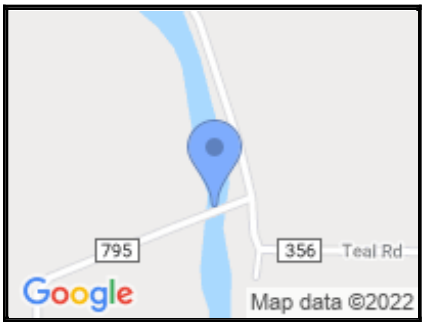
Kansas Historic Resources Inventory

Printed: 01/11/2022

029-0000-00023
Republican River Pegram Truss Bridge
00 190TH RD
Concordia vicinity



LOCATION:

County: Cloud

Address: 00 190TH RD

Address Remarks: Road also known as COUNTY ROAD 795. 4 mi. E and 1.5 mi. N of Concordia

City: Concordia vicinity

Zip:

Parcel ID:

Legal Description: SE 1/4 of SW 1/4 of SW 1/4 of Section 20 Township 5S Range 2W

Legal Description Remarks:

Latitude, Longitude 1: 39.596149 -97.571108

Latitude, Longitude 2:

Latitude, Longitude 3:

Latitude, Longitude 4:

Datum: WGS84

DESCRIPTION:

Historic Name: Republican River Pegram Truss Bridge

Alternate Name:

Historic Function: Transportation

Subcategory: Road-Related (Vehicular)

Historic Function Remarks:

Present Function: Transportation

Subcategory: Road-Related (Vehicular)

Present Function Remarks:

Residential/Commercial/Religious Style:

Secondary Style:

Barn Type: Not Applicable

Bridge Type: Pegram Truss

Landscape Type: Not Applicable

Physical Description/Remarks: Pegram High Truss and 2 Warren

Plan Form: Rectangle

Commercial Building Type: Not Applicable

Roof Form: Not Applicable

Stories: 1

Condition: Fair

Principal Material: Metal

Condition Remarks:

Architect/Designer/Builder: Edge Moor Bridge Works

Year of Construction: 1885

Certainty: Documented

Date Notes:

General Remarks:

Ancillary Structures: None

Ancillary Structure Remarks:

REGISTER STATUS:

Listed in State Register: Yes

Date of State Listing: 08/26/1989

Listed in National Register: Yes

Date of National Listing: 01/04/1990

Historic District:

Demolished:

Date Demolished (if applicable):

Potentially Eligible for National Register:

Register Status Remarks:

Thematic Nomination (MPDF): Metal Truss Bridges in Kansas

National Historic Landmark:

SURVEY INFORMATION:

Survey 1

Survey Project Name: Kansas - KDOT/Historic Bridge Inventory - Metal Truss Bridges

Sequence Number:

Surveyed By: KDOT

Survey Date: 11/19/1981

IMAGES & DOCUMENTS

Republican River Pegram Truss Bridge. Thru Bridge East. Cloud County. 11/19/1981.

Republican River Pegram Truss Bridge. Thru Bridge South -

Republican River Pegram Truss Bridge. Bridge Plate. Cloud County. 11/19/1981.

Southside. Cloud County.
11/19/1981.

Republican River Pegram Truss Bridge. Bridge Plate. Cloud County. 11/19/1981.

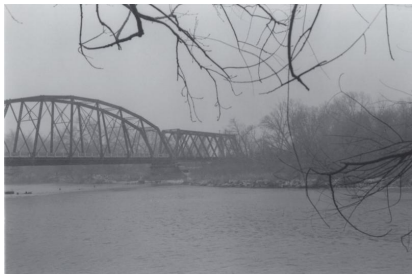
Republican River Pegram Truss Bridge. River South of Bridge. Cloud County. 11/19/1981.

Republican River Pegram Truss Bridge. River South of Bridge. Cloud County. 11/19/1981.

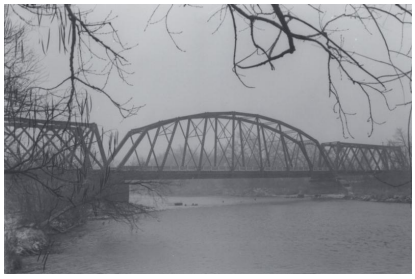
Republican River Pegram Truss Bridge. River South of Bridge. Cloud County. 11/19/1981.

Republican River Pegram Truss Bridge. River North of Bridge. Cloud County. 11/19/1981.

Republican River Pegram Truss Bridge. River North of Bridge. Cloud County. 11/19/1981.



Republican River Pegram Truss Bridge. Northside of Bridge. Cloud County. 11/19/1981.



