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Cultural Resources Survey For The Fort Worth-Haslet-Trinity River Authority (FW-Haslet-Tra) Sewer Project

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CULTURAL RESOURCES SURVEY FOR THE FORT WORTH-HASLET-TRINITY RIVER AUTHORITY (FW-HASLET-TRA) SEWER PROJECT

Tarrant County, Texas

Final Report
February 2019

Texas Historical Commission
TAC Permit # 8524

Principal Investigator:
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aci Project No.: 05-18-040

Abstract

On August 30, and September 4 through 6, 2018, aci consulting conducted a cultural resources survey for the Fort Worth-Haslet-Trinity River Authority of Texas (FW-HASLET-TRA) Sewer Project in Tarrant County, Texas. The Area of Potential Effect (APE) for this project consists of the 50-foot Right-of-Way (ROW) for the proposed 1.24-mile sewer line, for a total of 7.53 acres (3.05 hectares) (Figures 1 and 2). The depth of impact is approximately 4 feet.

The project is the result of a three-way agreement between the City of Haslet, the City of Fort Worth, and the Trinity River Authority and will be funded through the City of Haslet, thus the project is conducted in compliance with the Texas Administrative Code (13 TAC 26.20[2]) as well as Section 106 of the National Historic Preservation Act of 1966, as amended. The work was completed under Texas Antiquities Code permit number 8524. The investigation consisted of an intensive pedestrian survey, shovel testing, and backhoe trenching. The investigation did not result in the location of any new archeological sites, historic structures, or additional historic properties. Based on these results, no further archeological work is recommended. Records from this investigation will be curated at the Texas Archeological Research Laboratory. Julie Shipp served as Principal Investigator.

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1.0 INTRODUCTION

On August 30, and September 4 through 6, 2018, aci consulting conducted a cultural resources survey for the Fort Worth-Haslet-Trinity River Authority of Texas (FW-HASLET-TRA) Sewer Project in Tarrant County, Texas. The Area of Potential Effect (APE) for this project consists of the 50-foot Right-of-Way (ROW) for the proposed 1.24-mile sewer line, for a total of 7.53 acres (3.05 hectares) (Figures 1 and 2). The depth of impact is approximately 4 feet.

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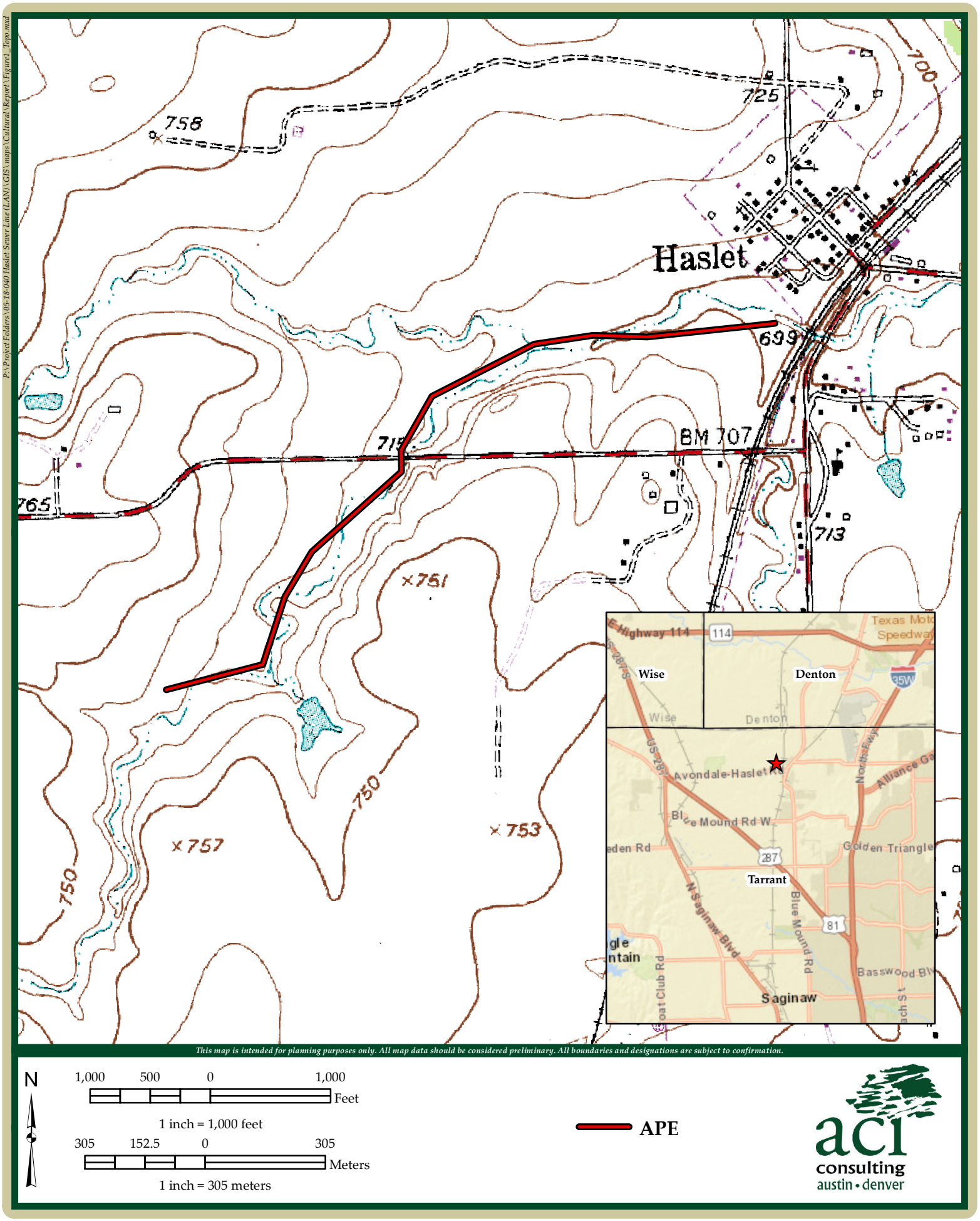

