SMITH CREEK STEEL STRINGER BRIDGE
Spanning Smith Creek
Luther Vicinity
Oklahoma County
Oklahoma

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
Submitted to:
Oklahoma State Historic Preservation Office
800 Nazih Zuhdi Drive
Oklahoma City, Oklahoma 73105

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Tanya McDougall, Photographer, October 2011

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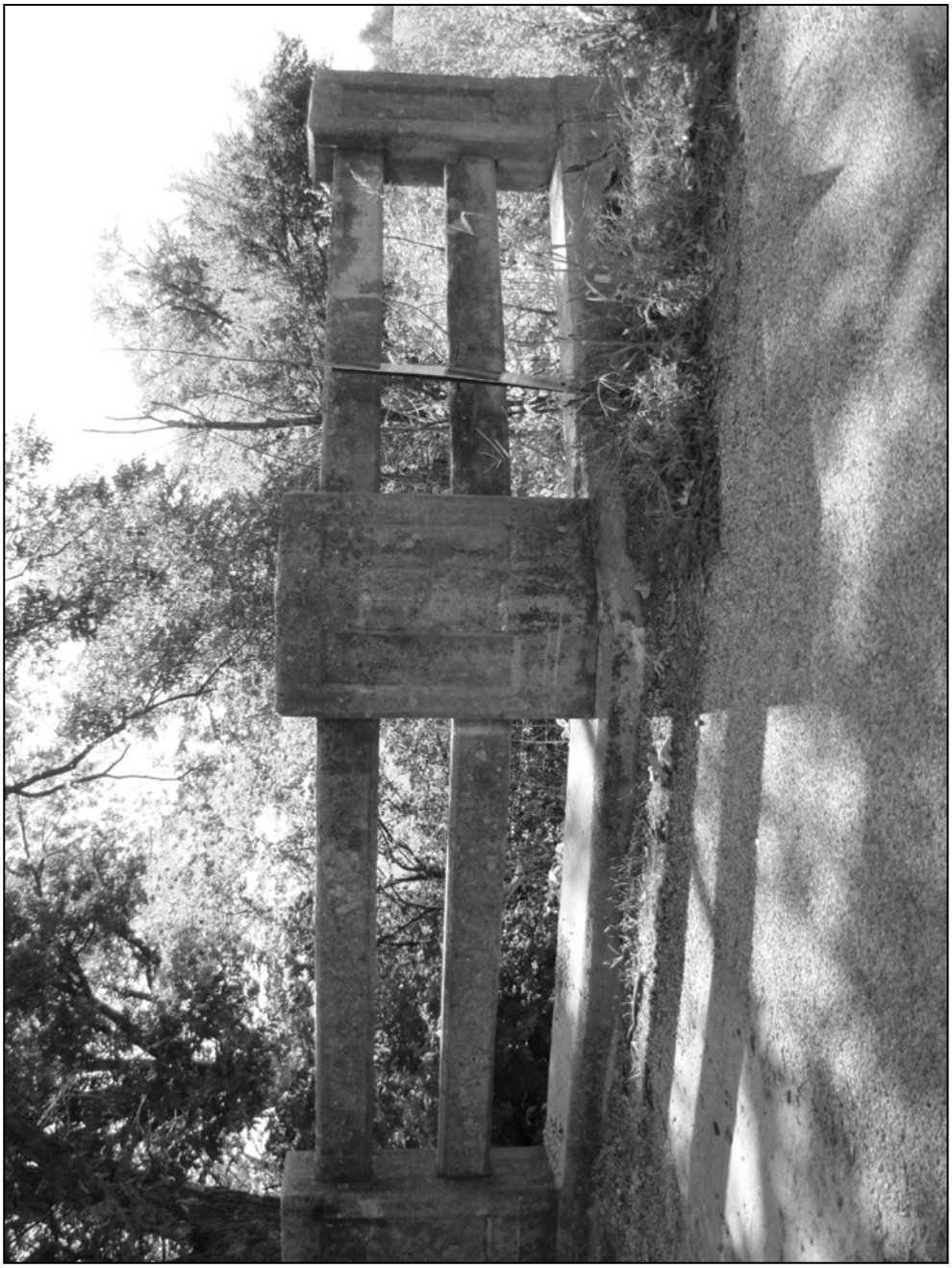

