

VLR 6/8/6
NRHP draft

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 *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. 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 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 Clarkton Bridge
other names/site number Virginia Department of Historic Resources #019-0086

2. Location

street & number Route 620 over the Staunton River not for publication N/A
city or town Nathalie vicinity X
state Virginia code VA county Charlotte & Halifax codes 037 & 083 zip code 24577

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.)

[Signature] 12/14/06
Signature of certifying official Date
Virginia Department of Historic Resources
State or Federal Agency or Tribal government

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

Signature of commenting 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): _____

Signature of the Keeper _____
Date of Action _____

____ 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 _____

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5. Classification

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Ownership of Property (Check as many boxes as apply)

Category of Property (Check only one box)

____ private
____ public-local
 public-State
____ public-Federal

____ building(s)
____ district
____ site
 structure
____ object

Number of Resources within Property

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

Number of contributing resources previously listed in the National Register 0

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

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6. Function or Use

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Historic Functions (Enter categories from instructions)

Cat: TRANSPORTATION Sub: road-related: bridge

Current Functions (Enter categories from instructions)

Cat: TRANSPORTATION Sub: road-related: bridge

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7. Description

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Architectural Classification (Enter categories from instructions)

Other: Pratt through truss _____

Materials (Enter categories from instructions)

foundation _____
roof _____
walls _____
_____ other steel (truss), steel (piers), concrete (abutments), wood (deck) _____

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

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8. Statement of Significance

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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.)

- A owned by a religious institution or used for religious purposes.
- B removed from its original location.
- C a birthplace or a 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)

Engineering _____

Period of Significance 1902-1950 _____

Significant Dates 1902 _____

Significant Person (Complete if Criterion B is marked above) N/A _____

Cultural Affiliation N/A _____

Architect/Builder Virginia Bridge & Iron Company, Roanoke, Virginia _____

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

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9. Major Bibliographical References

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(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 # _____
_X recorded by Historic American Engineering Record # VA-108

Primary Location of Additional Data

- ___ State Historic Preservation Office
_X Other State agency
___ Federal agency
___ Local government
___ University
___ Other
Name of repository: Virginia Dept. of Transportation

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10. Geographical Data

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Acreage of Property 0.25 acres

UTM References (Place additional UTM references on a continuation sheet)

Table with 4 columns: Zone, Easting, Northing. Values include 1 17 687248 4094572, 2 17 687171 4094432, 3, 4.

___ See continuation sheet.

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.)

Boundary Justification (Explain why the boundaries were selected on a continuation sheet.)

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11. Form Prepared By

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name/title Antony F. Opperman, Preservation Program Manager
organization Virginia Department of Transportation date 03-01-2006
street & number 1401 East Broad Street telephone 804-371-6749
city or town Richmond state VA zip code 23219

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Additional Documentation

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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 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)

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Property Owner

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(Complete this item at the request of the SHPO or FPO.)

name Virginia Department of Transportation
street & number 1401 East Broad Street telephone _____
city or town Richmond state VA zip code 23219

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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.). A federal agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number.

Estimated Burden Statement: Public reporting burden for this form is estimated to average 36 hours per response including the 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 National Register of Historic Places, National Park Service, 1849 C St., NW, Washington, DC 20240.

NPS Form 10-900-a (8-86) OMB No. 1024-0018

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**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

**Clarkton Bridge
Charlotte & Halifax Counties, Virginia**

Section 7 Page 1

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7. Summary Description

The Clarkton Bridge (VDOT Bridge No. 6902) was built in 1902 and is the only remaining metal truss structure in Virginia built for highway purposes, which is supported by steel cylinder peers. The bridge retains integrity as a rare survivor of this distinctive characteristic of late 19th and early 20th-century bridge engineering. The bridge carries Virginia State Route 620 in a north-south direction over the Staunton River, connecting the counties of Charlotte and Halifax, Virginia. It is 0.1 miles north of the junction of Route 620 and Route 626, approximately 0.5 miles east of the settlement of Clarkton (Figure 1). The bridge ceased steady use when, in the 1950s, the Clarkton Depot closed and the post office was moved.

Detailed Description

The Clarkton Bridge consists of two Camelback, pin-connected steel through truss channel spans, and twelve steel deck beam approach spans¹. The overall dimensions of the bridge approach and truss spans are as follows: north approach, 370' with twelve deck spans; north truss, 150'; south truss, 150'. The total length of the bridge is 692'.