FW-HASLET- TRA Sewer Project **aci Project No.: 05-18-040**

Figure 1: APE on *Keller* USGS 7.5-minute Topographic Quadrangle **February 2019**

P:\ Project Folders \ 05-18-040 Haslet Sewer Line (LAN)\ GIS\ maps\ Cultural\ Report\ Figure2_Aerial.mxd

This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.

N

1,000 500 0 1,000 Feet

1 inch = 1,000 feet

305 152.5 0 305 Meters

1 inch = 305 meters

APE

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Figure 2: APE on Aerial Photograph Background **February 2019**

2.0 ENVIRONMENTAL SETTING

2.1 Physiography

The APE is located in central Texas within the Grand Prairie, which lies to the west of the Blackland Prairie and includes the Western Cross Timbers (Wermund 1995). The Grand Prairie north and west of Fort Worth is characterized by a plateaulike surface which is well exposed. Primarily sandstones underlie the western margin of the Grand Prairie, where post oak woods form the Western Cross Timbers. The elevation of the APE ranges from 690 feet above mean sea level (MSL) near the northern terminus to 720 feet above MSL towards the southern terminus.

2.2 Geology and Soils

The Bureau of Economic Geology classified the general surface geology of the APE as being primarily dominated by the Fort Worth Limestone and Duck Creek Formation, undivided (Kfd). This group is described by Barnes (1972) as: Fort Worth Limestone, limestone and clay. Ls aphanitic to biosparite, burrowed; marine megafossils are Pecten, oysters, echinoids, and ammonites. Clay, calcareous, in units 0.1-5 feet thick, forms low rolling hills. Thickness 25-35 feet. Duck Creek Ls., limestone and marl. ls med. bedded, nodular to wavy bedded; thickness 25-30 feet.

The Pawpaw Formation, Weno Limestone, and Denton Clay, undivided (Kpd) intersects the middle of the APE for less than 700 feet (less than 213 meters). This Early Cretaceous formation is described by Barnes (1972) as: Pawpaw--calcareous marl, near middle soft ledge-forming limestone bed, unit as a whole recessive; thickness as much as 10 feet, thins southward. Weno Limestone, some very thin marl interbeds, thin to medium bedded, white to grayish yellow, basal 2- to 4-feet-thick resistant ledge forms uplands; thickness 6-45 feet. Denton clay alternating clay, marl, and limestone. Thickness 6-25 feet thins southward.

