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Dick Skinner Road at Tributary of Neches River, Polk County, Texas

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Report for Archeological Survey

Dick Skinner Road at Tributary of
Neches River,

Polk County, Texas

Lufkin District

CSJ: 0911-04-059

Principal Investigator Eric Oksanen, Texas Antiquities Permit No. 7267

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.

Abstract

On May 4, 2015, SWCA Environmental Consultants (SWCA) conducted an intensive cultural resources survey at Dick Skinner Road on a bridge crossing at a minor unnamed tributary of Neches River in Polk County, Texas. The investigations for the Texas Department of Transportation were conducted for the proposed replacement of an existing bridge. The work was conducted in compliance with Section 106 of the National Historic Preservation Act (NHPA; 16 USC 470) and the Antiquities Code of Texas (ACT; 9 Natural Resources Code 191). Eric R. Oksanen served as Principal Investigator under Texas Permit 7276.

The area of potential effects (APE) consists of approximately 1.0 acre, including approximately 0.7 acre of existing right-of-way (ROW) and 0.3 acre of new ROW. Width of the APE ranges from 13.9 to 14.6 meters (m) (45.6 to 48 feet) extending a distance of 279 m (916.45 feet) along the existing roadway. The maximum depth of impacts is expected to be less than 60 centimeters (cm) (2 feet) with deeper impacts at the footings.

Shovel tests were excavated on both sides of the tributary. Access was not granted to the new ROW, and consequently these areas were assessed from the existing ROW. The excavations encountered disturbed stratigraphy down to roughly 30 cm (1 foot) (generally from road and bridge construction and pine farm disturbance) above intact sandy loam and sandy clay deposits. No cultural materials were recovered from the four shovel tests, and none were observed in the various surficial and subsurface exposures. Assessment of the new ROW, which is entirely located on the northern side of the roadway, suggests a low probability for archaeological resources.

No further cultural resources investigations are recommended within the existing ROW of Dick Skinner Road and the tributary of Neches River or within the new easement corridor.

Project Identification

- **Date:** 5/8/2015
- **Date(s) of Survey:** 5/4/2015
- **Archeological Survey Type:** Reconnaissance Intensive
- **Report Version:** Draft Final
- **Jurisdiction:** Federal State
- **Texas Antiquities Permit Number:** 7276
- **District:** Lufkin
- **County or Counties:** Polk
- **USGS Quadrangle(s):** Wakefield (3194-221)
- **Highway:** Dick Skinner Road
- **CSJ:** 0911-04-059
- **Report Author(s):** Dan Rodriguez
- **Principal Investigator:** Eric Oksanen

Texas Historical Commission Approval

Signature

Date

Project Description

- **Project Type:** Bridge replacement
- **Total Project Impact Acreage:** 0.96 acre
- **New Right of Way (ROW) Acreage:** 0.26 acre
- **Easement Acreage:** 0.0 acre
- **Area of Pedestrian Survey:** 0.7 acre
- **Project Description and Impacts:**
 - The project area is located in northern Polk County on an unnamed minor tributary to the Neches River (Figure 1). The existing bridge is 13.4 meters (m) (44 feet) long with two lanes across the tributary of Neches River on Dick Skinner Road. This structure will be replaced with a new bridge that is 77 m (255 feet) long with two 3.6-m-wide (12-foot-wide) lanes totaling 7.2 m (24 feet) in width. The approaches of the bridge will be modified for a distance of 91.4 m (300 feet) on the western side and 68.5 m (225 feet) on the eastern side of the bridge.
 - **Area of Potential Effects (APE):** The replacement of the bridge will involve modifying (i.e., widening, contouring, and paving) each approach. The maximum depth of impacts is expected to be less than 60 centimeters (cm) (2 feet) near the current natural grade.

The APE is therefore defined as a 0.96-acre area, 13.9 to 14.6 m (45.6 to 48 feet) wide by 279 m (916.45 feet) long along the roadway.
- **Parcel Number(s):** Not available.
- **Project Area Ownership:** The state or a political division of the state owns existing ROW, and the new ROW is privately owned.

