

Bridge Inspection Report

NBI Structure Number: 004500400009500

Chesterfield 040/095

Date of Inspection: 06/13/2024

BYPASSED HISTORIC

Date Report Sent: 07/26/2024

over

Owner: NHDOT

CONNECTICUT RIVER

Bridge Inspection Group: B-Team

Justice Harlan Stone Bridge

Bridge Maintenance Crew: 07

Bridge also in: Brattleboro, Vermont

Recommended Postings:

Weight: **No Posting Required**

Weight Sign OK

Closed and Barricaded

Width: **Not Required**

Width Sign OK

Primary Height Sign Recommendation: 13'-6"

Clearances: Over: 13.78

Height Sign OK

Optional Centerline Height Sign Rec: *None*

(Feet) Under: 0.00

13' - 06" B/Y

Route: 13.83

Condition:

Red List Status: Historic or Bypassed

Deck: 1 Closed - Failing

Superstructure: 1 Closed - Failing

Substructure: 1 Closed - Failing

Culvert: N N/A (NBI)

Sufficiency Rating: -2 %

Bridge Rail: Substandard

Rail Transition: Substandard

Bridge Approach Rail: Substandard

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/Arch-Thru

NH Bridge Type: SA (Steel Arch)

Deck Type: Concrete-Cast-in-Place

Wearing Surface: Bituminous

Membrane: None

Deck Protection: None

Curb Reveal: Not Measured

Plan Location: 1-16-2-1

Total Bridge Length: 440.0 ft

Right Curb/Sidewalk Width: 2.5 ft

Total Bridge Width: 34.5 ft

Median: No median

Bridge Skew: 0.00 °

Year Built/Rebuilt: 1937

Bridge Dimensions:

Length Maximum Span: 419.0 ft

Left Curb/Sidewalk Width: 2.5 ft

Width Curb to Curb: 24.0 ft

Approach Roadway Width: 24.0 ft

(W/Shoulders)

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Bridge Service:

Type of Service on Bridge: Pedestrian-bicycle

Type of Service Under: Waterway

Lanes on Bridge: 0

Lanes Under: 0

AADT: 0

Percent Trucks: 0%

Year of AADT: 2004

Future AADT: 0

Year of Future AADT: 2024

Federal or State Definition Bridge: NH-Definition Bridge

National Highway System: Bridge does not carry NHS

Roadway Functional Class: Rural, Local

New Hampshire Bridge Tier: 6

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

Traffic Direction: Highway traffic not carried

National Bridge Inventory (NBI) Appraisal Ratings:

Deck Geometry: N Not applicable (NBI)

Underclearances: N Not applicable (NBI)

Approach Alignment: 0 Bridge closed

Structural Evaluation:

Channel/Channel Protection: 5 Bank Prot Eroded

Waterway Adequacy: 9 Above Desirable

Bridge Scour Critical Status: 8 Stable Above Footing

Riprap Condition: Fair Condition

Debris Present: unknown

Channel Notes:

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Element Details

No.	Description	Material Notes and Condition Notes:
29	Steel Deck with Concrete Filled Grid	DECK END AT WEST CRACKED AND LIFTED. FEW SCATTERED HOLES IN STEEL SIDEWALK AT NORTH. STEEL PANELS RUSTED AND SCALING AT SOFFIT.
L 510	Wearing Surfaces	FEW CRACKS. HEAVED AREAS.
L 515	Steel Protective Coating	PAINT CHALKING AND PEELING.
L1000	Corrosion	FEW SCATTERED HOLES IN STEEL SIDEWALK AT NORTH. STEEL PANELS RUSTED, SCALING AND HOLED AT SOFFIT.
107	Steel Open Girder/Beam	RUST AND SECTION LOSS, PLATED REPAIRS ON CRACKS AT FLANGES AT EAST AND WEST END, FLOOR BEAM TWO WITH SMALL CRACK AT BASE OF WEB AT SOUTHWEST ARCH CONNECTION.
L 515	Steel Protective Coating	PAINT CHALKING AND PEELING.
L1000	Corrosion	RUST AND SECTION LOSS.
L1010	Cracking	PLATED REPAIRS ON CRACKS AT FLANGES AT EAST AND WEST END, FLOOR BEAM TWO WITH SMALL CRACK AT BASE OF WEB AT SOUTHWEST ARCH CONNECTION.
113	Steel Stringer	MANY AREAS IN EXTERIOR STRINGERS WITH MODERATE TO HEAVY SECTION LOSS, INTERIOR STRINGERS PEELING, STRINGER 2 AND 3 AT EAST PLATED REPAIRS INSTALLED, PLATED REPAIRS AT WEST END.
L 515	Steel Protective Coating	PAINT PEELING AND CHALKING.
L1000	Corrosion	MANY AREAS IN EXTERIOR STRINGERS WITH MODERATE TO HEAVY SECTION LOSS, INTERIOR STRINGERS PEELING, STRINGER 2 AND 3 AT EAST PLATED REPAIRS INSTALLED, PLATED REPAIRS AT WEST END.
141	Steel Arch	LIGHT RUST. OLD IMPACT DAMAGE AT BOTH PORTAL ENDS.
L 515	Steel Protective Coating	PAINT CHALKING AND PEELING.
L1000	Corrosion	LIGHT RUST.
L7000	Damage	OLD IMPACT DAMAGE AT BOTH PORTAL ENDS.
152	Steel Floor Beam	HEAVY RUST AND SECTION LOSS. CRACKS IN FLOOR BEAMS AND CONNECTION PLATE.
L 515	Steel Protective Coating	PAINT CHALKING AND PEELING.
L1000	Corrosion	HEAVY RUST AND SECTION LOSS.
L1010	Cracking	PLATED REPAIR ON UPPER FLANGE OF EASTERNMOST BEAM CRACKED AT SE. CRACK IN LOWER WEB OF FB #2. SMALL SUPPORT BEAM WELDS TO FB #1 CRACKED AT WEST.
161	Steel Pin and Pin & Hanger Assembly or both	PAINT PEELING.
L 515	Steel Protective Coating	PAINT PEELING AND CHALKING.
215	Reinforced Concrete Abutment	WEST ABUTMENT HEAVILY SPALLED. VERTICAL CRACKS AT EAST.
L1080	Delamination/Spall/Patched Area	WEST ABUTMENT AND WINGS HEAVILY SPALLED. SPALL WITH REBAR EXPOSED AT EAST FOOTING. SPALLS IN BEARING PEDESTALS.
L1120	Efflorescence/Rust Staining	LIGHT TO MODERATE EFFLORESCENCE AT ABUTMENTS AND WINGS.