Three soil series are mapped along the APE (Figure 3). The soils are mapped as Frio silty clay, Sanger clay, and Slidell clay (NRCS 2018). While Sanger and Slidell have been previously determined to have a low probability to contain archeological sites according to the Potential Archeological Liability Maps

(PALM) model created by TxDOT ENV for highway projects in the Fort Worth District, Frio soil series has been determined to have a very high probability (Abbott 2013). Frio silty clay is mapped as 71.5% of the APE.

- *Frio silty clay, frequently flooded (27)* - The Frio series consists of very deep, well drained, moderately slowly permeable soils that formed in calcareous loamy and clayey alluvium. These nearly level to very gently sloping soils occur on flood plains.
- *Sanger clay, 1 to 3 percent slopes (65)* - The Sanger series consists of very deep, well drained, very slowly permeable soils that formed in clayey marine sediments. These gently sloping to strongly sloping soils are on broad uplands.
- *Slidell clay, 1 to 3 percent slopes (74)* - The Sanger series consists of very deep, well drained, very slowly permeable soils that formed in clayey marine sediments. These gently sloping to strongly sloping soils are on broad uplands.

According to the Fort Worth Hybrid District Potential Archeological Liability Map (HPALM), the majority of the APE has very high potential for cultural resources (Figure 4) (Abbott 2011).