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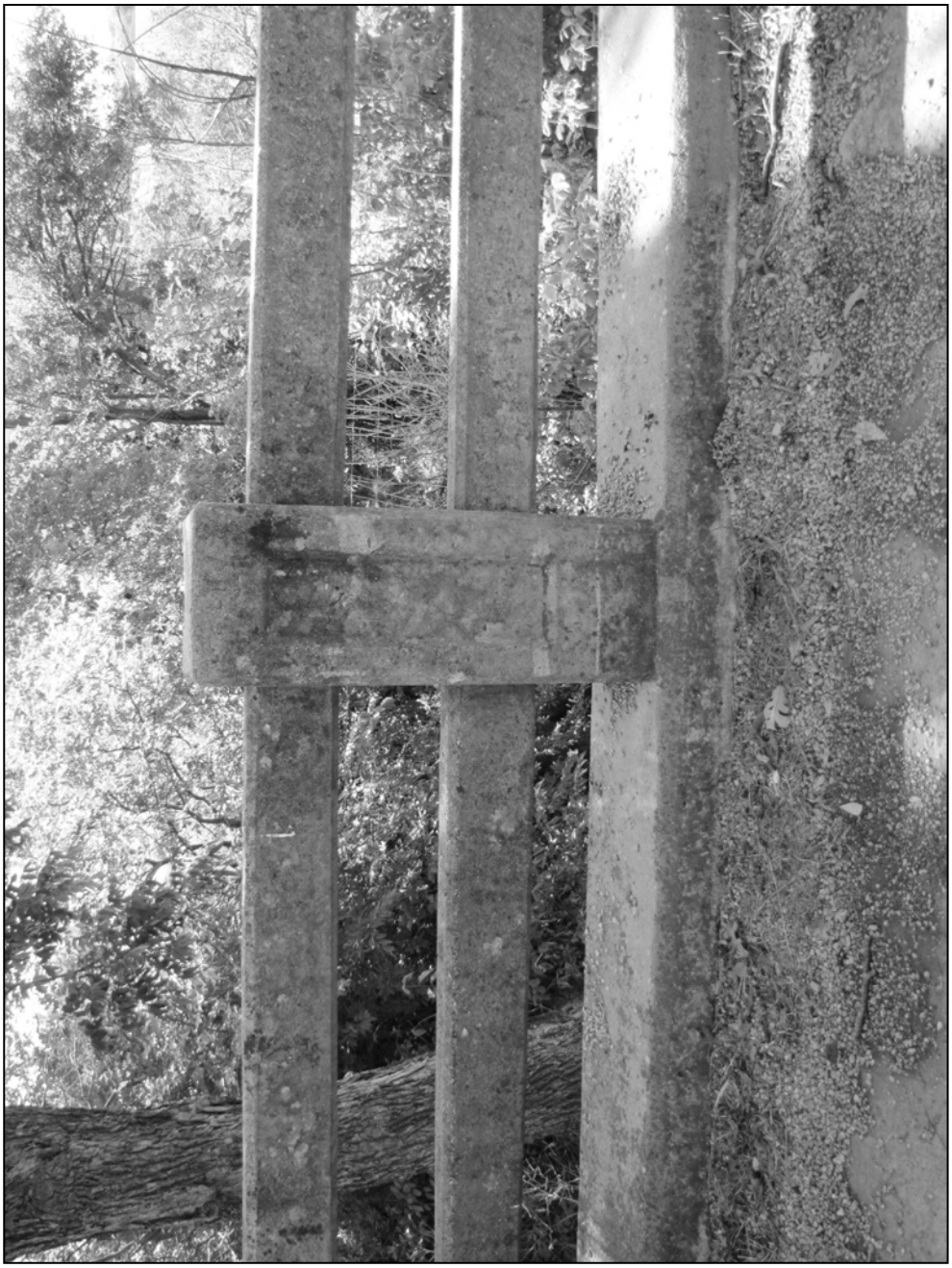

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WRITTEN HISTORICAL AND DESCRIPTIVE DATA

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SMITH CREEK STEEL STRINGER BRIDGE

