

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional certification comments, entries, and narrative items on continuation sheets if needed (NPS Form 10-900a).

1. Name of Property

Historic name Lyon Creek Rainbow Arch
Other names/site number County Bridge ID "2.9-X.1"
Name of related Multiple Property Listing Rainbow Arch (Marsh Arch) Bridges of Kansas

2. Location

Street & number 100' southwest from the intersection of Lyon Creek Rd & Hwy K-157 Spur not for publication
City or town Wreford vicinity
State Kansas Code KS County Geary Code 061 Zip code 66441

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,
I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.
In my opinion, the property meets does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:
 national statewide local Applicable National Register Criteria: A B C D

Patrick Zollner 11-10-20
Signature of certifying official/Title Patrick Zollner, Deputy SHPO Date

Kansas State Historical Society
State or Federal agency/bureau or Tribal Government

In my opinion, the property meets does not meet the National Register criteria.
Signature of commenting official _____ Date _____
Title _____ State or Federal agency/bureau or Tribal Government _____

4. National Park Service Certification

I hereby certify that this property is:
 entered in the National Register determined eligible for the National Register
 determined not eligible for the National Register removed from the National Register
 other (explain:) _____

Listed December 22, 2020

Signature of the Keeper _____ Date of Action _____

Lyon Creek Bridge
Name of Property

Geary County, Kansas
County and State

5. Classification

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

Category of Property
(Check only **one** box.)

Number of Resources within Property
(Do not include previously listed resources in the count.)

<input type="checkbox"/>	private
<input checked="" type="checkbox"/>	public - Local
<input type="checkbox"/>	public - State
<input type="checkbox"/>	public - Federal

<input type="checkbox"/>	building(s)
<input type="checkbox"/>	district
<input type="checkbox"/>	site
<input checked="" type="checkbox"/>	structure
<input type="checkbox"/>	object

Contributing	Noncontributing	
		buildings
		sites
1		structures
		objects
1	0	Total

Number of contributing resources previously listed in the National Register

N/A

6. Function or Use

Historic Functions
(Enter categories from instructions.)

Current Functions
(Enter categories from instructions.)

TRANSPORTATION/road-related (vehicular)

TRANSPORTATION/road-related (vehicular)

7. Description

Architectural Classification
(Enter categories from instructions.)

Materials
(Enter categories from instructions.)

OTHER: Rainbow Arch

foundation: CONCRETE

walls: CONCRETE

roof: N/A

other: CONCRETE

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Narrative Description

Summary

The Lyon Creek Bridge is in rural Geary County, Kansas which is located in northeast part of the state and features tallgrass prairie and farmland. Geary County is mostly located in the Flint Hills, which features tallgrass prairies and a rolling hills landscape. The bridge is in the country near agricultural fields and farm homesteads. The bridge is surrounded by timber on the southeast quadrant and tillable agricultural land on the southwest, northeast, and northwest quadrants. The bridge crosses over Lyon Creek. The Lyon Creek Bridge is classified as a James Barney Marsh rainbow arch design. The rainbow arch design is unique because it uses reinforcing concrete to carry traffic over large spans. The rainbow arch design was designed and originally patented by James Barney Marsh in 1911. There are interesting and unique engineering and design characteristics that were very innovative for the time because the design addressed the main flaw in using concrete during this time period. Expansion and contraction of concrete was a deficiency during this time and Marsh's design addressed this issue. The Lyon Creek Bridge was constructed in 1925. The Lyon Creek Bridge spans 100 feet and is 23 feet wide, with a roadway width of 20.8 feet. The bridge was located on a Federal Aid Funded road and was one of the largest span bridges on this route in Geary County. The Lyon Creek bridge is in fair condition overall with minor deterioration to the concrete. The bridge has seen little to no alteration from its original design. According to bridgehunter.com, a database used to keep track of historic or notable bridges, there are approximately 27 similar rainbow arch bridges in the state of Kansas that are still standing. About 23 are still open to traffic and 4 are closed to traffic but still standing where they were built. There are at least 34 similar rainbow arch bridges that have been demolished in Kansas. The Conroe Bridge is an identical rainbow arch bridge that is also in Geary County. There is one more similar rainbow arch design in Geary County that also crosses over Lyon Creek. This bridge only spans 60 feet. The Geary County Local Identification number is 4.2-U.3 Both the Conroe Bridge and Lyon Creek Bridge were awarded to the same contractor. The Lyon Creek Bridge was built first and constructed by using steel and concrete materials that are on founded on concrete abutments.

