

PH0356301

# DATA SHEET

Form 10-300  
(Rev. 6-72)

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

## NATIONAL REGISTER OF HISTORIC PLACES INVENTORY - NOMINATION FORM

(Type all entries - complete applicable sections)

STATE: New Hampshire
COUNTY: Merrimack
FOR NPS USE ONLY
ENTRY DATE NOV 21 1983

### 1. NAME

COMMON: \*\*  
Dalton Covered Bridge

AND/OR HISTORIC:  
Dalton Bridge

### 2. LOCATION

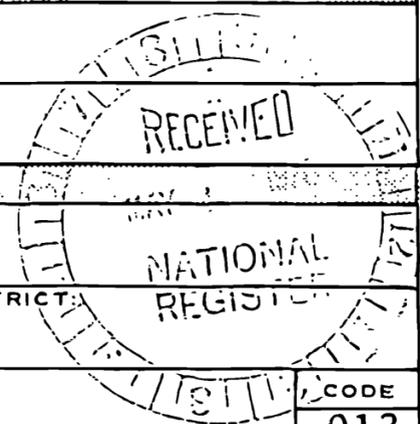
STREET AND NUMBER:  
Joppa Road

CITY OR TOWN:  
Warner

CONGRESSIONAL DISTRICT:  
Second

STATE: New Hampshire CODE: 03278

COUNTY: Merrimack CODE: 013



### 3. CLASSIFICATION

CATEGORY (Check One)	OWNERSHIP	STATUS	ACCESSIBLE TO THE PUBLIC
<input type="checkbox"/> District <input type="checkbox"/> Site <input type="checkbox"/> Object	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private <input type="checkbox"/> Both	<input checked="" type="checkbox"/> Occupied <input type="checkbox"/> Unoccupied <input type="checkbox"/> Preservation work in progress	Yes: <input type="checkbox"/> Restricted <input checked="" type="checkbox"/> Unrestricted <input type="checkbox"/> No
PRESENT USE (Check One or More as Appropriate)			
<input type="checkbox"/> Agricultural <input type="checkbox"/> Commercial <input type="checkbox"/> Educational <input type="checkbox"/> Entertainment	<input type="checkbox"/> Government <input type="checkbox"/> Industrial <input type="checkbox"/> Military <input type="checkbox"/> Museum	<input type="checkbox"/> Park <input type="checkbox"/> Private Residence <input type="checkbox"/> Religious <input type="checkbox"/> Scientific	<input checked="" type="checkbox"/> Transportation <input type="checkbox"/> Other (Specify) _____ _____ _____

### 4. OWNER OF PROPERTY

OWNER'S NAME:  
Town of Warner, New Hampshire

STREET AND NUMBER:  
Selectmen's Office  
Main Street R.D. #2

CITY OR TOWN:  
Warner

STATE:  
New Hampshire

CODE:  
03278

### 5. LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC.:  
Merrimack County Registry of Deeds

STREET AND NUMBER:  
Merrimack County Courthouse  
P.O. Box 248 North Main Street

CITY OR TOWN:  
Concord

STATE:  
New Hampshire

CODE:  
03301

### 6. REPRESENTATION IN EXISTING SURVEYS

TITLE OF SURVEY:  
See Continuation Sheet 1

DATE OF SURVEY:  
 Federal  State  County  Local

DEPOSITORY FOR SURVEY RECORDS:  
STREET AND NUMBER:  
CITY OR TOWN:  
STATE:  
CODE:

STATE: New Hampshire

COUNTY: Merrimack

ENTRY NUMBER

DATE

FOR NPS USE ONLY

SEE INSTRUCTIONS

**7. DESCRIPTION**

CONDITION	(Check One)					
	<input checked="" type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Deteriorated	<input type="checkbox"/> Ruins	<input type="checkbox"/> Unexposed
	(Check One)			(Check One)		
	<input checked="" type="checkbox"/> Altered	<input type="checkbox"/> Unaltered	<input type="checkbox"/> Moved	<input checked="" type="checkbox"/> Original Site		

DESCRIBE THE PRESENT AND ORIGINAL (if known) PHYSICAL APPEARANCE

Present Physical Appearance: The Dalton Bridge crossed the Warner River, connecting the town-owned Joppa Road on both sides of the river. The crossing is made in one span of multiple kingpost design with an auxiliary queenpost system.