Location: Spanning Smith Creek, at Northeast 150th Street, in the Luther vicinity, Oklahoma County, Oklahoma.
UTM: 14/E0661515/N3943645
Quad: Horseshoe Lake

Present Owner: Oklahoma County, Oklahoma
ODOT Structure Number 55E0960N3240008

Present Use: Vehicular Bridge

Significance: The Smith Creek Steel Stringer Bridge was previously thought to have been constructed in 1940 by the WPA; however, archival research conducted at the Oklahoma County Clerk's Office revealed the structure was constructed in 1927 by J. W. Williams, a local contractor. Although the bridge is no longer significant for its association with the WPA, it does serve as an example of a concrete steel girder bridge constructed during the late 1920s, a period of growth and expansion in Oklahoma County.

Project Information: Historic American Engineering Record (HAER) Level II equivalent documentation was performed in October 2011. Tanya McDougall, Architectural Historian, conducted the on-site recordation and compiled the historical information. During the on-site recordation, photographs following National Park Service (NPS) standards for digital photography were taken of the structure, and observations on existing conditions were noted. The HAER recordation serves as mitigation for the demolition of this structure.

List of Preparers:

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PART I. HISTORICAL INFORMATION

A. Physical History:

1. **Date of Construction:** 1927

2. **Architect/Engineer:** Not Known

3. **Builder/Contractor/Supplier:** J. W. Williams

4. **Original Plans:** Original plans were not found for this structure.

5. **Alterations and Additions:** The structure remains unaltered.

B. Historical Context:

1. Introduction

Oklahoma County, located in central Oklahoma, was formed after the opening of the "Unassigned Lands" in the Oklahoma District in 1889. The land was opened for settlement on April 22, 1889, when the initial land run into the Oklahoma District was held. Participating in the land run were 50,000 non-Native American settlers, many of whom claimed land near established railroad lines. The surge of new settlers into the district pushed Congress to pass the Organic Act of 1890, which established the district boundaries and created seven counties, including Oklahoma County, then known as County Two. Oklahoma's territorial capital was located in Guthrie, Logan County, and remained there through statehood in 1907. The state capital was moved in 1910 to Oklahoma City, Oklahoma County, where it remains today (Wilson 2011).

In 1890, Oklahoma County had a population of 11,742 and an economy primarily based in agriculture. The principal crops grown were cotton, wheat, corn, oats, potatoes, alfalfa, hay, and sorghum (Wilson 2011). The county's economic growth flourished due to the established railroad lines, and by 1907, the county's population was 55,849 (Blackburn et al. 1980:19). Through the 1920s, agriculture remained the economic mainstay for most of the county; however, other industries were also attracted to the area, including the meat packing and automobile industries.[1] These new industries were mostly concentrated in or near Oklahoma City, while the surrounding towns, particularly to the east of Oklahoma City, remained primarily farm communities (Wilson 2011).

[1] In 1909, the meat packing firm Nelson, Morris, and Co. (now Armour) constructed a plant in Oklahoma City, and later in 1915, Henry Ford constructed a Model-T assembly plant, also in Oklahoma City (Blackburn 1982:102).

With continued development, Oklahoma County experienced unprecedented economic growth through most of the 1920s. Part of this growth included the development of good roads. Through the early twentieth century, good-roads associations were created in many cities throughout Oklahoma, advocating for road improvements. The effort was well received, and in 1907, the Oklahoma constitution provided for the establishment of a state highway department (Burke 2011:7). Due to the lack of funding and personnel, the state highway department was unable to provide for the construction of roads and bridges until the 1920s, when changes in federal law mandated that state highway departments directly supervise plans and contracts for construction projects (Burke 2011:18; Oklahoma Department of Highways 1970). It was during that period that bridge plans became standardized and concrete bridge construction became more popular. The construction of the Smith Creek Bridge is a reflection of those changes.

