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Intensive Archeological Survey of Boyce Lane at Harris Branch, Travis County, Texas

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Intensive Archeological Survey of Boyce Lane at Harris Branch, Travis County, Texas

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Report for Archeological Survey

Intensive Archeological Survey of
Boyce Lane at Harris Branch,
Travis County, Texas

Austin District

Jon Budd, Principal Investigator

Texas Antiquities Permit No. 8298

CSJ: 0914-04-229

March 19, 2018

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 12-16-14, and executed by FHWA and TxDOT.

Abstract

On behalf of the Texas Department of Transportation (TxDOT), SWCA Environmental Consultants (SWCA) conducted an intensive archeological survey on February 23, 2018, of a potential bridge replacement consisting of approximately 1.5 acres of existing right-of-way (ROW) along Boyce Lane over Harris Branch in Travis County, Texas. Because the project will receive funding from the Federal Highways Administration, it qualifies as an undertaking as defined in Title 36 Code of Federal Regulations (CFR) Part 800.16(y) and, therefore, the work was conducted in compliance with Section 106 of the National Historic Preservation Act (54 U.S. Code 306108). Furthermore, the project must also comply with the Antiquities Code of Texas (9 Natural Resources Code 191). Jon Budd served as Principal Investigator under Texas Antiquities Code Permit No. 8298.

The total area of potential effects (APE) is defined as the existing 100-foot-wide Boyce Lane ROW extending 175 feet north and 200 feet south of the Harris Branch channel centerline, encompassing approximately 1.5 acres. Depth of impact is estimated to be up to 40 feet below the current ground surface for the bridge supports and up to 10 feet for the remainder of the project.

Background research identified that one previous archeological survey covered a portion of the project area, but no archeological sites, cemeteries, or known historic resources were within or immediately adjacent to the review area.

The field investigation of the proposed project APE consisted of an intensive pedestrian survey with shovel testing. Mechanical trenching was originally proposed, but existing utilities on both sides of the ROW and large fill sections precluded trenching. The existing ROW is heavily disturbed by existing roadway and associated bridge construction activities; in addition, the APE is almost entirely within existing fill sections. The investigations identified no archeological resources within the APE. SWCA has made a reasonable and good faith effort to locate and identify historic properties as per 36 CFR Part 800.4(b)(1), and cultural resources as per Subchapter A of Chapter 26 of the Texas Administrative Code throughout the proposed project APE. Based on the results of the survey, SWCA recommends a finding of “no historic properties affected,” and no further archeological investigations are recommended within the APE.

Project Identification

Date: 03/19/2018

Date(s) of Survey: 02/23/2018

Archeological Survey Type: Reconnaissance Intensive

Report Version: Draft Final

Jurisdiction: Federal State

Texas Antiquities Permit Number: 8298

District: Austin District

County or Counties: Travis County

USGS Quadrangle(s): Manor (3097-241)

Highway: Boyce Lane and Harris Creek

CSJ: 0914-04-229

Report Author(s): Dan Rodriguez and Steve Carpenter

Principal Investigator: Jon Budd

Texas Historical Commission Approval

Signature

Date

Project Description

Project Type: Bridge replacement

Total Project Impact Acreage: 1.5 acre

New Right of Way (ROW) Acreage: 0 acre

Easement Acreage: 0 acre

Area of Pedestrian Survey: 1.5 acre

Project Description and Impacts: Texas Department of Transportation (TxDOT) plans to replace the existing bridge and approaches at Boyce Lane Road crossing Harris Branch Creek in Travis County, Texas (Figure 1). The existing 26-foot-wide bridge will be replaced with a 34-foot-wide new structure. The approaches will be widened to match the wider bridge. All work is limited to the existing ROW, with no new ROW or easements required.

Area of Potential Effects (APE): The APE is defined as the existing 100-foot-wide Boyce Lane ROW extending 175 feet north and 200 feet south of the center of the Harris Branch Creek channel. The depth of impacts is estimated to be up to 40 feet below the current ground surface for the bridge supports, 20 feet for the placement of erosion controls, and up to 10 feet for the roadway. The APE is no more than 1.5 acres in extent and is located approximately 10 miles northeast of Austin.

Project Area Ownership: The existing ROW is owned and managed by Travis County and TxDOT.

