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## Texas Parks & Wildlife Department National Recreational Trails Program Fort Bend County Municipal Utility District No. 146 Long Meadow Farms Oyster Creek Trails Project, Fort Bend County, Texas

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Texas Parks & Wildlife Department National Recreational Trails Program Fort Bend County Municipal Utility District No. 146 Long Meadow Farms Oyster Creek Trails Project, Fort Bend County, Texas

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**GTI Environmental, LLC**  
Environmental Consultants



**Texas Parks & Wildlife Department  
National Recreational Trails Program  
Fort Bend County Municipal Utility District No. 146  
Long Meadow Farms Oyster Creek Trails Project,  
Fort Bend County, Texas**

**Authors:  
Sergio A. Iruegas R.P.A.  
Melinda Tate Iruegas**

**June 2019**



**GTI Environmental, LLC**  
Environmental Consultants

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**Texas Parks & Wildlife Department  
National Recreational Trails Program  
Fort Bend County Municipal Utility District No. 146  
Long Meadow Farms Oyster Creek Trails Project,  
Fort Bend County, Texas**

**Antiquities Permit # 6968**

**Prepared For:  
Fort Bend County Municipal Utility District No. 146**

**Work Authorization No. 1  
Contract No. GTI1413.01  
CSJ: RT13006**

**On Behalf of:  
Fort Bend County Municipal Utility District No. 146**

**Prepared By:  
GTI Environmental, LLC**

**Principal Investigator:  
Sergio A. Iruegas, R.P.A.**

**Authors:  
Sergio A. Iruegas, R.P.A.  
Melinda Tate Iruegas**

**June 2019**

**Abstract**

GTI Environmental, LLC (GTI) conducted an intensive archeology survey within the Fort Bend County Municipal Utility District No. 146's (FBCMUD-146) proposed Long Meadow Farm Oyster Creek Trails Project (Project). The Project is being funded by Federal Highway Administration (FHA) National Recreational Trails Fund Program administered by the Texas Parks and Wildlife Department (TPWD). Accordingly, the Project is complying with the Antiquities Code of Texas (13TAC26) and the National Historic Preservation Act (36CFR800). The Texas Historical Commission (THC) recommended relocation of 41FB310, 41FB312, 41FB313, and 41FB314 within and adjacent to the Project area and determine an avoidance plan, if warranted. Because the trail alignment may change due to the existence of these archaeology sites, there are no plans with stations. Stations will be established after the final trail alignment. Because the trail alignment may change based on the intensive archaeology survey results, GTI proposed to survey 100 feet instead of 30–60 feet to facilitate a revised trail alignment. The 100 feet trail survey corridor constitutes the Project's direct *Area of Potential Effect* (APE), as defined by Sweitzer + Associates (S+A) Plan (45% Progress) dated 5-28-14. GTI conducted the intensive archaeological survey in accordance with the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation*, the Texas Historical Commission's (THC) *Minimum Archaeological Survey Standards for Texas (shovel testing)*, and *TxDOT's Standards of Uniformity Version 3.0 (dated May 31, 2011): Review Standards for Antiquities Permit Applications and Review Standards for Archeology Survey Reports*. GTI consulted with Scott Pletka of the Texas Department of Transportation Environmental Affairs Division (TxDOT-ENV), Stanley Cooper of TxDOT Houston District Office, Trey Cooksey of TPWD, and FBCMUD-146 representative, William A. Sweitzer, by phone from July 11-17, 2014 regarding review and signatures on the Antiquities Permit Application. The THC issued Antiquities Permit 6968 for these intensive archaeological investigations on July 21, 2014, and GTI conducted the investigations on July 22, 2014. In general, the Project's direct APE had greater than 30 percent ground surface visibility. GTI archaeologists did not see ground surface artifacts at the locations of the previously recorded archaeological sites, and archaeologists excavated 19 shovel tests as required by the antiquities permit scope of work. All the shovel tests were negative for the presence of historic or prehistoric cultural material within the Project's direct APE. Additional archival research did not reveal important events or individuals that may have been associated with the previously recorded historic archaeological sites.

Since the time of the archaeological sites documentation in 2007, the National Register eligibility of these sites has yet to be officially determined by the lead federal agency. In the meantime, however, GTI has determined that the proposed Fort Bend County Municipal Utility District No. 146 Long Meadow Farm Oyster Creek Trails Project will have No Effect to 41FB310, 41FB312, 41FB313, and 41FB314, because the archaeological boundaries of these sites are not within the Project's direct APE. Archaeologists did not collect artifacts, so there are no curation issues.

**Management Summary**

The Management Summary included in this report describes the context of early Section 106 and Antiquities Code consultation, the identity of the institution conducting the investigation, the personnel involved in the investigation and their roles, the person-hours invested in the project, and the dates of fieldwork. The Management Summary also includes a brief summary of the scope of work, a summary of the results, and the recommendations. The Fort Bend County Municipal Utility District No. 146 (FBCMUD-146) contracted with GTI to conduct an intensive archaeological survey. The FBCMUD-146 intends to construct 1.4 mile long recreational trail along the east and west bank of Oyster Creek within their property, which is surrounded by the Long Meadow Farms housing development, referred as the Project. The FBCMUD-146 received a grant from the Texas Parks and Wildlife Department (TPWD) on March 31, 2014 to construct the trail path. A separate phase will include construction of the bridge when funds are available and the existing bridge will be used until then. FBCMUD-146 is a political subdivision of the State of Texas. Accordingly, the project falls under the Antiquities Code of Texas and requires an antiquities permit application. Funding includes Federal Highway Administration (FHA) funds from the National/Texas Recreational Trails Fund Program. Therefore, the proposed project is considered a federal *Undertaking* [36CFR800.16(y)] in accordance with the National Historic Preservation Act (NHPA) [36CFR800]. The Texas Department of Transportation (TxDOT) is the federally delegated agency for the FHA. Accordingly, all work will address the requirements of Section 106 of the National Historic Preservation Act (NHPA) and be conducted under the terms and conditions of the First Amended Programmatic Agreement among TxDOT, the Texas SHPO, FHWA, and the Advisory Council on Historic Preservation (2005). GTI Environmental, LLC (GTI) consulted with TxDOT and TPWD to obtain signatures for the antiquities permit application. TxDOT informed GTI that the funds are not administered by TxDOT and TPWD is responsible for the Project. TPWD informed GTI that the FBCMUD-146 is considered the Project Sponsor and the Owner, but TPWD does not have an MOA with FHA. TPWD also informed GTI that TPWD can no longer go directly to FHA for categorical exclusions. FHA requires TxDOT to determine categorical exclusions for the FHA funds, because TPWD does not have an MOA with FHA. According to TPWD, FHA will have a meeting with TxDOT in the near future to begin developing procedures for TxDOT to review these FHA funded projects. Accordingly, GTI maintained TxDOT's Standards of Uniformity for antiquities permit applications and reporting in consultation with Scott Pletka of TxDOT-ENV, and for now, the Project can be reviewed by TPWD and THC. GTI's Principal Investigator (PI), Sergio A. Iruegas, RPA, is a Registered Professional Archaeologist that meets the qualifications of a prehistoric and historic archaeologist under the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* of the NHPA and *Chapter 26: Rules of Practice and Procedure* of 13TAC26. Sergio A. Iruegas, RPA served as Principal Investigator and Melinda Tate Iruegas served as Project Historian and performed tasks for GIS. GTI invested a total of 79 person-hours in the project, and the fieldwork was conducted on July 22, 2014.

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## **Introduction**

This document presents the results of an intensive archaeological survey for the Fort Bend County Municipal Utility District No. 146's (FBCMUD-146) Long Meadow Farms Oyster Creek Trails Project located in Fort Bend County, Texas (Project). The Project is located on the Clodine, Texas 7.5 minute USGS Topographic Quadrangle Map (2995-313) as seen on Figure 1 through Figure 4. The maps are based on the Swietzer + Associates Plan (45% Progress) dated 5-28-14.

The FBCMUD-146 is a political subdivision of the State of Texas. Accordingly, the project falls under the Antiquities Code of Texas (13TAC26) and required an antiquities permit application. The FBCMUD-146 received a grant from the Texas Parks and Wildlife Department (TPWD) on March 31, 2014. TPWD's letter noted the grant money was federal funds through the Federal Highway Administration (FHA). The funding came from the FHA's National/Texas Recreational Trail Fund Program. Texas Department of Transportation (TxDOT) is the federally delegated representative for FHA. Therefore, the proposed project was considered a federal *Undertaking* [36CFR800.16(y)] in accordance with the National Historic Preservation Act (NHPA) [36CFR800]. The FBCMUD-146 will adhere to all requirements established for the National Recreational Trails Fund including those set out in Procedural Guidelines, Project Development and Grant Reimbursement Procedures, and Acquisition Project Procedures, in accordance of the Terms of the Agreement between FBCMUD-146 and TPWD. Accordingly, all work addressed the requirements of Section 106 of the NHPA and was conducted under the terms and conditions of the First Amended Programmatic Agreement among TxDOT, the Texas SHPO, FHWA, and the Advisory Council on Historic Preservation (2005). In accordance with the stated federal historic preservation laws, terms of agreements, and guidelines referenced above, TPWD consulted with the Texas Historical Commission (THC), also known as the Texas State Historic Preservation Office (TX-SHPO), regarding possible effects the Project may have to *State Antiquities Landmarks* (SAL) that may be worthy for designation and *Historic Properties* that may be eligible for listing in the National Register of Historic Places (NRHP). The THC/TX-SHPO responded to TPWD on May 29, 2013. The THC/TX-SHPO stated:

“The project...has four previously recorded sites (41FB310, 312, 313, and 314), either within or immediately adjacent. We [THC/TX-SHPO] believe a professional archaeologist should relocate these sites and, if warranted, determine an avoidance plan for each. We [THC/TX-SHPO] also believe that the remainder of the project area should be surveyed to determine the boundaries of these existing sites and to search for additional sites which might be present within the project area.”

Accordingly, the FBCMUD-146 contracted with GTI Environmental, LLC (GTI) to conduct an intensive archaeological survey in compliance with the Antiquities Code and the National Historic Preservation Act. GTI's Principal Investigator (PI), Sergio A. Iruegas, RPA, is a Registered Professional Archaeologist that meets the qualifications of a prehistoric and historic archaeologist under the *Secretary of the Interior's Standards*

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*and Guidelines for Archaeology and Historic Preservation* of the NHPA and *Chapter 26: Rules of Practice and Procedure* as outlined in 36CFR61, 13TAC26.4(1) and 13TAC26.4(2). Melinda Tate Iruegas served as Project Historian and she performed tasks for GIS.

The FBCMUD-146 proposed to construct 1.4 linear miles +/- of recreational trail, benches, signing, and design and engineering. The proposed Project will connect to an existing trail on the east and west bank of Oyster Creek completing a trail loop that is surrounded by the Long Meadow Farms housing development. Because the trail alignment may change due to the existence of these archaeology sites, there were no plans with stations. Stations were to be established after the final trail alignment. Because the trail alignment may change based on the intensive archaeology survey results, GTI proposed to survey 100 feet instead of 30–60 feet to facilitate a revised trail alignment. The 100 foot trail survey corridor constitutes the Project's direct *Area of Potential Effect* (APE), as defined by Sweitzer + Associates (S+A) Plan (45% Progress) dated 5-28-14.

GTI prepared an Antiquities Permit Application and Scope of Work (SOW), and the SOW was reviewed and approved by FBCMUD-146 and THC. THC issued Antiquities Permit Number 6968 to FBCMUD-146 and GTI, who are considered the Permittees [13TAC26.3(45) and 13TAC26.3(51)]. The intensive archaeological survey was conducted in accordance with the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation*, the THC's *Minimum Archaeological Survey Standards for Texas*, and *TxDOT's Standards of Uniformity Version 3.0 (dated May 31, 2011): Review Standards for Antiquities Permit Applications and Review Standards for Archeology Survey Reports*.

GTI's PI and Historian/Archaeologist conducted the intensive archeology survey within the Project's direct APE to assess the presence or absence of any archaeological deposits associated with previous historic occupations in the area, as well as, prehistoric cultural deposits on the west or east banks of Oyster Creek as seen on within the proposed trail alignment (Figure 1 through Figure 3).

In accordance with intensive archaeological survey investigation [13TAC26.15(6)] methods outlined in the Antiquities Permit SOW research design [13TAC26.13(d)] and the *Secretary of the Interior's Guidelines for Identification (Intensive Survey)*, GTI attempted to define the linear-horizontal and linear-vertical site boundaries of historic and prehistoric cultural deposit areas within the Project's direct APE. In general, the PI noted the Project's direct APE showed greater than 30 percent ground surface visibility when looking directly down on the ground surface. GTI archaeologists did not see any ground surface artifacts at documented locations of the four previously recorded sites (41FB310, 41FB312, 41FB313, and 41FB314) and shovel testing at these locations were negative. Therefore, an avoidance plan for each archaeology site was determined to be unwarranted.

The entire Project direct APE was subjected to 100 percent pedestrian survey. GTI archaeologists excavated a total of 19 shovel tests throughout the Project's direct APE to prospect for unknown and the documented sites. Out of the 19 shovel tests, one to two

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shovel tests were excavated at each archaeology site location to prospect for buried evidence of the cultural material associated with these sites. All 19 shovel tests were excavated below ground surface at least 30 centimeters (cm), which was the depth of these historic cultural deposits associated with the sites (Iruegas et al. 2007). In several shovel tests, the excavations exceeded 30cm in depth in an attempt to search for artifacts that may have migrated downward in the soil since the 2007 survey. All 19 shovel tests were negative. Based on the intensive archaeological survey results, GTI's PI has documented that there were no cultural materials on the ground surface, or below the ground surface, within the archaeological site boundaries of 41FB313 and 41FB314 that extended in the Project's direct APE. GTI's archaeologists did not encounter cultural material evidence that would represent the archaeological sites boundaries of 41FB310 or 41FB312 that were adjacent to the Project's direct APE.

Since the time of the archaeological sites documentation in 2007, the National Register eligibility of these sites has yet to be officially determined by the lead federal agency. In the meantime, however, GTI has determined that the proposed Fort Bend County Municipal Utility District No. 146 Long Meadow Farm Oyster Creek Trails Project will have No Effect to 41FB310, 41FB312, 41FB313, and 41FB314, because the archaeological boundaries of these sites are not within the Project's direct APE. Archaeologists did not collect artifacts, so there are no curation issues.

This report has eleven sections and one appendix. After the Introduction is the Project Description that clearly identifies the project type and any associated elements. The Background Information includes topography, soils, geology, and previous work and sites within one kilometer. The Archival Review provides a review of previous investigations and further attempts to identify the individuals that lived at the above listed archaeological sites. The Regional Archaeological Chronology discusses time periods. Methodology discussed the existing disturbances, the research design, expectations, and type of work to be undertaken. The Results section is broken into a discussion of existing archaeological site context and shovel testing results. The Summary and Recommendations discuss the conclusions and determination of effects based the intensive archeological survey, and the References section contains all the citations used in the report. Appendix A contains the shovel test data resulting from this intensive archaeological survey.

