

United States Department of the Interior  
National Park Service

National Register of Historic Places  
Registration Form

019-0000-0061

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

1. Name of Property

historic name Otter Creek Bridge

other names/site number Same

2. Location

street & number 3 miles north of Cedar Vale on F.A.S. 95

not for publication

city, town Cedar Vale

vicinity

state Kansas

code

KS

county Chautauqua

code

19

zip code

67024

3. Classification

Ownership of Property

private

public-local

public-State

public-Federal

Category of Property

building(s)

district

site

structure

object

Number of Resources within Property

Contributing

Noncontributing

\_\_\_\_\_

\_\_\_\_\_ buildings

\_\_\_\_\_

\_\_\_\_\_ sites

1

\_\_\_\_\_ structures

\_\_\_\_\_

\_\_\_\_\_ objects

1

\_\_\_\_\_ Total

Name of related multiple property listing:

Metal Truss Bridges in Kansas

Number of contributing resources previously

listed in the National Register 0

4. State/Federal Agency Certification

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

Signature of certifying official

Date

Nov. 16, 1989

State or Federal agency and bureau

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

Signature of commenting or other official

Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

entered in the National Register.

See continuation sheet.

determined eligible for the National Register.  See continuation sheet.

determined not eligible for the National Register.

removed from the National Register.

other, (explain:)

Signature of the Keeper

Date of Action

**6. Function or Use**

Historic Functions (enter categories from instructions)

Transportation: Road Related (Vehicular) Bridge

Current Functions (enter categories from instructions)

Transportation: Road Related (vehicular) Bridge

**7. Description**

Architectural Classification

(enter categories from instructions)

other: Camelback through truss

Materials (enter categories from instructions)

foundation

walls

roof

other Metal: Steel

Describe present and historic physical appearance.

The Otter Creek bridge, erected in 1936, is a riveted steel camelback through truss. The single span is 122 feet long and 20 feet wide. The wooden deck rises 25 feet above the stream bed. The bridge is located on a right bend in the road on a northeast-southwest axis. This is often true as this alignment allows a right angle crossing of the stream.

The members of a truss bridge are designated either as chord members or web members. Chord members are those mainly defining the outlines of the structure and they are termed lower or upper chord members depending on whether they are found at the bottom or the top of the structure. Members between the chords are web members. They are called posts or ties if they sustain compression or tension respectively. In the instance of the Otter Creek bridge, as with all camelback trusses, the web members are alternately vertical and inclined. The inclined members are in tension and the verticals in compression.

As with all camelback trusses, the inclined endposts and top chord consist of exactly five slopes. In the Otter Creek bridge they are built up of sections consisting of two steel channels, a top plate and tied together with horizontal flat bars. The hip verticals, posts and main diagonals are all fabricated from angle stock with horizontal flat lacing bars. The portal bracing is fabricated from angle stock and flat bars. All connections are riveted. The bridge retains a high degree of structural integrity.

**B. Statement of Significance**

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

nationally  statewide  locally

Applicable National Register Criteria  A  B  C  D

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

Areas of Significance (enter categories from instructions)

Engineering  
Transportation

Period of Significance

1936  
1936

Significant Dates

1936  
1936

Cultural Affiliation

n/a

Significant Person

n/a

Architect/Builder

W.P.A.

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

The great evolution of truss bridge construction began in the United States soon after the publication of Squire Whipple's historic work on stresses in 1840. Prior to this the design work was essentially that of trial and error, experience and judgement. The Warren and Pratt trusses were rational designs and lent themselves readily to the system of analysis postulated by Whipple. They were, therefore, readily and rapidly accepted and formed the foundation for a greater part of American truss design. The camelback, with its five slope-polygonal top chord is a variant of the Pratt truss. This arched top chord made for a stronger bridge while using the same amount of material. The five slopes allowed for both greater standardization of its members and better stress distribution than other Pratt variants such as the Parker. It was also a more economical design in many situations.