Project Setting

Topography: The project area is centered on Harris Branch and, as such, consists predominantly of a low floodplain. Elevation ranges from a maximum of 555 feet above mean sea level (amsl) on the northern and southern ends to about 540 feet amsl at the creek channel. The upland areas are nearly level and the channel steeply incised.

Geology: The project area is in the Cretaceous Navarro and Taylor groups undivided. The upper part of this formation is mostly silty, calcareous clay with sandstone beds. Carbonate concretions are common within the soil profile. (Barnes 1981). Although not mapped in the ROW, much of the immediate area is Quaternary alluvium.

Soils: According to the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey, the survey area is located within Tinn Clay, frequently flooded soils within stream floodplains (Figure 2). The Tinn series consists of deep, poorly drained soils formed in Blackland Prairie alluvium with slopes ranging from 0 to 1 percent. The typical profile includes black (10YR 2/1) clays to a depth of approximately 137 centimeters below surface (cmb) over very dark gray to dark grayish brown (2.5Y 3/2) clays to 203 cmb (NRCS 2018).

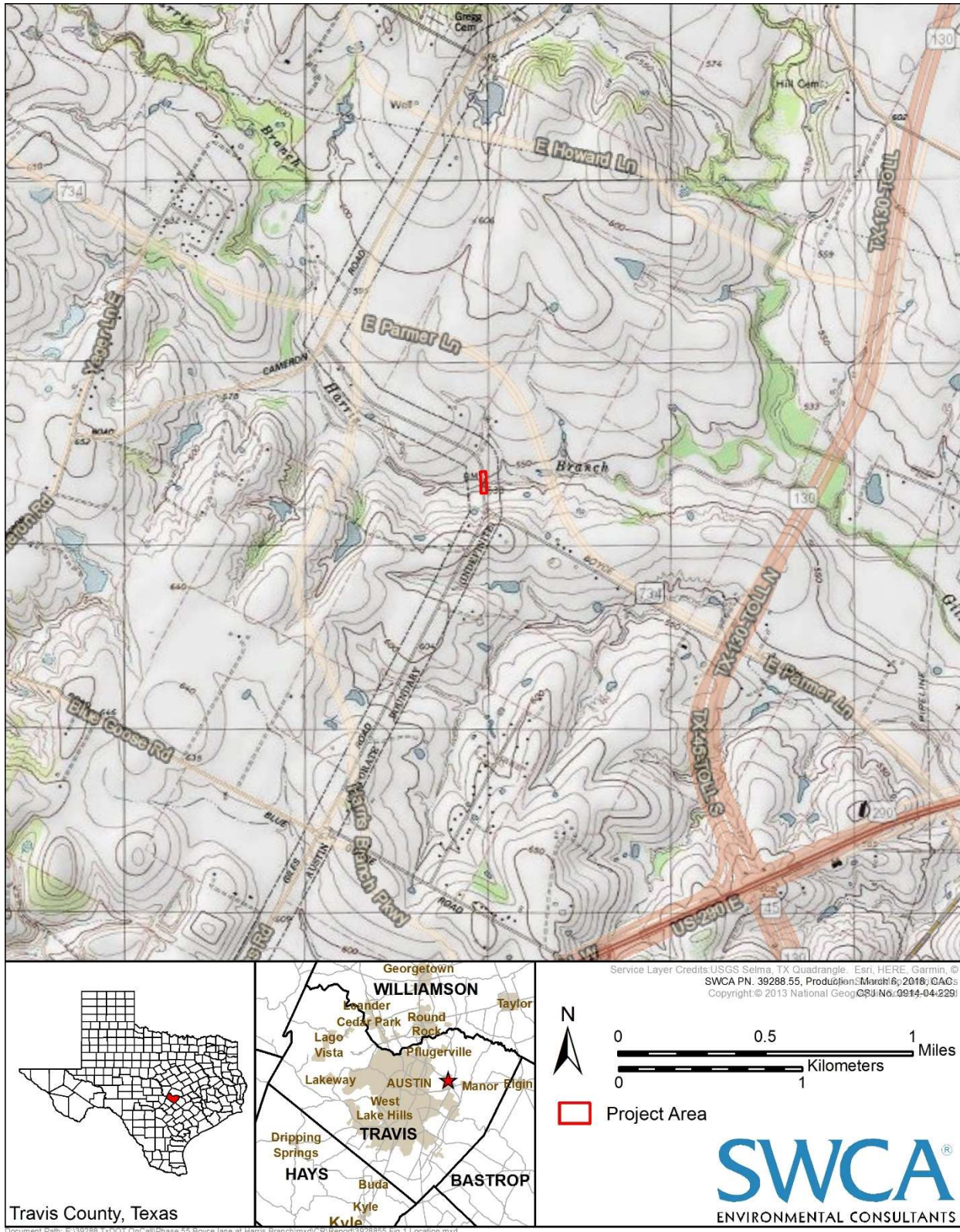


Figure 1. Project location map.

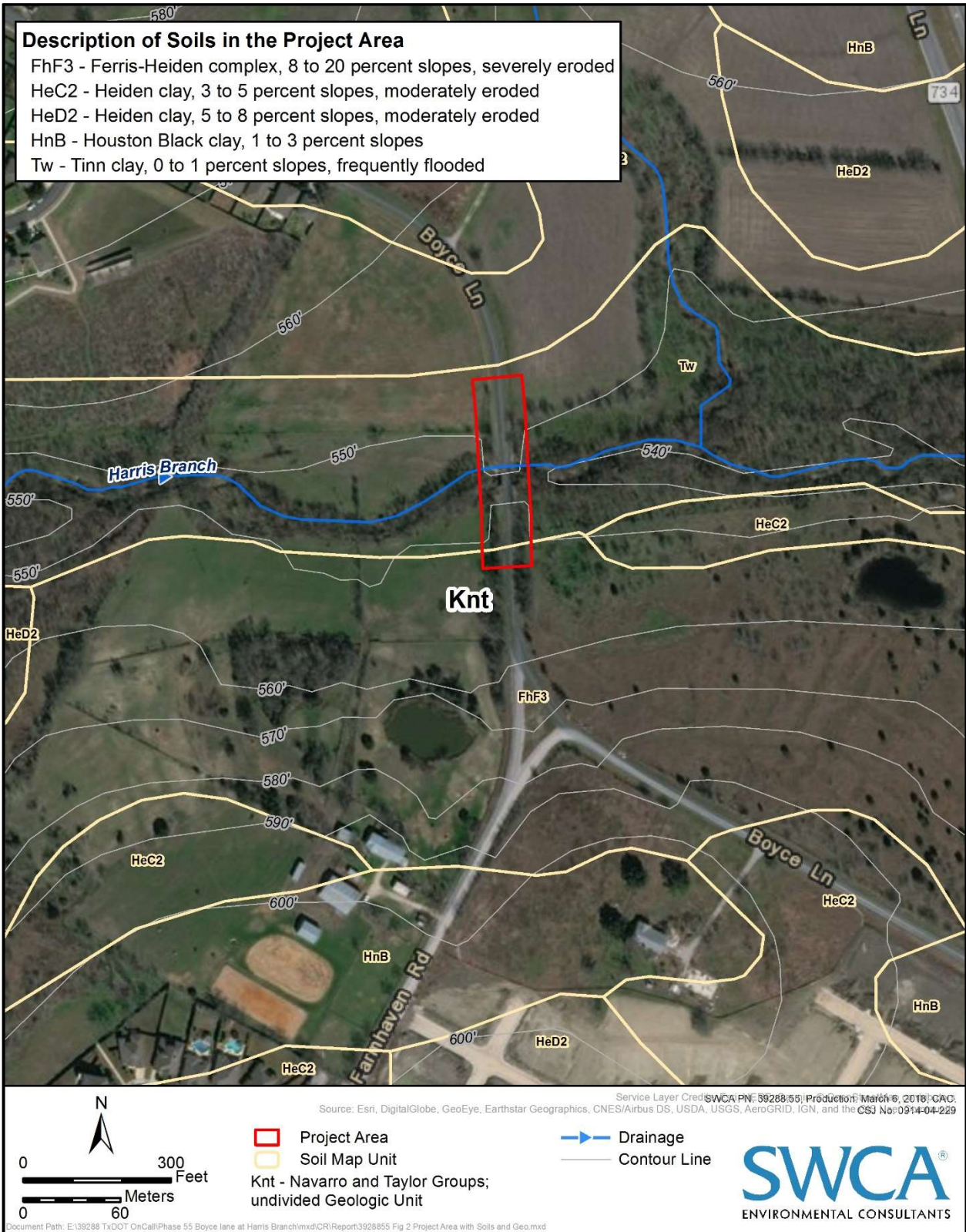


Figure 2. Project area map.