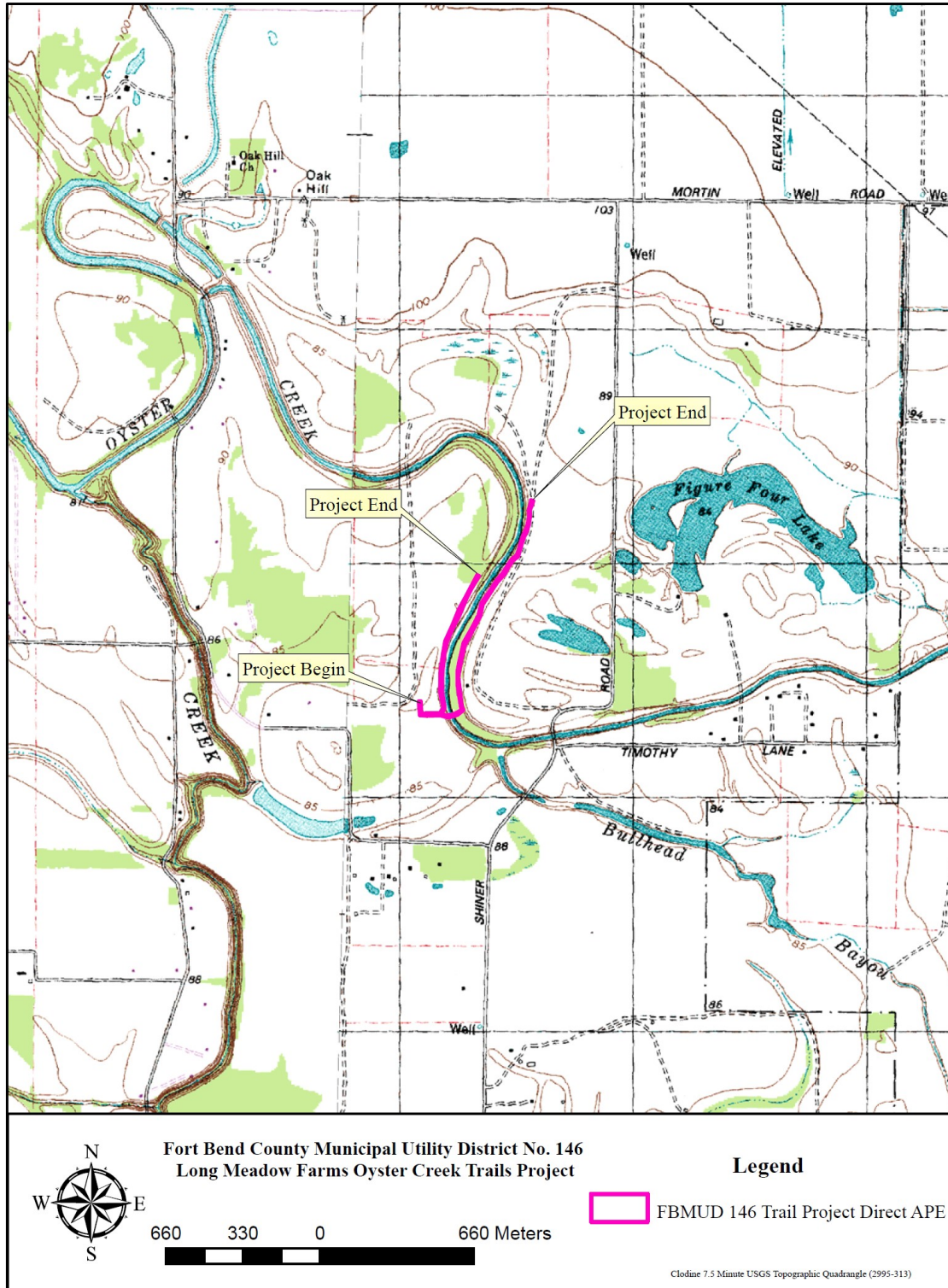
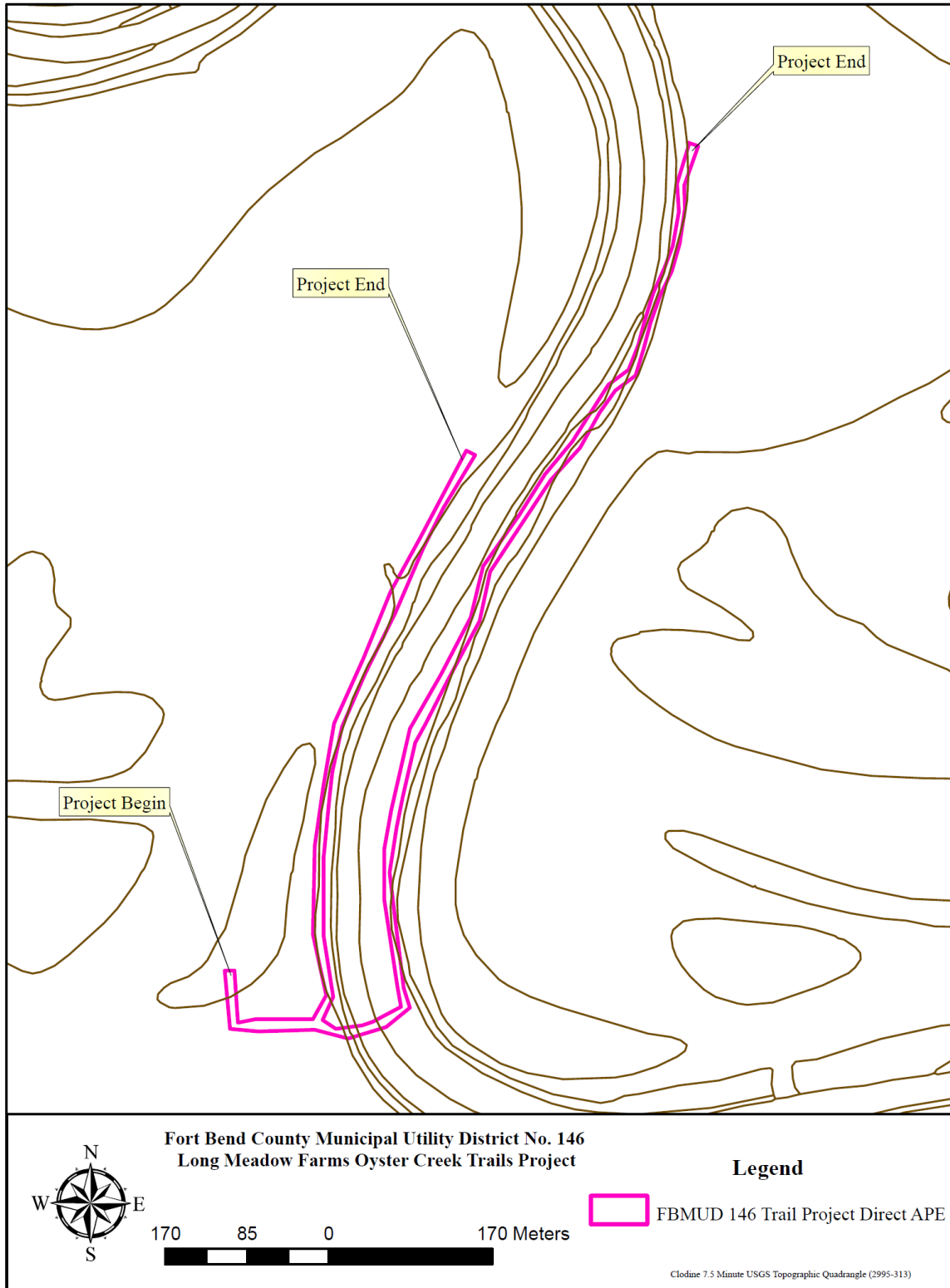


Figure 1: Topographic Map of Project Location



*Figure 2: Contour Map of Project Location*

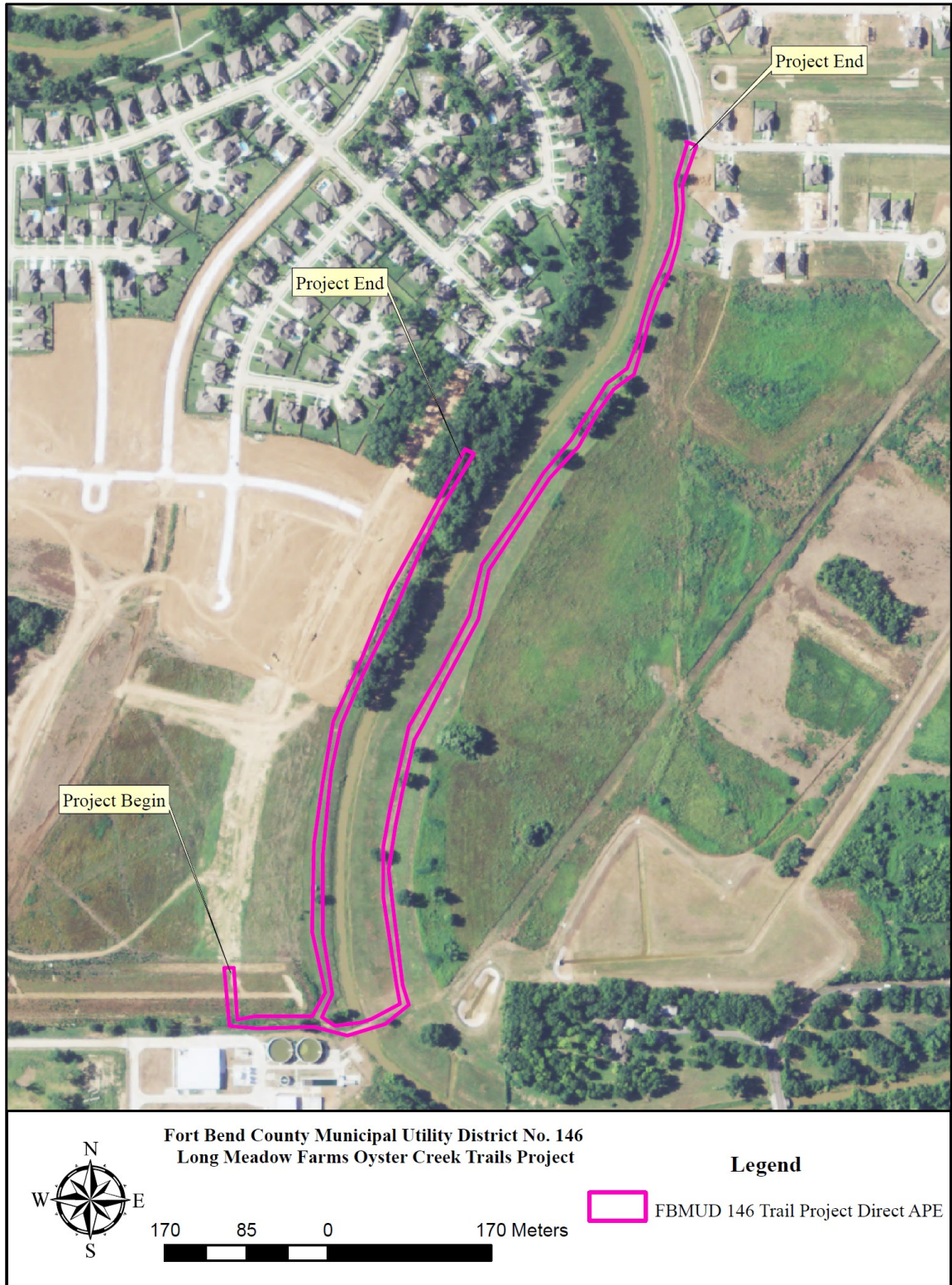


Figure 3: Aerial Map of Project Location

**Project Description**

The FBCMUD-146's proposed 1.4 linear mile Long Meadow Farms Oyster Creek Trails is a project that will serve as the continuance of an existing trail within the Long Meadow Farms housing development area. The proposed trail Project Begins just southwest at the end of Falling Dawn Drive between a 30 foot wide permanent public right of way (ROW) between Lot 10 and Lot 11 for approximately 250 feet, then turn south towards the west bank of Oyster Creek approximately 400 feet where the trail diverges east and north creating a triangular trail that connects and completes a trail loop with the existing trail further north on either side of Oyster Creek (Figure 4 and Figure 5). The northern trail divergent traverses the western bank of Oyster Creek for approximately 2207 feet and joins the existing trail where the Project Ends (Figure 6). The eastern trail divergent crosses Oyster Creek at an existing bridge and turns northward on the eastern bank of Oyster Creek and traverses approximately 4355 feet and connects with the existing trail where the Project Ends (Figure 7 and Figure 8). In the middle of the trail alignment on the eastern bank of Oyster Creek, the trail diverges and forms a triangular trail that connects with the trail loop and an unnamed road in the housing development area. In general, the ground surface visibility on the east and west bank of Oyster Creek was greater than 30 percent (Figure 9 and Figure 10). The general vegetation is grass with elm and pecan trees within and surrounding the Project's direct APE.

Based on current Sweitzer + Associates plans dated 5-28-14, consultation with Mr. William A. Sweitzer and TPWD description of the project, the Project's direct APE measures roughly 1.4 miles long (7392 feet/225.08 meters) and the width is 30 feet (9.144 meters) wide on the trail to approximately 60 feet (18.3 meters) wide where the trail diverges to complete the trail loop and where the trail connects with roads (Figure 11 through Figure 23). The Project depth is approximately 4 inches deep. A sand-base (roughly 1 inch) will be placed at the bottom with form-boards on the sides and a 3 inch concrete trail. The existing bridge will be replaced as a future phase of the trail development when funds are available. Based on previous archaeological backhoe trench investigations during the documentation of the previously recorded four archaeological sites within and adjacent to the Project and lack of deeply buried cultural material (Iruegas et al. 2007), GTI's PI has assessed that backhoe trenching is not necessary for this phase of the trail development.

The Project's direct APE encompasses the limits of the existing ROW. Currently, there is no proposed or new project ROW, or permanent and temporary easements. The Project APE is on Publicly Owned land. The project ROW of 30 feet includes the trail, signage, and lighting. According to Sweitzer +Associates 45 Progress Plan, the Project does not require any relocations of utilities and any existing utilities are clear of the proposed project construction. The Project Specific Locations (PSL) for the project is unknown at this time. It is the responsibility of the construction contractor to obtain necessary environmental clearances for the selected PSL locations during construction.

The Project Beginning and Project Ending in terms of civil engineering surveyed stations is not possible at this time, because Sweitzer + Associates' 45 percent Progress



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Plan (5-28-14) does not include station information. The final trail alignment maybe revised based on the THC's recommendation to relocate the previously existing sites and the determination of an avoidance plan, if warranted. Once the final trail alignment is known, Station level information can be prepared by Sweitzer + Associates.

The Project is Linear-Type for archaeological survey purposes. GTI notes that the *Minimum Archaeological Survey Standards for Texas* requires 16 shovel tests for every 100 foot wide by 1 mile long project length. These standards are minimum number of shovel tests when no archaeological sites are recorded within a Linear-Type project. Accordingly, GTI proposed estimated number of shovel tests in the Research Design section of the Scope of Work with the Antiquities Permit application (See Methodology).



*Figure 4: Project Beginning—Southern End of Project's direct APE Looking South*



*Figure 5: Southern End—Project's direct APE Looking East*



*Figure 6: Southern End—West Bank Project's direct APE Looking North*



*Figure 7: Southern End—East Bank Project's direct APE Looking North*



*Figure 8: Project End—East Bank Project's direct APE Looking South*



*Figure 9: East Bank—Project's direct APE Ground Surface Visibility*



*Figure 10: West Bank—Project's direct APE Ground Surface Visibility*



Figure 11: FBCMUD-146 Long Meadow Farms Oyster Creek Trails Project Area Contours and Proposed Trail

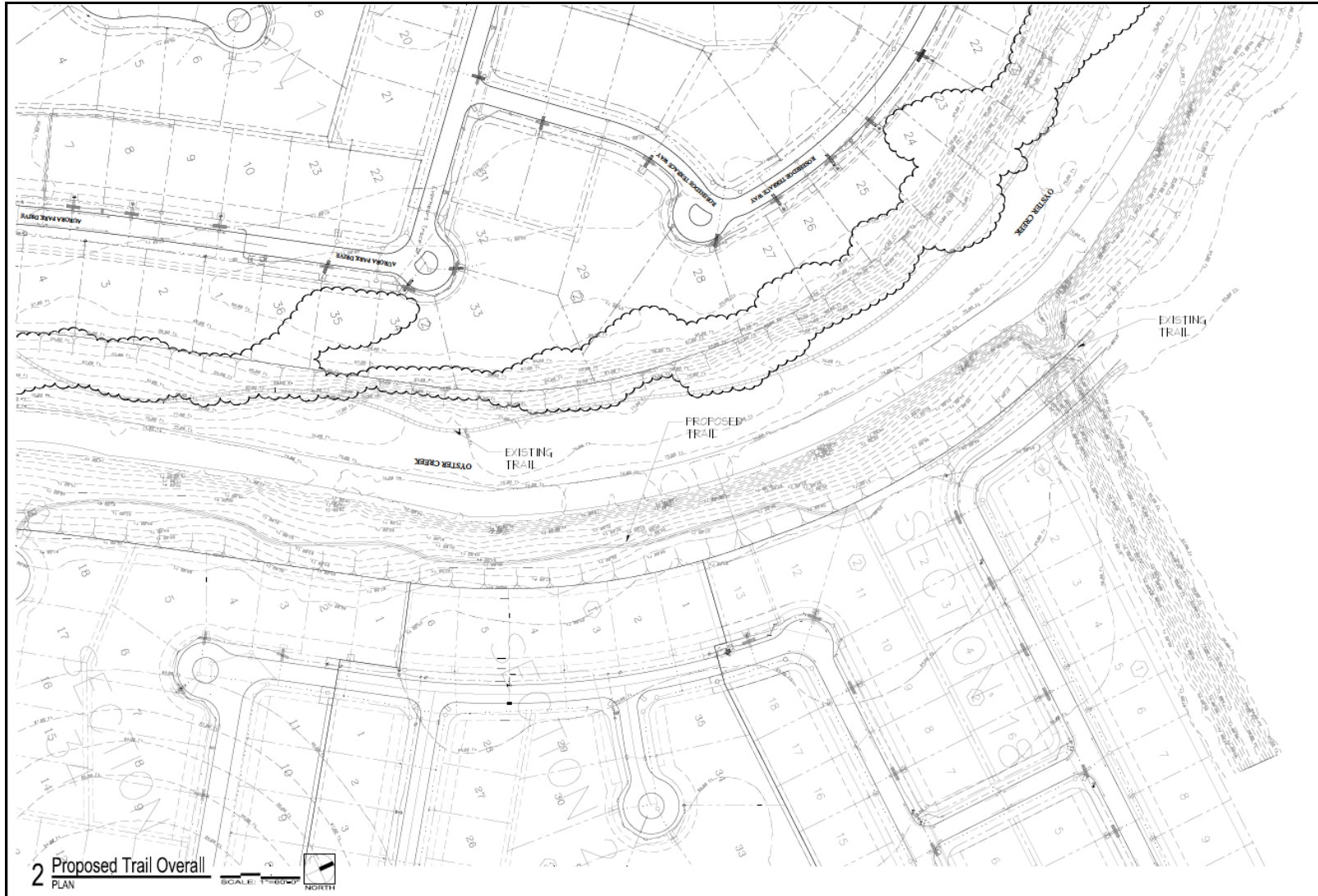


Figure 12: FBCMUD-146 Long Meadow Farms Oyster Creek Trails Project Area Contours and Proposed and Existing Trail

