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AN ARCHAEOLOGICAL SURVEY FOR THE CITY OF WINTERS WATER IMPROVEMENTS PROJECT IN RUNNELS COUNTY, TEXAS

Antiquities Permit 7381

By

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Principal Investigator

Brazos Valley Research Associates

Contract Report Number 273

2015

AN ARCHAEOLOGICAL SURVEY FOR THE CITY OF WINTERS

WATER SUPPLY IMPROVEMENTS PROJECT

IN RUNNELS COUNTY, TEXAS

BVRA Project Number 15-07

Prepared for

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ABSTRACT

An archaeological survey of the site of the proposed water supply improvement project in north-central Runnels County, Texas was performed by Brazos Valley Research Associates (BVRA) on August 14 and 15, 2015 under Antiquities Permit 7381 issued by the Texas Historical Commission (THC). This survey examined five areas where water wells are proposed, one proposed ground storage tank site, and segments of proposed transmission lines that connect with the above mentioned improvements. These lines cross Antelope Creek in two places. The total number of acres is 17.71. The field methods included a 100% pedestrian survey and shovel testing. No evidence of a prehistoric or historic site was observed. Antelope Creek is the only major water source in the area surveyed and it is an intermittent stream that probably only contained water following rains and would not have been a likely setting for a prehistoric camp. Most of the soils are heavy clay at the surface and that negates the possibilty of buried deposits. It is recommended that the City of Winters be allowed to proceed with construction as planned. Copies of the report will be housed at the THC, Texas Archeological Research Laboratory (TARL), Texas State Library, City of Winters, Enprotec/Hibbs & Todd, regional libraries, and BVRA.

ACKNOWLEDGMENTS

I am appreciative of the assistance provided by others during this project. Jesse Todd conducted the field survey and was the Project Archaeologist. Becky Crowe of Enprotec/Hibbs & Todd provided project area maps and served as my link with the client. Shelly Antilley Guevara signed the permit application and was our contact with the City of Winters. Lili G. Lyddon prepared the figures that appear in this report and edited the manuscript.

CONTENTS

INTRODUCTION

The City of Winters proposes to supplement their raw water supply with groundwater by installing five water wells, one ground storage tank, and 15,048 feet of transmission lines in Runnels County, Texas (Figure 1). The entire tract is located in an upland setting of about 1862 feet above mean sea level. The major source of water that would have been available in the prehistoric past is Antelope Creek, an intermittent stream that runs from north to south and is dry much of the year. There are no cemeteries and standing structures in or near the Area of Potential Effect and not one is related to the existing wastewater treatment plant. Funding for this project will be provided by the Texas Water Development Board Drinking Water State Revolving Fund loan program. Figure 2 depicts the project area on the USGS 7.5' topographic quadrangle Winters (3199-333).

The actual location of the wells and storage tank is not known at this time. A large footprint for each one has been created to allow movement within these areas for the final well placement. In all, there are five tracts that are referred to in this report as areas A through E (Figure 2). Area A is 2.29 acres in size and will contain one well if drilling is successful. This area is north of Ranch Road 1770 and is on the west bank of Antelope Creek. Area B is slightly more than 4.5 acres in size and will contain one well if drilling is successful. This area is north of Ranch Road 1770 and is on the east bank of Antelope Creek. Area C is 2.209 acres in size and will contain one well if drilling is successful. This area is north of Ranch Road 1770 and is on the west bank of Antelope Creek. Area D is 0.588 acres in size and will contain one well if drilling is successful. This area is south of Ranch Road 1770 in a cultivated field about .26 kilometers due east of Antelope Creek. Area E is 1.885 acres in size and will contain a ground storage tank. This area is on the north side of Ranch Road 1770 in a wooded area adjacent to the highway.

Most of the transmission line will be constructed in the right-of-way of Ranch Road 1770 and County Road 170. The remainder will traverse cross country and connect with the proposed wells and storage tank. Two segments will cross Antelope Creek from east to west and connect with the proposed wells at Area A and Area C.

