HISTORIC HIGHWAY BRIDGES IN WISCONSIN

Volume 2, Part 2: Appendix A1

TRUSS BRIDGES

INTENSIVE SURVEY FORMS
1998

WISCONSIN DEPARTMENT OF TRANSPORTATION

HISTORIC HIGHWAY BRIDGES IN WISCONSIN

HISTORICAL SURVEY OF WISCONSIN TRUSS BRIDGES

Appendix A1

Truss Bridge Intensive Survey Forms

WISCONSIN DEPARTMENT OF TRANSPORTATION
1998

Table of Contents

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. B-09-965

WisDOT Designation: B-09-965
Historic Name: Cobban Bridge (A)
Other Name:
Current Owner: State of Wisconsin
Year Built: 1908 (B)
Engineer: Unknown
Fabricator: Modern Steel Structural Company of Waukesha, WI (B)
Contractor: Modern Steel Structural Company of Waukesha, WI (B)
Year Moved to Site: 1919 (A)
Contractors: L. G. Arnold of Eau Claire; Cromby and Thailacker of Milwaukee (A)
Status: Extant as of 1996 and historically rehabilitated

Geographical Data

County: Chippewa
City, Village or Town: Towns of Eagle Point and Arthur
Legal Description: Sections 2/3, Town 30N, Range 7W
Crossing: County Road TT over Chippewa River
Sketch Diagram (For survey photos, see contact sheet 02100/1)

Technical Data

Bridge Category: Metal overhead truss
Spans--No./Type: 2 identical Pennsylvania (each 241' 1")
Connection Type: Pinned
Substructure: Concrete abutments and pier
Overall Length x Width: 486'5" x 16'1"
Inclined Endpost/Upper Chord: L0-U1-U11-L12: double upright channels (12" x 3") tied with cover plate (16 1/4" x 1/4") and V-lacing
Lower Chord: LO-L12: double rectangular-section eyebars (5" x 3/4")
Verticals: L1-U1, L11-U11: double back-to-back ("H" in section) angles (2 ½" x 3 7/8") tied with V-lacing; L2-U2, L4-U4, L6-U6, etc.: double upright channels (8" x 2 1/8") tied with V-lacing
Diagonals: L2-U1, L4-U2, L6-U4, L6-U8, L8-U10, L10-U11: double rectangular-section eyebars (3 ½" x 5/8")
Sub-Verticals and Sub-Diagonals: Double back-to-back angles ("H" in section) tied with V-lacing; double square eyebars
Floor System: Wood decking on rolled I-beam stringers and rolled I-beam girders
Bracing: Portals: Double back-to-back angles; **Sways:** Double back-to-back angles and cylindrical eyebars; **Top lateral:** Cylindrical eyebars; **Bottom laterals:** cylindrical eyebars; horizontal, **Intermediate struts:** Double angles tied with V-lacing
Bearings: Abutment ends, fixed; pier ends, roller-nest expansion bearings (at the northeast end of the west span, the rollers are sprung from the nest)

Summary Description

Measuring over 480 feet in length, the Cobban Bridge crosses the Chippewa River in an east-west direction on County Road TT about 5 miles southwest of the city of Cornell. The structure is a pin-connected overhead truss with two identical Pennsylvania spans bordered by channel and angle-iron railings. It rests on concrete abutments and a single concrete pier. In addition to portal, top-lateral, and sway bracing, the bridge's webbing is stiffened with sub-diagonals, extended sub-verticals, and intermediate, horizontal struts. The wood decking is protected by metal runners.

The structure originally was located about 15 miles downstream where it was known as the "Yellow River Bridge," presumably because its site was near the confluence of the Chippewa and Yellow rivers. It was erected at county expense in 1908; the Modern Structural Steel Company of Waukesha apparently served as both fabricator and contractor for the superstructure. In 1915, the Wisconsin-Minnesota Power and Light Company approached the Chippewa County Board of Commissioners with a plan to build a hydroelectric dam about 4 miles downstream of the bridge. Since the impounded waters would inundate the river crossing, the company proposed relocating the existing bridge superstructure. In April 1916, after extended negotiations, the county finally approved the dam project and the company agreed to build a completely new bridge (C).

This decision attracted the attention of the small trading village of Cobban, located about 15 miles upstream on the west bank of the Chippewa. Cobban had no bridge, the nearest crossings being about 5 miles north at Cornell and an equal distance south at Jim Falls. With the strong support of Cobban merchants, local voters in December 1916 agreed to pay the cost of dismantling the abandoned Knife River Bridge, sledding the structural steel to Cobban, and reassembling the bridge at its present location. The entire project was completed by 1919. L G. Arnold, a professional contractor from Eau Claire, put in the new concrete substructure, while Cromby and Thailacker, a bridge-building firm from Milwaukee, supervised the steel work (A).

Statement of Significance

(x) Represents type, period, technique
( ) Associated with significant persons/firms
(x) Associated with significant events
( ) Possesses high aesthetic values

Period of Significance: 1908

Fabricated in 1908, the Cobban Bridge was the oldest of four Pennsylvania truss bridges surviving on Wisconsin highways in 1986 (D). It is an excellent early twentieth-century example of the type, which is basically an overhead, sub-divided Pratt truss with a polygonal upper chord. Developed specifically for long spans in 1875 by the Pennsylvania Railroad (hence the name), the Pennsylvania truss was modified a decade later by the Chesapeake and Ohio Railway, which introduced intermediate horizontal struts to increase rigidity of the web (E). Another characteristic feature, also seen on the Cobban Bridge, is the upward extension of sub-verticals "for the purpose of stiffening the long upper chord members" (F). As is customary on highway bridges of the 1890s and 1900s, the Cobban Bridge displays built-up sections for its structural members -- a practice that was later replaced by the use of rolled sections, as can be seen on two previously extant Pennsylvania trusses of the 1930s (G).

In addition to its engineering significance as a highly representative example of its type, the Cobban Bridge is historically significant as one of the most ambitious cases of bridge moving in Wisconsin. Since metal truss bridges were specifically designed to be easily transported and assembled, it is not surprising that several were moved from one location to another. It is remarkable, however, that a small community should fund and supervise the relocation of a structure the size of the Cobban Bridge, which displays the longest, pre-World War II, highway, truss spans surviving in the state. Although the village of Cobban has long since vanished, the bridge remains as palpable evidence of its earlier, commercial aspirations. The structure is still recognized as a major landmark by local residents, whose campaign to commemorate the bridge resulted in the erection of an historical marker near the crossing in 1986 (B, H).

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT: BRIDGE NO. B-09-965

Sources of Information

A. Proceedings of the County Board of Chippewa County, 1908. Chippewa County, Wis. pp. 16-18, 20-21.
B. Olson, Charlene. "Crusade to Save Cobban Bridge Leads to Historic Trail." Chippewa Herald Telegram, 11 December 1982.
C. Bridge file for B-09-116, includes inspection reports. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wisconsin.
D. Wyatt, Barbara, ed. Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986, pp. 12-16, 12-17.
E. Condit, Carl W. American Building. Chicago: U of Chicago P, 1982, pp. 142-143.
F. Merriman, Mansfield and Henry S. Jacoby. A Text-Book on Roofs and Bridges, Part 1. New York: John Wiley and Sons, 1926, p. 223.
G. Olson, Charlene. "Bridge Could Be Oldest in State." Chippewa Herald Telegram. 22 March 1983.
H. Intensive Survey Forms for B12/22-850 and B-22-829.

National Register Status

( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible

Date of Survey: November 1986 Surveyor: Jeffrey A. Hess

Documentation: HAER No. WI-28

Cobban Bridge (B-09-965), Towns of Eagle Point and Arthur, Chippewa County
North elevation - *Source: J.A. Hess, 1986*

Cobban Bridge (B-09-965), Towns of Eagle Point and Arthur, Chippewa County
Roller bearings, center pier, north elevation - *Source: J.A. Hess, 1986*

Cobban Bridge (B-09-965), Towns of Eagle Point and Arthur, Chippewa County
West span, north elevation - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. B-17-957

WISDOT Designation: B-17-957
Historic Name: Elk Creek Bridge #27 (A)
Other Name:
Current Owner: Dunn County
Year Built: 1934
Engineer: Wisconsin State Highway Commission
Fabricator: Worden-Allen Company
Contractor: Unknown
Status: Extant as of 1996

Geographical Data

County: Dunn
City, Village or Town: Town of Spring Brook
Legal Description: Sections 13/24, Township 27N, Range 11W
Crossing: County Trunk Highway E over Elk Creek
Sketch Diagram (For survey photos, see contact sheet 79157/4)

Technical Data

Bridge Category: Metal overhead truss
Spans--No./Type: 1 Parker truss span (150')
Connection Type: Riveted
Substructure: Concrete abutments
Overall Length x Width: 154'5" x 25'
Inclined End-Post/Upper Chord: L0-U1-U8-L9: double upright channels (12") with cover plate (18") and V-lacing
Lower Chord: L0-L9: double upright channels (12") tied with batten plates on top and bottom
Verticals: L1-U1, L2-U2, etc.: rolled I-beams (8" x 9-3/4")
Diagonals: L2-U1, L3-U2, etc.: rolled I-beams (8" x 9-3/4")
Counters: none
Floor System: Rolled I floor-beams riveted with angles to panel-point gusset plates; rolled I-beam stringers with poured-concrete deck
Bracing: Top: Single angles, double angles with V-lacing, and double back-to-back angles with V-lacing; **Bottom:** Single angles; **Portal:** V-laced members configured in an X-brace pattern
Bearings: Fixed plates on south end; expansion rockers on north end

Summary Description

Bridge B-17-957 is a single, 150-foot-span, riveted, Parker truss, carrying County Trunk Highway E over Elk Creek in rural Spring Brook Township, Dunn County. The crossing is situated directly above a dam and spillway, which creates Elk Creek Lake just east of the bridge. Immediately west and below the bridge and dam, the creek enters a deep, scenic gorge. The structure exhibits characteristic Parker truss design feature of a polygonal upper chord on a basic Pratt-truss configuration. Erected in the mid-1930s, this example is a particularly late example of heavy construction. It has substantial, rolled-section members with riveted connections, and an intermediate horizontal strut (X1-Y1) with a curve paralleling the upper chord (C,D). It was designed in 1934 by the Wisconsin State Highway Commission for the town of Spring Brook and funded as U.S. Public Works Highway Project N.R.S. 553-A under the National Industrial Recovery Act (A,B). It was erected circa 1935 by the Worden-Allen Company (A,B,E; this bridge usually has been dated from the bridge plate, although county board proceedings indicate a later year). The Worden-Allen Company was incorporated in Wisconsin in 1902, became one of the Midwest's largest bridge firms, and controlled the Lackawanna Bridge Company of New York (F).

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. B-17-957

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
(x) Assoc. with significant persons/firms
(x) Assoc. with significant events

Period of significance: 1934

Elk Creek Bridge #27 is significant as a representative, late example of a Parker truss configuration using substantial, rolled-section members with riveted connections. It represents federal financial intervention during the Depression era, through the use of funds authorized by the National Industrial Recovery Act. Finally, it represents the work of the Worden-Allen Company, a major regional bridge firm.

Sources of Information (Reference to Above)

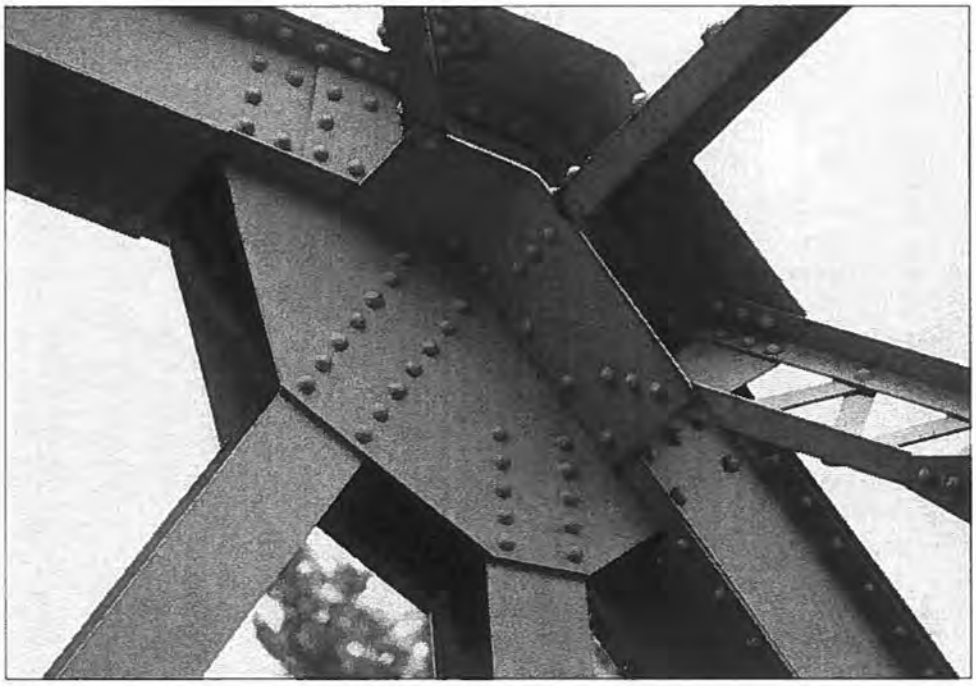
A. Wisconsin State Highway Commission. Bridge Engineering Drawings for Elk Creek Bridge #27. 4 Sheets, 1934. Microfilm copy. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
B. Dunn County Board of Supervisors. Dunn County Board of Supervisors Proceedings. Special Session, March 15, 1935, pp. 1-2, 9-10.
C. Condit, Carl. American Building. Chicago: U of Chicago P, 1968, p. 143.
D. Waddell, James A.L. "Simple Truss Bridges" in Bridge Engineering. New York: J. Wiley & Sons, 1916.
E. Bridge B-17-957 plate, mounted on northwest endpost.
F. Danko, George M. "A Selective Survey of Metal Truss Bridges in Wisconsin." M.S., State Historical Society of Wisconsin-Historic Preservation Division, Madison, Wis., 1977, p. 25.

National Register Status

( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible

Date of Survey: November 7, 1986 Surveyor: Robert M. Frame III

Elk Creek Bridge #27 (B-17-957), Town of Spring Brook, Dunn County
Top: East elevation - *Source: J.A. Hess, 1986*
Bottom: North approach - *Source: J.A. Hess, 1986*



Elk Creek Bridge #27 (B-17-957), Town of Spring Brook, Dunn County
Top: West elevation, detail of deck - *Source: J.A. Hess, 1986*
Bottom: Detail of portal connection - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. B-22-829; B-12/22-850

WISDOT Designation: B-22-829; B-12/22-850
Historic Name: Bridgeport Bridge
Other Name:
Current Owner: Wisconsin Department of Transportation
Year Built: 1931
Engineer: Wisconsin State Highway Commission
Fabricator: Unknown
Contractor: Stevens Brothers, St. Paul, Minnesota
Status: Replaced in 1989

Geographical Data

County: Grant and Crawford
City, Village or Town: Town of Wyalusing and Town of Bridgeport
Legal Description: Sections 11/14, Township 6N, Range 6W
Crossing: U.S. Trunk Highway 18; State Trunk Highway 35 over Wisconsin River, tributary stream, and Chicago, Milwaukee, St. Paul & Pacific Railroad
Sketch Diagram (For survey photos, see contact sheet 79157/3 & 8)

Technical Data

Bridge Category: Metal overhead truss
Spans--No./Type: 7 Pennsylvania truss main spans (320' each) and 3 steel-beam approach spans (1@32', 2@31')
Connection Type: Riveted
Substructure: Concrete abutments and piers
Overall Length x Width: B-22-829: 234'4" x 24'; B-12/22-850: 1489'11" x 24'
Inclined End-Post/Upper Chord: L0-U1-U13-L14: double upright channels (15") with cover plate (20") and X-lacing
Lower Chord: L0-L14: double back-to-back angles tied with batten plates (forming "+" in section)
Verticals: L1-U1, L2-U2, etc.: double channels with V-lacing on both sides
Diagonals: L2-U1, L4-U2, L6-U4, etc.: double back-to-back angles tied with batten plates ("H" in section)
Counters: None
Floor System: Rolled-I floor-beams riveted to gusset plates at panel points; rolled I-beam stringers; poured concrete deck
Bracing: Top: Double angles with V-lacing; double back-to-back angles with V-lacing; **Bottom:** Angles; **Portal:** Double angles with V-lacing in "W" pattern
Bearings: Fixed shoe on each south end; rocker on each north end

Summary Description

The Bridgeport Bridge is a massive, multi-span, Pennsylvania truss structure whose overall length (total of 10 spans) is about one-third of a mile. Although the entire series of spans is named the Bridgeport Bridge, it includes two structures separated by 1000 feet. The south structure is B-22-829 and is a single span (span #1 on the original plans); the north structure includes all remaining spans (#2-#10). It was designed in 1930 by the Wisconsin State Highway Commission to cross a wide range of obstacles, including the Wisconsin River and adjacent slough, a tributary stream, and the Chicago, Milwaukee, St. Paul & Pacific Railroad. It replaced an earlier series of spans that included a movable span, and the present structure rises on a 4.95 percent grade to the north to provide navigation clearance over the river's main channel (A). Three short steel-beam spans complete the north approach It was erected in 1931 by the firm of Stevens Brothers of St. Paul, Minnesota (B). It qualified for state aid as a Special Bridge under the Special Bridge statutes, receiving $295,000 (C). The south seven spans are identical Pennsylvania trusses of about 232 feet each. The Pennsylvania configuration is fundamentally a Pratt with a polygonal upper chord, modified with sub-ties and sub-struts (D,E). This example also exhibits intermediate horizontal struts that are tied between the two trusses

with intermediate lateral struts below the sway bracing. Despite its great length and height, however, the bridge accommodates only two lanes (23 feet) with no sidewalks or shoulder area. The structure is unaltered.

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of significance: 1931

The Bridgeport Bridge is significant as an extremely large, unaltered representative of a late Pennsylvania-truss configuration, designed to provide considerable length and height in an area where accommodation is available for multiple piers. It's size, and expense, are underlined by the fact that it qualified for aid under the state Special Bridge statute and was a major project for the time of construction. The U.S. and state routes constitute an important line between Prairie du Chien and Madison. The complex of the two structures was recognized by the Historic Bridge Advisory Committee as one of only four Pennsylvania spans extant in the state (E).

Sources of Information (Reference to Above)

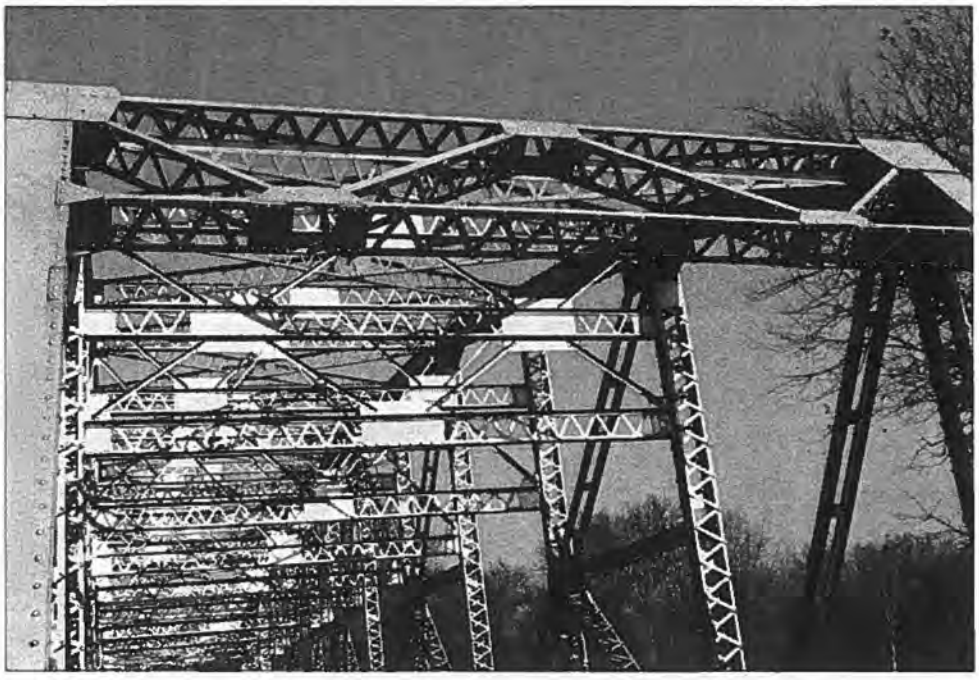
A. Wisconsin State Highway Commission. Bridge engineering drawings for Bridgeport Bridge. 15 Sheets, 1930. Microfilm copy. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
B. Bridge plates, mounted on southeast endpost of south span, and northwest endpost of north span.
C. Wisconsin State Highway Commission. Tenth Biennial Report. Madison, Wis., 1934.
D. Condit, Carl W. American Building. Chicago: U of Chicago P, 1982, p. 143.
E. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges" in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986.

National Register Status

( ) Listed
(x) Determined Eligible
( ) Eligible
( ) Not Eligible

Date of Survey: November 6, 1986 Surveyor: Robert M. Frame III

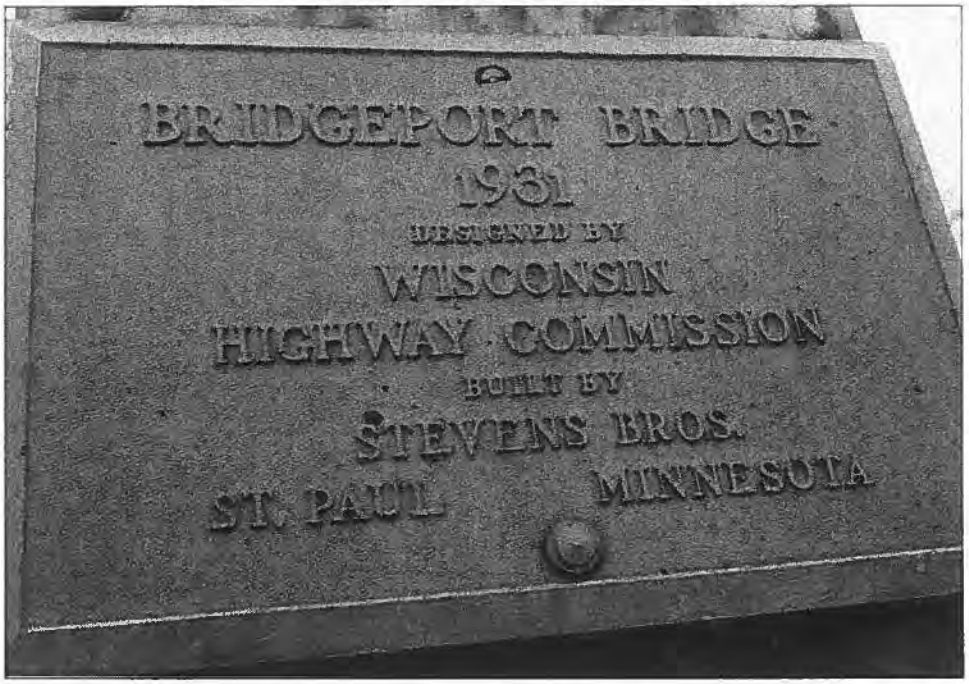
Documentation: Determination of Eligibility
HAER No. WI-54



Bridgeport Bridge (B-22-829;B-12/22-850), Town of Wyalusing and Town of Bridgeport, Grant and Crawford counties
Top: B-22-829, South approach - *Source: J.A. Hess, 1986*
Bottom: B-22-829, Detail of south portal - *Source: J.A. Hess, 1986*

Bridgeport Bridge (B-22-829; B-12/22-850), Town of Wyalusing and Town of Bridgeport, Grant and Crawford counties
Top: B-12/22-850, West elevation - *Source: J.A. Hess, 1986*
Bottom: B-12/22-850, North span and approach spans - *Source: J.A. Hess, 1986*

Bridgeport Bridge (B-22-829; B-12/22-850), Town of Wyalusing and Town of Bridgeport, Grant and Crawford counties
B-12/22-850, North span and south abutment beneath the deck - *Source: J.A. Hess, 1986*



Bridgeport Bridge (B-22-829; B-12/22-850), Town of Wyalusing and Town of Bridgeport, Grant and Crawford counties
B-12/22-850, Detail of north dedication plaque - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. B-33-204

WISDOT Designation: B-33-204
Historic Name: Coulthard Bridge (B)
Other Name:
Current Owner: State Highway Department
Year Built: 1935
Engineer: Wisconsin State Highway Commission
Fabricator: Wausau Iron Works
Contractor: Eau Claire Engineering Company
Status: Extant as of 1996

Geographical Data

County: Lafayette
City, Village or Town: Town of New Diggings
Legal Description: Section 10, Township 1N, Range 1E
Crossing: State Trunk Highway 11 over Galena River
Sketch Diagram (For survey photos, see contact sheet 79157/3,7)

Technical Data

Bridge Category: Metal overhead truss
Spans--No./Type: 2 Pratt full-slope spans (100' each)
Connection Type: Riveted
Substructure: Concrete abutments, wingwalls, and center pier
Overall Length x Width: 206'6" x 31'2"
Inclined End-Post/Upper Chord: L0-U1-U5-L6: double upright channels (10") with cover plate (18") and V-lacing
Lower Chord: L0-L6: double channels tied with batten plates top and bottom
Verticals: Rolled I-beams
Diagonals: Rolled I-beams
Counters: None
Floor System: Rolled I-floor-beams riveted to gusset plates above the bottom chord; rolled I-beam stringers; poured concrete deck with bituminous overlay
Bracing: **Top laterals:** Double angles with V-lacing; top struts, upper: double angles with X-lacing; top struts, **Lower:** Rolled I-beams; portal bracing: same as top struts; bottom: crossed angles
Bearings: Outside bearings on spans are fixed plates; inside bearings on spans are rockers

Summary Description

The Coulthard Bridge (B), B-33-204, is a large, two-span, metal, overhead, Pratt truss, carrying State Trunk Highway 11 over the Galena River. Each span is 100', for a total length of 206'6", and total width of 32'2". Roadway width is 30'. The heavy construction is illustrated by the use of rolled I-beams for verticals and diagonals and in top and portal bracing, all characteristic for a Pratt truss for this late period (1932-36) (C). Extra bracing appears in an intermediate horizontal strut (M2-M4), a heavy-duty structural element ordinarily found in larger span types, such as the Pennsylvania truss (A,B). The bridge was designed by the Wisconsin State Highway Commission and built as part of the reworking of the State Trunk Highway 11, which involved a major channel change for the Galena River (historically known as Fever River), straightening a curve and running the main channel under the east span (B). Fabrication was by Wausau Iron Works, with erection by Eau Claire Engineering Company (C). The expenditure was intended to provide relief employment during the Depression (D). The vertical clearance was raised on this bridge in 1979.

