

Highway Bridge Inspection Report

**I-95 SB / EMERSON MILLS RD
I-95 SOUTHBOUND
over
B&A RR & EMERSON MILL RD**



Asset Code: 1430

Inspection Date: 09/08/2016

Inspected By: Scott Harris

Inspection Type(s): Routine

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Inspector: Scott Harris

Inspection Date: 09/08/2016

Structure Number: 1430

Facility Carried: I-95 SOUTHBOUND

Highway Bridge Inspection Report

Executive Summary

Inspector: Scott Harris

Inspection Date: 09/08/2016

Structure Number: 1430

Facility Carried: I-95 SOUTHBOUND

Highway Bridge Inspection Report

Location Map

National Bridge Inventory

Status: 0 - ND

Bridge Name: I-95 SB / EMERSON MILLS RD

Sufficiency Rating: 95.8

Inspections

(90) INSPECTION DATE	& (91) DESIGNATED INSPECTION FREQUENCY	24	09/08/2016
(92) CRITICAL FEATURE INSPECTION	& (93) CFI DATE		
(92A) FRACTURE CRITICAL DETAIL		N	
(92B) UNDERWATER INSPECTION		N	
(92C) OTHER SPECIAL INSPECTION		N	

Identification

(1) STATE CODE	231 - Maine
(8) STRUCTURE NUMBER	1430
(5) INVENTORY ROUTE	
(5A) RECORD TYPE	1: Route carried "on" the structure
(5B) ROUTE SIGNING PREFIX	3 - STATE HIGHWAY
(5C) DESIGNATED LEVEL OF SERVICE	1 - MAINLINE
(5) INVENTORY ROUTE	95
(5) INVENTORY ROUTE	3 - SOUTH
(2) HIGHWAY AGENCY DISTRICT	04 - Eastern
(3) COUNTY CODE	019 Penobscot
(4) PLACE CODE	30795
(6) FEATURES INTERSECTED	B&A RR & EMERSON MILL RD
(7) FACILITY CARRIED	I-95 SOUTHBOUND
(9) LOCATION	MILE 179.8/4.5 MI E TL
(11) MILEPOINT	125.580
(12) BASE HIGHWAY NETWORK	Inventory Route is on the Base Network
(13) LRS INVENTORY ROUTE, SUBROUTE	
(13A) LRS INVENTORY ROUTE	000000095S
(13B) SUBROUTE NUMBER	00
(16) LATITUDE	44.770783333 3333
(17) LONGITUDE	68.869336111 1111
(98A) BORDER BRIDGE CODE	
(98B) PERCENT RESPONSIBILITY	0
(99) BORDER BRIDGE STRUCT NO.	n/a

Structure Type and Material

(43) STRUCTURE TYPE, MAIN	
(43A) KIND OF MATERIAL/DESIGN	3 - Steel
(43B) TYPE OF DESIGN/CONSTR	02 - Stringer/Multi-beam or Girder
(44) STRUCTURE TYPE, APPROACH SPANS	
(44A) KIND OF MATERIAL/DESIGN	0 - Other
(44B) TYPE OF DESIGN/CONSTRUCTION	00 - Other
(45) NUMBER OF SPANS IN MAIN UNIT	4
(46) NUMBER OF APPROACH SPANS	0
(107) DECK STRUCTURE TYPE	1 - Concrete Cast-in-Place
(108) WEARING SURFACE/PROTECTIVE SYSTEMS	
(108A) WEARING SURFACE	2 - Integral Concrete (separate non-modified layer of concrete added to
(108B) DECK MEMBRANE	0 - None
(108C) DECK PROTECTION	0 - None

Age of Service

(27) YEAR BUILT	1962
(106) YEAR RECONSTRUCTED	0
(42) TYPE OF SERVICE	
(42A) TYPE OF SERVICE ON BRIDGE	1 - Highway
(42B) TYPE OF SERVICE UNDER BRIDGE	4 - Highway - railroad
(28) LANES	
(28A) LANES ON THE STRUCTURE	02
(28B) LANES UNDER THE STRUCTURE	02
(29) AVERAGE DAILY TRAFFIC	12230
(30) YEAR OF AVERAGE DAILY TRAFFIC	2014
(109) AVERAGE DAILY TRUCK TRAFFIC	11
(19) BYPASS DETOUR LENGTH	1