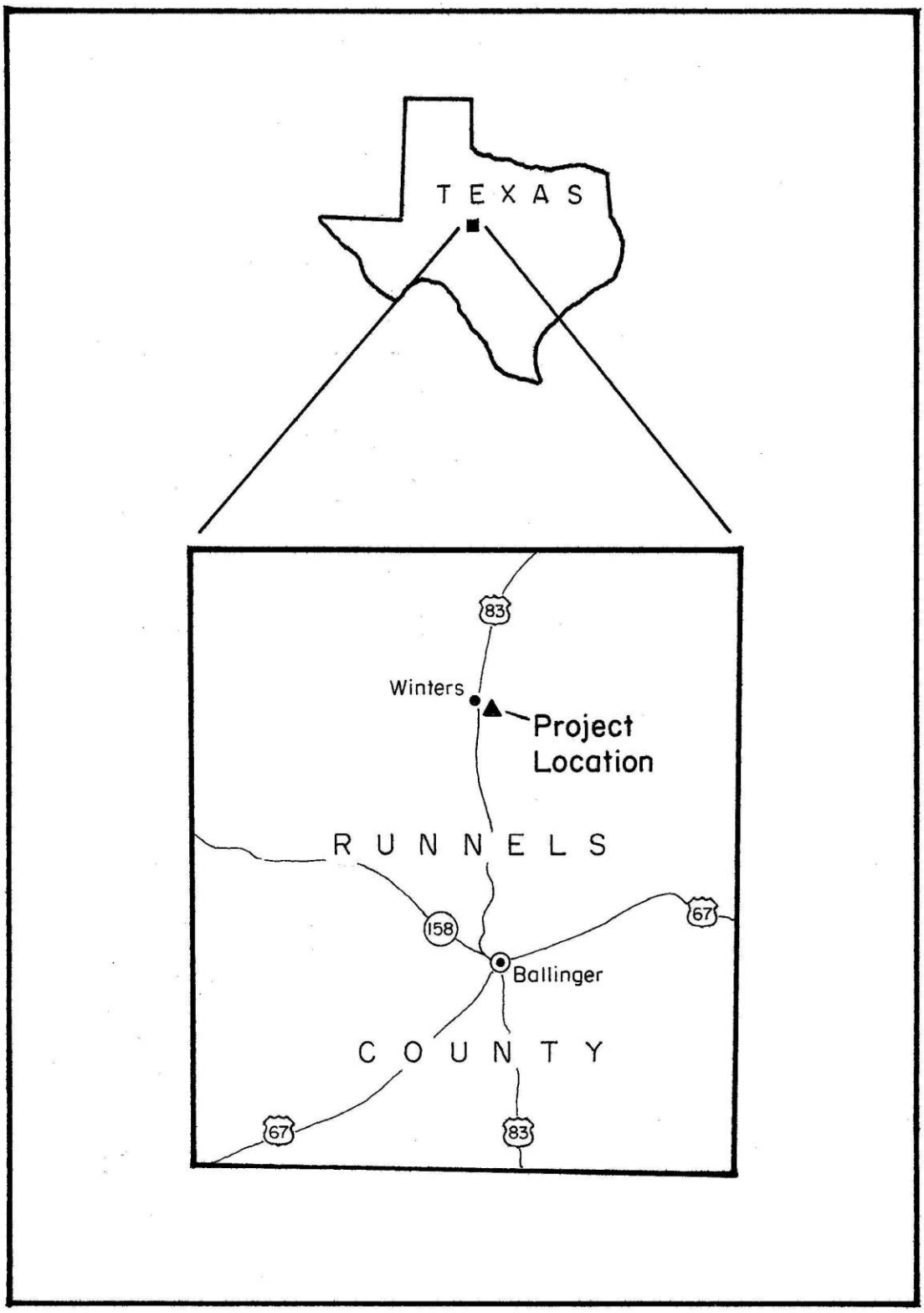

Figure 1. General Location of Project Area

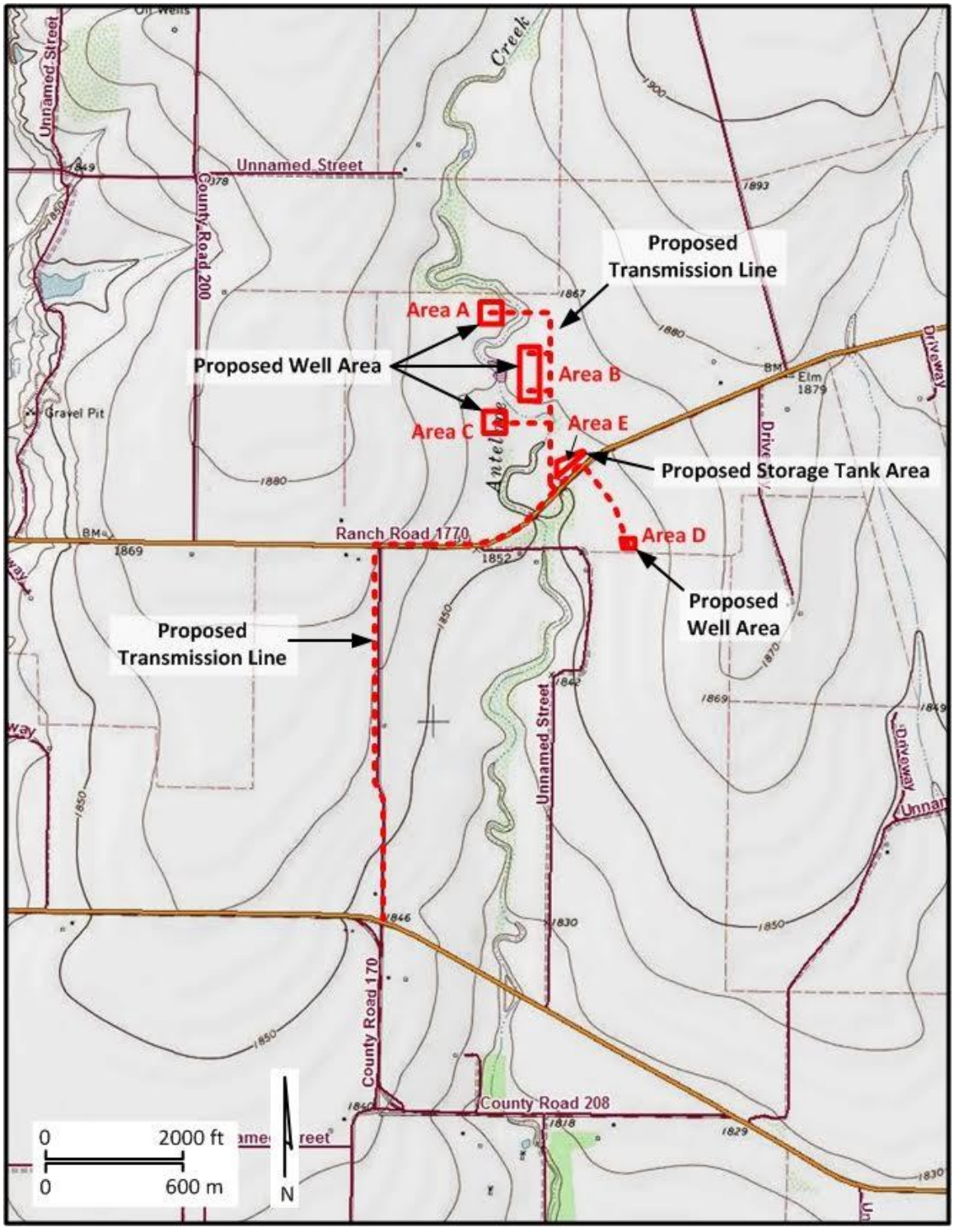

Figure 2. Project Area on Topographic Quadrangle Winters

ENVIRONMENT

In Perttula's "Introduction to Texas Prehistoric Archeology," he places the project area in the Rolling Plains physiographic zone (Perttula 2004:Figure 1.2) and the Warm Temperate Grassland vegetation habitat of Texas (Perttula 2004:Figure 1.3). The soil survey for Runnels County (Wiedenfield et al. 1970) describes the terrain as nearly level to gently sloping. In the northeastern part of the county there are a few steep limestone hills but about 40% of the county has slopes of less than one foot fall in every one hundred feet. The nearly level land in the area is some of the best farmland in the county. Areas with steeper slopes are suitable for farming but erosion control is needed. About 27% of the county is too steep, too shallow, or too sandy for crops. In about 71% of the total acreage of the county, the soils developed in plains outwash or very old alluvium. Seventeen percent developed in limestone and lesser amounts developed in recent steam alluvium (7%), red marine clay, sandstone, conglomerate, or a combinaton of these materials (5%). On about 65% of the acreage, the soils are more than 20 inches deep; on 19% they are between 10 and 20 inches deep; and on 16% they are less than 10 inches deep. On about 81% of the acreage, the surface layer is loamy; on about 18% it is clay or clay with silt; and on 1% it is sandy. On about 86% of the acreage, the soils are calcareous throughout. The climate in the area is defined as subtropical-subhumid. Temperatures vary from an average of 44° F to 69 ° F. in January and 75° to 100° F. in July. The averge annual temperature is 74° F.. Rainfall averages 19 inches annually and the growing season is long at 295 days (Alvarez 2004).

