steel

Stage: Assigned



PHOTO 2      Description      Bent 3. Centerline median column between both the A and B Bridges.

Inspector:

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## Bridge Inspection Report

### Maintenance Needs

Stage: Assigned



PHOTO 3 Description Right end of Bent 4.

Stage: Assigned



PHOTO 4 Description Delaminated areas under Bent 3 cap.



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## Bridge Inspection Report

### Maintenance Needs

Date Reported: 06/18/2015

Priority: D - Routine

Work Code: Repair

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#### Deficiency Description:

South Concrete Approach Slab

There are 4 Spalls with asphalt patches near centerline of roadway. The South approach slab appears to be approximately 1 1/2" below the asphalt roadway.

#### Work Description:

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Date Repairs Completed:

Maintenance Comments:

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Stage: Open



PHOTO 1      Description      Bent # 1 Approach slab scaling with repairs

Stage: Open



PHOTO 2      Description      Bent # 4 Approach potholes

Inspector:

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Inspection Date:

Facility Carried: I-540 Northbound

## Bridge Inspection Report

### Maintenance Needs

Stage: Monitor



PHOTO 3    Description    Approach slab at Bent 4

Stage: Monitor

Stage: Monitor



PHOTO 5    Description    South approach



PHOTO 4    Description    South approach slab at Bent 1.