Republican River Pegram Truss Bridge. Northside of Bridge. Cloud County. 11/19/1981.

Republican River Pegram Truss Bridge. Northside of Bridge. Cloud County. 11/19/1981.

Republican River Pegram Truss Bridge. Plaque. Cloud County. 10/27/1986.

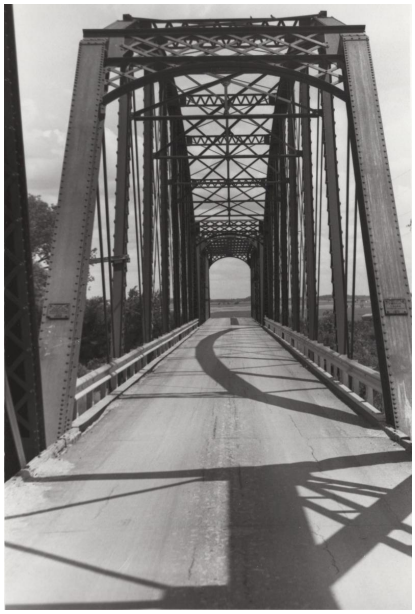
Republican River Pegram Truss Bridge. Plaque. Cloud County. 10/27/1986.

Republican River Pegram Truss Bridge. Southside Looking NW. Cloud County. 10/27/1986.

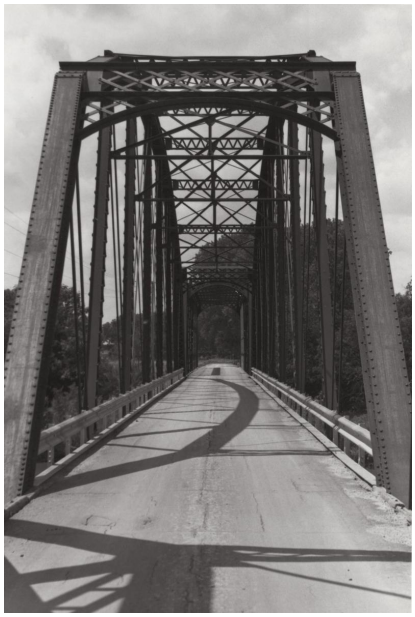
Republican River Pegram Truss Bridge. West Approach Looking East. Cloud County. 10/27/1986.

Republican River Pegram Truss Bridge. Southside Looking NE. Cloud County. 10/27/1986.

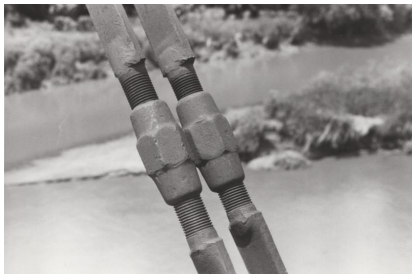
Republican River Pegram Truss Bridge. Northside Looking SW. Cloud County. 10/27/1986.



Republican River Pegram Truss Bridge. Pegram Approach Looking East. Cloud County. 10/27/1986.



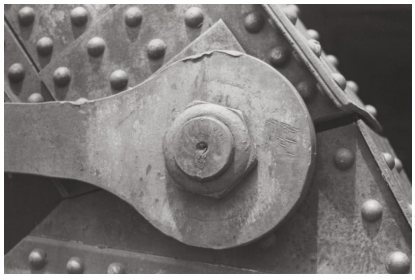
Republican River Pegram Truss Bridge. Pegram Approach Looking East. Cloud County. 10/27/1986.



Republican River Pegram Truss Bridge. Diagonal Turnbuckles. Cloud County. 10/27/1986.

Republican River Pegram Truss Bridge. Turnbuckle Detail. Cloud County. 10/27/1986.

Republican River Pegram Truss Bridge. Metal Impression. Cloud County. 10/27/1986.



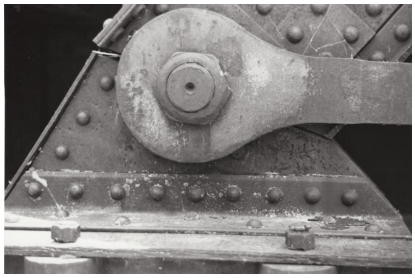
Republican River Pegram Truss Bridge. Eyebar Connection. Cloud County. 10/27/1986.

Republican River Pegram Truss Bridge. Bottom Chord Connections. Cloud County. 10/27/1986.

Republican River Pegram Truss Bridge. Cloud County. Undated.

Republican River Pegram Truss Bridge. Cloud County. Undated.