According to the soil survey for Runnels County (Wiedenfield et al. 1970), the APE is in areas containing soils from the Rowena series, Spur series, and Colorado series. Specific soils are described as Colorado and Yahola soils (Cy), Rowena and Tobasa soils, 0 to 1 percent slopes (RtA), and Spur loam (Sp). The Cy soils are described by Wiedenfield et al. (1970:9) as 80% Colorado loam and 20% Yahola fine sandy loam. They occur as long narrow strips along all of the major streams in the county, especially the Colorado River. The mapping for these soils included the channels of small intermittent streams such as Antelope Creek. Rta soils are described by Wiedenfield et al. (1970:21-22) as smooth scattered areas throughout the outwash plain. These soils have high clay content that is often present on the surface. Sp soils are described by Wiedenfield et al. (1970:23) as occuring as long narrow areas on the higher parts of the floodplain. Most areas within this soil type are level with some gentle slopes along filled in stream channels. The predominant soil series are the Rowena with heavy clay loam (10YR 4/2) to 18 inches, Spur (7.5YR 4/2 over 7.5YR 4/4) with loam to 32 inches, and Tobosa (10YR4/2 over (10YR5/2) with clay to 50 inches.

Figure 3. Soils in the Project Area

ARCHAEOLOGICAL BACKGROUND

According to a statistical overview of prehistoric sites in Texas (Biesaart, et al. 1985:Figure 15), Runnnels County is located in the Lower Plains Cultural-geographical region of Texas. It is a border county being next to the North Central Texas and Central Texas cultural-geographical regions and there were probably shared cultural traits among these three areas. In 1985, there were 1302 recorded sites in the region (6.44% of the state). This region encompassed 37 counties.

According to Perttula (personal communication), the current project area probably belongs to the West-Central Texas Region as illustrated in his book entitled *The Prehistory of Texas* (Perttula 2004:Figure 1.1). Perttula (2004:Figure 1.4) selected the McLean site (41TA29) as the only important Paleoindian site in this region.(2004:Figure 1.4). E. B. Sayles recorded this site in 1930. In his discussion of recent archaeological investigations in the Abilene section, he mentions this site as a place where several Folsom points were found in a deeply eroded dry gully. No sites dating to the Archaic or Late Prehistoric were selected as significant for this region. Much of this region is not well known in terms of its prehistoric past. The southern part of the West-Central Texas Region is included in the Blowout Mountain Phase that dates to the Late Prehistoric, preceeding the Toyah Phase (Perttula 2004:Figure 1.7) and the southern boundary represents the northen limits of the Toyah Cultural Area that dates to the Late Prehistoric (Perttula 2004:Figure 1.7).

In Runnels County, there were 165 known prehistoric sites (12.69% of the region and 0.82% of the state). Two sites were classified as Paleoindian, 4 as Early Archaic, 14 as Middle Archaic, 21 as Late Archaic, 14 as General Archaic, and 10 as Late Prehistoric. Today, there are 276 recorded sites in the county, and this figure includes sites classified as prehistoric, historic, and multi-component. At the time the overview was compiled, one sites had been designated as a State Archeological Landmark. No sites were listed in the National Register of Historic Places. Types of sites and features included hearths (n=65), burned rock middens (n=18), unspecified burned rock features (n=30), sites in midden soil (n=1), sites with stone work (n=1), sites with burials (n=1), quarry sites (n=35), and stone tool manufacturing sites (n=30). Disturbance was recognized as a major factor in evaluating site condition. Erosion was the major form of disturbance at 159 sites, followed by “disturbed construction disturbance at 31 sites. Other noted forms of disturbance included deflated (n=15), dispersed (n=67), vandalized through digging (n=8), and surface collected by non-professionals (n=118).

A review of the Texas Archeological Sites Atlas revealed that no surveys have been conducted on Antelope Creek and no sites recorded anywhere along this drainage. Antelope Creek is a tributary of Elm Creek, a much larger perennial stream to the east, that is a tributary of the Colorado River. The nearest recorded sites are to the east and west and were found as the result of reservoir construction on larger streams.

To the west, sites 41RN173 and 41RN174 were found by archaeologists working for the Texas Department of Water Resources in 1981. The purpose of the survey was to examine a proposed alternate location of a wastewater treatment facility for the City of Winters (Jurgens 1981). This project followed testing of prehistoric site 41RN101 as recommended by W. Hayden Whitsett (1979) who located the site durng a reconnaisance survey. Eddie Guffee (1979) of the Llano Estacado Museum conducted the testing and found the site not to be significant.