Project Setting

- **Topography:** The project area is situated on a rolling surface within the Interior Coastal Plains (Wermund 2012). These areas are characterized as hilly dissected uplands with geologic strata derived from recent unconsolidated sand and mud alluvium (Wermund 2012). The approaches on both banks cross alluvial terraces of the tributary, which extend beyond the limits of the project area. The approaches continue to be level for about 0.16 mile away (east) and 0.06 mile away (west) from the bridge, where it rises gradually in elevation 3 m (10 feet) (Figures 2 and 3).
- **Geology:** The surface geology for the project area is mapped as recent alluvium (Barnes 1992). The recent alluvium is characterized as indistinct low terrace floodplain deposits containing sand, silt, clay and gravel (Barnes 1992).
- **Soils:** The soils for the project area are Moswell fine sandy loam (0 to 5 percent slopes) and Pophers silty clay loam, frequently flooded (Natural Resources Conservation Service [NRCS] 2015) (Figure 4). The Moswell series soils are characterized as deep soils formed in shale and mudstone. These soils are located on moderately steep soils on uplands and comprise the

western portion of the APE (NRCS 2015). The Pophers series soils are in the eastern portion of the APE and are described as very deep soils formed in loamy alluvium and occur on floodplains (NRCS 2014). These data suggest that conditions are very favorable for preserving any cultural deposits that may be present at the project area.

- **Land Use:** Pine farms occupy the eastern quadrants surrounding the project area (see Figures 2 and 3). The western quadrants contain mixed piney woods for residences and hunting leases.
- **Vegetation:** The crossing contained few mixed grasses (10 percent) along the roadway in all quadrants. The drainage in all quadrants is bracketed by a young, mixed pine and hardwoods (50 percent), and an abundance of vines and shrubs (50 percent).
- **Estimated Ground Surface Visibility:** 0 percent.
- **Previous Investigations and Known Archeological Sites:** The background literature review determined that the APE has not been previously surveyed for cultural resources and no previously recorded archaeological sites are located adjacent to the current APE. In addition, there are no reported surveys and no recorded cultural resources within a 1-kilometer radius of the APE.

SWCA reviewed the Texas Historic Overlay digital map collection and historic maps from HistoricAerials.com for evidence of historic-age structures that may be in the APE or that may have become part of the archaeological record (Foster et al. 2006). No structures are depicted within or immediately adjacent to the APE on any of the maps reviewed. One structure, however, is depicted approximately 60 m (190 feet) north of Dick Skinner Road on 1963 and 1966 topographic maps. The structure does not appear on more recent topographic maps. However aerial imagery indicates a structure is still present in this area, though it could be of a more modern construction rather than the structure depicted on historic maps.

- **Comments on Project Setting:** The project area is positioned over a tributary of Neches River. The tributary is a moderately sized drainage within a narrow (0.22-mile-wide) drainage basin. The tributary feeds into the Neches River, a prominent drainage system, located about 0.8 mile downstream of the project area
- **Surveyors:** Daniel Rodriguez

Methodological Description: Shovel tests served as the primary method to assess the potential for buried archaeological sites. The area contained minimal available surface exposures. The SWCA archaeologist determined shovel test placement at the project area crossing based on the level of disturbance, the location of any impacted areas such as the original roadway construction, and the preservation potential for archaeological sites. Shovel tests were placed along the northern fence line for the Texas Department of Transportation (TxDOT) roadway near the proposed new ROW. The existing ROW on the southern side contains a shallow ditch.

SWCA performed all work in accordance with Occupational Safety and Health Administration (OSHA) (29 CFR Part 1926). Shovel tests were excavated to a depth of 80 cm (2.6 feet) below

surface or basal clays, whichever came first. SWCA screened all sediments through ¼-inch mesh hardware cloth to assess presence or absence of cultural materials. The entire process was thoroughly documented and photographed. Upon completion of excavation, all shovel tests were backfilled, leveled, and returned as much as possible to their original state.

