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Intensive Archeological Survey: State Highway 6 at Farm-to-Market Road 2, Grimes County, Texas

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Report for Archeological Survey

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Bryan District

Jason W. Barrett, Principal Investigator, Antiquities Permit No. 8213

CSJ: 0050-03-096

December 8, 2017

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 cultural resources survey with shovel testing and backhoe trenching from November 29–30, 2017, of approximately 27.55 acres (11.15 hectares) of existing and 10.45 acres (4.23 hectares) of proposed new TxDOT right-of-way (ROW) along State Highway (SH) 6 and Farm-to-Market Road (FM) 2, located approximately 7.0 miles (11.3 kilometers [km]) southeast of Navasota and 11.0 miles (17.7 km) northwest of Hempstead, Grimes 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, survey 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). Jason Barrett served as Principal Investigator under Texas Antiquities Permit No. 8213.

The total area of potential effects (APE) consists of 27.55 acres (11.15 hectares) of existing and 10.45 acres (4.23 hectares) of proposed new TxDOT ROW along a 1-mile (1.6-km) long stretch of SH 6 slated for improvements to the FM 2 intersection and modifications on two side-by-side SH 6 bridges over Beason Creek. At the time of the investigations, right of entry (ROE) was obtained for all but 3.0 acres (1.2 hectares) of proposed new ROW, all of which is located along the eastern side of SH 6. The typical depth of impacts for the project is variable, with a maximum depth of 20.0 feet (6.1 meters) where improvements to the intersection and modification to the bridges will occur.

A background literature review determined that the APE has not been previously surveyed for cultural resources, and that no archeological sites, cemeteries, National Register of Historic Places (NRHP) districts and properties, or historical markers are within the APE or within a 0.6-mile (1-km) radius of the APE. No historic-age buildings or structures were identified within the APE during a review of the TxDOT Historic Overlay Maps (Foster et al. 2006). Field investigations of the existing ROW and 7.0 acres (2.8 hectares) of proposed new ROW for which access has been granted consisted of an intensive pedestrian survey supplemented with the excavation of 15 shovel tests and a single backhoe trench. Areas without ROE were examined from the accessible portions of the APE. The existing ROW has been heavily modified as a result of road construction, ditches, driveways, buried and overhead utilities, and immediately adjacent commercial and industrial development. The proposed new ROW has been modified by farming and ranching practices and infrastructure, as well as some commercial development. SWCA documented two isolated finds (IFs), one prehistoric (IF01) and one historic (IF02), along the margins of the SH 6 at FM 2 survey area. IFs are not eligible for the NRHP or for designation as a State Antiquities Landmark. SWCA recommends a finding of “no historic properties affected” and no further archeological investigations. Cultural resources survey of the currently inaccessible parcels with proposed new ROW is not recommended due to the negligible and heavily modified areas involved.

Project Identification

- **Date:** 11/9/2017
- **Date(s) of Survey:** 11/29/2017 and 11/30/2017
- **Archeological Survey Type:** Reconnaissance ☐ Intensive ☒
- **Report Version:** Draft ☒ Final ☐
- **Jurisdiction:** Federal ☒ State ☒
- **Texas Antiquities Permit Number:** 8213
- **District:** Bryan
- **County or Counties:** Grimes
- **USGS Quadrangle(s):** Courtney (3096-141)
- **Highway:** State Highway (SH) 6 at Farm-to-Market Road (FM) 2 Intersection Improvement Project situated approximately 7.0 miles (11.3 kilometers [km]) southeast of Navasota and 11.0 miles (17.7 km) northwest of Hempstead, Grimes County, Texas.
- **CSJ:** 0050-03-096
- **Report Author(s):** Mercedes C. Cody and Christina Nielsen
- **Principal Investigator:** Jason Barrett, Texas Department of Transportation (TxDOT)

Texas Historical Commission Approval

Signature Date

Project Description

- **Project Type:** Roadways, intersection, and bridge improvements and modifications
- **Total Project Impact Acreage:** 38.0 acres (15.38 hectares)
- **New Right of Way (ROW) Acreage:** 10.45 acres (4.23 hectares)
- **Easement Acreage:** 0 acres (0 hectares)
- **Area of Pedestrian Survey:** 35.0 acres (14.16 hectares); no access was granted to approximately 3.0 acres (1.2 hectares).

Project Description and Impacts: The proposed project involves improvements to the SH 6 and FM 2 intersection, as well as modifications to the two SH 6 side-by-side bridges over Beason Creek and their respective approaches within existing and proposed new TxDOT ROW located approximately 7.0 miles (11.3 km) southeast of Navasota and 11.0 miles (17.7 km) northwest of Hempstead, Grimes County, Texas (Figure 1). The proposed alignment includes a 1-mile-long (1.6-km) roughly north-south project corridor along SH 6, extending from 2,557.31 feet (779.47 meter [m]) north to 2,345.44 feet (714.89 feet) south of FM 2 at Beason Creek.

The current SH 6 roadway is a four-lane divided highway with a grassy median. It has two, 12-foot travel lanes bounded by 4-foot (1.2-m) wide shoulders on each side of the travel lanes. The proposed project would create a grade separated crossing with SH 6 going under FM 2. The current northbound bridge at SH 6 and Beason Creek constructed in 1964 consists of a 7 simple span concrete pan girder bridge on concrete caps and piles that is 212.0 feet (64.6 m) in length with a deck width of 40.2 feet (12.3 m). The current southbound bridge at SH 6 and Beason Creek, originally built in 1926 and later widened in 1952, consists of a 9 simple span concrete slab flat bridge that is 180.0 feet (54.9 feet) in length with a deck width of 42.0 feet (12.8 m). The two bridges at SH 6 and Beason Creek will be modified and replaced with a taller structure.