Geometric Data

(48) LENGTH OF MAXIMUM SPAN (ft.)	61.0
(49) STRUCTURE LENGTH (ft.)	206.0
(50) CURB/SIDEWALK WIDTHS	
(50A) LEFT CURB SIDEWALK (ft.)	0.5
(50B) RIGHT CURB SIDEWALK (ft.)	0.5
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.)	39.8
(52) DECK WIDTH, OUT-TO-OUT (ft.)	43.1
(32) APPROACH ROADWAY WIDTH (ft.)	41.0
(33) BRIDGE MEDIAN	0 - No median
(34) SKEW (deg.)	19
(35) STRUCTURE FLARED	0 - No flare
(10) INV RTE, MIN VERT CLEARANCE (ft.)	328.05
(47) TOTAL HORIZONTAL CLEARANCE (ft.)	39.0
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.)	327.76
(54) MIN VERTICAL UNDERCLEARANCE	
(54A) REFERENCE FEATURE	H - Highway beneath structure
(54B) MIN VERTICAL UNDERCLENRECE (ft.)	21.83
(55) MIN LATERAL UNDER CLEARANCE RIGHT	
(55A) REFERENCE FEATURE	H - Highway beneath structure
(55B) MIN LATERAL UNDER CLEARANCE RIGHT (ft.)	7.87
(56) MIN LATERAL UNDER CLEARANCE (ft.)	5.9

Classification

(112) NBIS BRIDGE LENGTH	Yes
(104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE	1 - Structure/Route is on NHS
(26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE	01 - Rural - Principal Arterial - Interstate
(100) STRAHNET HIGHWAY DESIGNATION	Is on an Interstate STRAHNET route
(101) PARALLEL STRUCTURE DESIGNATION	L - Left structure (South or West)
(102) DIRECTION OF TRAFFIC	1-way traffic
(103) TEMP STRUCTURE	
(105) FEDERAL LANDS HIGHWAYS	Not Applicable
(110) DESIGNATED NATIONAL NETWORK	Inventory route on National Truck Network
(20) TOLL	3 - On Free Road
(21) MAINTENANCE RESPONSIBILITY	01 - State Highway Agency
(22) OWNER	01 - State Highway Agency
(37) HISTORICAL SIGNIFICANCE	4 - Not determinable

Condition

(58) DECK	6 - Satisfactory Condition (minor deterioration)
(59) SUPERSTRUCTURE	6 - Satisfactory Condition (minor deterioration)
(60) SUBSTRUCTURE	6 - Satisfactory Condition (minor deterioration)
(61) CHANNEL & CHANNEL PROTECTION	N - Not Applicable
(62) CULVERT	N - Not Applicable

Load Rating and Posting

(31) DESIGN LOAD	6 - HS 20+Mod
(63) METHOD USED TO DETERMINE OPERATING RATING	8 - Load and Resistance Factor
(64) OPERATING RATING	2.09
(65) METHOD USED TO DETERMINE INVENTORY RATING	8 - Load and Resistance Factor
(66) INVENTORY RATING	1.61
(70) BRIDGE POSTING	5 - Equal to or above legal
(41) STRUCTURE OPEN/POSTED/CLOSED	A - Open

Appraisal

(67) STRUCTURAL EVALUATION	6
(68) DECK GEOMETRY	6
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	5
(71) WATERWAY ADEQUACY	N - Not Applicable
(72) APPROACH ROADWAY ALIGNMENT	7 - Better than present minimum criteria
(36) TRAFFIC SAFETY FEATURE	
36A) BRIDGE RAILINGS:	1 - Meets acceptable standards
36B) TRANSITIONS:	1 - Meets acceptable standards
36C) APPROACH GUARDRAIL	1 - Meets acceptable standards
36D) APPROACH GUARDRAIL ENDS	1 - Meets acceptable standards
(113) SCOUR CRITICAL BRIDGES	N - Not over waterway