At the point of the bridge, the riverbed is approximately 250' wide, with the two trusses an average of 53' above the riverbed. The north approach spans the floodplain at a grade of 5 %. The depth of the river fluctuates with discharges from Smith Mountain Dam, varying in depth from a low of about 4' to a high of 8'. The bridge is situated in a valley surrounded by rolling, forested terrain (Figure 2). The trusses of the Clarkton Bridge are of the Camelback type, a variation of a Parker truss defined by a top chord with five slopes. The Parker truss is a Pratt truss with polygonal top chords. All members of the bridge are steel, joined with pinned, riveted, or threaded connections. The two trusses are identical in construction and will be discussed in the singular. The truss is 16' wide; it has a maximum height of 25' and an overall length of 150', with eight panels, each 18'-9" wide.

Top chords and inclined end posts are riveted H-sections, consisting of side channels with flanges turned out, top plates, and bottom stay plates. The top chords measure 12" x 7-1/4" overall, built with 1/4" x 12" top plate, 7" x 2" channels and 4" x 12" x 1/4" bottom stay plates spaced 36" on center. The truss rests on plate and roller type bearings and fixed bed-plate bearings, which measure 12" x 20". Bottom chords consist of paired loop-welded eye-bars of three sizes: chords at panels one and two are 2-1/2" x 5/8"; chords at the third panel are 3" x 13/16"; chords at panel four are 3" x 7/8".

The riveted box-section bar-lattice posts are 9-1/4" x 5" overall, consisting of two 5" x 1-3/4" channels with flanges turned out, spaced 7" apart, and connected with single bar-lattice top and bottom.

Main diagonal panel braces consist of doubled bars with loop-welded eyes, measuring 2" x 5/8" in panel two, and 7/8" square in panels three and four. Single diagonal counters of 3/4"-diameter rod with loop-welded eyes, upset threads, and turnbuckles are located in panels three and four. Hip-verticals consist of a

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single 3/4" square rod with loop-welded eyes, and two angles, measuring 3" x 2-1/2", connected with tie plates to form a built-up channel. All pins are 2-5/8" in diameter.

Portal struts consist of a double intersecting Warren truss girder, 6' high by 4-1/4" wide. Top and bottom flanges are riveted T-sections, 4-1/4" x 3" overall. Web members are 2-1/2" x 1-1/2" angles. Portal braces are riveted T-sections bent on a radius. Upper lateral struts and sway struts are 6" x 3" inverted riveted T-sections. Upper lateral bracing rods are 3/4" in diameter with threaded ends. Sway bracing consists of two sets of intersecting 2-1/2" x 2" angles. The end sway frames are 7' high and the intermediate sway frames are 9'-10" high. The truss has a vertical clearance of 14'-7" at the portal and 15'-2" at the sway frames.

Both trusses have identical floor systems, which were repaired and reinforced in 1940 and 2005. The floor beams are 12" x 5" rolled I-beams, hung from the bottom chord pins with 3/4" U-bolt beam hangers. The 1940 repairs converted the floor beams into inverted king post trusses. This work consisted of the addition

¹ Most of Section 7 is derived from the Clarkton Bridge report prepared by the Virginia Department of Transportation (VDOT) for the Historic American Engineering Record (HAER VA-108).

of doubled 5" x 1/4" bars, bolted to the end of the beam, and to a king post 2' long, bolted to the center of the beam. A total of eight floor stringers consisting of 8" x 4" rolled I-beams are spaced 19" on center. Bottom lateral bracing rods are of four sizes, 3/4", 1", 1-1/4", and 1-1/2", with one end loop-welded and one end threaded. The laterals connect to the floor beam with angle brackets, which accept both the eye and the threaded ends.

The two trusses are carried by two piers, each consisting of two riveted steel cylinders. The north pier is 41' high, with cylinders 4' in diameter, and is founded on the bank. The south pier is located in the center of the river and is 53' high, with cylinders 5' in diameter. The cylinders are rolled from 1/4" plate, 54" wide, with overlapped riveted joints. They are spaced 15' apart on center and interconnected with bracing consisting of struts and diagonal tie-rods. The struts consist of two channels, 7" x 2", spaced 3" apart, with flanges turned out, connected with tie-plates top and bottom. The diagonals are 1-5/8" rod with loop-welded eyes, upset threads, and turnbuckles. The diagonals and the struts attach with pins and riveted plate and angle brackets directly to the steel cylinder.