The kingpost truss is eight panels with posts (9½" x 7½" ea.) which are notched to pass through a three inch space which separates the top and bottom chords. Each chord is of two 9" x 5" members which are separated as described and joined to the posts by iron bolts. Each panel (with the exception of the next to last panel at each end) is braced by a 9½" x 4½" board set on bearing blocks at either end; the center four panels have wooden counterbraces which are mortised and tenoned through the center of the braces. The outer three panels at both ends have iron tension rods as counterbraces (the end panels of the center four panels, thus, have both wooden and iron counterbracing). Overriding this system is a queenpost system that flanks both truss walls. Its top chord (10½" x 4½") is iron bolted onto the posts of the center four panels of the kingpost system, on both sides of the truss wall. The braces to this system pass largely through the next to last panel at each end of the bridge, providing bracing for these panels, from there they pass through the lower inside corner of the last panel at each end, and onto a footing on the abutments. They are visible from beneath the bridge. All members of the truss appear to be bolted in place or held by pressure. The truss is laterally braced by beams which are bolted to each post above the top chord and extend across the roadbed. These beams are connected to each other by cross bracing. The bottom chord has five sets of cross bracing to provide lateral stability.

The truss rests on concrete footings on top of rectangular shaped abutments of split and field stone laid up without mortar. The north abutment, itself, sits on a concrete footing in the river. The truss is secured to the abutments by an iron tension rod at each corner; these rods extend from the top chord to the sidewalls of each abutment.

The bridge has an overall roof length of 84'4" connected to a roadbed of 76'4" by cutaway portals at each end, each portal having a vertical clearance of 11'. Overall width is 17'4" with a roadbed width of 14'1" narrowed to a passable width of 12'11" by guard rails on either side. The roadbed consists of four inch thick boards laid lengthwise in the direction of the road, on top of 9" x 4" supports which rest on top of the bottom chord.

The exterior walls are sheathed in vertical boarding with four windows in each wall; most of the boarding is relatively new and being allowed to weather gray. The roof is of corrugated metal set on thin rafters which rise from the top chord and are supported by two vertical braces at each beam of the truss's top lateral bracing.

Continued on Continuation Sheet 2.

SEE INSTRUCTIONS

**8. SIGNIFICANCE**

PERIOD (Check One or More as Appropriate)

<input type="checkbox"/> Pre-Columbian	<input type="checkbox"/> 16th Century	<input type="checkbox"/> 18th Century	<input type="checkbox"/> 20th Century
<input type="checkbox"/> 15th Century	<input type="checkbox"/> 17th Century	<input checked="" type="checkbox"/> 19th Century	

SPECIFIC DATE(S) (If Applicable and Known) 1853

AREAS OF SIGNIFICANCE (Check One or More as Appropriate)

<input type="checkbox"/> Aboriginal	<input type="checkbox"/> Education	<input type="checkbox"/> Political	<input type="checkbox"/> Urban Planning
<input type="checkbox"/> Prehistoric	<input checked="" type="checkbox"/> Engineering	<input type="checkbox"/> Religion/Philosophy	<input type="checkbox"/> Other (Specify)
<input type="checkbox"/> Historic	<input type="checkbox"/> Industry		_____
<input type="checkbox"/> Agriculture	<input type="checkbox"/> Invention	<input type="checkbox"/> Science	_____
<input type="checkbox"/> Architecture	<input type="checkbox"/> Landscape Architecture	<input type="checkbox"/> Sculpture	_____
<input type="checkbox"/> Art	<input type="checkbox"/> Literature	<input type="checkbox"/> Social/Humanitarian	_____
<input type="checkbox"/> Commerce	<input type="checkbox"/> Military	<input type="checkbox"/> Theater	_____
<input type="checkbox"/> Communications	<input type="checkbox"/> Music	<input checked="" type="checkbox"/> Transportation	_____
<input type="checkbox"/> Conservation			_____

