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FM 2206 Improvements from State Highway 42 to Loop 281 Gregg County, Texas

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Archeological Survey Report

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Gregg County, Texas

CSJs: 2073-01-009 and 2073-01-010

May 2016

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.


Texas
Department
of Transportation

Intensive Archeological Survey for Proposed Improvements to Farm-to-Market Road 2206 from State Highway 42 to Loop 281 Gregg County, Texas

(Tyler District CSJs: 2073-01-009 and 2073-01-010)

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For
Texas Department of Transportation
Tyler District

Under
Texas Antiquities Permit 7404

Cox|McLain Environmental Consulting, Inc.
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COX | McLAIN
Environmental Consulting

May 17, 2016

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Abstract

Between September 2015 and March 2016, reconnaissance and intensive archeological surveys were completed in order to inventory and evaluate archeological resources within the footprint of proposed improvements to Farm-to-Market (FM) 2206 from State Highway 42 to Loop 281 in Longview, Gregg County, Texas. The project is identified under TxDOT control-section-job numbers 2073-01-009 and 2073-01-010. The work associated with this archeological survey was carried out under Texas Antiquities Permit 7404 by Melissa M. Green (Principal Investigator), Haley Rush, and David Sandrock of Cox|McLain Environmental Consulting, Inc., a subcontractor to Burns and McDonnell.

Results of the survey show that the majority of the project corridor has been highly disturbed from numerous types of activities dating from the early oil exploration in the area to recent installation of buried utilities, as well as natural impacts such as erosion.

Twenty-nine shovel test units were excavated on both publicly- and privately-owned land in areas where subsurface archeological materials might occur, no obvious impacts or disturbances were observed, slope was less than 30 percent, ground visibility was limited, and moisture levels allowed. Soils were found to be extremely shallow (generally extending <40 cm below the surface); subsoil was encountered in the majority of the tests. All of the shovel tests were sterile, except for one where an iron pipe was encountered.

Three backhoe trenches were excavated on the west side of Hawkins Creek where deeper Holocene-age soils were present that could contain paleosols or archeological deposits. All three backhoe trenches were sterile for cultural materials and none showed evidence of intact paleosols that might contain archeological deposits.

No further work is recommended in the APE prior to the proposed improvements to FM 2206. If any unanticipated cultural materials or deposits are found at any stage of clearing, preparation, or construction, the work should cease and TxDOT should be immediately notified.

All materials (notes, photographs, administrative documents, and other project data) generated from this work will be housed at the Center for Archaeological Studies at Texas State University, where they will be made permanently available to future researchers per 13 Texas Administrative Code 26.16-17. No artifacts were collected and therefore none will be curated.

Management Summary

Between September 2015 and March 2016, reconnaissance and intensive archeological surveys were completed in order to inventory and evaluate archeological resources within the footprint of proposed improvements to Farm-to-Market (FM) 2206 from State Highway 42 to Loop 281 in Longview, Gregg County, Texas. Intensive pedestrian survey was conducted over the majority of the project corridor; reconnaissance survey was conducted in areas that were inaccessible, previously developed, or in standing water. The archeological area of potential effects (APE) includes both existing and new proposed right-of-ways. Existing right-of-way covers approximately 46 acres (ac) (118.6 hectares [ha]), proposed new right-of-way covers approximately 41.3 ac (16.7 ha), and temporary construction easements cover 1.2 ac (0.5 ha) for a total archeological APE of approximately 88.5 ac (35.8 ha).

The proposed improvements would include widening the existing two-lane road to a four-lane divided highway with a continuous left-turn lane/flush median. The proposed roadway design includes both a rural roadway design with adjacent open drainage ditches and an urban roadway design with curb and gutter and a closed storm sewer system. Cross-drainage culverts are sized by delineating contributing drainage areas and calculating the runoff flows to the culverts. The width of the project varies from 80 to 130 feet (ft; 24.3 to 39.6 meters [m]) wide and mostly follows the existing FM 2206 corridor. For the urban section of the roadway (from Loop 281 to Fisher Road) the proposed project would have a 10 ft (3 m) wide shared use path. Depth of construction is expected to follow standard construction practices so that typical impacts will occur within the upper 2 ft (0.6 m) of the surface except at Hawkins Creek where new bridge construction impacts could be up to 18 ft (5.4 m).

The fieldwork was carried out under Texas Antiquities Permit 7404 by Melissa M. Green (Principal Investigator), Haley Rush, and David Sandrock of Cox|McLain Environmental Consulting, Inc., a subcontractor to Burns and McDonnell, on September 23-24, 2015, January 20, 2016, and March 1, 2016. Approximately 250 labor-hours have been invested in the archeological phase of compliance work for the overall project. The project is sponsored and funded by the Tyler District of the Texas Department of Transportation (TxDOT). The project is subject to Section 106 of the National Historic Preservation Act as well as the Antiquities Code of Texas.

