



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 of eligibility for individual properties or districts. See instructions in *How to Complete the National Register of Historic Places Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an 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 entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer to complete all items.

1. Name of Property

historic name San Rafael Bridge
other names/site number Buckhorn Wash Bridge; Swinging Bridge

2. Location

street & number Buckhorn Road, approximately 23 miles southeast of Castle Dale N/A not for publication
city or town _____ N/A vicinity
state Utah code UT county Emery code 015 zip code 84513

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this X 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 X meets ___ does not meet the National Register criteria. I recommend that this property be considered significant ___ nationally ___ statewide X locally. (___ See continuation sheet for additional comments.)

Wilson M. A. _____
Signature of certifying official/title Date 4/18/96
Utah Division of State History, Office of Historic Preservation
State or Federal agency and bureau

In my opinion, the property ___ meets ___ does not meet the National Register criteria. (___ See continuation sheet for additional comments.)

Signature of certifying official/title Date

State or Federal agency and bureau

4. 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:)

Edson B. Beall _____
Signature of the Keeper Date of Action 6/3/96

**Entered in the
National Register**

San Rafael Bridge
Name of Property

Emery County, Utah
City, County, and State

5. Classification

Ownership of Property

(Check as many boxes as apply)

- private
 public-local
 public-State
 public-Federal

Category of Property

(Check only one box)

- building(s)
 district
 site
 structure
 object

Number of Resources within Property

(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
<u>0</u>		buildings
		sites
<u>1</u>		structures
		objects
<u>1</u>	<u>0</u>	Total

Name of related multiple property listing

(Enter "N/A" if property is not part of a multiple property listing.)

N/A

Number of contributing resources previously listed in the National Register

N/A

6. Function or Use

Historic Functions

(Enter categories from instructions)

TRANSPORTATION/road-related bridge

Current Functions

(Enter categories from instructions)

TRANSPORTATION/pedestrian-related walkway

7. Description

Architectural Classification

(Enter categories from instructions)

No style

Materials

(Enter categories from instructions)

foundation _____

walls _____

roof _____

other CONCRETE; METAL; WOOD

Narrative Description

(Describe the historic and current condition of the property on one or more continuation sheets.)

X See continuation sheet(s) for Section No. 7

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National Register of Historic Places Continuation Sheet

Section No. 7 Page 1

San Rafael Bridge, Emery County, UT

Narrative Description

The San Rafael Bridge, built between 1935-37, is located on Emery County Road 3-32, approximately twenty-three miles southeast of Castle Dale. The bridge spans the San Rafael River at the mouth of Buckhorn Wash.

This bridge is a cable suspension structure constructed with timber cross beams and wood decking. It is 167 feet long with a clear span of 153 feet. A 1937 newspaper article provided the following description of the bridge, which is still accurate.

The ... bridge is swung on two cables, each two and one-half inches in diameter and more than 250 feet long. Four concrete towers, two on each bank of the San Rafael River, support the cables, which have their ends fastened securely in the solid ground 50 feet from the edge of the stream. The distance between the towers is 160 feet. The bridge is 14 feet wide and will permit the passing of two automobiles. The floor is of heavy planking.¹

The bridge is a single span double intersection Warren suspension structure constructed of wood timbers held with steel vertical rods and suspended from concrete pylons by steel cables. The wood truss members consist of thirteen panels of double intersection Warren truss diagonal bracing with inclined end posts. The entire truss system is held up by two steel cables that run parallel to the trusses. The cable is attached to the bridge by steel rods which are progressively shorter as the cable dips to the middle of the truss. The concrete pylons are part of the cement abutments located on each end of the bridge. The bridge truss system swings freely from the cables and is not attached to the abutments in any way. A steel expansion plate lies across the gap between the abutment and the trusses. A railing of 2 inch by 5 inch boards runs the full length of the structure.²

No alterations have been made to the San Rafael Bridge. Restorative painting was undertaken in August and September of 1994. After scraping loose paint and removing dirt and debris from the cracks and crevices in the wood plank floor, a coat of linseed oil and graphite was sprayed onto the deck and underside of the bridge, followed by an application of a final coat of white finish paint. This bridge retains its historic integrity and contributes to the historic qualities of Emery County.