STATEMENT OF SIGNIFICANCE

SEE INSTRUCTIONS

Engineering: Split by the Warner River, the town of Warner required many bridges in the nineteenth century to connect its many small mills and associated population centers. The first of many bridgings of the Warner River occurred at the Lower Village in 1774<sup>1</sup>. The quantity of bridges, their names referring to mills and farmers that no longer exist, and the lack of nineteenth century maps with place and owners' names make it difficult to determine whether or not the Dalton Bridge is the first bridge to occupy its site. The Dalton Bridge was built in 1853<sup>2</sup> at a cost of \$630.12 by Joshua Sanborn, who constructed the wood part of the bridge, George Sawyer and Webster B. Davis, both of whom built the abutments.<sup>3</sup> In 1871 extensive repairs were made to the bridge costing \$134.81.<sup>4</sup>

The panel truss system of the bridge is an almost complete duplication of an 1837 patented truss by Stephen Long<sup>5</sup>; it seems that Long must have patented more than one truss design, for the one referred to here differs from what is commonly labelled a Long truss by the addition of an auxiliary queenpost. The presence of Long's brother, Dr. Moses Long, as a resident and the postmaster of Warner<sup>6</sup> combined with his active role in promoting his brother's designs<sup>7</sup> might explain the faithfulness to the patent design as well as give the bridge a more direct relationship with its truss designer than is the case with most other bridges.

Transportation: Referred to in 1853 as the "Bridge near Mrs. Dalton's"<sup>8</sup>, the bridge has been subsequently referred to as the bridge near "Widow Dalton's", finally shortened to Dalton Bridge which is the current name for the bridge. The bridge has been in use since 1853 and continues to provide passage with a weight restriction of six tons on a one lane roadbed. It mainly serves a rural population with little or no commercial traffic.

<sup>1</sup>D. Hamilton Hurd, ed., The History of Merrimack and Belknap Counties (Philadelphia: J.W.Lewis & Co., 1885), pp. 655,667.

<sup>2</sup>Report of the Auditors of Warner (Concord: Tripp & Osgood, 1853), p. 7.

Continued on Continuation Sheet 3

**9 MAJOR BIBLIOGRAPHICAL REFERENCES**

Secondary Sources:

Allen, Richard Sanders. Covered Bridges of the Northeast. Brattleboro: The Stephen Greene Press, 1957. pp. 17,40,41.

Hurd, D. Hamilton. The History of Merrimack and Belknap Counties. Philadelphia: J.W.Lewis & Co., 1885. pp. 655, 667.

Continued on Continuation Sheet 4.

**10 GEOGRAPHICAL DATA**

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY			O R	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES		
CORNER	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	
	Degrees Minutes Seconds	Degrees Minutes Seconds		Degrees Minutes Seconds	Degrees Minutes Seconds	
NW	° ' "	° ' "		43° 16' 36"	71° 48' 45"	
NE	° ' "	° ' "				
SE	° ' "	° ' "		E-271-825	4795-175-N	
SW	° ' "	° ' "				

APPROXIMATE ACREAGE OF NOMINATED PROPERTY: 25 ACRES

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE:	CODE	COUNTY	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE

**11. FORM PREPARED BY**

NAME AND TITLE:  
**Brian R. Pfeiffer**

ORGANIZATION: \_\_\_\_\_ DATE: **June 20, 1974**

STREET AND NUMBER:  
**135 Ivy Street**

CITY OR TOWN: **Brookline** STATE: **Massachusetts** CODE: **02146** STATE CODE: **23**

**12. STATE LIAISON OFFICER CERTIFICATION**

As the designated State Liaison Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service. The recommended level of significance of this nomination is:

National  State  Local

Name: *Brian R. Pfeiffer*

Title: NH STATE HISTORIC PRESERVATION OFFICER

Date: MAY 12, 1975

**NATIONAL REGISTER VERIFICATION**

I hereby certify that this property is included in the National Register.

Acting *Clayton Kopp*  
Director, Office of Archeology and Historic Preservation

Date: 11/21/76

ATTEST: *Charles Atkinson*  
Keeper of The National Register

Date: 11.15.76

SEE INSTRUCTIONS

NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY - NOMINATION FORM

(Continuation Sheet) 1.

