NPS Form 10-900
(Rev. 8-86)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

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NATIONAL REGISTER

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name: Missisquoi River Bridge

other names/site number:

2. Location

street & number: Vermont Route 105-A — [N/A] not for publication

city, town: Richford — [N/A] vicinity

state: Vermont code: VT county: Franklin code: 011 zip code: 05476

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
		Contributing	Noncontributing
[ ] private	[ ] building(s)		buildings
[ ] public-local	[ ] district		sites
[X] public-State	[ ] site	1	structures
[ ] public-Federal	[X] structure		objects
	[ ] object	1	0 Total

Name of related multiple property listing:
Metal Truss, Masonry, and Concrete Bridges in Vermont

Number of contributing resources previously listed in the National Register 0

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this [X] nomination [ ] request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property [X] meets [ ] does not meet the National Register criteria. [ ] See continuation sheet.

Signature of certifying official — Date: August 22, 1990

Vermont
State or Federal agency and bureau

In my opinion, the property [ ] meets [ ] does not meet the National Register criteria. [ ] See continuation sheet.

Signature of commenting or other official — Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

[X] entered in the National Register. [ ] See continuation sheet.
[ ] determined eligible for the National Register. [ ] See continuation sheet.
[ ] determined not eligible for the National Register.
[ ] removed from the National Register.
[ ] other, (explain:) _____

Entered in the National Register

Helen Bryan — 10/11/90

for Signature of the Keeper — Date of Action

6. Function or Use

Historic Functions (enter categories from instructions)

TRANSPORTATION/road-related

Current Functions (enter categories from instructions)

TRANSPORTATION/road-related

7. Description

Architectural Classification
(enter categories from instructions)

OTHER: Parker through truss bridge

Materials (enter categories from instructions)

foundation concrete
walls
roof
other steel

Describe present and historic physical appearance.

See continuation sheet for description.

[X] See continuation sheet

The border crossing into Canada from Richford, Vermont, is accomplished via the Missisquoi River Bridge, an example of the metal truss bridges constructed after Vermont's 1927 flood. This two-span steel through truss, 205' long, built in 1929, utilized riveted construction and the standardized methods employed in Vermont during the flood reconstruction program. This is one of only two such trusses built by the Pittsburgh-Des Moines Steel Company. The bridge retains its integrity of location, setting, design, materials, workmanship, feeling and association.

The Missisquoi River Bridge is a vehicular bridge that carries Vermont Route 105-A across the river from the village of East Richford, Vermont, into the province of Quebec, Canada. It spans the international boundary between the United States and Canada at the point where the Missisquoi River crosses the border, and between the customs offices of the two countries in a moderately built-up area of small cottages. Two hundred five feet long overall, the bridge is a riveted steel Parker through truss, typically used for spans greater than 150'. The two-lane bridge consists of two spans both 21.6' in width and 150' and fifty feet long respectively, the longer, northern, span of which carries the concrete slab floor twenty-one feet above the river, has seven panels with a truss depth of about nineteen feet, and has a portal clearance of fifteen feet.

The polygonal top chord of this truss consists of a box girder with a lattice on the underside of the chord, which has an overall dimension of 17" x 15". The bottom chord is made of back-to-back channels with stay plates at intervals of two and a half feet. Both the horizontal stiffener and the center-panel diagonals of this truss are made of paired angles with stay plates at two foot intervals. Paired angles with lacing are used for the struts and top bracing, and formed into top and bottom beams for the portal struts, which also use panels containing crossed angles. Sway bracing is provided by knee braces of angles. Rolled I-beams are used for verticals and diagonals, for the floor beams and stringers which support a concrete-slab floor, and for the south approach girder-span. The rail is built up of angles and channels, and the abutments are formed of poured concrete rusticated to resemble masonry. The builder's plate on the bridge reads: "Fabricated and Erected by Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa., 1929."

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:

☐ nationally ☒ statewide ☐ locally

Applicable National Register Criteria ☒ A ☐ B ☒ C ☐ D

Criteria Considerations (Exceptions) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G

Areas of Significance (enter categories from instructions)	Period of Significance	Significant Dates
Engineering	1929	1929
Transportation		

Cultural Affiliation: N/A

Significant Person: N/A

Architect/Builder: Pittsburgh-Des Moines Steel Company

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

See continuation sheet for statement of significance.

☒ See continuation sheet

9. Major Bibliographical References

Hand, Samuel B. "The 1927 Flood: A Watershed Event." In In a State of Nature: Readings in Vermont History. Nicholas Muller III and Samuel B. Hand, eds. Montpelier, Vt: Vermont Historical Society, 1982., pp.338-340.