___ See continuation sheet

Emery County Progress, "New Suspension Bridge on San Rafael River to be Dedicated March 27", Friday, March 12, 1937.

San Rafael Bridge
Name of Property

Emery County, Utah
City, County, and State

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" on one or more lines 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" on all 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 of age or achieved significance within the past 50 years.

Areas of Significance

(Enter categories from instructions)

TRANSPORTATION

ENGINEERING

Period of Significance

1935-46

Significant Dates

1935-37

Significant Person

(Complete if Criterion B is marked above)

N/A

Cultural Affiliation

N/A

Architect/Builder

Civilian Conservation Corps/Division of Grazing
(BLM) - Milton P. Greaves, Design Engineer

Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

X See continuation sheet(s) for Section No. 8

9. Major Bibliographical References

Bibliography

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

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

Name of repository:

X See continuation sheet(s) for Section No. 9

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San Rafael Bridge, Emery County, UT

Narrative Statement of Significance

Constructed between 1935-37, the San Rafael Bridge is architecturally and historically significant. The bridge incorporates distinctive characteristics in its method of construction and is one of only two surviving suspension type bridges left in Utah, the other being the Dewey Bridge northeast of Moab.³ As such, it is one of the most engineering significant transportation spans in the state. In addition to its architectural significance, the San Rafael Bridge is historically significant in the region and is associated with two trends in history. First, is its role in the development of rural transportation and the opening of the San Rafael Swell area to grazing and tourism. Secondly, is its association with the federal government's Civilian Conservation Corps (CCC) program. Utah was one of the states hardest hit by the Depression, so New Deal federal programs such as the CCC were especially important in relieving unemployment and in accomplishing much-needed public works projects. The San Rafael Bridge retains its historic design, material, workmanship, setting, feeling, location, and association.

Emery County is located in central Utah in what is known as the Castle Valley, so named because of its castle-like formations on the mountain peaks and rimrocks surrounding the region. There are remnants of cliff dwelling, camp grounds, and petroglyphs on canyon walls that attest to its early Native American habitation. The chief industries in the area are stock raising, farming, and coal mining.⁴ Meager semi-permanent settlements were first established by herders, after which they discovered the area would support colonization. It wasn't until 1877, however, that the first permanent community was established in Castle Dale.⁵

One of the major, although unpredictable, sources of water in the area is the San Rafael River that runs through the mid section of the county before feeding into the Green River. The San Rafael River was dangerous to traverse, especially during spring run-off. Before the bridge's construction, and prior to the building of reservoirs and dams in the area, the river was difficult to predict and cross and impossible to travel through this area except by horse or light rig. Automobiles were unable to make the trip.

³ "Determination of Eligibility and Finding of Effect for Proj. No. BROS-0015(7), San Rafael Bridge Replacement", Utah Department of Transportation, May 29, 1989. Also, SHPO 106 case file number M-701. Dewey Bridge was listed in the National Register of Historic Places, 1984.

⁴ McElprang, Stella, compiler. "Castle Valley, A History of Emery County". Produced by the Emery County Company of the Daughters of Utah Pioneers, 1949.

⁵ Mauerman, Lawrence A. "Early Exploration and the Initial Settlement of Emery County, Utah". Bachelor of Arts in History Thesis, University of Utah, June 1967.

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San Rafael Bridge, Emery County, UT

The bridging of the treacherous San Rafael River is one of the outstanding accomplishments of the Division of Grazing, under CCC operation, in their work of conserving and improving the grazing lands in this part of the state. The suspension bridge will give access to a greater grazing section at all times of the year, and is in the heart of the most scenic part of Utah known as the Wonderlands. Those who have never visited this beautiful and interesting land of colorful canyons, huge crags and peaks, should make plans to attend the dedication of the San Rafael bridge in April, the exact date of which will be announced later.⁶

It was customary to wait until the river froze over before the sheep could cross the river.⁷ The building of the bridge over the San Rafael River at its confluence with the Buckhorn Canyon Stream made it possible to cross this barrier into thousands of acres of winter grazing. It also made it possible for the delivery of supplies to the ranchers and their herds to take place in a matter of hours rather than days.⁸ Prior to the building of this bridge, the ranchers who lived and worked the range used a small trolley system to transport their herds across the river for grazing purposes. The Grazing Administration saw the need for the suspension bridge and authorized its construction.⁹

