

**A CULTURAL RESOURCES SURVEY FOR CITY OF NATALIA
WASTEWATER IMPROVEMENT PROJECT
IN MEDINA COUNTY, TEXAS**

Antiquities Permit 7473



By

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AN ARCHAEOLOGICAL SURVEY FOR THE CITY OF NATALIA
WASTEWATER IMPROVEMENTS PROJECT
IN MEDINA COUNTY, TEXAS

BVRA Project Number 15-11

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ABSTRACT

An archaeological survey for the City of Natalia, Texas was performed by Brazos Valley Research Associates (BVRA) on November 23, 2015. The Texas Historical Commission (THC) issued Antiquities Permit 7473 for this project. This survey examined 1.24 miles of proposed wastewater line with an easement of 1.5 feet and the crossing at Fort Ewell Creek (0.222 acres). The field methods included a 100% pedestrian survey and shovel testing. No evidence of a prehistoric site was observed. A sparse scatter of historic trash was found within the working easement but it was not considered necessary to record it as a historic site. It is recommended that the City of Natalia 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 Natalia, Kelley Environmental Consulting, regional libraries, and BVRA. After the survey was completed and the draft report submitted, the client decided against installing waterline in the 1.24 mile cross country segment. The results of that portion of the survey remain in the report in case the area is considered for ground disturbance in the future.

ACKNOWLEDGMENTS

I am appreciative of the assistance provided by others during this project. Steve Kelley provided the maps and made the initial contact with the City of Natalia. Lisa S. Hernandez signed the permit application. Art Smith, an employee of the City of Natalia, assisted me in the field. I am especially grateful to Joe Soto for bringing the city backhoe to our rescue when our truck became immobilized in a pocket of deep sand. Lili G. Lyddon prepared the figures and edited the manuscript. Michelle Amason created the Shapefiles for submission to the THC.

CONTENTS

Abstract – Page ii

Acknowledgments – Page iii

Introduction – Page 1

Environment – Page 4

Archaeological Background – Page 6

Methods – Page 9

Results and Conclusions – Page 14

Recommendations – Page - 16

References Cited – Page 17

Appendix I – Shovel Test Log

Figure 1. General Location Map – Page 2

Figure 2. Project Area on Topographic Quadrangle Lytle – Page 3

Figure 3. Soils in the Project Area – Page 5

Figure 4. Central Texas Archeological Region – Page 7

Figure 5. Shovel Test Map – Page 10

Figure 6. Lift Station at Beginning of Survey – Page 10

Figure 7. Shovel Test 1 – Page 11

Figure 8. Aerial Pipe and Partially Buried Waterline – Page 12

Figure 9. Depression on North Side of Creek – Page 13

Figure 10. Metal Stake – Page 15

INTRODUCTION

The City of Natalia proposes to improve their wastewater system by connecting an existing sewer plant to a lift station on property owned by Love's Truck Shop in southeastern Medina County (Figure 1). The distance of the proposed project is 1.24 miles with a survey easement of 20 feet. The pipe will be 6-8 inches in diameter and placed in a trench at a maximum depth of 3-4 feet. In addition, two concrete pillars supporting an 8 inch aerial wastewater line over Fort Ewell Creek will be replaced. The existing pipe will be removed and replaced in the same ditch. The connection will occur about 20 feet from the creek on each side. When the original pipe was installed, the ground on either side of the trench was disturbed for a distance of more than the width of the working easement. Other types of disturbance that have affected this area include construction of State Highway 132 North, a waterline, and an old foam factory on the south side of the creek. Disturbance to the north side was highway construction and the waterline. There are no cemeteries or standing structures in or near the Area of Potential Effect (APE). Funding for this project will be provided by the USDA-RUS. Figure 2 depicts the project area on the USGS 7.5' topographic quadrangle Lytle (2998-224).

