

Bridge Inspection Report

NBI Structure Number: 012500410004000

Hinsdale 041/040

Date of Inspection: 03/21/2019

NH119

Date Report Sent: 05/15/2019

over

Owner: NHDOT

CONNECTICUT RIVER
Anna Hunt Marsh Bridge

Bridge Inspection Group: B-Team

Bridge Maintenance Crew: 07

Bridge also in: Brattleboro, Vermont

Recommended Postings:

Weight: **E-2**

Weight Sign OK

Width: **Not Required**

Width Sign OK

Narrow bridge sign @ BOTH SIDES

Primary Height Sign Recommendation: 11'-4"

Clearances: Over: 11.55
(Feet) Under: 0.00
Route: 15.26

Height Sign OK

Optional Centerline Height Sign Rec: 15'-0"

Condition:

Red List Status: State Redlist

Deck: 7 Good

Superstructure: 4 Poor

Substructure: 6 Satisfactory

Culvert: N N/A (NBI)

Sufficiency Rating: 28 %

Bridge Rail: Substandard

Rail Transition: Substandard

Bridge Approach Rail: Meets Standards

Approach Rail Ends: Substandard

Structure Type and Materials:

Number of Main Spans: 1

Number of Approach Spans: 0

Main Span Material and Design Type

Steel/Truss-Thru

NH Bridge Type: HT (High Truss)

Deck Type: Concrete Precast Panel

Wearing Surface: None

Membrane: None

Deck Protection: None

Curb Reveal: Not Measured

Plan Location: A-56;1-3-3-3

Total Bridge Length: 339.0 ft

Right Curb/Sidewalk Width: 0.0 ft

Total Bridge Width: 23.1 ft

Median: No median

Bridge Skew: 0.00 °

Year Built/Rebuilt: 1920/1988

Bridge Dimensions:

Length Maximum Span: 324.0 ft

Left Curb/Sidewalk Width: 6.0 ft

Width Curb to Curb: 20.3 ft

Approach Roadway Width: 34.0 ft
(W/Shoulders)

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Bridge Service:

Type of Service on Bridge: Highway and Pedestrian

Type of Service Under: Waterway

Lanes on Bridge: 2

Lanes Under: 0

AADT: 8,492

Percent Trucks: 4%

Year of AADT: 2017

Future AADT: 12,568

Year of Future AADT: 2039

Federal or State Definition Bridge: Fed-Definition Bridge

National Highway System: Bridge does not carry NHS

Roadway Functional Class: Urban, Collector

New Hampshire Bridge Tier: 3

Eligibility for the National Register of Historic Places: Br eligible for NRHP

Traffic Direction: 2-way traffic

National Bridge Inventory (NBI) Appraisal Ratings:

Deck Geometry: 2 Intolerable - Replace

Underclearances: N Not applicable (NBI)

Approach Alignment: 4 Minimum Tolerable

Structural Evaluation: 4 Minimum Tolerable

Channel/Channel Protection: 7 Minor Damage

Waterway Adequacy: 8 Equal Desirable

Bridge Scour Critical Status: 8 Stable Above Footing

Riprap Condition: Fair Condition

Debris Present: No Debris Present

Channel Notes: MINOR SCOUR. SAND, SILT, AND COBBLE BOTTOM.

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Element Details (see disclaimer below)