The twelve deck approach spans vary in length: seven spans are 26' 3-1/2"; one span is 26' 7", and four spans are 40'. Each span consists of nine I-beam stringers, measuring 9" x 4" and spaced 18" on center. The stringers rest on I-beams either 15"x 5-1/2" or 12"x 5" in length. The piers are constructed of two 8" x 4" I-section posts, cross-braced with 2-1/2" angles. The posts rest on square concrete footings, which vary in size depending on the height of the posts.

The north abutment is straight, constructed of concrete, and 16' wide and 5' high. The south abutment is straight and rests directly on the exposed bedrock cliff. It consists of rubble masonry encased in concrete, and is approximately 18' wide and 2' high.

The bridge decking consists of 4" x 10" pressure-treated wood planks, coated with asphalt and attached to the stringers with carriage bolts and deck clips. The 13'-wide roadway is edged with 4" x 6" wood curbing raised 4" off the decking with wood blocks spaced approximately 4' on center. The bridge railings consist of two steel angles, 3" x 2-1/2", running horizontally 18" and 36" off the deck, supported by angle posts.

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VDOT, with the support and assistance of the Clarkton Bridge Alliance, rehabilitated the Clarkton Bridge in 2005 for non-vehicular use. Major elements of the rehabilitation included repairs to the deck, pier reinforcement to correct scour damage, and installation of an appropriate pedestrian railing. The major elements of the Clarkton Bridge that embody the distinctive characteristics of truss bridge engineering remain unchanged.

8. Statement of Significance

The Clarkton Bridge embodies the distinctive characteristics of late 19th and early 20th-century bridge engineering and retains integrity of location, design, materials, workmanship, setting, feeling, and association. The use of a polygonal top chord (a "Parker" truss) provides a definitive example of the efficient use of steel to reduce weight for long spans. The use of steel cylinder piers represents a rare

survival of an engineering practice common at the turn of the 20th-century and the Clarkton Bridge is the only remaining metal truss structure in Virginia built for highway purposes that is supported by such devices.

Historical Background²

The Clarkton Bridge derives its name from the Clark family, their plantation, and the village of the same name. There do not appear to have been any earlier bridges, ferries, or fords at this exact location. John Clark was a wealthy landowner who lived near Randolph in Halifax County. On his death in 1827, he left an estate of half a million dollars and a provision in his will to purchase plantations for his children. His son, Charles Adolphus Clark (1821-1859), bought the "Rosebank" plantation on the Staunton River in Halifax County from the Yuille family; it was the only river plantation available at the time. Just before he married Eliza Ann Spraggins (1821-1897) in 1846, Charles Clark built "Hovelock" on the crest of a ridge about a mile and a quarter from the river (on present Route 632) (Edmund [undated]:119-120).

After Charles Clark died in 1858, his widow, Eliza, managed the estate until it was inherited by their son, Thomas (1851-1919). Thomas added nearly 400 acres of land on both the Charlotte and Halifax sides of the Staunton River to the 5,600 acres he had inherited, making the plantation one of the largest bright tobacco farms in Halifax County. Corn and cattle were also raised on the farm. Thomas Clark conveyed the Lynchburg and Durham Railroad (present Norfolk and Western Railway) a right-of-way through his plantation in 1889 in exchange for the construction of a station and express office. At his request, the station was named Clarkton and he also changed the name of his house to Clarkton. Prior to the railroad, the Danville to Richmond stagecoach had passed through Clarkton on its way to the Staunton River crossing at Coles Ferry (Carrington 1975:147-148; Ginther 1968:54-56).

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**Clarkton Bridge
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In the decades before the Great Depression, the village of Clarkton was a place of considerable activity. The Guthrie brothers ran a large general store, and a post office as well as the railroad depot also were located in the village. Following Thomas Clark's death in 1919, his widow, Grace, endowed St. Thomas Episcopal Church and a community center in Clarkton. In 1938, thirty-one tenant families were still living on the Clarkton plantation (Reynolds [undated]:59; Edmund [undated]:121-122, 127). The Clarkton Depot went out of service in the late 1950s, and the post office moved, but a general store still remained in the early 1990s (Koontz [undated]:30).