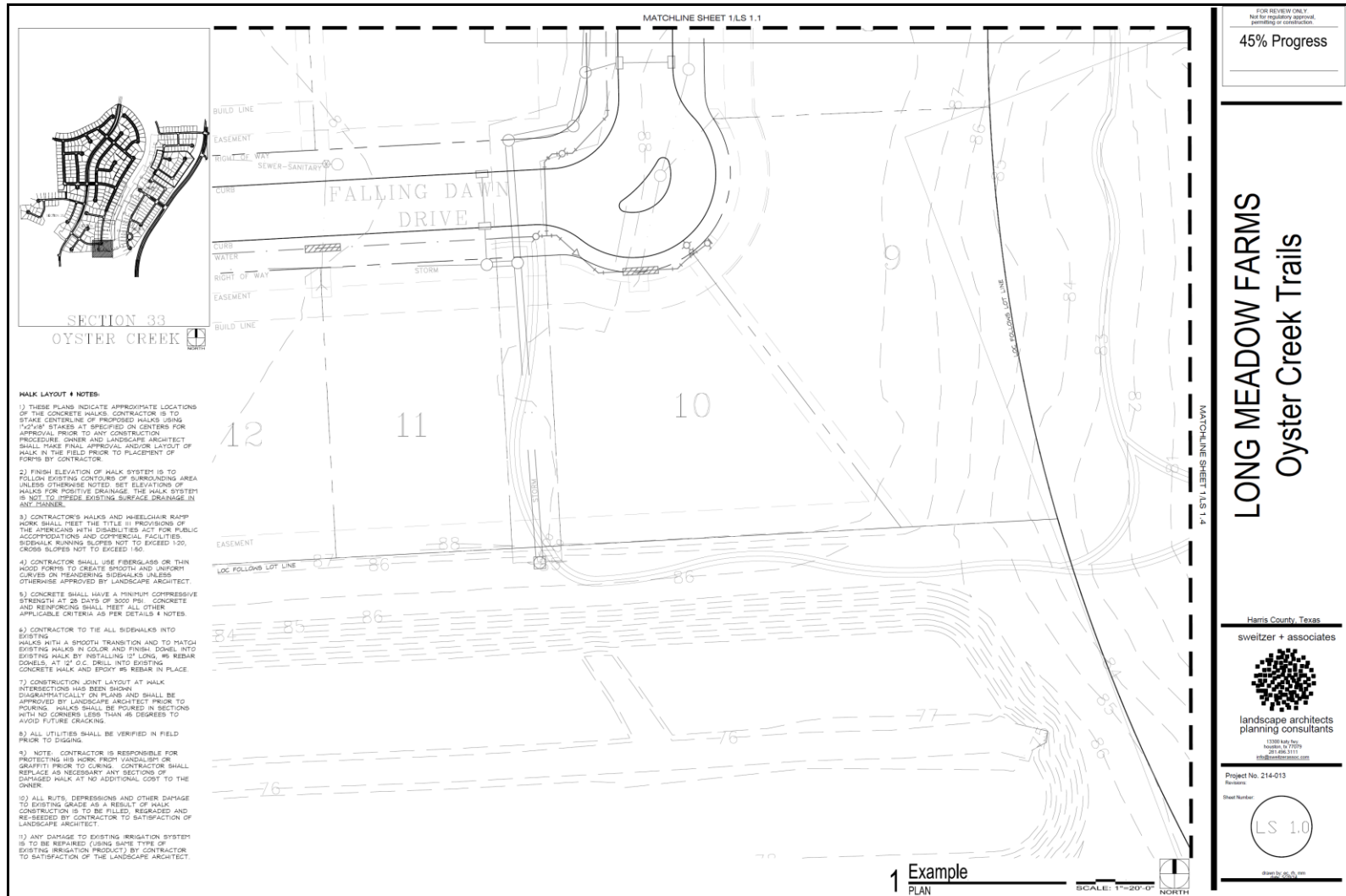


Figure 13: FBCMUD-146 Long Meadow Farms Oyster Creek Trails Project Area ROW and APE Sheet 1.0



Figure 14: FBCMUD-146 Long Meadow Farms Oyster Creek Trails Project Area ROW and APE Sheet 1.1



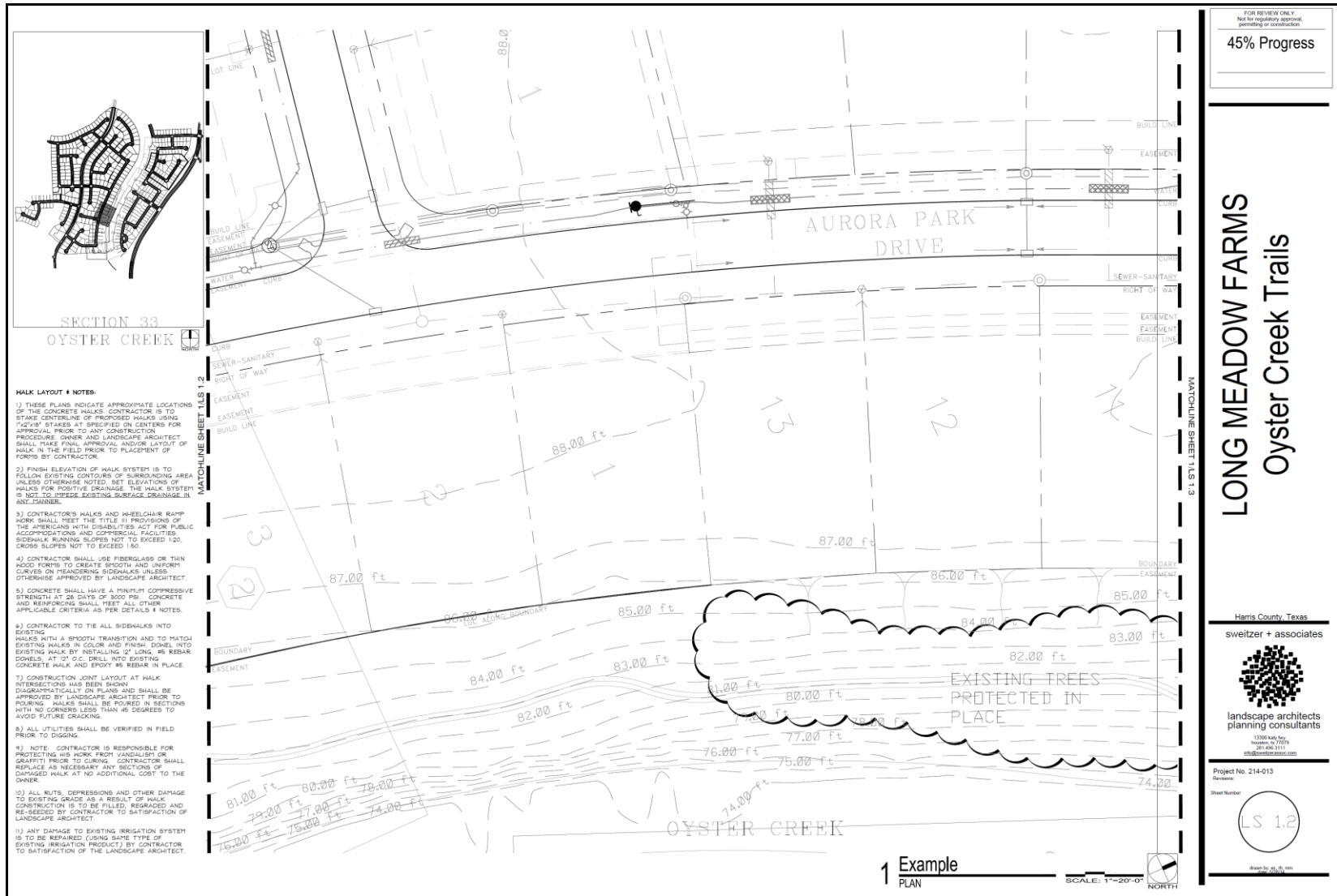


Figure 15: FBCMUD-146 Long Meadow Farms Oyster Creek Trails Project Area ROW and APE Sheet 1.2

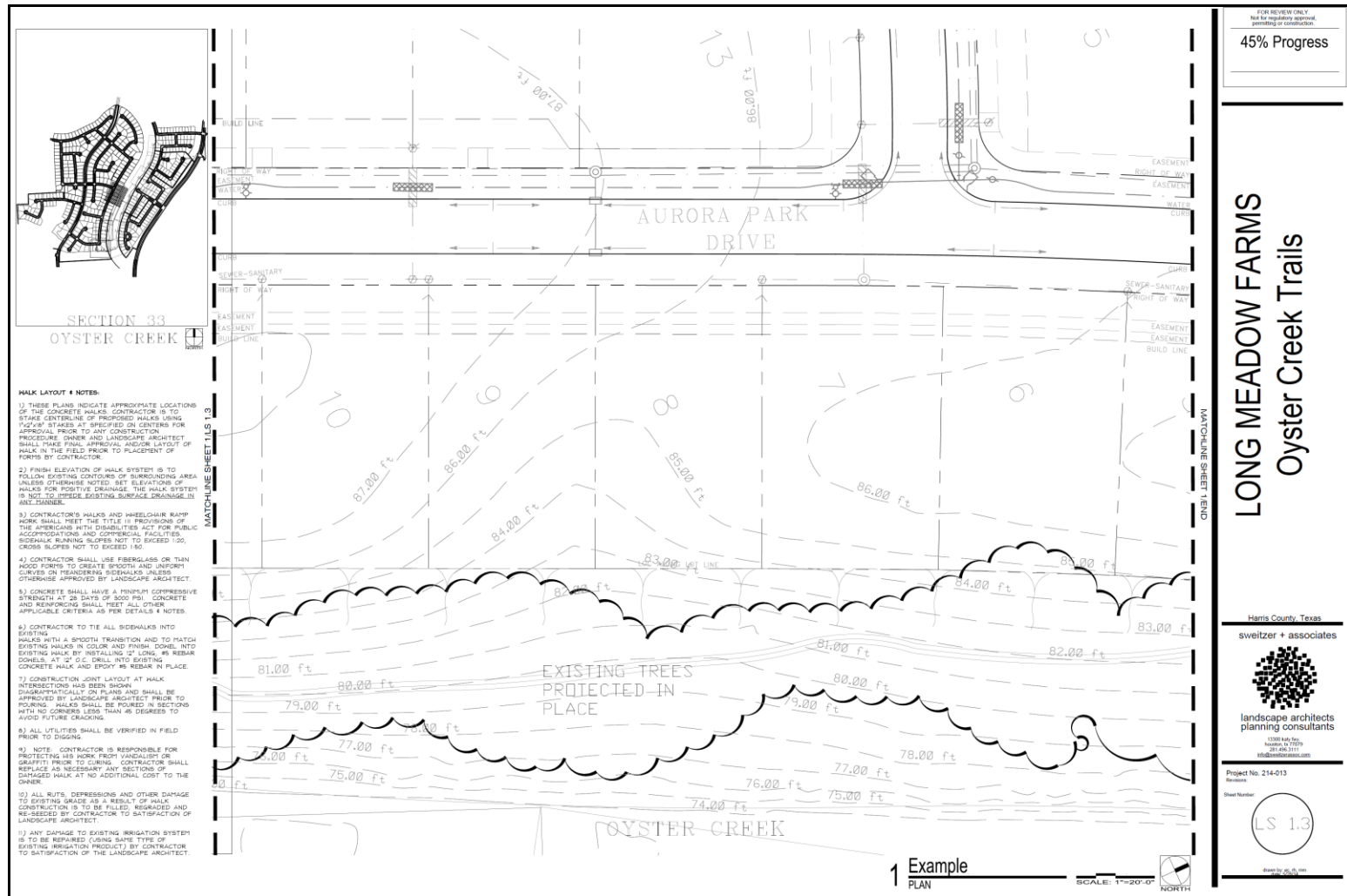


Figure 16: FBCMUD-146 Long Meadow Farms Oyster Creek Trails Project Area ROW and APE Sheet 1.3

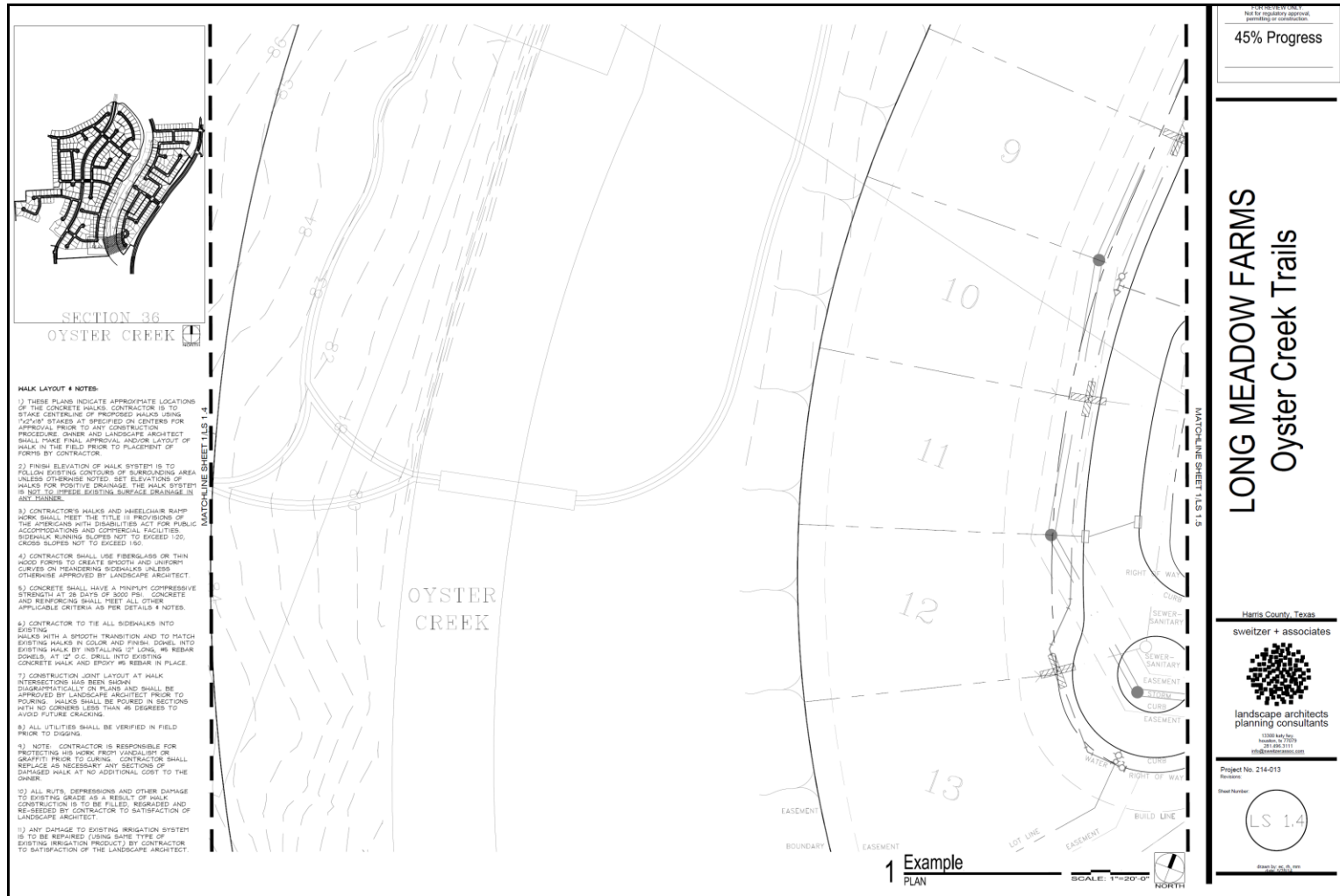


Figure 17: FBCMUD-146 Long Meadow Farms Oyster Creek Trails Project Area ROW and APE Sheet 1.4

