AN ARCHAEOLOGICAL SURVEY FOR A PROPOSED WASTEWATER TREATMENT PLANT AND DISCHARGE LINE IN MONTGOMERY COUNTY, TEXAS

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Brazos Valley Research Associates

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AN ARCHAEOLOGICAL SURVEY FOR A PROPOSED WASTEWATER TREATMENT PLANT AND DISCHARGE LINE IN MONTGOMERY COUNTY, TEXAS

BVRA Project Number 17-02

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ABSTRACT

An archaeological survey for a proposed Wastewater Treatment Plant and Discharge Line was performed by Brazos Valley Research Associates (BVRA) on May 29, 2017 for Monterrey Oaks, Ltd. of Porter, Texas. When completed, these services will be used to support the planned Monterrey Oaks Subdivision in southeast Montgomery County. The Area of Potential Effect (APE) consisted of the 0.63 acre tract that will contain the proposed treatment plant and 400 feet of discharge line with a width of 15 feet (0.137741 acre). This is a privately funded project. Therefore no Antiquities Permit was required. Much of the area had been cleared of forest vegetation prior to this survey. This action created 100% surface visibility where the clearing had taken place. A thorough surface inspection was conducted in the disturbed areas. The southern part of the APE stops at Shady Run Creek and this is where the majority of shovel tests were dug. No archaeological sites were found, and no artifacts were collected. Permission to proceed with construction is recommended. Copies of the final report are on file at the Texas Historical Commission (THC), Texas Archeological Research Laboratory (TARL), Texas State Library, Monterrey Oaks, Ltd., and BVRA.

ACKNOWLEDGMENTS

I am grateful to following individuals for their participation in this project. Maps and logistical support were provided by Stephen Troy Toland of Goodwin Lasiter Strong. The site files at TARL were checked by Jonathan Jarvis.The figures were drafted by Lili G. Lyddon of LL Technical Services. Mark W. Martin is the developer responsible for the funding of this project and he visited with me in the field to ensure I was in the correct area and to be present to answer questions.

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DEFINITION OF STUDY AREA

Monterrey Oaks, Ltd. plans to finance the construction of a waste water treatment plant and discharge line to serve a proposed Monterrey Oaks subdivision that will be constructed at a later date. The APE is in the southeast corner of Montgomery County (Figure 1) and is depicted on the USGS 7.5' topographic quadrangle Fostoria (3095-142) (Figure 2). The area is best described as relatively flat to gently sloping to the southwest in the direction of the upper reaches of Shady Run Creek, a tributary of Jayhawker Creek. The APE is found within the Splendora-Boy-Segno association (McClintock et al. 1972:General Soil Map). The soils in this association are generally described as "deep, general level to gently sloping, somewhat poorly drained to well drained, loamy and sandy soils that that have loamy lower layers." The commercial use of these soils are pine timber with a few areas suitable for crops. The specific soil in the APE is referred to as Splendora fine sandy loam (Sp) and is found on slopes of less than one percent. An aerial view of the APE on Google Earth taken on October 30, 2014 depicts a thickly wooded tract planted in pines.

