

1299

**United States Department of the Interior
National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM**

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name: Bridge 12

other names/site number: _____

2. Location

street & number: Town Highway 2 (Boston Post Road) not for publication N/A

city or town: Enosburg vicinity: N/A

state: Vermont code: VT county: Franklin code: 011 zip code: 05483

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this 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 meets does not meet the National Register Criteria. I recommend that this property be considered significant nationally statewide locally. (See continuation sheet for additional comments.)

Margaret C. Daniels, National Register Specialist 11-7-07
Signature of certifying official Date

Vermont State Historic Preservation Office

State or Federal Agency or Tribal government

In my opinion, the property meets does not meet the National Register criteria. (See continuation sheet for additional comments.)

Signature of commenting official or other official and title

Date

State or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is:
 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): _____

for
 Signature of the Keeper _____ Date of Action _____
 E. Don H. Boall 12-20-07

5. Classification

Ownership of Property: (Check as many boxes as apply)

- private
- public-local
- public-state
- public-Federal

Number of Resources Within Property:

	Contributing	Noncontributing
buildings:	___	___
districts:	___	___
sites:	___	___
structures:	1	___
objects:	___	___
total:	1	___

Category of Property: (Check only one box)

- building(s)
- district
- site(s)
- structure(s)
- object(s)

Number of Contributing Resources Previously Listed in the National Register: 0

Name of Related Multiple Property Listing: Metal Truss, Masonry, and Concrete Bridges in Vermont
 (Enter "N/A" if property is not part of a multiple property listing.)

6. Function or Use

Historic Functions: (Enter categories and subcategories from instructions)

Category: <u>Transportation</u>	Subcategory: <u>Road-related</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Current Functions: (Enter categories and subcategories from instructions)

Category: <u>Transportation</u>	Subcategory: <u>Road-related</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

7. Description

Architectural Classification: (Enter categories from instructions)

other: Parker through truss

Materials: (Enter categories from instructions)

foundation: concrete abutments
roof: _____
walls: _____
other: steel structural elements

Narrative Description: (Describe the historic and current condition of the property on one or more continuation sheets.)
See continuation sheet.

8. Statement of Significance

Applicable National Register Criteria:

(Mark "X" in one or more boxes for the criteria qualifying the property for National Register listing)

- A. Property is associated with events that have made a significant contribution to the broad patterns of our history.
 B. Property is associated with the lives of persons significant in our past.
 C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
 D. Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations:

(Mark "X" in all the boxes that apply.)

- A. Owned by a religious institution or used for religious purposes.
 B. Removed from its original location.
 C. A birthplace or a grave.
 D. A cemetery.
 E. A reconstructed building, object, or structure.
 F. A commemorative property.
 G. Less than 50 years of age or achieved significance with the past 50 years.

Areas of Significance: (Enter categories from instructions)

Transportation
Engineering

Period of Significance:

1929-1955

Significant Person: (Complete if Criterion B is marked above)

N/A

Significant Dates:

1929

Cultural Affiliation:

N/A

Architect / Builder:

Narrative Statement of Significance:

(Explain the significance of the property on one or more continuation sheets.) See continuation sheet.

9. Major Bibliographical References

Bibliography:

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.) 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 for the National Register.
- Designated a National Historic Landmark.
- Recorded by Historic American Buildings Survey No. _____
- Recorded by Historic American Engineering Record No. _____

Primary Location of Additional Data:

- State Historic Preservation Office.
- Other state agency: Vermont Agency of Transportation
- Federal agency.
- Local government.
- University.
- Other. Name of repository: Vermont State Library

10. Geographical Data

Acreege of Property: Less than one

UTM References (Place additional UTM references on a continuation sheet). _____ See continuation sheet

Zone	Easting	Northing	Zone	Easting	Northing
1.	<u>18</u>	<u>677022</u>	<u>4976251</u>	2.	_____
3.	_____	_____	4.	_____	_____

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.) See continuation sheet.