Richford, Vermont. Vermont Historic Sites and Structures Survey, Survey # 0611-3. Vermont Division for Historic Preservation, Montpelier, Vt.

Vermont Highway Commission. Biennial Report. 1928. table facing p. 60.

☐ See continuation sheet

Previous documentation on file (NPS):
- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____

Primary location of additional data:
- ☒ State historic preservation office
- ☐ Other State agency
- ☐ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other

Specify repository: _____

10. Geographical Data

Acreage of property less than one acre

UTM References

	Zone	Easting	Northing
A	18	690010	4986900
B			
C			
D			

☐ See continuation sheet

Verbal Boundary Description

The boundary for this property is the bridge and its abutments. The bridge carries Vermont Route 105-A across the Missisquoi River into Quebec, Canada, from the town of Richford at the UTM reference point: 18/690010/4986900. It is 205' in length and 21.6' in width.

☐ See continuation sheet

Boundary Justification

This boundary includes all the land historically associated with this bridge.

☐ See continuation sheet

11. Form Prepared By

name/title Mary B. Hotaling
organization UVM Historic Preservation Program date April 18, 1990
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city or town Burlington state Vermont zip code 05405

★U.S.GPO:1988-0-223-818

The Missisquoi River Bridge, built in 1929, is significant as a representative example of the standardized design and economical construction which typified bridge engineering and construction after the 1927 flood. It is one of only two bridges erected in Vermont by the Pittsburgh-Des Moines Steel Company. This bridge is also significant to Vermont's transportation history at the state and local level as an international crossing linking the prominent late nineteenth century commercial center of Richford, Vermont, with the Canadian markets in Sutton, Quebec, and as a part of the network of hard-surfaced roads and bridges that ushered the age of motor vehicle travel into Vermont considerably earlier than it would otherwise have come. Part of a multiple property submission, this bridge is being nominated as a metal truss bridge under the historic context "Metal Truss, Masonry, and Concrete Bridges in Vermont." This bridge clearly meets the registration requirements for this property type. It is intact, with an identifiable Parker truss system of original members. The truss system is functioning, and the structure retains all qualities of historic integrity.

This Parker through truss is one of the best preserved examples of a characteristic span from the reconstruction program following the 1927 flood, the worst natural disaster in Vermont's history. The flood generated an engineering effort of heroic proportions, in which design standardization methods were employed to replace the great number of bridges lost across the state. The building of over 1,600 bridges in three years was a massive undertaking, and one that placed Vermont at the forefront of bridge construction, achieving a degree of standardization far in advance of other states.

The Parker truss is a Pratt truss strengthened by a polygonal top chord which enables it to carry heavier loads than the Pratt. By 1929 when the Missisquoi River Bridge was constructed, standardized steel members were used exclusively for metal truss bridges. Pneumatic field riveting had been perfected, and riveted construction was the accepted standard in the industry. The Missisquoi River Bridge, like the others constructed after the flood, used the latest technology of rolled rather than "built-up" members for the verticals, diagonals, floor beams and stringers, thus saving fabrication time and expense. In the standardized designs of the post-flood reconstruction which the state used to rebuild a large number of bridges as quickly as possible, the Parker through truss was used for nearly all spans greater than 150'. In cases where the crossing length did not match one of the standardized plans closely enough, the Highway Commission usually specified a simple girder approach span, like the southern span of this bridge, precluding the construction of a much longer, and much more expensive,

truss.

The fabricator and erector, Pittsburgh-Des Moines Steel Company of Pittsburgh, Pennsylvania, was a midwestern firm that specialized in water towers and pursued bridge work as a related sideline. At the height of the firm's growth, in the 1920s, it attempted to sell its bridges in a broader market, including New England, and was able to secure this, and probably one other, contract for a post-flood project.

The Missisquoi River Bridge is also significant to Vermont's transportation history at the state and local level as an international crossing and as a part of the network of hard-surfaced roads and bridges that ushered the age of motor vehicle travel into Vermont considerably earlier than it would otherwise have come. As Governor John W. Weeks stated to the special session of the Vermont General Assembly held to cope with the destruction: "Bridges and highways are no longer built and maintained principally for the good and convenience of the people of the town where they are located, but for the good and convenience of the people of our entire State."

PROPERTY OWNER

State of Vermont
Agency of Transportation
Montpelier, VT 05602

Attn: William Sargent