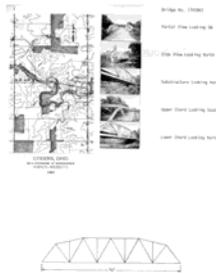


OHIO DEPARTMENT OF TRANSPORTATION
HISTORIC BRIDGE SURVEY REPORT



6/9/2011

SFN #: 1743961 County: CRAWFORD Municipality: TEXAS TWP
NR Rec: Not Eligible Previous Inventory/Date: FIRST INVENTORY, 1981 Status: Select

ODOT District: 03 Owner: COUNTY Lat/Long: 40.554200 / 83.061200

Location: 0.5 MI. W. OF CR 1 UTM: 17.322980.4532720

Feature On: BENTON ROAD (T.R. 104)

Feature Intersected: SYCAMORE CREEK

Type: PONY TRUSS Design: WARREN (RIVETED)

Material: STEEL

Railing Type: LATTICE RAILINGS

Spans: 1 Overall Length: 92 ft. Out to Out Width: 17 ft. Roadway Width: 16.8 ft.

Year Built: 1925 Alteration (Date): Source: ODOT Inspection Files

Designer/Builder: Brookville Bridge Co (Brookville, OH)

Setting/Context:

The bridge is on a by-passed section of highway and is closed to traffic. It has been bypassed since 1999.

Physical Description:

The 1 span, 92'-long, rivet-connected Warren pony truss bridge has polygonal upper chord and verticals with outriggers. The members are built-up. It is finished with lattice railings. There are no distinctive or innovative details.

Integrity:

Summary of Significance:

The bridge has been bypassed and closed to traffic. There have been no significant alterations. It is a complete but later example of its type/design. It is an eligible bridge from the prior inventory, but there is nothing that would suggest that it is historically or technologically significant based on its date of construction. It is representative of what by 1925 was a standardized design that is characteristic of the period. The bridge is not historically or technologically significant.

Warren trusses are the most common design found in Ohio and the nation. The Ohio Phase 1A survey (2008) has identified more than 500 examples dating from 1897 to 1961, accounting for well over half of the approximately 800 pre-1961 metal trusses. The Warren design was particularly well suited to rigid (riveted, and later welded connections), but not as well suited to pin connections; this helps to explain its popularity in the 20th century rather than the 19th century, although it is based on a British patent issued to engineers James Warren and Willoughby Monzani in 1848. In the U.S., the popularity of the Warren truss coincided with improvements in pneumatic field riveting equipment starting about 1900. The Warren, which is based on a series of equilateral triangles, is identified by its simplicity of design, ease of construction with equal-sized members, and ability of some diagonals to act in both tensions and compression. Warren trusses are often stiffened by the addition of verticals; they can also have polygonal (sloped) upper chords to achieve greatest depth at midspan.

Warren trusses were a standard design of the Ohio State Highway Department in the 1910s and 1920s, but they achieved their greatest popularity with county engineers, who purchased the bridges from Ohio fabricators such as the Champion Bridge Co. and the Mt. Vernon Bridge Co. Fewer than 25 surviving rivet-connected Warren trusses date prior to 1915, and they represent the period when the rivet-connected design solidified its position as the most popular prefabricated county truss design.

OHIO DEPARTMENT OF TRANSPORTATION

HISTORIC BRIDGE SURVEY REPORT

SFN #: 1743961

County: CRAWFORD

Municipality: TEXAS TWP

NR Rec: Not Eligible

Previous Inventory/Date: FIRST INVENTORY, 1981

Status: Select

A noteworthy change in the technological development of Warren trusses was the transition from riveted to welded connections that began in the mid to late 1930s. The development was based on improvements in arc-welding equipment and the propagation of welding techniques as a substitute for riveting in many fields of construction, such as steel-hull ships and steel-frame buildings. While most of Ohio's remaining truss fabricators went out of business in the depression of the 1930s, Ohio Bridge Corporation (OBC) of Cambridge grew its business on the development of a standard weld-connected Warren pony truss with polygonal upper chords in the years immediately following WWII. OBC remains in operation and many Ohio counties continue to find the weld-connected Warren trusses to be a desirable economical alternative to other bridge types. More than 360 of the 500 Warren trusses in the study are weld-connected and most are attributable to OBC from the late 1940s to 1960. It is the early examples of weld-connected Warren trusses dating from the mid 1930s to mid 1940s that are the technologically significant examples.

Reviewed By/ Date: JPH (2/08)

Notes:

County plans to bypass- CRA TR 104-0.52 PID 14337. 1999 Bypassed and closed.

For Eligible Bridge:

Level of Significance:

Justification:

In Management Plan (2009)? No