

# Bridge Inspection Report

NBI Structure Number: 007401660008200

## Effingham 166/082

Date of Inspection: 08/16/2019

**GRANITE ROAD**

Date Report Sent: 01/17/2020

over

Owner: Municipality

**SOUTH RIVER**

Bridge Inspection Group: C-Team

Bridge Maintenance Crew: OTHER

*Critical deficiency sent 8/25/2015 due to severe section losses and large web holes at the beam ends at abutments. BRIDGE CLOSED.*

### Recommended Postings:

Weight: 'Bridge Closed' and barricaded at both ends  
CLOSED AND BARRICADED 8/16/2019.

Weight Sign OK

Width: Narrow Bridge

Bullet holes in signs, still legible.

Width Sign OK

Primary Height Sign Recommendation: None

Optional Centerline Height Sign Rec: None

Clearances: Over: 99.99  
(Feet) Under: 0.00  
Route: 99.99

Height Sign OK

### Condition:

Red List Status: Municipal Redlist

Deck: 5 Fair

Superstructure: 2 Critical

Substructure: 5 Fair

Culvert: N N/A (NBI)

Sufficiency Rating: 36%

Bridge Rail: Substandard

Rail Transition: Substandard

Bridge Approach Rail: Substandard

Approach Rail Ends: Substandard

### Structure Type and Materials:

Number of Main Spans: 2

Number of Approach Spans: 0

### Main Span Material and Design Type

Steel Continuous/Stringer/Girder

NH Bridge Type: IB-C (I Beams w/ Concrete Deck)

Deck Type: Concrete-Cast-in-Place

Wearing Surface: Other

Membrane: None

Deck Protection: None

Curb Reveal: Not Measured

Plan Location: N-O-F

Total Bridge Length: 36.0 ft

Right Curb/Sidewalk Width: 0.0 ft

Total Bridge Width: 18.5 ft

Median: No median

Bridge Skew: 0.00°

Year Built/Rebuilt: 1920/1950

### Bridge Dimensions:

Length Maximum Span: 14.0 ft

Left Curb/Sidewalk Width: 0.0 ft

Width Curb to Curb: 17.8 ft

Approach Roadway Width: 14.0 ft  
(W/Shoulders)

FEB - 4 REC'D

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## Bridge Service:

Type of Service on Bridge: Highway

Type of Service Under: Waterway

Lanes on Bridge: 2

Lanes Under: 0

AADT: 92

Percent Trucks: 0%

Year of AADT: 2017

Future AADT: 136

Year of Future AADT: 2040

Federal or State Definition Bridge: Fed-Definition Bridge

National Highway System: Bridge does not carry NHS

Roadway Functional Class: Rural, Local

New Hampshire Bridge Tier: 5

Eligibility for the National Register of Historic Places: Possibly eligible for

Traffic Direction: 2-way traffic

## National Bridge Inventory (NBI) Appraisal Ratings:

Deck Geometry: 3 Intolerable - Correct

Underclearances: N Not applicable (NBI)

Approach Alignment: 6 Equal Min Criteria

Structural Evaluation: 0 Closed

Channel/Channel Protection: 6 Bank Slumping

Waterway Adequacy: 8 Equal Desirable

Bridge Scour Critical Status: 3 SC - Unstable

Riprap Condition: Fair Condition

Debris Present: Debris Present

Channel Notes: DAM DOWNSTREAM. SCOUR AT PIER NOSE, NO UNDERMINING NOTED. LOW WATER 8/31/2017.

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**Element Details (see disclaimer below)**