Republican River Pegram Truss Bridge. Cloud County. Undated.



Republican River Pegram Truss Bridge. Cloud County. Undated.

Republican River Pegram Truss Bridge. National Register nomination.

OMB No. 1024-0010

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

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

029-0000-0023

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 Republican River Pegram truss

other names/site number Republican River Pegram Truss

2. Location

2 miles north of intersection of K9 and F.A.S. 566 on Route 795

street & number ☐ not for publication

city, town Concordia ☒ vicinity

state Kansas code KS county Cloud code 29 zip code 66901

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
		Contributing	Noncontributing
☐ private	☐ building(s)		buildings
☒ public-local	☐ district		sites
☐ public-State	☐ site	1	structures
☐ public-Federal	☒ structure		objects
	☐ object	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.

KS Commissioner Pomeroy — Nov. 16, 1989

Signature of certifying official — Date

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: Pegram and Warren Through Truss

Materials (enter categories from instructions)

foundation

walls

roof

other Metal: Wrought Iron or Steel

Describe present and historic physical appearance.

The Republican River Pegram Truss bridge is made up of three spans. Two double intersection Warren trusses, both 128 feet long, and a 203 foot long Pegram truss. The roadway is 15 feet wide. The bridges rise 20 feet above the level of the river. 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 double intersection Warren trusses, the structure in indeterminate, members act in both compression as well as tension. Two triangular web systems are superimposed upon each other. They could also be termed lattice bridges. In the case of the Pegram truss, it is a hybrid between the Warren and Parker trusses with the upper chords all being equal length.

The inclined end posts and top chord of the double intersection Warren trusses are fabricated from sections of channel iron, tied together by single bar lattice. The girders thus formed are topped with a steel or iron cover plate. Diagonals alternate between sections of angle plate rivited to a steel or iron cover plate and angle plate tied together with flat horizontal bars. Upper lateral struts are fabricated of single bar lattice and angle plate. The portal bracing is fabricated from angle stock and forms an interlocking triangle design. The Pegram truss, the inclined end posts and polygonal top chord are fabricated from channel plate, tied together by bar lattice and topped with a cover plate. Likewise, the compression posts are fabricated from channel plate and tied together with bar lattice. Ties consist of flat eye bars. Upper lateral bracing is formed from angle stock and bar lacing. The portal bracing is formed from angle stock and bar lattice. The structure is pin connected.

Although the bridge was initially constructed to service rail traffic and has been modified to highway vehicular traffic, those modifications have not adversely affected its structural integrity.

☐ See continuation sheet

8. Statement of Significance

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

☐ nationally ☒ statewide ☐ locally

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

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

Areas of Significance (enter categories from instructions)	Period of Significance	Significant Dates
Engineering	1893	1893
Transportation	1893	1893

Cultural Affiliation: n/a

Significant Person: n/a

Architect/Builder: Edge Moor Bridge Works

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 double intersection Warren truss and the Pegram truss were both modifications of the original Warren and Pratt designs.

Republic river bridge was erected in 1893 by Edge Moore Bridge Works of Wilmington, Delaware as a railroad bridge. The crossing was first used by the Junction City and Fort Kearney Railroad. The remains of bents in the river likely represents the presence of the structure that predated the present one. At an undetermined date the route was abandoned and the crossing turned over to vehicular traffic.

Edge Moore Bridge Works started fabrication in 1873, although the iron works was in operation earlier. It was acquired by American Bridge Company in 1900. One of their specialties was the erection of railroad bridges.

The Pegram truss and the double intersection Warren trusses represent the only example of such designs on the Kansas road system. Although not currently used for its original purpose it is an excellent example of adaptive reuse by local communities. It offers the unique opportunity to experience two different modes of transport, vehicular and rail.

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

☒ See continuation sheet

9. Major Bibliographical References

A. T. Andreas, History of the State of Kansas, Chicago: A. T. Andreas, 1883, p. 1014.

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.

Victor C. Darnell, American Bridge Building Companies, Washington, DC: Society for Industrial Archeology Occasional Publication 4, 1984.

Dan G. Deibler, A Survey and Photographic Inventory of Metal Truss Bridges in Virginia, Charlottesville: Virginia Highway & Transportation Research Council, 1975.

L.H. Everts, L.H. Everts and Company State Atlas, Philadelphia: L. H. Everts and Company Publishers, 1887, p. 183.

David Weitzman, Traces of the Past: A Field Guide to Industrial Archeology, New York: Charles Scribner's Sons, 1980.