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↳ 1130	Cracking (RC and Other)	VERTICAL CRACKS AT EAST.
303	Assembly Joint With Seal	WEST END MANY CRACKED WELDS ON ANCHORAGE, LOOSE AND NOISY. HEAVILY RUSTED UNDERSIDE WITH MODERATE SECTION LOSS.
↳ 2370	Metal Deterioration or Damage	HEAVILY RUSTED UNDERSIDE WITH MODERATE SECTION LOSS. WEST END MANY CRACKED WELDS ON ANCHORAGE.
313	Fixed Bearing	PAINT PEELING AND CHALKING.
↳ 515	Steel Protective Coating	PAINT PEELING AND CHALKING.
330	Metal Bridge Railing	** Steel Channel Rail ** AREAS OF SURFACE AND FRECKLED RUST, AREAS OF SECTION LOSS, FEW HOLED AREAS IN RAILS, PACK RUST IN MANY AREAS OF RAIL.
↳ 1000	Corrosion	AREAS OF SURFACE AND FRECKLED RUST, AREAS OF SECTION LOSS, FEW HOLED AREAS IN RAILS, PACK RUST IN MANY AREAS OF RAIL.

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Element States

No.	Description	Quantity	Units	State 1	State 2	State 3	State 4
29	Steel Deck with Concrete Filled Grid	15,177	sq.ft	0%	0%	100%	0%
└ 510	Wearing Surfaces	---	---	70%	10%	20%	0%
└ 515	Steel Protective Coating	---	---	50%	30%	20%	0%
└ 1000	Corrosion	10,000	sq.ft	0%	0%	100%	0%
107	Steel Open Girder/Beam	4,400	ft	30%	20%	50%	0%
└ 515	Steel Protective Coating	---	---	0%	50%	50%	0%
└ 1000	Corrosion	1,000	ft	0%	10%	90%	0%
└ 1010	Cracking	100	ft	0%	100%	0%	0%
113	Steel Stringer	4,400	ft	30%	10%	10%	50%
└ 515	Steel Protective Coating	---	---	30%	50%	20%	0%
└ 1000	Corrosion	2,000	ft	0%	15%	10%	75%
141	Steel Arch	425	ft	1%	99%	0%	0%
└ 515	Steel Protective Coating	---	---	20%	30%	50%	0%
└ 1000	Corrosion	300	ft	0%	100%	0%	0%
└ 7000	Damage	100	ft	0%	100%	0%	0%
152	Steel Floor Beam	620	ft	32%	43%	25%	0%
└ 515	Steel Protective Coating	---	---	0%	50%	50%	0%
└ 1000	Corrosion	300	ft	0%	67%	33%	0%
└ 1010	Cracking	100	ft	0%	60%	40%	0%
161	Steel Pin and Pin & Hanger Assembly or both	56	each	100%	0%	0%	0%
└ 515	Steel Protective Coating	---	---	20%	50%	30%	0%
215	Reinforced Concrete Abutment	70	ft	0%	59%	41%	0%
└ 1080	Delamination/Spall/Patched Area	40	ft	0%	38%	63%	0%
└ 1120	Efflorescence/Rust Staining	10	ft	0%	100%	0%	0%
└ 1130	Cracking (RC and Other)	20	ft	0%	80%	20%	0%
303	Assembly Joint With Seal	70	ft	0%	50%	0%	50%
└ 2370	Metal Deterioration or Damage	60	ft	0%	50%	0%	50%
313	Fixed Bearing	4	each	100%	0%	0%	0%
└ 515	Steel Protective Coating	---	---	20%	50%	30%	0%
330	Metal Bridge Railing	880	ft	0%	80%	20%	0%
└ 1000	Corrosion	850	ft	0%	82%	18%	0%

Bridge Notes:

The Justice Harlan Stone Bridge.