Boundary Justification (Explain why the boundaries were selected on a continuation sheet.) See continuation sheet

11. Form Prepared By

Name / Title: William J. Thrane, Intern, and Robert McCullough

Organization: Vermont Agency of Transportation, Historic Bridge Program Date: August, 2000; revised 2006

Street & Number: National Life Building, Drawer 33 Telephone: 802-828-3615

City or Town: Montpelier State: VT Zip Code: 05633-5001

12. Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

- A USGS map (7.5 or 15 minute series) indicating the property's location.
- A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs

- Representative black and white photographs of the property.

Additional Items (Check with the SHPO or FPO for any additional items)

13. Property Owner

(Complete this item at the request of the SHPO or FPO.)

Name / Title: Town of Enosburg

Organization: _____ Date: _____

Street & Number: P.O. Box 465 Telephone: 802-933-4421

City or Town: Enosburg State: VT Zip Code: 05450

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.). A federal agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number.

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to Keeper, National Register of Historic Places, 1849 "C" Street NW, Washington, DC 20240.

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National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section 7 Page 1

Bridge 12
Name of Property

Enosburg, Franklin County, Vermont
County and State

Narrative Description

Bridge 12 in Enosburg, designed by the Vermont State Highway Department, fabricated by the Lackawanna Steel Construction Corporation in Buffalo, New York, and erected in 1929, is a Parker through truss. It carries Town Highway 2 (Boston Post Road) across the Missisquoi River, approximately sixty feet from that road's intersection with Route 105, a principal east-west route in northern Vermont. The bridge was rehabilitated in 1994 and retains a high degree of integrity in terms of location, design, setting, materials, workmanship, feeling and association. The structure will remain in continued highway use under the Vermont Historic Bridge Program's Preservation Plan for Metal Truss Bridges, and the town has enrolled Bridge 12 in that program, conveying a preservation easement for the bridge as part of that agreement.

Bridge 12 crosses the Missisquoi River in a single, 204 foot clear span (center to center of bearings), with eight panels, each panel 25.50 feet, and an overall width of 18 feet 9 inches (center of truss to center of truss) for an original travel lane width of 16 feet; truss depth at center span is 32 feet, 7 and 1/2 inches. The four center panels of each truss are reinforced by horizontal stiffeners, approximately fourteen feet above the deck surface, and full-length diagonals in the two center panels are braced by counter-diagonal struts. Diagonals, stiffeners and struts replace the full-height, diagonal and counter-diagonal web-design commonly used in the center panels of many Pratt and Parker trusses. The trusses are also reinforced laterally by a web of sway bracing, the base of which joins the truss web verticals slightly above the horizontal stiffeners, with diagonals then crossing to connect opposite top chords and reinforced by short struts. Top chords are braced, as well, by lateral and diagonal members and by portal bracing, which provided a minimum clearance of 15 feet. Floor beams and stringers support a bituminous concrete deck, and the superstructure stands on abutments of reinforced concrete, rebuilt in 1957. A two-rail guard railing frames the travel corridor, with a large channel beam serving as the lower railing and a smaller box beam as the upper railing. Galvanized W-beam guard railings protect the bridge approaches.

Original plans for the bridge, dated March 17, 1928, were designed by L. H. Shoemaker, drawn by G. L. Perkins, and approved by Arthur Bishop, Chief Bridge Engineer for the Vermont Highway Department. Final approval of the shop drawings by Bishop occurred on July 16, 1928. The bridge was designed for a 1 H-15 live-load capacity, conforming to design specifications established by the American Association of State Highway Officials for 1926, and meeting standards established in the U.S. Department of Agriculture's Bulletin 1259, "Standard Specifications for Steel Highway Bridges." Truss members were assembled in the shops of the Lackawanna Steel Construction Company in Buffalo, where holes for field connections, except holes for lateral bracing and handrailing, were sub-punched and reamed with the connecting parts assembled, or reamed, to a one-inch metal template. Size 7/8 inch rivets were used for assembling girders, and size 9/16 inch rivets were applied to gusset plates. Lackawanna Steel Company applied a shop coat of red lead paint and oil and approved a field coat of white guard paint tinted to a light green.