Proposed Improvements

(75) TYPE OF WORK	
(75A) TYPE OF WORK PROPOSED	
(75B) WORK DONE BY	
(76) LENGTH OF STRUCTURE IMPROVEMENT (ft.)	
(94) BRIDGE IMPROVEMENT COST (\$K)	-2
(95) ROADWAY IMPROVEMENT COST (\$K)	
(96) TOTAL PROJECT COST	
(97) YEAR OF IMPROVEMENT COST ESTIMATE	
(114) FUTURE ADT	17122
(115) YEAR OF FUTURE ADT	2034

Navigation Data

(38) NAVIGATION CONTROL	N - Not applicable, no waterway
(111) PIER OR ABUTMENT PROTECTION	
(39) NAV VERT CLEARANCE	0
(116) MIN NAVIGATION VERT CLEARANCE, VERT LIFT BRIDGE	0
(40) NAV HORIZONTAL CLEARANCE	0

General Bridge Data

Structure Number: 1430

Structure Name: I-95 SB / EMERSON MILLS RD

Owner: 1 State DOT

Town: Hampden

Co-Owner: N Not applicable

Town2:

Region: 04 Eastern

Maintainer: 1 State DOT

Bridge Plans: ☐

Co-Maintainer: N Not applicable

Structure Type

Main Span

Type: 1 Girder

Sub Type: 1 Deck

Construction: 1 Rolled

Material: 1 Steel

Continuity: 1 Non Continuous

Composite: 2 Composite

Moveable: 0 No

Deck Area: 8878.66749840 (SF)
000000

Curb Reveal Lt: 0.75459320000 (in)
0000

Curb Reveal Rt: 0.75131236000 (in)
0000

Approach Span

Type: _

Sub Type: _

Construction: _

Material: _

Continuity: _

Composite: _

Moveable: _

Repairs Done:

Year

How

Scope

Substructures

	Shaft	Notes
Abutment 1	Stub Concrete	
Pier	Open Concrete	
Pier	Open Concrete	
Pier	Open Concrete	
Abutment 2	Stub Concrete	

	Foundation	Notes
Abutment 1	H-Piles	
Pier	Ledge	
Pier	Ledge	
Pier	Ledge	
Abutment 2	H-Piles	

Roadway

Road/Route Name	I-95 SOUTHBOUND
Abut-Abut Detour	1.0
Corridor Priority	1

Inspection Notes

Structure Number: 1430

Town: Hampden

Structure Name: I-95 SB / EMERSON MILLS RD

Inspection Date: 09/08/2016

Structure Notes

Four span steel open girders. Concrete deck, abutments, piers, wingwalls and wearing surface.

Wearing Surface

Concrete wearing surface with heavy wear in wheel paths and complete loss of tining in travel lanes. Not chain dragged do to traffic conditions, but no nested cracking, potholes or delaminated concrete noted.

Deck

NBI Item 58: 6

1 SF area of delaminated concrete over travel lanes (photo)that should be chipped out. All joints in fair to poor condition, have allowed leakage causing beam end paint loss and moderate/heavy rust. Concrete under steel joint armor has extensive spalling throughout all joints. Reinforcing steel bars were welded onto joint armor to raise them to grade. Many welds have broken. Westerly joint rebar has broken away and is slapping/pinging when traffic passes over. Should be repaired immediately! Numerous aluminum posts have plow damage ranging from minor to heavy. Concrete barrier has moderate cracking and light staining. See photos.

Superstructure

NBI Item 59: 6

Approximately 15% overall paint system distress with sheet failure at south exterior girders and minor paint system distress on interior girders. The last 1'-2' of each girder and joint seal diaphragms, have paint loss and scaling rust from leaking joints above.

Substructure

NBI Item 60: 6

Pier columns have minor to moderate vertical cracking/map cracking w/staining, small areas of delamination. Minor to moderate pier cap cracking w/staining on the center and easterly piers. The center pier cap has cracking underside and has a 5 SF delamination with two layers of exposed re-steel. Re-steel heavily rusted. Easterly abutment backwall has heavy rust staining from leaking joints and partial rust staining and cracking of breastwall (photo). Westerly abutment has minor/sporadic hairline cracking.