Jurgens conducted a survey on May 13, 1981 and examined 25 acres between Bluff Creek and a relict channel scar. Site 41RN173 was found on a slight rise between two shallow washes. Jurgens described it as a small scatter of lithic debitage and thermally altered chert. Cultural materials appeared to be restricted to the surface and Jurgens considered the site to represent an area of short term occupation. Site 41RN174 was found on a low, levee-like terrace remnant between two relict channel scars on the east side of Bluff Creek. Artifacts were restricted to the surface and consisted of debitage, a bipolar pebble core, and thermally altered chert cobble cores. Jurgens believes the site dates to sometime during the Late Archaic because of it proximity to site 41RN101 where a Castroville-like point was found. Both sites were not considered to contain significant research potential due to the shallow nature of deposits and past disturbance.

The nearest large scale survey to the project area (3.28 km) was conducted by archaeologists from Southern Methodist University (SMU) in the Elm Creek watershed (Lynott 1978). The purpose of this project was to locate, record, and evaluate cultural resources that will be affected by construction of the ten proposed floodwater retarding structures in Runnels and Taylor counties. This project examined areas scattered about the counties and recorded 108 prehistoric and historic sites. Twenty-nine sites were found in the area nearest the APE.

METHODS

Prior to entering the field, the site records at TARL and the Texas Archeological Sites Atlas were checked for the presence of previously recorded sites and other archaeological surveys in the project area and vicinity. Relevant archaeological reports documenting work in Runnels County were reviewed in order to become familiar with the types of prehistoric and historic sites found in the area. Contract reports and articles by Guffee 1979, Jurgens 1981, Lynott 1978, Ray 1930, and Whitsett 1979 were among those reviewed prior to this study. Major works such as Perttula's (2004) The *Prehistory of Texas* were also examined.

The field methods included a 100% surface inspection and shovel testing at high probability areas. The soils were too hard for normal screening. Therefore, clumps of clay were broken apart by hand and examined for cultural materials. The profile of each test was visually examined as well. The shovel test data were entered onto a shovel test log (Appendix I) and digital photography (Appendix II) was used to capture the various areas and features of the project area. Shovel test locations were plotted on a sketch map and documented with a hand-held GPS. Changes in soil texture and color were noted and a Munsell chart was used to consistently document the color. The daily activities were documented in a field notebook.

The Project Archaeologist began on August 14, 2015 and he was accompanied by Becky Crowe (Project Manager for Enprotec/Hibbs & Todd, Inc.) who was present for a portion of the day. The survey began at the intersection of County Road 170 and Farm-to-Market Road 153 and ended at Area D. Shovel testing was carried out at the first creek crossing, along the transmission line to Area D, and within the footprint of Area D. On the second day, the footprint for the proposed ground storage tank (Area E), the main transmission line, the three remaining well sites (areas A-C), and the secondary lines that connect them to the main transmission line were examined. This portion of the survey also involved two creek crossings. Fourty-seven shovel tests were dug throughout the APE (Figure 4).