The use of steel and solid riveted construction techniques were standard by 1936. The greater strength of steel over wrought iron allowed the use of fewer, though more massive members. Steel bridges make a definite first impression on the viewer. As David Weitzman reports in his Traces of the Past, the steel bridge appears "more massive, ponderous, more earthbound," than its wrought iron relative. By 1936, the drawbacks of riveted construction, for the most part, been surmounted. The counters, vibration rods and struts needed for stability with the older pin connected designs were no longer found.

The Otter Creek bridge is important because it is an example of the work of depression era laborers and federal relief projects such as the K.E.R.A. and W.P.A. It is in good condition and retains an exceptional amount of its integrity. It is one of only four remaining camelback through trusses in Kansas.

See continuation sheet

United States Department of the Interior  
National Park Service

National Register of Historic Places  
Continuation Sheet

Section number 8 Page 1

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The Otter Creek bridge resulted from the destruction of the former structure by a flood in June 1935. The plans were drawn by the county engineer and as planned it was to be funded as a K.E.R.C. (Kansas Emergency Relief Committee) project. Construction was delayed due to the fact the K.E.R.C. was disbanded in the fall of 1935 and the W.P.A. took over the old projects. Unfortunately in the transfer, the W.P.A. office in Topeka lost the plans and new ones had to be prepared. Work finally began in late September under the supervision of county bridge foreman Dick Southwood. By January 3, 45 men were working on the project and work was progressing on the piers. A cold spell in early February and delayed steel work further postponed the anticipated opening. In late March the steel arrived and the bridge was rushed to completion.

The Kansas Department of Transportation (KDOT) carried out a statewide inventory of historic bridges between 1980 and 1983. The bridges to be included were identified through computer printouts developed by KDOT, from information supplied by the counties (since almost all of the historic bridges were located on secondary rather than the primary road system), and by direct observation by field personnel. All bridges were inspected by KDOT personnel to verify the data on file. That information was jointly evaluated by representatives of KDOT, Kansas State Historical Society, and the State Historic Preservation Officer.

Each structure was evaluated using a points rating system adapted from the points evaluation rating developed by the Ohio Department of Transportation and Ohio Historic Preservation Office. Consideration was given to areas such as age, builder, number of spans, length, special features, history, integrity, surviving numbers, and preservation potential.

In many instances there is little information about individual structures. Often bridge plaques which may have contained information have been removed, or the county's records are not complete or have been destroyed. Due to the large numbers of similar structures there is often little to choose from in differentiating among individual bridges other than condition and the likelihood of preservation.

The purpose of the KDOT study and subsequent evaluation was to identify a representative selection of bridges of each class. Through this approach KDOT and KSHS hope to preserve for posterity some examples of each type.

**9. Major Bibliographical References**

- Victor C. Darnell, American Bridge Building Companies, Washington, DC: Society for Industrial Archeology Occasional Publication 4, 1984.
- David Weitzman, Traces of the Past: A Field Guide to Industrial Archeology, New York: Charles Scribner's Sons, 1980.
- James L. Cooper, Iron Monuments to Distant Posterity, DePauw University, F.H.W.A., Indiana Dept.. of Highways, Indiana Dept. Natural Resources, N.P.S., 1987.
- Dan G. Deibler, A Survey and Photographic Inventory of Metal Truss Bridges in Virginia, Charlottesville: Virginia Highway & Transportation Research Council, 1975.
- "Planning New Otter Creek Bridge," Cedar Vale Messinger, July 5, 1935, p. 1.