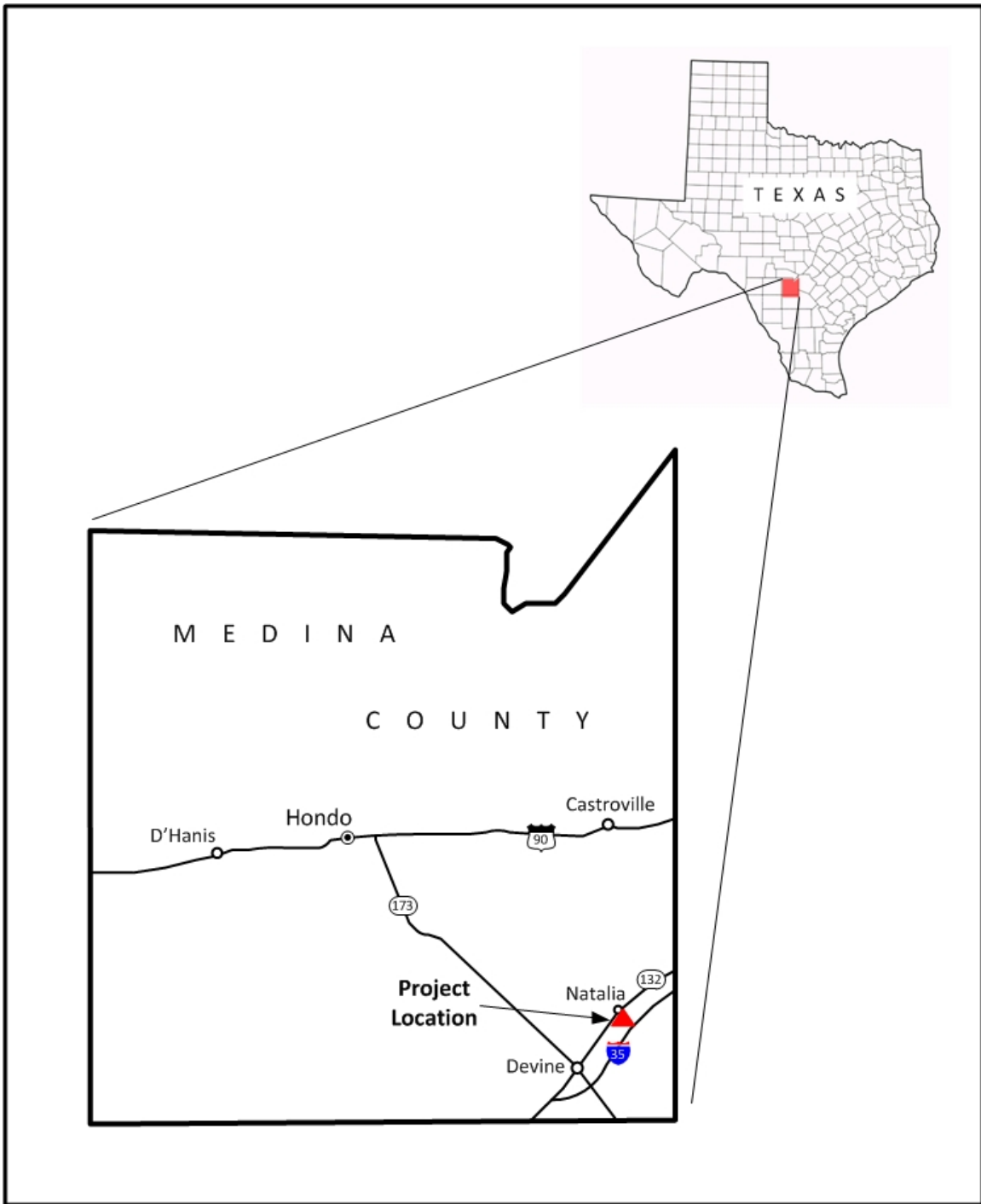


Figure 1. General Location Map

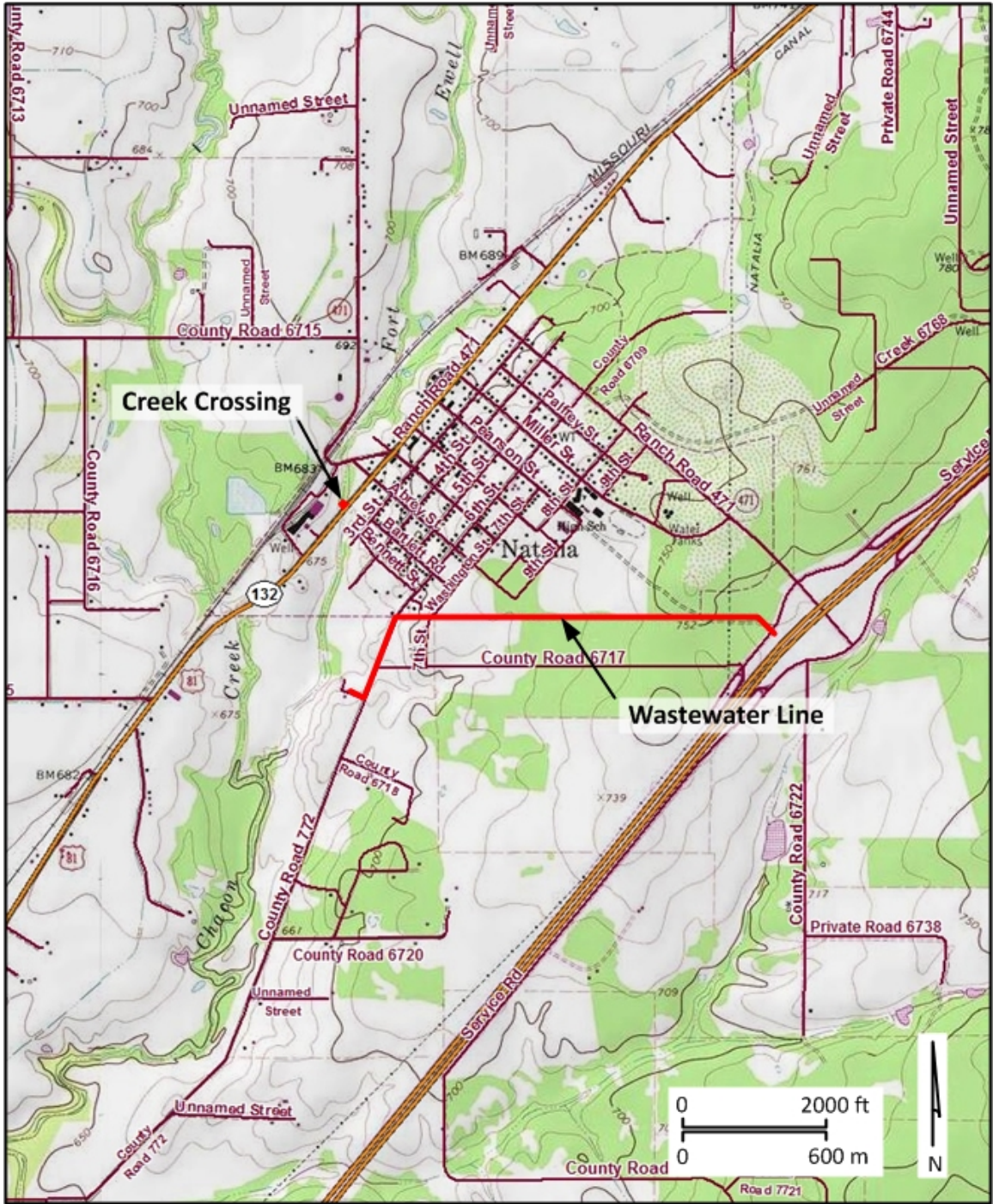


Figure 2. Project Area on Topographic Quadrangle Lytle

ENVIRONMENT

Medina County consists of 1,334.53 square miles in an area that varies from fertile valleys to scenic hills. The altitude also varies from 635 in the valleys to 1995 ft. in an area referred to as the "Texas Hill Country." The county is drained by the Medina River and several major creeks that flow in a south to southeasterly direction. The nearest source of water to the APE is Fort Ewell Creek, a tributary of Chacon Creek about 35 km to the west. The existing wastewater treatment plant is on the eastern bank of this stream. The climate in the area is defined as semi-arid. The January mean minimum temperature is 37° F and the July mean maximum temperature is 94° F. Rainfall averages 27.3 inches annually (Alvarez 2004).

According to the General Soils Map in the soil survey for Medina County (Dittmore 1977), the majority of the area where the new pipeline will be placed is located within the Duval-Miguel-Amphion soil association that is comprised of nearly level to gently sloping upland sands. The remainder is within the Nueces-Palito-Eufala soil association that is also comprised of nearly level to gently sloping upland sands. The specific soils in the area of the proposed new pipeline (from west to east) are Nueces soils, 0 to 5 percent slopes (NuC) and Patilo-Eufala association, gently undulating (Figure 3). The C-horizon in the Nueces