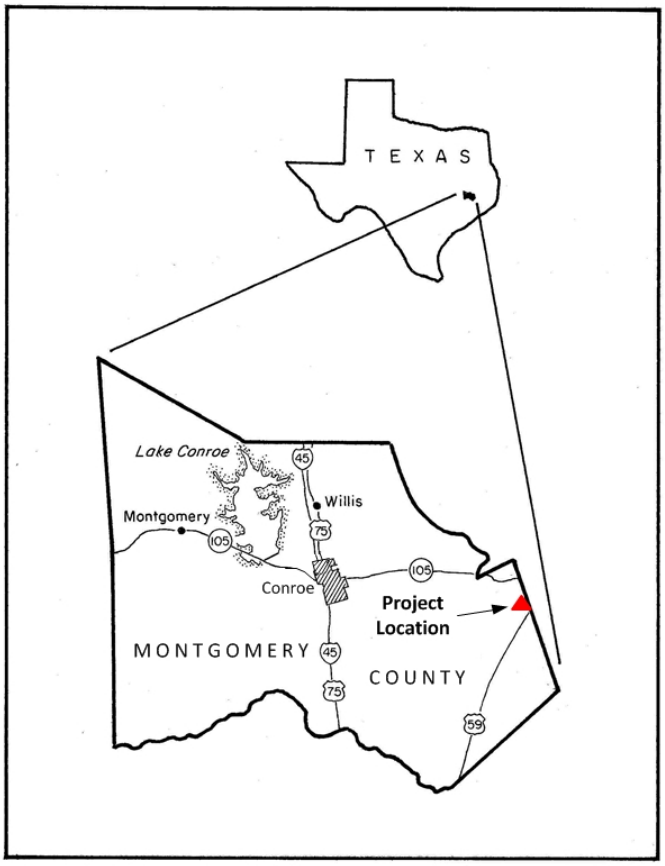

Figure 1. General Location Map.