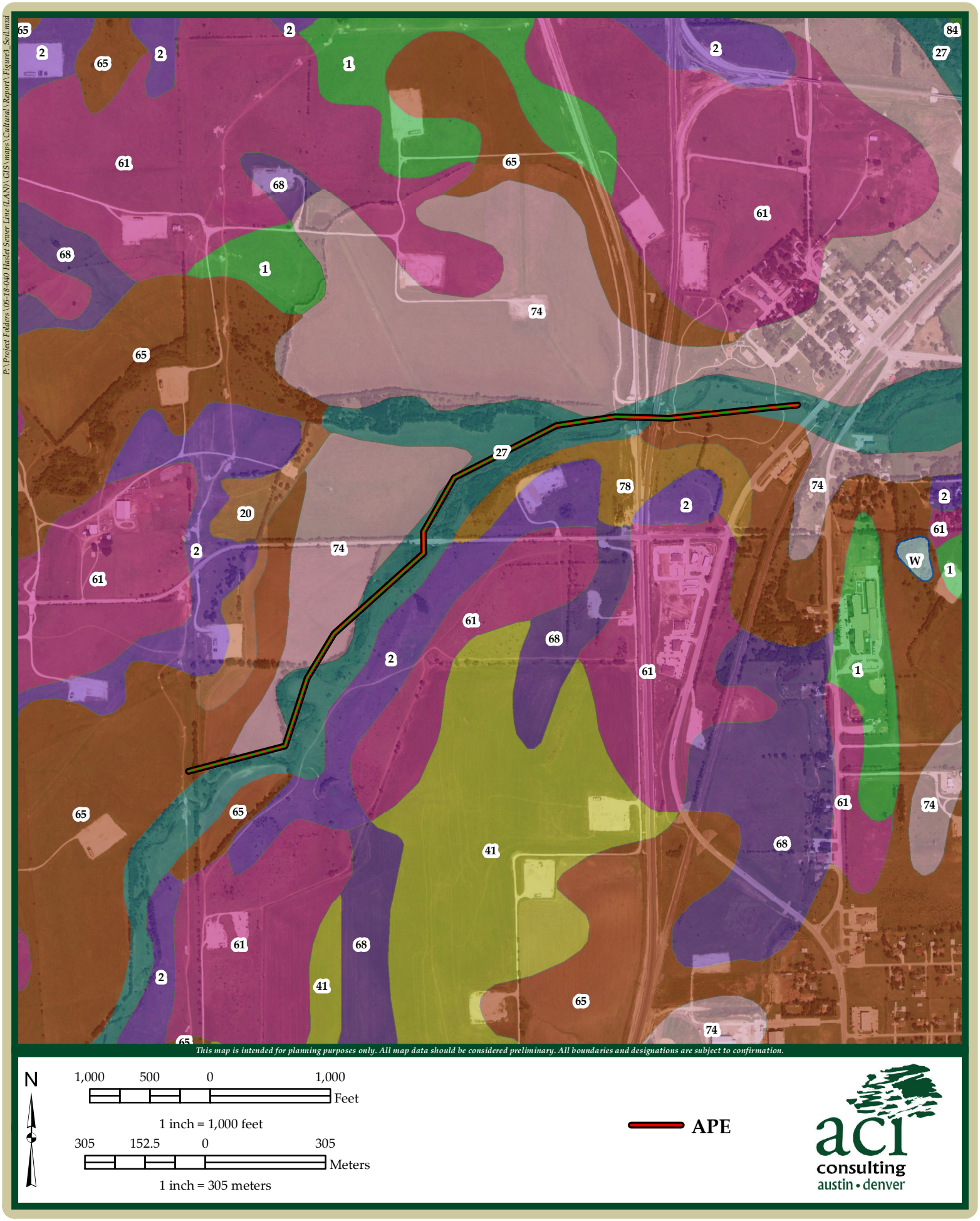

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Figure 3: APE Soils

February 2019

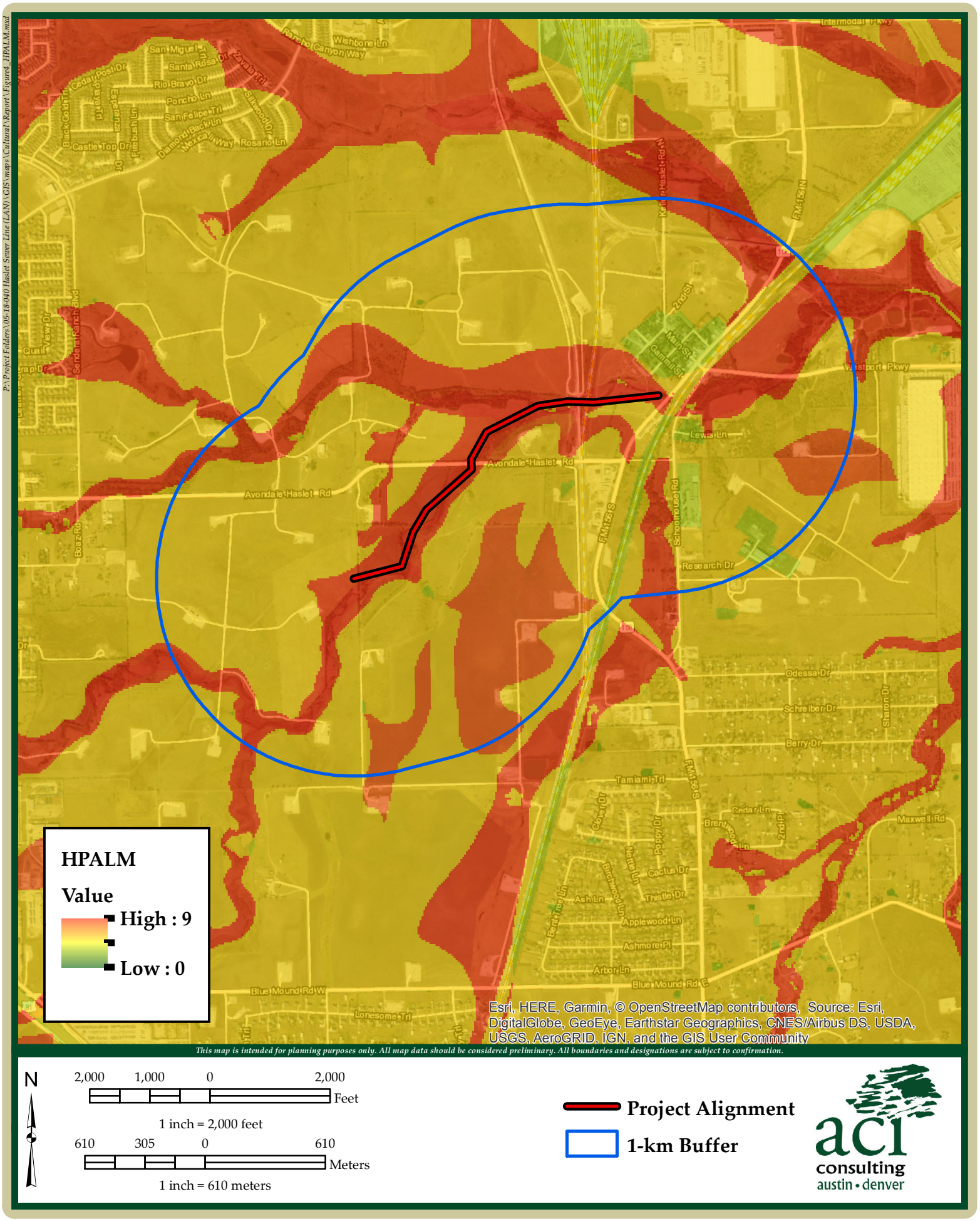

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Figure 4: Fort Worth District Hybrid Potential Archeology Liability Map (HPALM) **February 2019**

3.0 PREVIOUS INVESTIGATIONS

A literature review of the THC Archeological Sites Database (the Atlas) revealed that no previously recorded sites are within the APE nor within 1 kilometer of the APE (Figure 5). Furthermore, only one previously conducted survey intersects the APE. The survey was conducted in 2009 by URS for the City of Fort Worth and the Federal Aviation Administration for the Realignment of BNSF Railway and John Day Road, Alliance Airport Expansion Project (Turner-Pearson *et al* 2009). The survey only crosses the proposed APE for 36 meters (118 feet) parallel to the BNSF Railway. No cemeteries or historical markers are within the APE or 1 kilometer of the APE.

4.0 METHODS

4.1 Survey Method

An intensive pedestrian survey of the APE was conducted along the entire 1.24-mile (2-kilometer) alignment to locate any archeological sites or other historical properties that may be within the APE (see Figures 1 and 2). The majority of the proposed project lies within high probability area in Frio soils, which are likely to contain deeply buried archeological sites. Therefore, backhoe trenches were excavated along the stream in approximately 100 meter-intervals, in accessible areas with Frio soil. Ten backhoe trenches (BHT) were excavated along the unnamed tributaries to Henrietta Creek, supplemented by three shovel tests (Figure 6).

The backhoe trenches were approximately 15 feet (4.5 meters) long, 3 feet (1 meter) wide, and 5 feet (1.5 meters) deep. The trench walls were examined for the presence of cultural material, and a one-meter section of the wall was cleaned and profiled in detail. A 10-liter sample of each soil horizon was screened. The trenches and trench walls were photographed, and the location recorded on a Trimble GeoXT. A total of 10 BHTs were conducted, with terminating depths ranging from 80 to 120 centimeters below the surface (cmbs).

The remainder of the APE was pedestrian surveyed and augmented by shovel testing. Shovel tests were excavated in settings with potential for buried cultural horizons and/or if the ground surface visibility is less than 30 percent. The shovel tests were excavated at least 30 centimeters (cm) in diameter to the bottom of Holocene deposits, if possible. The shovel tests were dug in 10 cm levels, and the excavated sediments were screened through ¼-inch hardware cloth unless high clay or water content required the material be troweled through or sorted by hand. Shovel tests were recorded on logs and the locations of the tests will be recorded on a GIS unit. Other field forms include a daily journal, photograph log, and site forms.