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

280:2 Town of Chesterfield; Bridge Named. Amend 2009, 108:1 to read as follows:

108:1 Town of Chesterfield; [Judge] Justice Harlan Fiske Stone Bridge. Pursuant to RSA 4:43, the old 1937 arch bridge over the Connecticut River, in the town of Chesterfield, New Hampshire, is hereby named the [Judge] Justice Harlan Stone Bridge.

280:3 Signage. The cost of design, construction, maintenance, and installation of any signage, replacement signage, or other markers required under sections 1 and 2 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.

280:4 Effective Date. This act shall take effect upon its passage.

Approved: July 8, 2010

Effective Date: July 8, 2010

Americas Most Beautiful Steel Bridge, 1937 Class C.

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Inspection Notes: 06/13/2024

MHC - inspection comments -
BYPASSED HISTORIC.

PAVEMENT CRACKED AND LIFTED AT SOUTH CURBLINE NEAR MIDSPAN. FEW HOLES IN STEEL SIDEWALK AT NORTH.
FIBER OPTIC UTILITY PIPE ATTACHED TO STEEL CHANNEL UNDER BRIDGE. WIRE CONDUIT DAMAGED AT WEST.

PICTURES: B686

17. EAST ABUTMENT

18. SPALLS IN BEARING PEDESTAL # 2 AT WEST.

Previous Inspection Notes: 06/21/2022

MHC - inspection comments -
BYPASSED HISTORIC.

PAVEMENT CRACKED AND LIFTED AT SOUTH CURBLINE NEAR MIDSPAN. FEW HOLES IN STEEL SIDEWALK AT NORTH.
FIBER OPTIC UTILITY PIPE ATTACHED TO STEEL CHANNEL UNDER BRIDGE. WIRE CONDUIT DAMAGED AT WEST.

PICTURES: B657

98. SPALLS AT WEST ABUTMENT.

Approach and Roadway Notes:

PEDESTRIAN TRAFFIC ONLY.

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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		
06/13/2024	MHC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	1	N	<input type="checkbox"/>	No Posting Req'd
06/21/2022	MHC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	1	N	<input type="checkbox"/>	No Posting Req'd
06/11/2020	MHC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	1	N	<input type="checkbox"/>	No Posting Req'd
06/25/2018	MHC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	1	N	<input type="checkbox"/>	No Posting Req'd
06/10/2016	MHC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	1	N	<input type="checkbox"/>	No Posting Req'd
06/20/2014	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	1	N	<input type="checkbox"/>	No Posting Req'd
06/20/2012	MTC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	1	N	<input type="checkbox"/>	No Posting Req'd
04/07/2011	MTC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	1	N	<input type="checkbox"/>	No Posting Req'd
05/07/2009	FNM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	1	N	<input type="checkbox"/>	No Posting Req'd
05/04/2007	FNM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	1	N	<input type="checkbox"/>	No Posting Req'd
07/19/2005	FNM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	1	N	<input type="checkbox"/>	No Posting Req'd
09/26/2003	DEP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	1	N	<input type="checkbox"/>	No Posting Req'd
06/11/2003	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4	3	4	N	<input checked="" type="checkbox"/>	C-2
11/18/2002	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4	3	4	N	<input checked="" type="checkbox"/>	C-2
06/06/2002	FNM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4	3	4	N	<input checked="" type="checkbox"/>	C-2
11/05/2001	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4	3	4	N	<input checked="" type="checkbox"/>	C-2
06/14/2001	FNM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4	3	4	N	<input checked="" type="checkbox"/>	C-2
04/16/2001	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4	3	4	N	<input checked="" type="checkbox"/>	C-2
11/13/2000	FNM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4	3	4	N	<input checked="" type="checkbox"/>	C-2
05/17/2000	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4	3	4	N	<input checked="" type="checkbox"/>	C-2
11/19/1999	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input checked="" type="checkbox"/>	C-2
07/23/1999	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input checked="" type="checkbox"/>	C-2
05/05/1999	RLM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input checked="" type="checkbox"/>	C-2
11/10/1998	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input checked="" type="checkbox"/>	C-2
04/01/1998		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input checked="" type="checkbox"/>	C-2
11/01/1997		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input checked="" type="checkbox"/>	C-2
07/01/1997		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input checked="" type="checkbox"/>	C-2
10/01/1996		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input checked="" type="checkbox"/>	C-2
11/01/1995		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input type="checkbox"/>	No Posting Req'd
11/01/1994		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	3	4	N	<input type="checkbox"/>	No Posting Req'd
05/01/1993		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input type="checkbox"/>	No Posting Req'd

Inspection Frequency (mo.)			
NBI	Elem	FCM	U/W
24	24	N/A	N/A