Method	Quantity in Existing ROW	Quantity in Proposed New ROW	Quantity in Temporary Easements	Total Number per Acre
Shovel Test Units	4	0	n/a	4

- **Collection and Curation:** NO YES If yes, specify facility. No artifacts were recovered, but the files will be curated at the Center for Archeological Studies at the Texas State University.
- **Comments on Methods:** With regards to TxDOT ROW, parcel access, and disturbances, two shovel tests were placed on each side of the bridge crossing, for a total of four (see Figure 2). These excavations exceed the recommended Texas Historical Commission (THC) / Council of Texas Archeologists (CTA) survey standards for a project of this size (i.e., three shovel tests per 1 acre).

Survey Results

- **Project Area Description:** At the survey area, the unnamed tributary is a minor drainage with an approximately 6-m-wide (20-foot-wide) base that had slow-moving water at the time of investigation. At the crossing, the tributary is bracketed by terraces created by episodes of overbank deposition. Both banks of the crossing have one landform, the T₀ terrace that is the current floodplain (see Figure 1). The western bank has multiple erosional cuts while the eastern bank shows very few in the project area. The riser of the T₀ terrace at the drainage is sloping and covered with vegetation, which prevented a clear profile inspection. The typical tread of the T₀ landform is level about 2.2 m (7 feet) above the channel, and extends beyond the limits of the project area.

The overall stratigraphic deposits at the crossing most closely resemble that described for the Moswell fine sandy loam, on the west terrace, and Pophers silty clay loam on the east terrace (NRCS 2014). On the east eroding terrace, a typical pedon for the Moswell series consist of thin A and E soil horizons above a Bt horizon of red clay. This series is found on upland 1 to 5 percent slopes. Near the tributary, this Bt horizon was encountered approximately 50 cm below surface.

The east terrace Pophers series consist of several brown silt A horizons above several silty loam B horizons containing iron and manganese concretions. Within this same series are buried A

horizons typical of alluvial deposits. Shovel tests found little iron or manganese concretions in the top 80 cm long the eastern terrace.

As mentioned above, two shovel tests were excavated on each side of the tributary, for a total of four (Figure 5; Table 1). These shovel tests were placed north of the existing road, near the fence line, but still within the existing TxDOT ROW. These areas were on the boundary of mixed woods with dense secondary brush. Disturbance from previous bridge construction, such as push piles, and modern trash within the erosional drainages to the tributary were observed within the area.

- **Archeological Materials Identified:** No cultural materials were observed during the investigations.
- **APE Integrity:** The survey area within the new TxDOT easement has variable integrity and appears to have been modified to a depth of generally 30 cm (1 foot) below surface. These disturbances at the surface are almost exclusively attributed to road and bridge construction as well as actions related to pine farming.

Recommendations

- **Archeological Site Evaluations:** No cultural materials or archaeological sites were encountered at this crossing.
- **Comments on Evaluations:** None.
- **Further Work:** No further cultural resources investigations are recommended within the existing ROW of Dick Skinner Road at the unnamed tributary crossing or within the new ROW. Specifically, no further cultural resources investigations are warranted at the crossing extending for a distance of 40 m (130 feet) from the road centerline.
- **Justification:** The surface and upper 30 cm (1.0 feet) of the APE have been disturbed and significantly modified from vegetation clearing, bridge construction, and repeated pine farm activities. Below the plow zone, intact natural deposits were observed, although no cultural materials were identified. Based on pedogenic soil development characteristics, the deposits below roughly 50 cm (1.6 feet) on the west bank appear to have negligible potential for cultural materials. Therefore, no further investigations are recommended to assess deep impacts below roughly 50 cm (1.6 feet). The east terrace bank shows deep (greater than 80 cm) recent alluvial deposits. Further investigations may be warranted to assess deep impacts below 1 m (3.2 feet). The work was conducted in compliance with the ACT and NHPA, and the shovel testing exceeded the CTA and THC standards for projects of this size.

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Table 1. Shovel Test Data

ST ID	Depth (cmbs)	Munsell	Soil Color	Soil Texture	Inclusions	Comments/ Reason For Termination
DR01	0-30	10YR 5/6	yellowish brown	Sandy Loam	None	Terminated at basal clay.
	30-50	10YR 4/4	dark yellowish brown	Sandy Clay Loam	None	
	50-60	5YR 4/6	yellowish red	Clay Loam	None	
DR02	0-30	10YR 5/6	yellowish brown	Sandy Clay Loam	None	Terminated at massive roots.
DR03	0-80	10YR 5/4	yellowish brown	Sandy Clay	None	Terminated at depth.
DR04	0-80	10YR 5/4	yellowish brown	Sandy Clay	None	Terminated at depth.