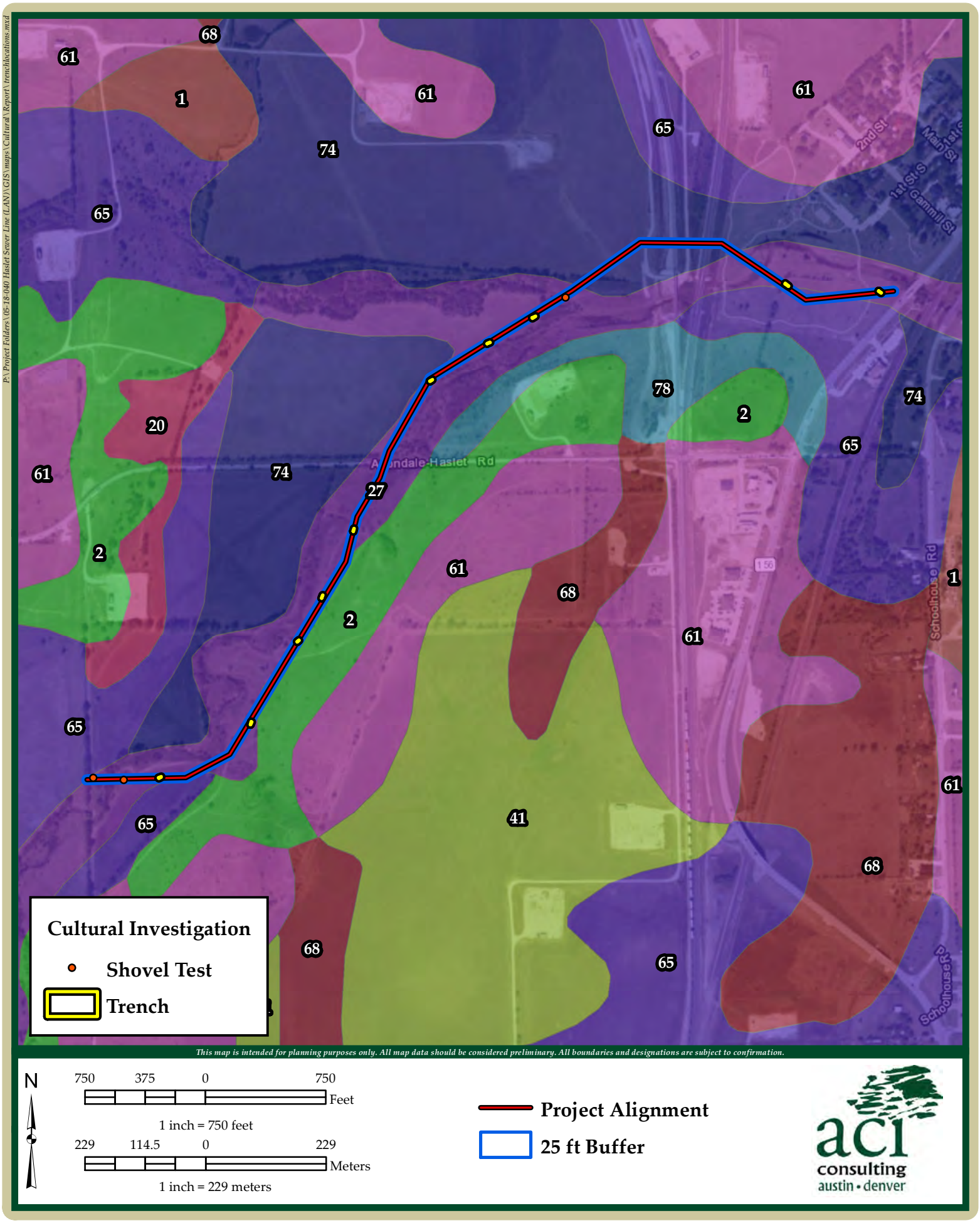

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Figure 6: Field Results **February 2019**

5.0 RESULTS OF INVESTIGATION

The survey was conducted under pleasant warm conditions in the mornings under a clear sky, with a slight breeze. No issues arose during the survey of the originally proposed APE.

5.1 Field Results

The APE runs generally from northeast to southwest following a tributary of Henrietta Creek. The northeast terminus begins in Haslet Community Park (Photo 1), then crosses BNSF railroad tracks (Photo 2) into ranchlands (Photo 3). As it continues southwest, the APE crosses Avondale Haslet Road (Photo 4) as it reaches ranchland (Photo 5), where it terminates (Photo 6). Survey of the APE began at the northeast terminus.

As seen on Figure 6, five trenches were placed north of Avondale Haslet Road (two within the park and three within ranchland) and five trenches were placed south of Avondale Haslet Road (all within ranch land). One shovel test was placed north of Avondale Haslet Road north of the tributary where a backhoe could not access (see Photo 5). Two more shovel tests were placed near the southern terminus (see Photo 6). All shovel tests were negative for cultural materials. The area around the BNSF railroad tracks were not surveyed subsurface as the land was highly disturbed due to railroad construction and maintenance and due to the negative previous survey of 2009. Ground visibility for the APE was generally low due to overgrown grass.