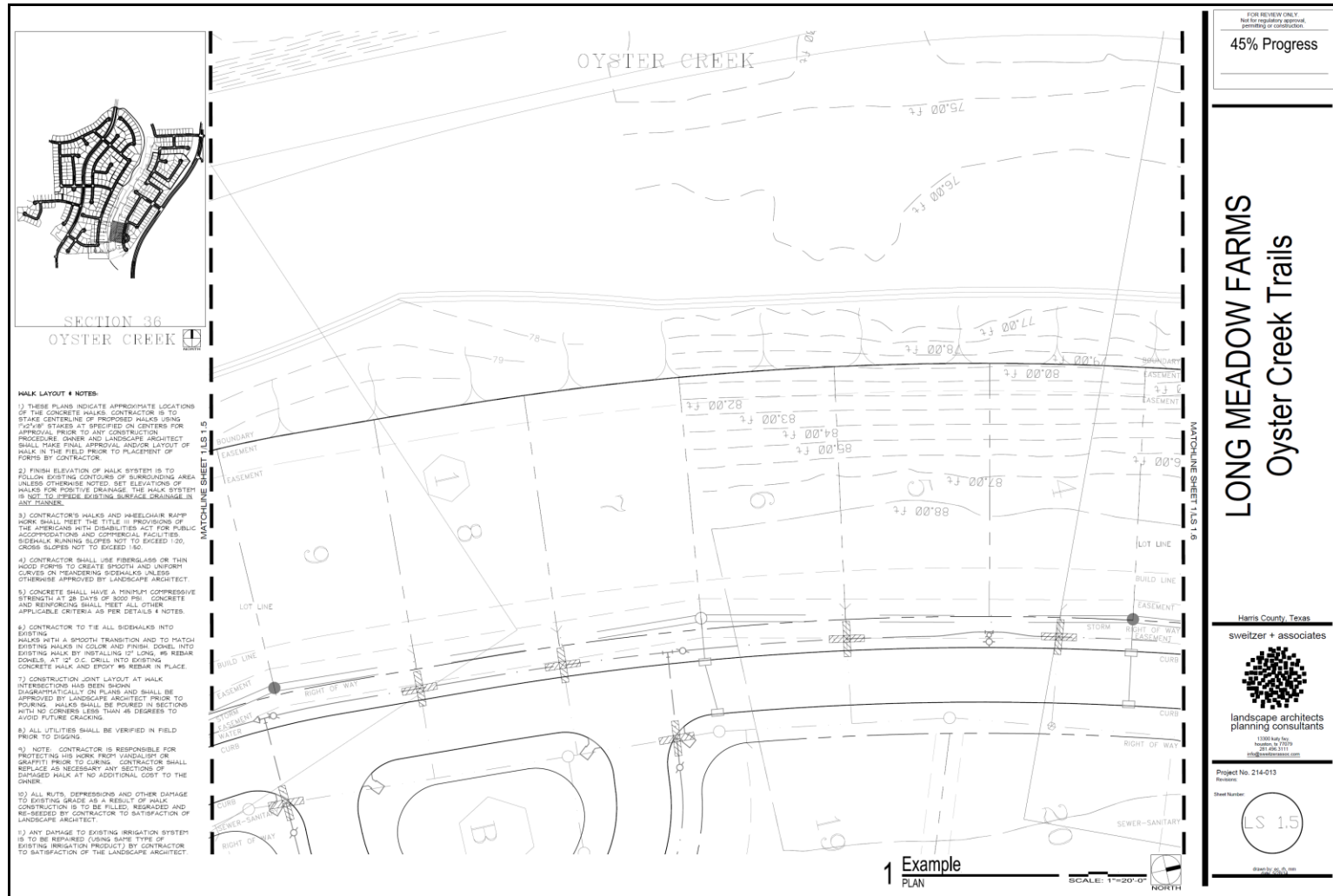


Figure 18: FBCMUD-146 Long Meadow Farms Oyster Creek Trails Project Area ROW and APE Sheet 1.5

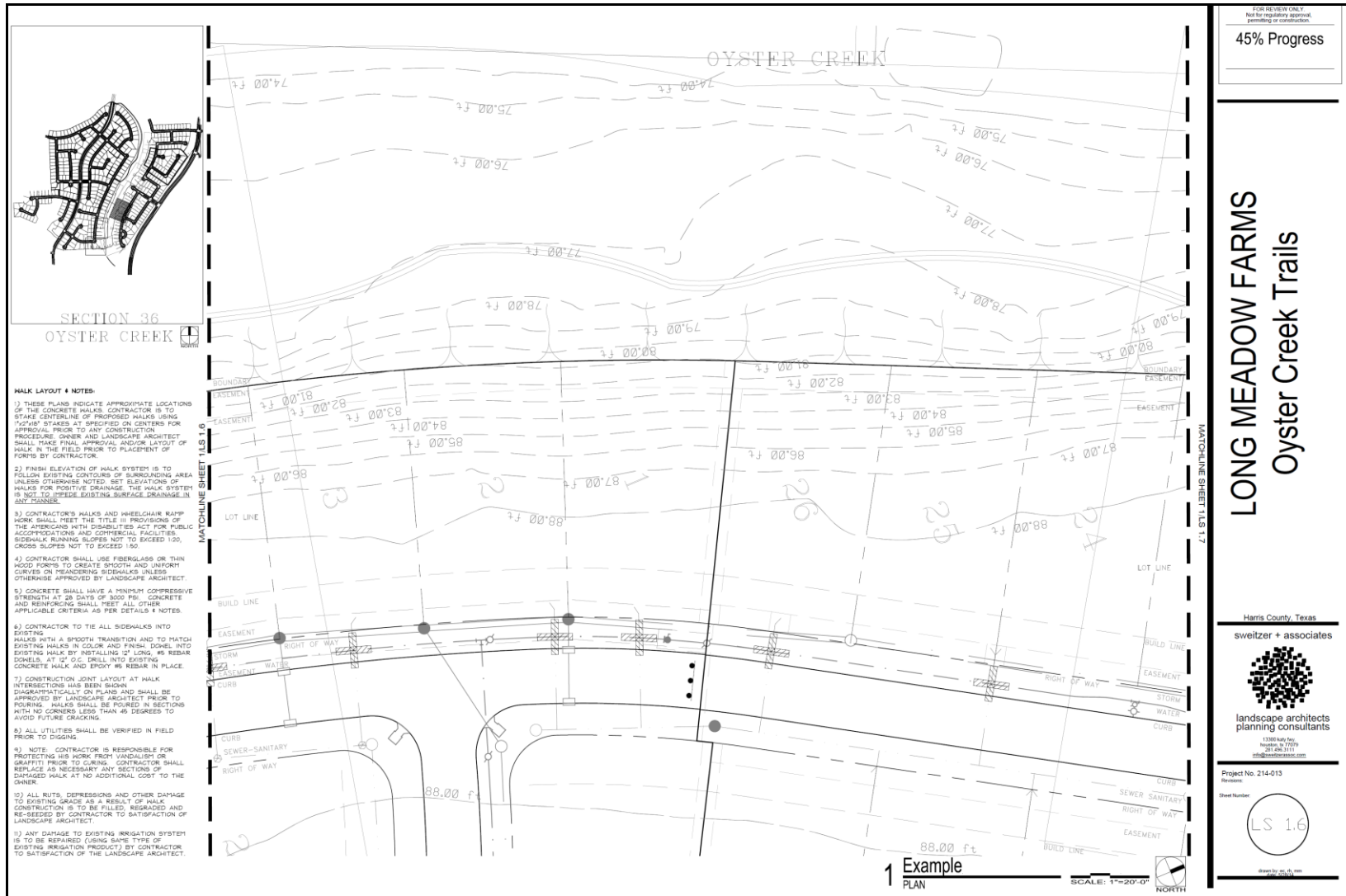


Figure 19: FBCMUD-146 Long Meadow Farms Oyster Creek Trails Project Area ROW and APE Sheet 1.6



Figure 20: FBCMUD-146 Long Meadow Farms Oyster Creek Trails Project Area ROW and APE Sheet 1.7

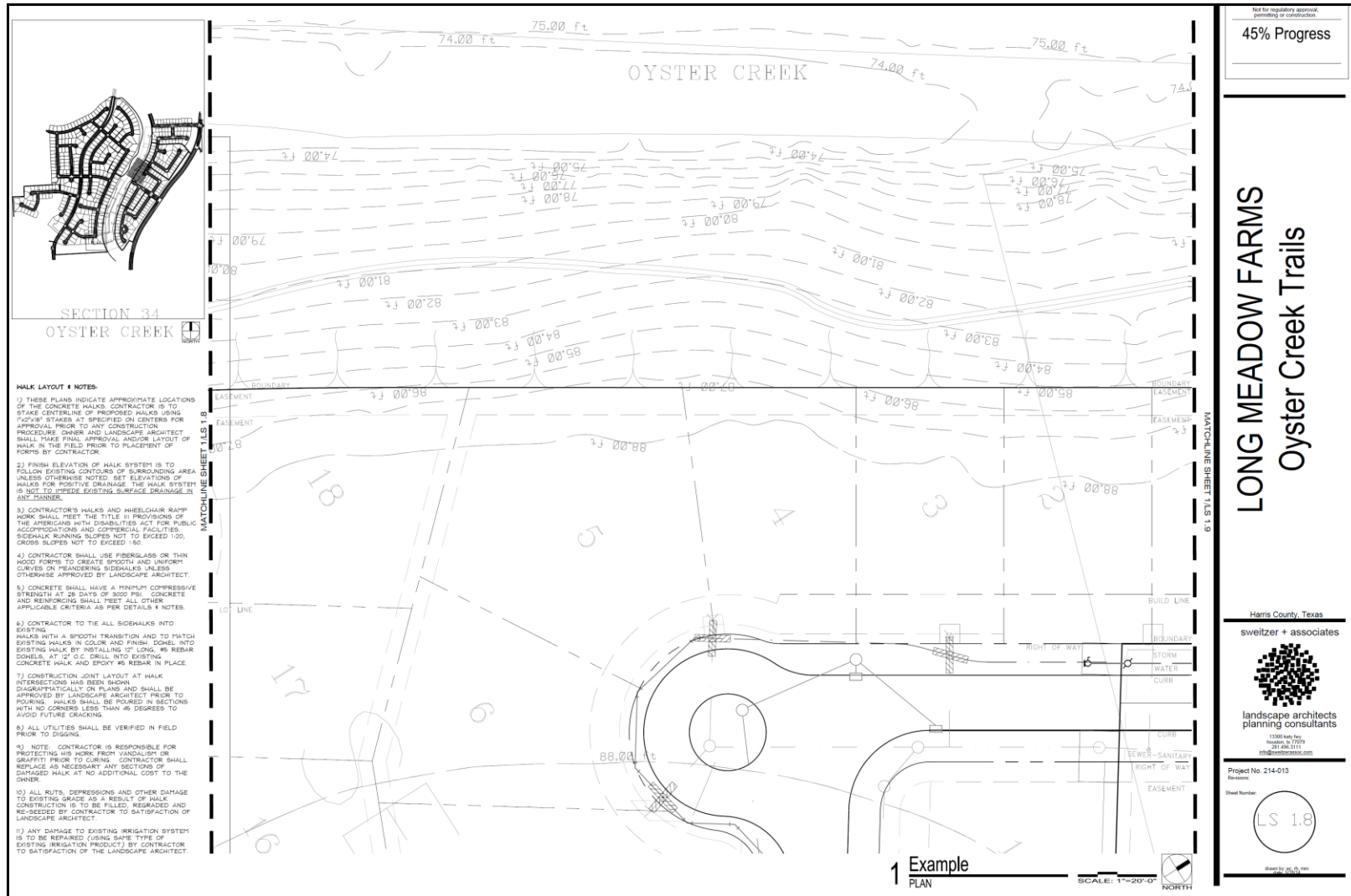
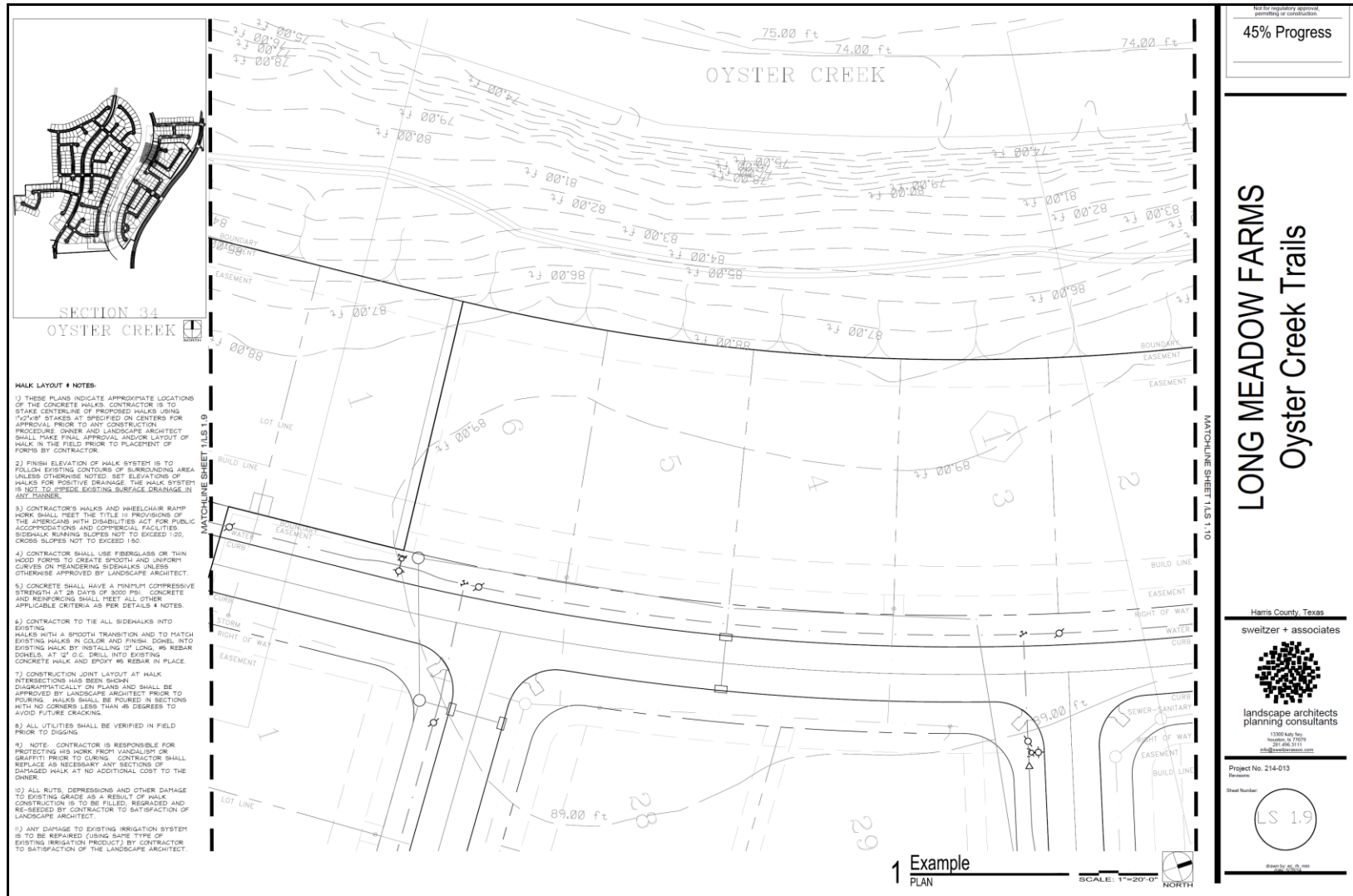


Figure 21: FBCMUD-146 Long Meadow Farms Oyster Creek Trails Project Area ROW and APE Sheet 1.8



Not for regulatory approval  
permitted as indicated  
**45% Progress**

**LONG MEADOW FARMS  
Oyster Creek Trails**

Harris County, Texas  
sweltzer + associates



landscape architects  
planning consultants

Project No. 214-013  
Revision:

Sheet Number:  
**LS 1.9**

Drawn by: [signature]  
Checked by: [signature]

Figure 22: FBCMUD-146 Long Meadow Farms Oyster Creek Trails Project Area ROW and APE Sheet 1.9