soils averages 16 inches below the ground surface and it is believed to have been developed during the Eocene epoch. The B-horizons of the Patilo and Eufala soils average 56 inches below the ground surface. The parent material of these soils is Carrizo sand that also developed during the Eocene epoch.

More specifically, the proposed wastewater line passes through two soil associations. These are the Nueces soils, 0 to 5 percent slopes (NuC) and the Patilo-Eufala association, gently undulating (PEC). Beginning at the lift station, the waterline crosses approximately 2000 feet of PEC soils. The soil survey for Medina County (Dittmore et al. 1977:31) states that this association consists of dunelike or hummocky soils. PEC soils consist of fine sand to a depth of 48 inches before turning into sandy clay loam. The remainder of the proposed waterline passes through NuC soils that are typically found in level to gently sloping terrain (Dittmore et al. 1977:28). These soils consist of fine sand that continues to a depth of 34 inches before turning into sandy clay loam. The creek crossing lies within soils of the Divot Series, specifically Divot clay loam (Do). These soils are found on flood plains and alluvial fans of streams. In a typical profile, the upper level (0-16 inches) consists of clay loam with calcium carbonate concretions. This soil is described as hard and slightly firm. At 16 inches, it transitions to clay and limestone fragments are sometimes present. Figure 3 depicts the various soils in the project area.