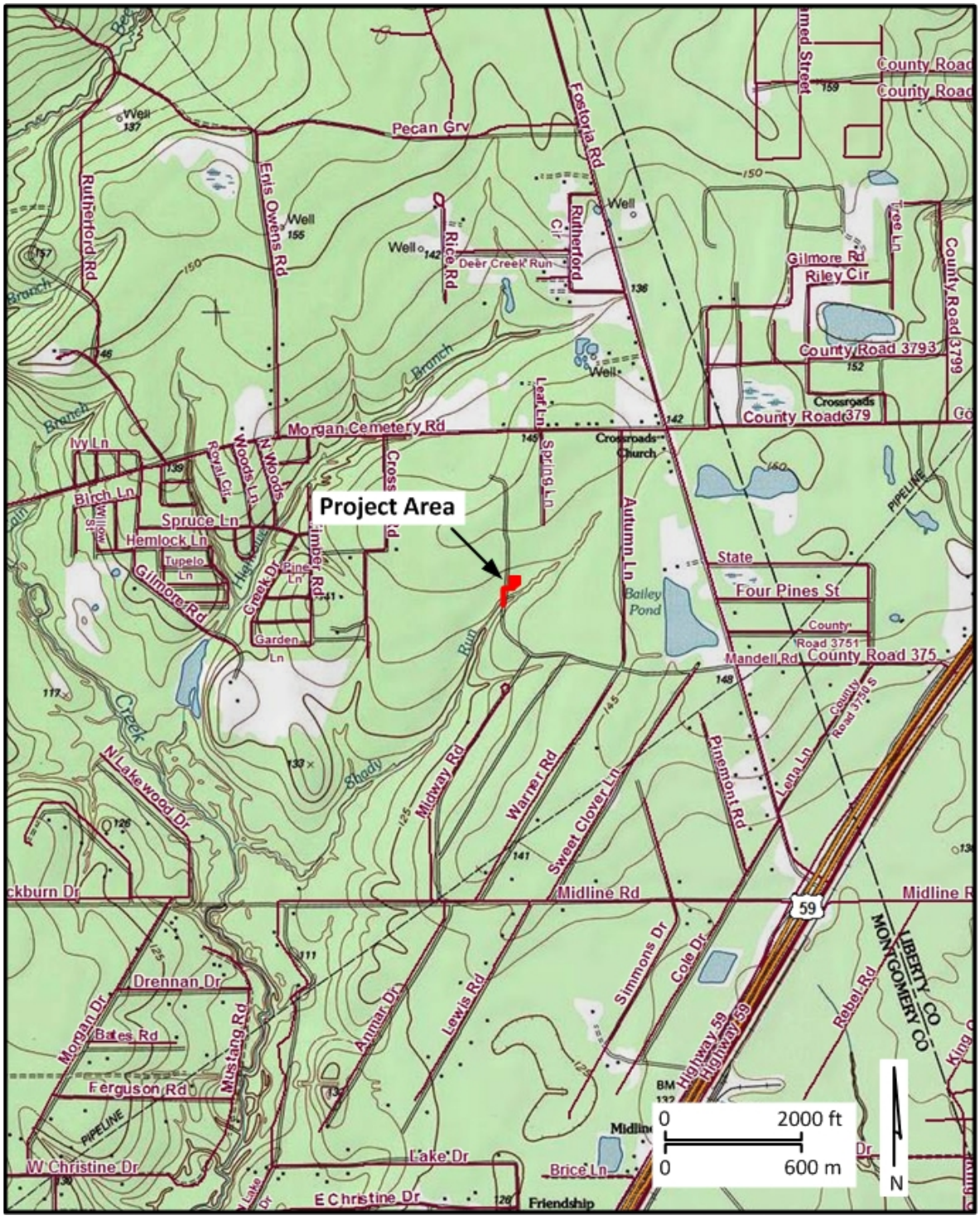

Figure 2. Project Area on 7.5’ Topographic Quadrangle Fostoria.

MANAGEMENT SUMMARY

This project was performed in order to identify any cultural resources that might be present within the APE. The client is Monterrey Oaks, Ltd. of Porter, Texas, who intends to install a waste water treatment plant and outfall line to serve the planned Monterrey Oaks subdivision. BVRA was hired to perform the archaeological survey. William E. Moore was the Principal Investigator and he conducted the field investigation with assistance from Mr. Martin on May 29, 2017. The Texas Center for Environmental Quality (TCEQ) is the state agency responsible for ensuring proper construction methods are followed with the least possible impact to the environment. Chris Linendoll of the Water Quality Division in Austin, Texas is the TCEQ representative for this project. Construction will be performed by JTI Contractors, Inc. of Houston. This project required a Texas Pollutant Discharge Elimination System (TPDES) general construction permit and one was awarded based on a review of the client's TPDES application number 0015449001.

ARCHAEOLOGICAL BACKGROUND

Montgomery County is located in the Southeast Texas Archeological Study Region of the Eastern Planning Region as defined by the Department of Antiquities Protection in *Archeology in the Eastern Planning Region, Texas: A Planning Document* (Kenmotsu and Perttula 1993). It is located in the Southeast Texas cultural-geographical region (Region 6) as defined by Biesaart et al. (1985:88-90) in a statistical overview (Figure 3). At the time the overview was published, Montgomery County was 14th in the region with 62 recorded archeological sites. The 62 sites comprised 3.81% of the region and .31% of the state. As of May 29, 2017 there were 330 recorded prehistoric and historic sites in the county (TARL site files). The *Archeological Bibliography for the Southeastern Region of Texas* (Moore 1989) cites 87 references for the county.

Although many of these investigations have been small area surveys, often resulting in no sites being recorded, several sprojects involving larger areas with numerous recorded sites have been conducted by professional archaeologists such as Lake Creek Reservoir (Bement et al. 1987), Conroe Reservoir (Shafer 1968), Lake Conroe (Shafer and Stearns 1975), and planned developments of 262 acres (Schubert et al. 2002) and 23,000 acres in the southern part of the county along Spring Creek (Greiner Engineering Sciences, Inc. 1980).

Although brief discussions of Montgomery County prehistory are presented in the various contract reports for the area, few sites have been systematically tested or excavated. Examples include the Scott's Ridge site (41MQ41) by Shafer and Stearns (1975)**,** sites 41MQ4 – 41MQ6 in the San Jacinto River Basin, and 41MQ70 and 41MQ73 by Greiner Engineering Sciences, Inc. (1981) in order to determine their eligibility for the National Register of Historic Places.