Area of Potential Effects (APE): The APE for the archeological resources is defined as the footprint of the proposed project to the maximum depth of impacts, including all easements and project-specific locations. The total APE consists of 27.55 acres (11.15 hectares) of existing and 10.45 acres (4.23 hectares) of proposed new TxDOT ROW along a 1-mile (1.6-km) long stretch of SH 6 slated for improvements to the FM 2 intersection and modifications on bridges (Figure 2). At the time of field investigations, right of entry (ROE) was obtained for all but 3.0 acres (1.2 hectares) of proposed new ROW, all of which is located along the eastern side of SH 6. The typical depth of impacts for the project is variable, with a maximum depth of 20.0 feet (6.1 m) where improvements to the intersection and modification to the bridges will occur.

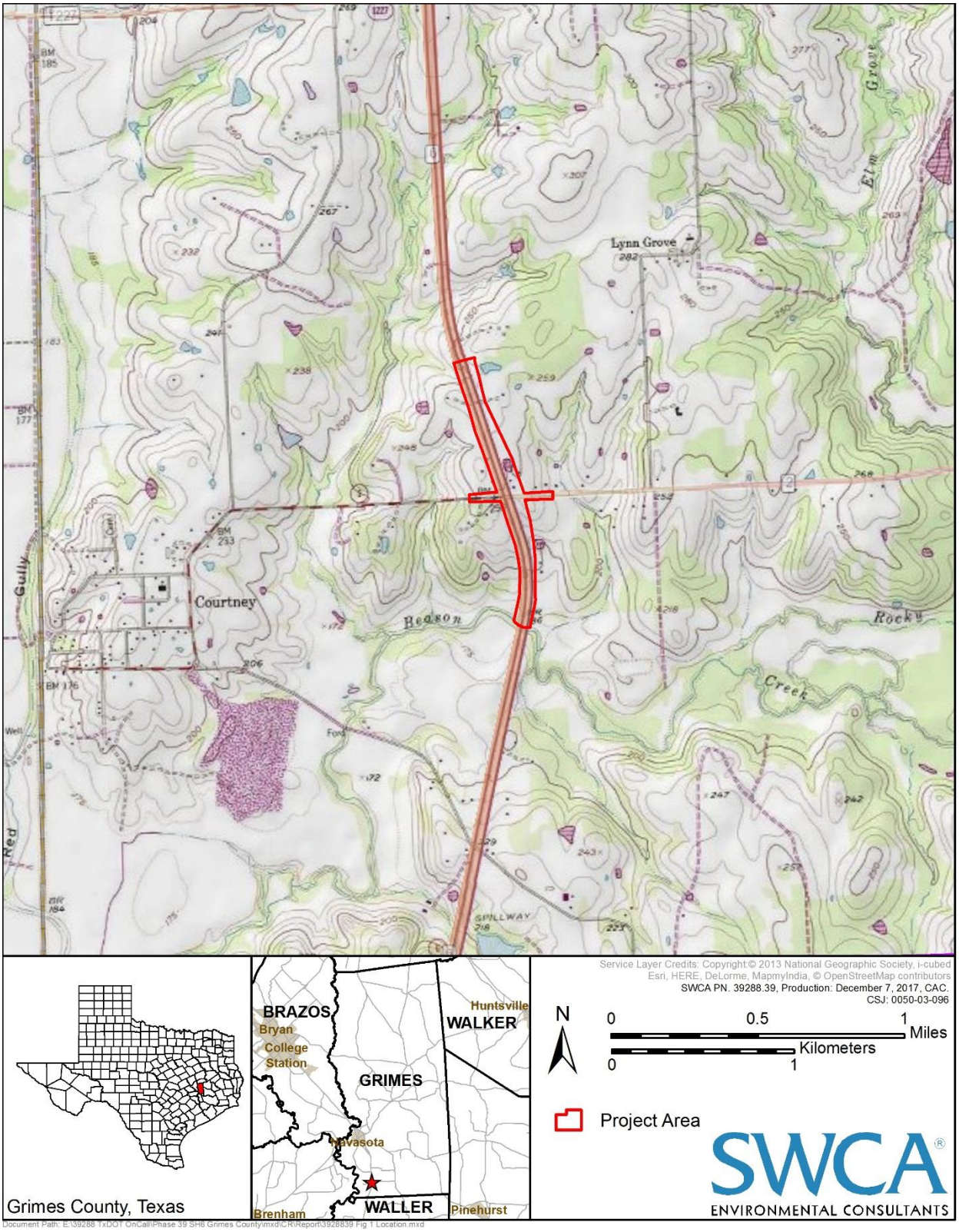

Figure 1. Project location map.