No.	Description	Material Notes and Condition Notes:
38	Reinforced Concrete Slab	PRECAST CONC. SLABS WITH GROUTED SHEAR KEYS. 3.75 in. AT EDGES TO 5.75 in. AT MID. 5KSI CONC. W/ 80KSI EPOXY COATED W.W.F. SEVERAL FINE CRACKS IN WEARING SURFACE. FINE CRACKS ON SOFFIT.
L 520	Concrete Reinforcing Steel Protective System	
L 1130	Cracking (RC and Other)	
107	Steel Open Girder/Beam	W18x35 STRINGERS COMPOSITE WITH PRECAST DECK PANELS. RUSTED WITH AREAS OF MINOR SECTION LOSS. EXTERIOR STRINGERS HAVE MODERATE RUST AND SCALE. TOP AND BOTTOM FLANGES RUSTED WITH UP TO 1/8 in. SECTION LOSS AT EXTERIORS. DRILLED HOLES IN TOP FLANGES. SOME FLAME GOUGES
L 515	Steel Protective Coating	
L 1000	Corrosion	
120	Steel Truss	AREAS OF HEAVY RUST WITH LIGHT SECTION LOSS. PACK RUST BETWEEN PLATES AND ANGLES IN MANY AREAS. CROSS BRACE ANGLES HOLED IN AREAS. LOWER LATERAL BRACING WELDS BROKEN AT MIDDLE OF SECOND BAY FROM EAST. SMALL HOLES IN ANGLE LATERAL BRACING AT MIDSPAN.
L 515	Steel Protective Coating	
L 1000	Corrosion	
152	Steel Floor Beam	RUSTED AT TOP AND BOTTOM FLANGES UNDER LEAKAGE. RUST AND SCALE AT EXTERIOR ENDS. CROSS BRACING MOUNTING PLATE HEAVILY RUSTED, SCALING AND SECTION LOSS. SEVERAL HOLED.
L 515	Steel Protective Coating	
L 1000	Corrosion	
217	Masonry Abutment	SUBMERGED PORTION OF THE ABUTMENTS (CONCRETE & MASONRY) ARE IN GENERALLY SATISFACTORY CONDITION. MINOR DEFECTS INCLUDE 1/4 in. CRACKS WITH RUST STAINING ON THE EAST ABUTMENT AND ISOLATED AREAS OF MORTAR LOSS IN THE WEST ABUTMENT. SHEET PILE EXPOSED IN FRONT OF THE EAST ABUTMENT. SPALLED AT SOUTH EAST CORNER, NO REBAR EXPOSED. BACKWALL SPALLED AT NORTHEAST.
L 1120	Efflorescence/Rust Staining	
L 1610	Mortar Breakdown (Masonry)	
L 1620	Split/Spall (Masonry)	
300	Strip Seal Expansion Joint	STRIP SEAL AT EAST ABUTMENT EXPANSION JOINT WITH STEEL ARMOR PROTECTION.
301	Pourable Joint Seal	2 in. POURABLE SILICONE JOINT SEAL AT WEST ABUTMENT. JOINT HOLED AT WEST, PATCHED.
L 2330	Seal Damage	

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311	Movable Bearing	NESTED ROLLER BEARINGS WITH TRUSS PIN AT EAST ABUTMENT
		BOTTOM PLATES HOLED AT NORTHEAST ROLLER BEARING, REPAIRED AND PAINTED. PLATES BETWEEN ROLLER BEARING PIN AND TOP CHORD END DIAGONAL RUSTED WITH HEAVY SECTION LOSS AT NORTHEAST, CLEANED AND PAINTED. MODERATE RUST AT BEARINGS.
L 515	Steel Protective Coating	
L 1000	Corrosion	
313	Fixed Bearing	FIXED PIN BEARINGS AT WEST ABUTMENT
		MODERATE RUST AND SCALE AT INTERIORS.
L 515	Steel Protective Coating	
L 1000	Corrosion	
330	Metal Bridge Railing	** W-Beam on Box ** GALVANIZED
		RAIL TRANSITION DAMAGE AT SOUTHWEST, SOUTHEAST, NORTHEAST AND APPROACH RAIL DAMAGE AT NORTHEAST AND SOUTHWEST. TOP PIPE HAND RAIL BROKEN AT MIDSPAN.
L 7000	Damage	

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Element States (see disclaimer below)