F.G. Baldwin, J. Edward Baldwin, and L.D. Martin were commissioned in Halifax County Court's April term, 1900, and George R. Hannah, G.W. Berkley, and S.C. Daniel were commissioned in Charlotte County Court's June term, 1900, to determine whether a new bridge should be built across the Staunton River near Clarkton. The site selected for the bridge, known as "Rock Bluff," was located about one-half mile below Coles Ferry. It was felt that the bridge would benefit the area by inducing more people to locate to these

² Most of Section 8 is derived from the Clarkton Bridge report prepared by the Virginia Department of Transportation (VDOT) for the Historic American Engineering Record (HAER VA-108).

sections of the counties, thereby increasing land values (Charlotte County Board of Supervisors Volume No. 3:23; Charlotte County Report of Bridge Commissioners, January 7, 1901; *The Charlotte Gazette*, January 17, 1901:2).

On January 8, 1901, the County Court followed the bridge commissioners' recommendations and authorized construction of the bridge. Charlotte County, Halifax County, and the Norfolk and Western Railway Company would each contribute \$2,000 toward construction costs, with an additional \$1,940 to be raised by private subscription. The Norfolk and Western Railway agreed to assist further in the bridge's construction by shipping all bridge material to the work site free of charge (Charlotte County, Letter from the Norfolk & Railway Company, March 26, 1901). The Virginia Bridge & Iron Company, of Roanoke, Virginia, was awarded the contract for the bridge. The bridge was to consist of two spans, each 150 feet in length, and two steel tubular piers set on solid rock with a horizontal surface. The Virginia Bridge & Iron Company also proposed to construct a crib protection below the low water mark for the river piers. Work was to be completed within six months of approval of the contract (Charlotte County, Contract with Virginia Bridge & Iron Company, March 27, 1901).

By a legislative act approved on February 1, 1901, the Charlotte County Board of Supervisors was authorized to borrow money to pay for construction of the bridge by issuing bonds. In December of 1901, the Charlotte County Treasurer escrowed funds for bridge construction, indicating that the work could begin. One hundred dollars was paid to have a road constructed to the bridge on the Charlotte County side of the bridge. S.P. Daniel, an engineer/architect, was commissioned to superintend construction of the iron bridge (Charlotte County Board of Supervisors Volume No. 3:26, 57, 75).

Bridge construction began on October 1, 1901, and the bridge was completed and ready for inspection on December 25, 1901. However, before the bridge was formally accepted by the county, a major flood occurred. The flood undermined the concrete in the center pier and washed away the approaches (Charlotte County, Letter from Virginia Bridge & Iron Company, April 11, 1902).

In February 1902, Daniel reported that the damage resulting from the flood had revealed defects in the bridge's construction. The bridge pier nearest the Charlotte County side of the river was a hollow iron

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caisson, seven feet in diameter, into which was inserted a five-foot iron pier surrounded by cement. Daniel described the cement as being "of very poor quality." The pier had sunk, causing the bridge to twist upstream approximately three feet, breaking one tie-rod and possibly weakening others. Daniel believed that the central pier had failed because it had not been sunk to solid rock and was also incorrectly designed. He contended that the fifteen-foot spacing between the two sets of piers was not sufficient to prevent the bridge's collapse during a period of high water and wind. Daniel suggested that the piers be placed twenty-five feet apart instead of fifteen feet, and further suggested that the county conduct a thorough load-bearing test before accepting the bridge (Charlotte County, Report of S.P. Daniel, May 5, 1902; *the Charlotte Gazette*, February 13, 1902:2).

The Virginia Bridge & Iron Company had already begun repairing the flood-damaged bridge by the middle of January 1902, using a work force of between three and twelve men. Commissioner Daniel reported that the work proceeded slowly because of continuing floods and also due to the company's general

mismanagement of the project (Charlotte County, Report of S.P. Daniel, May 5, 1902). On June 12, 1902, it was reported that the repairs to the foundations and piers were nearly completed, but that the approaches to the bridge remained unfinished. The rebuilt bridge was completed and ready for service on June 20, 1902. As per Daniel's recommendation, a load-bearing test was carried out prior to the bridge's acceptance. A load of 120,000 pounds per span was applied and the bridge passed inspection (Charlotte County, Report of S.P. Daniel, July 7, 1902; *the Charlotte Gazette*, November 13, 1902:2).