As a result of the various surveys and testing projects, it is generally accepted by most archaeologists that the prehistoric past of this area can be divided into two temporal periods. These are the Lithic or Archaic Period (circa 8000 B.C. to 200 B.C.) and the Ceramic or Late Prehistoric Period (circa 200 B.C. to A.D. 1700). The Lithic Period is that time prior to the invention and use of the bow and arrow and pottery. Very little is known regarding the early sites of this period except sites are found on the crests of high ridges overlooking stream valleys or old geomorphic features where original surfaces are reasonably intact. Later in the period, sites are found on recent geomorphic features such as sandy ridges, knolls, and low bluffs along permanent streams of all sizes. In general, subsistence data for this period is lacking.

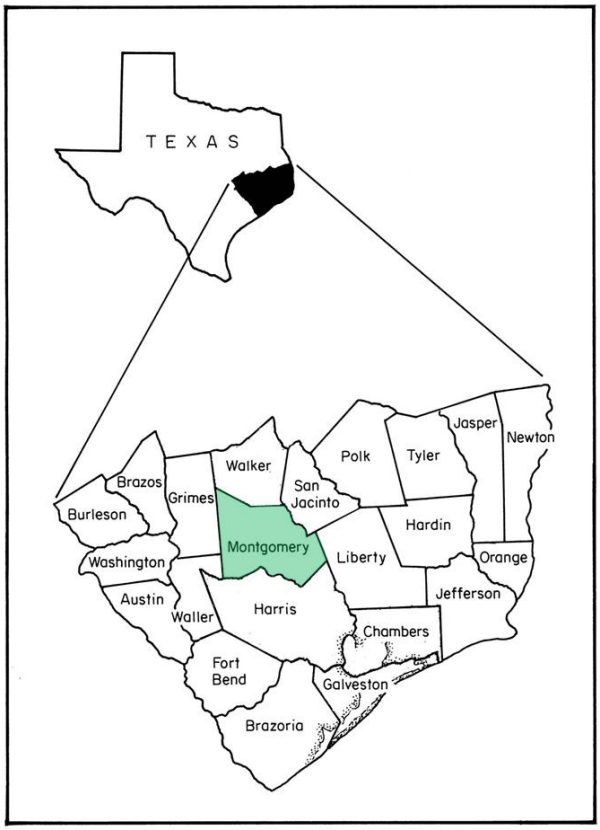

Figure 3. Southeast Texas Archaeological Region

The Ceramic Period began with the introduction of pottery in Southeast Texas. The Early Ceramic Period is characterized by the same kinds of lithic artifacts used during the previous period, and sites are found on the same landforms. The only discernible difference is the use of pottery. Site locations were the same during the Late Ceramic Period, and the bow and arrow was now being utilized. Few projects designed to investigate historic sites have been carried out in Montgomery County. Most historic sites have been recorded during archaeological surveys in which prehistoric and historic sites were identified and recorded. The only major historic site in the county to have been excavated is Kirbee Kiln, a 19th century stoneware pottery that operated near the town of Montgomery between 1850 and 1860. It produced utilitarian stoneware pottery used in the preparation and storage of food. This unique historic site is described as a "groundhog kiln" and is the first to be excavated in Texas (Malone et al. 1979).

More information regarding the history of Montgomery County can be found in county histories by William Hardy Gandy (1952), Robin Montgomery (1975), the Montgomery County Genealogical Society (1981), as well as the *Handbook of Texas* (published book and online).

METHODS

The first phase of this project was archival research that included checking the site records at TARL and the Texas Archeological Sites Atlas for the presence of previously recorded sites and prior surveys in the project area and vicinity. Relevant archaeological reports documenting work in Montgomery County were reviewed in order to become familiar with the types of prehistoric and historic sites found in the area. Those reports reviewed document work at Lake Creek Reservoir (Bement et al. 1987), the San Jacinto River basin (Shafer 1968), and investigations at Scott's Ridge on Lake Conroe (Shafer and Stearns 1975; Shafer and Baxter 1975).

