New Hampshire Department of Transportation

Bridge Inspection Report

NBI Structure Number: 011102350002500

Hampton 235/025

Existing Bridge Section Bureau of Bridge Design

Date of Inspection: 03/03/2021 Date Report Sent: 04/29/2021

NH 1A over

Owner: NHDOT

Bridge Inspection Group: C-Team
Bridge Maintenance Crew: 15

HAMPTON RIVER

Neil R. Underwood Mem.

1

Recommended Postings:

SIGNS IN PLACE 3/3/2021.

Width: Not Required

✓ Width Sign OK

Primary Height Sign Recommendation: *None* Clearances: Over: 99.99 ✓ Height Sign OK

Optional Centerline Height Sign Rec: None (Feet) Under: 0.00

Route: 99.99

Structure Type and Materials:

Condition:

Red List Status: State Redlist

Number of Main Spans:

Deck: 8 Very Good Number of Approach Spans: 12

Superstructure: 4 Poor Main Span Material and Design Type

Substructure: 6 Satisfactory

Culvert: N N/A (NBI)

Steel/Movable-Bascule

Approach Span Material and Design Type

Sufficiency Rating: 26.3 % Steel Continuous/Girder-Floorbeam

Bridge Rail: Substandard NH Bridge Type: BAS (Bascule Span)
Rail Transition: Substandard Deck Type: Concrete-Cast-in-Place

Bridge Approach Rail: Meets Standards Wearing Surface: Epoxy Overlay

Approach Rail Ends: Substandard Membrane: None

Deck Protection: Epoxy Coated Reinforcing

Curb Reveal: 8 in

Bridge Dimensions: Plan Location: 3-1-2-1, 109-6-1

Length Maximum Span: 94.0 ft Total Bridge Length: 1,199.0 ft
Left Curb/Sidewalk Width: 0.0 ft Right Curb/Sidewalk Width: 5.0 ft
Width Curb to Curb: 26.0 ft Total Bridge Width: 33.5 ft

Approach Roadway Width: 28.0 ft Median: No median

(W/Shoulders) Bridge Skew: 0.00°
Year Built/Rebuilt: 1949/1984

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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: 9,164 Percent Trucks: 7 % Year of AADT: 2019
Future AADT: 13,562 Year of Future AADT: 2041

Federal or State Definition Bridge: Fed-Definition Bridge

National Highway System: Bridge does not carry NHS

Roadway Functional Class: Urban, Minor Arterial

New Hampshire Bridge Tier: 2

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: 3 Intolerable - Correct Underclearances: N Not applicable (NBI) Approach Alignment: 8 Equal Desirable Crit Structural Evaluation: 4 Minimum Tolerable

Channel/Channel Protection: 6 Bank Slumping

Waterway Adequacy: 9 Above Desirable

Bridge Scour Critical Status: 3 SC - Unstable

Riprap Condition: Fair Condition

Debris Present: No Debris Present

Channel Notes: Tidal Action, Rip Rap placed, one pier reset. CHA to provide more information.

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Element	Details	(see	disclaimer	· below)