By 1906, it was noted that the Clarkton Bridge was much in need of having the accumulated rust scraped off, being painted, and being "screwed up." C.E. Walker was hired to do the job for \$125, the cost to be shared by Charlotte and Halifax counties. The bridge was subsequently painted by the counties at least three more times (1912, 1922, and 1927) (Charlotte County Board of Supervisors Volume No.3: 189; 5: 138; 7:15).

In 1907, the Clarkton Bridge was condemned as too dangerous to cross. A.B. Rice, G.W. Berkley, and W.D. Clark were commissioned to find the "best and cheapest way" to repair the bridge approaches. No action on the approaches was taken for several years, until a new public road from Coles Ferry to the Clarkton Bridge was laid out in 1911. The contract to construct a new steel approach on the Halifax side, with a new floor and steel handrails, was awarded to Austin Brothers Bridge Company. No location for this company was given in the court records; however, a firm called the Austin Bridge Company was located in Chicago at one time (Smithsonian Institution [undated]). The job called for the replacement of steel stringers and hand rails on the main bridge and repainting of the trusses and piers. The total cost of \$3,149 was to be borne proportionately by Charlotte and Halifax counties according to their respective 1910 population census figures. A.B. Rice was given the commission of inspecting the concrete work during construction and making a bridge inspection upon completion of the project (Charlotte County Board of Supervisors Volume No. 3:238, 241, 326, 332, 400, 406).

Bridge repairs were underway in the early part of 1912. When the necessity to replace the approach on the Charlotte County side became evident, A.B. Rice was commissioned to have a "wooden approach of three spans on concrete pillows" constructed. In June 1912, Rice reported that Austin Brothers had failed to put in foundations according to the contract. The State Highway Commissioner was requested to send a State

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Bridge Engineer to inspect the approach and its foundation. Further unspecified repairs to the bridge were undertaken by the counties in 1919 and 1923 (Charlotte County Board of Supervisors Volume No. 3:427, 432; 4:435; 5:312).

In 1940, repairs were made to the floor systems of the two truss spans. The floor beams were reinforced with steel braces, which structurally converted the beams into king post trusses. New floor stringers and decking were also installed (Virginia Department of Highways 1940:Plan No. LXXXIII-23).

In 1974, the weight posting for the bridge was lowered from ten tons to five tons due to deteriorated structural members. Inspections of the bridge in 1984 revealed continued corrosion and sectional loss of the structural members, as well as evidence of overloading, prompting a reduction of the weight posting to three tons. A 1988 inspection found the bridge to be in poor condition overall, with further sectional loss

evident throughout the structural steel members, bowed end posts, sagging deck sections, and a leaning main span pier (Sellars 1990). Continuing deterioration of the bridge resulted in its closure in 1998.

The Parker Truss

The Parker truss was introduced by C.H. Parker in the 1870s. Parker utilized a quadrilateral truss of the Pratt type with posts in compression and diagonals in tension, but varied the length of the posts based on the strains exerted on them at a given location. The center panels, where the strains were the greatest, required the tallest panels, with the posts becoming successively shorter toward the ends of the bridge. The primary advantage of the design was a reduction in the weight of the bridge, or dead load, permitting longer spans without increasing the sectional area of the bridge's structural members. A savings in material cost was a direct result; however, this advantage was largely offset by the cost of having to fabricate a greater variety of members. The most economical compromise was struck with a modification of the design that limited the number of variations in the slope of the top chord to three, for a total of five polygonal segments. This variation of the Parker truss is called a Camelback truss. In general, the Parker or Camelback truss becomes economical for bridges over 160' long (Comp and Jackson 1977:5; DuBois 1900:58-59; Kunz 1915:170; Waddell 1916:24). The Clarkton Bridge is one of only six pin-connected "through-Camelback" trusses in Virginia still extant in 1997 to be included in the most recent survey of metal truss bridges reported by the Virginia Transportation Research Council (Miller and Clark 1997).