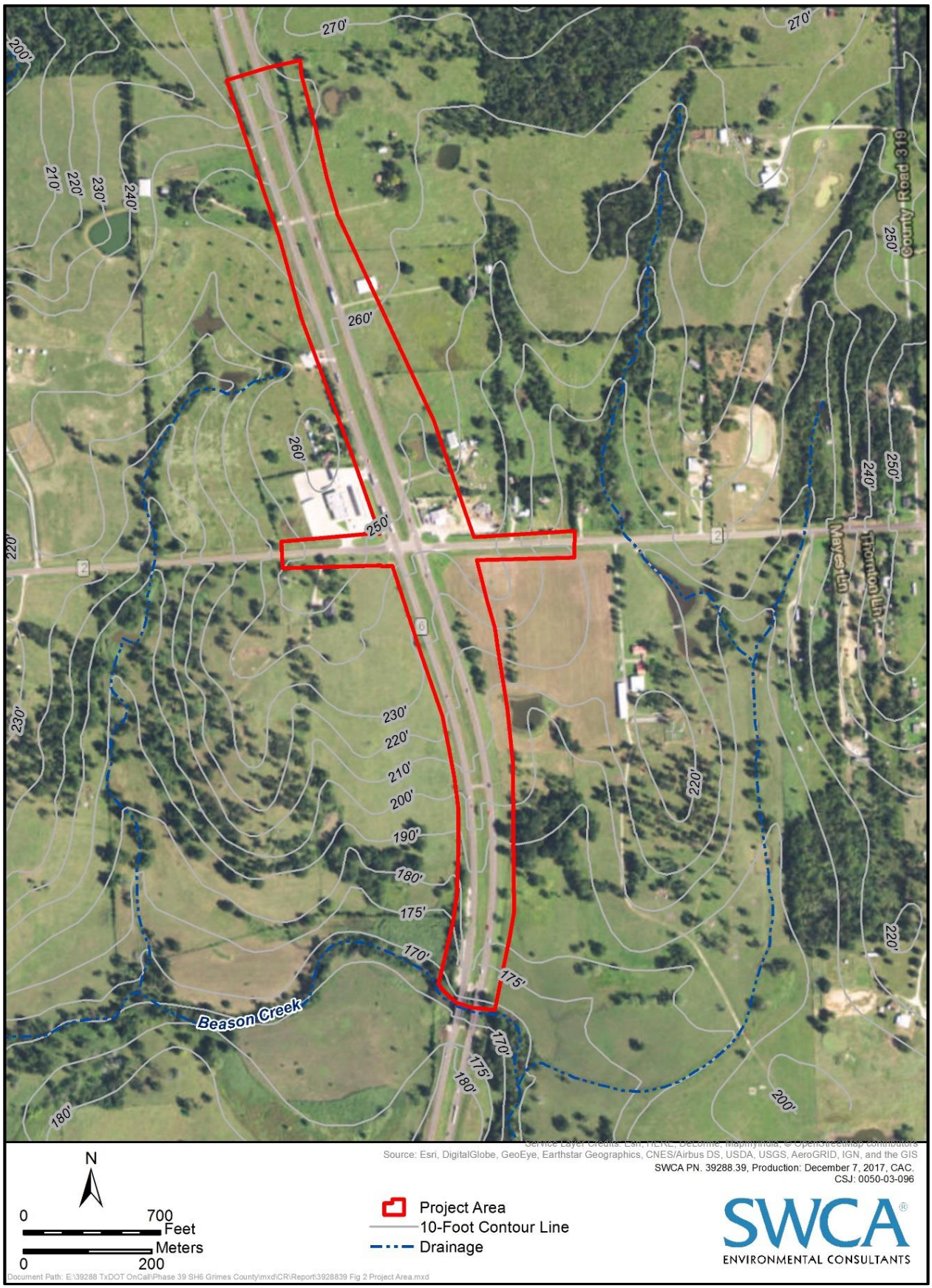

Figure 2. Project area map.

Project Area Ownership: The existing ROW is currently owned and managed by TxDOT. Proposed new ROW all along the eastern side of SH 6 consists of private property within Parcels 11764, 11789, 11807 (gas station), 11840 (outside APE per Fig 4), 11866, 11905 (outside APE per Fig 4), 11917, 11918, 11919, and 11920. Of these, ROE was available for Parcels 11789, 11905, and 11919 at the time of field investigations. The remaining APE within parcels without ROE is negligible and consists of heavily modified areas.

Project Setting

- **Topography:** The project area is on a broad, level surface within the Interior Coastal Plain (Wermund 2017). This area is characterized by parallel ridges (cuestas) and valleys with geologic strata derived from unconsolidated sands and muds tilted towards the Gulf of Mexico (Wermund 2017). The elevation varies from 300 feet (91.44 m) to 800 feet (243.84 m) above mean sea level.
- **Geology:** The surface geology for most of the APE is mapped as the Miocene-age Fleming formation, with a small portion of the project area in the floodplain of Beason Creek mapped as recent (Holocene) alluvium. The Fleming formation consists of clay and sandstone typically ±1,200 feet (305 m) thick (Barnes 1974). The alluvium and low terrace deposits are located along streams and consist of sand, silt, clay, and gravel with varying thickness (Barnes 1974).
- **Soils:** Seven different detailed soil mapping units are traversed by the APE according to the U.S. Department of Agriculture – Natural Resources Conservation Service (NRCS) Web Soil Survey (Table 1; Figure 3). These detailed soil map units fall within two larger general soil map units discussed below. The majority of the APE north of FM 2 is within the Frelsburg-Crockett-Brenham general soil map association unit. These soils are gently or moderately sloping, well and moderately drained, loamy and clayey soils underlain by alkaline, clayey, and loamy material of the Fleming Formation situated on rolling uplands and terraces that are dissected by drainage ways formed under prairie vegetation (Greenwade 1996; NRCS 2017). The portion of the APE immediately northeast and south of the SH 6 and FM 2 intersection to Beason Creek is within the Robco-Chazos-Axtell general soil association. These soils are gently to moderately sloping, moderately well drained, sandy and loamy soils formed in, and underlain by, acid to alkaline, loamy and clayey ancient alluvium on terraces along the Brazos and Navasota Rivers (Greenwade 1996; NRCS 2017).