To the people of Eastern and Southeastern Utah its value and importance cannot be calculated in economic terms. The work done will be a benefit to generations yet to come. And opening as it does this vast region, no one living within this area can very well afford to miss the opportunity of attending and partaking of the spirit of the occasion.¹⁰

It was also important for opening the area to tourism, a vital industry that began developing in Utah in the early twentieth century. During the period of time when the national parks were being formed, local residents and tourists placed heavy pressure on government officials at all levels to develop improved transportation routes and other services. The natural landscape of this area draws tourists to its beauty and includes craggy sandstone cliffs, rising 2-400 feet. Other attractions in the area include Native American pictographs, done in reds, browns, and yellows, including a panel that is more than twelve feet high and 100 feet in length (which has been restored by the Emery County Centennial Commission).

⁶ Emery County Progress, "San Rafael Bridge Dedicated Postponed", March 19, 1937.

⁷ Baldridge, Kenneth W. "Nine Years of Achievement: The Civilian Conservation Corps in Utah." PhD. dissertation, Brigham Young University, 1971, 178.

⁸ Emery County Progress, "Dedication of San Rafael Bridge of Great Import to Entire Eastern Utah", April 16, 1937.

⁹ Historic American Engineering Record, UT-60, 1990, p.6. On file at Utah State Historic Preservation Office.

¹⁰ Ibid.

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San Rafael Bridge, Emery County, UT

The San Rafael Bridge was built by the Civilian Conservation Corps (CCC) under the direction of the United States Division of Grazing (now Bureau of Land Management). The design engineer was Milton A. Greaves. The lumber for the bridge was contracted locally from Laren Elder's saw mill in Reeder Canyon and brought down from Joe's Valley. Concrete was mixed on the site for each tower that was formed by a continuous pour process. Labor for the project was provided by a group of approximately thirty boys from Ohio, Illinois, and Kentucky, working in CCC Company 529 based at camp DG-27 in Castle Dale. One of the CCC workers who helped construct the San Rafael Bridge was Dermis Jensen of Emery. He put the finishing touches on the cement work on the tower and was in charge of preparing the lumber.¹¹ Engineers found that rocks on one side of the Buckhorn Wash consisted of sand and gravel and was an unsatisfactory foundation for the bridge; therefore, "thirty-six piles were sunk upon which a concrete pillar was built to suspend the cables"¹². The *Emery County Progress* reported on the work.

The actual construction work on this project is being done by Mr. Pearce of Spanish Fork, bridge carpenter, Allen Lowry of Castle Dale, foreman in charge of the enrolled men working on the project and the forty-man site camp located in Buckhorn Wash, and Alvin Jensen of Castle Dale, mechanic in charge of the machinery used on the project.¹³

The project calls for 15,000 board feet of lumber. The logging crew has felled timber and hauled about 70,000 board feet of lumber this year. This lumber was used for the building of culverts and bridges on the Buckhorn road, for planking on the suspension bridge over the San Rafael river and for the use of buildings at the spike camps. The logging crew consists of 15 men and is under the supervision of David Tuttle of Orangeville.¹⁴

A problem with completing the construction of the bridge was getting materials to the site due to bad roads. Consequently, the CCC also built twenty-eight miles of road from Castle Dale to the San Rafael bridge.¹⁵

The bridge was dedicated by Utah Governor Henry H. Blood on April 24, 1937 before an estimated crowd of 2-3,000. The ceremony was extensive. Seats for a thousand people were erected in a natural setting, the Division of Grazing hauled wood for camp fires and made adjoining grounds "a

¹¹ "My Memories of the Construction of the San Rafael Bridge", interview with Dermis Jensen, Emery, Utah, c.1993.

¹² Baldridge, p.177.

¹³ *Emery County Progress*, June 5, 1936.

¹⁴ *Emery County Progress*, October 16, 1936.

¹⁵ "New Suspension Bridge on San Rafael River to be Dedicated March 27", *Emery County Progress*, March 12, 1937.