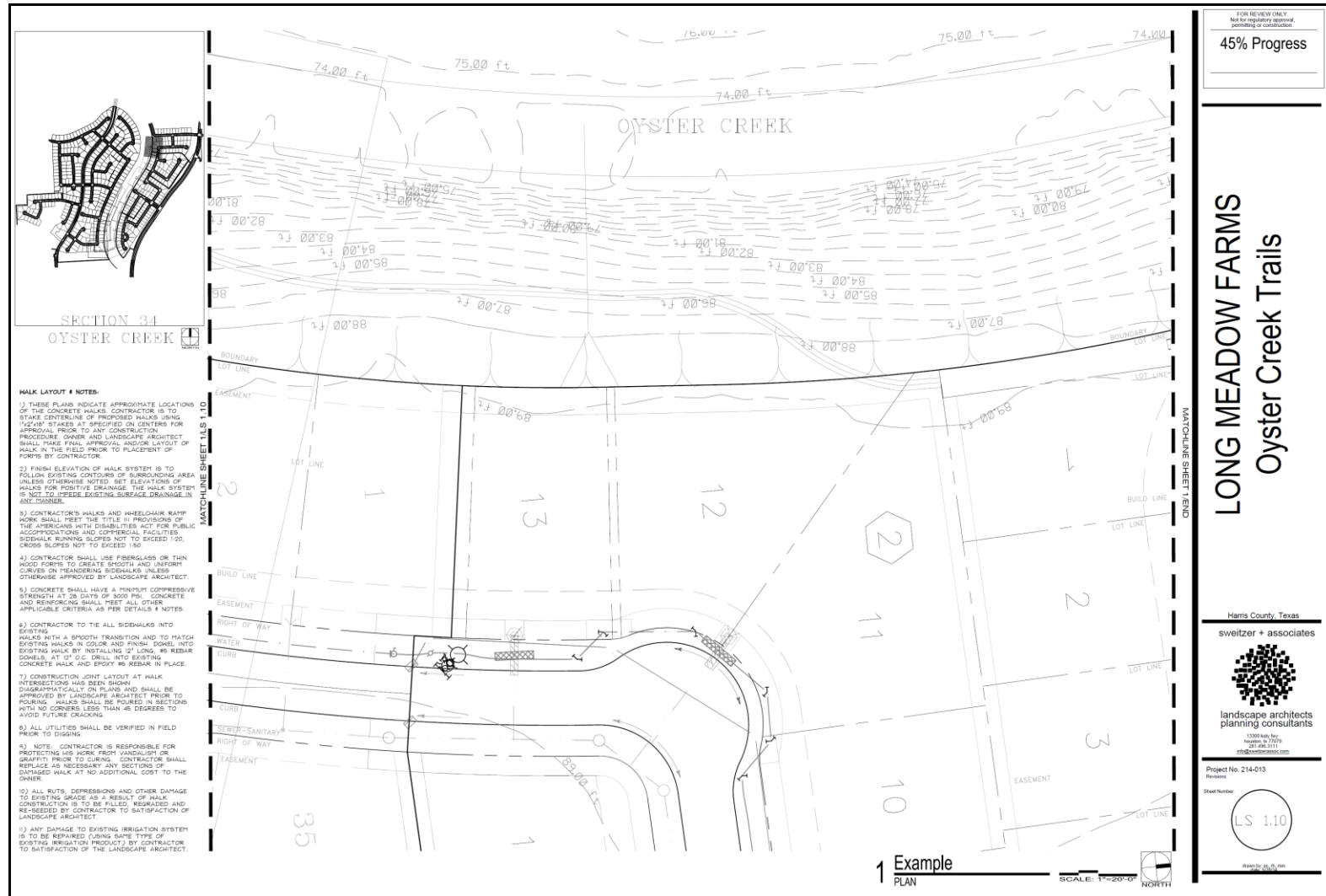


Figure 23: FBCMUD-146 Long Meadow Farms Oyster Creek Trails Project Area ROW and APE Sheet 1.10

## **Background Information**

### Topography

Fort Bend County is located in the coastal plains of southeastern Texas. Richmond, Texas, is located southwest of the Fort Bend Municipal District No. 146 (FBMUD No. 146) Long Meadow Farms Trail Project's direct APE, and it is the county seat. This slightly rolling to level alluvial terrain ranges from 80 to 250 feet above sea level. The soils are typically silty clay to clay (Laird Ott 2014).

### Soils

The FBMUD No. 146 Long Meadows Farm Trail Project's direct APE consists of Belk Clay (Nb), Norwood Silt Loam (Nc), and Norwood Silty Clay Loam (Nd) (Figure 24).

The Belk Clay are located within Flood plains that formed in calcareous clayey sediments that that were formed over loamy sediments (USDA 2007). The slope for the Belk soil series ranges from 0 to 2 percent. It is a very deep well drained soil. There are typically for layers. The top layer measures 0 to 6 inches below ground surface, and are reddish brown clay (5YR4/3 to 5YR5/3). The structure of the upper layer is fine to medium, subangular, and blocky. The texture is extremely hard, very firm, and very sticky. There are a few fine roots within the upper layer of the Belk soil series. The boundary between the upper and second layer is clear and smooth. The second layer measures 6 to 26 inches below ground surface, and is reddish brown clay (5YR4/4 to 5/4). The structure is fine to medium, angular, and blocky. The texture is consistent with the upper layer. There continue to be a few fine roots, and most peds have a shiny surface with slickensides that also have common grooves. The boundary between the second and third layer is abrupt and wavy. The third layer measures 26 to 45 inches below ground surface. The color ranges from reddish brown silt loam (5YR5/4) to light reddish brown (5YR6/4). The structure of the Belk soil series third layer is described as massive while the texture is slightly hard and very friable. Within the third layer, are thin bedding planes of yellowish red (5YR 4/6) very fine sandy loam. The boundary between the third and fourth layer is clear and wavy. The fourth and bottom layer extends from 45 to 73 inches below ground surface. The color is yellowish red to reddish yellow silt loam (5YR5/6 to 6/6) interspersed with reddish brown clay (5YR5/4 to 4/4) bedding planes. This bottom layer consists of thin discontinuous bedding planes. The texture within this layer is slightly hard and very friable.

The Norwood soil series is a very deep well drained soil found on flood plains. These soils developed from reddish calcareous loamy alluvial sediments. The slope of the Norwood typically ranges from 0 to 1 percent, but can extend to 8 percent. The Long Meadow Farms Trail Project's direct APE consists of Norwood silty clay loam and Norwood clay. The overall Norwood soil series has four horizons that are subdivided into ten layers. The first layer extends from 01 to 4 inches and is light brown to pink loam (7.5YR6/4 to 7/4). The texture is fine, subangular, and blocky. The texture is soft, very friable, slightly sticky, and non-plastic. Fine to coarse roots, coarse pores and fine snail

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shell fragments are all present within the first layer. The boundary between the first and second layer is clear and wavy. The second layer measures 4 to 10 inches below ground surface, and is brown loam (7.5YR4/2 to 5/4). The structure is coarse, subangular, and blocky. The texture and constituents within the second layer both remain consistent with the upper layer. The boundary between the second and third layer is clear and smooth. The third layer measures 10 to 18 inches, and is yellowish brown silty loam (10YR5/4). The structure is medium prismatic, and transitions to subangular and blocky. The texture remains consistent with the upper and second layer. Constituents in the third layer of the Norwood soil series include fine fragments of snail shell, films and threads of calcium carbonate, and fine mica flakes. The boundary between the third and fourth layer is clear and smooth. The fourth layer measures 18 to 28 inches below ground surface and is reddish yellow to pink silty loam (7.5YR6/6 to 7/4). The structure and texture are consistent with the third layer. The fourth layer contains masses or iron accumulation, and films and threads of calcium carbonate. The boundary between the fourth and fifth layer is clear and smooth. The fifth layer measures 28 to 34 inches below ground surface, and the color, structure and texture are consistent with the fourth layer. The iron accumulations in the fifth layer occur in a 25 percent continuous depleted bedding plane, and there are few thin iron manganese coatings in pores. The boundary between the fifth and sixth layer is clear and smooth. The sixth layer measures 34 to 44 inches below ground surface, and it is light brown to pink silt loam (7.5YR6/4 to 7/4). The structure and texture are consistent with the fifth layer. The iron accumulations increase to 35 percent in the sixth layer, and there is an increase in the iron manganese coatings to 4 to 6 mm. The boundary between the sixth and seventh layer is abrupt and smooth. The seventh layer measures 44 to 49 inches below ground surface, and is brown to pink silty clay loam (7.5YR5/4 to 7/4). The structure of the seventh layer is medium subangular and blocky. The texture is slightly hard, friable, slightly sticky, and plastic. The masses of iron accumulations are strong brown (7.5YR4/6), and remain consistent with the 35 percent discontinuous horizontal bedding planes that are 1 to 3 mm thick. The boundary between the seventh and eighth layer is abrupt and smooth. The eighth layer measures 49 to 53 inches below ground surface and is brown clay (7.5YR4/2 to 10YR4/3). The structure of the eighth layer is medium, angular, and blocky. The texture is very hard, very firm, very sticky and very plastic. Constituents included a few iron-manganese coatings lining pores, a few fragments of snail shells, and a few mica fragments. The boundary between the eighth and ninth layer is abrupt and smooth. The ninth layer extended from 53 to 63 inches below ground surface, and is light yellowish brown to light brown very fine sandy loam (10YR6/4 to 7.5YR6/4). The structure is coarse to prismatic, and transitions to fine, medium subangular, and blocky. The texture is soft, very friable, non-sticky, and non-plastic. There are a few masses of iron accumulation and pale brown iron depletions that have clear boundaries. The boundary between the ninth and tenth layer is clear and smooth. The tenth and last layer described measures 63 to 80 inches below ground surface. It is yellowish brown to brown very fine sandy loam (10YR5/4 to 7.5YR5/4). The structure and texture are consistent with the ninth layer. The boundaries of the iron accumulations and depletions in the tenth layer are diffuse.



Figure 24: USDA Soils Map

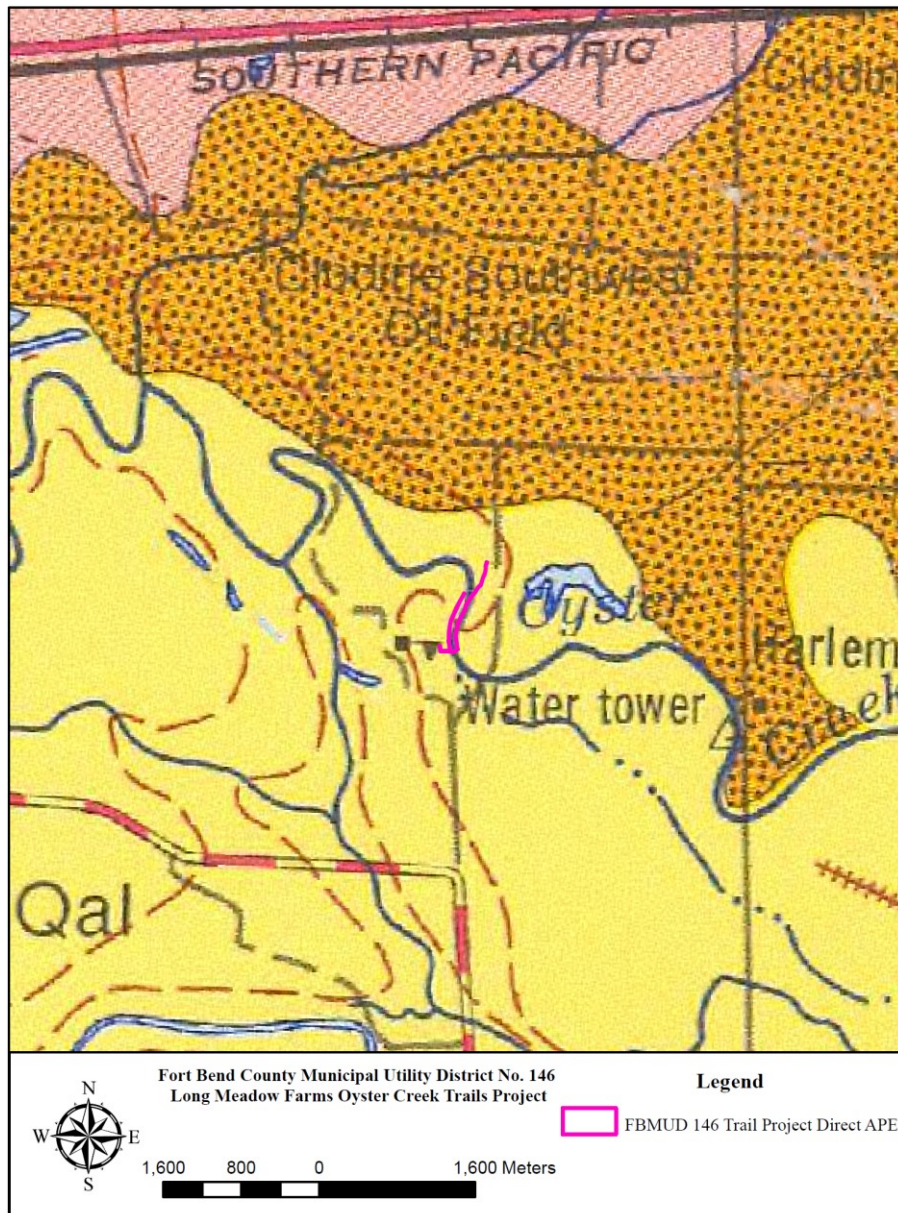
Geology

The geology of the FBMUD No. 146 Projects direct APE consists of Alluvium associated with Oyster Creek (Bureau of Economic Geology 1982; Figure 25). The alluvium is low terrace deposits of gravel sand silt clay and abundant local organic matter Deposits include point-bar, natural levee, stream channels, backswamp, coastal marsh, mud-flats, and beach deposits.

Qal

Alluvium

*Clay, silt, and sand, organic matter abundant locally; includes point-bar, natural levee, stream channel, backswamp, coastal marsh, mud-flat, and narrow beach deposits that are shown by line symbol*



*Figure 25: Geologic Map of Project Area.*

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### Previous Work & Sites within 1 Kilometer

According to the THC's Atlas Database, there are three archaeological surveys with archaeological sites documented within one kilometer of the FBCMUD-146 proposed Project (Figure 26). Figure Four Partners, Ltd. sponsored an archaeological survey for the United States Army Corps of Engineers (USACE) and documented 41FB255, 41FB259, 41FB260, 41FB261, and 41FB262 (Sherman 1998). Robert Rogers later conducted data recovery at 41FB255 and excavated intact burials with human skeletal remains (Rogers et al. 2000 unpublished manuscript). GTI documented 41FB310, 41FB311, 41FB312, 41FB313, 41FB314, and 41FB315 for Trend Investments (Iruegas et al. 2007) under the jurisdiction of for the United States Army Corps of Engineers (USACE) and Fort Bend County Municipal Utility District No. 146, and 41FB321 for the Pecan Grove Municipal Utility District (Iruegas et al 2009). A brief discussion of each survey and results are presented.

In February of 1998, Figure Four Partners Ltd funded the Fort Bend Survey. Archaeologists documented a multi-component prehistoric/historic site located on a natural levee adjacent to Figure Four Lake. Archaeologists excavated 101 shovel tests, 6 backhoe trenches, and one 1m x 1m test unit. Three intact cultural features were recorded during backhoe trenching. Archaeologists recovered lithic debitage, 1 diagnostic projectile point, 1 lithic tool, prehistoric and historic ceramics, glass, brick, metal, nails, bone, and C-14. The archaeological sites documented during this survey that are within one kilometer of the current Project area were 41FB255, 41FB259, 41FB260, 41FB261, and 41FB262. Archaeologists recommended avoidance and National Register Testing and Data Recovery if avoidance was not possible. The THC required ground scraping to complete the intensive archaeological survey, and archaeologist documented multiple intact burials of human remains. Data recovery excavation fieldwork of the burials with human remains and draft report at 41FB255 was prepared in 2000. The TX-SHPO determined the prehistoric component of 41FB255 to be eligible for listing in the National Register of Historic Places in accordance with 36CFR60.4(d) on May 31, 2000. The National Register eligibility of 41FB255 and the other sites have not been formally determined by the lead federal agency, USACE. The western boundary of 41FB255 abutted the eastern boundary of Farmers road, and the western site boundary of 41FB255 was documented west of Farmers Road by GTI in 2007.

GTI conducted an intensive archaeological survey for Trend Investment Services of its 1,400 acre Long Meadow Farms housing development project that included construction of a municipal utility district, which would later be under the direct control of the Fort Bend County Municipal Utility District N. 146. As a result, the THC issued Antiquities Permit Number 4463 GTI's PI, Sergio A. Iruegas to conduct this cultural resources survey within the project area. During the intensive survey, a total of 716 shovel tests and 29 backhoe trenches were excavated throughout both high and low probability areas within the project area. Thirty-six shovel tests and 6 backhoe trenches were positive for cultural material, limited to historic artifacts. Survey efforts were concentrated along either side of Oyster Creek, relic ox bows of Oyster Creek, and areas adjacent to the western boundary of site 41FB255. Seven previously unidentified archeological sites (41FB310, 41FB311, 41FB312, 41FB313, 41FB314, and 41FB315)

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were recorded as well as confirming that the western boundary of 41FB255 extended across Farmers road into the project area. Only historic artifacts were recovered within project area boundary west of Farmers road. A total of 19 shovel tests and 2 backhoe scrapes (BHS-A and BHS-B) were performed in this area to the west of Farmers Road. Two of the shovel tests and both backhoe scrapes were positive for historic late-19th to early-20th century cultural material. All the positive scrapes and shovel test were limited to a small area directly adjacent to the fence line. Shovel testing at 15 meter intervals throughout a 100 meter stretch along the fence line and 35 meters further west into the open field did not reveal any additional artifacts. No prehistoric artifacts or features were identified. The TX-SHPO determined each of these sites to be ineligible for listing in the National Register of Historic Places under 36CFR60.4(d) on June 27, 2007 and stated it would be important to know if former slaves occupied these sites due to the equally spaced site distribution pattern that may be related to antebellum spacing of slave quarters, presumably to assess whether the sites were eligible for listing in the National Register of Historic Places under 36CFR60.4(a) and 36CFR60.4(d). The THC also stated: "In the event that intact deposits are uncovered during construction, work should cease in the immediate area and this office should be consulted." The THC approved the final report. The USACE has not made a formal determination of these sites eligibility for listing in the National Register of Historic Places and are afforded protection until then.