Photo 1. Overview APE and BHT within Haslet Community Park, facing southwest

Photo 2. Overview of APE and BNSF raised railroad tracks, facing southwest

Photo 3. Overview of APE in ranchland, facing southwest

Photo 4. Overview of APE crossing Avondale Haslet Road, facing west

Photo 5. Overview of APE in ranchland, facing southwest

Photo 6. Overview of APE southwest terminus, facing west

5.2 Trench Descriptions

Ten BHTs were excavated within Frio soil along the unnamed tributaries to Henrietta Creek. The BHTs were approximately 15 feet (4.5 meters) long, 3 feet (1 meter) wide, and 4-5 feet (1-1.5 meters) deep, which is the depth of impacts. The trench walls were examined for the presence of cultural material, and a one-meter section of the wall was cleaned and profiled in detail. A 10-liter sample of each soil horizon was screened. Each trench was photographed, and the location was recorded on a Trimble GeoXT (see Figure 6). Below are the soil profiles and photos of each BHT. No cultural material was located during exploratory trenching.

BHT 1

Zone	Depth (cmbs)	Description – Northeast Wall
I	0-70	10YR3/1 very dark gray clay loam; clear, smooth boundary; moderate fine structure; hard, firm; moderately sticky, moderately plastic; many fine, medium, few coarse roots; A horizon.
II	70-110	10YR 6/2 light brownish gray clay; boundary unknown; moderate medium and coarse prismatic structure; hard, firm; moderately sticky, moderately plastic; few fine, medium, and coarse roots; many fine films and threads and a few soft masses of calcium carbonate; Bk horizon.

BHT 2

Zone	Depth (cmbs)	Description – North Wall
I	0-30	10YR3/1 very dark gray clay loam; wavy boundary; moderate fine structure; hard, firm; moderately sticky, moderately plastic; many fine, medium, few coarse roots; A horizon.
II	30-100	10YR 6/2 light brownish gray clay; boundary unknown; coarse prismatic structure; hard, firm; moderately sticky, moderately plastic; few fine, medium, and coarse roots; many fine films and threads and a few soft masses of calcium carbonate; Bk horizon.

BHT 3

Zone	Depth (cmbs)	Description – North Wall
I	0-40	10YR2/1 very dark gray clay loam; wavy boundary; moderate fine structure; hard, firm; moderately sticky, moderately plastic; many fine, medium, few coarse roots; A1 horizon.
II	40-80	10YR 3/1 very dark gray clay; wavy boundary; moderate fine structure; hard, firm; moderately sticky, moderately plastic; many fine, medium, few coarse roots; A2 horizon.
III	80-120	10YR 6/2 light brownish gray clay; boundary unknown; coarse prismatic structure; hard, firm; moderately sticky, moderately plastic; few fine, medium, and coarse roots; many fine films and threads and a few soft masses of calcium carbonate; Bk horizon.

BHT 4

Zone	Depth (cmbs)	Description – North Wall
I	0-40	10YR3/1 very dark gray clay loam; wavy boundary; moderate fine structure; hard, firm; moderately sticky, moderately plastic; many fine, medium, few coarse roots; A1 horizon.
II	40-80	10YR 6/2 light brownish gray clay; wavy boundary; moderate fine structure; hard, firm; moderately sticky, moderately plastic; many fine, medium, few coarse roots; Bk1 horizon.
III	80-120	10YR 6/2 light brownish gray clay; 10YR3/3 common distinct mottles; boundary unknown; coarse prismatic structure; hard, firm; moderately sticky, moderately plastic; few fine, medium, and coarse roots; many fine films and threads and a few soft masses of calcium carbonate; Bk2 horizon.

BHT 5

Zone	Depth (cmbs)	Description – North Wall
I	0-60	10YR2/1 very dark gray clay loam; wavy boundary; moderate fine structure; hard, firm; moderately sticky, moderately plastic; many fine, medium, few coarse roots; A1 horizon.
II	60-90	10YR 3/1 very dark gray clay; wavy boundary; moderate fine structure; hard, firm; moderately sticky, moderately plastic; many fine, medium, few coarse roots; A2 horizon.
III	90-110	10YR 5/2 grayish brown silty clay; boundary unknown; moderate medium and coarse prismatic structure parting to weak coarse blocky; hard, firm; moderately sticky, moderately plastic; few fine, medium, and coarse roots; many fine films and threads and a few soft masses of calcium carbonate; Bk horizon.