Culvert

NBI Item 62: N

Channel

NBI Item 61: N

Other

Special Inspection

Monitoring

Pontis Notes

Inspector: Scott Harris
 Inspection Date: 09/08/2016

Structure Number: 1430
 Facility Carried: I-95 SOUTHBOUND

Highway 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	4 - Sev.	8879	sq. ft.	0	7879	1000	
107 - Steel Open Girder/Beam	4 - Sev.	1236	ft.	996	200	40	
515 - Steel Protective Coating		1236	sq. ft.	636	300	300	
205 - Reinforced Concrete Column	3 - Mod.	12	each	9	3		
215 - Reinforced Concrete Abutment	3 - Mod.	86	ft.	0	86		
234 - Reinforced Concrete Pier Cap	3 - Mod.	130	ft.	0	130		
302 - Compression Joint Seal	4 - Sev.	216	ft.	0		136	80
311 - Movable Bearing	3 - Mod.	24	each	0	6	18	
515 - Steel Protective Coating		24	sq. ft.	0		6	18
313 - Fixed Bearing	3 - Mod.	24	each	18	6		
515 - Steel Protective Coating		24	sq. ft.	18	6		
331 - Reinforced Concrete Bridge Railing	4 - Sev.	412	ft.	0		412	
801 - Beam End	3 - Mod.	12	each	0	6	6	
820 - Reinforced Concrete Wall	3 - Mod.	25	ft.	0	12	13	
843 - Rigid Wearing Surface	4 - Sev.	8198	sq. ft.	0	7948	250	
855 - Slope Protection - Concrete	3 - Mod.	3000	sq. ft.	2000	1000		
861 - Beam End – Protective Coating	4 - Sev.	12	each	0	6	6	
862 - Beam End – Preventative Coating	4 - Sev.	12	each	0	12		

Underwater Dive Inspection Report

Structure Number: 1430

Town 1: 19280 - Hampden

Division: Bangor

Location: MILE 179.8/4.5 MI E TL

Tide Information:

Dive Entry Location:

Scour:

Comments/Hazards:

Bridge Name: I-95 SB/EMERSON MILLS RD

Town 2:

DiveID: 2111

☐ Tidal:

Photos:

Streambed Description:

Channel Description:

Substructure Description:

Inspection Team:

Role:

Dive Conditions:

Time: Entry: AM/PM

Time: Exit: AM/PM

Water Temp:

Visibility (ft):

Max Depth (ft):

Current:

Weather:

Underwater Inspection Date:

Channel Condition:

Substr/Culvert Condition:

Inspection Cycle:

Ratings Comments:

Inspector: Scott Harris
Inspection Date: 09/08/2016

Structure Number: 1430
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Highway Bridge Inspection Report