GTI completed an intensive archeological survey for the Pecan Grove Municipality Utility District (MUD) surface water treatment plant, including detention ponds, intake outfall structures on the west bank of Oyster Creek in Fort Bend County, Texas. Accordingly, the THC issued Antiquities Permit # 5472. The project also required a USACE permit under 33CFR325. The intensive archaeological survey primarily consisted of backhoe trenches and soil stratigraphy examination and documentation to determine if buried cultural deposits were present within the project area, which was directly adjacent to Oyster Creek and the plant location was near an old channel of the creek. One site; 41FB321, was discovered within the APE that follows along a pimple mound just east of Skinner Road. The area had undergone some alterations due an existing pipeline that runs parallel to Skinner Road. Artifacts observed along the surface of this mound consisted of flakes, bone fragment, and mussel shell fragments. The project sponsor was able to avoid the site by angling the access road south of the site boundary. The TX-SHPO determined this site ineligible for listing in the National Register of Historic Places on December 22, 2009. The USACE has not made a formal determination of National Register eligibility.

Of the total number of sites discussed, only 41FB310, 41FB312, 41FB313, and 41FB314 are directly adjacent or within the Project's direct APE. The THC reviewed and recommended these sites be reevaluated for their integrity and avoidance, if necessary. Accordingly, GTI's PI and archaeologist address the relocation of these sites and present the information in the Results Chapter.





**Archival Review**

GTI revisited the archival review performed during the 2007 investigations of Long Meadows Farm for Trend Investments (Iruegas et al. 2007) in order to address THC's questions and recommendations. According to previous research, the Project's direct APE overlaps two historic tracts of land granted in Fort Bend County to members of Stephen F. Austin's original Old Three Hundred colonists—Randal Jones and William Morton (Figure 27 and Figure 28). Archaeological sites 41FB310, 41FB312, 41FB313 and 41FB314 are located on the east bank of Oyster Creek and fall primarily within the William Morton land grant tract. For a detailed discussion of Randal Jones and William Morton please refer to Iruegas et al. 2007. Below is a brief history pertaining to William Morton in order to provide context for the current investigation.

William Morton arrived in Texas in 1822, and he lead one of the original families that followed Stephen F. Austin to Texas. Upon his arrival in 1822, he planted his first crop on the first bend of the Brazos River. Morton received two land-grant tracts within Austin's Colony. According to GLO's GIS Webviewer, Abstract A-63 represents (not shown) a smaller tract located on the east side of the Brazos River and eventually became part of Richmond, Texas. The second larger land-grant tract, known as A-62, extended from the west bank of the Brazos River to Oyster Creek (Tx GLO: A-62; Figure 29 and Figure 30—GLO GIS Webviewer shows A-62 parcels from original land grant). The title for the land grant describes Morton's ability to succeed as a colonist, because he had a large family or "crecida familia" that will help him in working the land. The larger land tract totaled one and a half leagues and a labor of land, and this is where Morton built his home (Handbook of Texas 2014). He was an avid participant in the new colony, he voted in the first colonial election in 1824, and Stephen F. Austin recommended him for *regidor* of the municipality, because of Morton's participation in the settlement.

It is suggested that many believed William Morton left his family and home in Texas in 1833. The Brazos River, however, flooded that year, and it was later discovered that William Morton drowned in the river. Reportedly, his neighbor Randal Jones was the last person to see him alive (Hand Book of Texas 2014). With her husband missing, Nancy Morton filed a petition on October 28<sup>th</sup>, 1834 in an effort to have a curator appointed to manage the property. Nancy Morton specifically describes in the petition that her husband William Morton "abandoned his plantation & property." This also indicated that even by that time it was unknown if he had departed the state or had died. None the less, through the Republic of Texas era, and into early Statehood there were a number of administrators to the Morton Estate. The first guardianship was assigned to Nathan Burnett on September 12, 1843 (Case#107). The following year on August 26, 1844, Daniel Perry became the administrator (Case#142). Daniel Perry was married to one of William Morton's daughters, Louisa Ann, who continued living on the family's property. There eldest son John V. Morton also continued living on the family's land tract (Walker 2008).



Figure 27: 1865 Fort Bent County Plat Map with General Project Area



Figure 28: 1865 Fort Bent County Plat Map Close-up with General Project Area

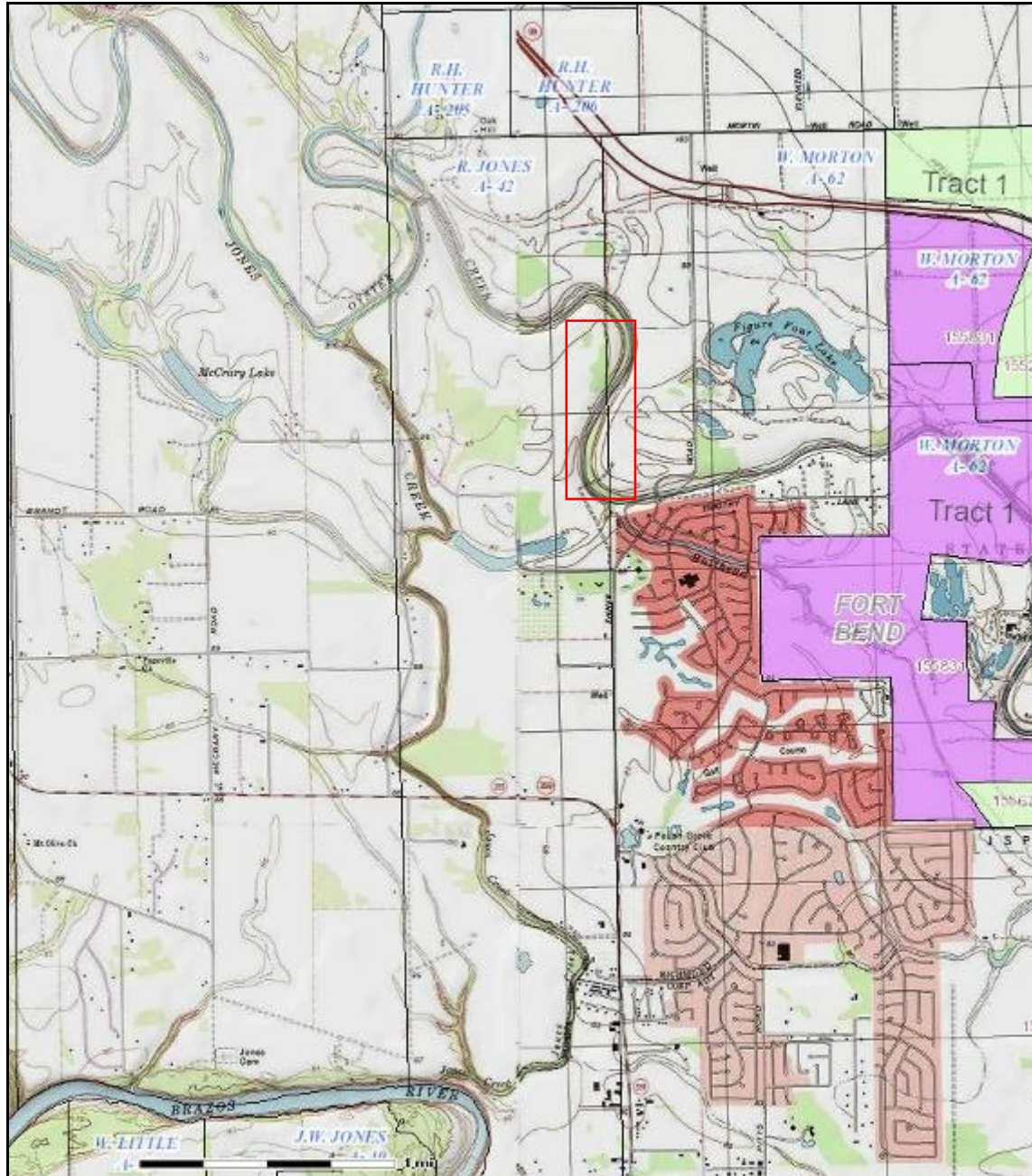


Figure 29: Texas General Land Office Topographic Map with Land Grant Tracts



Figure 30: Texas General Land Office Aerial Map with Land Grant Tracts

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During the previous investigations, additional archival research was recommended by the THC in order to determine whether the occupants of newly recorded sites 41FB310, 41FB312, 41FB313 and 41FB314 located on the William Morton property were former slaves due to equally spaced site distribution patterns that may be related to Post-Bellum Occupancy Form spacing of former slave quarters. Archaeological evidence and archival documentation during the 2007 (Iruegas et al.) investigation supported the possibility of this hypothesis. Nancy Morton's October 28, 1834 petition references her husband's property as a plantation, which suggested that their homestead was established based on plantation patterns and style of living during that time period. The review of the Nacogdoches Archives at the State Archives Library specifically stated that William Morton did indeed own slaves, as early as 1826. The description in the 1826 Austin's Colony census record indicated William Morton was responsible for 10 individuals. The census listed William Morton as a farmer and stock raiser living with his wife, three sons, two daughters, one servant and two slaves. Historical archaeologists (Prunty: 1955, Potter: 1990, Orser and Nekola: 1996, Orser: 1990, Singleton: 1991) have documented consistent and economically oriented plantation settlement patterns at historical archaeological sites throughout the southeastern United States, Caribbean, South America, and South Africa. These Ante-Bellum and Post-Bellum Occupancy Settlement Pattern Forms have been documented in Texas at other plantation sites, such as the Levi Jordan (Brown and Cooper 1990 and Brown: 1995) and Wallace-Burleson Plantation (Iruegas and Lohse 1998), which supports the possibility that the equal spacing between sites 41FB310, 41FB312, 41FB313 and 41FB314 represents the Post-Bellum Tenant-Renter Occupancy Form.

In addition to the review of historic documents, Iruegas et al. (2007), also considered historic aerial photography, and oral history. The earliest aerial photograph examined dated to 1941, and demonstrated that there were four historic structures at the site locations along the east bank of Oyster Creek. By 1952, only the southernmost structure remained standing at the site location of 41FB312. This structure based on aerial photography and topographic map review remained in place until sometime between 1989 and 2006. It was further noted, on the 1941 aerial photograph that there were no other structures visible within the undeveloped portion of Long Meadow Farms housing development area. Oral history during the 2007 investigation also indicated that the southernmost structure remained standing into the mid-1980s. Mr. Gary Pochila, the land manager for Long Meadow Farms, reported that when he came to work on the property 34 years ago the land was owned by two brothers Girty and Burt Winston. The Winston brothers had inherited the property from their uncle, J.R. Farmer. Mr. Pochila is not aware of who owned the property prior to J.R. Farmer.

The THC's policy for addressing historical archaeology sites includes three lines of evidence: historic written record, archaeological evidence, and oral history. Mr. Pochila provided oral history of who he understood owned the land. He did not provide information about who lived on the land. Accordingly, GTI historian reviewed records for Fort Bend County in an attempt to find out who owned the land and who may have lived on the land—primarily to answer THC's earlier question: Were the occupants of the land former slaves or descendants of former slaves.

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For the current study, GTI's historian tried to further answer THC's question and identify if the historic land tract was subdivided, and who owned or occupied the four homes along Oyster Creek. These efforts included review of the Fort Bend County Appraisal Districts GIS platform for abstract history search, Fort Bend County County Clerks Office Public Access online database, Fort Bend County Historical Commission Archives Report database, and the Texas Genealogy and USGenWeb Archives Project databases. The county clerk and archive report databases were the most helpful in addressing who owned the land and who may have occupied the land. GTI's historian presents the information from each on-line resource.

The Fort Bend County Appraisal Districts GIS platform identified the Randal Jones and William Morton tracts. The GIS platform further provided tract Property ID's within the subdivision of the Long Meadow Farms development. GTI's historian identified each land tract and its Property ID where the four archaeological sites were located and searched the database in order to document any abstract history available relating to these location (Figure 31). Unfortunately, the information in this database only went back to the year 2003 and produced little results. The Fort Bend County Appraisal Districts GIS platform did verify this historic land tract of William Morton and documented it as Abstract A-62.

<b>Site Number</b>	<b>Property IDs</b>	<b>Current Owner</b>	<b>Past Owner</b>
41FB310	R429466, R429468	LM Development, LP	Unknown, Data only goes back to 2003
41FB312	R429490, R429491, R429492, R429493, R429494	LM Development, LP	Unknown, Data only goes back to 2003
41FB313	R413842	Darling Homes of Texas, LLC	Unknown, Data only goes back to 2003
41FB314	R429419, R429448, R429449, R429450		

*Figure 31: Table showing Land Tract Property IDs and Owners*

GTI's historian further searched the Fort Bend County County Clerks Office Public Access online database. Searches included the Morton, Farmer, and Winston surnames, LM Development LP, and Darling Homes of Texas, LLC. The only productive search resulted from the Morton surname. The search indicated that as late as 2010 and 2012, the family owned the land through a company, Morton 99 LLC, and the family company continued to own portion of Abstract A-62. Therefore, the Morton Family owned the original land grant and Project diect APE through time. There was no record of land transfers between Morton and Farmer nor between Farmer and Winston. Accordingly, the written record and archaeological lines of evidence outway the oral history record, yet it is still important and perhaps reflects who controlled the land recently. GTI's historian addressed the possibility of inter-marriage between the Morton Family with Windstons and Farmers Families.

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The Fort Bend County Historical Commission Archives Report database was searched for any information pertaining to the Morton's and to slaves in Fort Bend County. There was no specific information regarding the Morton's in this database, but there were sales receipts for the sale of slaves within the archives database unrelated to the Morton Family. Additional searches in the Texas Geaneology and USGenWeb Archives Project databases, were performed to review further census records that may indicated Morton's descendants living in Fort Bend County, and if their slaves and descendants lived on the land. There were Morton family members documented in the 1850 Fort Bend County Census. The portion of the census showing slave owners and number was not available online. Lastly, a general search was performed to find a link between the surname Morton, Farmer and Winston. This resulted in documenting that individuals with the surname Morton, Farmer and Winston were interred at the Morton Cemetery in Richmond, Texas. Relationships and family ties were unconfirmed.

Based on the research conducted during the 2007 investigations (Iruegas et al. 2007), the four historical archaeological sites may represent household settlement pattern of the Post-Bellum Tenant-Renter Occupancy Form. It appears that much of the original William Morton Land Tract identified as A-62 remained intact until recent times. The archival record, however, has produced little additional information in regards to the individuals that lived in the homes along Oyster Creek. The current research established that Morton was a significant person in Texas history. His home is documented located closer in proximity to the Brazos River. The archival research presented here fulfills the intensive archaeology survey *Level of Effort* required under the NHPA and ACT. GTI's PI also notes that questions regarding African-American descendants of slaves continuing to live on land that was once a plantation is important. It is equally important for future research to document how the cultural material assemblages change over time within these types of settlement patterns with respect to shifting occupancy by different cultural groups. Archaeological investigations at the Boott Mills Site in Lowell Massachusetts is a study that addresses institutionalized occupancy patterns and the changing cultural material patterns and land use over time by different cultural groups within the same occupancy form (Mrozowski, Ziesing, and Beaudry: 1996).

According to the archival census information available, GTI historian and PI were unable to determine if significant event or individuals were associated with the historical archaeological sites 41FB310, 41FB312, 41FB313, and 41FB314 or if they meet the National Register criteria under 36CFR60.4(a) and 36CFR60.4(b). The archaeological boundaries of these sites, however, are not within the Project's direct APE.

**Regional Archeological Chronology**

A temporal framework for prehistoric archaeological sites in Texas can be categorized by three main periods: the Paleo-Indian (10,500–8500 Before Present [B.P.]), the Archaic (8500–1200 B.P.), and the Late Prehistoric (1200–400 B.P.). The Archaic period is further subdivided into the Early Archaic (8500–6000 B.P.), the Middle Archaic (6000–3500 B.P.), and the Late Archaic (3500–1200 B.P.). Suhm et al. (1954), Suhm and Jelks (1962), Prewitt (1981, 1985), and Turner and Hester (1999) established this temporal framework based on Projectile point type seriation and technological changes in diagnostic artifacts due to changing environment and subsistence strategy adaptations.

**Paleo-Indian**

The Paleo-Indian period dates from approximately 10,500 to 8,500 B.P. Archaeological sites from this period have been found in rock shelters and out in the open. Mobile hunters and gathers exploited mega faunal species such as mastodon, mammoth, bison, horse, and camel. The Paleo-Indian period has been documented as the earliest occupation of Texas archaeological prehistoric sites and straddles the end of the Pleistocene era and the beginning of the Holocene. Few mega faunal assemblages have been recovered at archaeological sites, however, stone tool assemblages are better known. The stone tools of this period are generally lanceolate Projectile points that include *Plainview*, *Clovis* and *Folsom* type points. Processing tools include *Clear Fork* bifaces *Albany* tools, and end scrapers (Hester 1999:246, 277, 280). Much debate has occurred in recent years regarding the beginning of this period or that a pre-Clovis culture entered North America prior to 10,500 B.P. and as early as 13,500 B.P. as evidenced at Monte Verde in Chile, South America. The basic chronology, however, remains the same for Texas at this time.