Table 1. Soils Mapped within APE

Map Unit	Soils Description
AxC	Axtell fine sandy loam, 1 to 5 percent slopes
BrD	Brenham clay loam, 3 to 8 percent slopes
ChC	Chazos loamy fine sand, 1 to 5 percent slopes
FrC	Frelsburg clay, 1 to 5 percent slopes
LtD	Latium clay, 5 to 8 percent slopes
RoD	Robco loamy fine sand, 5 to 8 percent slopes
Tn	Tinn clay, 0 to 1 percent slopes, frequently flooded

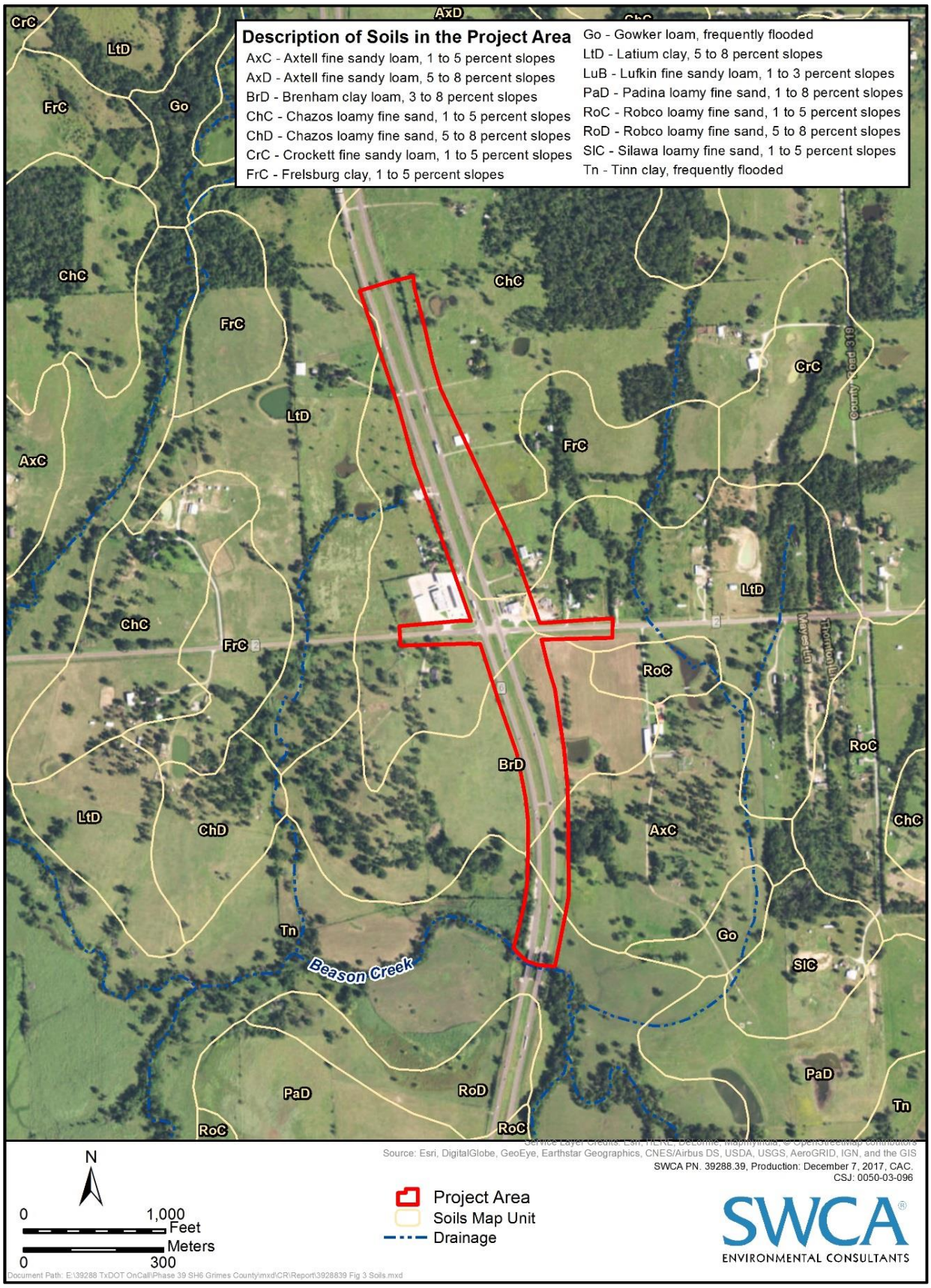

Figure 3. Project area soils.

- **Land Use:** Approximately 75 percent of the APE is situated within existing TxDOT ROW, with the remaining 25 percent within proposed new TxDOT ROW on private property. The APE is primarily surrounded and within open, rolling ranch lands with pastoral fields and sparsely scattered residences. The exception to this is the forested riparian margins along Beason Creek and its associated tributaries, as well as associated wetlands and bottomlands. Additionally, there is commercial and industrial development (i.e., gas station, metal scrap yard, and communications tower) within and immediately adjacent to the APE.
- **Vegetation:** Vegetation surrounding the project area is primarily open pastures with short, mixed grasses and scattered mixed hardwoods. The riparian zones along Beason Creek and its associated tributaries within the APE contain mixed hardwoods (oaks and elms), shrubs, and short grasses, as well as wetlands and bottomlands with associated vegetation.
- **Estimated Ground Surface Visibility:** 0 to 100 percent with a 30 percent average.
- **Previous Investigations and Known Archeological Sites:** A background literature review determined that the APE has not been previously surveyed for cultural resources and that no archeological sites are within the APE or within a 0.6-mile (1-km) radius of the APE (Texas Historical Commission [THC] 2017a). In addition, no cemeteries, National Register of Historic Places (NRHP) districts/properties, or historical markers are mapped within the APE or within a 0.6-mile (1-km) radius of the APE (THC 2017a). No historic-age buildings or structures were identified within the APE during a review of the TxDOT Historic Overlay Maps (Foster et al. 2006).
- **Comments on Project Setting:** The 1914 Navasota, Texas, 7.5-minute U.S. Geological Survey (USGS) topographic map shows the Houston and Central Texas Railroad within the APE, paralleling the original roadway along the eastern side.