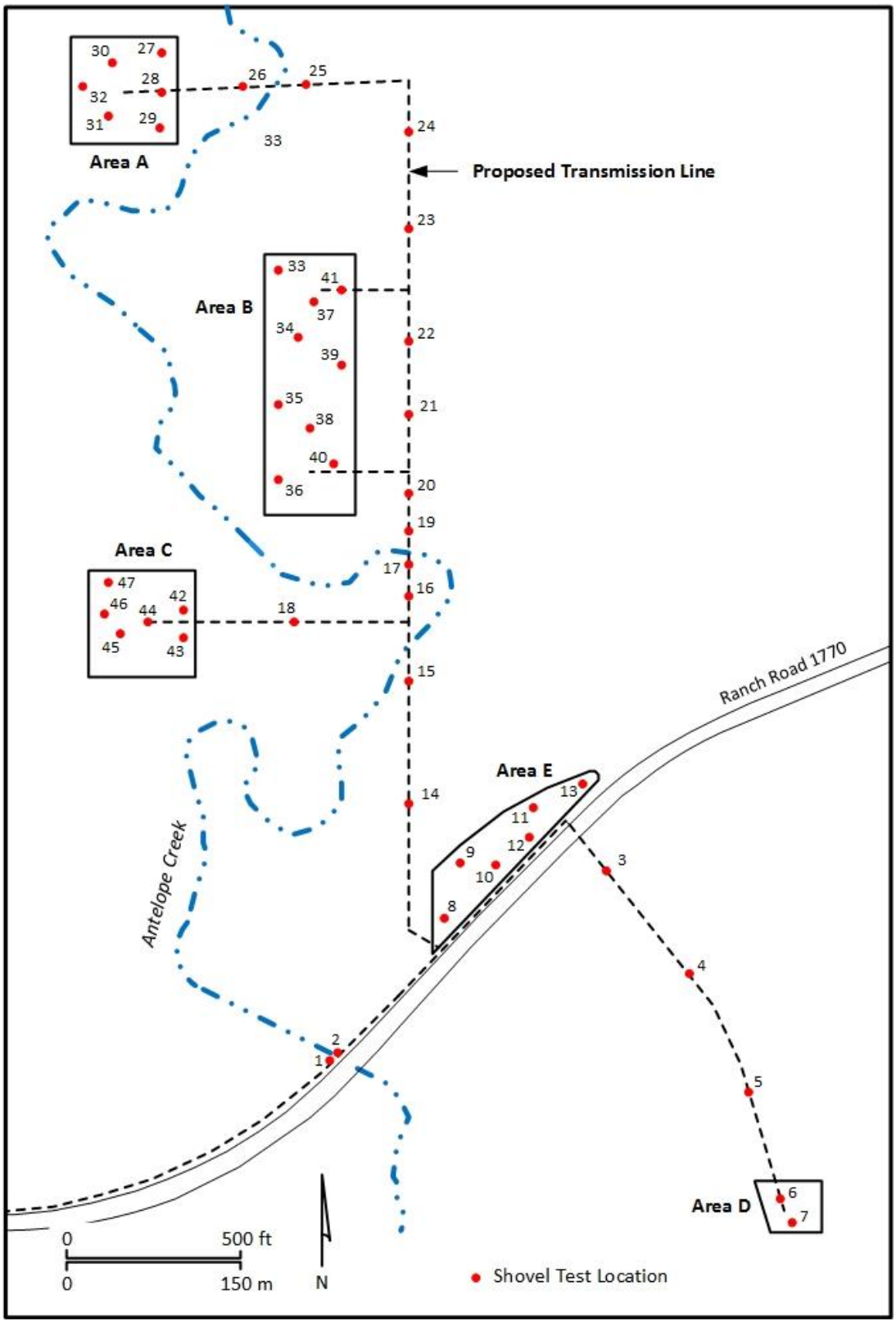

Figure 4. Shovel Test Map

RESULTS AND CONCLUSIONS

Examination of the files at TARL in Austin, Texas and the Atlas revealed no sites had been previously recorded within the boundaries of the current project area and no portion had been examined by a professional archaeologist, The field survey involved two full days of surface inspection and shovel testing. No prehistoric or historic sites were found. Although sites in the region have been reported near intermittent streams (Biessart et al. 1985:80-81), the physical setting of the area along Antelope Creek does not appear to have been a desirable locale for anything other than very transient usage. The headwaters of this creek are about one-half mile to the north. At its widest point within the current project area it is only four feet wide at best. The channel is not very deep and it has all of the earmarks of having been caused by runoff during heavy rains. It would not have been a regularly dependable source of water. The soils in the area vary from loamy clay to hard clay. These are the kinds of soils that are usually only present in prehistoric sites that were occupied for short periods. Upland lithic quarry sites are not tied to water. It is possible that such sites exist in the area but no cobbles or nodules large enough to be considered for stone tool manufacture were present.

The statement that the APE is a low probability area for significant prehistoric sites seems to be supported, at least in part, by previous work in the area. The Elm Creek survey conducted by SMU in 1977 is the nearest large scale survey to the APE and Elm Creek is a much larger drainage than Antelope Creek. The SMU project recorded numerous sites, 29 of which are those nearest to the current APE. Only one site was believed to have enough depth to warrant subsurface testing. The rest of the sites were recorded as lithic scatters, chipping stations, and quarries. Only one site (41RN65) yielded biface fragments believed to be mid-sections of projectile points. All of the 29 sites were found on landforms described as bottomlands, upland slopes, and uplands. The authors hypothesized that the primary activities of these sites were primary lithic procurement and rough stone tool manufacture. Four sites were designated as areas where animals were processed and/or possible camps. One site was believed to have been an area where bone and wood tools were manufactured.

The field survey identified areas of disturbance that would affect the integrity of a prehistoric site that was not deeply buried. Areas A, B, and D are located in RtA soils where clay at the surface was prominent. It appears from the maps in the soil survey that Area B may also include a portion of Sp soils. Area C is totally within Sp soils and Area E is within Cy soils and perhaps areas of RtA and Sp soils. Perhaps the most obvious disturbance was in Area D, a field that had been recently cultivated. The surface inspection of low probability areas confirmed disturbance to the landscape along those portions of the transmission line that will be placed in highway right-of-way and a lack of culturall materials on the surface anywhere within the APE. Numerous lithic scatters, chipping stations, and quarry sites were reported to the east during the Elm Creek survey by SMU (Lynott 1978), but no raw materials suitable for stone tool manufacture were observed,

RECOMMENDATIONS

It is recommended that the client be allowed to proceed with construction as planned. Should evidence of a prehistoric or historic site be encountered during any phase of construction in any of the areas investigated, all work must stop until the THC can evaluate the situation. This survey was conducted in accordance with the Minimum Survey Standards as outlined by the THC.