Pictures



PHOTO 1

Description Roadway looking north

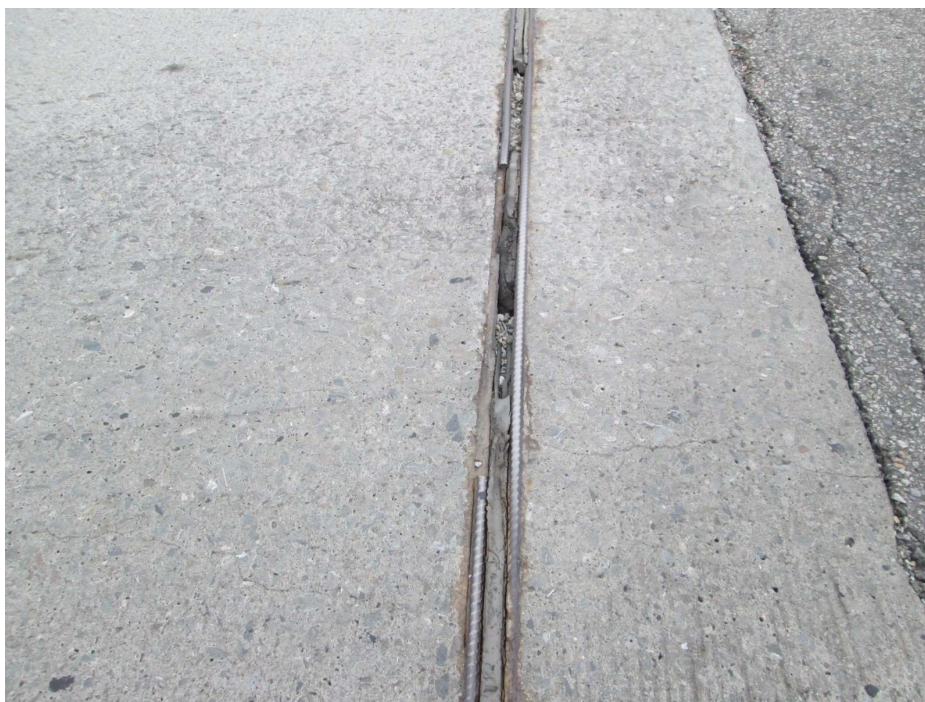


PHOTO 2

Description South joint damaged & failed

Inspector: Scott Harris
Inspection Date: 09/08/2016

Structure Number: 1430
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Highway Bridge Inspection Report