Twenty-nine shovel test units were excavated on both publicly- and privately-owned land in areas where subsurface archeological materials might occur, no obvious impacts or disturbances were observed, slope (or lack thereof) made it possible, ground visibility was limited, and soil moisture was not high. In the majority of the tests, soils were extremely shallow (generally <40 cm below the surface) before subsoil was encountered. All of the shovel tests were sterile, except for one where an iron pipe was encountered.

Three backhoe trenches were excavated on the west side of Hawkins Creek where deeper Holocene soils that might contain paleosols or archeological deposits were present. All three backhoe trenches

were sterile and none showed any evidence of archeological deposits or intact paleosols that might contain archeological deposits.

As no evidence of preserved deposits with a high degree of integrity (associations with distinctive architectural and material culture styles, rare materials and assemblages, the potential to yield data important to the study of preservation techniques and the past in general, or potential attractiveness to relic hunters [13 TAC 26.10; 36 CFR 60.4]) was found, no further work is recommended in the APE prior to the proposed improvements to FM 2206. However, if any unanticipated cultural materials or deposits are found at any stage of clearing, preparation, or construction, the work should cease and TxDOT should be immediately notified.

No artifacts were found or collected. However, all other materials (notes, photographs, administrative documents, and other project data) generated from this work will be housed at the Center for Archaeological Studies at Texas State University, where they will be made permanently available to future researchers per 13 Texas Administrative Code 26.16-17.

The Texas Historical Commission concurred with the findings and recommendations of this report on March 24, 2016.

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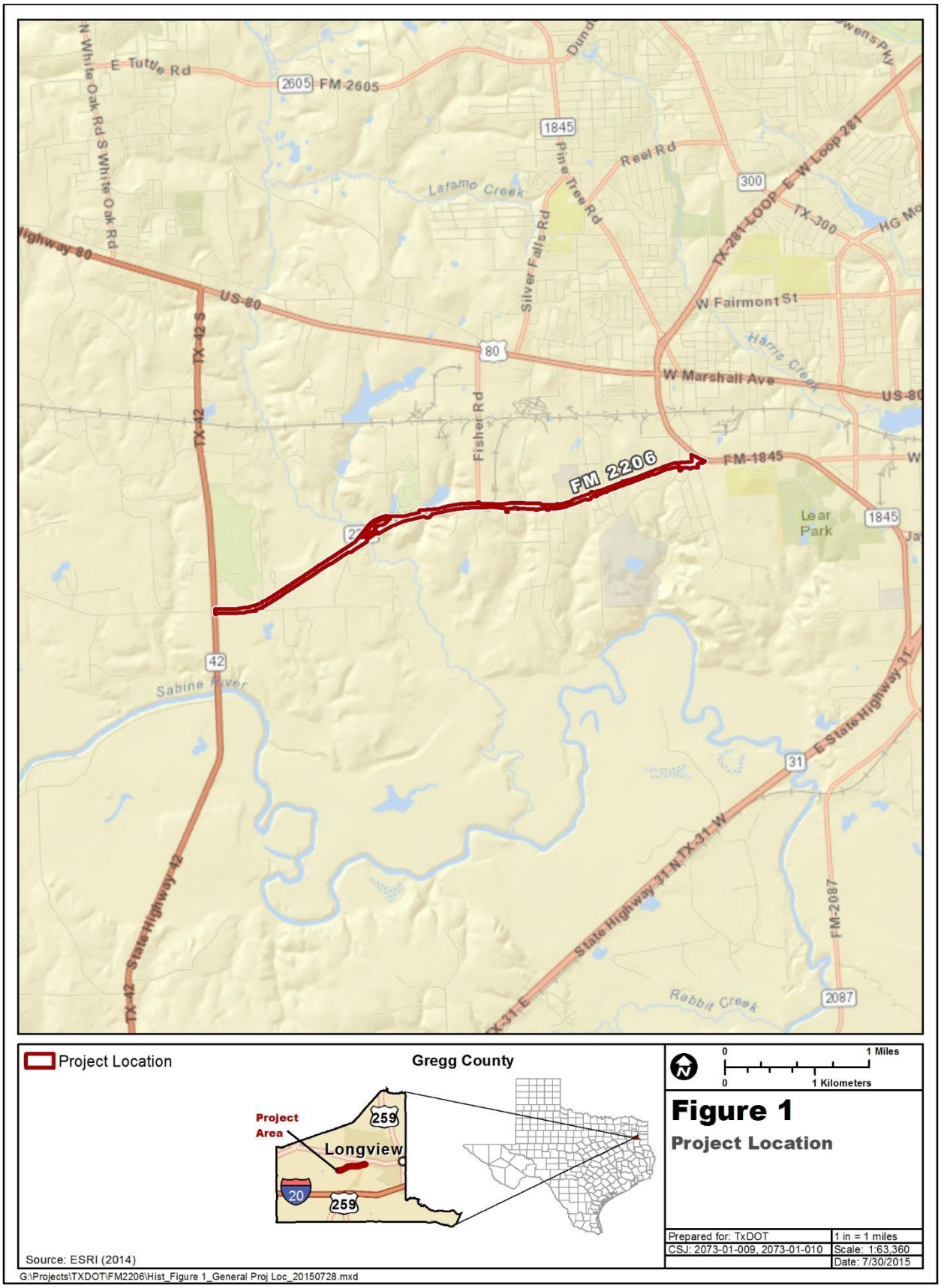
1 INTRODUCTION