Land Use: The project area is existing narrow ROW that includes the existing roadway and serves as a utility corridor. Utilities on both sides of the road and other common disturbances prevented backhoe trenching. Trees line the ROW, but the surrounding project area is cleared pasture land.

Vegetation: Vegetation in the project area is a mix of short grasses and forbs with a mixed understory (such as yaupon) and overstory species (e.g., juniper and oak) along the riparian zone beyond the APE and along the ROW fence line. The pastures have been cleared in the past.

Estimated Ground Surface Visibility: 0–20 percent

Previous Investigations and Known Archeological Sites: A review of the Texas Historical Commission's (THC's) (2018a) online Texas Archeological Sites Atlas (Atlas) database showed one previous survey; however, no archeological sites, cemeteries, or other cultural resources are recorded within or immediately adjacent to the project area. In 2010, Hicks & Company conducted a survey under Texas Antiquities Permit No. 5567 for the City of Austin on a wastewater interceptor. The survey, as depicted on the Atlas, covers the eastern portion of the APE. Shovel testing, but no backhoe trenching, was conducted as part of the 2010 survey effort.

One previous survey and four previously recorded archeological sites (i.e., 41TV1328, 41TV1406, 41TV1420, and 41TV2373) are located within 1 kilometer (km) of the APE. The nearest site, 41TV1406, is a historic farmstead site located 600 meters to the southwest of the APE. The structures associated with the site had burned down and been mechanically cleared; the site was not recommended for the National Register of Historic Places (NRHP) or as a State Antiquities Landmark (SAL).

SWCA Environmental Consultants (SWCA) also reviewed maps contained in the TxDOT Historic Overlay, a mapping/geographic information system database with historic maps and resource information covering most portions of the state (Foster et al. 2006). SWCA reviewed historical U.S. Geological Survey (USGS) topographic maps available on USGS TopoView (USGS 2018). These sources contain information on the nature and location of previously conducted cultural resources investigations, previously recorded prehistoric and/or historic archeological sites, NRHP districts and properties, SALs, Official Texas Historical Markers, Registered Texas Historic Landmarks, and local neighborhood surveys in, or within 1 km of, the proposed project APE. The review did not identify any previously recorded cultural resources or previously conducted surveys within the APE; historical Texas State Highway Department maps and USGS topographical maps show no potentially historic resources near the project area.

Comments on Project Setting: The APE within the existing ROW has been extensively modified by existing utilities, roadway/bridge construction, and maintenance.

Survey Methods

Surveyors: Daniel Rodriguez and Michael Golden

Methodological Description: The field investigations complied with the THC Archeological Field Survey Standards (THC 2018b). The investigations entailed an intensive pedestrian survey of 1.5 acres, augmented with the excavation of three shovel tests in accessible locations that appeared most favorable to contain intact cultural resources (e.g., areas with less visible disturbance, fewer utilities, and/or not inundated) (Table 1).

The three shovel tests were placed within the existing ROW along the Harris Creek floodplain. Archeologists thoroughly documented and photographed the entire excavation process and recorded shovel test locations on a handheld Global Positioning System (GPS) device with sub-meter accuracy. Upon completion of the individual excavations, all tests were backfilled, levelled, and returned as much as possible to their original state. Surveyors excavated shovel tests in arbitrary 20-centimeter (cm) levels and sifted all materials through ¼-inch mesh. Shovel tests measured 30 cm in diameter and were excavated to sterile soil strata, disturbed deposits, or impenetrable layers. Archeologists recorded shovel tests on data forms and included information on texture, consistency, color, and cultural materials collected. Soil colors were described as per Munsell soil color charts. Furthermore, archeologists photographed all shovel tests and recorded test locations on a handheld GPS device with sub-meter accuracy. SWCA performed all work in accordance with Occupational Safety and Health Administration regulations (29 Code of Federal Regulations [CFR] 1926).