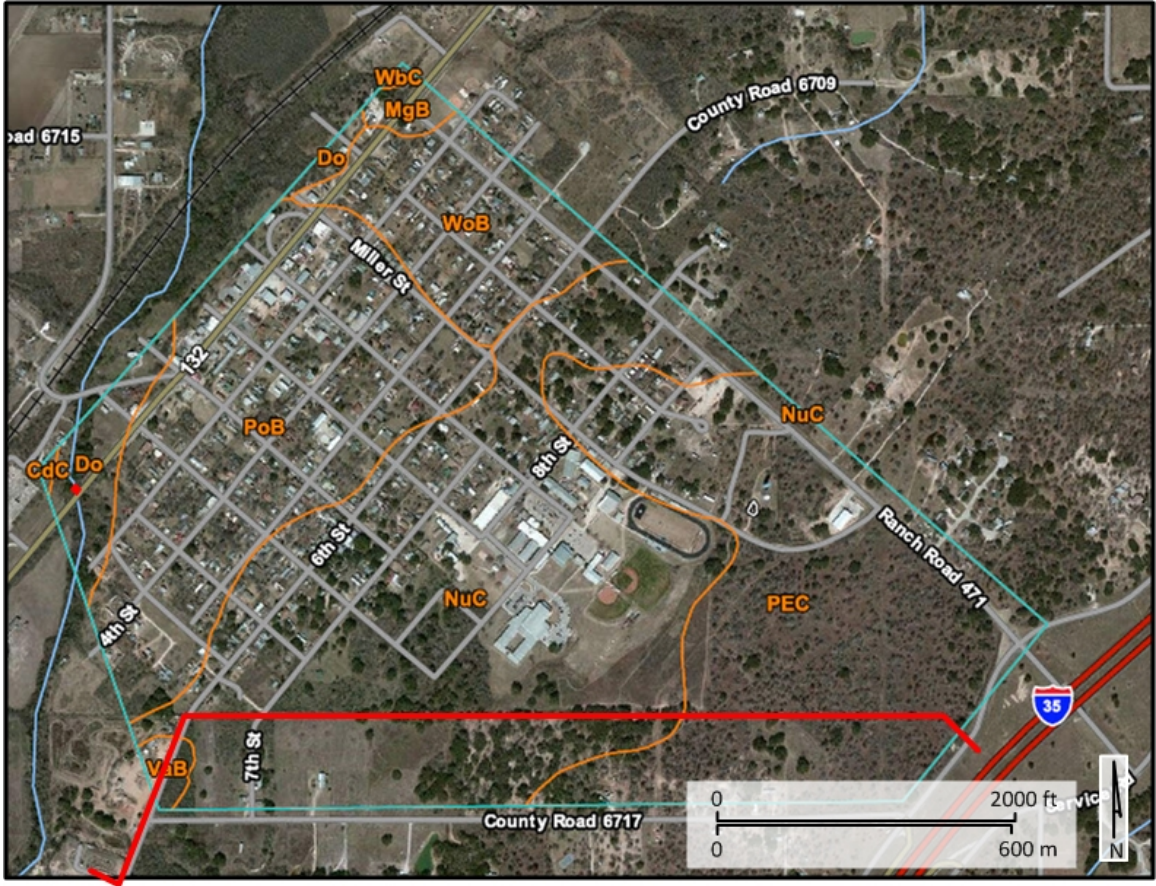


Figure 3. Soils in the Project Area

ARCHAEOLOGICAL BACKGROUND

General

According to a statistical overview of prehistoric sites in Texas by Biesaat, et al. (1985:Figure 15), Medina County is located in the Central Texas Cultural-geographical region of Texas, an area that encompasses 34 counties (Figure 4). It is one of the counties in the extreme lower reaches of this region and it borders Atascosa and Frio counties in the Southern Coastal Plains Cultural-geographical region. Because of the proximity of Medina County to this adjacent region, some cultural traits were probably shared between the prehistoric inhabitants of both regions. The statistical overview cannot be viewed as 100% accurate but it does provide a time frame for comparisons. For example the overview reports that only 23 prehistoric sites in Medina County had been recorded at TARL in 1985. Unfortunately, the overview does not give site numbers but it does list them by temporal period. In 1985, the 23 recorded prehistoric sites were classified as Paleoindian (n=2), Archaic (n=17), and Late Prehistoric (n=4). No sites had been formally excavated and only three sites are described as having been tested by hand. The major form of disturbance is described as erosion (n=15) and vandalism (n=12). Burned rock mounds and middens and quarries represent the majority of site types documented in the county. Today, there are 250 prehistoric and historic sites in the county that have been recorded at TARL. This increase of 987% is related to an increase in construction projects associated with a growing population of the area.

Previous Investigations in the County

The first site to be recorded in the county was in 1968 when D. Ping Hsu investigated an area on the edge of an old slough where animal bones were found upstream from two flakes and a possible burin. No new sites were recorded in the county until 1972 when Leland W. Patterson recorded 41ME3 as a source of flint and primary chipping area. Two years later, Scorpion Cave (41ME7) was recorded in a river bottom. The site yielded skeletal remains of a bear and a variety of arrow points and dart points. In 1984, perhaps the most significant prehistoric site to be recorded in the county was found on a terrace of San Geronimo Creek by Wayne C. Young during a project for the State Department of Highways and Public Transportation (now TxDOT) during a survey for the State Highway 16 project. The site was recorded at TARL as 41ME29 and given the name Jonas Terrace. Leroy Johnson, Jr. (1995) authored a very comprehensive report on the importance of this site that "represents 45 centuries of time." He (Johnson 1995:1) also states that "...excavated sites with fairly long geological histories are rare in Central Texas." Although several important sites have been recorded in the county, the vast majority consist of sparse lithic scatters, a few quarries or procurement areas, and burned rock mounds and middens that have been seriously vandalized.