**Archaic**

The Archaic Period dates from approximately 8,500 to 1,200 B.P. Researchers have divided this period into the Early Archaic (8500–6000 B.P.), Middle Archaic (6000–3500 B. P.), and Late Archaic (3500–1200 B.P.). This time period was characterized by warmer temperatures and rising sea, river, and stream levels. These changing environmental conditions were the impetus for a burgeoning new ecosystem. Early inhabitants exploited these new ecosystems, which caused the demise of some big game animals like the mastodon and mammoth. As the environment changed, the Archaic people's diet changed, and their stone tool technology they used to procure and process these new plants and animals. Regional diversification in diet and material culture occurred during the Archaic Period. In general, Archaic people began to make their Projectile points with stems, and the lanceolate form fell from use. Early Archaic *Angostura*, *Scottsbluff*, *Golondrina*, *Merserve*, *Gower*, *Hoxie*, *wells*, *Bell*, *Andice*, *Martindale*, *Uvalde*, *Baird*, and *Taylor* points show this change in stone tool technology.



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During the transition from the Early Archaic to Middle Archaic periods, stemmed points became more common and began to show a greater degree of diversity in point forms. Archaic peoples began to deposit burned rock middens. Point types found at burned rock midden sites typically include *Nolan*, *Travis*, *Bulverde*, *Pedernales*, *Marshall*, *Williams*, and *Lange* forms. The last three forms are considered transitional to the Late Archaic. Archaeologists know very little about the cultural practices of this time period, and the environmental conditions remained the same as previous periods. Typical Late Archaic point forms include *Marcos*, *Montell*, *Castroville*, *Frio*, *Fairland*, *Ensor*, and *Mahomet*. Archaic populations increased throughout this period. Social and exchange relationships developed as indicated by the ubiquitous variety of point types, forms and material cultural evidence.

### Late Prehistoric

The Late Prehistoric Period dates approximately from 1,200–400 B.P. The greatest innovation during this period was the development of the bow and arrow. Stone tool technology evolved in step with this new innovation. Late Prehistoric people made their stone points smaller and more diverse in form depending on the game animals that were being hunted. Some of these stone arrow points include *Edwards*, *Scallorn*, *Zavala*, *Perdiz*, *Cuney*, *Padre* and *Alba* types. The second greatest innovation during this period was the development of ceramics. Settlement patterns also changed at this time as sedentary and horticultural communities became more common. Southwestern cultural groups introduced corn to groups in Texas, which indicated the existence of exchange networks between sedentary and nomadic groups. Archaeological site types also include open camps, lithic scatters, and cemeteries.

### Historic Native American Period

The Historic Native American Period begins at the point of contact with European explorers in A.D. 1492. The first European explorer to reach Texas was Alvar Nunez Cabeza de Vaca during the 1528 Narvaez Expedition of the Gulf coast. Cabeza de Vaca was stranded in Texas for eight years and traveled throughout South Texas and Mexico meeting different Native American groups. He was eventually rescued and went back to Spain. During his journey, Cabeza de Vaca documented numerous groups of people, their customs, and cultural differences. Subsequent Spanish entradas in Texas began during the early 1700s with the establishment of the Spanish missions. Changing and shifting social and cultural ties characterize this time. For example, although the Tonkawa were one of the more numerous Native American groups in Texas, the Ervipiame moved into the area from northern Mexico and many of them joined the Tonkawa groups as a matter of survival (Hester 1980: 51). The Lipan Apaches immigrated and came from the northwest into Texas. Hester (1980: 51) has noted that by the early 1700s, the Lipan Apache numbered between 3,000 and 5,000 in population size and controlled the Central Texas area by 1775. Shortly thereafter, the Comanche moved into Texas from the Colorado and Wyoming areas and displaced the Tonkawa and Lipan Apache groups. Some of the Lipan Apache were pushed into Karankawa territory along the Texas Coastal Plain. By the early 1800s, these groups were being displaced by immigrants into the area.

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### Spanish Colonial, Early Republic of Texas, and Early Statehood Periods

By the early 1800s illegal aliens were coming into the Spanish province of Coahuila Y Tejas with grand designs to take the land away for their own purposes, such as Aron Burr and James Wilkinson. Aron Burr was the former Vice-President of the United States under Thomas Jefferson, and James Wilkinson was the commanding General of the Army. They attempted to take Texas and create a new government that would include Kentucky and Tennessee territory. The attempt failed with Wilkinson sent evidence of Burr's treason to Jefferson. Burr's plan failed, and later Alexander Hamilton killed him in duel. Burr's desperation to settle in a new land was rooted in his large debts accrued in the hard economic times of the early 1800s. Others came to the Texas coastal plains for the same economic reason, but they came based on the Spanish customs and colonization policies of the Empresarios—Spanish land agents with titles for land to colonize. In 1783, Moses Austin had a dry-goods store selling cloth and threat in Virginia. He was an innovator, and he developed a new lead mining process that made him wealthy. The Spanish granted him Mexican citizenship and granted him a 30 family colony in Louisiana by 1796. Moses Austin began developing the land by advertising the opportunity. In 1803, the United States bought Louisiana from Mexico. By this time, he started a bank and held notes by financing loans to people who were settling his land grant. The Panic of 1819 hit Moses Austin's economic interests hard, many people defaulted on his loans, and his bank did not survive, but Moses Austin did. Land and potential profits were plentiful in Coahuila y Texas Province of New Spain, and the Spanish Crown gave Moses Austin another land grant—this time for 300 families. Moses Austin arrived in San Antonio in 1820 and with the help of his slave, Richmond, and Baron de Bastrop, Governor Antonio Maria Martinez approved the colonization plan. On June 10, 1821, Moses Austin died on his way back to Missouri and his son, Stephen F. Austin took over his father's Texas venture. Austin took control and chose land between the Brazos and Colorado Rivers to survey for raising cattle and farming, and the land was not in Comanche territory. After advertising the opportunity, settlers lined up and 100 came from Natchitoches and another 50 were waiting for him at the border. Austin offered 13.5 cents per acre with up to 177 acres per family of farmers or one sitio for cattle ranching. In return, the Spanish terms required the colonists to pledge that they would be loyal to the Spanish Crown, give up U.S. citizenship, become catholic, and give up their slaves—Slavery was abolished in New Spain during the late 16<sup>th</sup>-Century in a Papal Bull. Stephen F. Austin's Old 300 Colony began to take shape when Andrew Robinson set up the first ferry crossing on the Brazos River, which became Washington on the Brazos, and the Lively supply ship brought goods to Galveston—named for Bernado de Galvez who convinced Tejanos to donate some of their cattle for the American Revolutionary War, and he is now recognized by the United States Congress where a portrait hangs. In 1821, Mexico gained its independence from Spain, and Austin wanted to renegotiate the terms of his colonization agreement. He was gone for over a year, and the colony suffered from drought and bad relations with the Karankawa. Many settlers set up militias and called for more settlers. By 1825, the colony was meeting its goal of 300 families with 134 Anglos and 443 slaves. All total, there were 297 families and three partnerships of single men that made up Stephen F. Austin's Old 300. William Morton and Randal Jones were among them, and the Morton land tract is the subject of this study.

## **Methodology**

In accordance with the Antiquities Code of Texas under 13TAC26.15(6) and the National Historic Preservation Act (36CFR800), GTI conducted the intensive archaeological survey to assess the presence or absence of any archaeological deposits associated with previous historic occupations in the area, as well as, prehistoric cultural deposits on the west or east banks of Oyster Creek within the Project's direct APE. In accordance with intensive archaeological survey investigation methods outlined in the Antiquities Permit SOW, GTI was tasked with defining the linear-horizontal and linear-vertical site boundaries of historic and prehistoric cultural deposit areas that may be within the Project's direct APE. The SOW was based on 13TAC26.13(d), the *Secretary of the Interior's Guidelines for Identification(Intensive Survey)*, and *TxDOT's Standards of Uniformity Version 3.0 (dated May 31, 2011): Review Standards for Archeology Survey Reports*

### **Existing Disturbances**

The THC's Atlas Database base map on satellite view shows the Project's direct APE is no longer adjacent to a fallow agricultural field that was present during the 2009 intensive archaeological survey (Iruegas et al. 2009). The satellite view shows housing development ground preparations at least 140 feet away from the banks of Oyster Creek. According to the THC's Atlas Database, the existing archaeological sites, 41FB310, 41FB312, 41FB313, and 41FB314, are within the Project's direct APE, or directly adjacent to the Project's direct APE. The sites' boundaries are within a 140 foot undeveloped area. These portions of the sites within the Project's direct APE appear to be undisturbed. The two northernmost sites, 41FB313 and 41FB314, are bisected by the Project's direct APE. Archaeological sites 41FB310 and 41FB312 appear to be directly adjacent to the eastern boundary of the Project's direct APE. The Project's direct APE is public property owned by the FBCMUD-146. The existing trail and bridge does not affect identification, evaluation, or potential future data recovery efforts, if necessary. The disturbances were documented from THC's Atlas restricted database and the 45 Percent Progress Plans provide by the Project Sponsor.

### **Research Design**

#### **Expectations**

As noted above, GTI anticipates relocating 41FB310, 41FB312, 41FB313, and 41FB314, defining the archaeological site boundaries, and determining an avoidance plan, if warranted. GTI notes there is a low probability deeply buried cultural deposits will be present at the location of the Project's direct APE based on past archaeological investigation backhoe trenching efforts (Iruegas et al. 2009). Based on this evidence and the nature of the shallow impacts of this phase of the trail construction (maximum 4 inches in depth), GTI's PI does not anticipate backhoe trenching is necessary to evaluate the depth of existing or newly discovered archaeological sites. GTI anticipates the previously recorded cultural materials may be intact and in situ and possibly maintain

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integrity based on the information provided in Section 5. GTI does not expect to document any newly recorded sites.

### Type of Work to be Undertaken

*Archival Review:* GTI will review archival data obtained for this project by TxDOT and FBCMUD-146 and review the THC record files. GTI will also assess the archival documentation and supplement the archival record with additional online research of historic maps at the intensive archaeological survey level effort to answer any questions. These efforts are made in order to identify any potential significant historical events, persons, and archaeology sites. Potential historical archaeology sites are noted on topographic map at historic 1941 aerial by the presence of extant structures. The archival review will also include identifying any locations for historic graveyards or cemeteries within the proposed Project's direct APE. The archival review also will consider important events or individuals that may have a historic role in Texas history by documenting the earliest known landowners and plat history of the Project's direct APE. This effort will be performed to determine if significant individuals or events occurred within the Project's direct APE that meets the National Register criteria under 36CFR60.4(a) and 36CFR60.4(b). GTI will conduct intensive archaeological survey level fieldwork and report write-up in accordance with 13TAC26.15(6) and 13TAC26.3(35).

*Intensive Archaeology Survey:* In accordance with the Antiquities Code of Texas [13TAC26.3(35) and 13TAC26.15(6)] and the National Historic Preservation Act (36CFR800), GTI will conduct an archaeological intensive survey to assess the presence or absence of 41FB310, 41FB312, 41FB313, and 41FB314 and any undocumented archaeological deposits. In accordance with intensive archaeological survey investigation methods outlined in 13TAC26.13(d), the *Secretary of the Interior's Guidelines for Identification(Intensive Survey)*, and *TxDOT's Standards of Uniformity Version 3.0 (dated May 31, 2011): Review Standards for Archeology Survey Reports*, GTI will define the linear-horizontal and linear-vertical site boundaries of historic and prehistoric cultural deposit areas within the Project's direct APE, if present, and assess the integrity of the existing sites within the Project's direct APE with determination of avoidance, if necessary. GTI's PI will use two of the three possible avenues of data collection (archival, survey, and oral history) to meet THC's policy on survey-level historic sites background documentation and THC's policy on cemeteries. There are no known cemeteries within 75 feet of the Project's direct APE.

*Methods:* The Project's direct APE measures roughly 1.4 miles long (7392 feet/225.08 meters) and the width is 30 feet (9.144 meters) wide on the trail to approximately 60 feet (18.3 meters) wide where the trail diverges to complete the trail loop and where the trail connects with roads. The Project depth is approximately 4 inches deep. A sand-base (roughly 1 inch) will be placed at the bottom with form-boards on the sides and a 3 inch concrete trail. The existing bridge will be replaced as a future phase of the trail development when funds are available. Based on previous archaeological backhoe trench investigations during the documentation of the previously recorded four archaeological sites within and adjacent to the Project and lack of deeply buried cultural

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material, GTI's PI has assessed that backhoe trenching is not necessary for this phase of the trail development.

As noted in the Project Description the *Minimum Archaeological Survey Standards for Texas* require 16 shovel tests for every 100 foot wide by 1 mile long project length, and these standards are minimum number of shovel tests when no archaeological sites are recorded within a Linear-Type project. Since previously recorded archaeological site boundaries may require a trail realignment, GTI proposes to extend its intensive survey from 30 feet to 100 feet wide (approximately 30 meters wide) to accommodate any possible changes in the trail alignment cultural resource clearance by TxDOT, TPWD, and THC.

The Project is 35 acres in size. According to these survey standards, the 1.4 mile long and 100 foot wide trail corridor requires roughly 19 shovel tests along the Project's direct APE. A minimum of six shovel tests is required to define an archaeological site boundary within the Project's direct APE. "Sites with more than 30 percent ground surface visibility do not have to be defined by six shovel tests", according to the survey standards. If all four existing archaeology sites are present, a total of 24 shovel tests would be required; i.e. five more shovel tests than the 19 already required. THC recommended redefining these archaeological sites' boundaries, as well as, "...to search for additional sites which might be present within the project area." If ground surface visibility is greater than 30 percent, GTI's PI proposes to use the 24 shovel tests to redefine 41FB313 and 41FB314 site boundaries, prospect for cultural material associated with 41FB310 and 41FB312, and complete the intensive archaeology survey prospecting for new sites on the western bank of Oyster Creek. If ground surface visibility is less than 30 percent, GTI's PI proposes 8 additional shovel tests to prospect for new sites on the western bank of Oyster Creek based on its half mile length. Rather than excavating shovel tests based on a ridged 30 meter interval, the PI proposes to place the possible total number of shovel tests based on field observations of surface artifacts and possible artifact clusters, if present on the ground surface. Accordingly, the PI proposed a minimum of 19 shovel tests or a maximum of 32 shovel tests to identify and assess archaeological sites within the Project direct APE. Linear shovel testing is proposed to redefine site boundaries and density of possible artifacts along the Project trail.

The investigations will be limited to FBCMUD-146 (public) property. GTI is not authorized and will not document site boundaries in private property or outside the FBCMUD-146 public property. These areas under investigations for the Project trail immediately east and west of Oyster Creek are considered the Project's direct APE, which is the total length (100 percent) of the FBCMUD-146 proposed Oyster Creek Trail Project as defined on the 45 Percent Progress Plans.

Please note this scope of work, however, does not include the cost for excavation of human remains or NAGPRA consultation. In the event evidence of burials is present, GTI must cease all work in the immediate area and notify FBCMUD-146, TxDOT-ENV, and THC. Work may continue in other areas where burials are not present.

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All excavated matrix will be passed through 1/4-inch hardware mesh when possible or trowel sorted to inspect for cultural materials. Shovel tests will be excavated in 10 cm levels. Diagnostic artifacts (such as projectile points, ceramics, historic materials with maker's marks, identifiable/contextual metal fragments, etc.) will be analyzed and photographed in the field. All other artifacts (such as debitage, burned rock, and metal scrap, etc.) also will be tabulated in the field. Collected artifacts will be bagged and labeled appropriately. Artifacts, if collected, will be formally curated at the Texas Archeological Research Laboratory (TARL) following analysis and reporting (permitted projects must curate artifacts). Soil profiles will be examined and photographed. Field notes will be maintained on location, disturbances, soils, shovel tests, etc. Digital photos will be taken when appropriate and recorded on a photograph log. A handheld WAAS enabled GPS unit (UTM, NAD 83) will be used to mark the location of shovel tests as well as any newly recorded sites.