Survey Methods

- **Surveyors:** Mercedes C. Cody and Mike Golden
- **Methodological Description:** SWCA Environmental Consultants (SWCA) conducted a pedestrian inspection across the entire APE within existing and proposed new ROW for which ROE was granted, representing approximately 35.0 acres (14.16 hectares) of the total 38.0 acres (15.38 hectares) (92.0 percent). Areas without ROE were examined from the accessible portions of the APE. One mechanical trench was excavated on the accessible portion of the northeast quadrant of Beason Creek within existing TxDOT ROW and 15 shovel tests were excavated within the remaining portions of the APE (Table 2).

Table 2. 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	7	8	0	1.25
Auger Test Units	0	0	0	0
Mechanical Trenching	1	0	0	0

- SWCA archeologists excavated 15 shovel tests across the surveyed areas of the APE. Shovel tests were approximately 30 centimeters (cm) in diameter and excavated in arbitrary 20-cm levels to 100+ cm below ground surface (cmbs), unless soil conditions or bedrock precluded obtaining such depth. Archeologists screened the matrix from each shovel test through ¼-inch mesh and plotted the location of each excavation using a hand-held global positioning system (GPS) unit. Each shovel test was recorded on a standardized form to document the excavations.
- One backhoe trench (BHT) was excavated within the Beason Creek floodplain. The trench location was chosen at the discretion of the project archeologist and focused on an accessible area with the least disturbance within the APE, as well as an area with possible alluvial deposits and the potential for deeply buried cultural materials. Archeologists thoroughly documented and photographed the entire excavation process. Upon completion of the individual trench, the BHT was backfilled, levelled, and returned as much as possible to its original state. In the case of cultural or potentially cultural materials identified within the trench, SWCA would have placed two stacked shovel tests vertically along the edge of the trench wall at the location of the identified material to further test for cultural material.
- **Other Methods:** None
- **Collection and Curation:** NO ☒ YES ☐ If yes, specify facility.
- **Comments on Methods:** The recommended THC/Council of Texas Archeologists survey standards for a project of this size (i.e., approximately 38.0 acres [15.38 hectares]) require one shovel test per 2 acres (0.8 hectares), or a minimum of 19 shovel tests for a project of this size (THC 2017b). The 15 tests, therefore, did not meet the survey standards, due to the extensive disturbances encountered within the existing ROW and, to a lesser degree, within the proposed ROW that precluded the presence of intact soils.

Survey Results

The project area setting is in largely undeveloped rural terrain with limited development within an upland and inland dissected coastal plain setting, sloping south toward Beason Creek. The APE is surrounded by and within open, rolling ranch lands with pastoral fields and sparsely scattered residences. The exception to this is the forested riparian margins along Beason Creek and its associated tributaries, as well as associated wetlands and bottomlands. Development in the area includes SH 6 and FM 2, as well as some commercial and industrial development within and immediately adjacent to the APE. Roughly 75 percent of the APE is situated within existing TxDOT ROW, with the remaining 25 percent within proposed new TxDOT ROW on private property.

SWCA archeologists conducted an intensive pedestrian survey supplemented with the excavation of shovel tests and one BHT across the entire APE within the existing ROW and 7.5 acres (3.0 hectares) of proposed new ROW for which ROE was granted (Figure 4). Areas without ROE were examined from the accessible portions of the APE.

The existing ROW has been heavily modified as a result of road construction, ditches, driveways, infrastructure, and buried and overhead utilities (Figures 5–9). For instance, an AT&T fiber optic line runs along the entire eastern existing ROW within the APE. In addition, adjacent commercial and industrial development, including a communications tower, gas station, and metal scrap yard, has heavily impact the existing ROW (Figures 10–12). No evidence of the historical railroad depicted on the 1914 Navasota USGS map was identified in the APE; the railroad was likely removed when the northbound SH 6 roadway was constructed.

The proposed new ROW has been modified by farming and ranching practices and infrastructure, including two-track roads, overhead utilities, buried waterlines, stock ponds, and fence lines (Figures 13 and 14). The proposed ROW has also been impacted by some commercial development, such as the metal scrap yard mentioned above located in the northeast quadrant of the FM 6 and SH 2 intersection (see Figure 12).

Surveyors excavated 15 shovel tests (MCC01–07 and MG01–08) within the APE in areas that warranted shovel testing and that were not heavily disturbed, such as the proposed new ROW for which ROE was granted (see Figure 4; Table 3). Shovel tests encountered brown silty and sandy loams along the uplands, dark gray clays along the bottomlands, and disturbed yellowish red mottled clays and fill within the existing ROW. All shovel tests were negative except for two shovel tests: MG 01 and MG04. Shovel test MG01 was excavated within existing ROW along the northeastern margin of the APE and encountered a single prehistoric tertiary flake fragment designated as Isolated Find 1 (IF01). Shovel test MG02 was excavated within Parcel 11789 along the eastern margin of the APE within proposed ROW located within the southeastern quadrant of the SH 6 and FM 2 intersection. The shovel test encountered multiple historic glass and nail fragments and was designated as Isolated Find 2 (IF02). The isolated finds (IFs) are further discussed in their respective sections below.