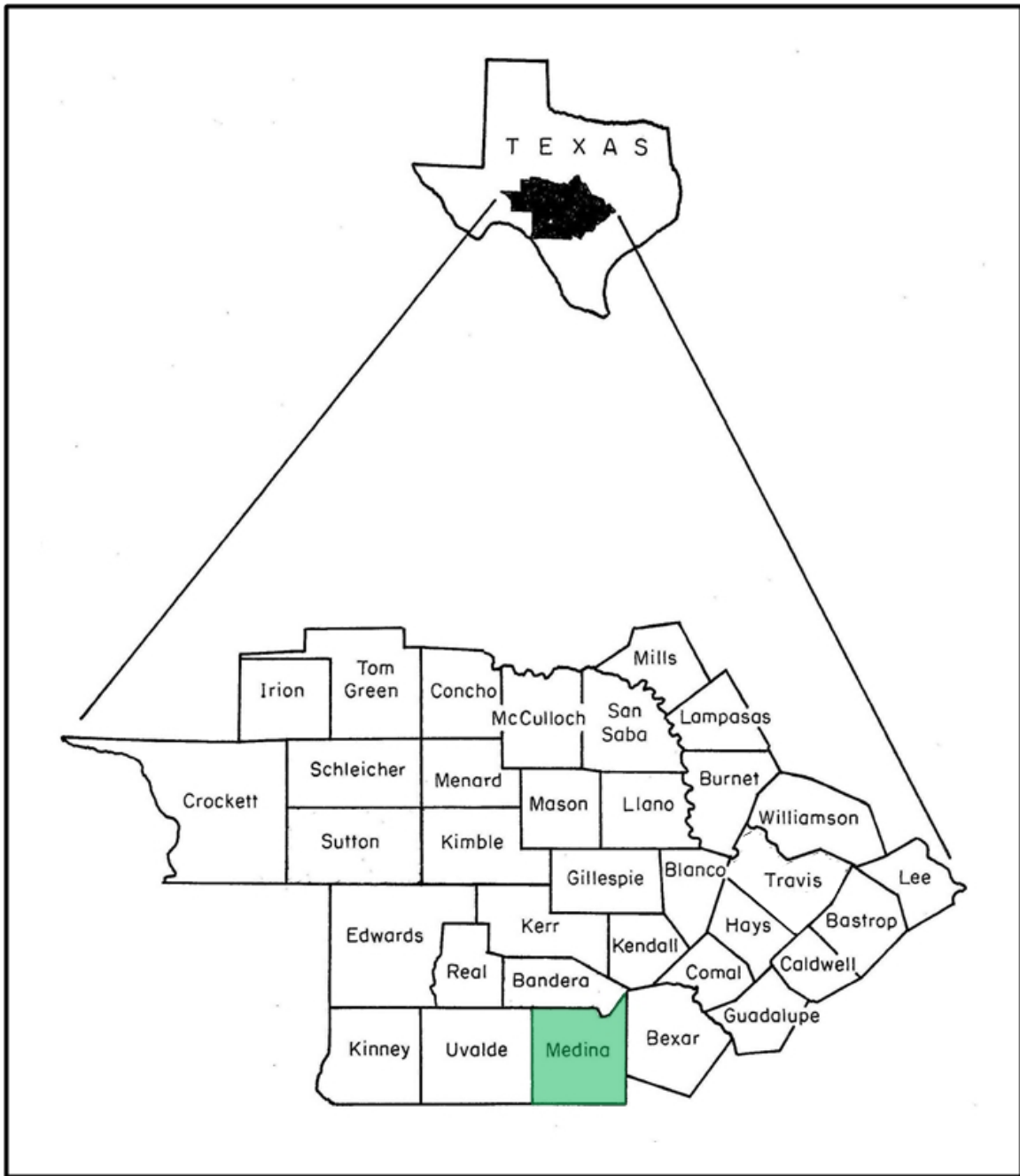


Figure 4. Central Texas Archeological Region

Sites and Surveys Near the Project Area

A review of the Texas Archeological Sites Atlas revealed that five prehistoric sites have been documented in the vicinity of the APE and four of these sites (41ME18 – 41ME21) were recorded by Thomas R. Hester and Thomas C. Kelley (1976) during a survey for a proposed housing development on the Medina River. Site 41ME18 is described on the site form as an “open site” in a plowed field. Two probable distal tips of dart points were found along with a biface and some blades. Because ashy charcoal was found in gopher burrows, W. Hayden Whitsett believed at the time that the site is buried beneath 20-30 cm of modern deposits. He recommended that it be tested to determine its eligibility for listing in the National Register of Historic Places.