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APPENDIX I: SHOVEL TEST LOG

(All Shovel Tests 14R)

Test No.	Depth In cm	Description	UTM Coordinates
Transmission Line at Antelope Creek Crossing			
(North of Ranch Road 1770 on east and west banks)			
1	0-35	Brown slightly clayey loam (10YR 5/3)	04 13 801 35 37 139
	36-52	Light yellowish-brown sandy loamy clay (10YR 6/4)	
2	0-29	Brown slightly clayey loam (10YR5/3)	04 13 806 35 37 130
	30-40	Light yellowish-brown sandy, loamy clay (10YR 5/3)	
Field and Proposed Well South of Ranch Road 1770			
(Tests dug 100 meters apart except for 6 and 7 at 75 meters apart)			
3	0-35	Black loamy clay (10YR 2/1)	04 14 157 35 37 289
4	0-32	Black loamy clay (10YR 2/1)	04 14 208 35 37 206
5	0-34	Black loamy clay (10YR 2/1)	04 14 242 35 37 109
6	0-31	Black loamy clay (10YR 2/1)	04 14 178
	32-37	Dark reddish-brown loamy clay containing small pea gravel (5YR 5/2)	35 37 096
7	0-32	Black loamy clay (10YR 2/1)	04 14 185
	33-39	Dark reddish-brown loamy clay containing small pea gravel (5YR 5/2)	35 37 042

Test No.	Depth (cm)	Description	UTM Coordinates
		Storage Tank North of Ranch Road 1770	
		(Distances vary due to presence of trees)	
8	0-36	Dark brown slightly loamy clay (7.5YR 3/2)	04 13 884 35 37 246
9	0-32	Dark brown slightly loamy clay (7.5YR 3/2)	04 13 915 35 37 293
10	0-34	Dark brown slightly loamy clay (7.5YR 3/2)	04 13 947 35 37 290
11	0-36	Dark brown slightly loamy clay (7.5YR 3/2)	04 13 961 35 37 326
12	0-35	Dark brown slightly loamy clay (7.5YR 3/2)	04 13 993 35 37 345
13	0-35	Dark brown slightly loamy clay (7.5YR 3/2)	04 14 024 35 37 362
		Transmission Line North of Ranch Road 1770 North-South Main Line and East-West Branches	
		(Shovel tests 100 meters apart except at Antelope Creek Crossing)	
14	0-38	Reddish-yellow sandy, loamy clay (7.5YR 6/6)	04 13 871 35 37 308
15	0-36	Reddish-yellow sandy, loamy clay (7.5YR 6/6)	04 13 875 35 37 410

Test No.	Depth (cm)	Description	UTM Coordinates
		Antelope Creek Crossings: ST 16, 85 meters north of ST 15	
		(South Crossing of Antelope Creek on North and South Banks)	
16	0-32	Dark brown loamy clay (10YR 3/3)	04 13 876
	33-72	Brown clay (10YR 5/3)	35 37 496
17	0-27	Dark brown loamy clay (10YR 3/3)	04 13 875
	29-61	Brown clay (10YR 5/3)	35 37 519
		Shovel Test at Southernmost Branch, 100 meters west of Main Line	
18	0-39	Dark grayish-brown loamy clay (10YR 4/2)	04 13 776 35 37 577
		Main Line at North Crossing of South and North Banks of Antelope Creek (ST 19 dug 35 meters north of ST 17)	
19	0-25	Dark brown loamy clay (10YR 3/3)	04 13 872
	26-60	Brown clay (10YR 5/3)	35 37 567
20	0-41	Dark brown loamy clay (10YR 3/3)	04 13 870
	42-79	Brown clay (10YR 5/3)	35 37 567
		Main Line	
		(ST 21 100 meters north of ST 20)	
21	0-45	Dark grayish-brown loamy clay (10YR 4/2)	04 13 876 35 37 663
22	0-38	Dark grayish-brown loamy clay (10YR 4/2)	04 13 884 35 37 767