Pictures



PHOTO 3

Description South joint



PHOTO 4

Description Wearing surface view

Inspector: Scott Harris
Inspection Date: 09/08/2016

Structure Number: 1430
Facility Carried: I-95 SOUTHBOUND

Highway Bridge Inspection Report

Pictures

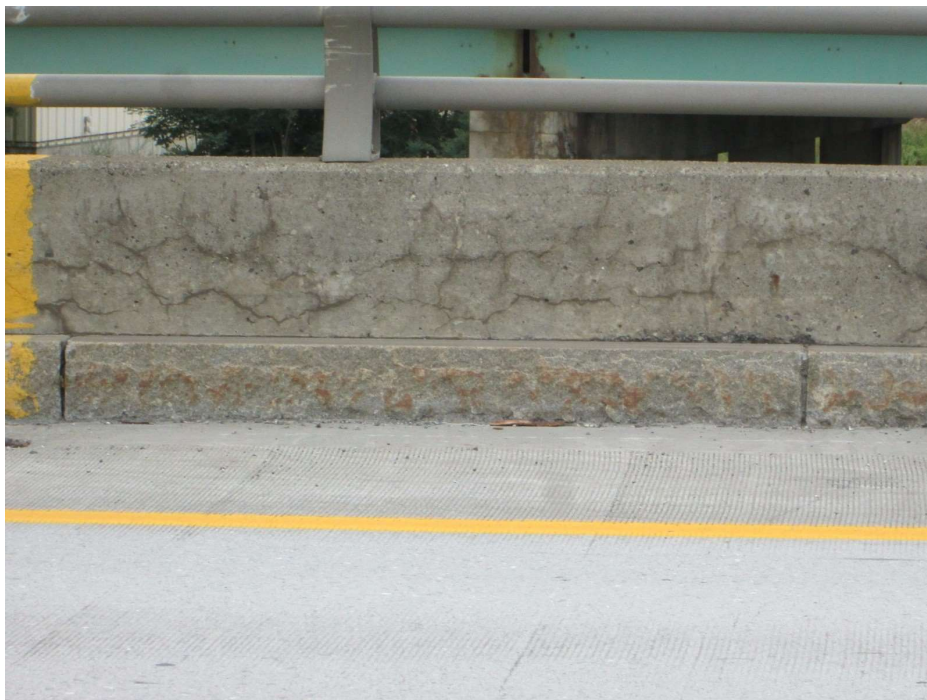


PHOTO 5

Description typical cracking of barrier rail

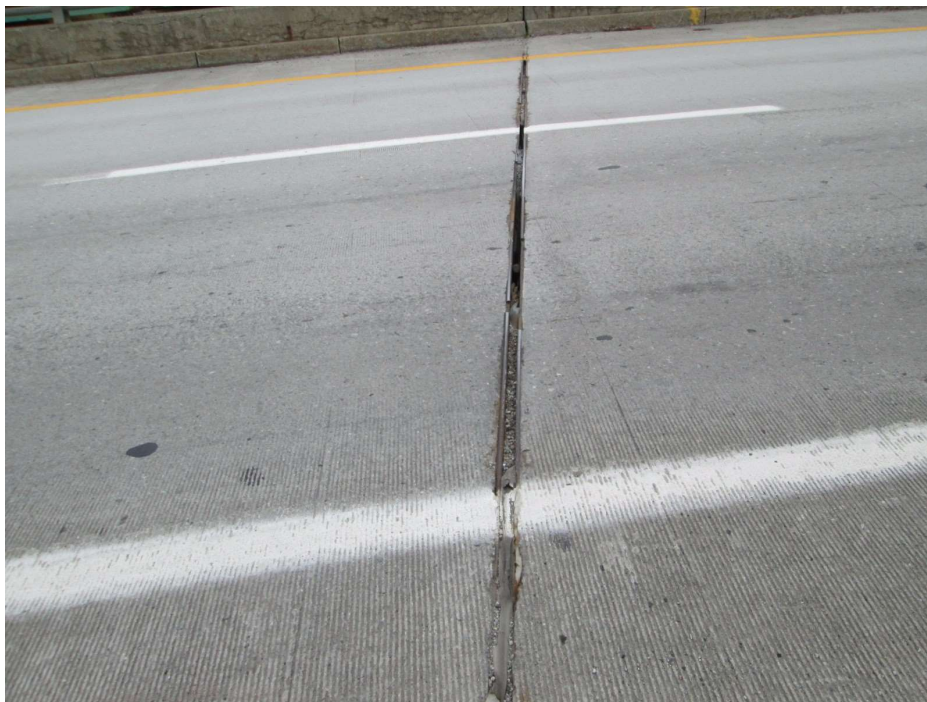


PHOTO 6

Description Failed pier joint seal

Inspector: Scott Harris
Inspection Date: 09/08/2016

Structure Number: 1430
Facility Carried: I-95 SOUTHBOUND

Highway Bridge Inspection Report

Pictures

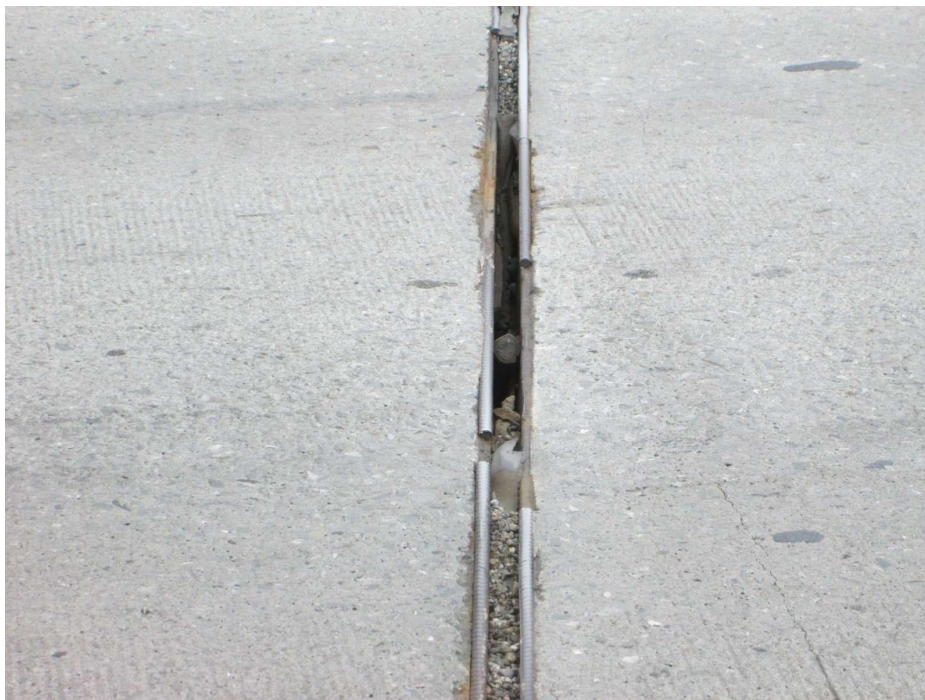


PHOTO 7

Description Failing pier joint seal



PHOTO 8

Description Damaged aluminum rail post

Inspector: Scott Harris
Inspection Date: 09/08/2016

Structure Number: 1430
Facility Carried: I-95 SOUTHBOUND

Highway Bridge Inspection Report

Pictures



PHOTO 9

Description Damaged rail post flanges

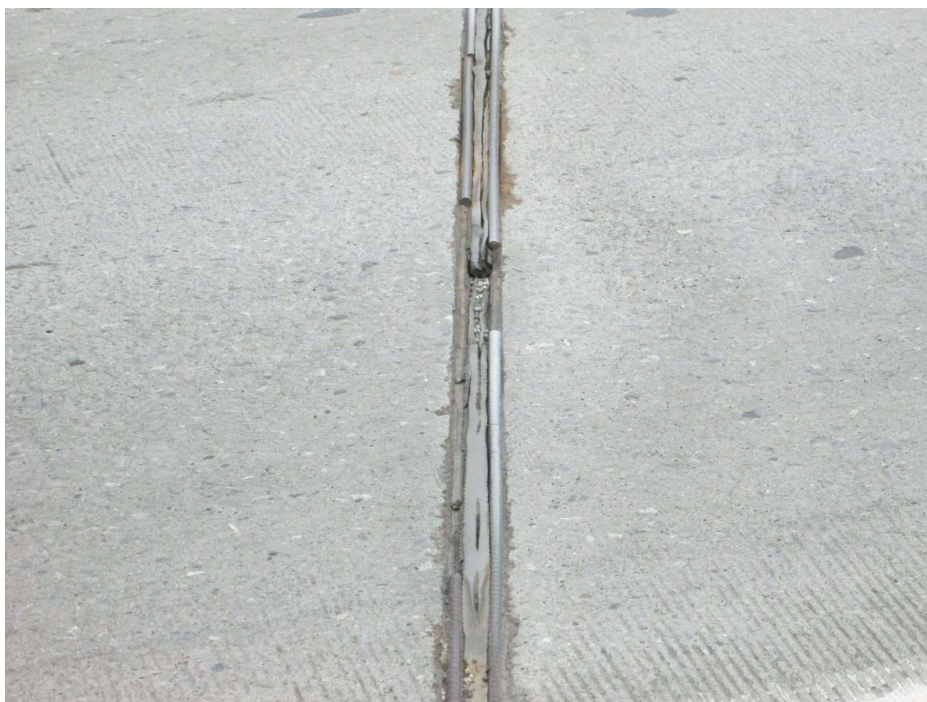


PHOTO 10

Description banged up joint armor

Inspector: Scott Harris
Inspection Date: 09/08/2016

Structure Number: 1430
Facility Carried: I-95 SOUTHBOUND

Highway Bridge Inspection Report

Pictures



PHOTO 11

Description damaged rail post flanges



PHOTO 12

Description failing pier joint seal

Inspector: Scott Harris
Inspection Date: 09/08/2016

Structure Number: 1430
Facility Carried: I-95 SOUTHBOUND

Highway Bridge Inspection Report

Pictures

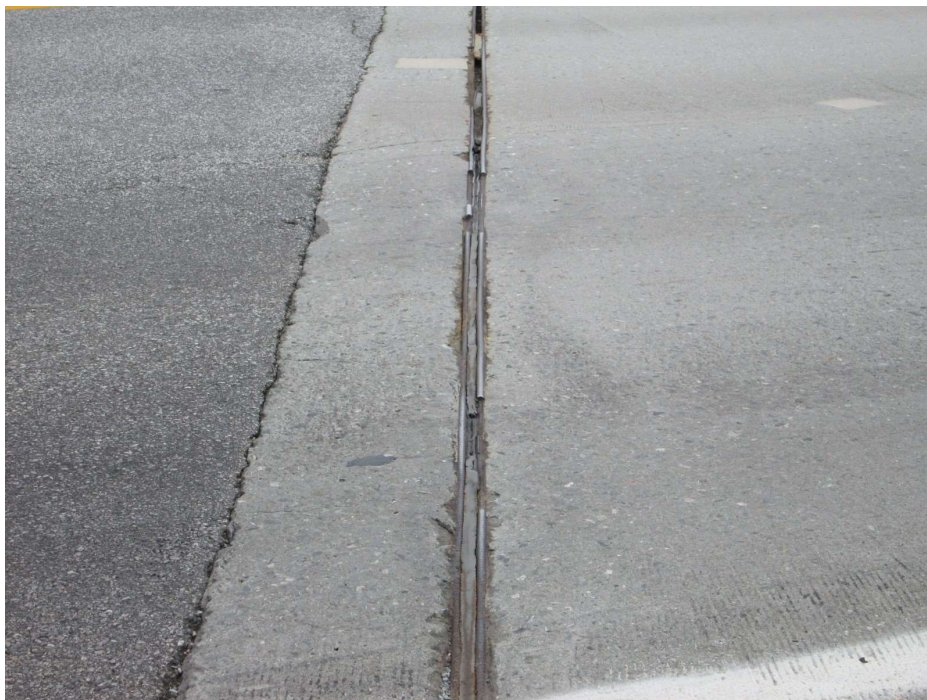


PHOTO 13

Description North end failing seal/ damaged armor



PHOTO 14

Description Another damaged rail post

Inspector: Scott Harris