No.	Description	Material Notes and Condition Notes:
12	Reinforced Concrete Deck	CLOSED AND BARRICADED. 5" OF GRAVEL ON DECK. WASHED AT EDGES. CURBS ARE CRACKED AND SPALLED. POST IS BROKEN FROM CURB AT SOUTHWEST.
L 1130	Cracking (RC and Other)	
107	Steel Open Girder/Beam	8 STRINGERS.  HEAVILY RUSTED WITH SCALE AND SECTION LOSS AT ABUTMENTS AND EXTERIORS. GIRDERS #1, 2, 3 AND 7 ARE HOLED THROUGH WEB AND FLANGE AT WEST; GIRDERS #4, 5, 6 AND 8 HAVE HEAVY RUSTING WITH SCALE AND SECTION LOSS. GIRDERS #2, 6, AND 7 ARE HOLED THROUGH WEB AND FLANGE AT EAST ABUTMENT; GIRDERS #3 AND 4 HAVE LIGHT TO MODERATE RUSTING AND GIRDERS #1 AND 8 HAVE HEAVY SECTION LOSS. HEAVY SECTION LOSS AND SCALE EXTENDS OUT TYPICALLY TO ABOUT THREE FEET FROM ABUTMENT FACE (ROUGHLY FIVE FEET FROM BACKWALL). TIMBER FORMS THAT ARE IN PLACE IN MOST AREAS ARE HIDING MORE SECTION LOSS.
L 515	Steel Protective Coating	
L 1000	Corrosion	
210	Reinforced Concrete Pier Wall	LIGHT CRACKS AND MINOR SPALLS. UNDERMINED AT SOUTH (SOME SCOUR PRESENT BUT NO UNDERMINING NOTED 8/24/2015, 8/31/2017, 8/16/2019).
215	Reinforced Concrete Abutment	ABUTMENTS HAVE LIGHT CRACKS, SPALLS AND SMALL DELAMINATIONS. WINGS - STONEWORK WITH VOIDS, SETTLED, UNSTABLE. SOME STONE FALLEN.
330	Metal Bridge Railing	NO OFFSET BLOCKS. POST BROKEN SOUTHWEST. W - BEAM DAMAGED.

**Element States (see disclaimer below)**

No.	Description	Quantity	Units	State 1	State 2	State 3	State 4
12	Reinforced Concrete Deck	667	sq.ft	0%	100%	0%	0%
L 1130	Cracking (RC and Other)	667	sq.ft	0%	100%	0%	0%
107	Steel Open Girder/Beam	289	ft	0%	0%	70%	30%
L 515	Steel Protective Coating	---	---	0%	0%	100%	0%
L 1000	Corrosion	288	ft	0%	0%	70%	30%
210	Reinforced Concrete Pier Wall	20	ft	0%	100%	0%	0%
215	Reinforced Concrete Abutment	39	ft	0%	100%	0%	0%
330	Metal Bridge Railing	249	ft	0%	90%	0%	10%

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:**

OVERWEIGHT TRUCKING WITNESSED WHILE AT SITE BY LOADED TRI-AXLE DUMP TRUCK ON 8/24/2015.

**Inspection Notes:** 08/16/2019

MAS - inspection comments - BRIDGE IS CLOSED AND BARRICADED  
 DECK: GRAVEL - WASHED AT DECK EDGES. CURBS - CRACKED AND SPALLED. RAIL - DAMAGED, POST BROKEN AWAY FROM CURB AT SOUTHWEST. SOFFIT - LIGHT CRACKS AND LEAKING WITH EFFLORESCENCE; DELAMINATIONS AND SPALLS WITH REBAR EXPOSED. TIMBER FORMS IN PLACE IN AREAS.  
 SUPERSTRUCTURE: GIRDERS - HEAVILY RUSTED WITH SCALE AND SECTION LOSS AT ABUTMENTS AND EXTERIORS. SEVERAL WEBS AND FLANGES ARE HOLED AT ABUTMENTS FOR UP TO 39" IN LENGTH. HEAVY SECTION LOSS EXTENDS OUT TYPICALLY TO ABOUT THREE FEET FROM ABUTMENT FACE (ROUGHLY FIVE FEET FROM BACKWALL).  
 SUBSTRUCTURE: ABUTMENTS - CRACKS, DELAMINATIONS AND SEVERAL SPALLS. PIER - CRACKS, DELAMINATIONS AND SPALLS. SCOUR - AT PIER NOSE, NO UNDERMINING NOTED.

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**Previous Inspection Notes:** 10/26/2018

MAS - inspection comments - BRIDGE IS CLOSED AND BARRICADED  
 DECK: GRAVEL - WASHED AT DECK EDGES. CURBS - CRACKED AND SPALLED. RAIL - DAMAGED, POST BROKEN AWAY FROM CURB AT SOUTHWEST. SOFFIT - LIGHT CRACKS AND LEAKING WITH EFFLORESCENCE; DELAMINATIONS AND SPALLS WITH REBAR EXPOSED. TIMBER FORMS IN PLACE IN AREAS.  
 SUPERSTRUCTURE: GIRDERS - HEAVILY RUSTED WITH SCALE AND SECTION LOSS AT ABUTMENTS AND EXTERIORS. SEVERAL WEBS AND FLANGES ARE HOLED AT ABUTMENTS FOR UP TO 39" IN LENGTH. HEAVY SECTION LOSS EXTENDS OUT TYPICALLY TO ABOUT THREE FEET FROM ABUTMENT FACE (ROUGHLY FIVE FEET FROM BACKWALL).  
 SUBSTRUCTURE: ABUTMENTS - CRACKS, DELAMINATIONS AND SEVERAL SPALLS. PIER - CRACKS, DELAMINATIONS AND SPALLS. SCOUR - AT PIER NOSE, NO UNDERMINING NOTED.