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. B-33-204

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
(x) Assoc. with significant persons/firms
(x) Assoc. with significant events

Period of significance: 1935

The Coulthard Bridge, B-33-204, erected in 1935, is a representative of the State Highway Commission-designed Pratt truss highway bridge for the 1932-36 era. In 1981, this bridge was recognized by the Historic Bridge Advisory Committee (HBAC) as one of two of the "best examples of Pratt overhead trusses from this period" (C). This bridge has undergone alterations and better examples have since been identified. It exhibits the characteristic compression and tension members of rolled sections in the web of the truss, creating overall a large and heavy bridge structure. The bridge is an integral part of the Depression-era enhancement of the state trunk highway system and the project was designed to provide employment for regional workers. It was fabricated by the Wausau Iron Works, identified by HBAC as a "known prolific Wisconsin builder" (C).

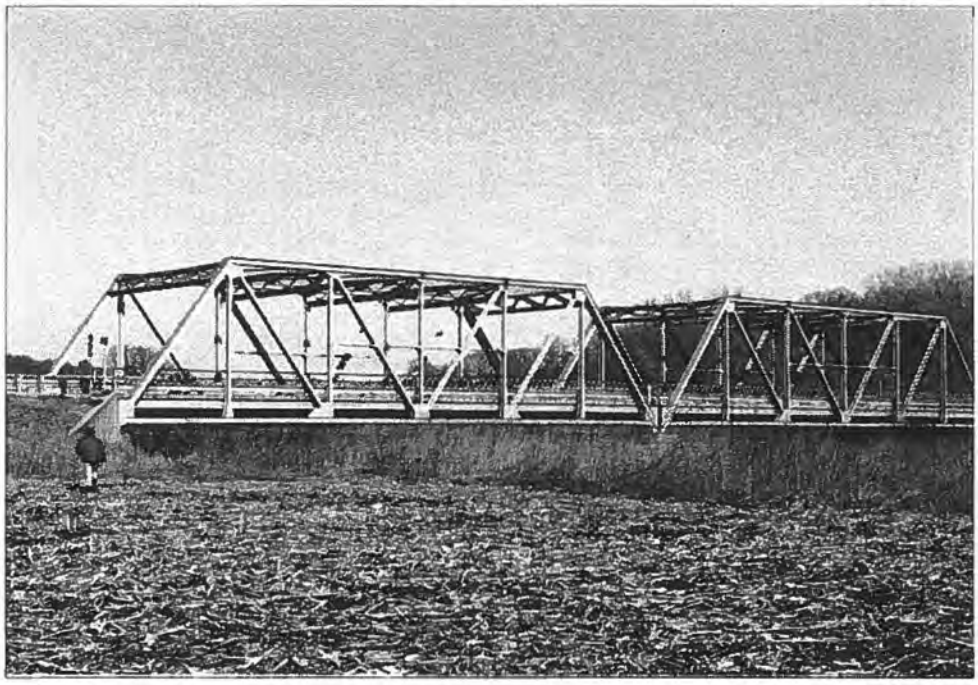
Sources of Information (Reference to Above)

A. Condit, Carl W. American Building. Chicago: U of Chicago P, 1982, p. 143.
B. Wisconsin State Highway Commission. Plans for the Coulthard Bridge (Bridge No. 204). Five sheets. 1934-35. Microfilm edition. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
C. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges" in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986.
D. Lafayette County Board of Supervisors. Proceedings, Nov. 1934-Jan. 1935, p. 7.

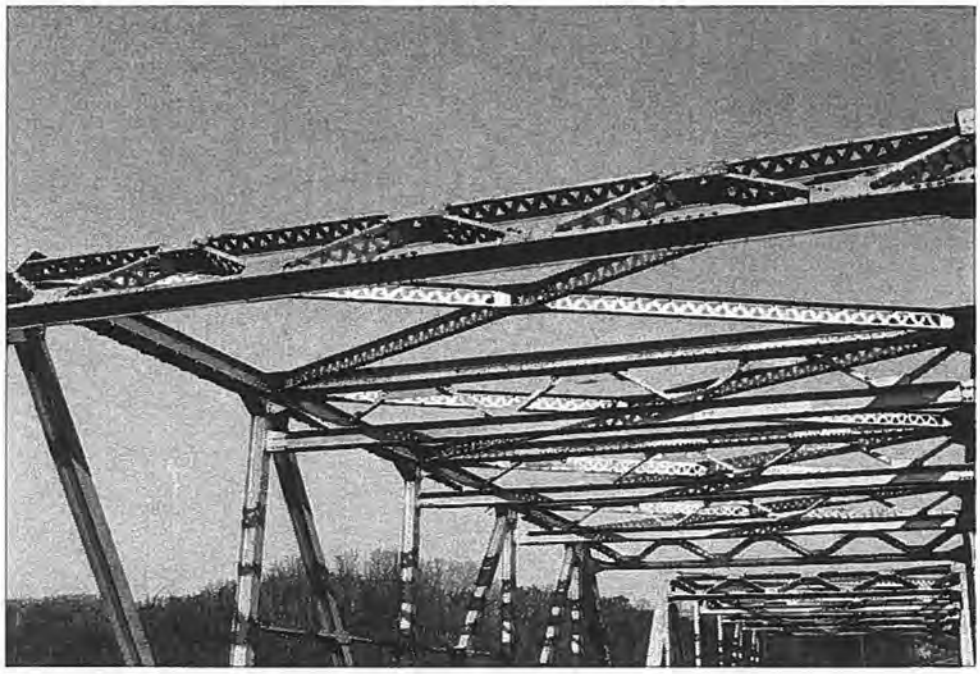
National Register Status

( ) Listed
( ) Determined Eligible
( ) Eligible
(x) Not Eligible

Date of Survey: November 5, 1987 Surveyor: Robert M. Frame III



Coulthard Bridge (B-33-204), Town of New Diggings, Lafayette County
Top: South elevation - *Source: J.A. Hess, 1986*
Bottom: Approach - *Source: J.A. Hess, 1986*



Coulthard Bridge (B-33-204), Town of New Diggings, Lafayette County
Top: Detail of west portal - *Source: J.A. Hess, 1986*
Bottom: Center pier - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. B-37-537

WISDOT Designation: B-37-537
Historic Name: Eau Claire River Bridge (A)
Other Name: Schofield Bridge
Current Owner: State Highway Department
Year Built: 1931
Engineer: Wisconsin State Highway Commission (A)
Fabricator: Wausau Iron Works(C)
Contractor: Unknown
Status: To be replaced as of 1996

Geographical Data

County: Marathon
City, Village or Town: City of Schofield
Legal Description: Sections 12/13, Town 28N, Range 7E
Crossing: US Highway 51B (Grand Avenue) over Eau Claire River
Sketch Diagram (For survey photos, see contact sheet CS 02014/2,3).

Technical Data

Bridge Category: Metal pony truss
Spans--No./Type: 2 Parker truss spans (91' each)
Connection Type: Riveted
Substructure: Reinforced concrete abutments and pier
Overall Length x Width: 184'7" x 49'6"
Inclined End-Post/Upper Chord: L0-U1-U7-L8: double upright channels (15") with cover plate (21"), tied with batten plates and V-lacing
Lower Chord: L0-L8: double back-to-back angles, tied with batten plates
Verticals: L1-U1, L2-U2, etc.: rolled-section I-beams (8" x 12")
Diagonals: L2-U1, L2-U3, L3-U2, etc.: rolled-section I-beams (7" x 12")
Counters: Indistinguishable from other diagonals
Floor System: Rolled-section floor I-beams riveted to gusset plates at panel points; rolled-section stringer I-beams; concrete deck
Bracing: Bottom laterals: Crossed angles
Bearings: Cast rocker bearings on both south ends; cast fixed shoes on both north ends

Summary Description

The Eau Claire River or Schofield Bridge (B-37-537) is a two-span, metal, riveted, Parker, pony-truss highway bridge. It carries US Highway 51B (Grand Avenue) over the Eau Claire River in the City of Schofield. The overall length is 184'7" with individual span lengths of 91' each; overall width is 49'6" with a roadway width of 40'. The design is a Parker truss, which is a Pratt truss with a polygonal top chord. The construction is representative of Wisconsin State Highway Commission-designed metal trusses for the early 1930s, employing very substantial rolled-section members, with riveted gusset-plate connections. The diagonals are all identically dimensioned I-beams and it is not possible to distinguish ordinary diagonals from counter diagonals. The floor beams are so large that, as located above the bottom chord, they raise the deck level to the point where the bridge has the appearance of being a half-deck truss. The floor beams are raised because the road grade is low and allows very little clearance between the lower chord and the river level. Built-up plate-girder brackets are cantilevered out from the west end of the floor beams to carry a pedestrian sidewalk, a necessary element for this city bridge. A decorative railing on the outside of the walkway has Neoclassic Deco detailing, especially on the cast-iron end posts (A). On the inside of the trusses, roadway railings have X-lattice webs and curve out at the abutments. The bridge retains design and structural

integrity, with the minor exception of a re-decking which removed original streetcar tracks which straddled the bridge centerline (A).

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
(x) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of significance: 1931

The Schofield or Eau Claire River Bridge (B-37-537), designed and built in 1931, is significant as Wisconsin's only known example of a pony truss in a Parker configuration (C). It exhibits the characteristic Parker design element of a polygonal top chord in a Pratt truss. This bridge also is characteristic of a Wisconsin State Highway Commission-designed metal truss bridge from the period 1926-31, having very heavy, rolled-section members, with riveted connections. It was fabricated by the Wausau Iron Works of Wausau, identified by State Historical Society of Wisconsin as a "known prolific Wisconsin builder," and therefore significant (C). Several elements characterize the bridge as an urban structure and different from most metal truss bridges in the 1981 Historic Bridge Advisory Committee study. These include the sidewalk, the decorative detailing, and the original streetcar tracks. Indicative of the importance of the crossing is the plan for a temporary bridge at the site to carry traffic while the present bridge was under construction (A).

Sources of Information (Reference to Above)

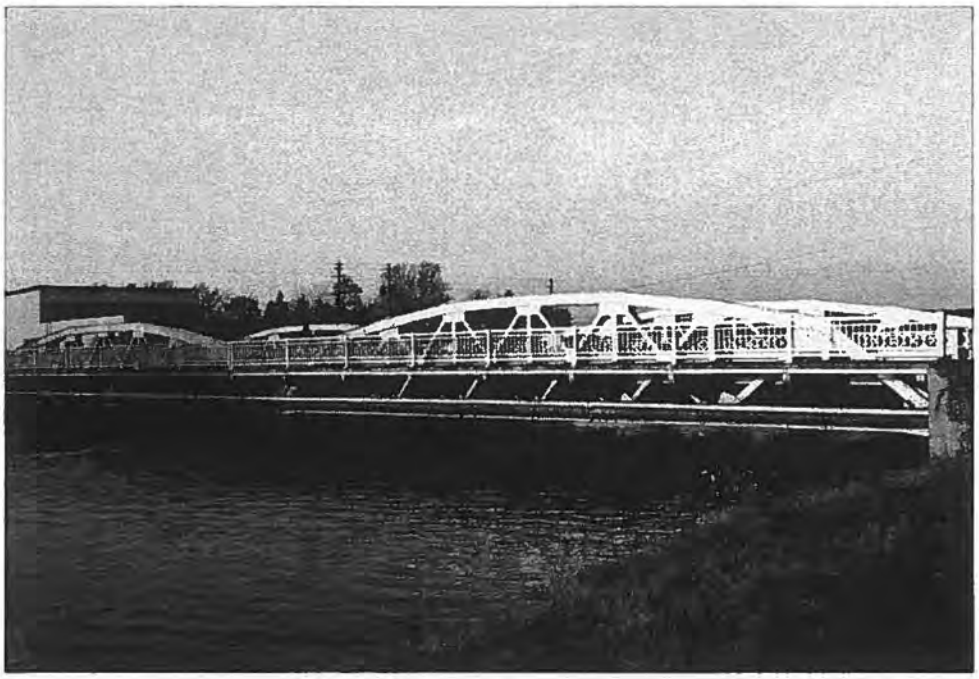
A. Plans for Eau Claire River Bridge (B-37-537). Madison, Wis.: State Highway Commission, 1931.
B. File for bridge B-37-537. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
C. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges" in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin, 1986.

National Register Status

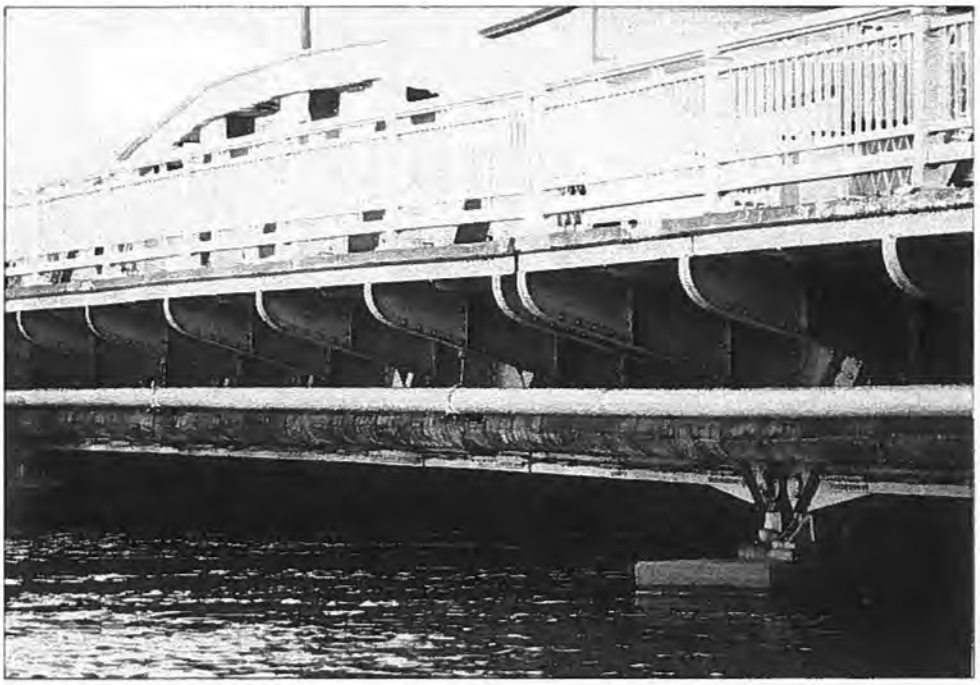
( ) Listed
(x) Determined Eligible
( ) Eligible
( ) Not Eligible

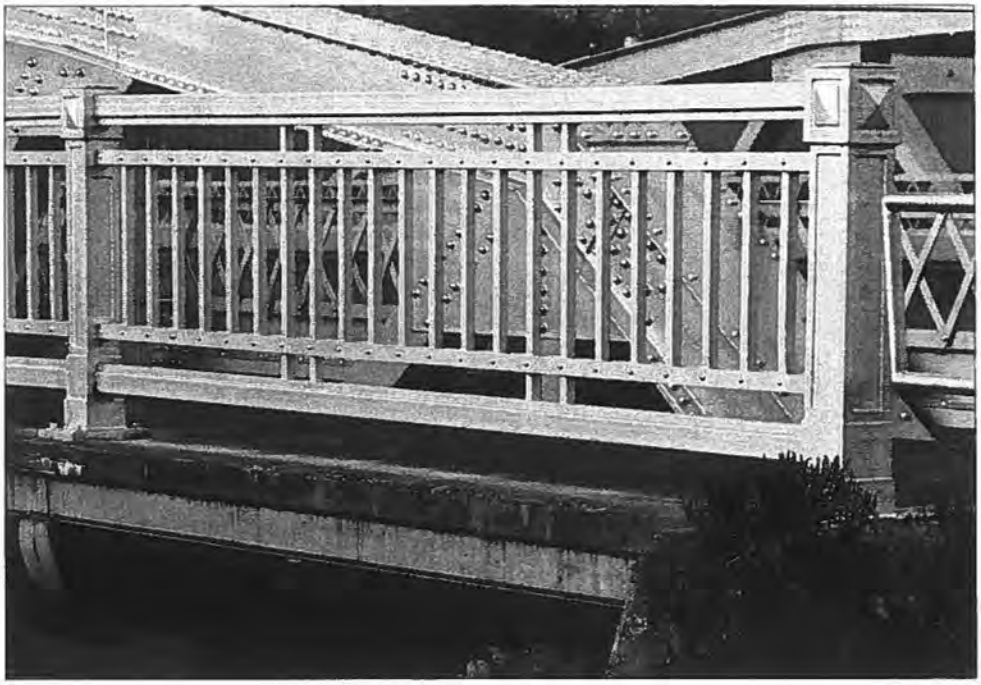
Date of Survey: October 20, 1986 Surveyor: Robert M. Frame III

Documentation: HAER No. WI-46



Eau Claire River Bridge (B-37-537), City of Schofield, Marathon County
Top: Both spans, west elevation - *Source: J.A. Hess, 1986*
Bottom: East elevation - *Source: J.A. Hess, 1986*





Eau Claire River Bridge (B-37-537), City of Schofield, Marathon County
Top: Detail of center pier and north span - *Source: J.A. Hess, 1986*
Bottom: South span, detail of southwest railing - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. B-37-549

WISDOT Designation: B-37-549
Historic Name: Marathon City Bridge (A,C)
Other Name: Rib River Bridge (B)
Current Owner: State Highway Department
Year Built: 1930 (A,B)
Engineer: Wisconsin State Highway Commission
Fabricator: Wausau Iron Works
Contractor: Wausau Iron Works
Status: Replaced in 1989

Geographical Data

County: Marathon
City, Village or Town: Village of Marathon City
Legal Description: Section 6, Town 28N, Range 6E
Crossing: STH 107 (Main St.) over Big Rib River
Sketch Diagram (For survey photos, see contact sheet 02014/3)

Technical Data

Bridge Category: Metal overhead truss
Spans--No./Type: 2 Parker spans (150'7" each) and 13 steel-beam and concrete-pile intermediate spans (32' each)
Connection Type: Riveted
Substructure: Concrete abutments and piers
Overall Length x Width: 721'7" x 31'7"
Inclined End-Post/Upper Chord: L0-U1-U8-L9: double upright channels (12") with cover plate (west truss: 16-1/2"; east truss: 18-1/2"), tied with V-lacing
Lower Chord: L0-L9: double back-to-back angles (4" x 4-1/2" and larger), tied with batten plates
Verticals: L1-U1, L2-U2, etc.: double angles (8") with V-lacing front and back
Diagonals: West truss L2-U1, L7-U8, and east truss L2-U1, L3-U2, L6-U7, L7-U8: double back-to-back angles; remainder on both trusses: double angles
Counters: See diagonals
Floor System: Rolled-section floor I-beams riveted to panel-point gusset plates above lower chord; rolled-section stringer I-beams; concrete deck
Bracing: **Top struts:** Double back-to-back angles with V-Lacing; **Top laterals:** Double back-to-back angles with V-lacing; **Top sways:** same as struts with single angle diagonals; **Bottom laterals:** Single angles
Bearings: Fixed shoes on outside ends; rocker bearings on inside ends

Summary Description

The Marathon City Bridge (B-37-549) has an overall length of 721'7" and includes 2 main spans connected by 13 intermediate spans. The main spans are metal, overhead, riveted, Parker trusses of 150' each. The intermediate spans consist of 32' steel beam spans with outside concrete beams on concrete pile bents. The structure carries State Trunk Highway 107 over the Big Rib River at the edge of the village of Marathon City. A city park is located just west of the bridge. The design is a representative Parker truss, being a long-span Pratt with a polygonal top chord. The construction is typical for the period, employing rolled-section and V-laced members, all of substantial weight. An 8' sidewalk is carried on brackets cantilevered out from the floor beams, along what is termed the "sidewalk truss" (C). The west truss is termed the "roadway truss" (C). The sidewalk truss is slightly heavier, having a wider top chord, more substantial diagonals (see above), and different dimensioned bottom chord members (C). X-lattice railings run the entire length of the structure, along the inside of both trusses and along the outside of the sidewalk. The bridge was designed in 1929 by the Wisconsin State Highway Commission to carry the roadway on a new

alignment over the two channels of the river. It was fabricated and erected in 1930 by the Wausau Iron Works of Wausau, Wisconsin. The bridge retains design and structural integrity.

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
(x) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of significance: 1930

The Marathon City Bridge (B-37-549) is significant as an unaltered representative example of the Parker metal overhead truss as designed by the Wisconsin State Highway Commission. It was chosen in 1981 by the state Historic Bridge Advisory Committee (HBAC) as one of Wisconsin's three "best examples of Parker overhead trusses" out of a total state population of about 35 (D). It is a late example of a large state-designed truss employing built-up members. With its two trusses (roadway and sidewalk sides) of slightly different dimensions, is an unusual example of truss dimensioning to accommodate differences between the two sides. The builder, Wausau Iron Works, has been identified by the State Historic Preservation Office as one of four "known prolific Wisconsin builders" and therefore of significance (D).

Sources of Information (Reference to Above)

A. Bridge B-37-549 builder's plate, mounted on span endposts.
B. File for bridge B-37-549. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
C. "Marathon City Bridge" Plans (B-37-549)(1929). Microfilm copy. Bridge section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
D. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges" in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986.

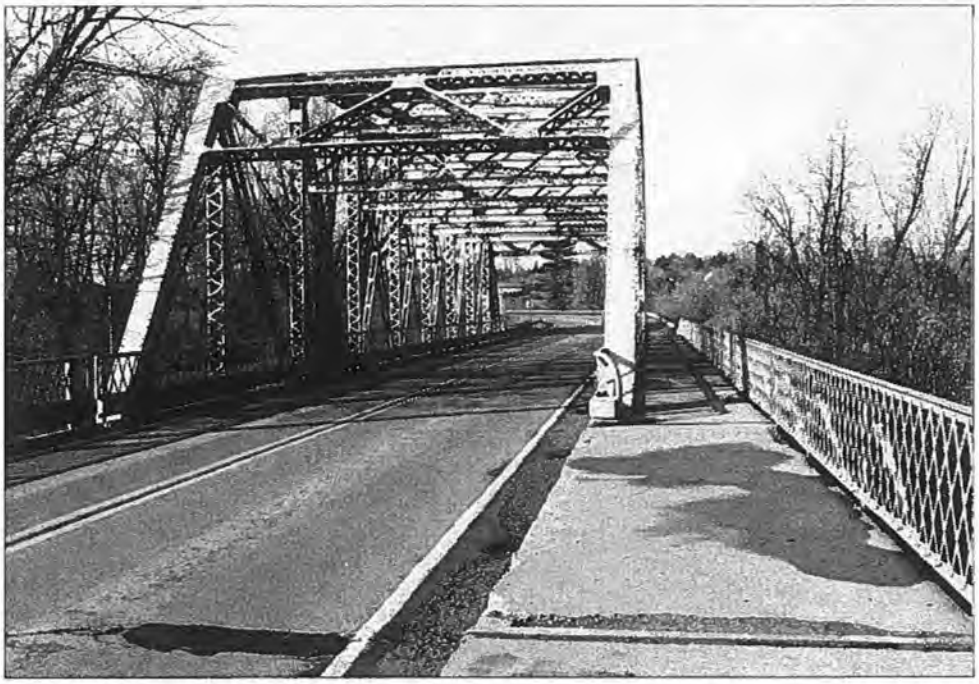
National Register Status

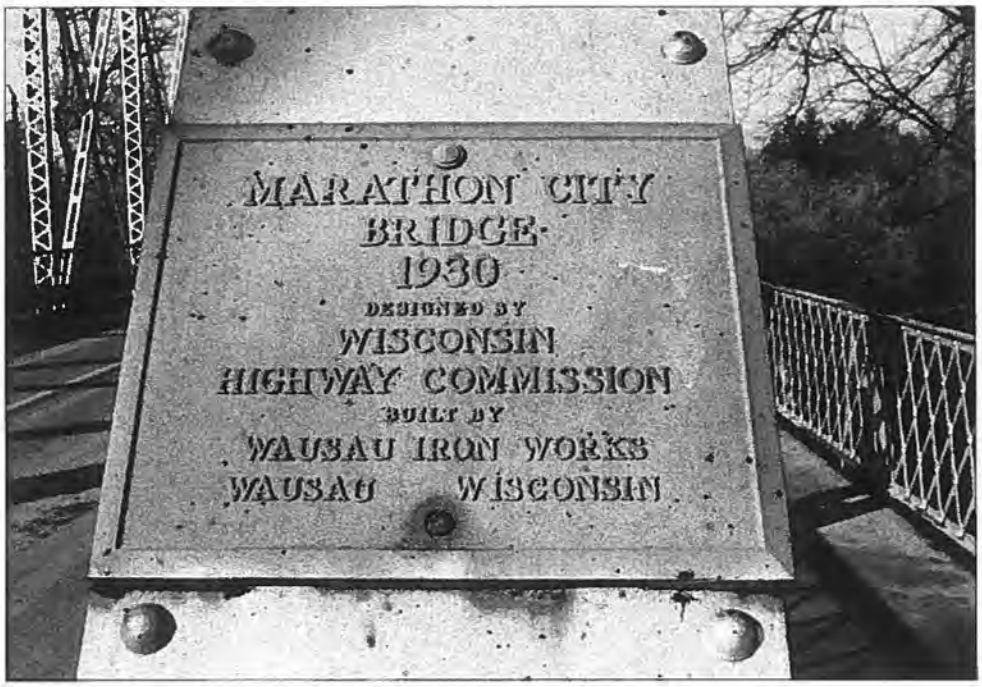
( ) Listed
(x) Determined Eligible
( ) Eligible
( ) Not eligible

Date of Survey: October 20, 1986 Surveyor: Robert M. Frame III

Documentation: Determination of Eligibility, 1987
HAER No. WI-38, 1987

Marathon City Bridge (B-37-549), Village of Marathon City, Marathon County
Top: North span, west elevation - *Source: J.A. Hess, 1986*
Bottom: Intermediate pile-trestle spans - *Source: J.A. Hess, 1986*





Marathon City Bridge (B-37-549), Village of Marathon City, Marathon County
Top: North span, south approach - *Source: J.A. Hess, 1986*
Bottom: South span, detail of dedication plate - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. B-38-901

WISDOT Designation: B-38-901
Historic Name: Little Peshtigo River Bridge (A)
Other Name:
Current Owner: State Highway Department
Year Built: 1929 (A)
Engineer: Wisconsin State Highway Commission (A)
Fabricator: Wausau Iron Works (A)
Contractor: Wausau Iron Works (A)
Status: Extant as of 1996

Geographical Data

County: Marinette
City, Village or Town: Town of Grover
Legal Description: Section 2, Town 30N, Range 21E, and Section 32, Town 31N, Range 21E
Crossing: STH 64 over Little Peshtigo River
Sketch Diagram (For survey photos, see contact sheet 02014/6/7)

Technical Data

Bridge Category: Metal pony truss
Spans--No./Type: 1 Warren standard span (70')
Connection Type: Riveted
Substructure: Concrete abutments and wing walls
Overall Length x Width: 72'8" x 28'
Inclined End-Post/Upper Chord: L0-U1-U9-L10: double upright channels (10") with cover plate (16"), tied with V-lacing
Lower Chord: L0-L10: double back-to-back angles, tied with batten plates ("+" section)
Verticals: L2-U2, L4-U4, etc.: double back-to-back angles, tied with batten plates ("H" section)
Diagonals: L2-U1, L8-U9: double back-to-back angles, tied with batten plates ("H" section); L2-U3, L4-U3, etc.: double angles tied with batten plates ("U" section)
Counters: None
Floor System: Built-up floor I-beams, riveted to gusset plates above bottom chord; rolled-section stringers; concrete deck with curb and floor drains
Bracing: Bottom laterals: Angles
Bearings: Grooved rocker bearings on east end; fixed plates on west end

Summary Description

Bridge B-38-901 is a single span, metal, riveted, Warren standard pony truss highway bridge. It carries State Trunk Highway 64 over the Little Peshtigo River in the town of Grover, rural Marinette County. The overall length is 72'8" and the span length is 70'; overall width is 28', carrying a roadway of 27'. The bridge is a typical Warren standard design, with diagonals of indeterminate compression/tension, and verticals to stiffen the truss. The construction is appropriate for the period, incorporating heavy built-up members (including the floor beams), riveted connections, rocker expansion bearings, and concrete abutments. The design used was a Wisconsin State Highway Commission standard low truss span (A). The railing is a decorative X-lace design, taken from an SHC standard railing plan (A). The bridge was erected in 1929 by the Wausau Iron Works of Wausau, Wisconsin. In 1977-78, the bridge underwent a re-decking. The modification did not alter the truss and floor, but it did involve the installation of new floor drains, whose lower extensions now appear conspicuously in elevation at mid-panel points, extending between the outside stringer and the lower chord. The original drain grates were salvaged and reused. Other than this, the bridge retains integrity of design, construction, and context.