A report of the investigations will be produced following the survey in accordance with the THC's *Rules of Practice and Procedure Chapter 26.16*, the CTA Guidelines for Cultural Resource Management Reports, as well as the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation*, and *TxDOT's Standards of Uniformity for Archaeological Reports Version 3.0 (dated May 31, 2011)*. The scope of work specifies that the resulting report will include a discussion of the results of the field investigations. If any new sites are recorded, GTI will include a list of sites identified on public property owned by FBCMUD-146. The report will assess possible effects the project may have to the sites and document each site's potential eligibility status for listing in the NRHP and for formal designation as an SAL based on eligibility criteria 36CFR60.4 and 13TAC26.10. GTI will submit archaeological site forms to TARL to obtain archaeological site trinomial numbers for each newly recorded site. GTI will submit a PDF copy of the draft report to the client for approval, and upon the client's approval the client will submit at least four copies of the draft report to TxDOT-ENV for a review. Upon a review by TxDOT's, GTI will incorporate TxDOT-ENV comments and resubmit the draft report for TxDOT-ENV's submittal to THC. Upon THC's approval of the draft report, GTI will submit the final report in PDF format to the client and the client will submit at least five bound copies and one unbound copy to TxDOT-ENV. The unbound copy will contain at least one map with the plotted location of any and all sites recorded. The client will provide one archival –quality CD or DVD to TxDOT-ENV. The CD or DVD will contain two copies of the tagged PDF format of the report. Other report copies for THC and other parties will be distributed in compliance with 13TAC26.16.

**Results**

GTI's archaeology crew performed an intensive archaeological survey of the Project's direct APE. As part of survey, GTI archaeologists considered the archaeological assemblage associated with 41FB310, 41FB312, 41FB313, and 41FB314 and the site dimensions documented in 2007. See the Long Meadow Farms Report for a detailed description of the site and its artifacts (Iruegas et al., 2007). A brief description of each site is provided before the results description to provide context to these investigation. Archaeologists conducted a 100 percent pedestrian survey, particularly where the sites were located, and they excavated a total of 19 shovel tests in an effort to relocate the four archaeological sites. Archaeologists documented that the site boundaries in question are not within the Project's direct APE and there were no new archaeological sites within the Project's direct APE.

**Existing Archaeological Site Context**

41FB310 was recorded as a historic farmstead located on the eastern bank of Oyster Creek 236 meters north of the FBCMUD-146 facility boundary and 600 meters west of Farmers Road. A total of 65 shovel tests were excavated within the site boundary and 38 were positive for historic cultural material. The site was approximately 50 meters long and 40 meters wide, running parallel to the creek bank. A stand of live oak trees bisected the middle of site. Soils excavated within shovel tests were reddish brown sandy to silty clay loam and were consistent with the Norwood silty clay loam. The overall artifact density at 41FB310 was focused along the western boundary of the site running parallel to Oyster Creek. Similarly, the density of glass, metal, and ceramics were generally focused along the western section of the site. This concentration of artifacts along the western border suggests that the western section of the site was more frequently utilized during the occupation of 41FB310. Glass and ceramic densities at 41FB310 were generally very low. Metal fragments represented a much high density of cultural material recovered at the site, consisting of a maximum of 27 fragments per 10 square meters. Only one brick fragment was documented in the southeastern corner of the site.

41FB312 was documented as a historic farmstead located on the eastern side of Oyster Creek 190 meters north of the FBCMUD-146 facility boundary and 620 meters west of Farmers Road. The site measured 120 meters long by 60 meters wide running parallel to the creek. A total of two backhoe trenches and 80 shovel tests were excavated within the boundaries of 41FB312. The two backhoe trenches and 25 shovel tests were positive for historic artifacts. Soils excavated at 41FB312 were generally reddish brown sandy clay loams consistent with Norwood silty clay loam. Artifacts were generally recovered from 10 to 20 cmbs. The larger concentration of artifacts were located in close proximity to the mapped location of a structure visible on the Clodine (1982) 7.5 minute topographic quadrangle. Glass and metal densities were also focused on these two areas. Ceramics were focused on the areas to the northeast portion of the site.

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41FB313 was identified as a historic farmstead located on the eastern bank of Oyster Creek approximately 650 meters north of the FBCMUD-146 facility boundary and 375 meters west of Farmers Road. It was located on the river terrace overlooking the creek. The site measured at least 30 meters by 20 meters. A total of 32 shovel tests and one backhoe trench were excavated within the site boundaries. Seven shovel tests and one backhoe trench were positive for historic cultural material. Soils within the site boundaries were reddish brown silty clay loam. Calculations for the overall artifact density at 41FB313 indicated that the area of highest artifact concentrations was located in the western and southern parts of the site. Ceramic density calculations showed a similar spatial pattern to the overall artifact density concentrated in the western and southern sections of the site. Glass, however, was focused on the eastern and western boundaries of 41FB313.

41FB314 was also documented as a historic farmstead located on the eastern bank of Oyster Creek 440 meters north of the FBCMUD-146 facility and 515 meters east of Farmers Road. The site measured at least 55 meters by 31 meters. A total of 38 shovel tests and one backhoe trench were excavated within the site boundaries of 41FB314. Eight shovel tests and the single backhoe trench were positive for historic cultural material. Soils excavated within the shovel tests and backhoe trench were consistent with Norwood silty clay loam, namely a reddish brown silty clay loam. Overall calculated density for 41FB314 identified the area of highest artifact concentration in the eastern part of the site. Calculated glass density showed a similar spatial patterning to the overall artifact density pattern centered in the eastern part of the site. Ceramic spatial patterning was focused in two sections of the site. Metal artifacts were centered in the southern section of the site.

### Shovel Testing Results

Archaeologists commenced the intensive survey with a pedestrian inspection of the Project's direct APE in order to identify any cultural materials on the surface associated with the four previously recorded sites and excavated a total of 19 shovel tests (Figure 32 through Figure 34; Appendix A). In general, the project area exhibited greater than 30 percent ground surface visibility. Archaeologists began the survey at the southern end of the Project's direct APE where the Project Beginning ties into Falling Dawn Drive. They crossed the existing bridge in the southern portion of the Project's direct APE, and trekked north along the east bank of Oyster Creek until they reached the existing trail adjacent to Prairie Manor at the Project End. While walking along the east bank, GTI archaeologists stopped and photographed each site location at 41FB312, 41FB310, 41FB314, and 41FB313 and noted no artifacts on the ground surface (Figures 35 through Figure 38). Once the archaeologist reached the Project End, they began excavated shovel tests from North to South. A total of eleven shovel tests were excavated along the east bank of the Project's direct APE. Archaeologists crossed back to the west side of Oyster Creek, and performed a pedestrian inspection of the west bank. This segment of the proposed trail terminated at an existing trail located northeast of the corner of Aurora Park Drive and Harvest Thistle Drive. A total of eight shovel tests were excavated along the western bank of Oyster creek, and along the southern leg connecting to the Project Beginning at Falling Dawn Drive.











*Figure 35: Site Location 41FB312 Looking South*



*Figure 36: Site Location 41FB310 Looking Northwest*



*Figure 37: Site Location 41FB314 Looking East*



*Figure 38: Site Location 41FB313 Looking West*

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Shovel Test One (ST-1) and ST-2 were excavated in the northern segment of the Project's direct APE, and they both exhibited one stratigraphic layer of reddish brown silty clay loam. These two shovel tests were consecutively excavated to a depth of 32 and 33 cm below ground surface (Figure 39 and Figure 40). Shovel Test Three and ST-4 contained two stratigraphy levels. The upper layer of ST-3 from 0 to 14 cm below ground surface was a dense brown clay loam. The underlying layer transitioned to a brown silty clay loam and the shovel test was excavated to a depth of 30 cm below ground surface (Figure 41). Shovel Test Three was excavated within the site boundary of 41FB313. There were no artifacts observed or recorded within ST-3. The top stratigraphic layer of ST-4 was also brown clay loam, and extended to 14 cm below ground surface. The underlying layer of ST-4 extended to 30 cm below ground surface, and it was light brown silty clay loam (Figure 42).



*Figure 39: Shovel Test One South Wall Profile*



*Figure 40: Shovel Test Two South Wall Profile*



*Figure 41: 41FB313, Shovel Test Three South Wall Profile*



*Figure 42: Shovel Test Four South Wall Profile*

Shovel Test Five and ST-6 were excavated within the site boundary of 41FB314. There were no cultural materials observed or recorded within ST-5 and ST-6. Shovel Test Five contains two stratigraphic layers. Archaeologists described to top layer as brown fill material that sloped from 8 to 20 cm in the shovel test profile. The underlying layer of ST-5 extended to 30 cm below ground surface, and was brown silty clay loam (Figure 43). Shovel Test Six consisted of a single stratigraphic layer of reddish brown clay loam, and was excavated to a depth of 32 cm below ground surface (Figure 44).





*Figure 43: 41FB314, Shovel Test Five South Wall Profile*



*Figure 44: 41FB314, Shovel Test Six South Wall Profile*

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Shovel Test Seven and ST-8 were excavated within the Project's direct APE adjacent to the site boundary of 41FB310. There were no cultural materials observed or recorded with either of these shovel tests. There were two stratigraphic layers in both of these shovel tests. The upper layer of ST-7 was described as a light brown silty clay loam that extended to 12 cm below ground surface. The underlying layer extended to 38 cm below ground surface, and was reddish brown silty clay loam (Figure 45). The upper layer of ST-8 was excavated to a depth of 13 cm below ground surface, and it was described as dark brown clay silty loam. The underlying layer excavated to a depth of 30 cm below ground surface was light brown silty clay loam (Figure 46).



*Figure 45: 41FB310, Shovel Test Seven North Wall Profile*



*Figure 46: 41FB310, Shovel Test Eight North Wall Profile*

Shovel Tests Nine, ST-10, and ST-11 were excavated within the Project's direct APE adjacent to the site boundary of 41FB312. There were no cultural materials observed or recorded in these three shovel tests. These three shovel tests consisted of a single stratigraphic layer. Shovel Test Nine was excavated to a depth of 30 cm below ground surface, and it was described a light brown silty clay loam (Figure 47). Shovel Test Ten was also excavated to a depth of 30 cm below ground surface, and it was described as brown silty clay loam (Figure 48). Shovel Test Eleven was excavated to a depth of 35 cm below ground surface, and it was described as dark brown silty clay loam (Figure 49).

Archaeologists excavated ST-12 through ST-17 evenly spaced from north to south on the west bank of Oyster Creek. Ground surface visibility was greater than 30 percent. In addition, archaeologists excavated the last two shovel tests, ST-18 and ST-19 along the southern arm of the Project's direct APE just north of the FBCMUD-146 facility. Each of the shovel tests were negative, and archaeologists did not observe any cultural materials on the ground surface.



*Figure 47: 41FB312, Shovel Test Nine North Wall Profile*



*Figure 48: 41FB312, Shovel Test Ten North Wall Profile*



*Figure 49: 41FB312, Shovel Test Eleven South Wall Profile*

Shovel Test Twelve was excavated on the west bank of Oyster Creek within the northern Project's direct APE where the proposed trail connects with existing trail. This shovel test was described as a single stratigraphic layer of dark reddish brown clay loam, and it was excavated to a depth of 30 cm below ground surface (Figure 50).



*Figure 50: Shovel Test Twelve South Wall Profile*

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Shovel Test Thirteen, ST-14 and ST-15 all had similar soil profiles that consisted of a single stratigraphic layer of brown silty clay loam. These shovel tests were consecutively excavated to a depth of 33 cm, 35 cm, and 32 cm below ground surface (Figure 51 through Figure 53). Shovel Test Sixteen consisted of two stratigraphic layers. The upper layer extended to 16 cm below ground surface, and it was brown silty clay loam. The underlying layer extended 35 cm below ground surface, and it was light brown silty clay loam (Figure 54). Shovel Test Seventeen consisted of a single stratigraphic layer of brown silty clay loam, and it was excavated to a depth of 40 cm below ground surface (Figure 55).



*Figure 51: Shovel Test Thirteen South Wall Profile*



*Figure 52: Shovel Test Fourteen South Wall Profile*



*Figure 53: Shovel Test Fifteen South Wall Profile*



*Figure 54: Shovel Test Sixteen South Wall Profile*



*Figure 55: Shovel Test Seventeen South Wall Profile*



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Shovel Test Eighteen and ST-19 were excavated along the southern arm of the Project's direct APE where the trail ties into Falling Dawn Drive. Shovel Test Eighteen consisted of a single stratigraphic layer of light brown silty clay loam, and it was excavated to a depth of 33 cm below ground surface (Figure 56). Shovel Test Nineteen also consisted of a single stratigraphic layer of brown clay loam, and it was excavated to a depth of 34 cm below ground surface (Figure 57).



*Figure 56: Shovel Test Eighteen South Wall Profile*



*Figure 57: Shovel Test Nineteen South Wall Profile*

**Summary and Recommendations**

This document presents the results of an intensive archaeological survey for the Fort Bend County Municipal Utility District No. 146's (FBCMUD-146) 1.4 linear mile Long Meadow Farms Oyster Creek Trails Project located in Fort Bend County, Texas (Project). The Projects' direct APE was developed based on Sweitzer + Associates Plan (45% Progress), dated 5-28-14, for the proposed Project.

The Texas Historical Commission (THC) issued Antiquities Permit Number 6968 to FBCMUD-146, because it is a political subdivision of the State of Texas that will own or control the land associated with the trail. Accordingly, the project falls under the Antiquities Code of Texas (13TAC26). The FBCMUD-146 received a grant from the Texas Parks and Wildlife Department (TPWD) on March 31, 2014, which were from the Federal Highway Administration National/Texas Recreational Trail Fund Program. Texas Department of Transportation (TxDOT) is the federally delegated representative for FHA. Therefore, the proposed project was considered a federal *Undertaking* [36CFR800.16(y)] in accordance with the National Historic Preservation Act (NHPA) [36CFR800]. As documented in the Management Summary, the intensive archaeological survey investigation was conducted under the terms and conditions of the First Amended Programmatic Agreement among TxDOT, the Texas SHPO, FHWA, and the Advisory Council on Historic Preservation (2005) in the event the FHA requires TxDOT to review its National Recreational Trails Fund Program. After TPWD consulted with the THC, the THC recommended that four previously recorded sites (41FB310, 41FB312, 41FB 313, and 41FB 314) were either within or immediately adjacent to the Project's direct APE, and that a professional archaeologist should relocate these sites and, if warranted, determine an avoidance plan for each. THC also recommended that the remainder of the project area should be surveyed to determine the boundaries of these existing sites and to search for additional sites which might be present within the project area.

Accordingly, the FBCMUD-146 contracted with GTI Environmental, LLC (GTI) to conduct an intensive archaeological survey. GTI's Principal Investigator (PI), Sergio A. Iruegas, RPA, is a Registered Professional Archaeologist that meets the qualifications of a prehistoric and historic archaeologist under the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* of the NHPA and *Chapter 26: Rules of Practice and Procedure* as outlined in 36CFR61, 13TAC26.4(1) and 13TAC26.4(2). Melinda Tate Iruegas served as Project Historian and she performed tasks for GIS. GTI proposed to survey 100 feet instead of 30–60 feet to facilitate a revised trail alignment, in the event an avoidance plan was warranted. The 100 foot trail survey corridor constitutes the Project's direct *Area of Potential Effect* (APE).

In accordance with intensive archaeological survey investigation [13TAC26.15(6)] methods outlined in the Antiquities Permit SOW research design [13TAC26.13(d)] and the *Secretary of the Interior's Guidelines for Identification (Intensive Survey)*, GTI attempted to define the linear-horizontal and linear-vertical site boundaries of historic and prehistoric cultural deposit areas within the Project's direct APE. In general, the PI noted the Project's direct APE showed greater than 30 percent ground surface visibility when

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looking directly down on the ground surface. GTI archaeologists did not see any ground surface artifacts at documented locations of the four previously recorded sites (41FB310, 41FB312, 41FB313, and 41FB314) and shovel testing at these locations were negative. Therefore, an avoidance plan for each archaeology site was determined to be unwarranted.

The entire Project direct APE was subjected to 100 percent pedestrian survey. GTI archaeologists excavated a total of 19 shovel tests throughout the Project's direct APE to prospect for unknown and the documented sites. Out of the 19 shovel tests, one to two shovel tests were excavated at each archaeology site location to prospect for buried evidence of the cultural material associated with these sites. All 19 shovel tests were excavated below ground surface at least 30 centimeters (cm), which was the depth of these historic cultural deposits associated with the sites (Iruegas et al. 2007). In several shovel tests, the excavations exceeded 30cm in depth in an attempt to search for artifacts that may have migrated downward in the soil since the 2007 survey. All 19 shovel tests were negative. Based on the intensive archaeological survey results, GTI's PI has documented that there were no cultural materials on the ground surface, or below the ground surface, within the archaeological site boundaries of 41FB313 and 41FB314 that extended in the Project's direct APE. GTI's archaeologists did not encounter cultural material evidence that would represent the archaeological sites boundaries of 41FB310 or 41FB312 that were adjacent to the Project's direct APE.

Since the time of the archaeological sites documentation in 2007, the National Register eligibility of these sites has yet to be officially determined by the lead federal agency. In the meantime, however, GTI has determined that the proposed Fort Bend County Municipal Utility District No. 146 Long Meadow Farm Oyster Creek Trails Project will have No Effect to 41FB310, 41FB312, 41FB313, and 41FB314, because the archaeological boundaries of these sites are not within the Project's direct APE. Archaeologists did not collect artifacts, so there are no curation issues.

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