No.	Description	Material Notes and Condition Notes:
12	Reinforced Concrete Deck	EXPOSED DECK - FINE CRACKS. CURB / SIDEWALK - FINE CRACKS AND MINOR SPALLS. SIDEWALK AT LIFT SPAN HAS GRID EXPOSED AND IS LIFTED, STEEL PANS AND ANCHORAGE ARE HEAVILY RUSTED. SOFFIT - FINE CRACKS, MINOR LEAKING WITH EFFLORESCENCE AND FEW RUST STAINS.
^L 520	Concrete Reinforcing Steel Protective System	
^L 1080	Delamination/Spall/Patched Area	
^L 1120	Efflorescence/Rust Staining	
^L 1130	Cracking (RC and Other)	
28	Steel Deck With Open Grid	RUSTED. CRACKED WELDS AND DAMAGED AREAS. LOOSE. SEVERAL NUTS RUSTED OFF FROM SPLICE PLATES AT CENTERLINE.
^L 515	Steel Protective Coating	
^L 1010	Cracking	
107	Steel Open Girder/Beam	GIRDER RUSTED WITH SECTION LOSS. THIN AND HOLED AREAS. PACK RUST. CONNECTION PLATES DEFORMED. CROSS BRACING DEFORMED.
└ 515	Steel Protective Coating	
^L 1000	Corrosion	
113	Steel Stringer	RUSTED WITH SECTION LOSS. THIN AREAS. PACK RUST.
└ 515	Steel Protective Coating	
^L 1000	Corrosion	
152	Steel Floor Beam	HEAVY RUSTING, PITTED WITH SECTION LOSS. PACK RUST.
^L 515	Steel Protective Coating	
^L 1000	Corrosion	
210	Reinforced Concrete Pier Wall	LIGHT CRACKS, DELAMINATIONS AND SPALLED WITH REBAR EXPOSED.
^L 1080	Delamination/Spall/Patched Area	PIER SPALLED REBAR EXPOSED.
^L 1090	Exposed Rebar	
213	Masonry Pier Wall	STONE CRACKED AND PUSHING OUT AT TOP, MORTAR DETERIORATING.
215	Reinforced Concrete Abutment	LIGHT CRACKS, EFFLORESCENCE AND SPALLS. WINGS - LIGHT CRACKS AND SPALLS. BACKWALLS - LIGHT CRACKS AND SPALLS. MODERATE LEAKING.
^L 1130	Cracking (RC and Other)	
303	Assembly Joint With Seal	LEAKING AND MINOR DAMAGE, GLANDS TORN AND PULLED OUT OF POSITION. TIGHT. FORMS IN PLACE, UNDERSIDE. CONCRETE ARMOR IS BREAKING UP AT NORTH APPROACH.

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-2310	Leakage	
^L 2360	Adjacent Deck or Header	
	•	
311	Movable Bearing	RUSTED WITH SECTION LOSS. FEW NEW NUTS. PACK RUST. SIDE TABS BROKEN OFF
	ŭ	AT NORTHWEST AND SOUTHEAST.
L 515	Steel Protective Coating	
0.0	Green rendente Geamig	
L ₁₀₀₀	Corrosion	
1000	Corresion	
313	Fixed Decrine	RUSTED WITH SECTION LOSS. PACK RUST.
313	Fixed Bearing	RUSTED WITH SECTION LOSS. PACK RUST.
l ,	0.15.1.0.1	
515	Steel Protective Coating	
└1000	Corrosion	
330	Metal Bridge Railing	REPAIRED AREAS. MINOR SCRAPES, PAINT PEELING. RUSTED IN AREAS. DAMAGED
		BOTTOM RAIL AT SOUTHEAST.

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Element States (see disclaimer below)