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. B-38-901

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of significance: 1928-29

Bridge B-38-901, built in 1928-29, is significant as a representative State Highway Commission-designed Warren standard pony truss highway bridge constructed during this later period. It exhibits appropriate construction elements for the period, including heavy, built-up members and riveted connections. In 1981 the Historic Bridge Advisory Committee (HBAC) identified some 440 extant examples of this bridge type and determined that B-38-901 was one of the three best remaining examples, and the only one from the 1920s-30s periods (C). In addition, the State Historic Preservation Office has identified the builder, Wausau Iron Works, as a "known prolific Wisconsin builder," and therefore of significance (C).

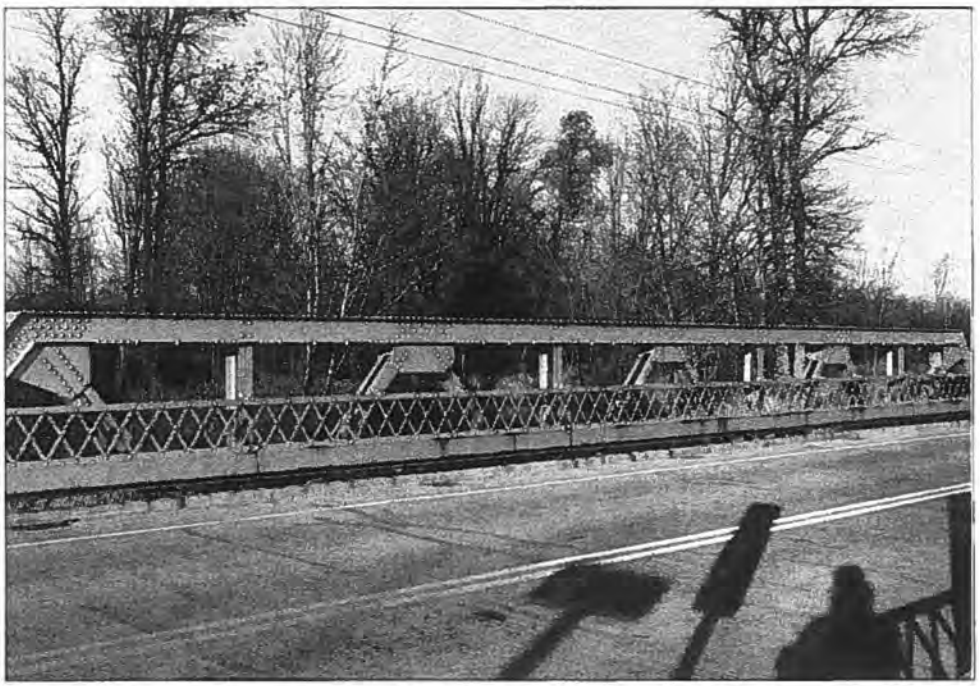
Sources of Information (Reference to Above)

A. Bridge B-38-901 plans. Multiple sheets, 1929-77. Microfilm edition. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
B. Bridge file for B-38-901. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
C. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges" in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986.

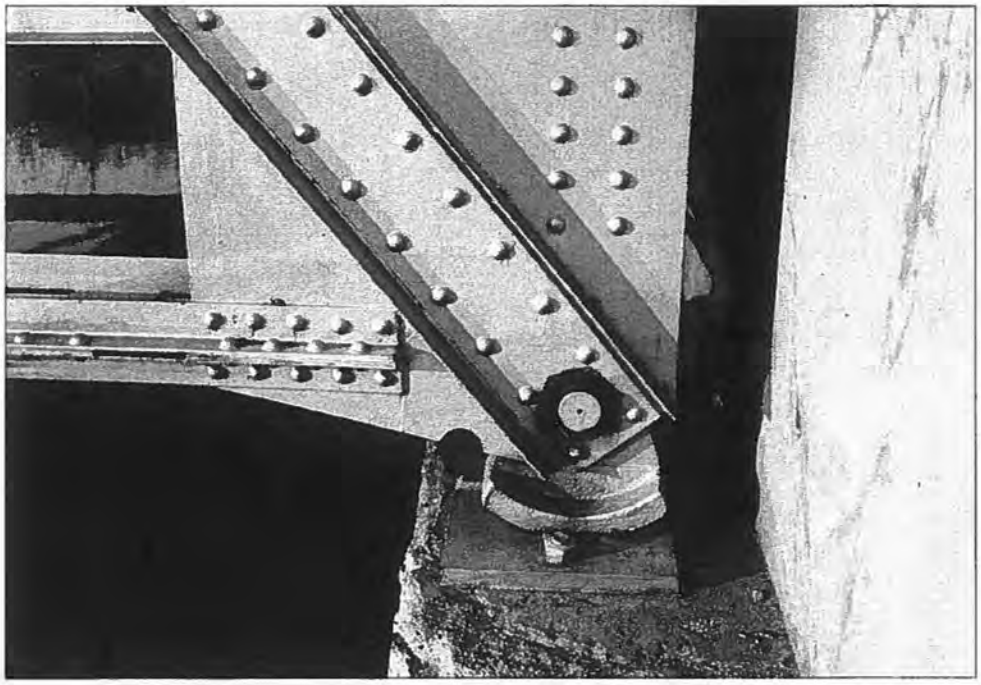
National Register Status

( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible

Date of Survey: October 21, 1986 Surveyor: Robert M. Frame III



Little Peshtigo River Bridge (B-38-901), Town of Grover, Marinette County
Top: South elevation - *Source: J.A. Hess, 1986*
Bottom: North truss, south elevation - *Source: J.A. Hess, 1986*



Little Peshtigo River Bridge (B-38-901), Town of Grover, Marinette County
East bearing - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. B-47-006

WISDOT Designation: B-47-006 (formerly P-47-705)
Historic Name: Wagon Trail Road Bridge
Other Name:
Current Owner: Village of Spring Valley
Year Built: 1909 (A)
Engineer: Worden-Allen Company
Fabricator: Worden-Allen Company
Contractor: Unknown
Bridge Moved In: 1950
Status: Moved and stored in 1996

Geographical Data

County: Pierce
City, Village or Town: Village of Spring Valley
Legal Description: Section 8, Town 27N, Range 15W
Crossing: Wagon Trail Road over Eau Galle River
Sketch Diagram (For survey photos, see contact sheet 79157/4; 79495/1)

Technical Data

Bridge Category: Metal overhead truss
Spans--No./Type: 1 Pratt span (138')
Connection Type: Riveted
Substructure: Concrete abutments and seats
Overall Length x Width: 143' x 16'
Inclined End-Post/Upper Chord: L0-U1-U8-U9: double upright channels (10") with cover plate (15"), tied with V-lacing
Lower Chord: Double angles (L0-L2, L7-L9: 4" x 3"; L2-L3, L6-L7: 3 ½" x 6"; L3-L6: 3 ½" x 6") tied with batten plates ("U" section)
Verticals: L1-U1, L8-U8: double angles (2 ½" x 3") tied with batten plates ("U" section); L2-U2, L3-U3, L6-U6, L7-U7 double back-to-back angles (3 ½" x 2 ½") tied with V-lacing ("H" section); L4-U4, L5-U5: double back-to-back angles (3" x 2") tied with V-lacing ("H" section)
Diagonals: Double angles (L2-U1, L7-U8: 3 ½" x 5"; L3-U2, L6-U7: 4" x 3"; L4-U3, L5-U6: 2 ½" x 3 ½"), tied with batten plates ("U" section)
Counters: L4-U5, L5-U4: double angles (2 ½" x 2 ½") tied with batten plates ("U" section)
Floor System: Rolled-section floor I-beams, riveted to gusset-plate connections at panel points; rolled-section stringer I-beams; vertical wood-plank deck
Bracing: **Top laterals:** Rods; **Top struts and sways:** Back-to-back angles with single angle "W" sway web (portal bracing is same); **Bottom laterals:** Threaded rods
Bearings: Fixed plates on north end; possible expansion plates on south end (bearings altered from original, probably at time of 1950 move)

Summary Description

Bridge B-47-006 (formerly P-47-705) is a single span, metal, overhead, Pratt truss highway bridge. It carries Wagon Trail Road over the Eau Galle River at the edge of the village of Spring Valley in rural Pierce County. It was moved to this site from an unknown location in 1950 (A). Overall length is 143' with a span length of 138'; overall width is 16' with a 15' roadway. The bridge has the basic design characteristics of a Pratt truss with verticals in compression and diagonals in tension. The construction is that of an early all-riveted Pratt, and therefore all members are built-up of angles and channels and no eyebars are employed. The counters in the center panel, therefore, are not

adjustable. Although the truss structure was not altered in the 1950 move, the bearings are not matched sets (fixed and expansion) and do not appear to be completely original (the east bearings have new paint). In addition, of course, the abutments and bridges seats are not original to the reported building date of 1909, being 1950 concrete. It was originally designed and built by the Worden-Allen Company of Milwaukee (C).

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of significance: 1909

Bridge B-47-006, built in 1909, is significant as a representative 1895-1910 era example of an early riveted version of the Pratt overhead truss highway bridge. It exhibits the basic features of Pratt design as constructed of built-up members with riveted connections. In 1981, this bridge was selected by the Historic Bridge Advisory Committee (HBAC) as one of the best examples of its type of the 32 extant in Wisconsin (B). Additionally, HBAC finds the builder, Worden-Allen Company, to be a "known prolific Wisconsin builder," and therefore of significance (B). The fact that the bridge was moved in 1950 indicates that the original 1909 context has been lost, although the integrity of design and construction remain (although the bearings appear altered). However, the fact that the bridge has been moved only confirms the mobility of metal truss bridges: "Such mobility should be viewed as proof of the intrinsic engineering value of iron trusses" (B).

Sources of Information (Reference to Above)

A. File for bridge B-47-006, includes "Bridge Inventory Report" completed in 1979 by Strand Associates, Inc., Consulting Engineers. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
B. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges" in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin, 1986.
C. Bridge plates: builder's plate on southeast end post; State Highway Commission plate on northwest end post.

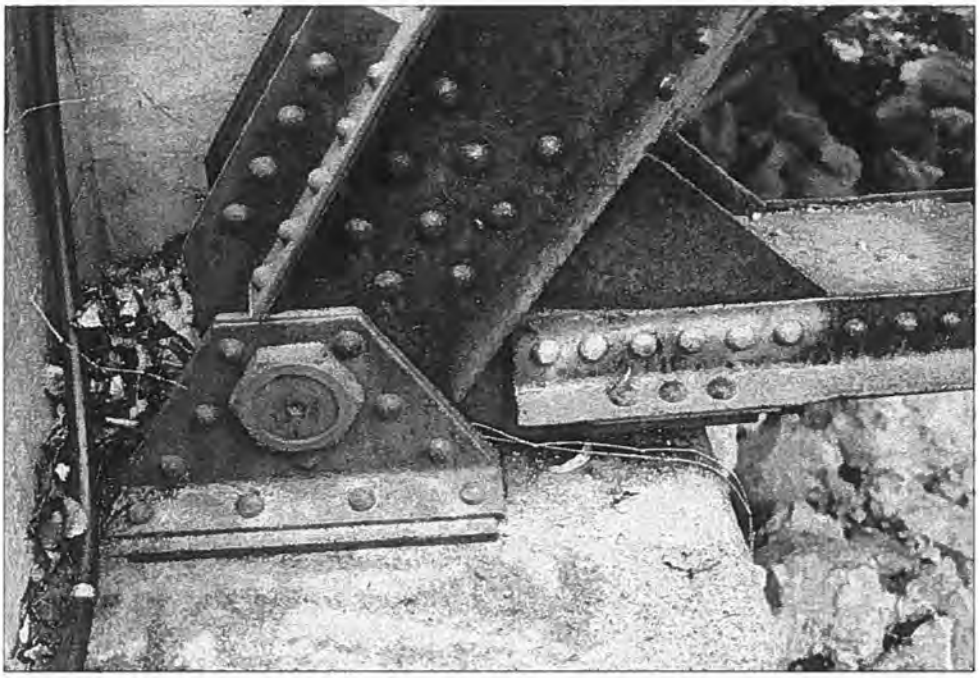
National Register Status

( ) Listed
(x) Determined Eligible
( ) Eligible
( ) Not Eligible

Date of Survey: November 7, 1986 Surveyor: Robert M. Frame III

Documentation: Determination of Eligibility, 1994
HAER No. WI-31

Wagon Trail Road Bridge (B-47-006), Village of Spring Valley, Pierce County
Top: East elevation - *Source: J.A. Hess, 1986*
Bottom: South approach - *Source: J.A. Hess, 1986*



Wagon Trail Road Bridge (B-47-006), Village of Spring Valley, Pierce County
Top: Detail of southeast bearing - *Source: J.A. Hess, 1986*
Bottom: Detail of southeast builder's plate - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-02-033

WisDOT Designation: P-02-033
Historic Name:
Other Name: Town Road Bridge
Current Owner: Town of White River
Year Built: c.1905
Engineer: Unknown
Fabricator: Unknown
Contractor: Unknown
Year Moved to Site: c.1925-1930
Status: Extant as of 1996

Geographical Data

County: Ashland
City, Village, or Town: Town of White River
Legal Description: Section 33, Town 46N, Range 4W
Crossing: Town Road over Marengo River
Sketch Diagram (For survey photos, see contact sheet 02100/4)

Technical Data

Bridge Category: Metal pony truss
Spans--No./Type: 1 Warren standard span (75')
Connection Type: Riveted (except for center panel, which is bolted)
Substructure: Concrete abutments with wing walls
Overall Length x Width: 78'5" x 16'
Inclined Endpost/Upper Chord: L0-U1-U9-L10: double upright channels (8" x 1 3/16") tied with cover plate (14" x 1/4") and batten plates Lower Chord: LO-L2, L8-L10: back-to-back angles (3 ½" x 3"); L2-L8: back-to-back angles (4" x 6")
Verticals: L2-U2, L4-U4, etc.: double angles tied with batten plates
Diagonals: L2-U1, L8-U9: double angles (5" x 3 ½") tied with batten plates; L2-U3, L8-U7: double angles (5"x 3") tied with batten plates; L4-U3, L4-U5, L6-U5, L6-U7: double angles (3 ½" x 2 ½") tied with batten plates
Floor System: Concrete decking with bituminous overlay on rolled I-beam stringers and rolled I-beam floor beams
Bracing: Bottom lateral: Cylindrical eyebars
Bearings: North end, fixed; south end, slide-plate expansion bearings

Summary Description

Situated on an unpaved farm road about 15 miles south of the city of Ashland, the bridge crosses the Marengo River in a north-south direction. It is a riveted pony truss with concrete abutments and a single Warren standard span with vertical posts to stiffen the web. The bridge displays angle-iron railings and concrete decking with bituminous overlay. According to a nearby resident, who witnessed the operation as a child, the bridge was moved onto its present site between 1925 and 1930. The informant believes that the structure originally was located about 10 miles north on Highway 13 over the White River (A). Since several branches of the White River cross Highway 13 within that general vicinity, it has not been possible to identify the precise location. Although the original construction date is unknown, the structure's engineering is compatible with other bridges of this type erected in Wisconsin during the first quarter of the twentieth century.

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-02-033

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of Significance: c.1905

The Town Road Bridge is an excellent example of Warren standard pony truss design as constructed in Wisconsin during the early twentieth century. Patented by two English engineers in 1848, the original Warren truss consisted of equilateral triangles. Subsequent experimentation revealed that other triangular forms were equally acceptable and that the addition of vertical posts increased web stability. Although the Warren standard did not find widespread acceptance in the United States until the late nineteenth century, it rapidly became one of the country's most popular bridge types after 1900 (B). The Wisconsin State Highway Commission preferred the Warren standard truss above all other types for spans ranging from 36 to 80 feet (C). In 1986, approximately 440 examples survived in the state, exceeding all other pony types combined (D). Like the Town Road Bridge, the state's Warren standard truss bridges are relatively short span, riveted structures with vertical posts.

Sources of Information

A. Hess, Jeffrey A. Interview with Victor Kantala, Town of White River, October 1986.
B. Condit, Carl W. American Building. Chicago: U of Chicago P, 1982, pp. 100-101.
C. Wisconsin State Highway Commission. Second Biennial Report, 1911-1915. Madison: Published by the State, 1915, p. 24.
D. Historic Bridge Advisory Committee Files. Wisconsin Department of Transportation, Central Office. Madison, Wis.

National Register Status

( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible

Date of Survey: October 1986 Surveyor: Jeffrey A. Hess

Town Road Bridge (P-02-033), Town of White River, Ashland County
Side elevation - *Source: Wisconsin Department of Transportation*

Town Road Bridge (P-02-033), Town of White River, Ashland County
Approach - *Source: Wisconsin Department of Transportation*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-04-043

WisDOT Designation: P-04-043
Historic Name:
Other Name: Lakeview Road Bridge
Current Owner: Town of Port Wing
Year Built: Early 1950s (A, B)
Engineer: Arne Johnson, Town of Oulu, Wisconsin
Fabricator: Arne Johnson, Town of Oulu, Wisconsin
Status: Extant as of 1996

Geographical Data

County: Bayfield
City, Village, or Town: Town of Port Wing
Legal Description: Sections 28/29, Town 50N, Range 8W
Crossing: Lakeview Road over Flagg River
Sketch Diagram (For survey photos, see contact sheet 02100/4)

Technical Data

Bridge Category: Timber pony truss
Spans--No./Type: 1 king post (23' 6")
Connection Type: Welded and bolted
Substructure: Timber pile abutments with plank wing walls braced by pilings
Overall Length x Width: 29'6" x 24'
Inclined Endpost/Upper Chord: L0-U2-L4: single timber (11 ½" x 11 ½) bolted to metal tie plate, which extends across apex of truss from point U1 to point U3 Lower Chord: LO-L4: bowed, double, cylindrical, steel rods (1" diameter) with threaded ends, bolted at points L0 and L4 to angles held in tension against the upper surface of the upper chord; each rod length consists of welded segments
Verticals: L1-U1, L3-U3: double, steel, cylindrical rods (1" diameter) with turnbuckles;, at upper ends, rods are welded at points U1 and U3 to tie plate; at lower ends, rods are welded beneath floor beam
Floor System: Plank decking on wood stringers supported at ends (points L0 and L4) by timber sills resting on abutments; supported at mid-span by timber floor beam cradled by steel-rod verticals
Bracing: Timber side brace connecting apex (point U2) to floor beam

Summary Description

Located on a paved road in a rural, residential area just north of the village of Port Wing, the Lakeview Road Bridge crosses the Flagg River in a north-south direction. The structure is a timber, king post truss with steel-rod verticals, plank decking and railings, timber pile abutments, and timber side bracing to stiffen the web. The design is vernacular and unorthodox. Instead of the traditional, timber lower chord, the bridge substitutes bowed, double, cylindrical rods bolted to angle plates positioned on the upper surface of the upper chord. The bridge was designed and built on a "day-labor" basis for the town of Port Wing in "the early 1950s" by area resident Arne Johnson, who owned the only backhoe in the region. The other members of the work crew were Theodore Bodeen and Edwin Ellfson, both of Port Wing. Johnson modeled his design after a bridge formerly located on County Road FF in the nearby town of Brule. He scavenged timbers for the structure from a demolished ore dock in Superior. The Lakeview Road Bridge closely resembles a bridge located one-quarter mile to the south, which was also designed and built by Johnson at the same time (A, B, C).

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of Significance: c.1950

The Lakeview Road Bridge is an unusual, vernacular variant of king post truss design. Any type of king post highway bridge is now quite rare in Wisconsin. The city of Port Washington has one all-metal example (D), and the Van Loon Wildlife Region near La Crosse has one all-timber example (E), which is the classic type dating back to at least the middle ages. During the nineteenth century, the all-timber king post was modified with steel-rod tension members so that it resembled the Howe truss (F). Although technically a "composite" (i.e., timber and metal) truss, the structure, again like the Howe, was generally classed with timber trusses. In this form, the king post became a popular short-span highway bridge in Wisconsin and elsewhere (G). The Lakeview Road Bridge has the customary steel-rod verticals and timber upper chord, but it departs from conventional design in its bowed, double, steel-rod, lower chord. The bridge was planned and built for the town of Port Wing in the early 1950s by the local contractor Arne Johnson, who adapted the design from a king-post truss bridge (since demolished) that he had seen in the neighboring town of Brule (A).

Born in the nearby town of Oulu in 1914, Johnson had no formal training in any branch of construction or engineering. He improvised the bridge's fabrication by reusing timbers scavenged from a demolished ore dock in Superior and by welding together cylindrical rods to form the verticals and lower chord (A). The connections show similar ingenuity in their bolting and welding. With its companion king post bridge located immediately to the south (built at the same time by Johnson), the Lakeview Road Bridge is the only, surviving, documented example of vernacular highway-truss design in Wisconsin -- all the more remarkable for having been constructed in an era of highly standardized bridge construction. As a rare example of king post construction and vernacular highway bridge design, the bridge embodies those qualities of "exceptional significance" that qualify structures less than 50 years old for listing in the National Register of Historic Places. The structure retains full design integrity.

Sources of Information (Reference to Above)

A. Hess, Jeffrey A. Telephone interview with Arne Johnson, Brule, Wis., March 30, 1987.
B. Hess, Jeffrey A. Telephone interview with Theodore Bodeen, Port Wing, Wis., March 30, 1987.
C. Intensive Survey Form for P-03-044.
D. Intensive Survey Form for P-45-714.
E. Brown, George C. "National Register Nomination for Van Loon Wildlife Area Truss Bridge Group." M.S., State Historical Society of Wisconsin-Historic Preservation Division, 1979.
F. Merriman, Mansfield and Henry S. Jacoby. A Text-book on Roofs and Bridges, Part 1. New York: John Wiley & Sons, 1925. p. 52.
G. Hirst, Arthur R. and M.W. Torkelson. Culverts and Bridges. Road Pamphlet No.4. Madison, Wis.: Wisconsin Geological and Natural History Survey, 1908. p. 50.