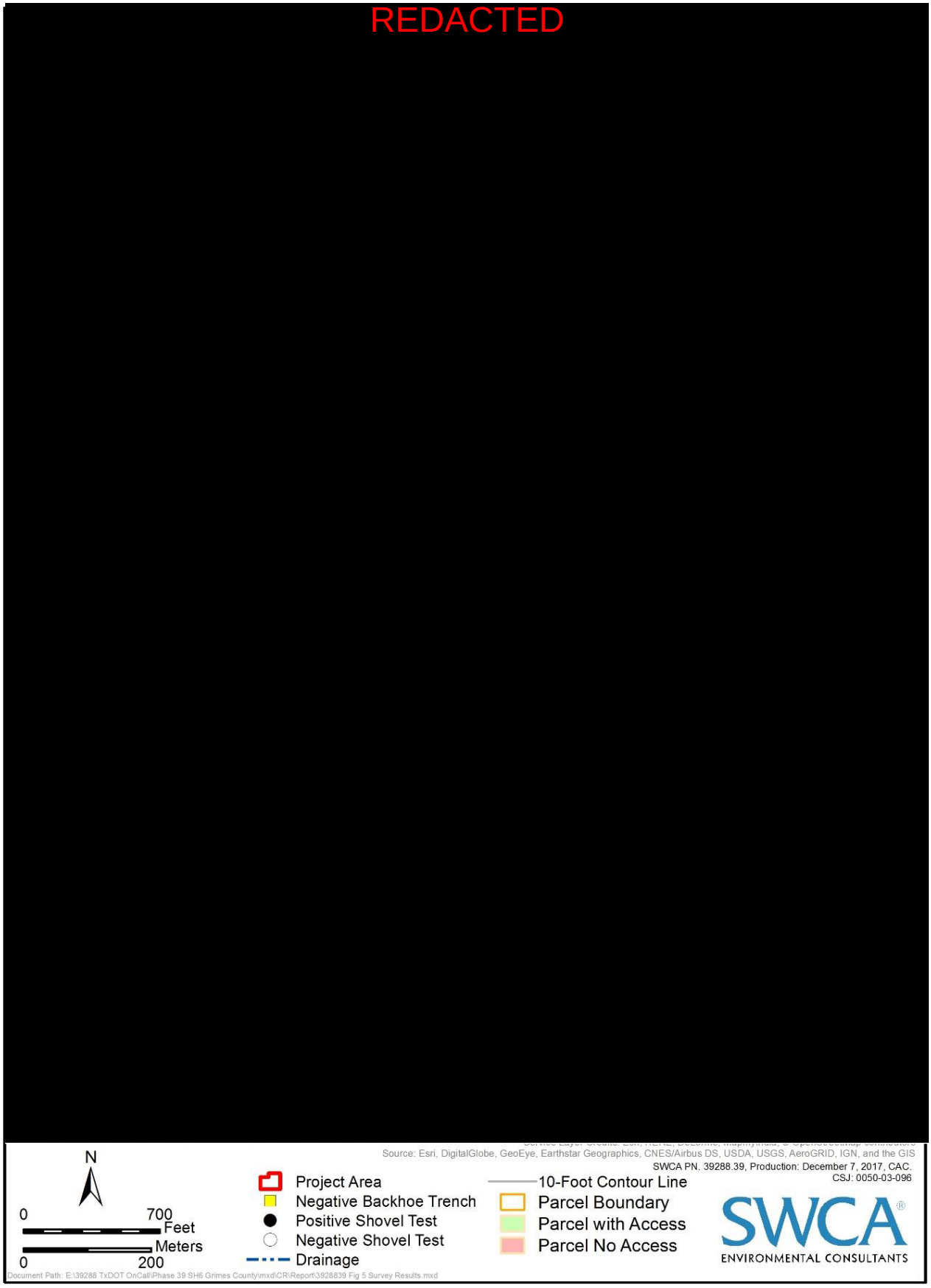

Figure 4. Survey results map.

Figure 5. Overview of APE within existing and proposed ROW northeast of SH 6 and FM 2 intersection, facing north. Note disturbances such as buried and overhead utilities.

Figure 6. Overview of APE within existing and proposed ROW southeast of SH 6 and FM 2 intersection from just north of Beason Creek, facing north. Note disturbances such as buried and overhead utilities and substantial fill section.

Figure 7. Overview of APE from near northern margin within existing ROW northwest of SH 6 and FM 2 intersection, facing south. Note disturbances such as buried and overhead utilities and ditches.

Figure 8. Overview of APE within existing ROW southwest of SH 6 and FM 2 intersection toward Beason Creek, facing south. Note disturbances such as buried and overhead utilities and ditches.

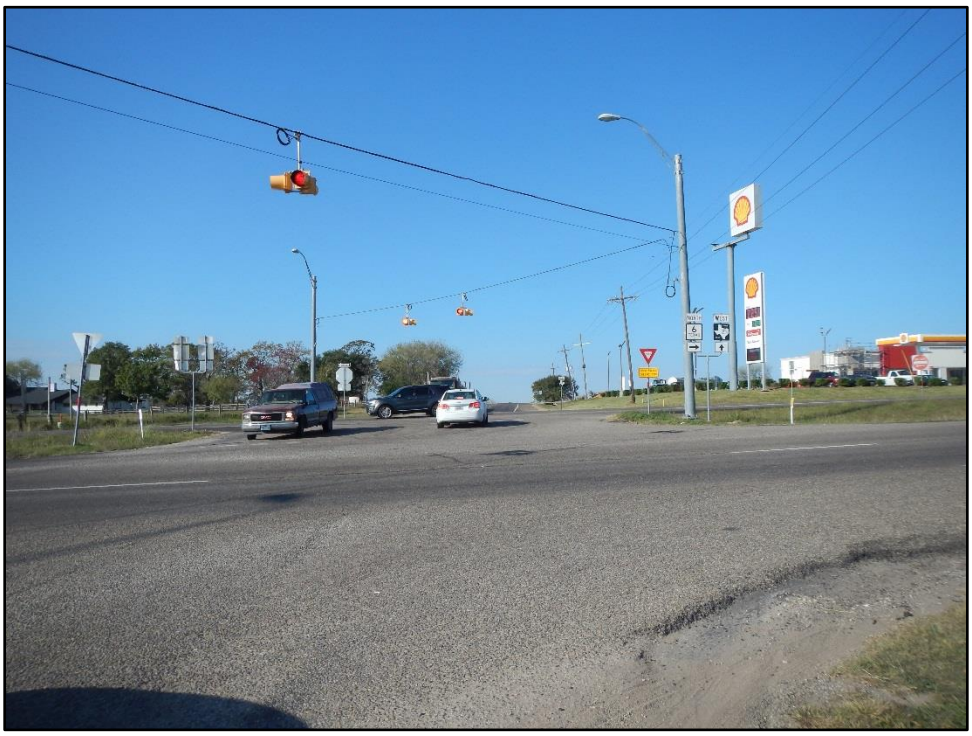

Figure 9. Overview of SH 6 and FM 2 intersection, facing west. Note extensive disturbances and modifications to the area.

