



# Historic Bridge Adoption Information Packet

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Cooke County

FM 51

Elm Fork Trinity River

March 2020

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## Announcement

The Texas Department of Transportation (TxDOT) is offering the historic bridge detailed below for adoption and reuse according to federal transportation and historic preservation laws. The bridge is located in Cooke County, on Farm-to-Marker (FM) 51 crossing Elm Fork Trinity River.

Letters of interest and/or reuse proposals will be accepted until 5:00 p.m. on June 27, 2020.

Interested parties may request additional information, indicate an interest, or submit a reuse proposal by contacting:

Stephanie Manry, Environmental Specialist  
TxDOT Wichita Falls District  
1601 Southwest Parkway  
Wichita Falls, Texas 76302  
Phone Number: 940/720-7733  
Email address: [Stephanie.Manry@txdot.gov](mailto:Stephanie.Manry@txdot.gov)



<b>Bridge Location</b>	
▪ <b>County:</b>	Cooke County
▪ <b>Highway or Facility:</b>	FM 51
▪ <b>Feature Crossed:</b>	Elm Fork Trinity River
▪ <b>GIS Locational Information</b>	Visit the Historic Bridges of Texas GIS map: <a href="https://arcg.is/11mPfe">https://arcg.is/11mPfe</a>
<b>Bridge Information</b>	
▪ <b>Bridge Owner</b>	Texas Department of Transportation
▪ <b>Main-span Type:</b>	Cast-in-place concrete T-beam spans with variable depth outside beams
▪ <b>Main-span Length</b>	Nine 40-ft spans
▪ <b>Roadway Width</b>	40 feet
▪ <b>Year Built</b>	1938
▪ <b>Builder</b>	Contractor E.W. Hable constructed the bridge
<b>Bridge Condition and Load Rating</b>	
<p>The structure exhibits widespread spalling and delamination most likely due to corrosion of the reinforcing steel due to inadequate clear cover and chloride intrusion from the use of deicing salts. Tests conducted on concrete samples taken from the bridge indicate chloride intrusion at a level high enough to cause corrosion of the reinforcing.</p> <p>The inspection of the T-beam superstructure indicates it is in fair condition, with the exception of beam end failures on multiple beams with spalling, exposed rebar, and section loss which are attributed to the locked bearings and the reinforcing at the beam ends. These repairs will be the most critical rehabilitation to the structure and could be problematic in the future if not performed properly. Many of the beam ends have been repaired previously, but only a few are performing as intended. Furthermore, the failure mechanism for the deteriorated beam ends could also be due to the steel bearing assemblies no longer operating as intended resulting in concentrated stress in the anchoring of the bearing to the beams.</p> <p>Inspection reports from 2013, 2015, 2017 and 2018, all indicate they were unable to determine the condition of the upper surface beneath the bridge deck and joints due to the asphalt overlay. The asphalt overlay is approximately 3 ½” thick with the top most layer recently placed. The bridge deck is exhibiting transverse cracking at each bridge joint and in order to properly inspect the area beneath the bridge deck and joints the asphalt overlay would need to be removed. Due to the consecutive asphalt overlays many of the deck drains are plugged or operating inefficiently. Deicing salts and brine are frequently used during the winter months; which allow the deicing material to collect along and within the drains causing chlorides to concentrate on the open joints and on the ends of the T-beams at the bearings. This situation has caused moderate to severe deterioration on the beam ends and will require</p>	

a fairly extensive repair procedure. According to the Bridge Condition Survey, the beam end deterioration due to chloride migration will require repairs consisting of jacking the superstructure, removal of deteriorated concrete, cleaning corroded reinforcing steel, and concrete patching.

**Historic Significance of the Bridge**

The Elm Creek Bridge is significant for its type and special design details. The bridge is one of a small number of variable depth concrete girders designed by the State Highway Department and is noteworthy for its graceful design. The bridge has retained its integrity of design, materials, workmanship, location, setting, association, and feeling, and is eligible under Criterion C, Engineering, at the state level of significance.

Measuring 360-ft, the Elm Creek Bridge is located on FM 51, in the southwest section of Gainesville and is surrounded by park development. The bridge consists of nine 40-ft reinforced concrete girder spans supported on concrete bents. The superstructure carries a 40-ft wide roadway and 5-ft sidewalks on both sides of the structure. The bridge’s railing is a special steel picket and concrete post design, which is a contributing feature of the bridge.

The Elm Creek Bridge was constructed under a state project that built a new alignment of SH 89 across Gainesville. The new concrete structure replaced a 131-ft steel truss bridge located southwest of the present bridge. Because the bridge was to serve as an entry into the city and was surrounded by a city park, the Bridge Division gave particular attention to the appearance of the structure. To this end, special variable depth girders were used for the outside beams, and the bents were formed with chamfered edges, giving the bridge a graceful appearance. Contractor E.W. Hable constructed the bridge and another structure between October 1936 and March 1938.

**TxDOT Estimated Work Items and Costs**

Costs to rehabilitate and relocate the bridge for pedestrian use are estimated by TxDOT bridge engineers based on TxDOT expenditures for similar items on other bridges. All prospective owners should have access to a structural engineer to assist in determining the appropriate work to be completed as well as appropriate estimates. Costs may vary outside the TxDOT system.

The following construction items may be phased.

▪ Remove and Relocate:	\$ <i>unknown</i>
▪ Plane asphalt concrete (4”):	\$8,0000
▪ Concrete structure repair (Deck)	\$288,000
▪ Concrete structure repair (Beam Ends):	\$60,000

▪ Retrofit Rail (C1W):	\$152,000
▪ Shot Blasting:	\$12,000
▪ Replace Steel Bridge Member (Shoe Assembly)	\$150,000
<b>Total Costs</b>	<b>\$670,000.00</b>

## Bridge Photographs