Elaboration

Setting and Site

The Lyon Creek bridge crosses over Lyon Creek approximately 100' southwest from the intersection of Lyon Creek Rd and Hwy K-157 Spur in Geary County, Kansas. It is in the western portion of Geary County, which is mainly farmland for crops and hay for livestock. The bridge is on West Lyon Creek Road, which is a Geary County-maintained roadway. The Lyon Creek Bridge is in rural Geary County, Kansas which is in the northeast part of the state and features mainly tallgrass prairie and farmland. Geary County is mostly located in the Flint Hills, which features tallgrass prairies and a rolling hills landscape. The bridge is in the country near agricultural fields and farm homesteads. The bridge is surrounded by timber on the southeast quadrant and tillable agricultural land on the southwest, northeast, and northwest quadrants. Agricultural land in the area consists of crop land and range land. The bridge crosses over Lyon Creek. There are two farmsteads within a ¼ mile of the bridge. There are no nearby businesses, only the agricultural fields are nearby to the bridge site. The creeks in this area are part of the Republican and Smoky Hill River basins. The nearest populated areas are Chapman and Junction City, but they are about 7 miles from the bridge. This bridge primarily serves the agricultural community. It is located near Rock Springs, which typically serves as a camp location for various groups throughout the year.

STRUCTURE

The deck or bed of the bridge is flat and begins and ends at the start of each abutment stretching from one abutment to the other at either end of the structure. It is also concrete and fills the entire length and width of the structure. Atop the deck are two railings that run the full distance of the structure, arches, and abutments and the bridge spans 100 feet. Both railings are symmetrical and on either side of the bridge. They are divided into three distinct sections, two of which are identical and align directly over the abutments, the third of which aligns directly between the springs of the arches. The concrete railings are concrete on both sides of the bridge and are approximately 42 inches tall and solid concrete at the abutments, but have ellipse shaped openings over the bridge span. The two rectangles above the pilasters project upward and outward. They feature a smooth concrete finish and a recessed rectangle within each of the four pieces. Between the abutment and the railing is a stepped cornice and belt course that marks the separate spaces for the abutment, decking, and railing. The railing between the arches has a simple balustrade design with evenly spaced openings between the balusters.

The bridge was let to Fred Lutjohann of Topeka, KS around December 16, 1924. Lutjohann was awarded two rainbow arch bridges in Geary County. Lutjohann and his construction company did bridge and road work around Kansas,

Lyon Creek Bridge

Name of Property

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Arkansas, and Missouri. Lutjohann also completed road work in Junction City around the same time he was building bridges.

At the same time, the Lyon Creek Bridge was being constructed, construction was also beginning on Lyon Creek Road throughout Dickinson County and Geary County. Federal Funding was being used to construct these roads. The bridge construction on Lyon Creek Bridge was done before the Lyon Creek Road was done with construction.

According to the Junction City Daily Union, excavation work on the Lyon Creek Bridge started around March 12th, 1925. The plans called for a 100 foot span rainbow arch bridge. The bridge is about 23 feet wide with a 20.8 foot roadway. A huge excavation machine had been put to work and around ten men were working on excavating an area for the abutments. Construction was completed by August 13th, 1925, which means it took about six months for the construction of the bridge. Structural steel, reinforcing steel, and concrete were the main materials used in construction of the bridge. The bridge consists of two arches that are in between two concrete abutments. The abutments are constructed first, and the arches and deck are constructed once the abutments are complete. There are cross beams located at the bottom of the beam that run perpendicular to the direction of traffic. The beams consisted of structural steel encased on concrete. The original patents call out slidable plates that are set into the concrete. One of the benefits of the design was to allow for the expansion and contraction of the reinforced concrete bridge. Before this design, expansion, and contraction due to temperature changes would create large cracks or breaks in concrete. The bridge design allowed for the bridge to expand and contract with temperature changes.