Figure 10. Overview of communications tower immediately adjacent to existing ROW northwest of FM 6 and SH 2 intersection, facing south.

Figure 11. Overview of gas station immediately adjacent to existing ROW within northwest quadrant of the SH 6 and FM 2 intersection, facing south.

Figure 12. Overview of metal scrap yard within existing and proposed ROW at northeast quadrant of the SH 6 and FM 2 intersection, facing north.

Figure 13. Northern portion of Parcel 11789 (Double H Ranch) within southeast quadrant of SH 6 and FM 2 intersection, facing east. Note buried utilities consisting of an AT&T fiber optic line and a water line that extends onto property.

Figure 14. Overview of proposed ROW within Parcel 11789 (Double H Ranch), facing southeast. Note overhead utilities and stock pond.

Table 3. Shovel Test Data

Shovel Test No.	Site No.	Positive (P)/ Negative (N)	Level	Depth (cmbs)	Munsell	Color	Texture	Inclusions	Comments / Reason for Termination
MCC01	NA	N	1	0-45	10YR 4/3	brown	Silt Loam	1-5% Gravels	No cultural material encountered.
		N	2	45-50	10YR 4/3	brown	Clay	>20% Mottles	No cultural material encountered. Terminated at compact soil.
MCC02	NA	N	1	0-20	10YR 5/3	brown	Silt Loam	1-5% Asphalt, Gravels	No cultural material encountered. Terminated at disturbed fill.
MCC03	NA	N	1	0-10	10YR 4/2	dark grayish brown	Silty Clay	–	No cultural material encountered.
		N	2	10-25	7.5YR 6/8	reddish yellow	Clay	1-5% Gravels	No cultural material encountered. Terminated at compact soil.
MCC04	NA	N	1	0-40	10YR 4/1	dark gray	Clay	–	No cultural material encountered. Terminated at compact soil.
MCC05	NA	N	1	0-40	10YR 4/1	dark gray	Clay	–	No cultural material encountered. Terminated at compact soil.
MCC06	NA	N	1	0-40	10YR 4/1	dark gray	Clay	–	No cultural material encountered. Terminated at compact soil.
MCC07	NA	N	1	0-25	10YR 4/3	brown	Silt Loam	5-10% Gravels	No cultural material encountered. Terminated at compact soil.
MG01	NA	N	1	0-20	10YR 4/3	brown	Silt Loam	1-5% Gravels	No cultural material encountered.
		Y	2	20-40	10YR 4/3	brown	Clay	>20% Mottles	n=1: Flake (tertiary). Terminated at basal clay.
MG02	NA	N	1	0-20	5YR 4/6	yellowish red	Sandy Loam	5-10% Gravels	No cultural material encountered.
		N	2	20-40	5YR 5/6	yellowish red	Sandy Clay	>20% Mottles	No cultural material encountered. Terminated at basal clay.
MG03	NA	N	1	0-20	10YR 5/3	brown	Silt	1-5% Asphalt	No cultural material encountered. Terminated at disturbed fill.
MG04	IF02	Y	1	0-20	2.5YR 3/3	dark reddish brown	Clay Loam	1-5% Gravels	n=50: Glass, Metal
		Y	2	20-40	7.5YR 5/8	strong brown	Clay	>20% Gravels, Mottles	n=10: Glass. Terminated at compact soil.
MG05	NA	N	1	0-20	5YR 3/4	dark reddish brown	Clay	1-5% Pebbles	No cultural material encountered.
		N	2	20-40	5YR 5/4	reddish brown	Clay Loam	1-5% Pebbles	No cultural material encountered. Terminated at compact soil.
MG06	NA	N	1	0-20	7.5YR 3/4	dark brown	Clay	1-5% Snail Shell	No cultural material encountered.
		N	2	20-40	7.5YR 3/4	dark brown	Clay	1-5% Snail Shell	No cultural material encountered.
		N	3	0-40	7.5YR 3/4	dark brown	Clay	1-5% Snail Shell	No cultural material encountered. Terminated at compact soil.
MG07	NA	N	1	0-5	10YR 4/1	dark gray	Clay	–	No cultural material encountered. Terminated at water.
MG08	NA	N	1	0-20	5YR 4/3	reddish brown	Sandy Clay	>20% Gravels, Asphalt	No cultural material encountered. Terminated at road fill.

Backhoe Trenching

The portion of the APE slated for mechanical excavations was at Beason Creek along both the bridges (Figure 15). Both sides of the APE along Beason Creek are densely vegetated. The natural landform is a T_0 terrace and likely constitutes a forested wetland with long-term water saturation. SWCA excavated a single BHT within the project APE (see Figure 4). Additional trenches were originally planned, but ground conditions along Beason Creek precluded access due to existing bridge height, frequently flooded terrain, and wetland areas marked by stakes as an environmentally sensitive area, particularly under the southbound bridge (Figure 16). The area by the northbound bridge afforded one spot for a backhoe trench, BHT01, between the eastern side of the bridge and a buried AT&T fiber optic line situated slightly outside of the environmentally sensitive staked area (Figure 17). BHT01 was oriented north-south and measured 8.0 feet (2.44 m) long, 3.0 feet (91 cm) wide, and 5.12 feet (156 cm) deep. The natural stratigraphy in BHT01 consisted of two strata in profile and soils were moist from the frequently flooded terrain and surrounding wetland area (Table 4; Figure 18). The trench encountered thick, massive to blocky angular/subangular, black to dark gray clays. As indicated by the presence of calcium carbonate development, the bottom dark gray layer is likely a pre-Holocene unit.