No.	Description	Quantity	Units	State 1	State 2	State 3	State 4
12	Reinforced Concrete Deck	37,986	sq.ft	87%	13%	0%	0%
520	Concrete Reinforcing Steel Protective System			94%	6%	0%	0%
1080	Delamination/Spall/Patched Area	10	sq.ft	0%	0%	100%	0%
[_] 1120	Efflorescence/Rust Staining	2,279	sq.ft	0%	100%	0%	0%
[_] 1130	Cracking (RC and Other)	2,500	sq.ft	0%	100%	0%	0%
28	Steel Deck With Open Grid	3,154	sq.ft	0%	100%	0%	0%
515	Steel Protective Coating			100%	0%	0%	0%
^L 1010	Cracking	1	sq.ft	0%	100%	0%	0%
107	Steel Open Girder/Beam	2,402	ft	0%	90%	5%	5%
^L 515	Steel Protective Coating			0%	0%	100%	0%
^L 1000	Corrosion	2,401	ft	0%	90%	5%	5%
113	Steel Stringer	5,994	ft	0%	30%	60%	10%
^L 515	Steel Protective Coating			0%	0%	100%	0%
1000	Corrosion	5,992	ft	0%	30%	60%	10%
152	Steel Floor Beam	3,701	ft	0%	90%	10%	0%
515	Steel Protective Coating			0%	0%	100%	0%
1000	Corrosion	3,700	ft	0%	90%	10%	0%
210	Reinforced Concrete Pier Wall	404	ft	0%	99%	1%	0%
1080	Delamination/Spall/Patched Area	5	ft	0%	0%	100%	0%
L 1090	Exposed Rebar	8	ft	0%	100%	0%	0%
213	Masonry Pier Wall	403	ft	50%	50%	0%	0%
215	Reinforced Concrete Abutment	108	ft	0%	100%	0%	0%
^L 1130	Cracking (RC and Other)	50	ft	0%	100%	0%	0%
303	Assembly Joint With Seal	157	ft	0%	50%	50%	0%
^L 2310	Leakage	79	ft	0%	0%	100%	0%
^L 2360	Adjacent Deck or Header	5	ft	0%	100%	0%	0%
311	Movable Bearing	24	each	0%	50%	17%	33%
515	Steel Protective Coating			0%	0%	100%	0%
1000	Corrosion	24	each	0%	50%	17%	33%
313	Fixed Bearing	10	each	0%	100%	0%	0%
^L 515	Steel Protective Coating			0%	0%	100%	0%
^L 1000	Corrosion	10	each	0%	100%	0%	0%
330	Metal Bridge Railing	2,500	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:

Neil R. Underwood Memorial Bridge (1953, Chapter 72)

Lieutenant Neil R. Underwood of the 12th Air Force was lost in the Mediterranean area on August 17, 1944.

ADDED TO RED LIST 9/15/1999.

DECK REPLACED IN 2010.

BOAT HIT FENDER SYSTEM 08-12-2002; PIER STRUCK ON 4/29/05, INSPECTION DONE 5/5/05 PIER OK NO DAMAGE.

SERVI-LIFT INSPECTION 11/7/03, 07/14/05, 8/22/07, 6/11/08, 6/2/09, 9/9/10, 11/6/12, 5/20/13, 7/23/14, 5/14/15, 5/26/16, 5/2/17, 7/18/18. 8/6/19. 7/23/2020.

UNDERWATER INSPECTION 6/24/2010 & 7/9/2010, 7/17,20,27/2015, 7/14/20

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Inspection Notes: 03/03/2021

MAS - inspection comments DECK: CONCRETE - FINE CRACKS. CURB / SIDEWALK - FINE CRACKS AND MINOR SPALLS; SIDEWALK AT LIFT SPAN HAS GRID
EXPOSED AND IS LIFTING 20 FEET IN LENGTH. FLOOR PANELS HOLED UNDER SIDEWALK AT LIFT SPAN. JOINTS - GLANDS ARE
TORN, PULLED OUT OF POSITION AND LEAKING AT NORTH AND SOUTH ABUTMENTS; TIGHT AREAS, FORMS IN PLACE UNDERSIDE.
CONCRETE ARMOR IS CRACKED AND SPALLED AT NORTH APPROACH SIDE. RAIL - MINOR SCRAPES, RUSTING, DAMAGED SECTION
AT SOUTHEAST. SOFFIT - FINE CRACKS AND MINOR LEAKING WITH EFFLORESCENCE AND FEW RUST STAINS.
SUPERSTRUCTURE: PAINT - POOR CONDITION. GIRDERS - HOLED AREA AT NORTHEAST END BETWEEN STIFFENING ANGLES.
HEAVY PACK RUST. BRACING - DEFORMED, PACK RUST; HOLED AT SOUTHEAST OF LIFT SPAN. FLANGE HOLED. SPLICE PLATES PACK RUST DEFORMED. BEARINGS - HEAVILY RUSTED WITH PACK RUST, SIDE TABS RUSTED OFF, SECTION LOSS.
SUBSTRUCTURE: ABUTMENTS - LIGHT CRACKS, EFFLORESCENCE AND SPALLS. PIERS - CRACKED AND SPALLED WITH REBAR
EXPOSED; STONES CRACKED AND MORTAR DETERIORATING AT LIFT SPAN. TIMBER BUMPERS - GOOD CONDITION, VERY MINOR
DAMAGE. SEE UNDERWATER INSPECTION REPORT OF 7/14/20.