No.	Description	Quantity	Units	State 1	State 2	State 3	State 4
38	Reinforced Concrete Slab	7,115	sq.ft	99%	1%	0%	0%
└ 520	Concrete Reinforcing Steel Protective System	---	---	100%	0%	0%	0%
└ 1130	Cracking (RC and Other)	100	sq.ft	50%	50%	0%	0%
107	Steel Open Girder/Beam	3,730	ft	20%	70%	10%	0%
└ 515	Steel Protective Coating	---	---	100%	0%	0%	0%
└ 1000	Corrosion	100	ft	0%	100%	0%	0%
120	Steel Truss	660	ft	0%	97%	3%	0%
└ 515	Steel Protective Coating	---	---	100%	0%	0%	0%
└ 1000	Corrosion	100	ft	0%	100%	0%	0%
152	Steel Floor Beam	358	ft	0%	100%	0%	0%
└ 515	Steel Protective Coating	---	---	100%	0%	0%	0%
└ 1000	Corrosion	100	ft	0%	100%	0%	0%
217	Masonry Abutment	43	ft	0%	100%	0%	0%
└ 1120	Efflorescence/Rust Staining	10	ft	0%	100%	0%	0%
└ 1610	Mortar Breakdown (Masonry)	5	ft	0%	100%	0%	0%
└ 1620	Split/Spall (Masonry)	10	ft	0%	100%	0%	0%
300	Strip Seal Expansion Joint	21	ft	50%	50%	0%	0%
301	Pourable Joint Seal	21	ft	76%	24%	0%	0%
└ 2330	Seal Damage	5	ft	0%	100%	0%	0%
311	Movable Bearing	2	each	0%	50%	0%	50%
└ 515	Steel Protective Coating	---	---	100%	0%	0%	0%
└ 1000	Corrosion	2	each	0%	50%	0%	50%
313	Fixed Bearing	2	each	0%	100%	0%	0%
└ 515	Steel Protective Coating	---	---	100%	0%	0%	0%
└ 1000	Corrosion	2	each	0%	100%	0%	0%
330	Metal Bridge Railing	2,228	ft	0%	100%	0%	0%
└ 7000	Damage	10	ft	0%	100%	0%	0%

Element Disclaimer: NHDOT is transitioning from CoRe elements to AASHTO elements. The AASHTO element data shown above is the product of the automated element migration routine from the AASHTOWare BrM software. This migrated data has undergone limited field verification. Adequate quality control of this element data is not expected to be achieved until the conclusion of the 2020 inspection season. Please utilize element data with caution.

Bridge Notes:

Anna Hunt Marsh Bridge.

STATE OF NEW HAMPSHIRE

In the Year of Our Lord Two Thousand Ten

AN ACT naming a bridge across the Connecticut River from Hinsdale, New Hampshire to Brattleboro, Vermont, informally known as the Hinsdale Bridge, the Anna Hunt Marsh Bridge.

Be it Enacted by the Senate and House of Representatives in General Court convened:

281:1 Town of Hinsdale; Bridge Named. Pursuant to RSA 4:43, the larger or western Pennsylvania truss bridge built in 1920, informally known as the Hinsdale Bridge, that spans the Connecticut River from Hinsdale, New Hampshire to Brattleboro, Vermont on Route 119, bridge number 041/040, shall be named the Anna Hunt Marsh Bridge.

281:2 Signage. The cost of design, construction, maintenance, and installation of any signage, replacement signage, or other markers required under section 1 of this act shall not be a charge to the state. However, the design, construction, and installation of any signage or other markers required under this act shall be approved by the department of transportation.

281:3 Effective Date. This act shall take effect 60 days after its passage.

Approved: July 8, 2010

Effective Date: September 6, 2010

SPIDER STAGING USED THESE DATES 11/27/01, 11/22/04, April 9,10,11,14,15/2008, 03/25/13, 8/14/14, 6/21/2016.

UNDERWATER INSPECTION 7/19/2010, 7/29/2015.

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Inspection Notes: 03/21/2019

MTC inspection comments -

SIDEWALK RAIL BROKEN AT MIDSPAN.

DECK: PRECAST CONCRETE SLABS WITH GROUTED SHEAR KEY JOINTS- SEVERAL FINE CRACKS. FINE CRACKS AT SOFFIT.