☐ 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

Acreage of property less than one acre

UTM References

	Zone	Easting	Northing
A	14	622700	4383700
B			
C			
D			

☐ See continuation sheet

Verbal Boundary Description

The nominated property is located on the SE 1/4, SE 1/4, SW 1/4, SW 1/4, section 20, township 5S, range 2W, on a tract measuring 459' x 15' whose northeast corner is represented by the northeast corner of the bridge. Beginning at the northeast corner the boundary proceeds 459 feet soutwest, 15 feet northwest, 459 feet northeast, and 15 feet 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

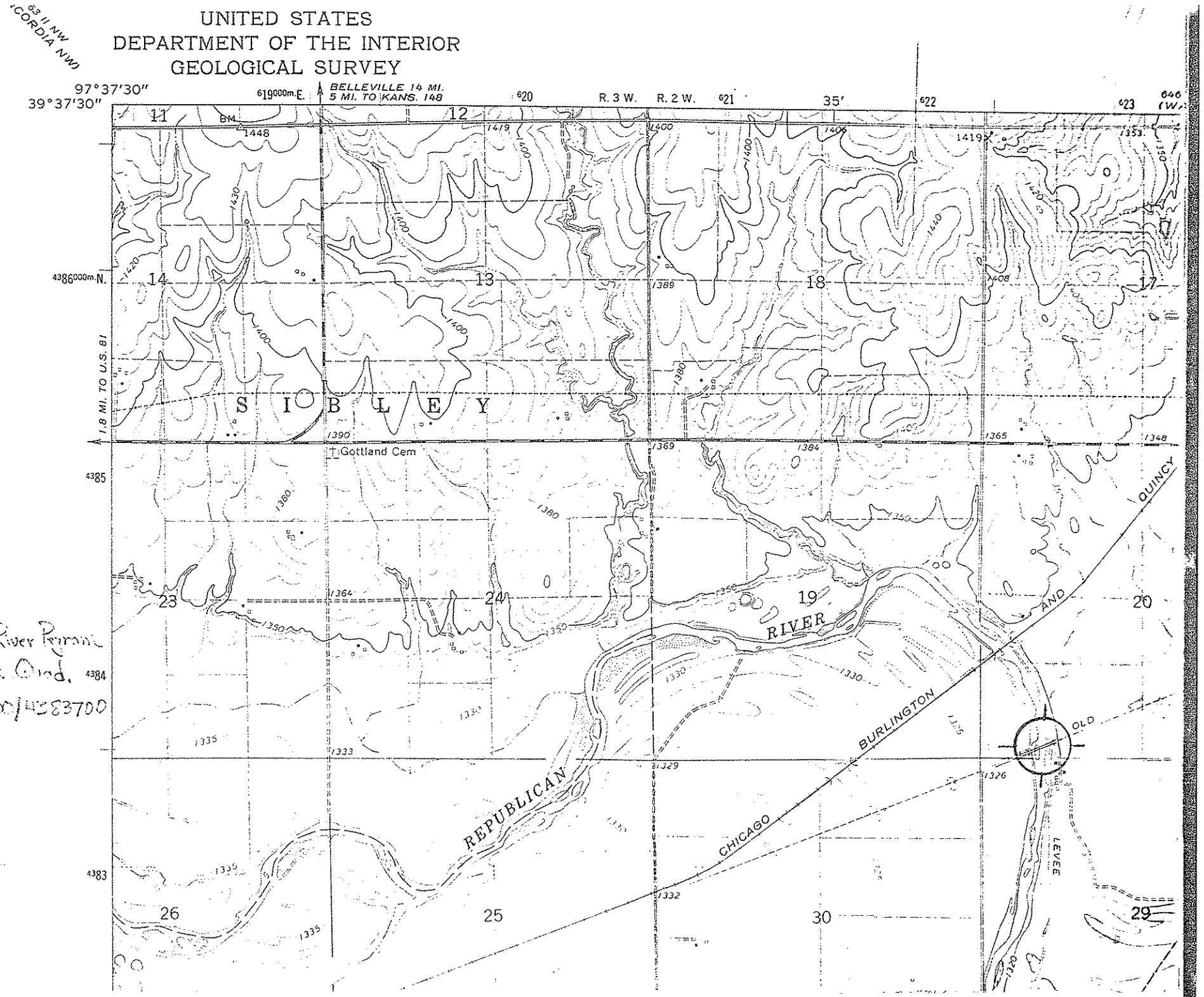
city or town Topeka state KS zip code 66612

bridges were located on secondary rather than 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.



Republican River Pyramid
Kans, Kans. Quad.
Utm 14/622700/4383700