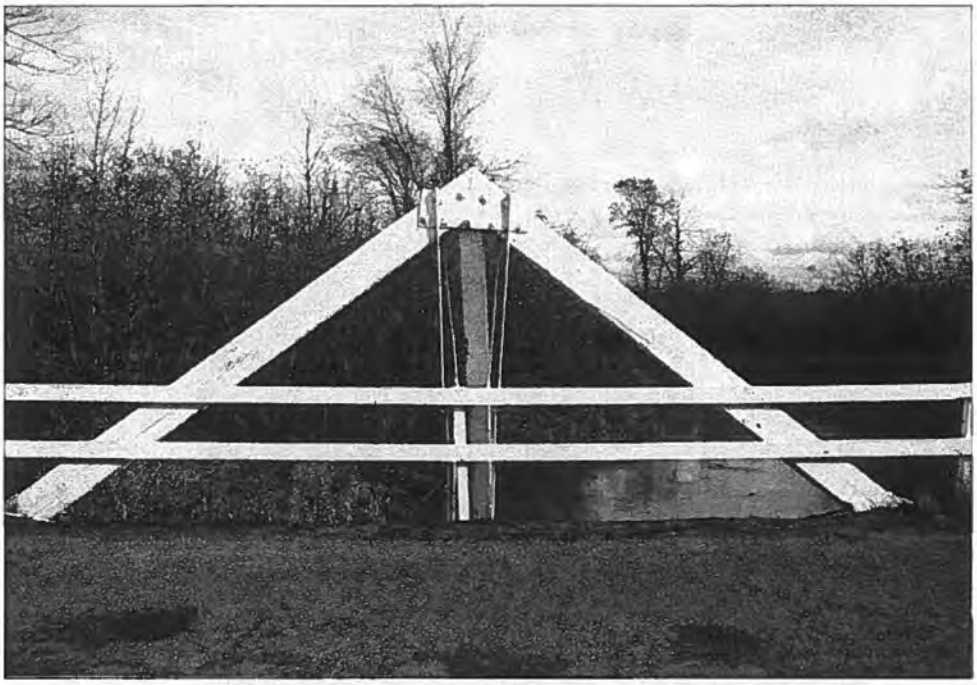
TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-04-043

National Register Status

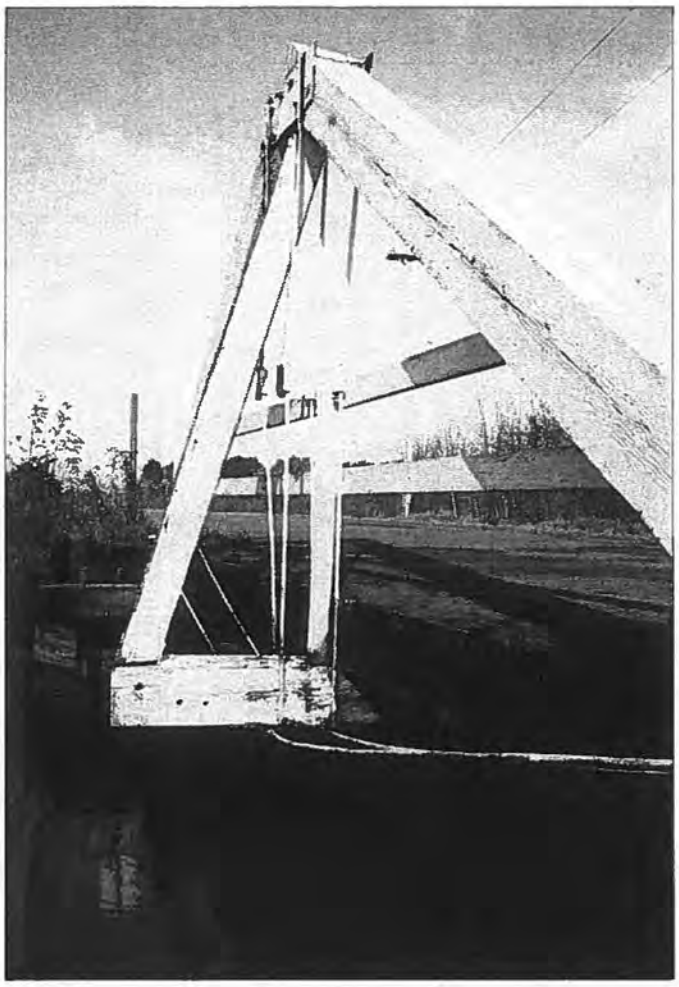
( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible

Date of Survey: October 1986 Surveyor: Jeffrey A. Hess

Lakeview Road Bridge (P-04-043), Town of Port Wing, Bayfield County
Side elevation - *Source: Wisconsin Department of Transportation*



Lakeview Road Bridge (P-04-043), Town of Port Wing, Bayfield County
Detail of truss members - *Source: Wisconsin Department of Transportation*



Lakeview Road Bridge (P-04-043), Town of Port Wing, Bayfield County
Detail of verticals and lower chord - *Source: Wisconsin Department of Transportation*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-04-044

WisDOT Designation: P-04-044
Historic Name:
Other Name: Lakeview Road Bridge
Current Owner: Town of Port Wing
Year Built: Early 1950s (A, B)
Engineer: Arne Johnson, Town of Oulu, Wisconsin
Fabricator: Arne Johnson, Town of Oulu, Wisconsin
Contractor: Unknown
Status: Replaced in 1988

Geographical Data

County: Bayfield
City, Village, or Town: Town of Port Wing
Legal Description: Sections 28/29, Town 50N, Range 8W
Crossing: Lakeview Road over Flagg River
Sketch Diagram (For survey photos, see contact sheet 02100/4)

Technical Data

Bridge Category: Timber pony truss
Spans--No./Type: 1 king post (22')
Connection Type: Welded and bolted
Substructure: Timber pile abutments with plank wing walls braced by pilings
Overall Length x Width: 29'8" x 24'8"
Inclined Endpost/Upper Chord: L0-U2-L4: single timber (7 ½" x 7 ½) bolted to metal tie plate, which extends across apex of truss from point U1 to point U3
Lower Chord: LO-L4: bowed, double, cylindrical, steel rods (5/8" diameter) with threaded ends, bolted at points L0 and L4 to angles held in tension against the upper surface of the upper chord; each rod length consists of welded segments
Verticals: L1-U1, L3-U3: double, steel, cylindrical rods (½" diameter) with threaded ends; at upper ends, rods are bolted at points U1 and U3 to angles welded to metal tie plate; at lower ends, rods are bolted to angles held in tension against bottom of floor beam; each rod length consists of welded segments
Floor System: Plank decking on wood stringers supported at ends (points L0 and L4) by timber sills resting on abutments; supported at mid-span by timber floor cradled by steel-rod verticals
Bracing: Timber side brace connecting apex (point U2) to floor beam

Summary Description

Located on a paved road in a rural, residential area just north of the village of Port Wing, the Lakeview Road Bridge crosses the Flagg River in a north-south direction. The structure is a timber, king post truss with steel-rod verticals, plank decking and railings, timber pile abutments, and timber side bracing to stiffen the web. The design is vernacular and unorthodox. Instead of the traditional, timber lower chord, the bridge substitutes bowed, double, cylindrical rods bolted to angle plates positioned on the upper surface of the upper chord. The bridge was designed and built on a "day-labor" basis for the town of Port Wing in "the early 1950s" by area resident Arne Johnson, who owned the only backhoe in the region. The other members of the work crew were Theodore Bodeen and Edwin Ellfson, both of Port Wing. Johnson modeled his design after a king post bridge formerly located on County Road FF in the nearby town of Brule. He scavenged timbers for the structure from a demolished ore dock in Superior. The Lakeview Road Bridge closely resembles a king post bridge located one-quarter mile to the north which was also designed and built by Johnson at the same time (A, B, C).

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-04-044

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of Significance: c.1950

The Lakeview Road Bridge is an unusual, vernacular variant of king-post truss design. Any type of king post highway bridge is now quite rare in Wisconsin. The city of Port Washington has one all-metal example (D), and the Van Loon Wildlife Region near La Crosse has one all-timber example (E), which is the classic type dating back to at least the middle ages. During the nineteenth century, the all-timber king post was modified with steel-rod tension members so that it resembled the Howe truss (F). Although technically a "composite" (i.e., timber and metal) truss, the structure, again like the Howe, was generally classed with timber trusses. In this form, the king post became a popular short-span highway bridge in Wisconsin and elsewhere (G). The Lakeview Road Bridge has the customary steel-rod verticals and timber upper chord, but it departs from conventional design in its bowed, double, steel-rod, lower chord. The bridge was planned and built for the town of Port Wing in the early 1950s by the local contractor Arne Johnson, who adapted the design from a king post truss bridge (since demolished) that he had seen in the neighboring town of Brule (A).

Born in the nearby town of Oulu in 1914, Johnson had no formal training in any branch of construction or engineering. He improvised the bridge's fabrication by reusing timbers scavenged from a demolished ore dock in Superior and by welding together cylindrical rods to form the verticals and lower chord (A). The connections show similar ingenuity in their bolting and welding. With its companion king post bridge located immediately to the north (built at the same time by Johnson), the Lakeview Road Bridge is the only, surviving, documented example of vernacular highway-truss design in Wisconsin -- all the more remarkable for having been constructed in an era of highly standardized bridge construction. As a rare example of king post construction and vernacular highway bridge design, the bridge embodies those qualities of "exceptional significance" that qualify structures less than 50 years old for listing in the National Register of Historic Places. The structure retains full design integrity.

Sources of Information (Reference to Above)

A. Hess, Jeffrey A. Telephone interview with Arne Johnson, Brule, Wis., March 30, 1987.
B. Hess, Jeffrey A. Telephone interview with Theodore Bodeen, Port Wing, Wis., March 30, 1987.
C. Intensive Survey Form for P-03-043.
D. Intensive Survey Form for P-45-714.
E. Brown, George C. "National Register Nomination for Loon Wildlife Area Truss Bridge Group." M.S., State Historical Society of Wisconsin-Division of Historic Preservation, 1979.
F. Merriman, Mansfield and Henry S. Jacoby. A Text-book on Roofs and Bridges, Part 1. New York: John Wiley & Sons, 1925. p. 52.
G. Hirst, Arthur R. and M. W. Torkelson. Culverts and Bridges, Road Pamphlet No. 4. Madison, Wis.: Wisconsin Geological and Natural History Survey, 1908. p. 50.

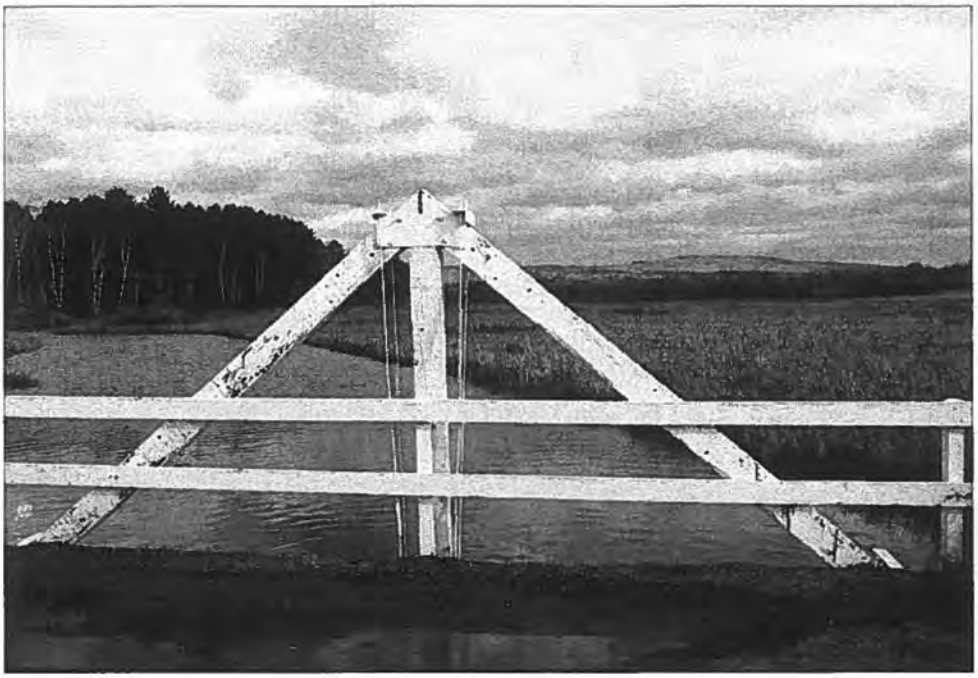
TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-04-044

National Register Status

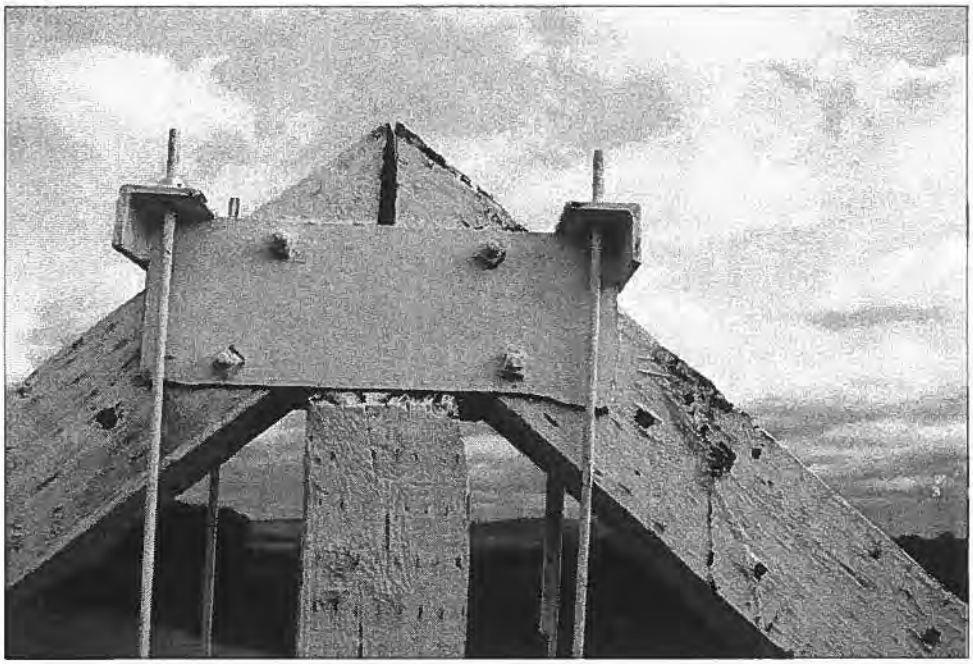
( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible

Date of Survey: October 1986 Surveyor: Jeffrey A. Hess

Lakeview Road Bridge (P-04-044), Town of Port Wing, Bayfield County
Approach - *Source: Wisconsin Department of Transportation*



Lakeview Road Bridge (P-04-044), Town of Port Wing, Bayfield County
Detail of king post and railing - *Source: Wisconsin Department of Transportation*



Lakeview Road Bridge (P-04-044), Town of Port Wing, Bayfield County
Detail of connection - *Source: Wisconsin Department of Transportation*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-08-703

WISDOT Designation: P-08-703
Historic Name:
Other Name: State Street Bridge
Current Owner: City of Chilton
Year Built: 1894
Engineer: Unknown
Fabricator: Wisconsin Bridge and Iron Company
Contractor: Unknown
Status: Replaced in 1988

Geographical Data

County: Calumet
City, Village or Town: City of Chilton
Legal Description: Section 13, Township 18N, Range 19E
Crossing: State Street over South Branch Manitowoc River
Sketch Diagram (For survey photos, see contact sheet 02014/5)

Technical Data

Bridge Category: Metal overhead truss
Spans--No./Type: 1 Pratt span (80')
Connection Type: Pinned
Substructure: Stone abutment with newer concrete wing-walls
Overall Length x Width: 83' x 19'
Inclined End-Post/Upper Chord: L0-U1-U4-L5: double upright channels (7") with cover plate (12") and V-lacing
Lower Chord: L0-L2, L3-L5: rectangular eyebars (1-1/2" x 1"); L2-L3: rectilinear eyebars (2" x 1-1/8")
Verticals: L1-U1, L4-U4: double square eyebars (1" x 1"); L2-U2, L3-U3: double back-to-back angles (2" x 2-1/2") with V-lacing
Diagonals: L2-U1, L3-U4: double rectangular eyebars (1-1/4" x 1").
Counters: L2-U3, L3-U2: double cylindrical rods with turnbuckles
Floor System: U-bolt hangers; fish-belly, built-up floor beams, with wood plank deck on stringers; floor beams cantilevered out on west side to support sidewalk
Bracing: **Bottom lateral:** cylindrical rods with threaded ends; **Top lateral:** cylindrical rods; top **Lateral struts:** double back-to-back angles with batten plates
Bearings: Fixed plate on north end; expansion rollers on south end; all bearings are enclosed in newer sheet metal housing

Summary Description

Bridge P-08-703 is an 80-foot, single-span, pin-connected, Pratt, overhead truss located at a mill dam in a park-like area of downtown Chilton. It has distinguishing built-up, fish-belly floor beams that are cantilevered beyond the west lower chord in order to support a sidewalk with a decorative metal railing (referred to in the firm's bid package as "Standard Style H"). The sheet metal covers on each bearing are unusual. The bridge was fabricated at a cost of $2,250 in 1894 by the Wisconsin Bridge & Iron Co., Milwaukee, three years after they had incorporated in Wisconsin. It replaced a wood bridge and, at the same time, the original wood dam was replaced by the present concrete dam, which served the nearby Stanton family grist-mill (D). The WB&I "Strain and Section Sheet" specified "all metal medium steel," making this one of the firm's early steel structures. In 1970, it faced possible demolition and replacement, but has survived unaltered.

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-08-703

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of significance: 1894

Bridge P-08-703 is significant as an unaltered, representative example of an early, pre-automobile-era, pin-connected, steel, Pratt, overhead truss bridge in an urban setting. Its notable cantilevered floor beams and sidewalk enhance its design. Historically, it is important for its association with a nearby grist mill and mill dam.

Sources of Information (Reference to Above)

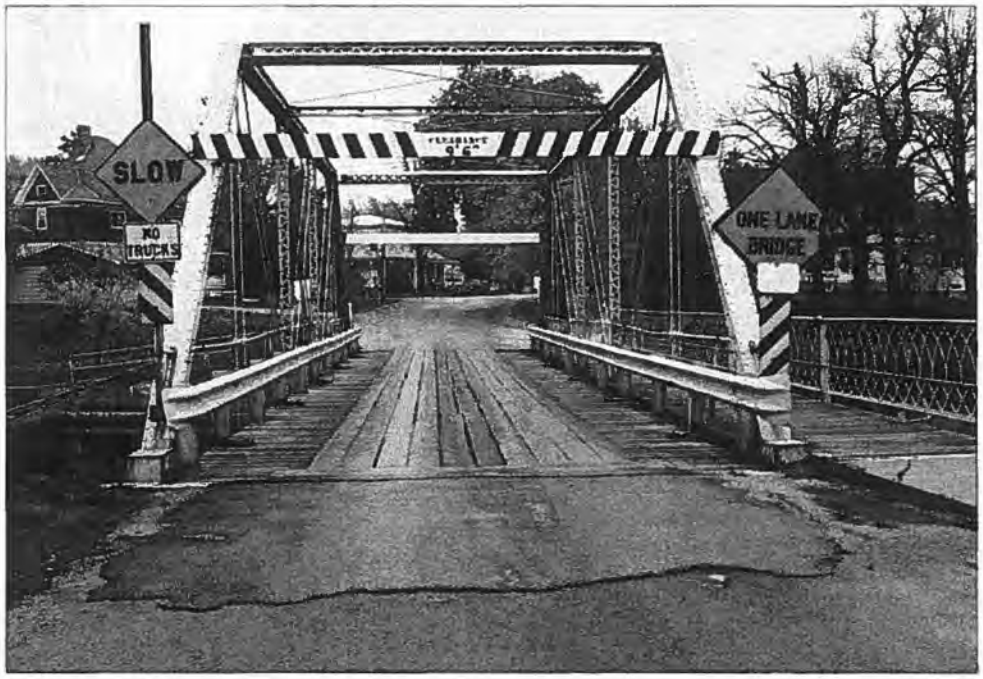
A. File for bridge P-08-703, includes bridge inventory file. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
B. Wisconsin Bridge & Iron Co. documents. In file on P-09-703 in Department of Public Works, City of Chilton, Wis.
C. Danko, George M. "A Selective Survey of Metal Truss Bridges in Wisconsin." M.S., State Historical Society of Wisconsin-Historic Preservation Division, Madison, Wis., 1977, see p. 15 re WB&I.
D. "Chilton Faces Bridge Decision." Appleton Post-Crescent, 11 July 1970.

National Register Status

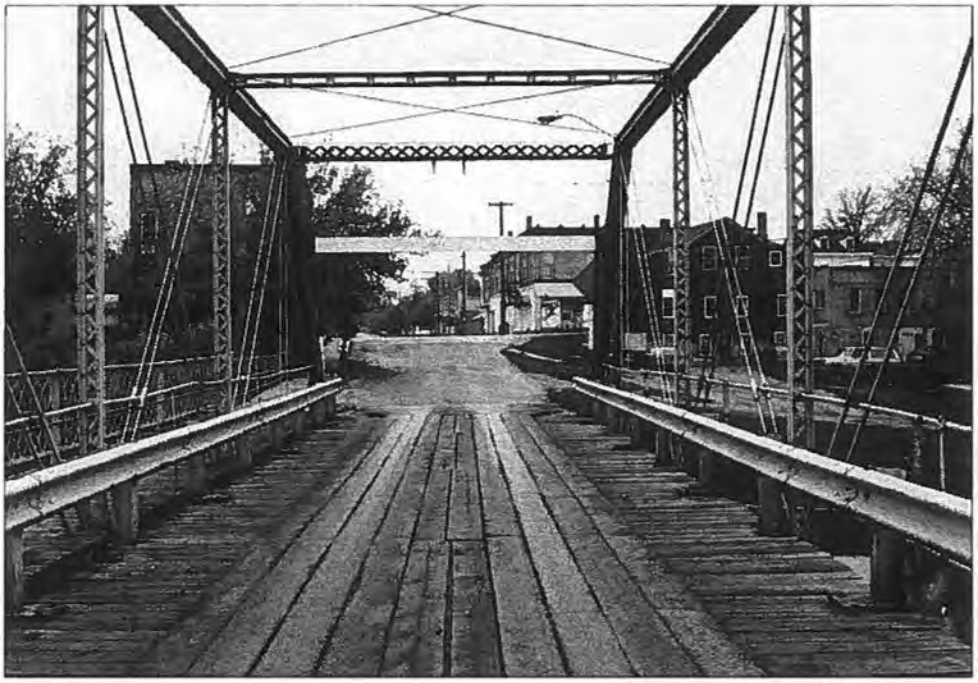
( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible

Date of Survey: October 23, 1986 Surveyor: Robert M. Frame III

Documentation: State-level archival documentation



State Street Bridge (P-08-703), City of Chilton, Calumet County
Top: East elevation - *Source: J.A. Hess, 1986*
Bottom: North approach - *Source: J.A. Hess, 1986*



State Street Bridge (P-08-703), City of Chilton, Calumet County
Top: Barrel view - *Source: J.A. Hess, 1986*
Bottom: Detail of sidewalk railing - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-09-708

WisDOT Designation: P-09-708
Historic Name: Upper Bridge (A)
Other Name: Bear Den Bridge (B)
Current Owner: City of Chippewa Falls
Year Built: 1907
Engineer/Fabricator/Contractor: Wisconsin Bridge and Iron Company
Year Moved to Site: 1940 (C, E)
Status: Extant as of 1996

Geographical Data

County: Chippewa
City, Village or Town: City of Chippewa Falls
Legal Description: Section 31, Town 29N, Range 8W
Crossing: Bear Den Drive over Duncan Creek
Sketch Diagram: (For survey photos, see contact sheet 02100/1)

Technical Data

Bridge Category: Metal overhead truss
Spans--No./Type: 1 Pratt span (90')
Connection Type: Pinned
Substructure: Rubble fieldstone wing walls and abutments with concrete footings and bridge seat
Overall Length x Width: 92'8" x 16'11"
Inclined Endpost/Upper Chord: L0-U1-U4-L5: double upright channels (6" x 1 7/8") tied with cover plate (10" x 1/4") and batten plates
Lower Chord: LO-L5: double, rectangular-section eyebars (2 ½" x ½")
Verticals: L1-U1, L4-U4: double, square eyebars (7/8"); L2-U2, L3-U3: double channels (6" x 3/8") tied with V-lacing
Diagonals: L2-U1, L3-U4: double, rectangular-section eyebars (2" x ½")
Counters: L2-U3, L3-U2: square eyebars (1") with turnbuckles
Floor System: Wood decking with bituminous overlay on rolled I-beam stringers and rolled I-beam girders, hung from lower chord pins by inverted U-clamps (threaded ends pointing downward)
Bracing: Portal: Double back-to-back angles; **Top:** Cylindrical eyebars; **Bottom:** Cylindrical eyebars
Bearings: Fixed plates on the west end; expansion roller-nest bearings on the east end

Summary Description

Used only for recreational traffic, the Upper Bridge spans Duncan Creek in an east-west direction on Bear Den Drive in the northern-central section of Irvine Park in Chippewa Falls. Measuring about 90 feet in length, the structure is a metal truss with a single, Pratt overhead span supported by rubble fieldstone abutments. The bridge has bituminous-covered wood decking and angled iron railings. Its original construction date is not known. In 1934, a flood washed out a previous bridge at this site (D). Although the Board of Park Commissioners urged the City Council "to hasten" the construction of a replacement, funds for that purpose were not secured until February 1940, when the Works Progress Administration (WPA) approved the project at a total cost of about $7,200 (A, D, E).

Despite the fact that the local press described the replacement as "a new bridge," it seems clear that structure actually was an older structure that was moved onto the site (D, E). By 1940, new Pratt trusses were invariably riveted structures with rolled structural members and concrete decking. The present bridge, however, is pin-connected with built-up structural members, rolled I-beam deck girders, and wood decking, which is typical of Wisconsin bridge construction during the general period 1895 to 1910 (F). The structure probably dates from the first decade of the twentieth century, when the "Good Roads Movement" accelerated bridge construction throughout the state (G). The

bridge was built in 1907 by the Wisconsin Bridge and Iron Company of North Milwaukee. After 1910 the state's overhead Pratt trusses were generally constructed with concrete decking, as specified by the Wisconsin State Highway Commission (H). Although research has failed to uncover the bridge's original location, a knowledgeable local informant is of the opinion that "the structure came from downstream on Duncan Creek" (A).

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Associated with significant persons/firms
( ) Associated with significant events

Period of Significance: 1907

The Upper Bridge in Irvine Park is an excellent example of metal, overhead Pratt bridge construction, as practiced in Wisconsin during the period 1895-1910. Patented by American engineers Thomas and Caleb Pratt in 1844, the Pratt truss became the country's "standard design in iron trusses by the late 1800s" (E). In 1986, approximately 120 overhead, Pratt highway trusses were extant in the state. Of this number, about 35 date from 1895-1910. The Upper Bridge typifies this group in its use of pin connections; relatively light built-up structural members; rolled I-beam floor girders, and wood decking (E). Moved to its present location in 1940, the bridge's superstructure shows no evidence of major alterations. The builder, Wisconsin Bridge and Iron Company, has been identified by the State Historic Preservation Office as a "known prolific Wisconsin builder," and therefore of significance (F).

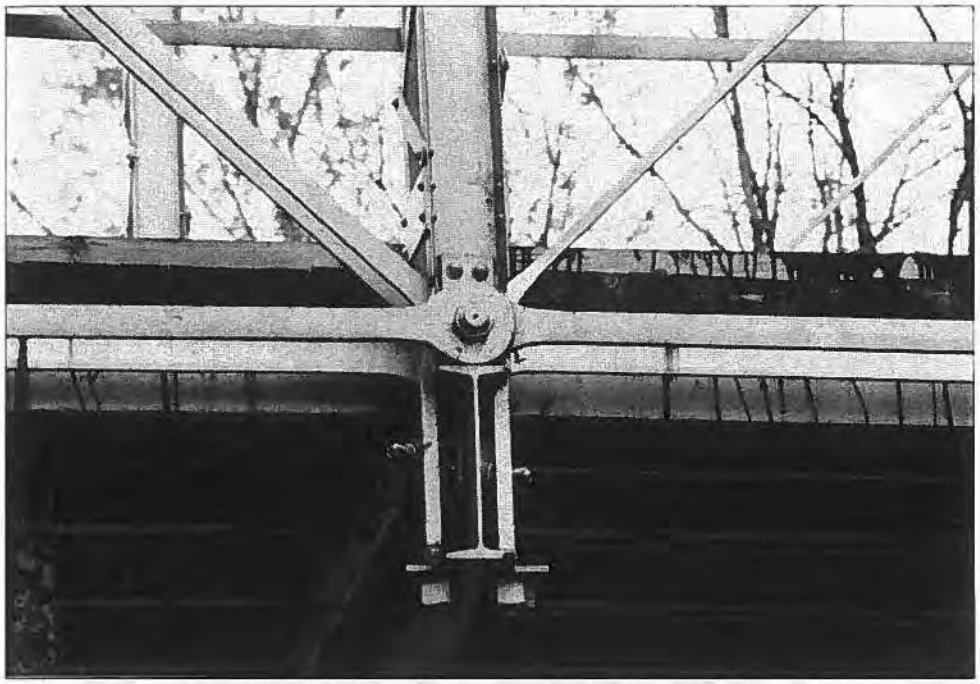
Sources of Information (Reference to Above)

A. Chippewa Falls Board of Park Commissioners. Minutes of the Chippewa Falls Board of Park Commissioners, November 5, 1935. Chippewa City Hall, Chippewa, Wis.
B. Hess, Jeffrey A. Interview with Rod Pike, Chippewa Falls City Engineer, 13 March 1987.
C. Joas, Joseph W. to Diane H. Filipowicz, Architectural Historian, State Historical Society of Wisconsin, December 1, 1981, unpublished, WisDOT files for P-09-718.
D. "Council Votes WPA Projects for Next Year." Chippewa Falls Herald Telegram, 20 December 1939.
E. "Bridge Project Wins Approval." Chippewa Falls Herald Telegram, 22 February 1940.
F. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges" in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986.
G. Hess, Jeffrey A. and Robert M. Frame, III. An Historical Survey of Stone-Arch and Concrete-Arch Bridges. Madison, Wis.: Wisconsin Department of Transportation, 1986.
H. Wisconsin State Highway Commission. Second Biennial Report Showing Operations of the Wisconsin Highway Commission July 1, 1911 to January 1, 1915. Madison, Wis.: Published by the State, 1915, p. 24.