The second phase was the field survey by the Principal Investigator. The first task was a surface inspection of the entire tract. The corners of the tract were flagged and these markers were used to document our position within the 0.63 acre tract. Site probability tends to increase nearest a source of water. Therefore, the surface closest to the creek was walked in intervals of 10 meters and this pattern included the footprints of the proposed phases of construction. Surface visibility was excellent throughout the tract because of recent clearing (Figure 4). The remainder of the tract was considered to be a very low probability area for the presence of a significant cultural resource site and the surface in this area was examined in a random pattern.

Three shovel tests were excavated in the southeast corner of the project area. Figure 5 illustrates the excavation Shovel Test 1 in progress. These tests were dug in a straight line from east to west that was 20 meters from the tributary. The diameter of the tests was 50 centimeters. Testing was terminated upon reaching the transition from sandy loam to clay loam and orange clay that marked the beginning of the Bt/E horizon at an average depth of 75.3 centimeters. Excavated soil from the shovel tests was screened using ¼ inch hardware cloth, and shovel test data were entered onto a log (Appendix I) and the location of the tests were plotted on a project area map (Figure 6). Soil samples from the two horizons were collected and taken to the local NRCS office for identification.

In addition, the project was documented through field notes and digital photography. The final task was the writing of the report by the Principal Investigator. No artifacts were recovered; therefore, no laboratory analysis or was performed.

Figure 4. View of Cleared Area – Looking South.

Figure 5. Shovel Test 1.