Condition

The National Bridge Inspection Program was initially mandated in the Federal-aid Highway Act of 1968 and the bridge inspection standards were established in 1971. Today, any span structure that spans at least 20 feet is required to be inspected at least once every two years. During the inspection, bridge components are rated based on standard guidelines. There are three main components to most bridges: the deck, the superstructure, and the substructure. Each of these components is rated on a 0-9 rating system. Ratings from 0-2 are used when the bridge is closed or very close to failure, ratings 3-4 are used when the bridge is in poor condition, ratings 5-7 are used to describe a bridge in fair condition, with small defects, ratings of 8-9 are used when the bridge is in excellent condition with little to no defects.

The Lyon Creek bridge is in fair condition overall. The most recent bridge inspection ratings gave a '5' condition rating for the deck and superstructure and a '6' condition rating for the substructure. Both ratings fit under the fair category. The bridge has some deterioration with concrete cracking throughout. The bottom of the bridge has some typical efflorescence from water and the abutment also shows signs of water getting in through cracks of the concrete. All defects are typical of concrete structures. The only portion of the bridge that has been rehabilitated or replaced is the asphalt wearing surface on the deck. As time passes, it is common for bridges to slip down the rating scale, unless rehabilitation occurs. As mentioned, the bridge shows cracking in the concrete, which allows for moisture to get into the cracks. Moisture can erode the steel inside the concrete and can also go through freeze/thaw cycles within the concrete, which may cause excessive cracks and lead to concrete spalling. While the Lyon Creek Bridge is still in the fair condition, if no rehabilitation work is done on the bridge, moisture will continue to get in through the cracks and continue to cause deterioration to the bridge. This issue can be fixed by sealing the cracks and is a common maintenance item done to today's concrete structures. It is best to seal the cracks before the problem gets worse and causes deterioration to the steel inside the concrete structure. Crack sealing should be done soon to try and prevent moisture from making its way into the concrete deck.

The county has recently posted the bridge at 10 tons. While it has not been posted for load for most of its life, the county feels that limiting the weight on the bridge can help extend its life. Trucks and agricultural equipment have increased in size and weight over the years, and structures built in the early 1900's were not designed to carry the heavy trucks of today's highways. While a standard load rating has not been performed on the Lyon Creek Bridge, the county posted it based on vehicle loads the bridge has carried in the past and the typical design trucks of the past.

Historic Integrity

Historic Integrity of the Lyons Creek Bridge can be found in the authenticity of the design, workmanship, materials, and location of the bridge. The rainbow arch design was the first of its kind because it was one of the first designs to use concrete as a material in large spans. The design accounted for contraction and expansion of the bridge that allowed concrete to be used for the first time in large span bridges. The complexity of the design found in the patent makes this design unique and authentic. The Lyon Creek Bridge represents a change in bridge construction during this time in Kansas and the arch design is not typically seen in modern bridge construction. The complexity of design and construction of arch bridges mean that simpler designs are more cost effective. Arch bridges in modern construction are typically found in populated cities and are typically used because they are aesthetically pleasing. Many rural, county bridges built today are simple, low-cost bridge designs since Kansas county budgets are typically low and aesthetics of a bridge are typically not important in rural settings. Steel trusses and arch bridges built in the early 1900's are reaching the end of their design life and are being replaced by modern, cost effective bridge spans.

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8. Statement of Significance

Applicable National Register Criteria

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

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

Criteria Considerations

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

Property is:

- A Owned by a religious institution or used for religious purposes.
- B removed from its original location.
- C a birthplace or grave.
- D a cemetery.
- E a reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years old or achieving significance within the past 50 years.

Areas of Significance

TRANSPORTATION

ENGINEERING

Period of Significance

1925

Significant Dates

Significant Person

(Complete only if Criterion B is marked above.)