See continuation sheet

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # \_\_\_\_\_
- recorded by Historic American Engineering Record # \_\_\_\_\_

Primary location of additional data:

- State historic preservation office
- Other State agency
- Federal agency
- Local government
- University
- Other

Specify repository:

Kansas State Historical Society

**10. Geographical Data**

Acroage of property less than one acre

UTM References

A 

1	4	7	2	2	1	4	5	4	1	1	4	8	1	2	5
Zone		Easting				Northing									

C 

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

B 

Zone		Easting				Northing									

D 

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

See continuation sheet

Verbal Boundary Description

The nominated property is located on the NW 1/4, SW 1/4, NW 1/4, NE 1/4, section <sup>20</sup>20, township 33S, range 8E on a tract measuring 122' x 20' whose northeast corner is represented by the northeast corner of the bridge. Beginning at the northeast corner of the boundary proceed 122' southwest, 20' northwest, 122 northeast, and 20' southeast to the point of beginning.

See continuation sheet

Boundary Justification

The boundary includes only that area that is historically associated with the nominated property.

See continuation sheet

**11. Form Prepared By**

name/title Larry Jochims

organization Kansas State Historical Society date September 20, 1989

street & number 120 W. 10th telephone (913) 296-3251

city or town Topeka state KS zip code 66612

United States Department of the Interior  
National Park Service

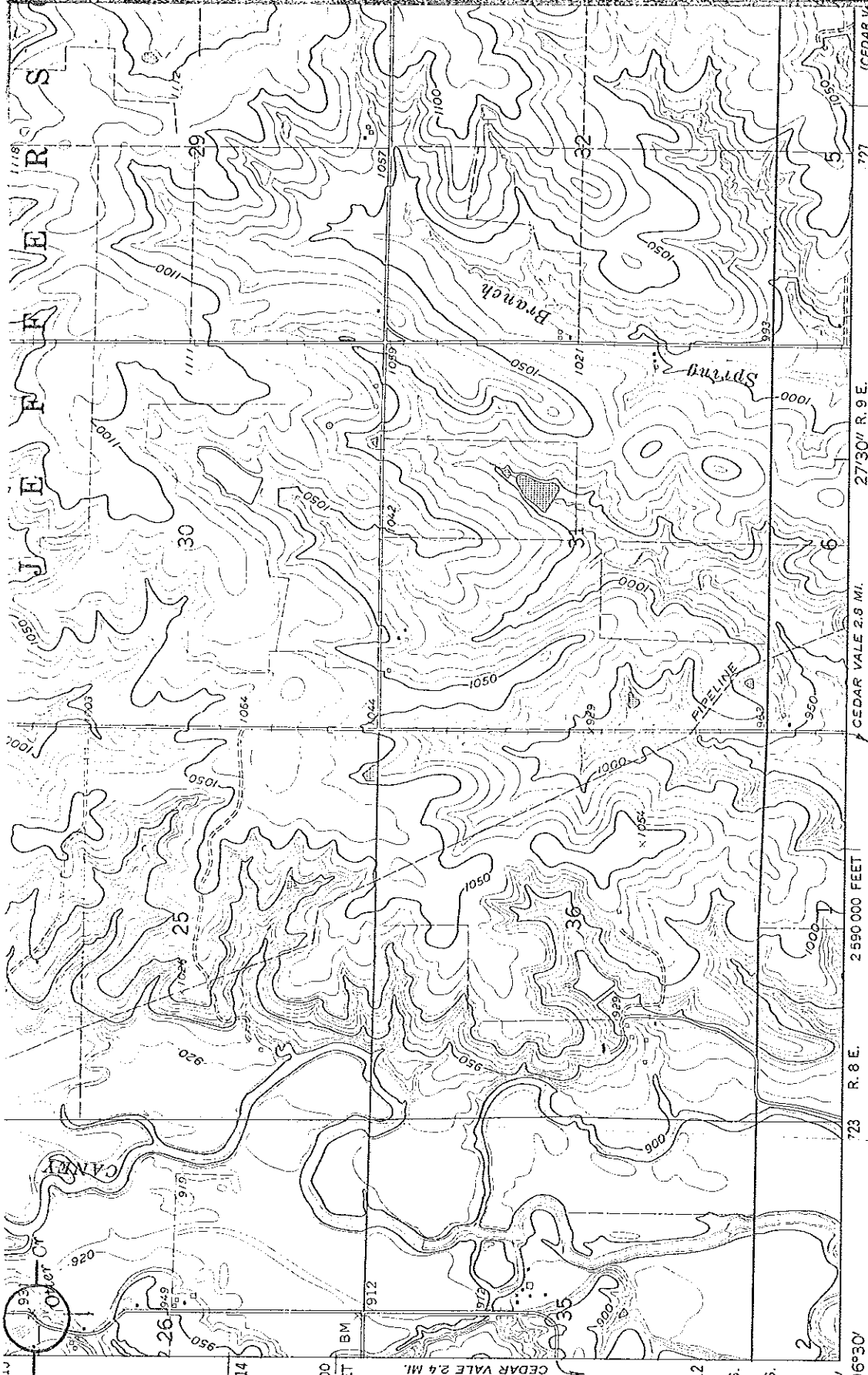
National Register of Historic Places  
Continuation Sheet