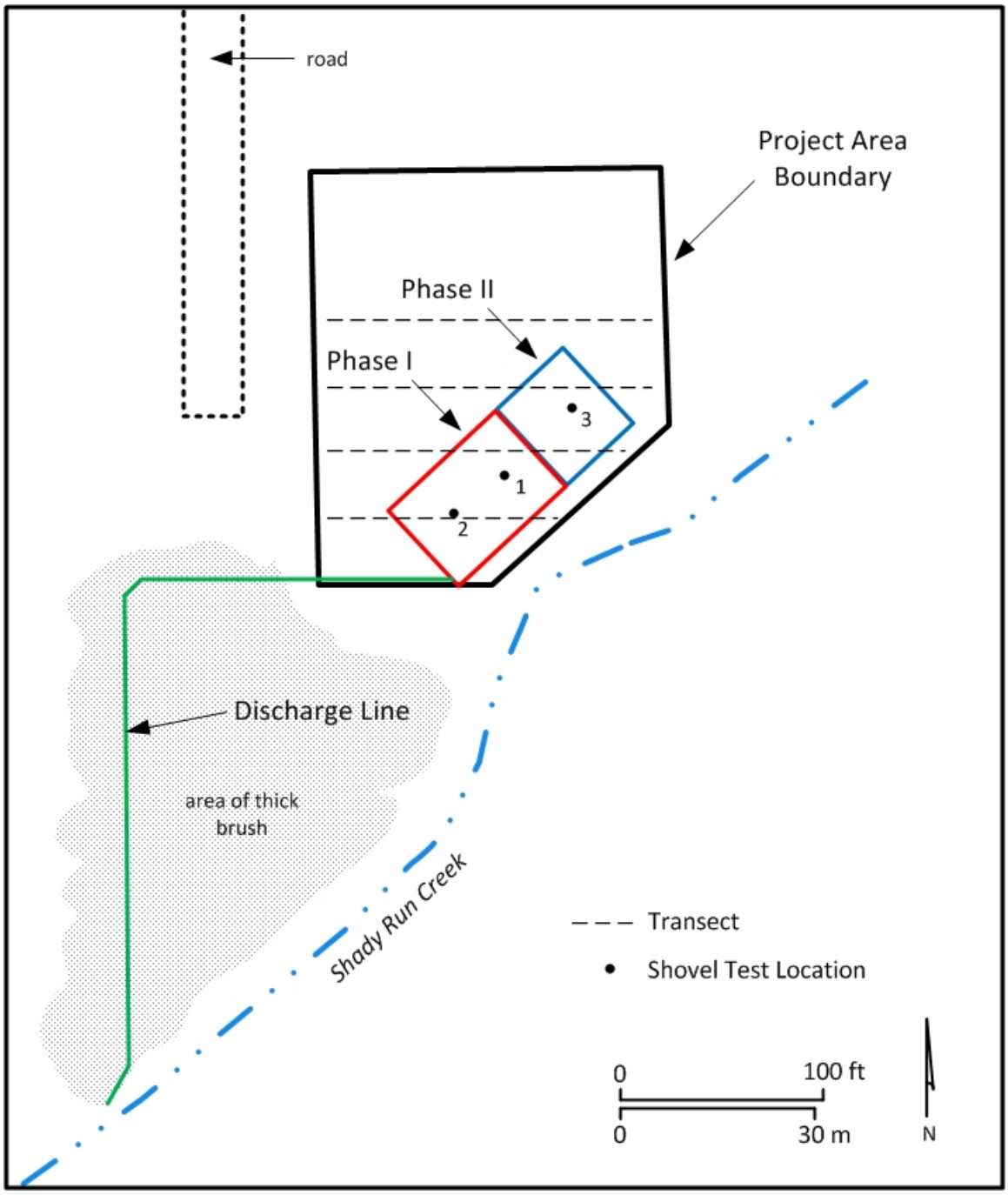

Figure 6. Location of Shovel Tests and Transects.

RESULTS AND CONCLUSIONS

Examination of the files at TARL in Austin, Texas and the Atlas revealed no previously recorded prehistoric sites are in the project area. Also, there is no evidence that the area has been surveyed or visited by a professional archaeologist. The stream that forms the southern boundary of the APE is the upper reaches of a tributary of a larger creek. Any attempt to quantify the size and rate of flow of this stream in the prehistoric past is beyond the scope of this Phase I project. Its current size and lack of appreciable amounts of water suggest that this drainage was probably not a major or frequent destination for riverine resources by prehistoric groups (Figure 7). Should buried cultural materials be present within the APE, it is most likely that they would represent a short term event such as procurement of plants and animals for consumption elsewhere, an activity not likely to leave behind noticeable amounts of cultural evidence. The probabilty that artifacts below the surface have been displaced from their original context is very high due to the various forms of disturbance that this tract has experienced.

Figure 7. Shady Run Creek.

The main disturbance to the project area is related to activities by Fostoria, a major lumber company and previous owner. The 0.63 acre site is part of a larger tract of 102 acres currently owned by Monterrey Oaks, Ltd. Although the only activity that can be associated with the APE with any degree of confidentiality is the planting and harvesting of pines as a commercial crop, other forms of disturbance such as logging roads may have been present. The Fostoria company was a large scale operation boasted a population of 1500 between 1915 and 1925 and was one of the largest providers of Southern pine in the United States. In 1941, the company produced a recorded 20 million board feet of lumber. Operations ceased in 1957 (Gandy 1952, Montgomery 1975).

In a forest environment, the upper level (aka O horizon) is made of of organic layers containing living and decomposed materials such as leaves, pine needles, and twigs. The A horizon is next and contains minerals and decomposed organic matter that combine to create a dark colored soil. Based on an examination of the soil samples from this project, a local NRCS Soil Scientist concluded that these horizons were absent. This means that the shovel tests began in the upper levels of the E horizon which in this case is a sandy loam (10YR 6/4) and ended in the Bt/E horizon approaching the maximum depth that could be reached with a hand held shovel.

RECOMMENDATIONS

It is recommended that construction be allowed to proceed with as planned. Should evidence of an archaeological site be encountered during construction, all work must stop until the THC can evaluate the situation.

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APPENDIX I: SHOVEL TEST LOG

Test	Depth	Results	Comments
01	71 cm	Negative	Splendora fine sandy loam (10YR 6/4)
02	80 cm	Negative	Splendora fine sandy loam (10YR 6/4)
03	75 cm	Negative	Splendora fine sandy loam (10YR 6/4)