Cultural Affiliation

Architect/Builder

Marsh, James Barney (designer/engineer)

Luttjohann, Fred (builder)

Period of Significance (justification)

The period of significance for the Lyon Creek Bridge is the year of construction, 1925 because the property is significant for its design and engineering and association with transportation in the surrounding community.

Criteria Considerations (justification)

N/A

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Narrative Statement of Significance

Summary

The Lyon Creek Bridge, located in Geary County, Kansas, is locally eligible for listing in the National Register of Historic Places for its design and engineering and its association with transportation in the surrounding community. It is an excellent example of the Rainbow Arch bridge type defined in the multiple property document *Rainbow Arch (Marsh Arch) Bridges in Kansas*. The Lyon Creek bridge is in fair condition and has typical defects found in concrete structures, but it has retained its original design and function since it was built in 1925. Most rainbow arch bridges in Kansas were designed by James Barney Marsh, who designed and constructed many bridges in his career. The rainbow arch design is significant due to its unique characteristics, and it was also a new construction type when it was originally designed. Rainbow arch bridges are not typically built in Kansas today, so many of the James Marsh's arched bridges are the only bridges of their kind. The rainbow arches of Kansas were nominated thematically in 1980 in a partnership with SHPO and KDOT personnel. The Conroe Bridge in Geary County is currently listed on the National Register of Historic Places.

Elaboration

Context

Geary County is in the northeastern portion of Kansas. In 1889 Geary County was named in honor of the third Territorial Governor, John W. Geary. The largest populated city in Geary County is Junction city, which is approximately 15 miles northeast of the Lyon Creek Bridge. The Lyon Creek Bridge was built due to the construction of a new Lyon Creek Road, and the rainbow arch design was utilized because it could span large creek crossings. Lyon Creek Road was being built using federal funds, and the bridge was needed to cross the Lyon Creek. The main industry in Geary County during the time the bridge construction was farming and construction.

Bridges in Kansas

In the early 1900s, roads and bridges were being constructed throughout Kansas. The main material used for long-span bridge design was steel. Steel trusses were the main type of bridge used to cross a large river or creek crossings in Kansas. James Barney Marsh began using concrete in his bridge designs in the early 1900s and filed his first patent for the design of the rainbow arch in 1911. The introduction of the rainbow arch design allowed for concrete to be used for longer span structures. Marsh's design addressed the expansion and contraction issue caused by temperature changes. Since Kansas sees a variety of temperatures throughout the year, concrete could not be used in larger spans until this issue was addressed. Over 70 Marsh Rainbow Arches were designed and built between 1917 and 1940 in Kansas. However, only about 27 of these bridges remain. Federal funding was available for the construction of roads and bridges, and Geary County took advantage of those funds to build roads and bridges. In the early 1900s, counties were typically responsible for managing the construction of roads and bridges within their designated counties.

John Barney Marsh

The following was found in the Conroe bridge National Register listing and explained James Marsh's life and career:

"James Barney Marsh was born in 1856 at North Lake, Wisconsin. He went to Iowa at the age of 18 to enter preparatory school at Fredericksburg. Marsh graduated in 1882 from Iowa State College of Agriculture and Mechanical Arts in Ames, with a B.M.E. degree. In March of 1883 he began is a professional career in the Des Moines office of the King Bridge Company of Cleveland, Ohio. With King, Marsh was involved in the design, sales and actual erection of metal bridges. While he continued to work with the King Company, he also became head of the Northern Agency for the Kansas City Bridge and Iron Company. In this capacity, he both designed and superintended the actual construction work done by the company. By March of 1889, Marsh had become general western agent and contracting engineer for the King Bridge Company and was placed in charge of the general wester office in Des Moines. In the spring of 1896, he formed his own company, the Marsh Bridge Company, and was its sole proprietor. In private practice as a contracting engineer, Marsh was able to more fully develop his own designs. He also constructed the designs he developed, usually using steel as a medium. At the turn of the century, Marsh initiated the use of both concrete and steel in his bridge design. In April of 1904, the Marsh Bridge Company was incorporated with Marsh as president and chief engineer. In 1909, the company was reorganized as the Marsh Engineering Company.