BHT 6

Zone	Depth (cmbs)	Description – West Wall
I	0-80	10YR2/1 very dark gray clay loam; wavy boundary; moderate fine structure; hard, firm; moderately sticky, moderately plastic; many fine, medium, few coarse roots; A horizon.
II	80-100	10YR 5/2 grayish brown silty clay; boundary unknown; moderate medium and coarse prismatic structure parting to weak coarse blocky; hard, firm; moderately sticky, moderately plastic; few fine, medium, and coarse roots; many fine films and threads and a few soft masses of calcium carbonate; Bk horizon.

BHT 7

Zone	Depth (cmbs)	Description – East Wall
I	0-40	10YR2/1 very dark gray clay loam; wavy boundary; moderate fine structure; hard, firm; moderately sticky, moderately plastic; many fine, medium, few coarse roots; A1 horizon.
II	40-70	10YR 4/2 dark grayish brown clay loam; moderate medium and coarse subangular blocky structure parting to moderate fine subangular blocky; hard, firm; moderately sticky, moderately plastic; many fine, medium, and few coarse roots; moderately alkaline; clear smooth boundary; A2 horizon.
III	70-120	10YR 6/2 light brownish gray clay; boundary unknown; coarse prismatic structure; hard, firm; moderately sticky, moderately plastic; few fine, medium, and coarse roots; many fine films and threads and a few soft masses of calcium carbonate; Bk horizon.

BHT 8

Zone	Depth (cmbs)	Description – West Wall
I	0-80	10YR2/1 very dark gray clay loam; wavy boundary; moderate fine structure; hard, firm; moderately sticky, moderately plastic; many fine, medium, few coarse roots; A1 horizon.
II	80-150	10YR 6/2 light brownish gray clay; boundary unknown; moderate medium and coarse prismatic structure; hard, firm; moderately sticky, moderately plastic; few fine, medium, and coarse roots; many fine films and threads and a few soft masses of calcium carbonate; Bk horizon.

BHT 9

Zone	Depth (cmbs)	Description – Northwest Wall
I	0-40	10YR3/1 very dark gray clay loam; wavy boundary; moderate fine structure; hard, firm; moderately sticky, moderately plastic; many fine, medium, few coarse roots; A1 horizon.
II	40-70	10YR 4/2 dark grayish brown clay loam; moderate medium and coarse subangular blocky structure parting to moderate fine subangular blocky; hard, firm; moderately sticky, moderately plastic; many fine, medium, and few coarse roots; moderately alkaline; clear smooth boundary; A2 horizon.
III	70-120	10YR 6/2 light brownish gray clay; 10YR3/3 common distinct mottles; boundary unknown; coarse prismatic structure; hard, firm; moderately sticky, moderately plastic; few fine, medium, and coarse roots; many fine films and threads and a few soft masses of calcium carbonate; Bk2 horizon.

BHT 10

Zone	Depth (cmbs)	Description
I	0-80	10YR3/1 very dark gray clay loam; clear, smooth boundary; moderate fine structure; hard, firm; moderately sticky, moderately plastic; many fine, medium, few coarse roots; A horizon.
II	80-120	10YR 6/2 light brownish gray clay; boundary unknown; moderate medium and coarse prismatic structure; hard, firm; moderately sticky, moderately plastic; few fine, medium, and coarse roots; many fine films and threads and a few soft masses of calcium carbonate; Bk horizon.

6.0 CONCLUSIONS AND RECOMMENDATIONS

On August 30, and September 4 through 6, 2018, aci consulting conducted a cultural resources survey for the FW-HASLET-TRA Sewer Project in Tarrant County, Texas. The APE for this project consists of the 50-foot ROW for the proposed 1.24-mile sewer line, for a total of 7.53 acres (3.05 hectares) (see Figures 1 and 2).

The investigation consisted of a pedestrian survey with backhoe trenching augmented by shovel testing and did not result in the location of new or previously recorded archeological sites, nor any other historic properties. Based on these results, no further archeological work is recommended. It must be noted that no level of survey intensity can be guaranteed to locate all cultural features within a project area. Therefore, should previously-unrecorded cultural resources, including human remains, be discovered during the course of construction for this project, the City of Haslet will contact a qualified professional archeologist to assess the findings.

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