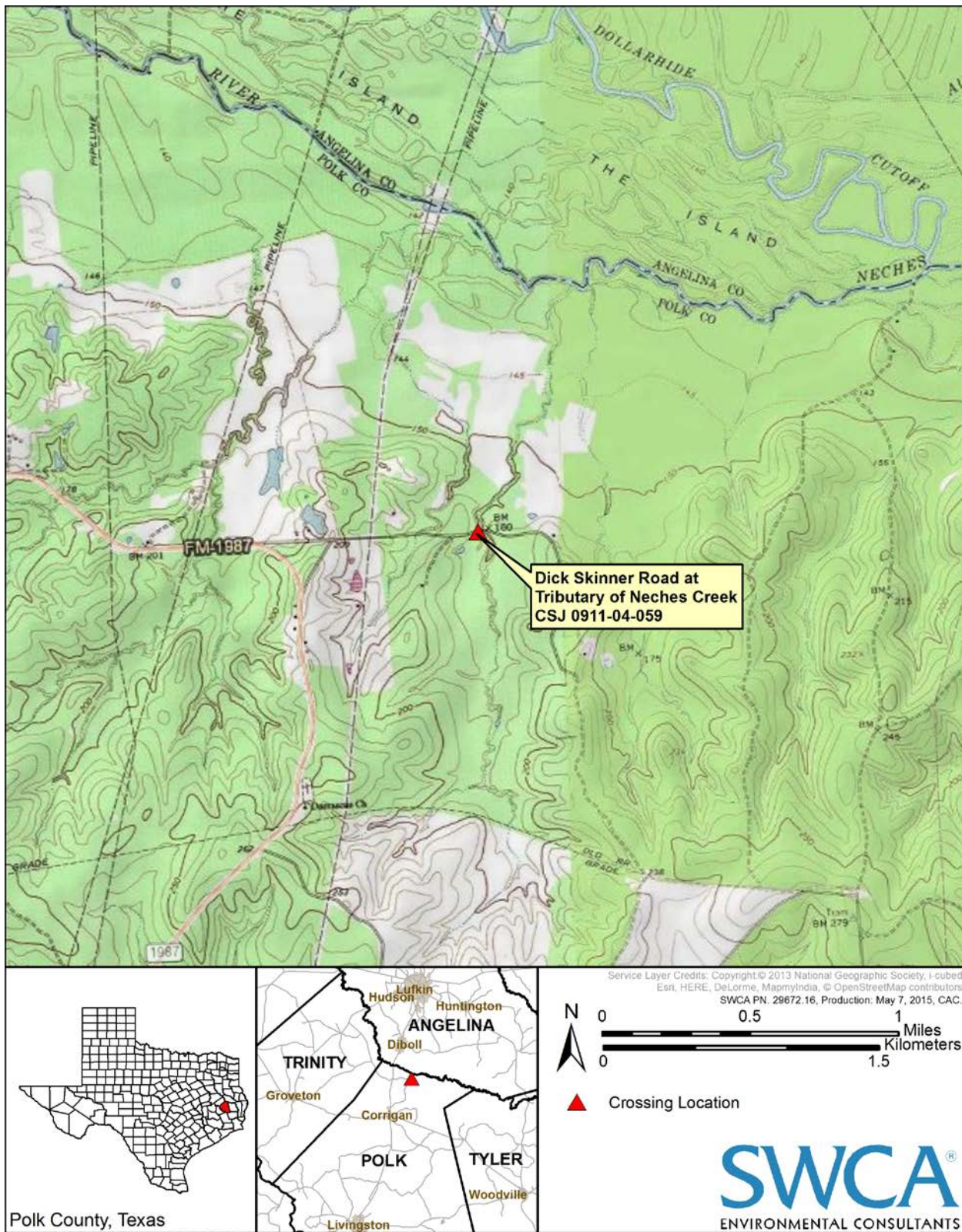


Figure 1. Project location map of Dick Skinner Road at an unnamed tributary.



