

Highway Bridge Inspection Report

**I-95 NB/EMERSON MILLS RD
I-95 NORTHBOUND
over
B&ARR,EMERSON MILL RD**



Inspection Date: 06/21/2018

Inspected By: Scott Harris

Inspection Type(s): Routine

National Bridge Inventory

Status: 0 - ND

Bridge Name: I-95 NB/EMERSON MILLS RD

Sufficiency Rating: 82.6

Inspections

(90) INSPECTION DATE	& (91) DESIGNATED INSPECTION FREQUENCY	24	06/21/2018
(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	5969
(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	1 - NORTH
(2) HIGHWAY AGENCY DISTRICT	04 - Eastern
(3) COUNTY CODE	019 Penobscot
(4) PLACE CODE	30795
(6) FEATURES INTERSECTED	B&ARR,EMERSON MILL RD
(7) FACILITY CARRIED	I-95 NORTHBOUND
(9) LOCATION	MILE 179.2/4.5 MILE E TL
(11) MILEPOINT	177.600
(12) BASE HIGHWAY NETWORK	Inventory Route is on the Base Network
(13) LRS INVENTORY ROUTE, SUBROUTE	
(13A) LRS INVENTORY ROUTE	000000095X
(13B) SUBROUTE NUMBER	00
(16) LATITUDE	44.77033
(17) LONGITUDE	-68.86917
(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	1 - Monolithic Concrete (concurrently placed with structural deck)
(108B) DECK MEMBRANE	0 - None
(108C) DECK PROTECTION	0 - None

Age of Service

(27) YEAR BUILT	1962
(106) YEAR RECONSTRUCTED	
(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	13050
(30) YEAR OF AVERAGE DAILY TRAFFIC	2016
(109) AVERAGE DAILY TRUCK TRAFFIC	5
(19) BYPASS DETOUR LENGTH	1

Geometric Data

(48) LENGTH OF MAXIMUM SPAN (ft.)	52.0
(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.)	40
(52) DECK WIDTH, OUT-TO-OUT (ft.)	43.0
(32) APPROACH ROADWAY WIDTH (ft.)	40
(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.)	40
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.)	327.76
(54) MIN VERTICAL UNDERCLEARANCE	
(54A) REFERENCE FEATURE	H - Highway beneath structure
(54B) MIN VERTICAL UNDERCLEASENCE (ft.)	16.42
(55) MIN LATERAL UNDER CLEARANCE RIGHT	
(55A) REFERENCE FEATURE	H - Highway beneath structure
(55B) MIN LATERAL UNDER CLEARANCE RIGHT (ft.)	11.15
(56) MIN LATERAL UNDER CLEARANCE (ft.)	27.2

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	R - Right structure (North or East)
(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	5 - Fair Condition (minor section loss)
(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	2.04
(65) METHOD USED TO DETERMINE INVENTORY RATING	8 - Load and Resistance Factor
(66) INVENTORY RATING	1.57
(70) BRIDGE POSTING	5 - Equal to or above legal
(41) STRUCTURE OPEN/POSTED/CLOSED	A - Open

Appraisal

(67) STRUCTURAL EVALUATION	5
(68) DECK GEOMETRY	7
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	7
(71) WATERWAY ADEQUACY	N - Not Applicable
(72) APPROACH ROADWAY ALIGNMENT	7 - Better than present minimum criteria
(36) TRAFFIC SAFETY FEATURE	
36A) BRIDGE RAILINGS:	0 - Does not meet acceptable standards/safety feature is required
36B) TRANSITIONS:	0 - Does not meet acceptable standards/safety feature is required
36C) APPROACH GUARDRAIL	0 - Does not meet acceptable standards/safety feature is required
36D) APPROACH GUARDRAIL ENDS	0 - Does not meet acceptable standards/safety feature is required
(113) SCOUR CRITICAL BRIDGES	N - Not over waterway

Proposed Improvements

(75) TYPE OF WORK	
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(75A) TYPE OF WORK PROPOSED

(75B) WORK DONE BY

(76) LENGTH OF STRUCTURE IMPROVEMENT (ft.)