PICTURES: C612-

02. GLAND PULLED OUT OF POSITION. TYPICAL OF ALL.

03. WALKWAY AT GRID IS HEAVILY RUSTED. RAISED AND CRACKED.

Previous Inspection Notes: 11/17/2020

MAS - inspection comments -

DECK: CONCRETE - FINE CRACKS. CURB / SIDEWALK - FINE CRACKS AND MINOR SPALLS; SIDEWALK AT LIFT SPAN HAS GRID EXPOSED AND IS LIFTING 20 FEET IN LENGTH. FLOOR PANELS HOLED UNDER SIDEWALK AT LIFT SPAN. JOINTS - GLANDS ARE TORN AND LEAKING AT NORTH AND SOUTH ABUTMENTS; TIGHT AREAS, FORMS IN PLACE UNDERSIDE. CONCRETE ARMOR IS CRACKED AND SPALLED AT NORTH APPROACH SIDE. RAIL - MINOR SCRAPES, RUSTING, DAMAGED SECTION AT SOUTHEAST. SOFFIT - FINE CRACKS AND MINOR LEAKING WITH EFFLORESCENCE AND FEW RUST STAINS.

SUPERSTRUCTURE: PAINT - POOR CONDITION. GIRDERS - HOLED AREA AT NORTHEAST END BETWEEN STIFFENING ANGLES. HEAVY PACK RUST. BRACING - DEFORMED, PACK RUST; HOLED AT SOUTHEAST OF LIFT SPAN. FLANGE HOLED. SPLICE PLATES - PACK RUST DEFORMED. BEARINGS - HEAVILY RUSTED WITH PACK RUST, SIDE TABS RUSTED OFF, SECTION LOSS. SUBSTRUCTURE: ABUTMENTS - LIGHT CRACKS, EFFLORESCENCE AND SPALLS. PIERS - CRACKED AND SPALLED WITH REBAR EXPOSED; STONES CRACKED AND MORTAR DETERIORATING AT LIFT SPAN. TIMBER BUMPERS - GOOD CONDITION, VERY MINOR DAMAGE. SEE UNDERWATER INSPECTION REPORT OF 7/14/20.

Approach and Roadway Notes:

ASPHALT - (7) GOOD CONDITION, FEW CRACKS.

W- BEAM RAIL - DAMAGED.

Unusual or experimental features:

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Inspection History

Inspection Hist Inspection	Inspector	Inspection Type(s) Performed				Major Element Ratings				Red	
Date	Initials	NBI	Elem	FCM	U/W	Deck	Super	Sub	Culvert	list	Posting
03/03/2021	MAS	✓	✓			8	4	6	N	•	E-2
11/17/2020	MAS	•	✓			8	4	6	N	•	E-2
07/23/2020	KJT	✓	✓			8	4	6	N	✓	E-2
07/14/2020	KLM	✓	✓		<u> </u>	8	4	6	N	✓	E-2
03/26/2020	MAS		✓			8	4	6	N	•	E-2
11/18/2019	KJT	✓	✓			8	4	6	N	✓	E-2
08/06/2019	KJT	✓	✓	✓		8	4	6	N	✓	E-2
03/14/2019	KJT		✓			8	4	6	N	✓	E-2
11/08/2018	MAS	✓	✓			8	4	6	N	✓	E-2
07/18/2018	MAS	✓	✓	✓		8	4	6	N	✓	E-2
03/01/2018	KJT	✓	✓			8	4	6	N	✓	E-2
11/21/2017	MAS	>	✓			8	4	6	N	V	E-2
05/02/2017	MAS	>	✓	✓		8	4	6	N	✓	E-2
03/02/2017	KJT		✓			8	4	6	N	✓	E-2
11/17/2016	MAS	•	✓			8	4	6	N	•	E-2
05/26/2016	KJT	•	✓	•		8	4	6	N	•	E-2
03/09/2016	KJT	✓	✓			8	4	6	N	✓	E-2
11/17/2015	MAS	✓	✓			8	4	6	N	✓	E-2
07/31/2015	JEL	▼	✓		<u> </u>	8	4	6	N	✓	E-2
05/14/2015	KJT	✓	✓	✓		8	4	6	N	✓	E-2
03/25/2015	MAS	✓	✓			8	4	6	N	✓	E-2
11/25/2014	KJT	✓	✓			8	4	6	N	✓	E-2
07/23/2014	MAS	✓	✓	✓		8	4	6	N	✓	E-2
03/10/2014	MAS	✓	✓			8	4	6	N	✓	E-2
11/18/2013	KJT	>	✓			8	4	6	N	✓	E-2
05/20/2013	MAS	>	✓	✓		8	4	6	N	✓	E-2
03/18/2013	KJT	>	✓			8	4	6	N	✓	E-2
11/06/2012	MAS		✓	✓		8	4	6	N	✓	E-2
03/20/2012	KJT		✓			9	4	6	N	✓	E-2
11/18/2011	MAS		✓			9	4	6	N	✓	E-2
03/22/2011	DPC		✓	✓		9	4	6	N	✓	E-2
11/01/2010	DPC		✓	✓		9	4	6	N	✓	E-2
09/09/2010	KJT	✓	✓	✓		9	4	6	N	✓	E-2
06/24/2010	DMB	✓	✓		✓	9	4	6	N	•	E-2
03/03/2010	DPC	✓	✓	~		4	4	6	N	✓	E-2
11/04/2009	KJT	✓	✓			4	4	6	N	•	E-2
06/02/2009	DPC	>	✓	✓		4	4	6	N	✓	E-2
03/17/2009	KJT	<u> </u>	✓	~		4	4	6	N	•	E-2
11/21/2008	DPC	✓	✓	~		4	4	6	N	✓	E-2
06/11/2008	KJT	<u> </u>	✓	✓		4	4	6	N	✓	E-2
04/01/2008	KJT		✓	✓		4	4	6	N	✓	E-2
08/22/2007	RLM	<u> </u>	✓	~		4	4	6	N	✓	E-2
03/27/2007	DPC	•	✓			4	4	6	N	•	E-2
10/31/2006	RLM	<u> </u>	✓			4	4	6	N	•	E-2
07/19/2006	DPC	✓	✓	✓		4	4	6	N	V	E-2
04/13/2006	RLM	\	•	V		4	4	6	N	✓	E-2
11/18/2005	RLM	✓	V	✓		4	4	6	N	✓	E-2

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07/14/2005	RLM	✓	>	✓		4	4	6	N	✓	E-2
05/05/2005	DPC	✓	>	✓		4	4	6	N	✓	E-2
10/25/2004	RLM	✓	✓	✓		4	4	6	N	✓	E-2
05/12/2004	DPC	✓	✓	✓		4	4	6	N	✓	E-2
11/07/2003	DPC	✓	✓			4	4	6	N	✓	E-2
03/06/2003	DPC	✓	✓	✓		4	4	6	N	✓	E-2
09/05/2002	DPC	✓	✓	✓		4	4	6	N	✓	E-2
03/25/2002	DPC	✓	✓			4	4	6	N	✓	E-2
09/10/2001	DPC	✓	✓			4	4	6	N	✓	E-2
05/03/2001	DPC	✓	>			4	5	7	N	✓	E-2
09/29/2000	DPC	✓	>	✓		4	5	7	N	✓	E-2
03/20/2000	RLM	✓	>			4	5	7	N	✓	E-2
09/15/1999	DPC	✓	>			4	5	7	N	✓	E-2
05/01/1997		✓	>	✓	✓	5	6	7	N		E-2
06/01/1995		✓	>	✓	✓	5	6	6	N		E-2
12/01/1993		✓	>		✓	6	6	6	N		E-2
05/01/1991		✓	✓		✓	6	6	6	N		E-2

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