Figure 2. Photo of existing bridge (at the sign) and ROW facing east.



Figure 3. Photo of approach to bridge facing west showing gradually sloping landform.

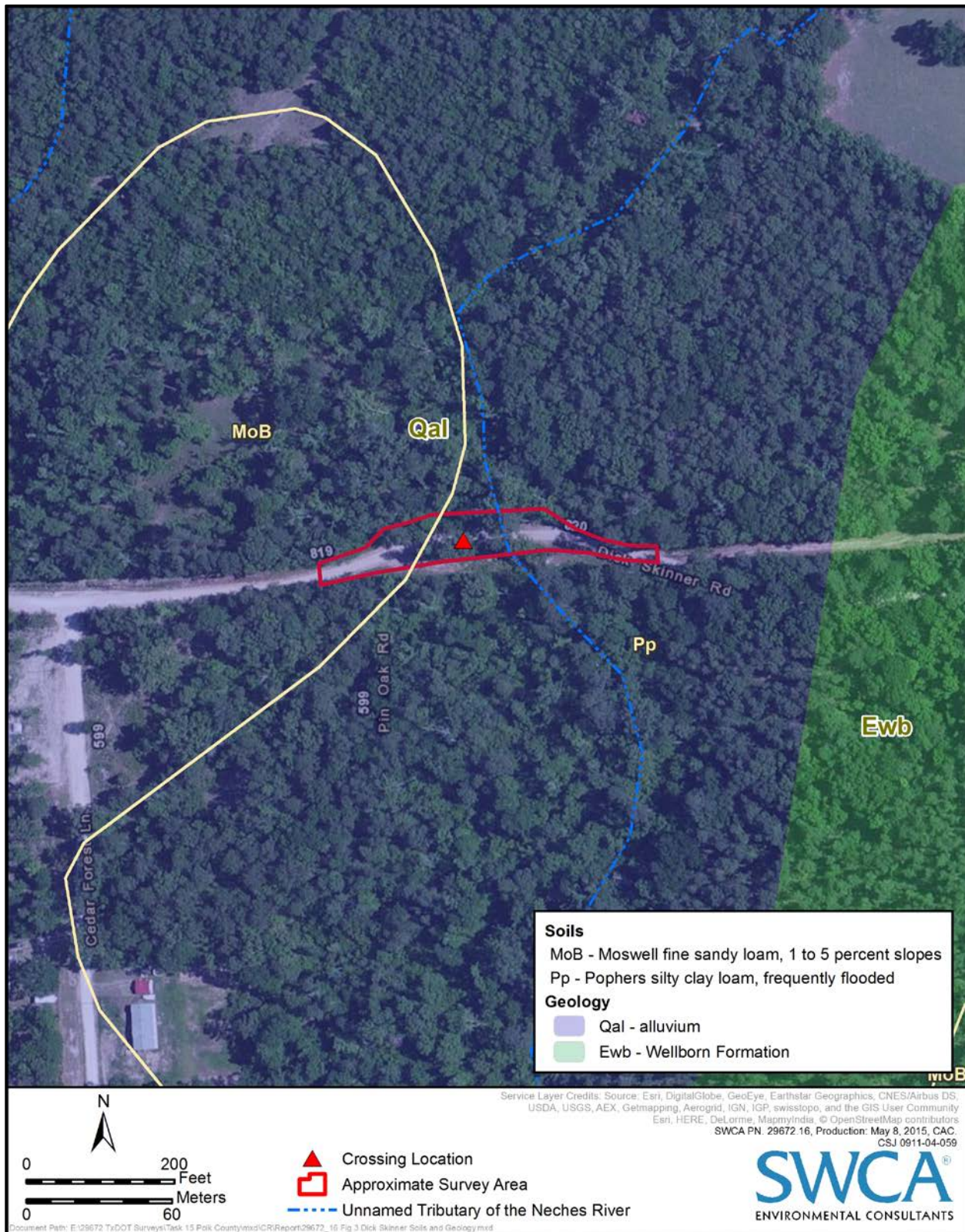


Figure 4. Soils and geology of the survey area.



Figure 5. Results of investigation.

This report was written on behalf of the Texas Department of Transportation by



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