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San Rafael Bridge, Emery County, UT

camper's paradise"¹⁶ The local high school band performed, speakers pointed out many of the scenic attractions to be found along the new road, and cattlemen furnished barbecued beef and mutton.¹⁷

Engineering

Bridges had been constructed across the San Rafael River before, each of the three having been pier bridges where their support substructures had been constructed in the river bed. As flash floods swept through the dry washes they washed away the bridge supports. The solution was to construct a suspension-swing bridge type with its support structure located on the river banks.¹⁸

The San Rafael Bridge is significant in its design and construction. The simplicity of its basic design, the strength of each of its components, and the serviceability of this bridge have made it an excellent example of the application of basic engineering principles in the first half of the twentieth century. Also its straightforward design compliments its wilderness-like setting. The uniqueness of its design is also important as one of only two remaining cable suspension bridges in Utah. Through researching photographs of bridges throughout the state it appears that most of them built during the time period 1935-40 were constructed of concrete.

The CCC in Utah

The Civilian Conservation Corps was one of the most successful of President Franklin D. Roosevelt's New Deal programs. The CCC was in operation for nine years, 1933-42, providing jobs and training to young men 18-25 years old. The men earned \$30 per month, \$25 of which was sent home to help support their families, leaving them \$5 per month personal spending allowance. Their housing, food, and clothing were provided. Utah had a total of 116 camps, though only 30-40 were in operation at any given time. Each camp had about 200 enrollees. Almost 60 percent of the CCC enrollees in Utah were from out of state; the remainder were local boys. Some of the out-of-state boys married local girls and stayed in Utah. The camps were sponsored by a federal or state agency, which outlined projects and oversaw their completion. In Utah, the Forest Service had the most camps with 47, followed by the Division of Grazing (now the BLM) with 24.¹⁹

¹⁶ "Dedication Program and Plans Ready for Bridge Celebration", Emery County Progress, April 23, 1937.

¹⁷ Ibid.

¹⁸ Historic American Engineering Record, UT-60, 1990, p.6. On file at Utah State Historic Preservation Office.

¹⁹ Compiled from Kenneth W. Baldrige, "Nine Years of Achievement: The Civilian Conservation Corps in Utah," (PhD. dissertation, Brigham Young University, 1971).

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San Rafael Bridge, Emery County, UT

The CCC generated significant improvements to public lands. It provided the labor for projects long needed on public lands. These included road and bridge construction, erosion control, range improvements, spring development, and the construction of trails, campgrounds, and ranger stations, plus many other improvements. Recreation was just emerging as a priority for the Forest Service in the 1930s. Recreational visitation increased on some forests as much as 250 percent between 1934 and 1940.²⁰ A statewide inventory of CCC structures is currently underway (1996) with over 350 sites identified thus far. Many more have yet to be documented, so accurate information on the numbers, types, and locations of extant CCC structures is not available at this time.

The economic impact of the CCC and other New Deal programs in Utah was profound. In 1933 Utah had an unemployment rate of 36 percent, the fourth highest in the country, and for the period 1932-40 Utah's unemployment rate averaged 25 percent. Because the depression hit Utah so hard, Federal programs were extensive in the state. Overall, per capital Federal spending in Utah during the 1930s was ninth among the forty-eight states, and the percentage of workers on Federal work projects was far above the national average.²¹ Utah ranked seventh in the country in per capita spending on the CCC program, and by 1940 the CCC was the third largest source of employment in the state, behind agriculture and metal mining.²²

In addition to the economic impact provided by jobs, the program generated thousands of projects on public lands that had an immeasurable benefit to the state. The value of the CCC extended well beyond the \$52.7 million spent in Utah. The benefits to the young men who learned job skills, gained self-confidence, and became productive members of society are incalculable. And "(h)ow does one calculate the cost of a flood that did not occur because of terracing done by the C's? How does one calculate the timber saved because a CCC 'super-squad' reached an isolated fire during the first critical minutes? What value can be placed on the enjoyment of families utilizing CCC-built campgrounds, campgrounds that might not have been built without the impetus of the CCC program and the availability of CCC labor?"²³

Rededication and Current Use of Bridge

Although the San Rafael Bridge no longer meets vehicular needs and has been replaced by another bridge for that purpose, it has historical significance to Emery County and has been saved by the Emery County Historic Preservation Commission to be used as a foot bridge for recreational

²⁰ Alexander, Thomas G. The Rise of Multiple-use Management in the Intermountain West: A History of Region 4 of the Forest Service (U.S. Department of Agriculture, 1987), pp. 106, 110-11.