Test No.	Depth (cm)	Description	UTM Coordinates
23	0-39	Very dark gray loamy clay (10YR 3/1)	04 13 889 35 37 863
24	0-40	Dark grayish-brown loamy clay (10YR 4/2)	04 13 892 35 37 966
		Shovel Tests Northernmost Branch: 138 meters west of Main Line	
		Crossing of Antelope Creek on East and West banks)	
25	0-75	Very dark gray clay with abundant CaCO2 carbonate nodules and filaments that increased with depth (7.5YR 3/1)	04 13 746 35 38 006
	75	Ground too hard for shovel or auger	
26	0-99	Very dark gray clay with abundant CaCO2 carbonate nodules and filaments that increased with depth (7.5YR 3/1)	04 13 760 35 38 004
		Tract A	
		(Shovel tests various distances)	
27	0-40	Dark gray loamy clay (7.5YR 4/1)	04 13 671 35 38 028
28	0-38	Dark gray loamy clay (7.5YR 4/1)	04 13 660 35 37 990
29	0-44	Dark gray loamy clay (7.5YR 4/1)	04 13 659 35 37 953
30	0-37	Grayish-brown loamy clay (10YR 5/2)	04 13 633 35 38 019
31	0-36	Grayish-brown loamy clay (10YR 5/2)	04 13 626 35 37 968

Test No.	Depth (cm)	Description	UTM Coordinates
32	0-35	Grayish-brown loamy clay (10YR 5/2)	04 13 585 35 37 998
		Tract B	
		(Shovel tests various distances)	
33	0-25 26-38	Grayish-brown loamy clay (10YR 5/2) Brown loamy clay (7.5YR 4/3)	04 13 746 35 37 820
34	0-22 23-30	Grayish-brown loamy clay (10YR 5/2) Brown loamy clay (7.5YR 4/3)	04 13 761 35 37 732
35	0-18 19-31	Grayish-brown loamy clay (10YR 5/2) Brown loamy clay (7.5YR 4/3)	04 13 743 35 37 668
36	0-12 13-30	Grayish-brown loamy clay (10YR 5/2) Brown loamy clay (7.5YR 4/3)	04 13 740 35 37 616
37	0-21 22-30	Grayish-brown loamy clay (10YR 5/2) Brown loamy clay (7.5YR 4/3)	04 13 780 35 37 667
38	0-17 18-29	Grayish-brown loamy clay (10YR 5/2) Brown loamy clay (7.5YR 4/3)	04 13 762 35 37 798
39	0-36	Gray loamy clay (10YR 5/1)	04 13 807 35 37 779
40	0-34	Gray loamy clay (10YR 5/1)	04 13 800 35 37 627
41	0-38	Dark grayish-brown loamy clay (10YR4/2)	04 13 814 35 37 836

Test No.	Depth (cm)	Description	UTM Coordinates
		Tract C	
		(Shovel tests various distances)	
42	0-22 23-75	Brown loamy clay (10YR4/3) Dark brown loamy clay with CaCO2 filaments and clay that increase with depth (10YR 3/3)	04 13 656 35 37 554
43	0-18 19-60	Brown loamy clay (10YR4/3) Dark brown loamy clay with CaCO2 filaments and clay that increase with depth (10YR 3/3)	04 13 751 35 37 517
44	0-75	Brown very gravelly, loamy clay (7.5YR 5/4)	04 13 632 35 37 412
45	0-61	Brown very gravelly, loamy clay (7.5YR 5/4)	04 13 619 35 37 436
46	0-99	Dark brown loamy clay with CaCO2 filaments that increase with depth (10YR 3/3) (10YR 3/3)	04 13 715 35 37 433
47	0-95	Dark brown loamy clay with CaCO2 filaments that increase with depth (10YR 3/3) (10YR 3/3)	04 13 678 35 37 432

APPENDIX II

PROJECT AREA PHOTOGRAPHS

Area B - South of Fence and East Side of Antelope Creek

(Photo 881)

Transmission Line on North Side of Ranch Road 1770

(Photo 887)

Ground Visibility South of Ranch Road 1770

(Photo 889)

Area D – Well Site South of Ranch Road 1770 in Cultivated Field

(Photo 890)

Area E – Storage Tank Site on Ranch Road 1770

(Photo 891)

Antelope Creek Crossing Enroute to Area A on West Side of Creek

(Photo 895)

Ground Visibility North of Ranch Road 1770 Prior to Crossing of Antelope Creek

(Photo 901)

Yucca Plants South of Antelope Creek Crossing Near Area B

(Photo 902)

Antelope Creek north of Ranch Road 1770

(Photo 904)

Area C – Well Site on West Side of Antelope Creek

(Photo 908)