Table 1. Excavations in Project APE

Method	Quantity in Existing ROW	Quantity in Proposed New ROW	Quantity in Temporary Easements	Total Number per Acre
Shovel Test Units	3	0	0	2
Auger Test Units	0	0	0	0
Mechanical Trenching	0	0	0	0

Other Methods: None.

Collection and Curation: NO YES If yes, specify facility.

Comments on Methods: SWCA originally intended to conduct backhoe trenching to assess the potential for deeply buried deposits. Buried utilities on both sides of the ROW prevented backhoe trenching; therefore, shovel testing was conducted instead. THC archeological survey

standards require three shovel tests for a project of this size (THC 2018b). Despite existing disturbances that limited suitable areas, the three shovel tests meet the required standards.

Survey Results

Project Area Description: The project area setting is entirely within the Harris Branch floodplain and associated terraces within the existing Boyce Lane ROW (Figures 3–4). The ROW has been extensively disturbed by utilities, road and bridge construction and maintenance (including grading, fill, and runoff culverts) (Figures 5–8). Vegetation within the APE consists mainly of short grasses with recently cleared yaupon and cedar brush along the western side of the road. Beyond the ROW, vegetation includes oak, cedar, and yaupon, with moderate secondary growth.

On February 23, 2018, SWCA archeologists conducted the pedestrian survey with shovel testing of the APE (see Figure 4; Table 2). Shovel tests were placed in the few areas with the potential for intact deposits. These areas were identified as areas with a moderate to high probability for containing both shallow and deeply buried archeological deposits requiring survey based on various background review factors.



Figure 3. Narrow ROW showing marked utilities on both sides of roadway, facing south.