Figure 15. Overview of side-by-side bridges along SH 6 over Beason Creek from Parcel 11789 (Double H Ranch) within proposed ROW, facing southwest.

Figure 16. Overview of frequently flooded terrain and wetland area staked as environmentally sensitive area mostly under southbound bridge, facing northwest.

Figure 17. Overview of BHT01 excavation between the eastern side of the bridge and a buried AT&T fiber optic line within the existing ROW, facing southwest.

Table 4. BHT Results

Trench Number	Depth (cmbs)	Munsell Value	Soil Color	Soil Texture	Consistency	Structure	Grade	Inclusion Type	Lower Boundary	Comments
BHT01	0-115	10YR 2/1	Black	Clay	Extra Firm	Massive to Blocky Angular	Strong	Roots/Rootlets (20%)	smooth and wavy	Negative for cultural material. Moist from frequently flooded terrain and surrounding wetland area.
	115-160	10YR 4/1	Dark Gray	Clay	Firm	Subangular blocky	Strong	Calcium Carbonate (10%), Very small white gravels (10%)	–	Negative for cultural material. Moist from frequently flooded terrain and surrounding wetland area. Lighter color with appearance of calcium carbonate.

Figure 18. BHT01 western profile.

Archeological Materials Identified: During the current investigation, SWCA encountered two cultural resources along the margin of the survey area. These two cultural resources consisted of a prehistoric isolated find (IF01) and an historic isolated find (IF02) further discussed below.

Isolated Finds (IFs)

IF01

IF01 consists of a single tertiary flake observed within shovel test MG01 located within existing ROW along the northeastern margin of the APE (see Figure 4 and Table 3). The IF consists of a single fine-grained chert tertiary flake fragment recovered between 20 and 40 cmbs (Figure 19). IF01 is situated on a hilltop that severely slopes down toward existing ROW ditch and roadway, and is immediately adjacent to the previously discussed buried AT&T fiber optic line (Figure 20). All shovel tests excavated south of the find were negative for cultural materials.

Figure 19. Single tertiary reduction flake observed within shovel test MG01 between 20 and 40 cmbs; designated as IF01.

Figure 20. Overview from IF01 at shovel test MG01 within existing ROW along northeastern margin of APE severely sloping down toward ditch and roadway, facing southeast.

IF02

IF02 consists of numerous historic glass fragments and two wire nails observed within shovel test MG04 within proposed ROW in Parcel 11764 (Double H Ranch) (see Figure 4 and Table 3). The cultural materials include colorless, amber, and one cobalt blue glass fragments, as well as two wire nails encountered between 0 and 40 cmbs within dark reddish-brown clay loam atop of mottled strong brown clay (Figure 21). IF02 is situated within Parcel 11789 proposed ROW along the eastern margin of the APE within the southeastern quadrant of the SH 6 and FM 2 intersection. The terrain slopes down from the find towards the bottomlands and stock pond on the property. All shovel tests excavated south of the find within the APE were negative for cultural materials. As previously discussed, a buried waterline is immediately adjacent to the find. The colorless glass and bottle manufacturing methods indicate a twentieth century (post-WW I) date, and the wire nails generally support this chronology. Figure 21 shows one machine-made bottle with a stippled base; stippling post-dates 1940.

Although nails indicate architectural elements, a review of historical maps and aerials does not depict a structure was present at this location during the period of time indicated by the material assemblage. The 1914 Navasota and 1958 Courtney USGS maps do not reveal structures within the APE, although the later map shows a structure approximately 100 to 150 feet (30 to 46 m) east of the APE. This is likely the same structure depicted on the 1936 General Highway Map of Grimes County, although the scale of this map precludes an accurate correlation. The high density of material is notable, since the surrounding shovel tests contained no cultural material. The distribution suggests the possibility of a localized dump.

Figure 21. Historic glass and wire nails recovered from shovel test MG04 between 0 and 40 cmbs; designated as IF02.

Figure 22. Overview of IF02 within shovel test MG04 upslope from shovel test MCC04 in Parcel 11789 (Double H Ranch) within southeastern quadrant of SH 6 and FM 2 intersection, facing northeast.

APE Integrity: The existing APE has been extensively modified by multiple developments that have left a low potential for intact deposits. Modern developments have increasingly encroached upon the area, and utilities associated with these are found throughout the existing APE. The proposed new ROW has variable integrity, but appears predominantly intact in the undeveloped areas south of FM 2; however, plowing has modified the upper portion of the pedogenic profile.

Recommendations

- **Cultural Resources Evaluations:** SWCA documented two IFs, one prehistoric (IF01) and one historic (IF02), along the margins of the SH 6 at FM 2 survey area. IFs are not eligible for the NRHP or for designation as a State Antiquities Landmark.
- **Comments on Evaluations:** None.
- **Further Work:** SWCA recommends a finding of "no historic properties affected" and no further archeological investigations. Cultural resources survey of the currently inaccessible parcels is not recommended due to the negligible and heavily modified areas involved.
- **Justification:** The available exposures, disturbances, shovel tests, and BHT afforded sufficient archeological data to assess the survey areas adequately. The background

review revealed no recorded sites or other known cultural resources concerns. The two IFs observed were along the margins of the survey area and did not extend farther into the APE, as evidenced by the immediately surrounding excavation of shovel tests and landform setting. The surface geology is pre-Holocene in age, and no aggradational settings with a potential for deep cultural deposits were identified. As per 36 CFR 800 and 13 Texas Administrative Code 26, SWCA has made a good faith effort to identify archeological resources within the APE.

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