Steel Cylinder Piers

According to John Waddell, an authority on bridges in the early twentieth century, concrete-filled steel cylinder piers "used to be the most common kind of pier in America" (Waddell 1916:1025). Riveted cylinder piers were the predecessor of modern pipe piers, which remain in frequent use. The cylinders were originally constructed of cast and wrought iron; steel was used after about 1890. Iron or steel sheets, from 3/8" to 5/8" thick and between 4' and 8' wide, were rolled into cylindrical sections varying in diameter from 4' to 15'. The cylinder ends were overlapped several inches and joined with rivets. The cylinders were joined end to end to achieve the desired pier height. The seams were riveted and usually overlapped,

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although butt seams with an internal riveted band were used when higher compressive strength was required. When the piers rested on rock, they were anchored by drilling the rock and grouting-in steel rods to project up into the concrete in the cylinder. When piers were to be placed on soft bottoms, several wood pilings were driven in a tight cluster to project up into the cylinder. Tall piers, or piers carrying extreme loads, often rested on footings constructed of concrete-filled cylinders two or three times the diameter of the pier (Mitchell 1937:339-341; Waddell 1916:1025).

The Virginia Bridge and Iron Company

The Virginia Bridge and Iron Company was founded in Roanoke in 1889 as the American Bridge Company, by C.L. Wentworth, J.B. Hunter, and C.L. Michael. In 1895, the company was incorporated as

the Virginia Bridge & Iron Company (VBI) with capital of \$50,000 (Stevens 1930:66; *Roanoke Times* 1966).

By 1904, VBI was the largest steel fabricating company in the south, with a capacity of 12,000 tons annually. The company's product line consisted of bridges, turntables, warehouse factory buildings, and general structural iron and steel work. The company employed 175 men in the shops and 150 men in the erecting department. The plant covered 10.5 acres and included a bridge shop 300' by 80', a large girder shop, and several smaller buildings. The plant was located on the lines of the Norfolk and Western Railroad and the Southern Railroad. The principals of VBI at the time were W.E. Robertson, President; C.E. Michael, Secretary; T.T. Fishburn, Treasurer; and C.E. Hamlin, Contracting Engineer (*Roanoke, the Magic City of Virginia* 1904:36-37; *CharlotteCounty* 1899-1902).

Growth of the company continued through the early twentieth century, and plants were built in Memphis in 1908 and in Birmingham in 1922 (*Roanoke Times* 1936). By 1934, VBI had 800 employees and an annual production output valued at 5.4 million dollars. Company offices were located in Birmingham, Memphis, Atlanta, New York, New Orleans, Los Angeles, Charlotte (North Carolina), Dallas, and El Paso (*Roanoke Times* 1934; Stevens 1930:66). In 1936, VBI became a wholly owned subsidiary of the Tennessee Coal, Iron and Railroad Company, the largest producer of steel in the south (*Roanoke Times* 1936).

In 1952, VBI was merged into the American Bridge Company, a subsidiary of U.S. Steel Corporation and the largest bridge company in the United States. VBI's facility in Roanoke served as the headquarters for the Southern Division of the American Bridge Company until 1965, when the plant was closed (United States Steel Corporation 1975:18, 32).

According to *A Survey and Photographic Inventory of Metal Truss Bridges in Virginia, 1865-1932*, a study conducted by the VDOT Research Council in 1973, the Virginia Bridge & Iron Company built a total of sixty-five truss bridges in Virginia during the period researched. The company built five other truss bridges in addition to the Clarkton Bridge within the Lynchburg VDOT Construction District (Deibler 1973). One other VBI bridge, Waterloo Bridge (VDOT Bridge No. 6906), in Culpeper County, is included among the seventeen historic metal truss bridges recorded by VDOT in 1993-1994 for the Historic American Engineering Record, from which much of this nomination has been derived.

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10. Geographic Data

Verbal Boundary Description

The National Register boundaries of the property include the truss bridge over the Staunton River and the approach spans on the north side of the river. The UTM coordinates (17,687248E, 4094572N and 17,687171E, 4094432N) define the northern extent of the approach spans and the southern terminus of the truss bridge with a total length of 692 feet and width of 16 feet.