The other sites recorded nearest the APE are 41ME19 and 41ME20 (Hester and Kelley 1976). Site 41ME19 was found on the bank of Fort Ewell Creek and is described on the site form as an area with dark soil 30-35 cm deep. Artifacts observed included one Perdiz point, one Leon Plain sherd, lithic debris and well preserved bone. In addition, two hearths were observed. This site is 0.52 km northwest of the creek crossing relevant to the current survey. Site 41ME20 lies on the east side of Fort Ewell Creek less than 40 m from the creek crossing. Site 41ME20 was recorded by W. Hayden Whitsett in 1976 (report not available). The site form is very brief and lacks some important data such as the area of occupation that is stated as unknown but possibly 30 m x 70 m. According to the site form, the site was “split” by the construction of the bridge across the road. Bone was the most common indicator of the site but the form does not describe it. Flint debitage was observed but described as “sparse” and found only on the creek bank. Without better information, the validity of this area as a prehistoric site is questionable. The other closest sites (41ME21 and 41ME22) are lithic scatters at least 0.90 and 1.86 km, also to the northwest.

The end point of the proposed pipeline is Love’s Truck Stop adjacent to Interstate Highway 35 South. According to the Archeological Sites Atlas, this area was surveyed with negative results. The Atlas does not identify the survey or provide any information. A second unidentified survey, also negative, was conducted approximately 0.50 km to the north of the proposed route of the waterline.

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 archaeological surveys in the project area and vicinity. Relevant archaeological reports documenting work in Medina County were reviewed in order to become familiar with the types of sites found in the area. Reports and articles by Hester and Kelley (1976), Johnson (1995), and Turpin (1994) 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/or shovel testing at the crossing of Fort Ewell Creek and the proposed pipeline route. The city allowed Art Smith to accompany the Principal Investigator in an effort to ensure that the correct area was examined. It was very helpful to have Mr. Smith and a city vehicle to traverse the wooded terrain. All excavated soil was passed through quarter-inch hardware cloth. Twenty-two shovel tests were dug along the pipeline route and two tests were dug on each bank of the creek. Shovel test information was entered onto a shovel test log (Appendix I) and digital photography was used to capture the various areas and features of the project area. Shovel test data were plotted on a sketch map and later onto an aerial photograph (Figure 5). The daily activities were written in a field notebook.

The field survey was carried out on November 23, 2015. Work began at the lift station on the Interstate Highway 45 service road (Figure 6). The vast majority of the pipeline will be placed in an upland setting at elevations between 700 and 750 feet above mean sea level (amsl). In upland areas the chances for deeply buried sites are very low. Shovel tests in this area were dug to depths of 50 cm or greater. The first shovel test was dug at the lift station (Figure 7). In this area, the soil was sandy and ground visibility was at least 80%. The second test was dug at the point where the pipeline will turn to the west. The distance from the lift station to Shovel Test 2 is 426 feet. Shovel Test 2 was dug through sandy loam and terminated at 55 cm. Once the footprint of the proposed pipe progresses in a virtual east/west direction, tests were dug at intervals of 100 m when possible. This segment crosses relatively level terrain through large areas of pasture that are occasionally interrupted by woods and very thick brush containing large clumps of prickly pear and other thorny plants. The distance of this segment is 0.90 miles. Every attempt was made to survey in a straight line using a compass and following the fenceline but there were times when some areas had to be avoided. The third test was dug 100 m from Shovel Test 2. The soil was still sandy and this test was dug to 65 cm with no artifacts present. A large whiteware plate fragment was seen on the surface about 80 m from the previous shovel test. Surface visibility in the area was excellent. A thorough surface inspection failed to identify additional artifacts in the immediate area of the find. Shovel Test 4 was dug to 65 cm near the location of the plate fragment. No artifacts were found deeper than 30 cm. Artifacts recovered included 1 small clear glass fragment, 1 whiteware fragment, and 1 fired clay fragment that was probably part of a piece of utilitarian ware.