2. Development of the Smith Creek Steel Stringer Bridge

The Smith Creek Steel Stringer Bridge is located on 150th Street, approximately 3 miles southwest of the town of Luther. The bridge was constructed in 1927, but review of the 1907 and 1909 topographic maps show that 150th Street existed as a light duty road prior to the bridge's construction. However, there is no indication a previous bridge was present over Smith Creek at that time. Furthermore, the maps show the surrounding area as mostly undeveloped with only a few buildings and two churches/schools in proximity to the current bridge location (United States Geological Survey [USGS] 1907, 1909). The development of the area was likely due to the flourishing agricultural industry and its proximity to the St. Louis and Oklahoma City Railroad (later known as the St. Louis and San Francisco Railway), located approximately 610 feet west of the bridge.

Throughout the 1920s, Oklahoma County experienced significant growth and development, which prompted county officials to improve roadways and bridge crossings. The Oklahoma County Commissioners were of the opinion that:

> . . . it is for the best interest of the County of Oklahoma, and for the comfort and convenience of the citizens thereof, that permanent bridges should be built and constructed in Oklahoma County [Oklahoma County Clerk (OCC) 1927:County Commissioner Minutes (CCM) 8:643] .

Thus, on April 4, 1927, the Oklahoma County Board of County Commissioners approved the construction of eight concrete and steel bridges, including the bridge over Smith Creek (OCC 1927:CCM 8:643). At that time, the construction of concrete bridges was becoming more prevalent. Although concrete was a less expensive building material than metal, it was not available in many parts of Oklahoma due to an abundance of alkaline soils and the high cost of shipping aggregate material. Thus, concrete was reserved for structures less than 70 feet in length, such as the Smith Creek Bridge (King 1993).

On April 18, 1927, the Board of County Commissioners reviewed four bids for the construction of the Smith Creek Bridge (OCC 1927:CCM 8:675). The winning bid was submitted by J. W. Williams, a local contractor from Oklahoma City, who was an

established bridge contractor in the state during the late 1920s.[2] The contract was awarded for the amount of $3,445 and stipulated that the work be completed in 30 days (OCC 1927:CCM 8:670–671).

PART II. STRUCTURAL/DESIGN INFORMATION

A. General Description:

The Smith Creek Steel Stringer Bridge is a two-lane bridge along 150th Street, located approximately 3 miles northwest of the town of Luther, in Oklahoma County. The structure runs east–west to accommodate the north–south Smith Creek drainage.

The structure consists of one span with concrete railing supported by pile and concrete abutments. The total length of the structure is 28 feet with the span measuring 27 feet. The width of the structure is 18 feet curb-to-curb and 20 feet total.

Along each side of the structure is a five-panel concrete railing consisting of six formed concrete posts with two rows of horizontal concrete rails. The end panels of the railing are flared. The second post on each end of the structure, where the end panels flare, is twice as large as the other posts and measures 31 inches in length, 12 inches in width, and 42 inches in height. The remaining posts measure 15.5 inches in length, 12 inches in width, and 42 inches in height. Decorative recessed sections are located in the center of each post.

The structure's deck is a concrete slab over five metal stringers. The entire structure is supported by pile and concrete abutments. The abutments are approximately 20 feet wide and consist of formed concrete placed on concrete footing and wood piles.

1. **Character:** The Smith Creek Bridge is constructed of concrete, which is indicative of its period of construction. During the 1920s, concrete bridge construction was becoming more prevalent and was ideal for constructing structures with spans less than 70 feet in length. The Smith Creek Bridge is a reflection of that policy.
2. **Condition of Fabric:** The Smith Creek Steel Stringer Bridge retains its character and integrity. The structure shows evidence of normal deterioration due to exposure to the elements. Noted deterioration includes a missing concrete rail on the northeast corner of the structure.

B. Site Information: The immediate area surrounding the Smith Creek Steel Stringer Bridge is undeveloped, and native vegetation lines the roadway and creek. Beyond the vegetation are agricultural fields. There are no structures or buildings in proximity to the bridge; however, located approximately 610 ft west of the bridge are the St. Louis and San Francisco Railway tracks.

[2] In June 1927, J. W. Williams was awarded two additional bridge contracts, one on the border of Bryan and Marshall counties and a second in Garvin County (*Muldrow Sun* 3 June 1927).

PART III. SOURCES OF INFORMATION

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LOCATION MAP

SMITH CREEK STEEL STRINGER BRIDGE
OKLAHOMA COUNTY, OKLAHOMA
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