Boundary Justification

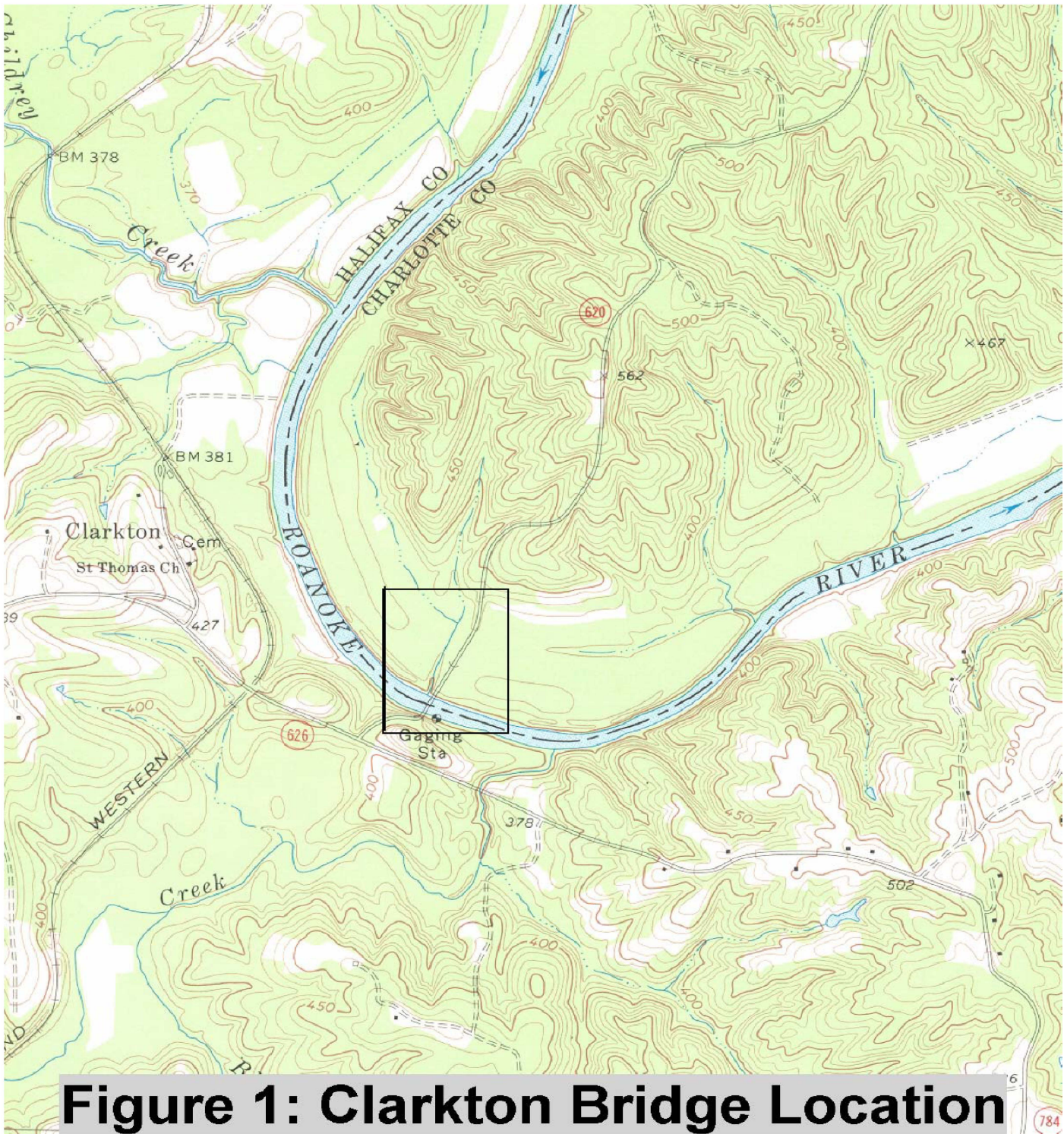
The National Register boundaries of the property include the truss bridge over the Staunton River and the approach spans on the north side of the river, all owned and maintained by the Virginia Department of Transportation.