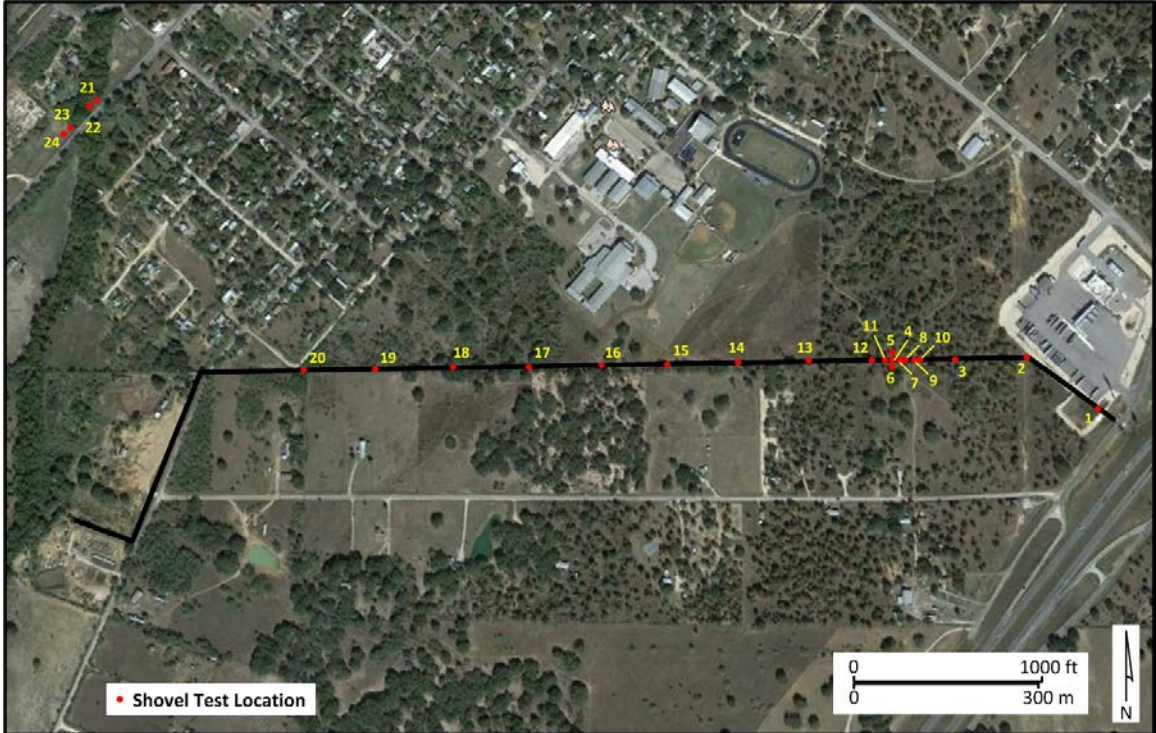


Figure 5. Shovel Test Map



Figure 6. Lift Station at Beginning of Survey



Figure 7. Shovel Test 1

Additional tests were excavated in this area in an effort to determine the aerial extent and depth of artifacts within the easement. The discovery test was surrounded by single tests 5 feet to the north and south. Shovel Test 5 was dug north of the discovery test and yielded four small thin pieces of clear glass and a second fired clay fragment that also appears to have been part of some type of utilitarian ware. Shovel Test 6 was south of the discovery test and yielded four small thin pieces of clear glass and a well-fired ceramic piece that could not be identified.

The east/west extent of positive tests was determined by excavating additional shovel tests. Tests 7-10 were dug to the east and terminated at 50 cm. Shovel Test 10 was dug 117 feet from the discovery test and was negative. Test 7 yielded 2 pieces of clear glass and only 1 piece of clear glass was found in tests 8 and 9. Tests 11 and 12 were dug to the west and the presence of artifacts was only extended an additional 21 feet. The western boundary is assumed to be near the location of Shovel Test 12 where no artifacts were recovered. Only one piece of clear glass was found in Shovel Test 11. These tests were not as deep as the others because of a gradual slope.

The survey continued along the fenceline with the next test being dug 100 m from the hypothetical western boundary of the trash scatter. Testing continued until about 20 m from County Road 772. There was one area that could not be shovel tested due to extremely thick vegetation. It was bypassed and the remaining 10 tests were dug. The pipeline will be placed in already disturbed right-of-way along the eastern side of County Road 772 for a distance of 1024 feet. The distance from the county road to the sewer plant is 384 feet. No testing was required in either area because of prior disturbance. Prehistoric site 41ME18 was recorded at the site of the wastewater treatment plant but it has been virtually destroyed by construction of the plant. Plus, no new construction will occur in this area.

The creek crossing has been severely disturbed to the point that it is highly unlikely that any *in situ* soils remain. As stated in the Introduction, the only ground to be disturbed will be about 20 feet on either bank. The original profile of both creek banks has been altered due to the construction of the trench for the aerial pipe and the water line that crosses in the creek bed (Figure 8). The trenches and working easements for these two pipes have virtually displaced all original soil from within the current easement. The depression in the land caused by highway construction and/or installation of one or both of the pipelines leading to the north bank is vividly illustrated in Figure 9.



Figure 8. Aerial pipe and partially buried water line

The final phase of this survey was an examination of the creek banks. It was immediately obvious that the landforms on either side had been disturbed. In addition to a visual inspection of the creek from the bridge, shovel testing was conducted on both banks to average depths of 30 cm. Two tests were dug on each bank and each one encountered black clay at or near the surface. The only cultural materials observed consisted of modern trash.



Figure 9. Depression on north side of creek

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 one full day of surface inspection and shovel testing. No prehistoric sites were found. A small historic trash scatter containing whiteware, other unidentified ceramics, and fragments of clear glass was found within the working easement. It was not considered worthy of recording as a historic site. Two interesting objects were found in the vicinity of the scatter (Figure 10). These objects are rusty metal pins or stakes about five feet apart. A careful search of the area failed to locate additional pins. Roger G. Moore stated that they are very similar to old tent stakes. They were firmly embedded in the ground and that suggests to me a more permanent use.