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CONTINUATION SHEET**

Section 7 Page 2

Bridge 12

Name of Property

Enosburg, Franklin County, Vermont

County and State

Narrative Description (continued)

Rehabilitation in 1994 involved replacement of all floor beams and stringers; replacement of gusset plates at panel point five on both trusses; replacement of the gusset plate at panel point one on the downstream truss; replacement of the guard rail end post on the upstream truss at the southerly abutment; replacement of the sliding plate expansion joints mounted on the southerly abutment; repair and resetting of both fixed and expansion bearing systems; and replacement of the concrete deck with sheet membrane waterproofing and bituminous concrete surface, with concrete curbs. Minor cracking and spalling on the abutments also required repair, and drainage from bridge seats was improved. All reinforcing steel in the concrete deck and curbs was coated with epoxy, and exposed concrete was then treated with a water repellent compound.

In its present form, Bridge 12 reveals most of its original features. Top chords are box girders with lattice undersides, and bottom chords are paired angles connected with a continuous plate, 9 inches wide by 9/16 inches thick, as noted in the original plans. Verticals and principal diagonals are rolled I-beams. Diagonal struts, horizontal stiffeners, and lateral cross bracing connecting the top chords are all girders assembled with paired angle sections and lattice bars. Sway bracing extending diagonally from the top chords to the horizontal stiffeners opposite, and vertical struts rising to the intersections of that sway bracing, are all paired angle sections with lattice bars. Portal bracing is fashioned with crossed angles with top and bottom beams of paired angles with lattice bars. The roadway width is now 16 feet 6 inches, curb to curb. .

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**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section 8 Page 1

Bridge 12
Name of Property

Enosburg, Franklin County, Vermont
County and State

Statement of Significance

Bridge 12 in Enosburg is being nominated pursuant to the existing multiple property submission titled "Metal Truss, Masonry, and Concrete Bridges in Vermont," under the property type, "metal truss bridges," and the crossing clearly meets the registration requirements for this property type. The crossing is significant for its period of construction following the 1927 flood and for its representative Parker truss design, a frequently-used truss type for longer-span crossings rebuilt after the flood. Although a common design, Bridge 12 is one of only a few Parker truss bridges remaining in the scenic Missisquoi River corridor, which flows across the northern tier of the state and empties into Lake Champlain. As in other important river corridors in Vermont, metal truss bridges are very visible landmarks, albeit increasingly scarce.

The bridge was erected in 1929 during the aftermath of the 1927 flood, an event that destroyed more than 1200 bridges of all types throughout the state. This devastation resulted in a dramatic public rebuilding campaign, marking one of Vermont's most important periods of bridge and highway construction, and metal truss bridges played a key role in that rebuilding drive. Bonds authorized by the state legislature generated funding for this enormous undertaking, but federal assistance had also become available by then. The state's bridge department expanded in size, and engineers emphasized standard building methods for different types of bridges to reduce costs and speed the process. Efforts to develop standard designs had begun in Vermont after World War I, part of a broader, national trend that emerged as state highway departments sought federal funding, contingent on approval of plans or written specifications. Although a process for developing standard plans had already begun to take shape in Vermont, the flood nevertheless furnished a powerful, added incentive to produce standard designs, and the practice became a principal component of all bridge-building programs in Vermont soon after the flood. This reliance on standard designs also forced increasing dependence on review by state and federal engineers, once a matter left to the complete discretion of towns.

During the flood reconstruction, engineers assigned specific types of bridges uniformly according to each crossing's length. Steel truss bridges became available in increments of 10 feet for spans shorter than 100 feet; 20 feet for longer bridges. Pratt through trusses became standard for structures between 100 and 160 feet, and Parker trusses were typically specified for greater lengths. The polygonal upper chords of the Parker design increased the depth (and strength) of the trusses at mid-span, the area of greatest stress, allowing a corresponding increase in span length. Most structures were 21 feet wide, and only a few bridges were individually designed for specific sites. The appearance of truss bridges also changed, becoming more stout. Rolled I-beams requiring no assembly often were used as verticals and diagonals in truss webs, and the size of these steel components distinguished bridges erected after 1927 from earlier, lightly-built spans. Improvements in rolling mills and steel alloys made production of these larger, stronger I-beams economical.

