Georgia DOT Bridge No. 151/00144/X/00055S
County Road 144/Springdale Road
Spanning Little Cotton Indian Creek
Stockbridge Vicinity
Henry County
Georgia

HAER No. GA-85

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Southeast Region
Department of the Interior
Atlanta, Georgia 30303

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HISTORIC AMERICAN ENGINEERING RECORD

GEORGIA DOT BRIDGE NO. 151/00144/X/00055S HAER No. GA-85

Location: County Road 144/Springdale Road spanning Little Cotton Indian Creek
3 miles southeast of Stockbridge
Henry County, Georgia

U.S.G.S. 7.5 minute Stockbridge, Georgia, quadrangle
Universal Transverse Mercator coordinates:
Zone 16, Northing 3712790, Easting 763000

Located approximately three miles southeast of the town of Stockbridge, this area of Henry County has retained its rural character. Generally, open fields and wooded lands are located in the immediate vicinity of the bridge. The Clayton County Reservoir is located to the west of the bridge. This bridge has provided access by local residents to this portion of Henry County.

It is unknown whether or not this bridge is in its original location since it was common to re-use metal truss bridges whenever possible. Because records of these actions were rarely kept, it is unknown whether or not this bridge was utilized previous to its current location. There is no known place association represented by this bridge. No development has occurred in the area and there is no evidence of old mills, stores or other industrial, commercial or even residential activity. Bridges frequently were placed at traditional crossings such as fords or ferries; however, given the narrowness of Little Cotton Indian Creek, it is unlikely that this site was a ferry site.

Date of Construction: 1930

Engineer: Unknown

Present Owner: Georgia Department of Transportation
#2 Capitol Square, SW
Atlanta, Georgia 30334

Present Use: Vehicular traffic; to be demolished 1993

Significance: This bridge is historically significant in the area of engineering as an example of a steel Warren pony truss bridge with verticals.

Lacking skilled stone masons and the capital necessary for building stone arch bridges common in Europe, Americans showed a preference for truss bridges when spanning water. A truss is a large and rigid structure composed of small stick-like elements in the form of interconnected triangles. The triangle is the only simple figure which is both rigid and stable. With timber being readily available in the eastern United States, timber trusses were a common bridge type prior to the Civil War. With the expansion of the railroad in the United States, wood proved to be inadequate for bridge building. Between 1840 and 1880 iron surpassed wood as the primary material used in the truss bridge. As the availability of steel increased, its use in metal truss bridges surpassed the use of iron after 1890. Steel proved to be a more desirable material since it is strong in both compression and tension, in addition to being flexible, hard and resilient.[1]

While truss bridges were built as early as the sixteenth century, it was not until the late eighteenth century in the United States that trusses were developed systematically.[2] Truss types include the Town Lattice, popular during the nineteenth century; the Bollman and Fink Trusses, popular from the 1850s through 1870s; the Whipple Truss, popular from the mid-nineteenth century until the early twentieth century; the Pratt Truss, popular from 1890 until 1925, and the Warren Truss, popular after 1920. The Warren Truss has proven to be the most common truss of the twentieth century.[3]

The Warren Truss was patented in England in 1848 by James Warren and Willoughby Monzani. The Warren Truss is "a parallel chord truss . . . wherein the web system is usually formed by a single triangulation of members at an angle to each other. There are no counters but web members near the center of a span may be subject to stress reversals and are designed accordingly. Verticals may or may not be used."[4]

"In addition to classifying metal truss bridges by name, their form is further distinguished by the location of the bridge deck in relation to the top and bottom chords and by their structural behavior. The superstructure of a typical truss bridge consists of two trusses on either side of a floor system which carries the bridge deck. Lateral bracing occurs at the bottom chords and sometimes the top chords." When the deck is located near the

bottom chord, it is referred to as a through truss. A through truss with insufficient depth for lateral bracing at the top chord is referred to as a pony or half through truss. When the deck is located on the upper chord, it is referred to as a deck truss.[5]

Built in 1930, the single truss of Georgia DOT Bridge No. 151/00144/X/00055S measures forty-one feet in length and eighteen feet in width. Structural features include masonry rubble abutments, steel intermediate piles, steel caps, steel beams, and a timber deck. It has rivet connections. There are no apparent structural alterations on this bridge.

Extant Warren pony truss bridges with verticals date from 1916 to post 1940 in the state of Georgia. This bridge is one of thirty-two extant Warren pony truss bridges with verticals recorded in the Georgia Historic Bridge Inventory. This study inventoried metal truss and concrete and masonry arch highway bridges in 1981. It is one of two bridges of this type extant in Henry County.

Endnotes:

[1]Georgia Department of Transportation and the Georgia Department of Natural Resources, Historic Bridge Survey (n.p., 1981), pp. 6, 9, 13.

[2]ibid., p. 7.

[3]ibid., p. 12.

[4]U.S. Department of Transportation, Federal Highway Administration and the Bureau of Public Roads, Bridge Inspector's Training Manual (Washington D.C., n.p., 1971), p. G-44.

[5]Historic Highway Bridges in Pennsylvania (n.p.: Commonwealth of Pennsylvania, 1986), p. 122.

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