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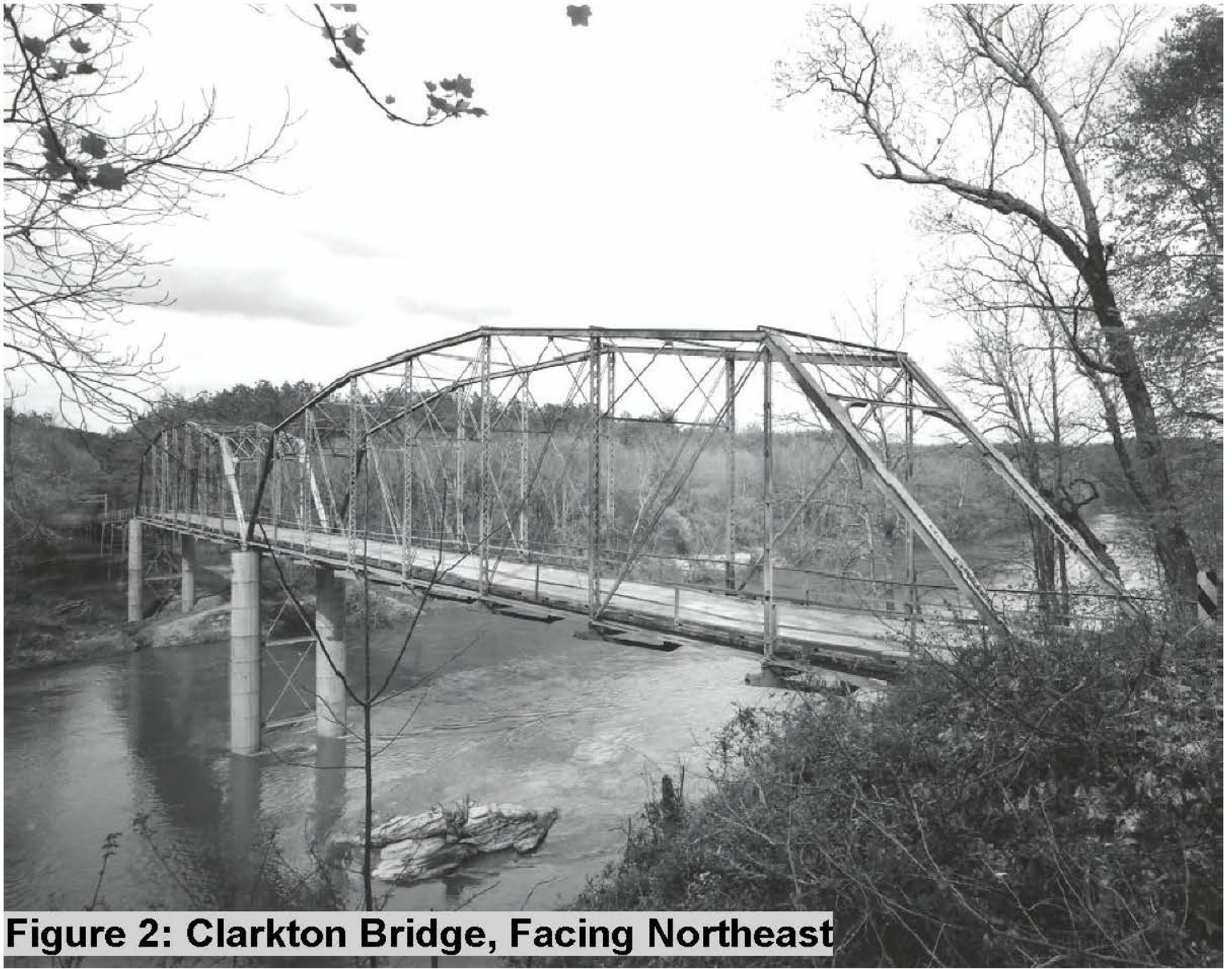


Figure 2: Clarkton Bridge, Facing Northeast

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Information the same for all photographs:

Clarkton Bridge, Virginia Department of Historic Resources file #019-0086
Charlotte County, on Halifax County line
Photographs taken October 10, 2006
Photographs taken by Randy Lichtenberger, VDOT
Digital disks submitted and images stored at the Virginia Department of Historic Resources

Photo 1 of 8:
CD 1, image 13
View North, Truss

Photo 2 of 8:
CD 1, image 14
View SW, Detail of South end

Photo 3 of 8:
CD 1, image 7
View South, Truss

Photo 4 of 8:
CD 1, image 8
View South, Truss

Photo 5 of 8:
CD 2, image 16
View South, North approach

Photo 6 of 8:
CD 2, image 1
View SW, under Bridge from North side of the River

Photo 7 of 8:
CD 2, image 10
View SSW, under Bridge from North side of the River

Photo 8 of 8:
CD 2, image 9
View South, under Bridge from North side of the River