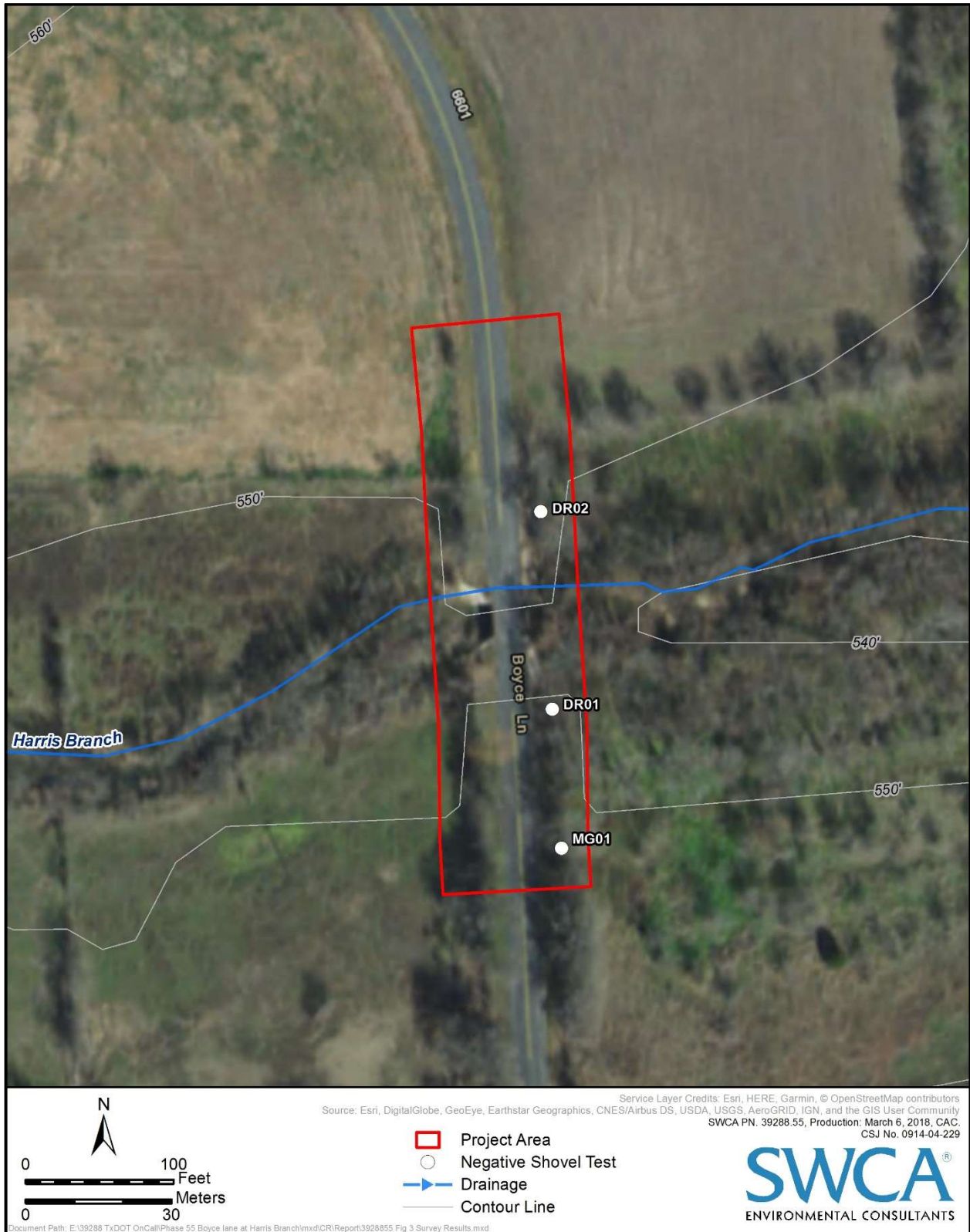


Figure 4. Results map.



Figure 5. Fill section and marked utilities along eastern side of APE, facing south.



Figure 6. Boyce Lane bridge spanning Harris branch, eastern side of road facing south.

Utility locators identified a sewer line and a buried cable on the eastern side of the ROW, in addition to a water main and three buried communication cables on the western side. Because of the four marked lines and possible unmarked telephone lines, no subsurface testing was conducted on the western side of the ROW. A recently installed wastewater main and a poorly marked utility on the eastern side prevented shovel testing in the far northeastern corner.

Shovel Testing: Three shovel tests (MG01, DR01, and DR02) were conducted on the eastern side of Boyce Lane on both the northern and southern sides of Harris Branch (Table 3). Shovel tests were distributed in the few accessible locations that appeared relatively intact. All three shovel tests encountered heavily disturbed sediments associated with the fill sections and common disturbances throughout the area. The typical profile included approximately 30 cm of dark grayish brown (10YR4/2) silty loam with common gravels. No cultural materials were observed.



Figure 7. Multiple marked utilities near Harris Branch on western side, facing south.



Figure 8. Recently installed wastewater line on northern end of project area, facing west.

Table 2. Shovel Testing Results

Shovel Test	Depth (cm)	Munsell Value	Munsell Description	Soil Texture	Inclusions (%)	Inclusion Type	Shovel Test Comments
DR01	0-30	10YR 4/2	dark grayish brown	gravelly silty loam	30%	gravel	Fill, no cultural material encountered.
DR02	0-30	10YR 4/2	dark grayish brown	silty gravel	30%	gravel	Fill, no cultural material encountered.
MG01	0-25	10YR 4/2	dark grayish brown	gravelly silty loam	10%-20%	gravels, pebbles, roots, rootlets	Fill, no cultural material encountered.
	25-45	10YR 4/1	dark gray	gravelly loam	1%-5%	none	Impenetrable fill, no cultural material encountered.

Archeological Materials Identified: No cultural materials were observed.

APE Integrity: The proposed APE within and adjacent to the existing Boyce Lane ROW exhibits evidence of prior disturbance caused by road and bridge construction and the installation of numerous utilities, thereby compromising the integrity of the survey area.

Recommendations

Comments on Evaluations: None.

Further Work: No further work is recommended within the APE.

Justification: Although backhoe trenching was originally proposed for the project, at least five buried utilities located on both sides of the ROW prevented deep testing. Prior deep impacts associated with the existing roadway and various utilities indicate there is a low potential for intact buried deposits. Investigators did not encounter any historic or prehistoric cultural materials during intensive investigations of the APE. Based on the existing disturbances, no further investigations are recommended to assess deep impacts from project construction within the 1.5-acre APE.

Investigations were conducted in compliance with the Antiquities Code of Texas and Section 106 of the National Historic Preservation Act. As per the federal and state implementing regulations at 36 CFR 800.4(b)(1) and 13 Texas Administrative Code 26, SWCA has made a reasonable and good faith effort to identify all cultural resources within the APE and recommends no further cultural resources investigation prior to construction.

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



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