²¹ "Public Works Buildings Thematic Resources," National Register nomination, 1985. Available at Utah State Historic Preservation Office.

²² Baldrige, pp. 354, 358.

²³ Baldrige, p. 356.

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San Rafael Bridge, Emery County, UT

visitors to the area. The restoration of the bridge was completed by Emery County in November of 1994, when vehicles were able to drive across it one last time. Maintenance of the bridge will be carried out by the staff of Emery County.

___ See continuation sheet

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San Rafael Bridge, Emery County, UT

Bibliography

Baldrige, Kenneth W. "Nine Years of Achievement: The Civilian Conservation Corps in Utah." Ph.D. dissertation, Brigham Young University, 1971.

Carter, Thomas and Peter Goss. Utah's Historic Architecture, 1847-1940. Salt Lake City, UT: University of Utah Graduate School of Architecture and Utah State Historical Society, 1991.

"Determination of Eligibility and Finding of Effect", Utah Department of Transportation, May 29, 1989. Also listed in the National Register of Historic Places.

Emery County Progress, "New Suspension Bridge on San Rafael River to be Dedicated March 27", Friday, March 12, 1937.

"San Rafael Bridge Dedicated Postponed", March 19, 1937.

"Dedication of San Rafael Bridge of Great Import to Entire Eastern Utah", April 16, 1937.

Mauerman, Lawrence A. "Early Exploration and the Initial Settlement of Emery County, Utah". Bachelor of Arts in History Thesis, University of Utah, June 1967.

McElprang, Stella, compiler. "Castle Valley, A History of Emery County". Produced by the Emery County Company of the Daughters of Utah Pioneers, 1949.

San Rafael Bridge
Name of Property

Emery County, Utah
City, County, and State

10. Geographical Data

Acreage of property less than one acre

UTM References

(Place additional UTM references on a continuation sheet.)

A 1/2 5/2/9/1/0/0 4/3/2/5/6/2/0
Zone Easting Northing

B / / / / / / / / / / / /
Zone Easting Northing

C / / / / / / / / / / / /

D / / / / / / / / / / / /

Verbal Boundary Description

(Describe the boundaries of the property.)

Sec 15, Twp 20, S R 11 E., SE 1/4

___ See continuation sheet(s) for Section No. 10

Boundary Justification

(Explain why the boundaries were selected.)

The boundaries are those that have been historically and continue to be associated with the structure.

___ See continuation sheet(s) for Section No. 10

11. Form Prepared By

name/title Vernell Rowley, President; and Julie Osborne, Architectural Historian, Utah SHPO
organization Emery County Historical Society date March 1996
street & number PO Box 595 telephone (801)381-2510
city or town Castle Dale state UT zip code 84513

Additional Documentation

Submit the following items with the completed form:

- Continuation Sheets
- Maps: A USGS map (7.5 or 15 minute series) indicating the property's location.
A Sketch map for historic districts and/or properties having large acreage or numerous resources.
- Photographs: Representative black and white photographs of the property.
- Additional items (Check with the SHPO or FPO for any additional items.)

Property Owner

name Emery County Commission, c/o Kent Petersen
street & number PO Box 629 telephone (801)381-2119
city or town Castle Dale state UT zip code 84513

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. 470 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 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 Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Projects (1024-0018), Washington, DC 20503.

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Section No. PHOTOS Page 9

San Rafael Bridge, Emery County, UT

Common Label Information:

1. San Rafael Bridge
2. Emery County, Utah
3. Photographer: Vernell Rowley
4. Date: 1995
5. Negative on file at Utah SHPO.

Photo No. 1:

6. Southwest elevation of bridge. Camera facing northeast.

Photo No. 2:

6. Southeast elevation of bridge. Camera facing northwest.

Photo No. 3:

6. Northeast elevation of bridge. Camera facing southwest.