SUPERSTRUCTURE- PAINT CURLING, CHIPPING AND LIGHT SURFACE RUST THROUGHOUT. STRINGERS; TOP AND BOTTOM FLANGES

RUSTED WITH UP TO 1/8" SECTION LOSS ON EXTERIOR STRINGERS. DRILLED HOLES IN TOP FLANGES. SOME FLAME GOUGES.

BOTTOM CHORDS- AREAS OF HEAVY RUST WITH LIGHT SECTION LOSS. PACK RUST BETWEEN PLATES AND ANGLES IN MANY

AREAS. LOWER LATERAL BRACING ANGLES HOLED IN AREAS. CONNECTION PLATES HEAVILY RUSTED, SEVERAL HOLED.

SOUTHWEST ROLLER BEARING HEAVY RUST

SUBSTRUCTURE- MEDIUM SPALL AT SOUTHEAST BRIDGESEAT. SPALL UNDER STRINGER ONE AT SOUTHWEST, ANCHOR BOLT

EXPOSED. MINOR SPALLS AT BACKWALL NORTHEAST.

PICTURES: B609.

42. SIGN AT WEST.

43. SIGN AT EAST.

Previous Inspection Notes: 06/29/2018

NBG office comments -

IN-DEPTH INSPECTION PERFORMED BY HTA. SEE SEPARATE INSPECTION REPORT FOR DETAILS.

SUMMARY: Continued corrosion-related deterioration concentrated along the portions of the bridge trusses and floor system at and below the roadway deck. This advancing deterioration, which is typical for through-truss bridges of this vintage, warrants a downgrade to the condition rating of the superstructures of both bridges from "5 – fair" to "4 – poor".

ACCESS: Access to the bridge was accomplished through the use of a barge-mounted aerial inspection unit and a telescoping man-lift on the bridge deck.

Approach and Roadway Notes:

W-BEAM AND POST DAMAGED AT BOTH ENDS. WORN IN WHEEL PATHS ALONG APPROACHES.

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Inspection History

Inspection Date	Inspector Initials	Inspection Type(s) Performed				Major Element Ratings				Red list	Posting
		NBI	Elem	FCM	U/W	Deck	Super	Sub	Culvert		
03/21/2019	MTC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7	4	6	N	<input checked="" type="checkbox"/>	E-2
06/29/2018	NBG	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7	4	6	N	<input checked="" type="checkbox"/>	E-2
06/21/2016	MTC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7	5	6	N	<input type="checkbox"/>	E-2
07/29/2015	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7	5	6	N	<input type="checkbox"/>	E-2
08/14/2014	MHC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7	5	6	N	<input type="checkbox"/>	E-2
03/25/2013	MTC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7	5	6	N	<input type="checkbox"/>	E-2
06/19/2012	MTC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7	6	6	N	<input type="checkbox"/>	E-2
09/09/2011	MTC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7	6	6	N	<input type="checkbox"/>	E-2
12/01/2010	DEP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7	6	6	N	<input type="checkbox"/>	E-2
07/19/2010	DMB	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7	6	6	N	<input type="checkbox"/>	E-2
06/30/2010	MTC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7	6	6	N	<input type="checkbox"/>	E-2
04/16/2008	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7	6	6	N	<input type="checkbox"/>	E-2
10/16/2006	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8	6	6	N	<input type="checkbox"/>	E-2
11/22/2004	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8	6	6	N	<input type="checkbox"/>	E-2
11/27/2001	FNM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	6	7	N	<input type="checkbox"/>	E-2
04/21/1999	RLM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	6	7	N	<input type="checkbox"/>	E-2
11/05/1998	RLM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	6	7	N	<input type="checkbox"/>	E-2
07/01/1997		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	6	6	7	N	<input type="checkbox"/>	E-2
09/01/1995		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	6	6	7	N	<input type="checkbox"/>	E-2
11/01/1993		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	6	6	7	N	<input type="checkbox"/>	E-2
07/01/1992		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6	7	7	N	<input type="checkbox"/>	E-2

Inspection Frequency (mo.)			
NBI	Elem	FCM	U/W
8	8	24	60