Section number   9   Page   1  

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- "Asks Bridge Project Change," Cedar Vale Messenger, September 6, 1935. p. 1.
- "Commissioner Brown Explains Relief Delay," Cedar Vale Messenger, September 13, 1935, p. 1.
- "Start Work on Otter Creek Bridge," Cedar Vale Messenger, September, 20, 1935, p. 1.
- "Few Men on WPA Project," Cedar Vale Messenger, October 4, 1935, p. 4.
- "W.P.A. Summary," Cedar Vale Messenger, January 3, 1936, p. 1.
- "Good Progress Reported on Otter Creek Bridge," Cedar Vale Messenger, January 24, 1936, p. 1.
- "Bridge Work Halted," Cedar Vale Messenger, February 7, 1936, p. 1.
- "Otter Creek Bridge Ready for Steel," Cedar Vale Messenger, March 20, 1936, p. 1.
- "Steel for Otter Creek Bridge Arrives," Cedar Vale Messenger, March 27, 1936, p. 1.

Over Under Survey  
 Cloverdale, Kansas  
 11/14/72 45/41 4885  
 CLOVERDALE QUA



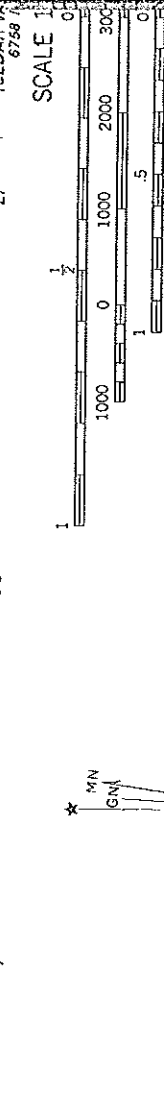
Mapped, edited, and published by the Geological Survey  
 in cooperation with State of Kansas agencies  
 Control by USGS and USC&GS

Topography by photogrammetric methods from aerial  
 photographs taken 1960. Field checked 1962

Polyconic projection. 1927 North American datum  
 10,000-foot grid based on Kansas coordinate system, south zone  
 1000-meter Universal Transverse Mercator grid ticks,  
 zone 14, shown in blue

Fine red dashed lines indicate selected fence and field lines where  
 generally visible on aerial photographs. This information is unchecked

Revisions shown in purple compiled from aerial photographs  
 taken 1976 and other source data. This information not  
 field checked. Map edited 1979



UTM GRID AND 1979 MAGNETIC NORTH  
 DECLINATION AT CENTER OF SHEET

CONTOUR INT  
 NATIONAL GEODETTIC VE

THIS MAP COMPLIES WITH NATIO  
 FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER  
 AND STATE GEOLOGICAL SURV  
 A FOLDER DESCRIBING TOPOGRAPHIC MAPS