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It was not until the introduction of the "rainbow arch" by Marsh that Kansas made widespread use of reinforced concrete spans for major stream crossings. Marsh canvassed the Midwest, selling his arches in direct competition with the steel trusses at that time."¹

Rainbow Arch Bridge Design²

"The best description of a rainbow arch span is contained in James Marsh's 1911 patent application. The bridge consists of "...two abutments (which could be piers), a pair of arches disposed between and springing from the abutments, the floor carried by and between the arches and reaching from one abutment to the other where it aligns with the parapets or rails along opposite sides of the floor lines." The original patents called for slidable wear plates to be molded into the concrete where the bridge floor came into contact with the beams and abutments. This is of importance as one of the main benefits of this design was to allow for the expansion and contraction of the reinforced concrete bridge under varying conditions of temperature and moisture.

There were two basic rainbow arch designs, fixed and tied. The original patent application describes the fixed type, such as the Lyon Creek bridge, in which case the arch flowed below the bridge deck and was 'fixed' directly into the abutment. The massive abutment (or pier) resisted both the horizontal and the vertical thrust of the arch. In a tied design, the arch did not flow below the deck line and was not fixed directly into the abutment. It was secured atop the abutment or pier using steel rocker or expansion rocker bearings. Vertical thrust was resisted by the pier and bearing, while horizontal thrust was resisted by the addition of a lower chord."

Lyon Creek Bridge History

The Lyon Creek bridge near Wreford, Kansas, is a unique bridge and the main design and engineering of the bridge remain intact today. The rainbow arch is associated with the life of James B. Marsh, who was a pioneer in steel and concrete bridge construction. Marsh's design of rainbow arches allowed for longer span concrete bridges because it addressed the expansion and contraction issues in concrete bridges at this time. The rainbow arch does not represent a technological breakthrough, but it does represent one unique way concrete and steel were used to build bridges in the early 20th century. The rainbow arches were built in Kansas between 1917 and 1934, with the Lyon Creek bridge constructed in 1925.

The contract for construction of the Lyon Creek bridge was let to Fred Luttjohann of Topeka on December 16, 1924. Luttjohann was also awarded the contract for another rainbow arch, called the "Conroe Bridge." Work began on the Lyon Creek bridge almost immediately. According to the Conroe Bridge National Register nomination, by August 13, 1925, the Lyons Creek bridge had been completed, and Luttjohann had begun excavation work on the Conroe bridge.

The following is from the nomination form of the Conroe Bridge and explains the design of the rainbow arch:

"The best description of a rainbow arch span is contained in James Marsh's 1911 patent application. The bridge consists of "...two abutments (which could be piers), a pair of arches disposed between and springing from the abutments, the floor carried by and between the arches and reaching from one abutment to the other where it aligns with the parapets or rails along opposite sides of the floor lines." The original patents called for slidable wear plates to be molded into the concrete where the bridge floor came into contact with the beams and abutments. This is of importance as one of the main benefits of this design was to allow for the expansion and contraction of the reinforced concrete bridge under varying conditions of temperature and moisture.

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¹ National Register of Historic Places multiple property context for "Rainbow Arch (Marsh Arch) Bridges of Kansas," statewide documentation, 1989.

² This excerpt is from the National Register of Historic Places multiple property context for "Rainbow Arch (Marsh Arch) Bridges of Kansas," statewide documentation, 1989.

Lyon Creek Bridge
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9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

"Open Bids Next Week," Junction City Daily Union, December 11th, 1924, p. 4, c. 3.

"Start on Big Bridge," Junction City Daily Union, March 12th, 1925, p. 1, c.

"Bridges Ready Soon," Junction City Daily Union, June 11th, 1925, p. 1, c. 8. 7.

"Opens Way for New Road Work," Junction City Daily Union, July 25th, 1925, p. 1, c. 1.

"New Bridge Opened," Junction City Daily Union, July 27th, 1925, p. 4, c. 2.

"Low Bids on City Paving," Junction City Daily Union, August 24th, 1925, p. 1, c. 1.