(94) BRIDGE IMPROVEMENT COST (\$K)

(95) ROADWAY IMPROVEMENT COST (\$K)

(96) TOTAL PROJECT COST

(97) YEAR OF IMPROVEMENT COST ESTIMATE

(114) FUTURE ADT

18270

(115) YEAR OF FUTURE ADT

2036

Navigation Data	
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(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

Inspection Notes

Structure Number: 5969

Town: Hampden

Structure Name: I-95 NB/EMERSON MILLS RD

Structure Notes

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

Wearing Surface

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

Deck

NBI Item 58: 6

Scattered delamination of underside of deck including one spa. All the joints have minor or past leakage but four appear to be in relatively good condition. Seal over easterly pier is failing & leaking, joint armor has minor steel damage. This effectvely leaking joint seal has lead to most, if not all of the haunch spalling and now sitting on the pier cap below. May be very little support for deck in this area. One dislodged portion of rail at south side. aluminum posts have plow damage ranging from minor to having chips in bottom flanges. Concrete portion of railing has scattered light map cracking. All four end posts have minor to moderate map cracking w/staining.

Superstructure

NBI Item 59: 6

Approximately 20% overall paint system distress with sheet failure at south exterior girders, minor paint system distress on the interior girders. The last 1'-2' of each girder has paint loss and scaling rust from previous or currently leaking joints. Some section loss of bottom flange. The bearings at the westerly abutment have multiple missing anchor bolts, bearing and masonry plates are misaligned for at least half.

Substructure

NBI Item 60: 5

Concrete columns have minor to moderate, vertical and map, cracking and staining with small areas of delamination . Pier cap cracking, delaminating and spalling on the center and easterly piers. Abutment backwalls have isolated minor cracking, moderate to heavy horizontal cracking and staining of bridge seats scattered throughout. Wingwalls all generally covered with map cracking/staining.

Culvert

NBI Item 62: N

Channel

NBI Item 61: N

Other

Special Inspection

Monitoring

Pontis Notes

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PHOTO 1

Description Roadway looking west



PHOTO 2

Description east joint

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Highway Bridge Inspection Report

Pictures



PHOTO 3

Description Damaged post (worst of 6)



PHOTO 4

Description wearing surface view

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PHOTO 5

Description pier joint



PHOTO 6

Description failing seal pier joint

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PHOTO 7

Description Dislodged rail section south side



PHOTO 8

Description Dislodged rail section south side

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Highway Bridge Inspection Report

Pictures



PHOTO 9
Description west joint



PHOTO 10
Description paint sheet failure exterior girder

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Highway Bridge Inspection Report

Pictures



PHOTO 11
Description



PHOTO 12
Description west abutment beam end / bearing area

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PHOTO 13

Description west abutment beam end / bearing area



PHOTO 14

Description West abutment slope pavement

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PHOTO 15

Description offset bearing with bent anchor bolts west abutment



PHOTO 16

Description west abutment beam end missing anchor bolts

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PHOTO 17

Description west abutment beam end / bearing area



PHOTO 18

Description west abutment beam end / bearing area

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PHOTO 19

Description north side view



PHOTO 20

Description deck delam west span

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PHOTO 21

Description west span view



PHOTO 22

Description center span view

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PHOTO 23

Description chipped put delam 2nd west span



PHOTO 24

Description scaling center pier

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PHOTO 25

Description delams center pier



PHOTO 26

Description east pier

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PHOTO 27

Description 2nd east span view



PHOTO 28

Description east span view

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PHOTO 29
Description east abutment breastwall cracking



PHOTO 30
Description East abutment beam end

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PHOTO 31

Description East abutment



PHOTO 32

Description south side view paint system failures

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PHOTO 33

Description east pier



PHOTO 34

Description east pier

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PHOTO 35

Description east pier



PHOTO 36

Description East pier

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PHOTO 37

Description center pier



PHOTO 38

Description center pier

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PHOTO 39

Description center pier



PHOTO 40

Description center pier

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PHOTO 41

Description west pier



PHOTO 42

Description west pier

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PHOTO 43

Description west pier



PHOTO 44

Description west pier