The absence of prehistoric sites within the footprint of the proposed wastewater line is probably due to a lack of a source of dependable water in the immediate area. The nearest part of the APE to water is the existing sewer plant that is about 11 km distant. It is at this location that site 41ME18 was recorded. The cross country route of the pipeline is no closer than 40 km from the same source that is a tributary of Fort Ewell Creek. At one time, the entire area where the pipeline will be installed was probably wooded and it seems likely that its attraction to native groups would have been as a source of food derived from plants and animals. Short term camps could have existed but it is unlikely that evidence of these sites are easily discernable today. Sites 41ME18, 41ME19, and 41ME20 were recorded as being very close to the crossing of Fort Ewell Creek that was inspected during this survey. Site 41ME20 is less than 40 m from the creek crossing and is closest recorded site to that area. As stated above, this site was identified mainly by bone and a sparse amount of lithics at the creek bank. The site is also described as shallow, 30 – 40 cm below the surface. Both sides of the easement have been greatly disturbed due to road construction and installation of the existing pipe that it is possible that no in situ evidence of a shallow site exists today. Certainly, fish and certain edible plants may have been collected in prehistoric times but evidence of these activities are very unlikely to be located.



Figure 10. Metal Stake

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.

REFERENCES CITED

- Alvarez, Elizabeth Cruce (Editor)
2004 *Texas Almanac: 2004-2005*. Dallas Morning News.
- Biesaat, Lynne A., Wayne R. Roberson, and Lisa Clinton Spotts
1985 *Prehistoric Archeological Sites in Texas: A Statistical Overview*. Office of the State Archeologist, Special Report 28. Texas Historical Commission.
- Dittmore, Glenn W., Michael L. Delbert, and Davie L. Richmond
1977 *Soil Survey of Medina County, Texas*. Soil Conservation Service, U. S. Department of Agriculture in cooperation with the Texas Agricultural Experiment Station, College Station.
- Hester, Thomas R., and Thomas C. Kelley
1976 *Archaeological Investigations at Sites near Natalia, Medina County, Texas*. Archaeological Survey Report 1, Center for Archaeological Research, The University of Texas at San Antonio.
- Johnson, LeRoy, Jr.
1995 *Past Cultures and Climates at Jonas Terrace, 41ME29, Medina County, Texas*. Office of the State Archeologist, Report 40, Texas Department of Transportation and Texas Historical Commission, Austin.
- Perttula, Timothy K.
2004 An Introduction to Texas Prehistoric Archeology. In *The Prehistory of Texas*, edited by Timothy K. Perttula, pp. 5-14. Texas A&M University Press, College Station.
- Turpin, Jeff
1994 *Hill Country State Natural Area: A Survey of High Traffic and High Potential Areas, Bandera and Medina Counties, Texas*. Cultural Resource Program, Report 94-4.

APPENDIX I: SHOVEL TEST LOG

Test	Depth	Results	Comments
1	55 cm	negative	dug at lift station; sandy loam
2	55 cm	negative	dug at point where pipeline turns to the northwest; sandy loam
3	65 cm	negative	dug 100 m west of ST 2; sandy loam
4	65 cm	historic trash	dug 80 m west of ST 3; steile sand 1 clear glass fragment, 2 whiteware fragment, and 1 piece of utilitarian ware; sandy loam
5	50 cm	historic trash	4 clear glass fragments and 1 piece of utilitarian ware; sandy loam
6	50 cm	historic trash	4 clear glass fragments and one glazed ceramic fragment; sandy loam
7	50 cm	historic trash	2 clear glass fragments; sandy loam
8	50 cm	historic trash	1 clear glass fragment; sandy loam
9	50 cm	historic trash	1 clear glass fragment; sandy loam
10	50 cm	negative	sandy loam with clay mottles
11	40 cm	historic trash	1 clear glass fragment; sandy loam with clay mottles
12	40 cm	negative	tentative boundary of trash scatter sandy loam
13	30 cm	negative	100 m west of shovel test 12; dug through roots in wooded area; sandy loam
14	30 cm	negative	dug through roots in wooded area; sandy loam

Test	Depth	Results	Comments
15	50 cm	negative	dug in open area; sandy loam with small pebbles near the bottom of the shovel test
16	50 cm	negative	dug in open area; sandy loam with small pebbles near the bottom of the shovel test
17	50 cm	negative	dug in open area; sandy loam with small pebbles near the bottom of the shovel test
18	30 cm	negative	dug at edge of thick woods; lots of roots; sandy loam
19	30 cm	negative	dug just inside thick woods; lots of roots; sandy loam
20	30 cm	negative	dug at edge of thick woods; lots of roots; sandy loam
21	30 cm	negative	north side of creek; black clay
22	30 cm	negative	north side of creek; black clay
23	30 cm	negative	south side of creek; black clay
24	30 cm	negative	south side of creek; black clay