National Register Status

( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible
Date of Survey: November 1986 Surveyor: Jeffrey A. Hess

Upper Bridge (P-09-708), City of Chippewa Falls, Chippewa County
Top: North elevation - *Source: J.A. Hess, 1986*
Bottom: South elevation - *Source: J.A. Hess, 1986*



Upper Bridge (P-09-708), City of Chippewa Falls, Chippewa County
Detail of pin and U-clamp, north elevation - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-09-709

WisDOT Designation: P-09-709
Historic Name: Irvine Park Main Bridge (A)
Other Name:
Current Owner: City of Chippewa Falls
Year Built: 1907
Engineer: Unknown
Fabricator: Wisconsin Bridge and Iron Company
Contractor: Unknown
Year Moved to Site: 1935 (A)
Contractor: City of Chippewa Falls (A)
Status: Extant as of 1996

Geographical Data

County: Chippewa
City, Village, or Town: City of Chippewa Falls
Legal Description: Section 31, Town 29N, Range 8W
Crossing: Irvine Park Road over Duncan Creek
Sketch Diagram (For survey photos, see contact sheet 79062)

Technical Data

Bridge Category: Metal overhead truss
Spans--No./Type: 1 Pratt span (100')
Connection Type: Pinned
Substructure: Rubble fieldstone abutments and wing walls
Overall Length x Width: 103'8" x 34'5" (including 8' sidewalks on each side)
Inclined Endpost/Upper Chord: L0-U1-U6-L7: Double upright channels (9" x 2 ½") tied with cover plate (1' 1" x 1/8") and V-lacing
Lower Chord: LO-L7: Double channels (7" x 2")
Verticals: L1-U1, L2-U2, etc.: double channels (5" x 1 3/4") tied with V-lacing
Diagonals: L2-U1, L5-U6: rectangular-section eyebars (2 ½" x 1"); L3-U2, L4-U5: rectangular section eyebars (2 ½" x 5/8")
Counters: L2-U3, L5-U4: cylindrical eyebars (1 1/8" diameter) with turnbuckles; L3-U4, L4-U3: cylindrical eyebars (7/8" diameter) with turnbuckles
Floor System: Wood decking with bituminous overlay on rolled I-beam stringers and built-up (plate and angles) girders; wood sidewalks rest on channels supported by angle-iron brackets riveted to bottom of floor girders
Bracing: Portals: Double back-to-back angles and stay plates; **Overhead struts:** Double back-to-back angles with X-lacing; **Top laterals:** Cylindrical eyebars; **Bottom laterals:** Cylindrical eyebars

Summary Description

Located at the main (south) entrance of Irvine Park in Chippewa Falls, the Main Bridge follows Irvine Park Drive across Duncan Creek in a roughly north-south direction. It is a pin-connected, single-span, overhead, Pratt truss with rubble fieldstone abutments; bituminous-covered wood decking, and wood sidewalks on each side bordered by lattice-work metal railings with bulls-eye motifs and floral-patterned end balusters. Originally, the structure spanned Duncan Creek on Grand Avenue in downtown Chippewa Falls (A). A historic photograph shows the bridge at that site during the period 1902-1913 (B), but research in city records has failed to uncover an exact construction date. In 1935, the bridge was disassembled and reconstructed on new abutments at its present location in Irvine Park to replace a structure washed out the previous year (A).

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-09-709

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of Significance: 1907

The Irvine Park Main Bridge is significant as a representative example of metal, overhead, Pratt bridge construction, as practiced in Wisconsin during the period 1895-1910. This era featured design elements which include pin connections, built-up structural members, built-up (plate and angles) floor girders, and wood decking (C). The bridge was built in 1907 by the Milwaukee Bridge and Iron Company of North Milwaukee (C). The structure originally crossed Duncan Creek on Grand Avenue in downtown Chippewa Falls and was moved to its present location in 1935.

An early twentieth-century photograph of the bridge on its original site suggests that the present structure conforms to the original design. The only noticeable difference concerns the sidewalk railings, which originally displayed regularly spaced balusters instead of lattice work. The present railings may have been a later replacement at the Grand Avenue site or they may have been scavenged from another early twentieth-century bridge. Their simple floral and bulls-eye motifs are not typical of mid-1930s bridge railing construction, which generally relied on Art-Deco detailing for ornamental effect.

It should also be pointed out that a 1935 elevation prepared by the Chippewa Fall Engineer's Office shows the bridge with counters in all but the end panels (D), unlike the present configuration, which has counters only in the three central panels. It is possible that this drawing depicts the original Grand Avenue design (the historic photograph does not have sufficient clarity to show the bridge's slender counters). It is equally possible that the drawing is a modification that was either subsequently removed or never constructed in the first place. Whatever the case, the discrepancy does not appear to be of major engineering significance. The builder, Wisconsin Bridge and Iron Company, has been identified by the State Historic Preservation Office as a "known prolific Wisconsin builder," and therefore of significance (C).

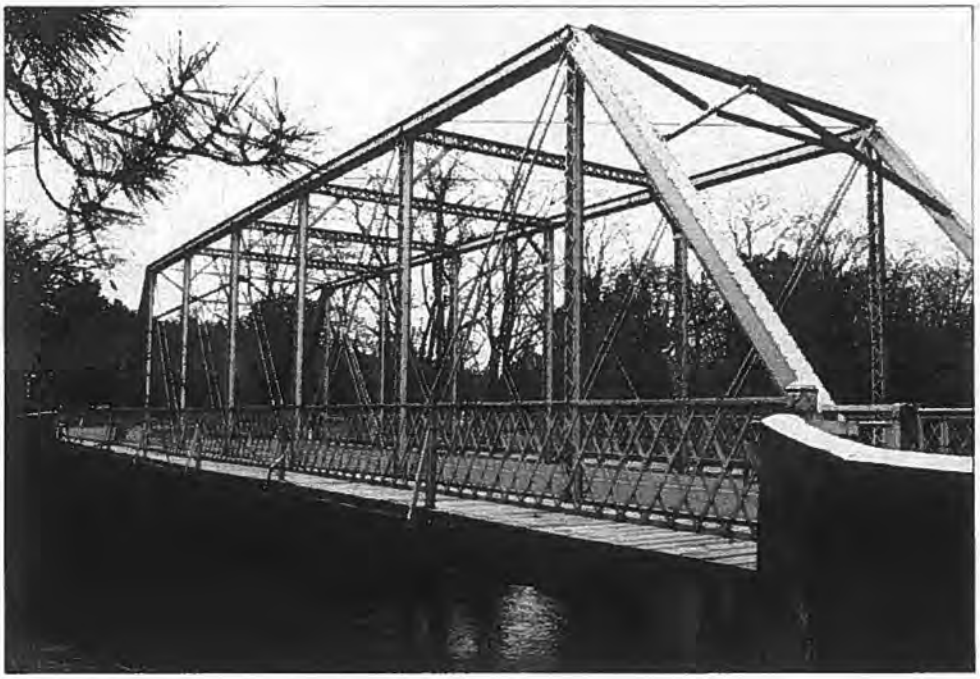
Sources of Information

A. "Council Votes Bridge in Park." Chippewa Falls Herald Telegram, 2 May 1935.
B. Photograph No. 7, captioned, "The Gotzian Shoe Factory . . .between Grand Avenue and Columbia Street," in Dolores A. Beaudette, "From the River Northward," photo album, Chippewa Falls Public Library.
C. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges" in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986. pp. 12-13, 12-14.
D. Cray, S. R. Elevation of "Irvine Park Bridge," May 1935, Chippewa Falls City Engineer's Office.

National Register Status

( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible

Date of Survey: November 1986 Surveyor: Jeffrey A. Hess



Irvine Park Main Bridge (P-09-709), City of Chippewa Falls, Chippewa County
West elevation - *Source: J.A. Hess, 1986*

Irvine Park Main Bridge (P-09-709), City of Chippewa Falls, Chippewa County
West side of east elevation - *Source: J.A. Hess, 1986*

Irvine Park Main Bridge (P-09-709), City of Chippewa Falls, Chippewa County
Detail of railing endpost, southwest corner - *Source: J.A. Hess, 1986*

Irvine Park Main Bridge (P-09-709), City of Chippewa Falls, Chippewa County
Detail of deck girders and cantilevering for sidewalk, west elevation - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-09-715

WisDOT Designation: P-09-715
Historic Name: Central Street Bridge
Other Name:
Current Owner: City of Chippewa Falls
Year Built: 1939 (A)
Engineer: Wisconsin State Highway Commission (B)
Fabricator: Clinton Bridge Works, Clinton, Iowa (C)
Contractor: A. F. Wagner, Milwaukee (C)
Status: Extant as of 1996

Geographical Data

County: Chippewa
City, Village or Town: City of Chippewa Falls
Legal Description: Section 6, Town 28N, Range 8W
Crossing: Central Street over Duncan Creek
Sketch Diagram: (For survey photos, see contact sheet 02100/1)

Technical Data

Bridge Category: Metal overhead truss
Spans–No./Type: 1 Pratt span (130'5")
Connection Type: Riveted
Substructure: Full retaining concrete abutments
Overall Length x Width: 135' x 48'10"
Inclined Endpost/Upper Chord: L0-U1-U7-L8: double upright channels (12" x 3 1/8") tied with covered plate (19" x ½") and X-lacing
Lower Chord: L0-L8: double upright channels (dimensions vary) tied top and bottom with batten plates **Verticals:** L1-U1, U7-L7: rolled I-beams (9 15/16" x 7/16"); L2-U2: rolled I-beams (10 1/16" x 7 15/16"); L3-U3, L5-U5: rolled I-beams (9 7/8" x 8"); L4-U4: rolled I-beam (9 3/4" x 8")
Diagonals: L2-U1, L6-U7: rolled I-beams (10 1/4" x 10 1/4"); L3-U2, L5-U6: rolled I-beams (10 1/8" x 8"); L4-U3, L4-U5: rolled I-beams (9 7/8 " x 8")
Floor System: Concrete-slab decking with bituminous overlay on rolled I-beam stringers and back-to-back, built-up, channel girders; concrete sidewalks on each side of bridge are supported by angle-iron brackets riveted to bottoms of verticals just above lower chord
Bracing: Intermediate, horizontal strut (X-Y); channel tied to diagonals and verticals by stay plates; **Bottom laterals:** single angles; **Portal:** Double angles tied with V-lacing; **Upper and lower sways:** Double, back-to-back, V-laced angles and single angles; **Top:** Double angles with V-lacing
Bearings: Fixed plates on the west end; expansion rocker bearings on the east end

Summary Description

Located in downtown Chippewa Falls, the Central Street Bridge crosses Duncan Creek in a northeast-southwest direction. The structure is a riveted, metal overhead truss with a single Pratt span; concrete-slab decking and sidewalks; and concrete abutments. Metal railings with modest, Art Deco detailing border the sidewalks on the riverside. Plain metal railings with bumper guards border the roadway. Using rolled I-beams for all vertical and diagonal truss members, the bridge is a fairly massive structure requiring considerable bracing. In addition to customary portal, sway, and lateral bracing, it also displays horizontal, intermediate struts, which are unusual for the state's overhead, Pratt, highway structures.

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-09-715

The history of the Central Street Bridge begins in 1934, when the City of Chippewa Falls paid the Wisconsin State Highway Commission to prepare plans for a new bridge on Duncan Creek to replace an older structure damaged by flood waters earlier that year (D). Construction, however, was delayed until the project received federal funding from the Public Works Administration (PWA) program in 1938. The bridge was completed by June of 1939, when the city paid the last invoices on the project (A). Clinton Bridge Works of Clinton, Iowa served as fabricator; A. F. Wagner of Milwaukee was the primary contractor.

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of Significance: 1939

Retaining full design integrity, the Central Street Bridge is an excellent example of metal, overhead, Pratt truss highway design, as executed by the Wisconsin State Highway Commission during the mid-1930s. Patented by American engineers Thomas and Caleb Pratt in 1844, the Pratt truss became the country's "standard design in iron trusses by the late 1800s" (E). Although the Wisconsin State Highway Commission favored the Warren pony truss for shorter spans, the overhead Pratt was its first choice in the 80'-150' range (F). In 1986, approximately 120, overhead, Pratt, highway trusses were extant in the state. Of this number, about 17 were built during the last major phase of construction, dating from about 1932 to World War II (E). The Central Street Bridge typifies this final design period in its use of rolled I-beams for compression and tension members; substantial bracing; and Art Deco railings.

Sources of Information

A. Claim and Payment File, Central Street Bridge File, Chippewa Falls City Clerk's Office.
B. Wisconsin State Highway Commission. Plans for the Central Street Bridge, 1934, microfilm No. X6226-6230. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
C. Central Street Bridge Plans stamped by Clinton Bridge Works and A. F. Wagner, n.d., Central Street Bridge File, Chippewa Falls City Clerk's Office.
D. Chippewa Falls City Engineer to W. B. Blair, Chief Accountant, Wisconsin Highway Commission, December 22, 1938, Central Street Bridge File, Chippewa Falls City Clerk's Office.
E. Wyatt, Barbara, ed. Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986.
F. Wisconsin State Highway Commission. Second Biennial Report, 1911-1915. Madison, Wis.: published by the State, 1915, p. 24.

National Register Status

( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible

Date of Survey: November 1986 Surveyor: Jeffrey A. Hess

Central Street Bridge (P-09-715), City of Chippewa Falls, Chippewa County
Northwest elevation - *Source: J.A. Hess, 1986*

Central Street Bridge (P-09-715), City of Chippewa Falls, Chippewa County
Approach - *Source: J.A. Hess, 1986*

Central Street Bridge (P-09-715), City of Chippewa Falls, Chippewa County
Railing detail, east end - *Source: J.A. Hess, 1986*

Central Street Bridge (P-09-715), City of Chippewa Falls, Chippewa County
Detail of verticals and diagonal, northwest end - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-09-718

WisDOT Designation: P-09-718
Historic Name: Bridge Of Pines (A)
Other Name: Rumbly Bridge; Thunder Bridge (B, C)
Current Owner: City of Chippewa Falls
Year Built: 1907, center span; 1914, end spans (A)
Engineer: Wisconsin Bridge & Iron Company of Milwaukee, center span; Worden-Allen Company of Milwaukee, end spans (A)
Fabricator: Unknown
Contractor: Unknown
Year Moved to Site: 1914, center span (A)
Contractor: Worden-Allen Company (A)
Status: Pedestrian Bridge; Extant as of 1996

Geographical Data

County: Chippewa
City, Village, or Town: Town of Tilden
Legal Description: Section 31, Town 29 N, Range 8W
Crossing: Ermatinger Drive over Duncan Creek
Sketch Diagram (For survey photos, see contact sheet 79062)

Technical Data

Bridge Category: Metal pony truss
Spans No./Type: 2 identical, double-intersection Warren with continuous end post and upper chord (41' 2"); 1 arched, double-intersection Warren with continuous end post and upper chord (60'2")
Connection Type: Riveted and bolted
Substructure: Concrete abutments with wingwalls; 2 pairs of columns (double channels with V-lacing) on concrete piers
Overall Length x Width: 145'9" x 13'6"
End Post/Upper Chord: End Spans: L0-U0-U2, U5-U7-L7: back-to-back angles (4" x 3"); U2-U5: back-to-back angles (5" x 3"); **Center Span:** L0-U0-U2, U8-U10-L10: back-to-back angles (5" x 3"); U2-U8: back-to-back angles (6" x 3 ½")
Lower Chord: End Spans: LO-L2, L5-L7: plate (12" x 1/4") with back-to-back angles (3" x 2 ½") riveted to bottom, forming inverted "T" in section; L2-5: plate (12" x 3/8") with back-to-back angles (3 ½" x 2 ½"); **Center Span:** L0-L2, L8-L10: plate (12" x 1/4") with back-to-back angles (3" x 2 ½"); L2-L8: plate (12" x 3/8") with back-to-back angles (3 ½" x 2 ½")
Verticals: End and Center Spans: Single angles, dimensions vary (typical, 2 ½" x 2 ½")
Diagonals: End and Center Spans: Single angles, dimensions vary (typical end panels: 3" x 4"; typical center panels: 2 ½" x 2 ½")
Floor System: Wood decking on rolled I-beam floor girders alternating with built-up (double back-to-back angles with V-lacing) floor girders; no stringers; floor girders bolted to lower chord
Bracing: Single-angle side bracing attached to alternating verticals by V-lacing and gusset plate; the bracing is curved at bottom and attached by gusset plate to lower chord

Summary Description

Bridge of Pines crosses a wooded ravine in a north-south direction at the extreme northern end of Irvine Park. Although this section of the park extends into the town of Tilden, the bridge is owned and maintained by the city of Chippewa Falls, in which most of the park is located. Currently a foot bridge, the structure was originally open to vehicular traffic, which gave it the nicknames of "Thunder Bridge" and "Rumbly Bridge" "by reason of the rumbling echoes given forth by [the] floor planks when vehicles pass[ed] over them" (B, C). In terms of basic design, the

bridge is a metal pony truss with three, double-intersection Warren spans supported by concrete abutments and slender, built-up, metal columns on concrete piers. All three spans have wood decking, an X-pattern metal railing riveted directly to the web, and vertical end posts that bend at the top to form a continuous member with the upper chord. The end spans are identical in configuration and length, measuring about 40 feet. The middle span is half again as long and displays a gentle arch.

Originally the middle span was a separate bridge, which spanned Duncan Creek near the park's main entrance to the south (D). Known as the "Lower Bridge," it was designed and built by the Wisconsin Bridge and Iron Company of Milwaukee in 1907 (A). The construction cost was underwritten by William Irvine, a wealthy Chippewa Falls lumberman whose efforts in securing land for the public preserve was recognized by the Chippewa Falls City Council when it named and opened Irvine Park in 1906 (A, E). By 1913, park traffic had increased to such an extent that the main entrance required a heavier bridge, which was designed and built that same year by Worden-Allen Company of Milwaukee. As part of the replacement project, Worden-Allen agreed to move the original Lower Bridge to the north end of the park on condition that it receive an impending contract for incorporating the structure into a new bridge over a ravine in that location. With William Irvine once again paying the cost, Worden-Allen completed the ravine crossing by the end of 1913. In keeping with its scenic location, the new structure was officially named Bridge of Pines" (A).

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
(x) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of Significance: 1907-1914

Bridge of Pines in Irvine Park is significant as the state's only known, surviving example of a metal truss specifically designed as an ornamental park bridge. Constructed in 1907, the bridge's center span originally was located near the park's main entrance, and its design reflected its prominent setting. Unlike the sharp angularity of most metal truss bridges, the span accommodated its rustic setting with gentle curves produced by the decorative arch of the upper and lower chords and by the rounded end posts, which flowed into the upper chord to form a continuous member. Similar grace was displayed by the double-intersection Warren web, which permitted the thinning of individual structural members while retaining overall strength. The delicate, lattice-like quality of the web was enhanced by X-pattern railings. When the span was moved to its present site in 1913 for remodeling into a larger structure, an attempt was made to preserve the original ornamental effect by designing the new end spans with the same truss type, railing details, and rounded endposts continuous with the upper chord. Unfortunately the outcome was not completely successful, primarily because the end spans were built without any curvature in the upper and lower chords. When the original arched span was placed between them, the bridge became an awkward, humpbacked structure. Despite these aesthetic misgivings, the bridge remains an important Wisconsin example of ornamental park design.

Bridge of Pines is also significant for its association with two of Wisconsin's most prolific, early twentieth-century, bridge-building firms: Wisconsin Bridge and Iron Company, which designed and built the original center span, and Worden-Allen Company, which engineered the final, three-span structure (A). Responsible for numerous metal truss designs throughout the state, these two companies apparently were the only Wisconsin firms that manufactured Warren truss bridges with continuous upper chords and end posts (F). As suggested by its use in Irvine Park, this feature seems to have been an ornamental attempt to soften the sharp lines of metal truss design; it appears in approximately 40 Warren standard trusses surviving in the state (F). Bridge of Pines, however, is the only, extant, double-intersection Warren displaying this feature (G). Historic photographs of the center span at its original site and of the enlarged structure at its present site show that the various spans retain their design integrity (C, D).

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-09-718

Sources of Information (Reference to Above)

A. Chippewa Falls Park Board. City of Chippewa Falls Park Board Minutes, March 21, 1907; January 2, 1908; April 29, 1913, February 4 and March 31, 1914. Chippewa Falls City Hall.
B. Joas, Joseph W. Letter to Diane H. Filipowicz, Architectural Historian, State Historical Society of Wisconsin, December 1, 1981. File for bridge P-09-718. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
C. Captioned postcard photograph of "Bridge of Pines," n.d., in "Early Days in Chippewa Falls," unpublished photograph album, n.d., Chippewa Falls Public Library.
D. Postcard photograph of center span in its original location as the "Lower Bridge," n.d. in ""Early Days in Chippewa Falls," unpublished photograph album, n.d., Chippewa Falls Public Library.
E. Chippewa County Wisconsin Past and Present, Volume 1. Chicago, Ill.: S. J. Clarke Publishing Co., 1913. pp. 254-255.
F. Wyatt, Barbara, ed. Cultural Resource Management in Wisconsin, Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986.
G. File for bridge P-09-718. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.

National Register Status

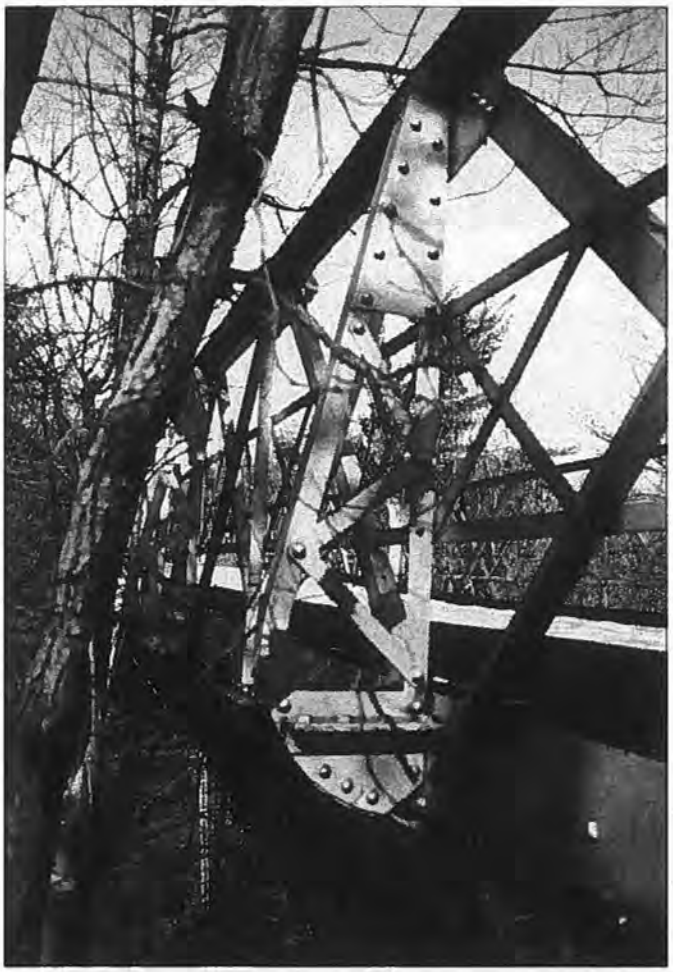
( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible

Date of Survey: November 1986 Surveyor: Jeffrey A. Hess

Documentation: HAER No. WI-36

Bridge Of Pines (P-09-718), Town of Tilden, Chippewa County
Top: Side elevation - *Source: Wisconsin Department of Transportation*
Bottom: Side elevation, detail - *Source: J.A. Hess, 1986*

Bridge Of Pines (P-09-718), Town of Tilden, Chippewa County
Looking underneath deck at center-span support columns with sway bracing - *Source: J.A. Hess, 1986*



Bridge of Pines (P-09-718), Town of Tilden, Chippewa County
Detail of sway bracing - *Source: Wisconsin Department of Transportation*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-10-266

WISDOT Designation: P-10-266
Historic Name: Lynch Bridge (B,F)
Other Name: Black River Bridge
Current Owner: Levis Township
Year Built: 1939-40
Engineer: Wausau Iron Works (F)
Fabricator: Wausau Iron Works (F)
Contractor: Day labor (F)
Status: Moved in 1992

Geographical Data

County: Clark
City, Village or Town: Town of Levis
Legal Description: Section 4, Township 23N, Range 2W
Crossing: River Road over Black River
Sketch Diagram (For survey photos, see contact sheet 79157/9)

Technical Data

Bridge Category: Metal overhead truss
Spans--No./Type: 1 Pennsylvania truss span (200')
Connection Type: Riveted
Substructure: Stone abutment with later concrete additions and wing walls
Overall Length x Width: 210' x 16'
Inclined End-Post/Upper Chord: L0-U1-U11-L12: double upright channels (10") with cover plate (14") and V-lacing
Lower Chord: L0-L2, L10-L12: double angles (2-1/2" x 3-3/4") tied with batten plates; L2-L4, L8-L10: double angles (3" x 4") tied with batten plates; L4-L8: double angles (3-1/2" x 6") tied with batten plates
Verticals: L1-U1, L2-U2, etc.: double channels (6") with lacing front and back
Diagonals: L2-U1, L3-U2, etc.: double angles (3-1/2" x 2-1/2") tied with batten plates
Counters: None
Floor System: Built-up floor I-beams, riveted to panel points with angles; rolled I-beam stringers with vertical wood-plank deck and bituminous surface
Bracing: Top: All single angles, with double sway bracing on portals; **Bottom:** all single angles
Bearings: Boxed & bolted fixed plates on north end; sliding, boxed expansion bearings on south end

Summary Description

Bridge P-10-266 is a single-span (200'), riveted, Pennsylvania truss carrying River Road over the Black River in rural Levis Township. The truss configuration fundamentally is a Pratt with a polygonal upper chord, therefore becoming a Parker, and then modified with sub-diagonals to achieve greater length, thus ending up as the "Pennsylvania," named for its use by the Pennsylvania Railroad (C,D). This example is visually distinguished by its extremely tall (35') truss, characteristic Pennsylvania-type array of sub-struts, sub-ties, and narrow (15') roadway width. It also exhibits highly visible intermediate horizontal struts (E). The steel channels comprising the endposts/upper chords and the verticals are marked "Illinois USA." Overall, the members are relatively light compared to other large trusses of similar dates, and the boxed bearings are atypical. The first bridge at the crossing was erected about 1894 at an approximate cost of $4,600, and originally located "as near to the old red school house as may be" (B,F). Most other bridges over the township's two rivers were erected 1894-1906, a time of serious road improvement for the local government (B,F). Beginning in April 1939, the Town of Levis worked through the legal procedures to "build a bridge across Black River, the same place it went out at the time of the flood" (F). By the end of 1940 the town had spent about $13,000 on work at the Lynch Bridge, including $9,300 paid to Wausau Iron Works for the structure itself (F). All labor at

the site was recruited locally and paid directly by the town. The present town chairman recalls the construction of a new bridge at the site and reports that his father worked on the project (his father is named in the Town Record).