**Approach and Roadway Notes:**

GRAVEL - (7) GOOD CONDITION, WASHED.  
 W- BEAM RAIL - DAMAGED.  
 STONE WINGS UNSTABLE.  
 MODERATE VEGETATION.

**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		
08/16/2019	MAS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	2	5	N	<input checked="" type="checkbox"/>	Bridge Closed
10/26/2018	MAS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	2	5	N	<input checked="" type="checkbox"/>	Bridge Closed
08/31/2017	MAS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	2	5	N	<input checked="" type="checkbox"/>	Bridge Closed
12/01/2016	MAS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	2	5	N	<input checked="" type="checkbox"/>	Bridge Closed
08/24/2015	MAS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	2	5	N	<input checked="" type="checkbox"/>	Bridge Closed
12/08/2014	MAS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input checked="" type="checkbox"/>	6 Tons
08/23/2013	TDC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input checked="" type="checkbox"/>	6 Tons
10/12/2012	KJT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input checked="" type="checkbox"/>	6 Tons
12/08/2011	KJT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input checked="" type="checkbox"/>	6 Tons
10/26/2010	DPC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input checked="" type="checkbox"/>	6 Tons
12/11/2009	DPC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	5	N	<input checked="" type="checkbox"/>	6 Tons
08/27/2008	KJT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	6	N	<input checked="" type="checkbox"/>	6 Tons
12/13/2007	KJT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	7	N	<input checked="" type="checkbox"/>	6 Tons
09/19/2006	DPC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	7	N	<input checked="" type="checkbox"/>	6 Tons
12/15/2005	DPC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	6	N	<input checked="" type="checkbox"/>	6 Tons
08/25/2004	DPC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	7	N	<input checked="" type="checkbox"/>	6 Tons
02/04/2004	DPC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	7	N	<input checked="" type="checkbox"/>	6 Tons
04/17/2003	RLM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	3	7	N	<input checked="" type="checkbox"/>	6 Tons
10/03/2002	DPC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	5	7	N	<input checked="" type="checkbox"/>	6 Tons
11/29/2001	DPC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	5	7	N	<input checked="" type="checkbox"/>	6 Tons
10/19/2000	DPC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	5	7	N	<input checked="" type="checkbox"/>	6 Tons
12/09/1999	RLM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	5	7	N	<input checked="" type="checkbox"/>	6 Tons
10/02/1998	DPC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	5	7	N	<input checked="" type="checkbox"/>	6 Tons
10/01/1997		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	5	7	N	<input checked="" type="checkbox"/>	6 Tons
02/01/1996		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	5	7	N	<input checked="" type="checkbox"/>	6 Tons
02/01/1994		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	5	7	N	<input checked="" type="checkbox"/>	6 Tons
09/01/1992		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7	5	7	N	<input checked="" type="checkbox"/>	6 Tons

Inspection Frequency (mo.)			
NBI	Elem	FCM	U/W
16	16	N/A	N/A

**BRIDGE CAPACITY SUMMARY**

TOWN: EFFINGHAM  
 BRIDGE NUMBER: 166/082  
 DESIGN METHOD: UNKNOWN NBG DATE: 8/25/2015  
 RATED BY: DEF CHECK BY: DEF DATE: 8/25/15  
 FIELD EVAL. & ENG. JUDGMENT PLAN FILE: UNKNOWN  
 RATING METHOD: UNKNOWN OVER: SOUTH RIVER  
 ROUTE: GRANITE ROAD

RATED MEMBER	LONGITUD. EFFECTIVE SPAN LENGTH	REQUIRED CAPACITY (HS Tons)		AVAILABLE CAPACITY (HS Tons)		POSTING		
		CURRENT LEGAL LOADS	CERTIFIED VEHICLES	MULTIPLE LANES LOADED	SINGLE LANES LOADED			
		SINGLE UNIT	MULTIPLE UNIT	INVENTORY	OPERATING	INVENTORY	OPERATING	POSTING
STEEL BEAMS, Shear (100% losses in beam webs)	16'-0"	HS 22.5	HS 24.7	HS 0.0	HS 0.0	HS 0.0	HS 0.0	HS 0.0

  

Rating Method	English Tons	Metric Tons
(Op.) 63. By Insp.	64. (Op.)	0.0
(Inv.) 65. By Insp.	66. (Inv.)	0.0

RECOMMENDED POSTING: "BRIDGE CLOSED" and barricaded.