"Geary's Vast Road System," Junction City Daily Union, December 18th, 1925, p. 1, c. 1.

"Finish Big Paving Job," Junction City Daily Union, July 16th, 1926, p. 1, c. 1.

Marsh, James B., Specifications of Letters Patent, Number 1,388,584, patented Aug. 23, 1921, United States Patent Office, Washington, D.C.

Jochims, Larry & Snell, Michael. "Conroe Bridge." National Register of Historic Places. Kansas State Historical Society, Topeka, KS, 1983-03-10.

Small, Nora Pat. "Rainbow (Marsh Arch) Bridges of Kansas." National Register of Historic Places Nomination. Kansas State Historical Society, Topeka, KS, 1983-01-04.

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 # _____
- recorded by Historic American Landscape Survey # _____

Primary location of additional data:

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other
- Name of repository: _____

Historic Resources Survey Number (if assigned): 31-TA-3 061-000-00153

10. Geographical Data

Acreeage of Property Less than one acre

Provide latitude/longitude coordinates OR UTM coordinates.

(Place additional coordinates on a continuation page.)

Latitude/Longitude Coordinates

Datum if other than WGS84: _____
(enter coordinates to 6 decimal places)

1 38.884722 -96.910000
Latitude: Longitude:

3 _____
Latitude: Longitude:

2 _____
Latitude: Longitude:

4 _____
Latitude: Longitude:

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OR

UTM References

_____ NAD 1927 or x _____ NAD 1983

1 14S 681278.67 4306060.24
Zone Easting Northing

3 _____
Zone Easting Northing

2 _____
Zone Easting Northing

4 _____
Zone Easting Northing

Verbal Boundary Description (describe the boundaries of the property)

The boundary is a rectangle with the edges being the edge of the roadway and edge of the abutments of the bridge. The rectangle is about 170' x 23' with it being centered in the center of the bridge. The boundary can be seen in attached Figure 2.

Boundary Justification (explain why the boundaries were selected)

The boundary is the footprint of the bridge structure and its historic features (abutments, railing, footings, etc.).

11. Form Prepared By

name/title Brett Wilkinson / Project Engineer

organization Kaw Valley Engineering date 12-26-19

street & number 742 Duvall Ave telephone 785-823-3400

city or town Salina state KS zip code 67401

e-mail wilkinson@kveng.com

Property Owner: (complete this item at the request of the SHPO or FPO)

name Geary County

street & number 310 E 8th Street telephone 785-238-3612

city or town Junction City state KS zip code 66441

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management, U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

Additional Documentation

Submit the following items with the completed form:

Photographs

Lyon Creek Bridge
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Submit clear and descriptive photographs. The size of each digital image must be 1600x1200 pixels (minimum), at 300 ppi (pixels per inch) or larger. Key all photographs to a sketch map or aerial map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

Photograph Log

Name of Property: Lyon Creek Marsh Arch Bridge
City or Vicinity: Vicinity of Wreford, KS
County: Geary State: Kansas
Photographer: Ron Johnson, Kaw Valley Engineering
Date Photographed: 1/26/2020

Description of Photograph(s) and number, include a description of view indicating the direction of camera:

Photo #1	Northeast view of bridge
Photo #2	Looking at north through the arches of the bridge
Photo #3	Northwest view of bridge
Photo #4	Northwest view of abutment
Photo #5	Brass Kansas Highway Commission plaque on northwest side of bridge - includes state officials
Photo #6	Brass plaque on northeast side of bridge - includes county officials and contractor
Photo #7	West arch of bridge
Photo #8	East arch of bridge
Photo #9	East arch of bridge
Photo #10	West arch of bridge
Photo #11	Looking south through the arches of the bridge
Photo #12	Looking south through the arches of the bridge
Photo #13	Southwest view of bridge
Photo #14	Southwest view of bridge
Photo #15	Southwest arch tie-in to the abutment
Photo #16	West profile view of arch and floorbeams
Photo #17	North abutment
Photo #18	South abutment
Photo #19	Exposed rebar on the west outside edge of the bottom of deck
Photo #20	East profile view of bridge
Photo #21	View of south abutment
Photo #22	East profile view of bridge