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of significance: 1939-40

The Lynch Bridge is an excellent twentieth century example of the type, which is basically an overhead, sub-divided Pratt truss with a polygonal top chord. Developed specifically for long spans in 1875 by the Pennsylvania Railroad (hence the name), the Pennsylvania truss was modified a decade later by the Chesapeake and Ohio Railway, which introduced intermediate horizontal struts to increase rigidity of the web.

Sources of Information (Reference to Above)

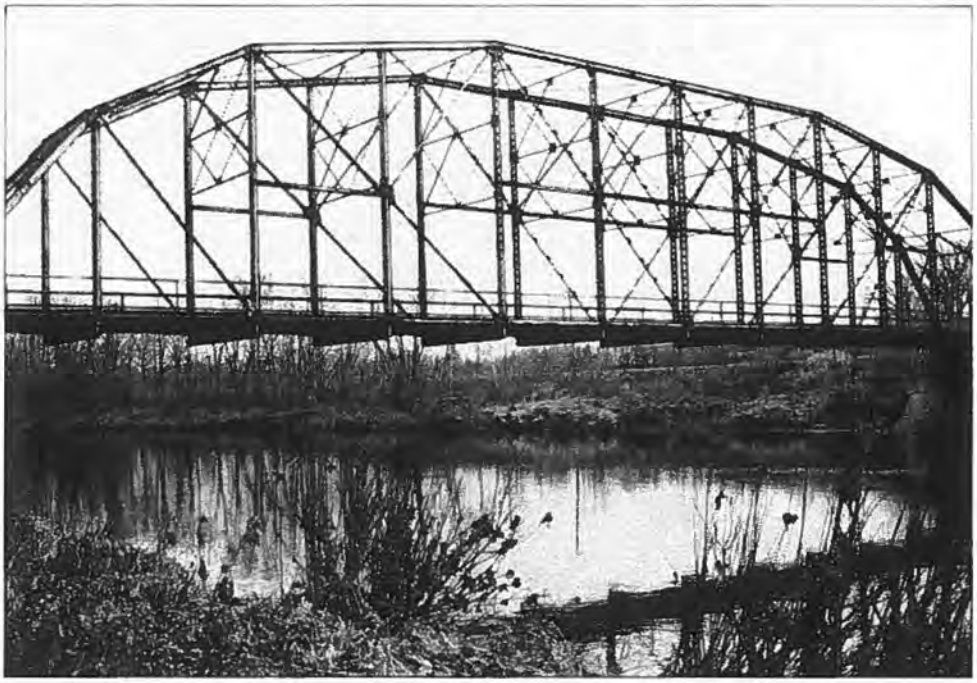
A. File for bridge P-10-266, includes bridge inventory file. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
B. Clark County Board. Proceedings. 1892 (pp. 5, 23-24), 1893 (p. 35), 1939 (p. 208), 1940 (p. 144).
C. Waddell, James A.L. Chapter 22, "Simple Truss Bridges" in Bridge Engineering. New York: J. Wiley & Sons, 1916.
D. Comp, T. Allan, and Donald Jackson. "Bridge Truss Types: A Guide to Dating and Identifying." American Association for State and Local History, Technical Leaflet 95, History News 32 (May 1977).
E. Condit, Carl W. American Building. Chicago: U of Chicago P, 1968, p. 143.
F. Levis Town Board. Town Record, 1892-1940. See particularly "Bridge Fund" accounts (receipts and checks), 1939-40, in vol. 1931-40. Levis Town Hall.
G. Telephone interview with Levis Town Chairman George Ulrich, 13 August 1987.

National Register Status

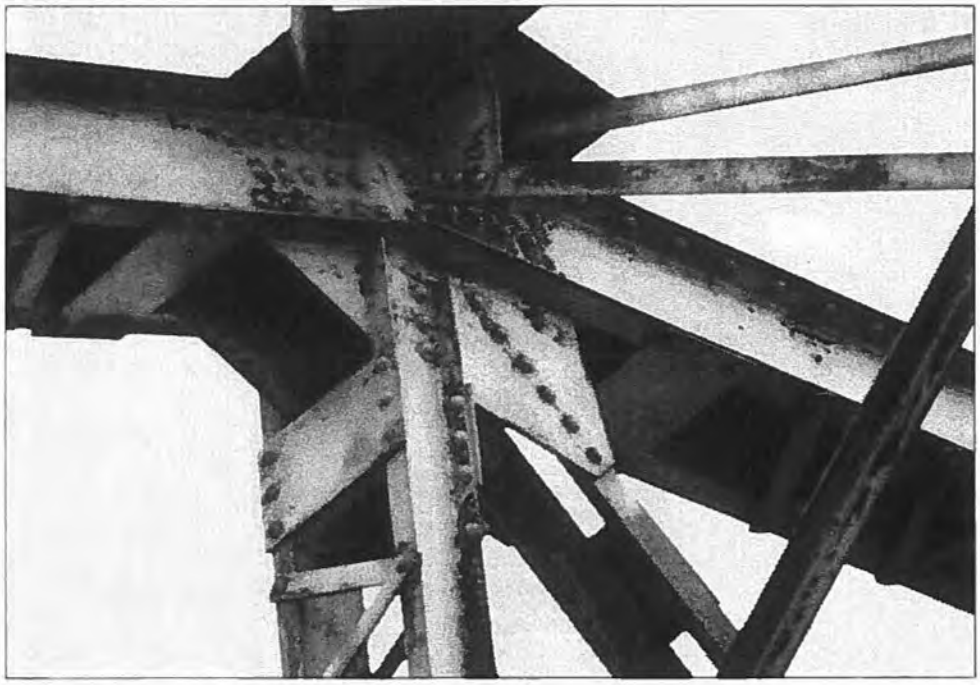
( ) Listed
(x) Determined eligible
( ) Eligible
( ) Not eligible

Date of Survey: November 3, 1986 Surveyor: Robert M. Frame III

Documentation: Determination of Eligibility
HAER No. WI-63



Lynch Bridge (P-10-266), Town of Levis, Clark County
Top: West elevation - *Source: J.A. Hess, 1986*
Bottom: North approach - *Source: J.A. Hess, 1986*



Lynch Bridge (P-10-266), Town of Levis, Clark County
Detail of top-chord connection - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-13-190

WisDOT Designation: P-13-190
Historic Name:
Other Name: Dyreson Road Bridge
Current Owner: Town of Dunn
Year Built: 1897 (A)
Engineer: Milwaukee Bridge and Iron Works (B)
Fabricator: Milwaukee Bridge and Iron Works (B)
Contractor: J. G. Wagner of Milwaukee (B)
Status: Extant as of 1996

Geographical Data

County: Dane
Town: Town of Dunn
Legal Description: Section 14, Town 6N, Range 10E
Crossing: East Dyreson Road over Yahara River
Sketch Diagram (For survey photos, see contact sheet 34974)

Technical Data

Bridge Category: Metal overhead truss
Spans--No./Type: 1 Pratt full-slope (124')
Connection Type: Pinned
Substructure: Concrete abutments
Overall Length x Width: 127'4" x 16'6"
Inclined Endpost/Upper Chord: L0-U1-U7-L8: double upright channels (8" x 2 1/4") tied with cover plate (12" x 1/4") and batten plates
Lower Chord: LO-L8: double rectangular-section eyebars (2" x 3/4")
Verticals: L1-U1, L7-U7: double square eyebars (7/8"); L2-U2, L6-U6: back-to-back channels (5 1/4" x 1 3/4") with V-lacing; L3-U3, L5-U5, L4-U4: back-to-back channels (4 1/8" x 1 5/8") with V-lacing
Diagonals: L2-U1, L6-U7: double rectangular-section eyebars (2" x 1"); L3-U2, L5-U6: double rectangular-section eyebars (2" x 5/8"); L4-U3, L4-U5: double square eyebars (7/8")
Counters: L3-U4, L5-U4: single square eyebar (7/8") with turnbuckles
Floor System: Bituminous-covered wood decking (reinforced with bolted wood beams) on rolled I-beam floor girders riveted to channel pieces, which are hung from lower chord pins
Bracing: Portals: double back-to-back angles; **Overhead struts:** Back-to-back angles with V-lacing (at points U2 and U6, the north half of the struts are reinforced by bolted wood beams); **Top laterals:** Cylindrical eyebars; bottom lateral bracing: cylindrical eyebars
Bearings: West end, fixed; east end, roller-nest expansion bearings

Summary Description

The Dyreson Road Bridge crosses the Yahara River (formerly Catfish River) on a paved, east-west farm road about 15 miles southeast of Madison. Bordered by pipe-metal railings and metal bumper guards, the structure is a single, pin-connected, Pratt overhead span with bituminous-covered wood decking and concrete abutments. Erected in 1897 for a total cost of $1,028, it replaced a bridge constructed at the same site in 1868 (A). In petitioning Dane County to pay half the expense, the town of Dunn noted that "said town has a great amount of travel, and numerous divergent roads lead to it, and that the bridge crossing the river at that point is a public necessity, and has been so from early time" (A). The Milwaukee Bridge and Iron Works fabricated the metal work, probably according to own plans (C), while J. F. Wagner of Milwaukee served as contractor (B,).

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-13-190

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
(x) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of Significance: 1897

The Dyreson Road Bridge is significant as a representative example of metal, overhead, Pratt, highway bridge construction, as practiced in Wisconsin during the period 1895-1910. Patented by American engineers Thomas and Caleb Pratt in 1844, the Pratt truss became the country's "standard design in iron trusses by the late 1800s" (D). In 1986, approximately 120 overhead Pratt highway trusses were extant in the state. Of this number, about 35 date from 1895-1910. The Dyreson Road Bridge typifies this group in its use of pin connections; relatively light built-up structural members; rolled I-beam floor girders; and wood decking (D). Apart from the wood reinforcement of two overhead struts, the bridge retains its original design integrity.

The bridge is also significant for its association with the Milwaukee Bridge and Iron Works, one of Wisconsin's most prolific bridge engineering and fabricating firms (D). Established in 1870 as a small private shop, the company had developed by the 1890s into "one of the largest bridge building firms in the central states region," working as far west as Colorado and as far south as Texas (C).

Sources of Information (Reference to Above)

A. Dane County Board of Supervisors. Proceedings of the Board of Supervisors of Dane County, Wisconsin, 1897. Madison, Wis.: Sommers and Reynolds, 1898, pp. 8-9, 13, 29.
B. Bridge plate.
C. Danko, George M. "A Selective Survey of Metal Truss Bridges in Wisconsin," M.S., State Historical Society of Wisconsin-Historic Preservation Division, Madison, Wis., 1977, p. 87.
D. Wyatt, Barbara, ed. Cultural Resource Management in Wisconsin, Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986.

National Register Status

( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible

Date of Survey: March 1987 Surveyor: Jeffrey A. Hess

Dyreson Road Bridge (P-13-190), Town of Dunn, Dane County
Top: North elevation - *Source: J.A. Hess, 1986*
Bottom: Approach - *Source: J.A. Hess, 1986*

Dyreson Road Bridge (P-13-190), Town of Dunn, Dane County
Lower chord, north elevation - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-14-125

WisDOT Designation: P-14-125
Historic Name: Chicago and Northwestern Bridge No. 2476 (A)
Other Name: Poplar Grove Road Bridge
Current Owner: Chicago and Northwestern Railway
Year Built: 1880s
Engineer/Contractor: Chicago and Northwestern Railway
Fabricator: Lassig Bridge and Iron Works of Chicago (A)
Year Moved to Site and Rebuilt: 1911 (A)
Engineer/Contractor: Chicago and Northwestern Railway
Fabricator: American Bridge Company, Lassig Plant
Status: Moved

Geographical Data

County: Dodge
City, Village, or Town: Town of Lebanon
Legal Description: Section 15, Town 9N, Range 16E
Crossing: Poplar Grove Road over tracks of Chicago and Northwestern Railway
Sketch Diagram (For survey photos, see contact sheet 79139/6)

Technical Data

Bridge Category: Metal pony truss
Spans--No./Type: 1 Warren double-intersection truss (84'); 6 timber girder approach spans
Connection Type: Riveted
Substructure: Timber piled bent
Overall Length x Width: 178' x 25'
Inclined Endpost: L0-U1, L7-U6: two web plates (12" x 3/8") each with back-to-back angles (3" x 3") tied by cover plate (16" x 3/8")
Upper Chord: U1-U6: two web plates (13" x ½") each with back-to-back angles (3" x 3") tied by cover plate (16" x 7/16")
Lower Chord: U0-U7: Same as upper chord without cover plate
Verticals: L1-U1, L2-U2, etc: back-to-back angles (3" x 3")
Diagonals: L1-U2, L6-U5: back-to-back angles (3" x 2 ½") with lacing; L2-U1, L5-U6: back-to-back angles (3" X 3"); L2-U3, L5-U4: back-to-back angles (4" x 3") with X-lacing; L3-U2, L4-U5: back-to-back angles (5" x 3"); L3-U4, L4-U3: back-to-back angles (3" x 3") with X-lacing
Floor System: Wood decking on timber stringers and built-up floor girders
Bracing: Bottom laterals: Angles; **Sides:** Angles

Summary Description

Situated about 2 miles west of the village of Lebanon, the bridge follows a paved farm road over double tracks of the Chicago and Northwestern Railway's main line between Milwaukee and Sparta, Wisconsin. Resting on timber piled bent, the bridge measures about 178 feet in length, consisting of an 84-foot, riveted, Warren, double-intersection, pony truss span with 3 timber girder approach spans at each end. Originally, the structure was located in Des Plaines, Illinois, where it was part of a triple-span, Chicago and Northwestern Railway crossing. All three spans were Warren, double-intersection trusses. Although the year of construction has not been determined, surviving shop drawings indicate that the steel work was fabricated by Alden and Lassig, a Chicago bridge building firm that dates from at least 1886 (A, B). By 1889, the company had changed its name to the Lassig Bridge and Iron Works, which later was absorbed by the American Bridge Company. (A).

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-14-125

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of Significance: c. 1880

Originally fabricated in the 1880s, the Poplar Grove Road Bridge is significant as the state's oldest surviving example of Warren, double-intersection, highway truss construction. The basic Warren truss configuration was patented in 1848 by two English engineers. In its original configuration, the truss was simply a series of open triangles. Subsequent modifications included the incorporation of intermediate posts to stiffen the web, and the addition of a second, intersecting web, which permitted the use of shorter stringers by decreasing the distance between panel points (C, D). The double-intersection form, however, never achieved widespread popularity; only 12 examples remain on Wisconsin highways (D, E). The Popular Grove Road Bridge closely resembles another, nearby Chicago and Northwestern Railway bridge fabricated in 1891 (F). In addition to their advanced age, these two structures share a common historical bond in that they were both moved to their present sites after being dismantled from other locations and stockpiled in the railroad's bridge yard in Chicago. Their relocation, a routine procedure by the railroad, is a historically significant illustration of the design mobility of metal truss bridge construction.

Sources of Information (Reference to Above)

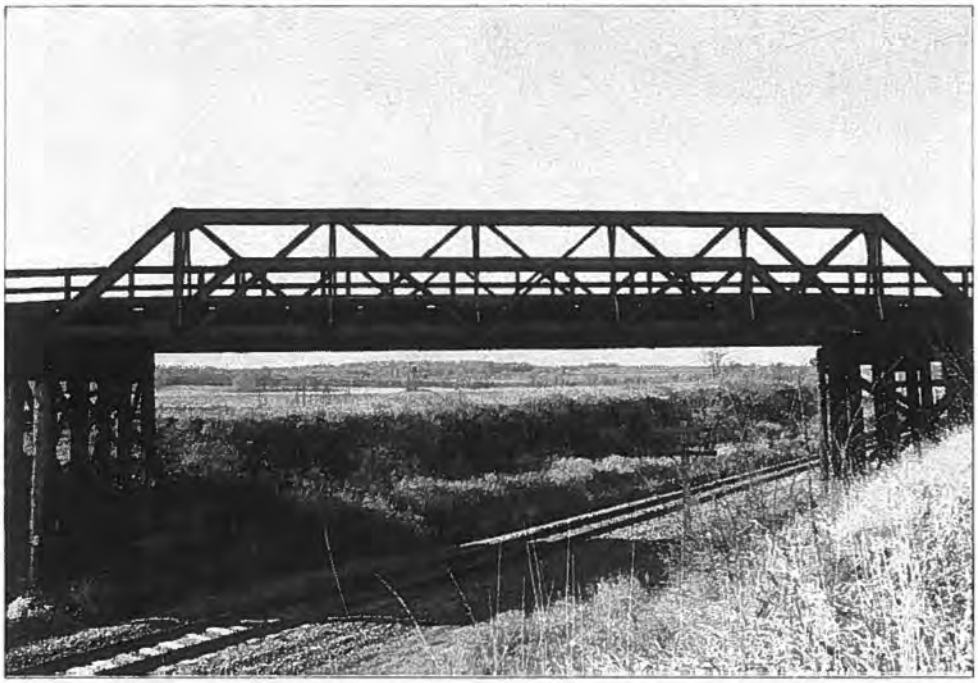
A. Plans for Bridge No. 2476, Bridge Department Archives, Chicago and Northwestern Railway, Chicago.
B. Danko, George M. "The Development of the Truss Bridge, 1820-1930, with a Focus Toward Wisconsin." M.S., State Historical Society of Wisconsin-Historic Preservation Division, Madison, Wisconsin, 1976, p. 50.
C. Condit, Carl W. American Building. Chicago: U of Chicago P, 1982, pp. 100-101.
D. Merriman, Mansfield and Henry S. Jacoby. A Text-Book on Roofs and Bridges, Part 1. New York: John Wiley and Sons, 1926, p. 197.
E. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges" in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division.
F. Intensive Survey Form for P-14-126.

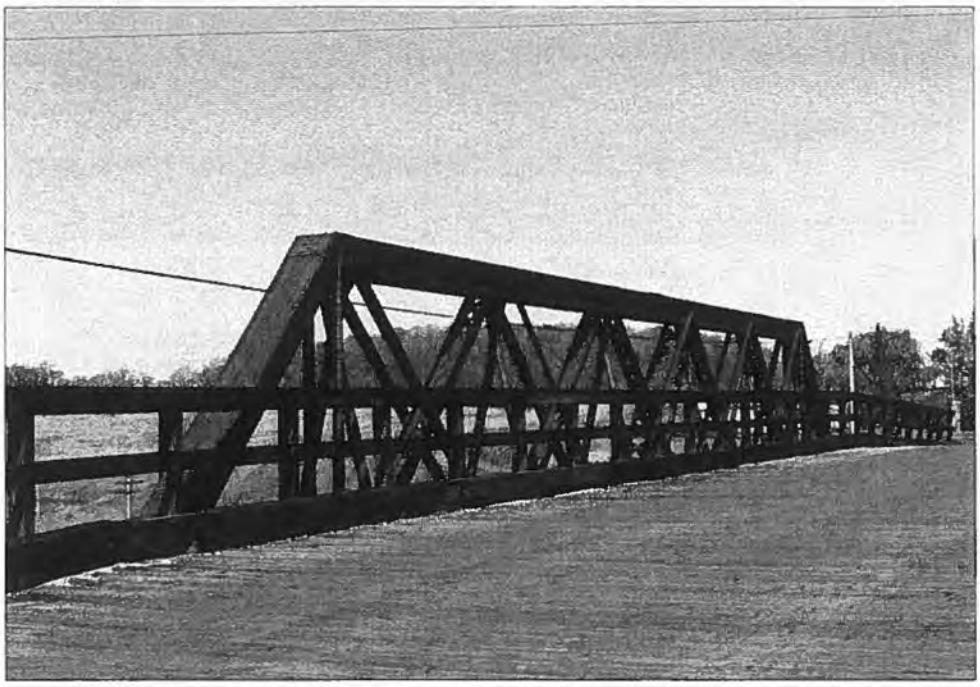
National Register Status

( ) Listed
(x) Determined eligible
( ) Eligible
( ) Not eligible

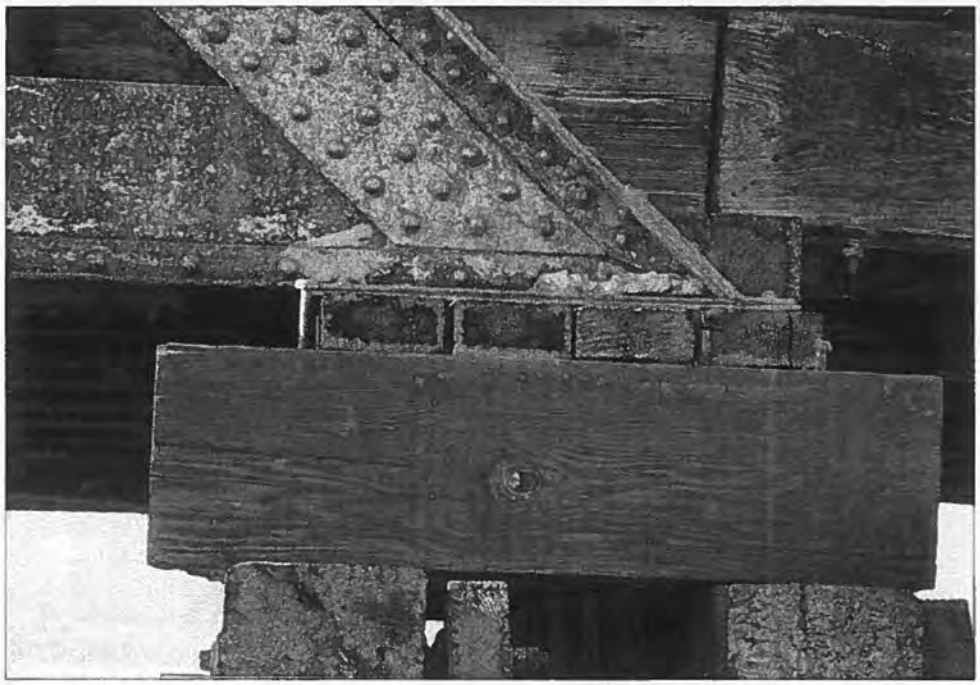
Date of Survey: October 1986 Surveyor: Jeffrey A. Hess

Documentation: Determination of Eligibility





Chicago and Northwestern Bridge No. 2476 (P-14-125), Town of Lebanon, Dodge County
Top: East elevation - *Source: J.A. Hess, 1986*
Bottom: West elevation, east side - *Source: J.A. Hess, 1986*



Chicago and Northwestern Bridge No. 2476 (P-14-125), Town of Lebanon, Dodge County
Bearing block, northwest end - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-14-126

WISDOT Designation: P-14-126
Historic Name: Scofield Road Bridge
Other Name:
Current Owner:
Year Built: 1891
Engineer: Unknown
Fabricator: American Bridge Company, Lassig Plant
Contractor: Unknown
Year Moved to Site and Rebuilt: 1911
Status: Moved

Geographical Data

County: Dodge
City, Village, or Town: Town of Lebanon
Legal Description: Section 7, Town 9N, Range 16E
Crossing: Scofield Road
Sketch Diagram (For survey photos, see contact sheet)

Technical Data

Bridge Category: Metal pony truss
Spans--No./Type: 1 Warren double-intersection truss (63')
Connection Type: Riveted
Substructure: Timber piled bent
Overall Length x Width: 63' x 24'7
Inclined End-Post/Upper Chord: top of upper chord is a built-up channel (double angles: 6" x 3 ½") tied with a cover plate (12" x 1/4"); the channel is attached to a web plate (12" x 1/4") by back-to-back angles (3" x 3")
Lower Chord: L0-L7: same as upper chord, but inverted
Verticals: L1-U1, L2-U2, etc.: back-to-back angles (3" x 3") tied with cover plate (6" x 3/8"), forming "T" in section
Diagonals: L2-U1, L5-U6: back-to-back angles (3" x 3") tied with cover plate (7" x 3/8"), forming "T" in section; L1-U2, L6-U5: back-to-back angles (4" x 3 ½"); L2-U3, L5-U4: single angle (4" x 4") with single plate (4" x 3/8") as backing; L3-U2, L4-U5: back-to-back angles (3 ½" x 3 ½") with splice plates; L3-U4, L4-U3: back-to-back angles (3" X 3") with splice plates
Floor System: Wood decking on timber stringers and built-up floor beams
Bracing: Bottom laterals: Angles; **Sides:** Back-to-back angles

Summary Description

Situated about 1 mile west of the village of Lebanon, the bridge follows a paved farm road over double tracks of the Chicago and Northwestern Railway on the main line between Milwaukee and Sparta, Wisconsin. Resting on a timber piled bent, the bridge measures about 146 feet in length, consisting of a 64-foot, riveted, Warren double-intersection, pony truss span with 3 timber girder approach spans at each end. Fabricated in 1891 by the Lassig Bridge and Iron Works of Chicago, the Warren truss originally spanned another, undetermined, Chicago and Northwestern crossing in Wisconsin (A). At that location, the truss apparently had a deeper web. The structure was moved to its present site in 1911 (A). Despite its scaled-down web, the bridge is still a massive structure, and it seems curiously out of place in its isolated rural setting. Although the Warren span experienced no further alterations, the bridge's piled bent substructure was rebuilt with new timbers in 1936, and in the mid-1950s, the approach spans were also reconstructed (B).

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-14-126

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of Significance: 1891

Originally fabricated in 1891, the Scofield Road Bridge is significant as the state's second-oldest, surviving example of Warren, double-intersection, highway truss construction. The basic Warren truss configuration was patented in 1848 by two English engineers. In its original configuration, the truss was simply a series of open triangles. Subsequent modifications included the incorporation of intermediate posts to stiffen the web, and the addition of a second, intersecting web, which permitted the use of shorter stringers by decreasing the distance between panel points (C, D). The double-intersection form, however, never achieved widespread popularity; only 12 examples remain on Wisconsin highways (in 1986) [D, E]. The Poplar Grove Road Bridge closely resembles another, nearby Chicago and Northwestern Railway bridge fabricated in the 1880s (F). In addition to their advanced age, these two structures share a common historical bond in that they were both moved to their present sites after being dismantled from other locations and stockpiled in the railroad's bridge yard in Chicago. Their relocation, a routine procedure by the railroad, is a historically significant illustration of the design mobility of metal truss bridge construction.