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CONTINUATION SHEET**

Section 8 Page 2

Bridge 12

Name of Property

Enosburg, Franklin County, Vermont

County and State

Statement of Significance (continued)

Bridge 12 reveals several of these advances in steel manufacturing, notably the rolled beams used as verticals and diagonals in the truss webs. Its rivet-assembled girders also reveal greater breadth than those of earlier truss types. In addition, by enrolling the bridge in Vermont's Historic Bridge Program, the town of Sheldon is participating in an effort to demonstrate the feasibility of using metal truss bridges for continued highway use, as well as the fiscal wisdom of rehabilitating and maintaining these structures.

The old Boston Post Road crosses the Missisquoi River at the small, crossroads village of North Enosburg, before it continues northerly into Berkshire, the northerly boundary of which is the Canadian border. The settlement of North Enosburg probably dates from the early 19th century, when Charles Stevens built a large hotel on the northerly side of the river. Residents also established a cheese factory, which prospered from the active dairy farming in that region. As well, the village became a post station along the Missisquoi Railroad, which began operating during the early 1870s, and a bridge across the river appears on the atlas of Franklin and Grand Isle counties published by F. W. Beers and Company in 1871. The crossing at North Enosburg is located roughly midway between the village of Enosburg Falls, to the west, and the village of East Berkshire to the east. Bridge 12 is the most recent of what were probably a number of timber-framed bridges at that locally important river crossing.

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CONTINUATION SHEET**

Section 9 Page 1

Bridge 12

Name of Property

Enosburg, Franklin County, Vermont

County and State

Major Bibliographic References

Aldrich, Lewis Cass, ed. History of Franklin and Grand Isle Counties, Vermont. Syracuse, New York: D. Mason & Company, 1891.

Beers, F.W. and Company, Atlas of Franklin and Grand Isle Counties Vermont. 1871. New York: F. W. Beers & Co., 1871.

Hemenway, Abbey Maria, ed. The Vermont Historical Gazetteer. Vol. 2. Burlington, Vermont: Abbey Hemenway, 1871.

Jones, Robert. Railroads of Vermont. Shelburne, Vermont: New England Press, 1993.

Lackawanna Steel Construction Corporation. "Bridge No. 7, North Enosburg, Vermont." Shop drawings and erection plan dated June, 1928, available at the Vermont Agency of Transportation, Project Development Division.

Roth, Matt and Bruce Clouette, "Vermont Historic Bridge Survey," FR-06. Typewritten survey available at the Vermont Division for Historic Preservation, Montpelier, Vt.

Vermont Agency of Transportation, "Proposed Improvement Bridge Project, Town of Enosburg, County of Franklin" Project Number TH 2 - 9267, dated September, 1994. Montpelier: Vermont Agency of Transportation, Project Development Division.

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CONTINUATION SHEET**

Sections 10 & 12 Page 1

Bridge 12
Name of Property
Enosburg, Franklin County, Vermont
County and State

Section 10: Geographical Data

Verbal Boundary Description

The boundary of the property is the bridge and its abutments. The bridge carries Town Highway 2 (Old Boston Post Road) in Enosburg across the Missisquoi River.

Boundary Justification

The boundary includes all the land historically associated with the bridge.

Section 12: Photograph Labels

The following information is the same for all photographs:

Name of Property: Bridge 12
Location: Enosburg, Franklin County, Vermont
Credit: Robert McCullough
Date: June, 2007
Negatives: Filed at the Vermont Division for Historic Preservation

Photograph No. 1: View looking east
Photograph No. 2: View looking south
Photograph No. 3: View looking northeast
Photograph No. 4: View looking northeast