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Highway Bridge Inspection Report

Pictures



PHOTO 15

Description West side view



PHOTO 16

Description Cracking & staining wing wall

Inspector: Scott Harris
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Highway Bridge Inspection Report

Pictures



PHOTO 17

Description North abutment beam end



PHOTO 18

Description North abutment

Inspector: Scott Harris
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Highway Bridge Inspection Report

Pictures



PHOTO 19

Description Spalling joint haunch concrete on north abutment



PHOTO 20

Description Spalling joint haunch over north abutment

Inspector: Scott Harris
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Highway Bridge Inspection Report

Pictures



PHOTO 21

Description North abutment



PHOTO 22

Description Heavy rusting of pier beaqrings

Inspector: Scott Harris
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Structure Number: 1430
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Highway Bridge Inspection Report

Pictures



PHOTO 23

Description Rusty pier diaphragms



PHOTO 24

Description North pier north face

Inspector: Scott Harris
Inspection Date: 09/08/2016

Structure Number: 1430
Facility Carried: I-95 SOUTHBOUND

Highway Bridge Inspection Report

Pictures



PHOTO 25

Description North span view



PHOTO 26

Description 2nd north span view

Inspector: Scott Harris
Inspection Date: 09/08/2016

Structure Number: 1430
Facility Carried: I-95 SOUTHBOUND

Highway Bridge Inspection Report

Pictures



PHOTO 27

Description Center pier view



PHOTO 28