Sources of Information

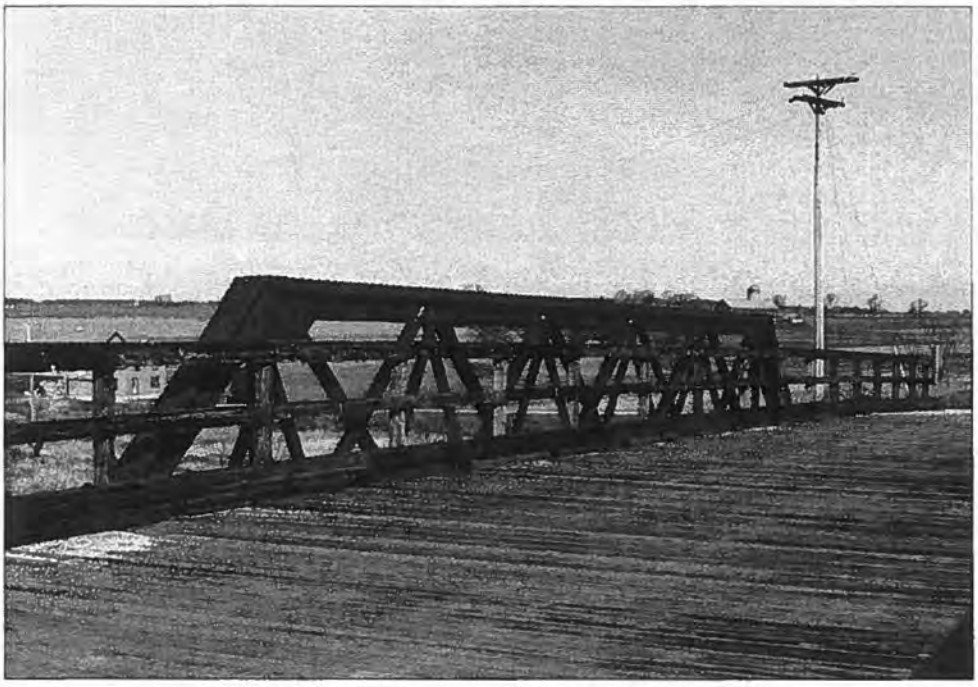
A. Plans for Bridge No. 2487, Bridge Department Archives, Chicago and Northwestern Railway, Chicago.
B. Hess, Jeffrey A. Telephone interview with Brad Radovitch, Technician, Bridge Department Archives, Chicago and Northwestern Railway, Chicago, April 24, 1987.
C. Condit, Carl W. American Building. Chicago: U of Chicago P, 1982, pp. 100-101.
D. Merriman, Mansfield and Henry S. Jacoby. A Text-Book on Roofs and Bridges, Part 1. New York: John Wiley and Sons, 1926, p. 197.
E. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges" in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986.
F. Intensive Survey Form for P-14-125.

National Register Status

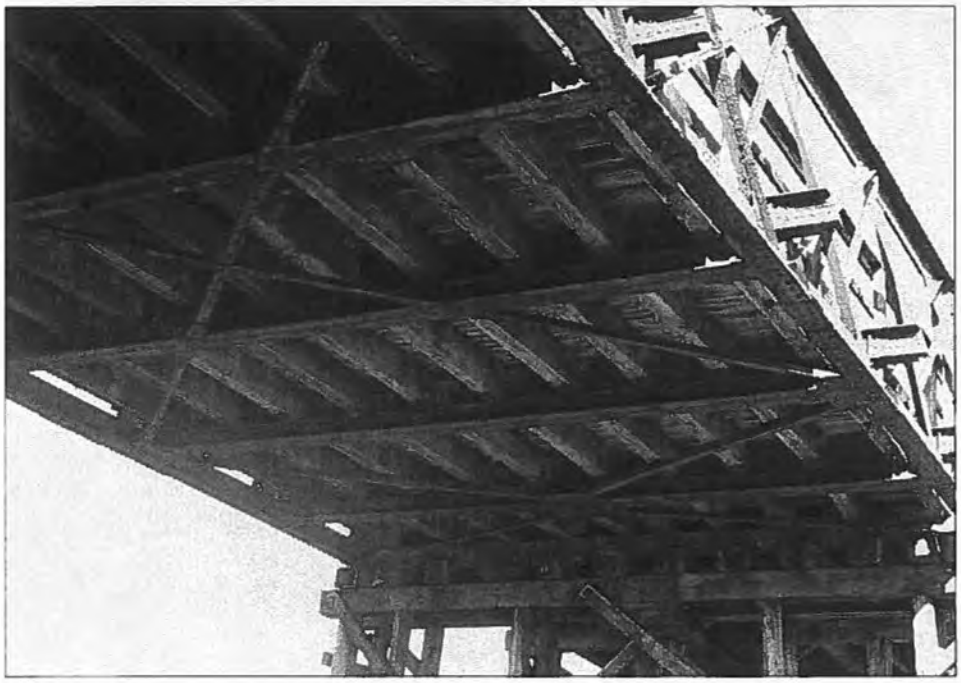
( ) Listed
(x) Determined Eligible
( ) Eligible
( ) Not Eligible

Date of Survey: November 1986 Surveyor: Jeffrey A. Hess

Documentation: Determination of Eligibility



Scofield Road Bridge (P-14-126), Town of Lebanon, Dodge County
Top: East elevation - *Source: J.A. Hess, 1986*
Bottom: West elevation, east side - *Source: J.A. Hess, 1986*



Scofield Road Bridge (P-14-126), Town of Lebanon, Dodge County
Underside of Deck - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-16-097

WisDOT Designation: P-16-097
Historic Name: Taylor Bridge
Other Name: Bayfield Road Bridge
Current Owner: Town of Amnicon
Year Built: c.1930
Engineer: Unknown
Fabricator: Unknown
Contractor: Unknown
Status: Road closed as of 1996

Geographical Data

County: Douglas
City, Village, or Town: Town of Amnicon
Legal Description: Sections 35/2, Towns 47N/48N, Range 12 W
Crossing: Bayfield Road over Middle River
Sketch Diagram (For survey photos, see contact sheet 02100/4)

Technical Data

Bridge Category: Timber pony truss (with steel verticals)
Spans–No./Type: 1 queen post (36' 8")
Connection Type: Bolted
Substructure: Rubble fieldstone abutments
Overall Length x Width: 40'8" x 13'8"
Inclined Endposts/Upper Chord: L0-U1-U2-L3: 12" x 12" timber
Lower Chord: LO-L3: timber (12" x 12") Verticals: L1-U1, L2-U2: Cylindrical steel rods (1 3/4" diameter) with threaded upper and lower ends
Diagonals: L1-U2, L2-L1: timbers (6" x 4"); also timber side bracing, which connects points U1 and U2, respectively, with transverse timber members bolted to floor beams near points L1 and L2
Floor System: Wood decking on timber stringers and 12" x 12" floor beams; at points L1 and L2, floor beams are bolted to threaded, lower ends of steel verticals
Bearings: Neither end fixed; at points L0 and L3 floor beams rest directly on abutments

Summary Description

Situated on an unpaved, rural road, Taylor Bridge crosses Middle River in an east-west direction about 1 mile south of the community of Wentworth. The structure takes it name from the family who homesteaded the immediate area in the early 1900s (A, B). Resting on rubble fieldstone abutments, the bridge is a bolted, timber pony truss of queen post configuration with wood decking, wood curbs and railings, and steel-rod verticals tying the upper chord to the floor beams. The center panel is cross-braced with timber diagonals. There is also timber side bracing to increase the stability of the web. In the fall of 1929, the Douglas County Board of Commissioners approved a petition from the town of Amnicon to build a bridge on this site for a total cost of about $800, with town and county equally splitting the expense (C). Although county records give no further information, the bridge was probably completed in 1930. This date is partly confirmed by a local resident, who was told by an elder member of the community that he had helped build the bridge's masonry abutments in "the early 1930s" (A). In 1982, the bridge was struck by an automobile, resulting in the fracture of the north elevation's lower chord near the easternmost vertical. Shortly afterwards, the chord was spliced together by a bolted, steel tie plate (A, D). In 1984, the bridge was redecked with timber (A, D).

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-16-097

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of Significance: c.1930

The Taylor Bridge is significant as one of Wisconsin's few surviving wood truss bridges and the only known example of queen post configuration. Although "formerly employed for highway bridges of very short span" in nineteenth-century America, the queen post truss bridge had become a rare item by the early 1900s (E). In its use of metal-rod verticals and center-panel wood diagonals, the Taylor Bridge conforms to classic, nineteenth-century, timber, queen post, bridge design (E).

The 1930 construction date of the Taylor Bridge is quite remarkable. As a 1928 bulletin of the Wisconsin State Highway Commission pointed out, state law prohibited counties from funding wooden highway bridges (F). Apparently, state highway authorities, if they were indeed aware of the bridge's design, were occasionally willing to bend the rules in a timber-rich area such as Douglas County. Such a decision was sanctioned by no less an authority than J. A. L. Waddell, who noted in his influential text on bridge engineering: "In some special situations where timber is abundant, of good quality, and reasonable in price . . . , it is still true economy to build wooden bridges" (G). Douglas County is still a timber-producing area, and Taylor Bridge currently stands next to a small custom sawmill, which has facilitated recent repairs (A, B). Apart from the splicing of the lower chord, the bridge retains its original design integrity.

Sources of Information

A. Hess, Jeffrey A. Interview with Roy Martin, Town of Amnicon, October 20, 1986
B. Amnicon Town Board Minutes, November 14, 1984, unpublished, Amnicon Town Hall.
C. Proceedings of the Board of Supervisors of Douglas County Wisconsin, 1929-1930. N.p., n.d., p. 48.
D. File for bridge P-16-097. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
E. Merriman, Mansfield and Henry S. Jacoby. A Text-Book on Roofs and Bridges, Part 1. New York: John Wiley & Sons, 1926 (fifth ed.), p. 52.
F. Wisconsin State Highway Commission. The Principal Statutes Relating to the Federal Aid Highway Systems, State Trunk Highway Systems, County Trunk Highway Systems and County Systems of Prospective State Highways. Madison, Wis.: Published by the State, 1928, pp. 92-93.
G. Waddell, James A. L. Bridge Engineering, Volume 1. New York: John Wiley & Sons, 1916, p. 772.

National Register Status

( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible

Date of Survey: October 1986 Surveyor: Jeffrey A. Hess

Taylor Bridge (P-16-097), Town of Amnicon, Douglas County
Top: Side elevation - *Source: Wisconsin Department of Transportation*
Bottom: Detail of side elevation and stone abutment - *Source: Wisconsin Department of Transportation*

Taylor Bridge (P-16-097), Town of Amnicon, Douglas County
Detail of timber truss members - *Source: Wisconsin Department of Transportation*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-18-720

WisDOT Designation: P-18-720
Historic Name: Old Wells Road Bridge (A)
Other Name:
Current Owner: Chicago & Northwestern Railway
Year Built: 1911 (A, B)
Engineer: Chicago & Northwestern Railway (A, B)
Fabricator: Chicago & Northwestern Railway (A, B)
Contractor: Chicago & Northwestern Railway (A, B)
Status: Demolished

Geographical Data

County: Eau Claire
City, Village, or Town: City of Eau Claire
Legal Description: Section 7, Town 27N, Range 9W
Crossing: Old Wells Road over Chicago & Northwestern Railway
Sketch Diagram (For survey photos, see contact sheet 79062)

Technical Data

Bridge Category: Timber pony truss with timber girder approaches
Spans--No./Type: 1 Howe truss (38'), 8 timber girders (ea. 13' 5")
Connection Type: Bolted
Substructure: Timber pile bent
Overall Length x Width: 147'4" x 19'11"
Inclined Endpost/Upper Chord: L0-U1-U4-L5: timber (9 ½" x 9 ½")
Lower Chord: LO-L5: timber (13 ½" x 10")
Verticals: L1-U1, L2-U2, L3-U3: double cylindrical eyebars (1 ½" diameter) bolted with nuts and washers to gib plates, which are angle-shaped at points U1 and U4 to cover the hip; the threaded ends of the eyebars are not upset
Diagonals: L1-U2, L4-U3: single timber (9 ½" x 9 ½"); L2-U3: double timbers (9" x 2"); L3-U2: single timber (9 ½" x 3")
Floor System: Wood plank decking on timber floor beams resting on lower chord
Bracing: Timber side bracing

Summary Description

Situated on a paved road in an outlying residential district of north-central Eau Claire, the bridge follows a north-south route over a double-tracked section of the Chicago and Northwestern Railway's main line linking the cities of Altoona, Wisconsin and St. Paul, Minnesota. Resting on timber pile bent, the wood-decked structure displays two, four-span, timber-girder approaches and a timber, pony, Howe truss with inclined endposts, threaded metal-rod verticals of uniform diameter, and wood angle blocks that receive the but ends of the diagonals. The center panel contains crossed diagonals consisting of a single member sandwiched between, and bolted at mid-point to, double members. The panels immediately adjacent contain one single-member diagonal. Continuous wood railings and wood curbing run the entire length of the bridge. The structure was designed and built by the Chicago and Northwestern Railway in 1911 (A, B). Closed to traffic in 1980 because of the deteriorated condition of the metal verticals, wood floor beams, and timber substructure, the bridge was rebuilt by the railroad according to the original plan and reopened in 1981 (B).

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-18-720

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of Significance: 1911

The Old Wells Road Bridge is one of Wisconsin's two, surviving, Howe truss, highway bridges, the other being the Seventh Street Bridge in the city of Hudson, St. Croix County. As rare representatives of this once-common truss type, both bridges have been determined eligible for listing in the National Register of Historic Places (A, C). Patented by the American architect and engineer William Howe in 1840-1841, the Howe truss represented a major breakthrough in bridge engineering, replacing earlier all-wood trusses with a stronger, more economical design employing metal verticals in tension and wood diagonals in compression (D). Because "the rods could be easily shipped and the truss timbers prefabricated," the design permitted quick assembly (E). It especially appealed to railroad companies, which employed "squads of bridge carpenters [to erect the trusses] on the ground" (F).

Until the all-metal Pratt truss came into vogue in the 1880s, the Howe truss was the country's most popular bridge design, continuing in use into the twentieth century. Apparently, different regions of the country utilized different arrangements of single-member and double-member diagonals. According to one student of the Howe truss, "most bridges in the east and Midwest have two diagonal braces and one counter brace in each panel" (G). The Old Wells Street Bridge displays this arrangement only in the central panel, revealing single diagonals without counters in the other panels. There is insufficient data, however, to determine if this is an individual idiosyncrasy or the standard practice of the Chicago and Northwestern Railway. Another notable feature is the bridge's use of uniform-diameter rods for verticals. Usually, Howe truss verticals were upset at the ends "to give a stronger section through the screw threads than in the body of the rods" (H).

Sources of Information (References to Above)

A. Taylor, M. Intensive Survey Form for Old Wells Street Bridge, in "Eau Claire Third Ward Historic District Multiple Resources National Register Nomination." M.S., State Historical Society of Wisconsin-Historic Preservation Division, 1982.
B. "Findings of Fact and Order Before the Transportation Commission of Wisconsin," File No. 9040-RX-477, November 26, 1980, in file for bridge P-18-720. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
C. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges" in Cultural Resource Management in Wisconsin, Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986.
D. Condit, Carl W. American Building. Chicago: U of Chicago P, 1982, p. 61.
E. Wilson, Raymond E. "Twenty Different Ways to Build a Covered Bridge," Technology Review (May 1971), reprinted in American Wooden Bridges. New York: American Society of Civil Engineers, 1976, pp. 134-135.
F. Johnson, J. B., C.W. Bryan and F.E. Turneaure. The Theory and Practice of Modern Framed Structures. 8th Ed. New York: John Wiley & Sons, Inc., 1905, p. 385.
G. Cooper, Theodore. "American Railroad Bridges." Transactions of American Society of Civil Engineers (July 1889), reprinted in American Wooden Bridges. New York: American Society of Civil Engineers, 1976, p. 16.

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-18-720

National Register Status

( ) Listed
(x) Determined Eligible
( ) Eligible
( ) Not Eligible

Date of Survey: October 1986 Surveyor: Jeffrey A. Hess

Documentation: Determination of Eligibility

Old Wells Road Bridge (P-18-720), City of Eau Claire, Eau Claire County
Top: West elevation - *Source: J.A. Hess, 1986*
Bottom: Trestle work, south approach span - *Source: J.A. Hess, 1986*

Old Wells Road Bridge (P-18-720), City of Eau Claire, Eau Claire County
East side of west elevation - *Source: J.A. Hess, 1986*

Old Wells Road Bridge (P-18-720), City of Eau Claire, Eau Claire County
Panel detail, east side of west elevation - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-23-121

WISDOT Designation: P-23-121
Historic Name: Decatur Road Bridge
Other Name:
Current Owner: Town of Decatur
Year Built: 1906
Engineer: Unknown
Fabricator: Wisconsin Bridge and Iron Company
Contractor: Unknown
Status: Replaced in 1990

Geographical Data

County: Green
City, Village or Town: Town of Decatur
Legal Description: Section 24, Township 2N, Range 9E
Crossing: Decatur Road over Sugar River Overflow
Sketch Diagram (For survey photos, see contact sheet 79157/7)

Technical Data

Bridge Category: Metal pony truss
Spans--No./Type: 1 Pratt half-hip span (79')
Connection Type: Pinned
Substructure: Steel tubes with concrete caps
Overall Length x Width: 80'4" x 15'5"
Inclined End-Post/Upper Chord: L0-U1-U6-L7: double upright channels (8") with cover plate (12") and V-lacing
Lower Chord: double rectangular eyebars, punched: L0-L1, L5-L7 (2" x 1"); L2-L3, L4-L5 (2-1/2" x 1"); L3-L4 (4" x 1")
Verticals: L2-U2, L3-U3, etc.: double back-to-back angles (3" x 2" forming "H" section)
Diagonals: L1-U1, L2-U1, etc.: double, square, looped eyebars (1-1/4")
Counters: L3-U4, L4-U3: single, square, looped eyebar (1"), with open turnbuckle
Floor System: Rolled-I floor-beams, riveted via angles to flat-plate hanger; rolled I-beam stringers; poured concrete deck with bituminous overlay
Bracing: Bottom: Threaded rods
Bearings: Fixed plates on east end; sliding plates on west end

Summary Description

The Decatur Road Bridge is a single-span, half-hip, Pratt, pony truss, carrying Decatur Road over Sugar River Overflow, in rural Decatur Township, just northwest of the community of Brodhead. Being a pony truss, the truss web is relatively low (9'), and there are no lateral members connecting the trusses above the roadway. It is designed for relatively short spans. The structure exhibits the basic characteristic of the half-hip Pratt, lacking an L1-U1 member while U1-U2 extends approximately half a panel length (hence the designation "half-hip"). The connections are pinned and the design of the members is typical for the truss and period. It was fabricated in 1906 by the Wisconsin Bridge and Iron Company for the township and the county, to replace a wood bridge on the site. The bridge, whose total cost was estimated at $2,000, benefited from county aid.

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-23-121

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of significance: 1906

Bridge P-23-121, Decatur Road Bridge, is significant as an unaltered representative example of a Pratt half-hip truss configuration with pinned connections. In addition, it is a product of the Wisconsin Bridge and Iron Company, one of the major bridge fabrication firms in the state.

Sources of Information (Reference to Above)

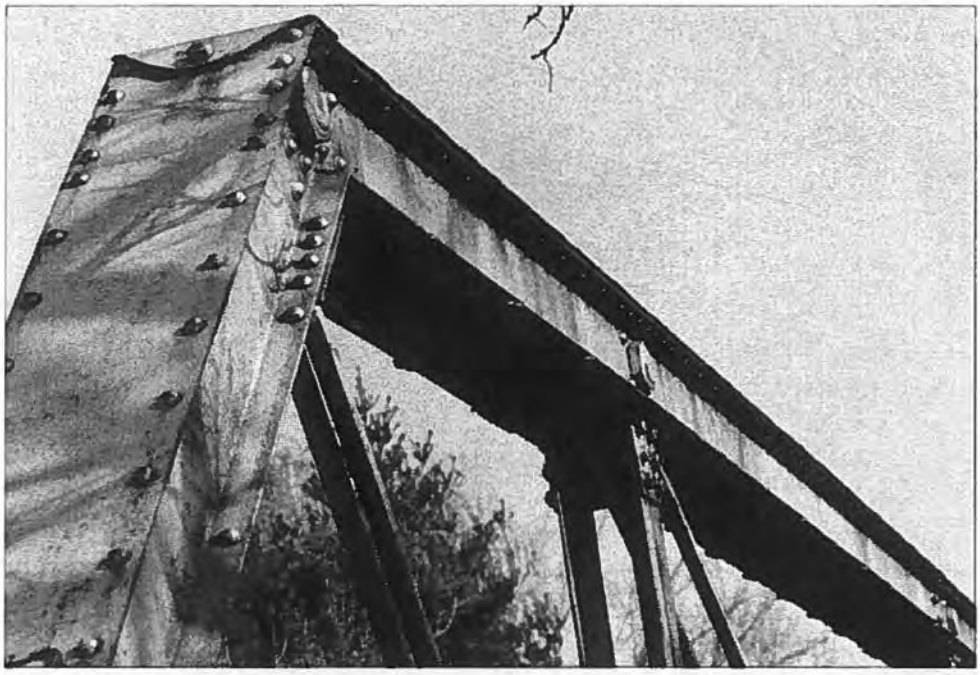
A. Green County Board of Supervisors. Official Report, Annual Meeting, 1906, pp. 21-22.
B. Bridge plate. Mounted on southwest end post.

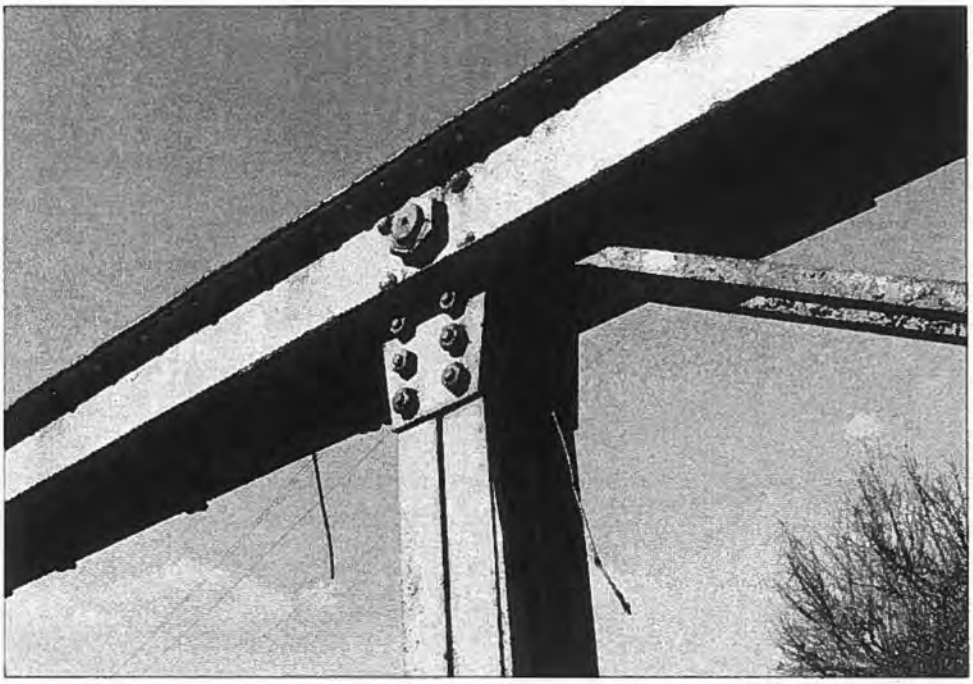
National Register Status

( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible

Date of Survey: November 5, 1986 Surveyor: Robert M. Frame III

Decatur Road Bridge (P-23-121), Town of Decatur, Green County
Top: East approach - *Source: J.A. Hess, 1986*
Bottom: North elevation - *Source: J.A. Hess, 1986*





Decatur Road Bridge (P-23-121), Town of Decatur, Green County
Top: Detail of end post top connection - *Source: J.A. Hess, 1986*
Bottom: Detail of connection at top chord splice - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-23-124

WISDOT Designation: P-23-124
Historic Name: Allie Ten Eyck River Bridge (A)
Other Name: Ten Eyck Road Bridge
Current Owner: Town of Decatur
Year Built: 1907
Engineer: Unknown
Fabricator: Elkhart Bridge and Iron Company
Contractor: Unknown
Status: To be replaced as of 1996

Geographical Data

County: Green
City, Village or Town: Town of Decatur
Legal Description: Section 26, Township 2N, Range 9E
Crossing: Ten Eyck Road over Sugar River
Sketch Diagram (For survey photos, see contact sheet 79157/2/7)

Technical Data

Bridge Category: Metal pony truss
Spans--No./Type: 2 Pratt full-slope spans (88'6" each)
Connection Type: Pinned
Substructure: Metal-capped metal tubes; steel retaining walls; concrete wing-walls at east abutment
Overall Length x Width: 179'6" x 15'7"
Inclined End-Post/Upper Chord: L0-U1-U5-L6: double upright channels (8") with cover plate (14") and V-lacing
Lower Chord: L0-L6: double rectangular looped eyebars (L0-L2, L4-L6, 2-3/4" x 3/4"), (L2-L4, 3-1/2" x 1")
Verticals: L1-U1, L2-U2, etc.: double back-to-back angles (2-1/2" x 2-1/2") with V-lacing, "H" in section
Diagonals: Double rectangular looped eyebars (L2-U1, L4-U5, 2" x 7/8"), (L3-U2, L3-U4, 1-1/2" x 5/8")
Counters: L2-U3, L4-U3: cylindrical rods (1") with open turnbuckles
Floor System: Rolled-I floor beams, riveted with angles and plates to vertical post; rolled-I stringers, with poured concrete deck
Bracing: Bottom: Threaded rods
Bearings: Outside bearings on spans are fixed plates; inside bearings on spans are slotted plates

Summary Description

Bridge P-23-124 is a two-span, metal, full-slope Pratt pony truss bridge, carrying Ten Eyck Road over the Sugar River in the town of Decatur, rural Green County. Each span is 88'6", for an overall structure length of 179'6", and an overall structure width of 15'7". The construction is conventional pin-connected Pratt design, with double-channel box upper chord and looped eyebar lower chord. Vertical compression members are built of angles with lacing. The floor system employs rolled members. Bearings are fixed and display sliding plates. The substructure is composed of metal tubes and sheet metal retaining walls.

It was built in 1907 by the Elkhart Bridge & Iron Company, represented by company agent W.E. Gifford of Madison (B). The cost of the bridge, properly known in 1906 as the "Allie Ten Eyck river bridge," originally was estimated at $4,000. When completed and accepted in 1907, it had cost $3,789.16 (A).

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-23-124

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
(x) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of significance: 1907

The Ten Eyck Bridge (P-23-124) is significant as one of Wisconsin's "best examples of Pratt standard pony trusses" (C). It was selected from 69 similar pony trusses identified in the state's 1981 study of historic bridges (C). It is unaltered. This particular example is notable for its long spans (88'6"), which exceed the maximum pony truss span length of 84' reportedly used during the early years (c.1907-13) of the Wisconsin State Highway Commission (D). Having been authorized and let in 1906 (A), the Ten Eyck Bridge probably represents the last of the pre-Highway Commission spans. The builder, Elkhart Bridge and Iron Company of Indiana, is significant as a "known prolific out-of-state builder" of bridges in Wisconsin (C).