Figures

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Figure 2 – Sketch and Boundary Map

Lyon Creek Bridge
Name of Property

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Figure 3: Location map, Geary County, Kansas

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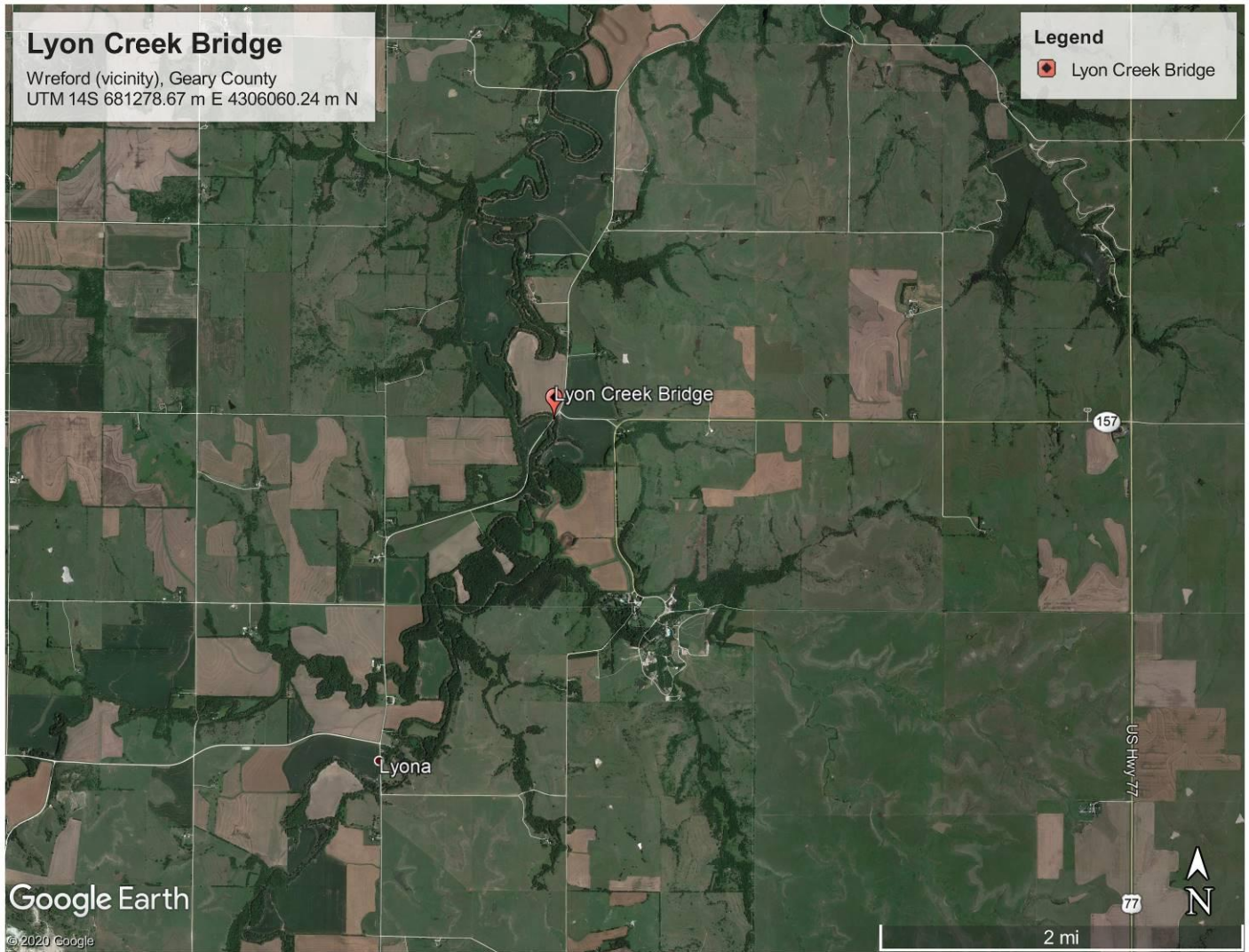


Figure 4: Overview map of the surrounding area. Lyon Creek Bridge, Geary County, Kansas.