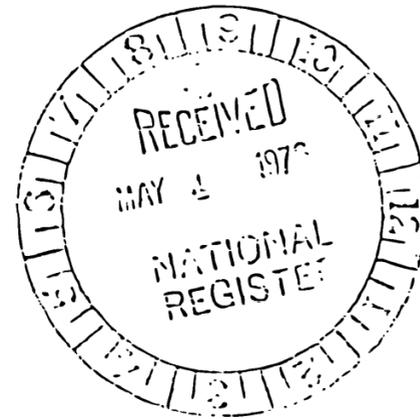
STATE	
New Hampshire	
COUNTY	
Merrimack	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE
107 2 11	

(Number all entries)

6. REPRESENTATION IN EXISTING SURVEYS, continued

Historic American Engineering Record  
1974, x Federal  
Historic American Engineering Record  
1100 L Street, NE  
Washington, D.C. 20240, 11

New Hampshire's Historic Preservation Plan  
1970, x State  
State of New Hampshire  
Department of Resources and Economic Development  
P.O. Box 856, State House Annex, 25 Capitol Street  
Concord, New Hampshire 03301, 33



NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY - NOMINATION FORM

(Continuation Sheet) 2.

STATE New Hampshire	
COUNTY Merrimack	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE
	JUN 12 1975

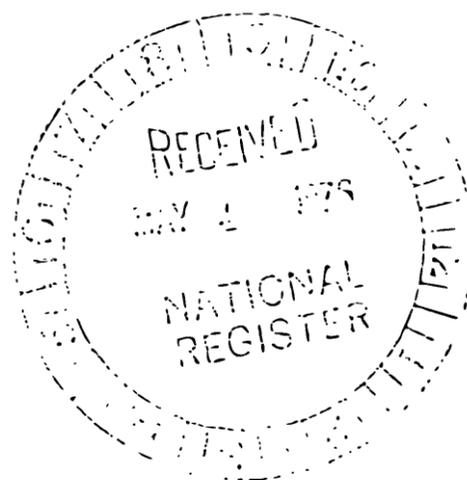
(Number all entries)

7. DESCRIPTION, continued

Present Physical Appearance, continued: The bridge has been assigned the following numbers: 29-07-05 in the World Guide to Covered Bridges published by the National Society for the Preservation of Covered Bridges; 191-122 by the New Hampshire Department of Public Works and Highways; and 12 by the New Hampshire Department of Resources and Economic Development.

Original Physical Appearance: In 1964 the Dalton Bridge was repaired at a total cost of \$18,000 of which \$10,800 was provided by the town of Warner, the rest was from the State of New Hampshire under the Town Bridge Aid Program.<sup>1</sup> It seems apparent that the new concrete footings of the abutments as well as the new exterior boarding and possibly the roof covering date from this renovation.

<sup>1</sup>Statement by Floyd Avery, secondary roads engineer, personal interview, Concord, New Hampshire, June 11, 1974.



NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY - NOMINATION FORM

(Continuation Sheet) 3.

STATE New Hampshire	
COUNTY Merrimack	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE
	NOV 21 1976

(Number all entries)

8. SIGNIFICANCE, continued

<sup>3</sup>Ibid.

<sup>4</sup>Ibid., (1871), p. 6.

<sup>5</sup>Stephen H. Long, Explanatory of Certain Improvements in the Construction of Wooden or Frame Bridges (Concord: John F. Brown, 1837), p. 57.

<sup>6</sup>Richard Sanders Allen, Covered Bridges of the Northeast (Brattleboro: The Stephen Greene Press, 1957), p. 40.

<sup>7</sup>Ibid., pp. 17, 41.

<sup>8</sup>Report of the Auditors of Warner (1853), loc. cit.



NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY - NOMINATION FORM

(Continuation Sheet) 4.

STATE New Hampshire	
COUNTY Merrimack	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE

(Number all entries)

9. MAJOR BIBLIOGRAPHICAL REFERENCES, continued

Long, Stephen H. Explanatory of Certain Improvements in the Construction of Wooden or Frame Bridges. Concord: John F. Brown, 1837. p. 57.

Report of the Auditors of Warner. Concord: Tripp & Osgood, 1853. p. 7.

Report of the Auditors of Warner. Concord: Tripp & Osgood, 1871. p. 6.

Unpublished Sources:

Avery, Floyd. Personal Interview. Concord, New Hampshire, June 11, 1974.



UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM**

FOR NPS USE ONLY		
RECEIVED	MAY 4	1976
DATE ENTERED	NOV 21 1976	

CONTINUATION SHEET

ITEM NUMBER 10

PAGE 5

GEOGRAPHICAL DATA, Continued.

10.2 UTM References

<u>ZONE</u>	<u>EASTING</u>	<u>NORTHING</u>
19	2 71 825	47 95 175