Sources of Information (Reference to Above)

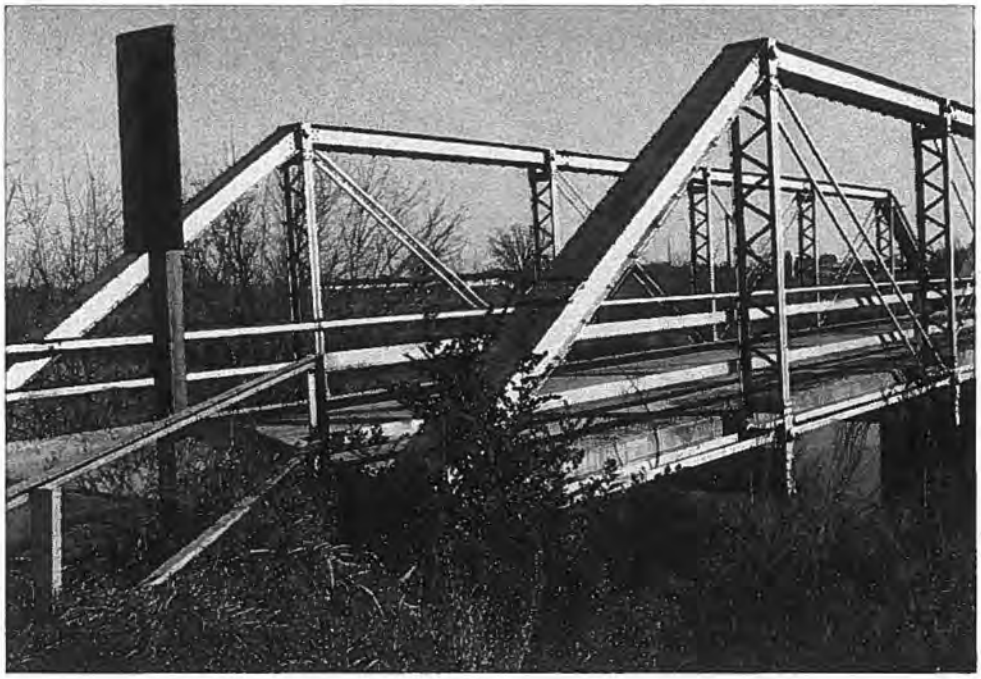
A. Green County Board of Supervisors. Proceedings, 1906, p. 23; 1907, p. 49.
B. P-23-124 builder's plate, mounted on southwest endpost.
C. Wyatt, Barbara, ed. "Iron & Steel Truss Highway Bridges" in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986.
D. Brue, Hans Nelson. "The Development of Highway Bridges in Wisconsin." M.S. thesis, U of Wisconsin, 1916, pp. 27-28.

National Register Status

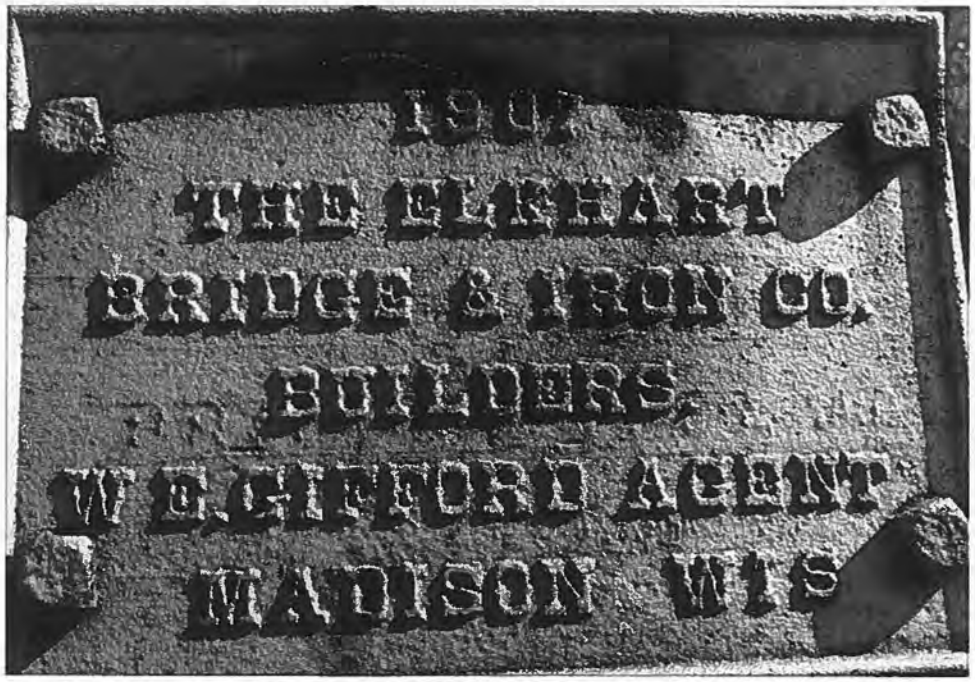
( ) Listed
(x) Determined Eligible
( ) Eligible
( ) Not Eligible

Date of Survey: November 5, 1986 Surveyor: Robert M. Frame III

Documentation: Determination of Eligibility



Allie Ten Eyck River Bridge (P-23-124), Town of Decatur, Green County
Top: South elevation - *Source: J.A. Hess, 1986*
Bottom: West span, west end - *Source: J.A. Hess, 1986*



Allie Ten Eyck River Bridge (P-23-124), Town of Decatur, Green County
Top: West span, west end, detail of builder's plate - *Source: J.A. Hess, 1986*
Bottom: Detail of end post connection - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-29-092

WISDOT Designation: P-29-092
Historic Name: Sprague Bridge
Other Name: Ninth Street Bridge
Current Owner: Towns of Armenia and Necedah
Year Built: 1913
Engineer: Unknown
Fabricator: Elkhart Bridge and Iron Company
Contractor: Unknown
Status: Moved in 1993

Geographical Data

County: Juneau
City, Village or Town: Towns of Armenia and Necedah
Legal Description: Section 2, Township 19N, Range 3E
Crossing: Ninth Street East over Yellow River
Sketch Diagram (For survey photos, see contact sheet 79157/4,6)

Technical Data

Bridge Category: Metal pony truss
Spans--No./Type: 2 Pratt half-hip spans (58'8" each)
Connection Type: Pinned
Substructure: Metal-capped steel tube abutments and pier; steel diaphragm retaining walls
Overall Length x Width: 121'7" x 15'0"
Inclined End-Post/Upper Chord: L0-U1-U5-L6: double upright channels (7") with cover plate (12") and v-lacing
Lower Chord: L0-L2, L4-L6: double angles tied with batten plates; L2-L4: double rectangular looped eyebars (2-1/2" x 7/8")
Verticals: L2-U2, L3-U3, etc.: double back-to-back angles tied with V-lacing ("H" in section)
Diagonals: Double rectangular looped eyebars (L2-U1, L4-U5, 1-3/4" x 7/8"; L3-U2, L3-U4, 1-3/4" x 3/4")
Counters: L2-U3, L4-U3: single cylindrical looped eyebars (7/8") with open turnbuckles
Floor System: Rolled I-beam floor beams and stringers, riveted with angles to a plates hung from the pins; corrugated metal deck with bituminous overlay
Bracing: Bottom: threaded rods
Bearings: All bearings are the same: plates bolted to metal caps on tubes, with no slotted holes or rollers

Summary Description

Bridge P-29-092 is a two-span, pinned, metal, Pratt half-hip pony truss bridge, which carries Ninth Street East across the Yellow River in rural Juneau County. Today, it connects the towns of Necedah and Armenia, but in 1912-13 it may have been considered wholly within Armenia, with the town line further to the west (C). Each span is 58'8" long, for a total structure length of 121'7" and width of 15'. The superstructure is constructed of conventional channels and angles, while the floor system is constructed of rolled I-beams. The lower chord is notable in that double tied angles are used in the two outside panels, while looped eyebars are used in the two inner panels. The substructure is constructed entirely of steel, employing metal-capped steel tubes and steel diaphragm retaining walls in the abutments and center pier. The bridge was built in 1913 by the Elkhart Bridge and Iron Company, Elkhart, Indiana, employing agent W.E. Gifford of Madison (A). A second plate on the bridge identifies the Armenia town supervisors (Ole Norsby, Al Gorman, and George A. Mayhue) and the Juneau county supervisors' committee (E.P. Rogers and George H. Livernash) that was appointed to oversee the bridge project (A,C). The bridge is unaltered.

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-29-092

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
(x) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of significance: 1913

Bridge P-29-092, built in 1913, is significant as an unaltered representative example of Pratt half-hip metal, pony truss highway bridge, constructed during the early years of the Wisconsin State Highway Commission oversight. In 1981, this bridge was recognized by the Historic Bridge Advisory Committee (HBAC) as one of the four "best examples of Pratt half-hip pony trusses" in the state (B). The steel-tube substructure represents a very late example, since Brue in 1916 stated that "this type has not been used for some time" (D). Overall, the bridge retains integrity of structure and setting. The builder, Elkhart Bridge and Iron Company of Elkhart, Indiana, was identified by HBAC as a "known prolific out-of-state builder" (B), and therefore of significance.

Sources of Information (Reference to Above)

A. P-29-092 builder's plate, mounted on southwest end post, and township supervisors' plate, mounted on northeast endpost.
B. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges" in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986.
C. Juneau County Board of Supervisors. Proceedings. Nov., 1912, pp. 9, 11; Aug., Nov., 1913, p. 13.
D. Brue, Hans Nelson. "The Development of Highway Bridges in Wisconsin," M.S. thesis, U of Wisconsin, 1916, pp. 42-43.

National Register Status

( ) Listed
(x) Determined Eligible
( ) Eligible
( ) Not Eligible

Date of Survey: November 6, 1986 Surveyor: Robert M. Frame III

Documentation: Determination of Eligibility
HAER No. WI-57

Sprague Bridge (P-29-092), Towns of Armenia and Necedah, Juneau County
Top: South elevation - *Source: J.A. Hess, 1986*
Bottom: Detail of south bottom chord - *Source: J.A. Hess, 1986*

Sprague Bridge (P-29-092), Towns of Armenia and Necedah, Juneau County
Top: Detail of southwest builder's plate - *Source: J.A. Hess, 1986*
Bottom: Detail of bearings - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-33-217

WISDOT Designation: P-33-217
Historic Name: Coltman Bridge (A)
Other Name: Horseshoe Bend Road Bridge
Current Owner: Town of New Diggings
Year Built: 1917
Engineer: Wisconsin State Highway Commission (A)
Fabricator: Unknown
Contractor: Decker & Hague (B)
Status: Extant as of 1996

Geographical Data

County: Lafayette
City, Village or Town: Towns of New Diggings and Benton
Legal Description: Section 10, Town 1N, Range 1E
Crossing: Horseshoe Bend Road over Fever River
Sketch Diagram (For survey photos, see contact sheet 79157/3)

Technical Data

Bridge Category: Metal pony truss
Spans--No./Type: 1 Warren standard span (65'), skewed
Connection Type: Riveted
Substructure: Concrete abutment, bridge seat, and wing walls
Overall Length x Width: 69' x 20'
Inclined End-Post/Upper Chord: L0-U1-U9-L10: double upright channels (8") with cover plate (14") and tied with batten plates
Lower Chord: L0-L10: double back-to-back angles ("+" in section)
Verticals: L2-U2, L4-U4, etc.: double angles (2-1/2" x 2-1/2") tied with batten plates
Diagonals: Double angles tied with batten plates (L2-U1, L2-U3, L8-U7, L8-U9: 5" x 3-1/2"; L4-U3, L4-U5, L6-U5, L6-U7: 3-1/2" x 2-1/2")
Counters: None
Floor System: Rolled I-beam floor beams riveted with vertical plate and angles to gusset plates at panel points; rolled I-beam stringers with poured concrete deck
Bracing: Crossed angles
Bearings: Fixed plates at north end; slotted expansion plates at south end (bolts missing)

Summary Description

The Coltman Bridge (P-33-217) is a single span, metal, riveted, Warren standard, pony truss in a skewed configuration. Overall length is 69' and span length is 65'; overall width is 20' and roadway width is 19'. While the skewed construction is different from most other truss bridges, it is only an accommodation to a non-perpendicular crossing and is not technologically significant. The bridge carries Horseshoe Bend Road over the Fever River, with the road's name being derived from the fact that it crosses the river at the center of its "horseshoe" curve. The bridge is located in rural Lafayette County and links the townships of New Diggings and Benton. In characteristic Warren standard truss fashion,
the superstructure is built entirely of riveted channels and angles, tied with batten plates where necessary. The upper chord and endposts are not continuous. The lower chord angles are "tied" only where they pass on either side of a panel point. Vertical members act to stiffen the truss web. The floor system uses rolled-section members with crossed-angle lateral bracing. The substructure is entirely of concrete; about 50 yards to the west are the stone abutment ruins of a previous bridge. Coltman Bridge was designed by the Wisconsin State Highway Commission in

1916 as a skewed variation on a standard Warren truss with verticals (A) and built 1917-18 by contractors Decker and Hague at a cost of $6,504 (B). It retains structural and contextual integrity.

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of significance: 1917-1918

The Coltman Bridge (P-33-217), erected in 1917-1918, is significant as an unaltered representative of the State Highway Commission-designed Warren standard pony truss design, adapted to a skewed crossing (A). In 1981, this bridge was recognized by the Historic Bridge Advisory Committee (HBAC) as one of the three best examples of this truss design out of a statewide group of 443 examples (D). In addition, the design is identical to the bridge identified by Hans Brue in 1916 as the standard state-designed pony truss (C, pp. 28-29).

Sources of Information (Reference to Above)

A. Wisconsin State Highway Commission. Bridge P-33-217 plans, 1917. Microfilm copy. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
B. Lafayette County Board. Proceedings, Nov. 1917-Jan. 1918, pp. 46, 75.
C. Brue, Hans Nelson. "The Development of Highway Bridges in Wisconsin." M.S. thesis, U of Wisconsin, 1916.
D. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges" in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986.

National Register Status

( ) Listed
(x) Determined Eligible
( ) Eligible
( ) Not Eligible

Date of Survey: November 5, 1986 Surveyor: Robert M. Frame III

Documentation: Determination of Eligibility
HAER No. WI-45

Coltman Bridge (P-33-217), Towns of New Diggings and Benton, Lafayette County
Side elevation - *Source: Wisconsin Department of Transportation*

Coltman Bridge (P-33-217), Towns of New Diggings and Benton, Lafayette County
Detail of side elevation and abutments- *Source: Wisconsin Department of Transportation*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-34-060

WISDOT Designation: P-34-060
Historic Name:
Other Name: Range Line Road Bridge
Current Owner: Town of Ackley
Year Built: 1908
Engineer: Unknown
Fabricator: Wisconsin Bridge and Iron Company (A)
Contractor: Unknown
Status: Moved in 1991

Geographical Data

County: Langlade
City, Village or Town: Town of Ackley
Legal Description: Section 9, Town 31N, Range 10E
Crossing: Range Line Road over West Branch of Eau Claire River
Sketch Diagram (For survey photos, see contact sheet 02014/2)

Technical Data

Bridge Category: Metal pony truss
Spans--No./Type: 1 Warren standard span (59') with continuous top chord
Connection Type: Riveted
Substructure: Metal tubes with metal retaining walls
Overall Length x Width: 61' x 16'6"
Inclined End-Post/Upper Chord: L0-U1-U7-L8: continuous back-to-back angles (5" x 3 7/8") ("T" section)
Lower Chord: L0-L8: back-to-back angles (3" x 2-1/2")
Verticals: L2-U2, L4-U4, L6-U6: angles with outside dogleg braces
Diagonals: L2-U1, L2-U3, etc.: back-to-back angles ("T" section) (2-1/2" x 3")
Counters: None
Floor System: Rolled section floor beams and stringers; corrugated deck with bituminous overlay
Bracing: Bottom lateral: Threaded rods
Bearings: Fixed plates on west end; sliding plates on east end

Summary Description

Bridge P-34-060 is a single-span, metal, riveted, Warren standard pony truss with continuous top chord. It carries Range Line Road over the West Branch of the Eau Claire River in rural Langlade County, an area historically of swamps, spring flooding, and few fording places (D). The overall length is 61' and the span length is 59'; the overall width is 16'6" carrying a roadway of 16'2". In characteristic Warren standard truss fashion, the design incorporates diagonals carrying both compressive and tensile forces, with light verticals to stiffen the truss. The entire bridge is composed of riveted angles. A notable feature distinguishing this bridge from most other Warren pony trusses is the continuous top chord. The "T"-section angle configuration of the inclined end posts is carried through the top chord with no connection necessary at the hip joint. The diagonals and verticals are joined via gusset plates. The corrugated-metal deck is hung above the bottom chord. The bridge was designed and built in 1908 by the Wisconsin Bridge and Iron Company at a total cost of approximately $3,000 (B,C,D). The bridge retains structural and contextual integrity.

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-34-060

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of significance: 1908

Bridge P-34-060, erected in 1908, is significant as an unaltered representative of the Warren standard pony truss with continuous top chord. It further represents metal-truss bridge construction at the end of the private firm era, just prior to the advent of State Highway Commission involvement. In 1981, this bridge was recognized by the Historic Bridge Advisory Committee (HBAC) as one of the two best examples of the Warren continuous top chord trusses in Wisconsin (C). In 1986, it was one of only 43 such trusses known in the state (C). The fabricator, Wisconsin Bridge and Iron Company, is recognized as a "known prolific Wisconsin builder," and therefore of significance (C). Additionally, this firm is one of only two known fabricators of the continuous top chord design.

Sources of Information (Reference to Above)

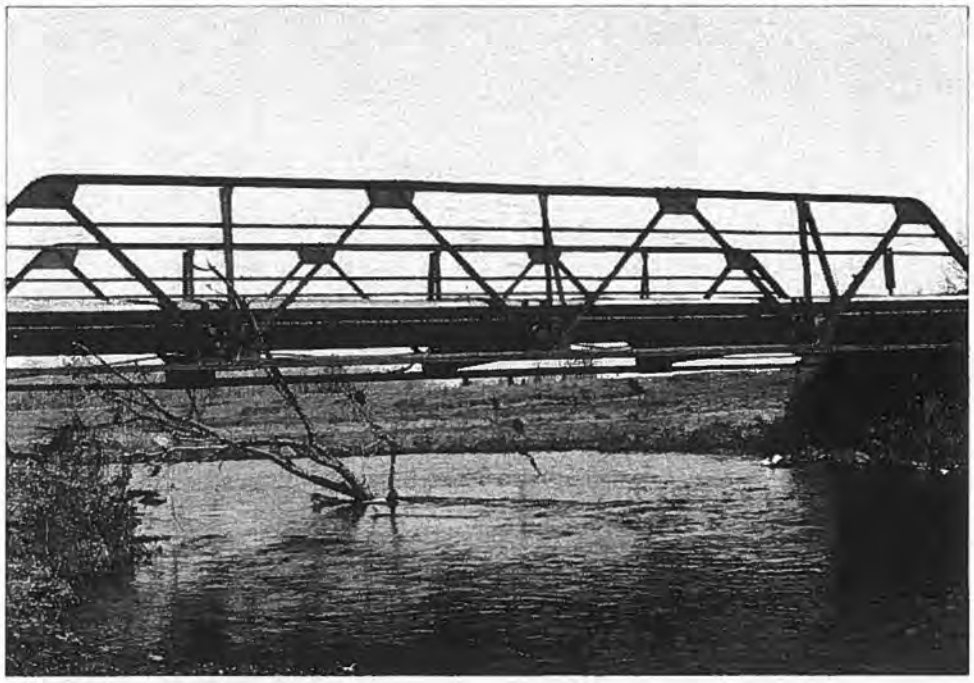
A. "Bridge Survey Data Sheet" for P-34-060. Sheet notes presence of bridge plate at time of that survey. Plate is now missing. Bridge Section. Wisconsin Department of Transportation, Central Office. Madison, Wis.
B. Langlade County Board. Proceedings. Antigo, 1908-09, p. 4.
C. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges" in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Historic Preservation Division, 1986.
D. Mendl, Blanch. Pioneer History of the Township of Ackley. N.p., 1976?, p. 47.

National Register Status

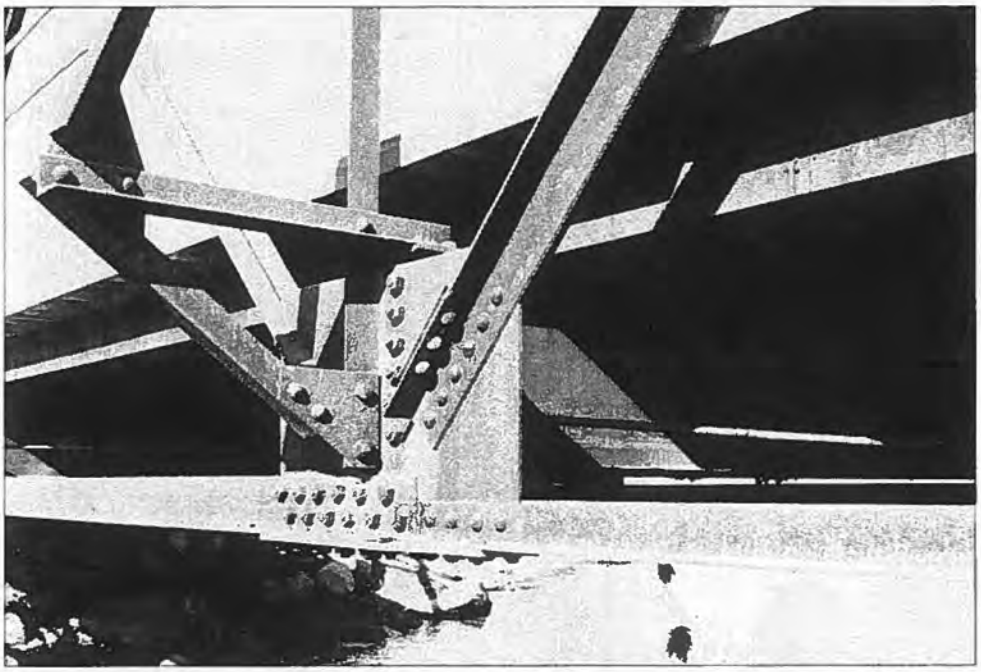
( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible

Date of Survey: October 21, 1986 Surveyor: Robert M. Frame III

Documentation: Determination of Eligibility, 1990
HAER No. WI-17



Range Line Road Bridge (P-34-060), Town of Ackley, Langlade County
Top: South elevation - *Source: J.A. Hess, 1986*
Bottom: East approach - *Source: J.A. Hess, 1986*



Range Line Road Bridge (P-34-060), Town of Ackley, Langlade County
South elevation, detail of hanger - *Source: J.A. Hess, 1986*

TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-34-067

WISDOT Designation: P-34-067
Historic Name:
Other Name: River Road Bridge
Current Owner: Town of Ackley
Year Built: 1908
Engineer: Unknown
Fabricator: Wisconsin Bridge and Iron Company (A)
Contractor: Unknown
Status: Replaced in 1989

Geographical Data

County: Langlade
City, Village or Town: Town of Ackley
Legal Description: Sections 2/3, Town 31N, Range 10E
Crossing: River Road over East Branch of Eau Claire River
Sketch Diagram (For survey photos, see contact sheet 02014/2)

Technical Data

Bridge Category: Metal pony truss
Spans--No./Type: 1 Warren standard span (69'7") with continuous top chord
Connection Type: Riveted
Substructure: Metal tubes with metal retaining walls
Overall Length x Width: 70'7" x 16'
Inclined End-Post/Upper Chord: L0-U1-U7-L8: continuous back-to-back angles (6" x 3-7/8") ("T" section)
Lower Chord: L0-L8: back-to-back angles (3" x 3-1/2")
Verticals: L2-U2, L4-U4, etc.: angles with outside dogleg braces
Diagonals: L2-U1, L2-U3, etc.: back-to-back angles ("T" section) (3" x 5")
Counters: none
Floor System: Rolled section floor beams and stringers; corrugated deck with bituminous overlay
Bracing: Bottom lateral: Threaded rods
Bearings: Fixed plates and sliding plates

Summary Description

Bridge P-34-067 is a single-span, metal, riveted, Warren standard pony truss with continuous top chord. It carries River Road over the East Branch of the Eau Claire River in rural Langlade County, an area historically of swamps, spring flooding, and few fording places (D). The overall length is 70'7" and the span length is 69'7"; the overall width is 16' carrying a roadway of 16'. In characteristic Warren standard truss fashion, the design incorporates diagonals carrying both compressive and tensile forces, with light verticals to stiffen the truss. The entire bridge is composed of riveted angles. A notable feature distinguishing this bridge from most other Warren pony trusses is the continuous top chord. The "T"-section angle configuration of the inclined endposts is carried through the top chord with no connection necessary at the hip joint. The diagonals and verticals are joined via gusset plates. The corrugated metal deck is hung above the bottom chord. The bridge was designed and built in 1908 by the Wisconsin Bridge and Iron Company at a total cost of approximately $1,600 (B,C,D). With the very minor exception of several new bolts replacing rivets, the bridge retains structural and contextual integrity.

TRUSS BRIDGE INTENSIVE SURVEY FORM CONT.: BRIDGE NO. P-34-067

Statement of Significance

(x) Represents type, period, technique
( ) Possesses high artistic values
( ) Assoc. with significant persons/firms
( ) Assoc. with significant events

Period of significance: 1908

Bridge P-34-067, erected in 1908, is significant as an unaltered representative of the Warren standard pony truss with continuous top chord. It further represents metal truss bridge construction at the end of the private firm era, just prior to the advent of Wisconsin State Highway Commission involvement. This bridge was identified as one of the two best examples of the Warren continuous top chord trusses in Wisconsin, and in 1986 was one of only 43 such trusses known in the state (C). The fabricator, Wisconsin Bridge and Iron Company, is recognized as a "known prolific Wisconsin builder," and therefore of significance (C). Additionally, this firm is one of only two known fabricators of the continuous top chord design.

Sources of Information (Reference to Above)

A. Bridge P-34-067 builder's plate, mounted on southeast endpost.
B. Proceedings. Langlade County Board. Antigo, 1908-09. Page 4.
C. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges." in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin-Division of Historic Preservation, 1986.
D. Mendl, Blanch. Pioneer History of the Township of Ackley. N.p., 1976. Page 47.

National Register Status

( ) Listed
( ) Determined Eligible
(x) Eligible
( ) Not Eligible

Date of Survey: October 21, 1986 Surveyor: Robert M. Frame III

River Road Bridge (P-34-067), Town of Ackley, Langlade County
South approach - *Source: J.A. Hess, 1986*

River Road Bridge (P-34-067), Town of Ackley, Langlade County
West elevation - *Source: J.A. Hess, 1986*

River Road Bridge (P-34-067), Town of Ackley, Langlade County
Detail of post and hanger - *Source: J.A. Hess, 1986*

River Road Bridge (P-34-067), Town of Ackley, Langlade County
South approach, detail of builder's plate - *Source: J.A. Hess, 1986*