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Photo 1



Photo 2

Lyon Creek Bridge

Name of Property

Geary County, Kansas

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Photo 3



Photo 4

Lyon Creek Bridge

Name of Property

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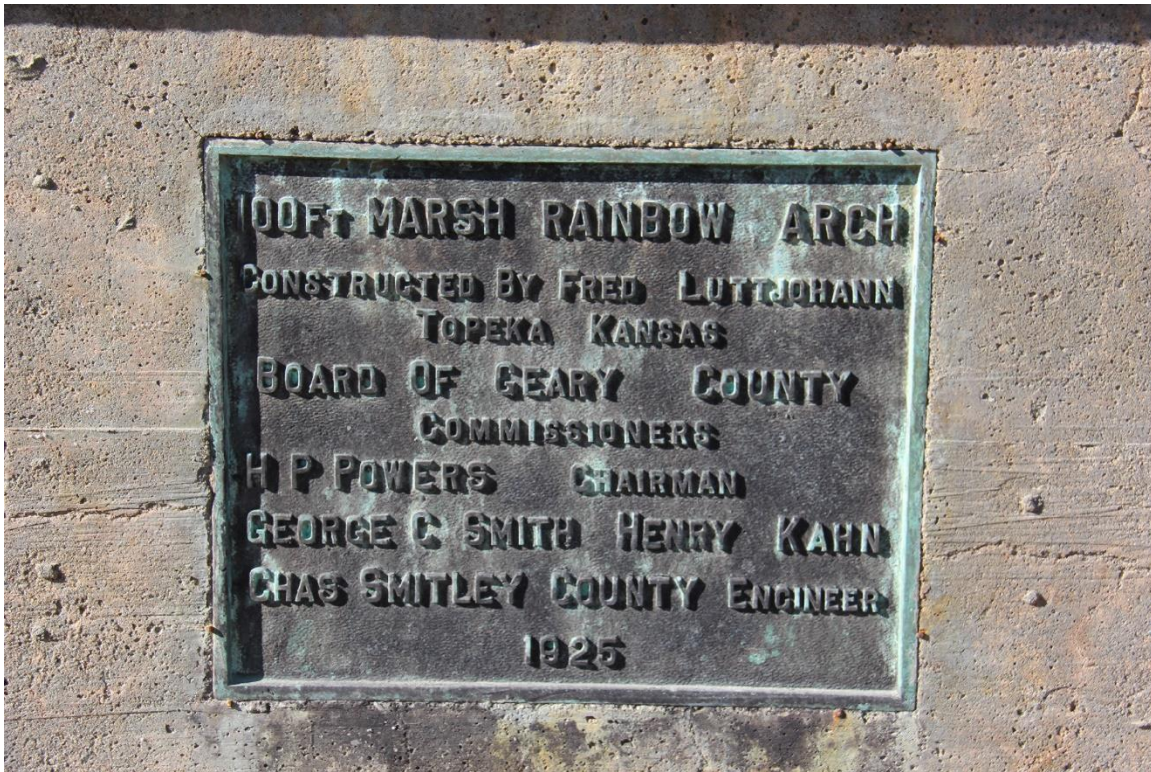


Photo 5



Photo 6

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Photo 7



Photo 8

Lyon Creek Bridge
Name of Property

Geary County, Kansas
County and State



Photo 9



Photo 10

Lyon Creek Bridge
Name of Property

Geary County, Kansas
County and State



Photo 11



Photo 12

Lyon Creek Bridge
Name of Property

Geary County, Kansas
County and State



Photo 13



Photo 14

Lyon Creek Bridge
Name of Property

Geary County, Kansas
County and State



Photo 15



Photo 16

Lyon Creek Bridge
Name of Property

Geary County, Kansas
County and State



Photo 17



Photo 18

Lyon Creek Bridge

Name of Property

Geary County, Kansas

County and State



Photo 19



Photo 20

Lyon Creek Bridge
Name of Property

Geary County, Kansas
County and State



Photo 21



Photo 22