Description Spalling with exposed re-steel bottom of pier cap

Inspector: Scott Harris
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Highway Bridge Inspection Report

Pictures



PHOTO 29

Description 2nd south span view



PHOTO 30

Description South pier north face

Inspector: Scott Harris
Inspection Date: 09/08/2016

Structure Number: 1430
Facility Carried: I-95 SOUTHBOUND

Highway Bridge Inspection Report

Pictures



PHOTO 31

Description Scaling fascia



PHOTO 32

Description south pier

Inspector: Scott Harris
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Highway Bridge Inspection Report

Pictures



PHOTO 33

Description South span view



PHOTO 34

Description South abutment

Inspector: Scott Harris
Inspection Date: 09/08/2016

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Highway Bridge Inspection Report

Pictures



PHOTO 35

Description South abutment beam end



PHOTO 36

Description Deterioration of beam ends at piers

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Highway Bridge Inspection Report

Pictures



PHOTO 37

Description east side view

Maintenance Work Items

Structure Number: 1430
Town: 19280

Structure Name: I-95 SB / EMERSON MILLS RD
Owner: Harris, Scott

Type	Work Item	Priority	Notes
Maintenance	Repair Joint		Repair deteriorated and damaged joints
Safety	Repair Bridge Rail		repair damaged upper rail posts
Maintenance	Repair Deck		Replace deck
Preservation	Paint		Paint job
Maintenance	Rehab Substructure		Repair lower pier caps

FIELD REVIEW NOTES

BRIDGE NO. 1430

Bridge No.	Field Review	Reason	Field Review Date	Next Review Date	Notes
1430					