Overview of the Project

The Tyler District of the Texas Department of Transportation (TxDOT) proposes improvements along 3.7 miles (5.9 kilometers [km]) of Farm-to-Market (FM) 2206 (also known as Harrison Road) from State Highway (SH) 42 to Loop 281 in southwestern Longview, Gregg County, Texas (**Figure 1**). The improvements include widening the existing two-lane road to a four-lane divided highway with a continuous left-turn lane/flush median. The proposed roadway design includes both a rural roadway design with adjacent open drainage ditches and an urban roadway design with curb and gutter and a closed storm sewer system. Cross-drainage culverts are sized by delineating contributing drainage areas and calculating the runoff flows to the culverts. The width of the project varies from 80 to 130 feet (ft; 24.3 to 39.6 meters [m]) wide and mostly follows the existing FM 2206 corridor. For the urban section of the roadway (from Loop 281 to Fisher Road) the proposed project would have a 10 ft (3 m) wide shared use path. Depth of construction is expected to follow standard construction practices so that typical impacts will occur within the upper 2 ft (0.6 m) of the surface except at Hawkins Creek where new bridge construction impacts could be up to 18 ft (5.4 m). Existing right-of-way covers approximately 46 acres (ac) (18.6 hectares [ha]), proposed new right-of-way covers approximately 41.3 ac (16.7 ha), and temporary construction easements cover 1.2 ac (0.5 ha) for a total archeological area of potential effects (APE) of approximately 88.5 ac (35.8 ha). Appendix A contains design sheets with additional information.

Haley Rush (Project Archaeologist) and David Sandrock of Cox|McLain Environmental Consulting, Inc. (CMEC), a subcontractor of Burns and McDonnell, performed a combination of reconnaissance and intensive pedestrian survey with shovel testing on September 23-24, 2015. Access for the backhoe was not available at the time of the intensive pedestrian survey. Once full access had been granted, backhoe trenching at Hawkins Creek was conducted on January 20, 2016 by Melissa M. Green (Principal Investigator). Additional pedestrian survey of newly added right-of-way on the south side of FM 2206 between Cupit and Cox roads at the west end of the APE was conducted on March 1, 2016. Heavy rains in the late fall and early winter left many areas in standing water or extremely wet during the January and March investigations.

Twenty-nine shovel test units were placed judgmentally within areas of the APE based on the observed level of disturbance, visibility of the ground surface (very good to excellent), and guidelines established by the Council of Texas Archeologists (CTA) and approved by the Texas Historical Commission (THC). In addition, three backhoe trenches were placed on the west side of Hawkins Creek to look for buried deposits. The methods employed during this study and relevant constraints are discussed further in **Chapters 3** and **4**. Approximately 250 labor-hours have been invested in the archeological phase of compliance work for the overall project.


E Tuttle Rd
2605 FM-2605
N White Oak Rd S White Oak Rd
1845
Reel Rd
Pine Tree Rd
Lafamo Creek
300
TX-281-LOOP-E-W-Loop-281
TX-300
Highway 80
US-80
Silver Falls Rd
W Fairmont St
TX-42 S
80
Harris Creek
W Marshall Ave
US-80
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Fisher Rd
FM 2206
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Lear Park
1845
42
Sabine River
E State Highway 31
31
TX-42 State Highway 42
State Highway 31 N TX-31-W
FM-2087
TX-31-E
Rabbit Creek
2087
Project Location
Gregg County
Project Area
259
Longview
20
259
Source: ESRI (2014)
0 1 Miles
0 1 Kilometers
Figure 1
Project Location
Prepared for: TxDOT
1 in = 1 miles
CSJ: 2073-01-009, 2073-01-010
Scale: 1:63,360
Date: 7/30/2015
G:\Projects\TXDOT\FM2206\Hist_Figure 1_General Proj Loc_20150728.mxd

Regulatory Context

FM 2206 is owned, and the project is sponsored by, TxDOT Tyler District, a political subdivision of the State of Texas, rendering the project subject to the Antiquities Code of Texas (9 TNRC 191). Antiquities Permit 7404 was assigned to this project by the THC. The project also has a federal nexus, triggering Section 106 of the National Historic Preservation Act (NHPA), as amended (16 USC 470; 36 CFR 800). Reconnaissance and intensive archeological surveys were completed in order to inventory and evaluate archeological resources within the footprint of the proposed improvements. No new archeological sites were identified and no artifacts were collected. All other materials (notes, photographs, administrative documents, and other project data) generated from this work will be curated at the Center for Archaeological Studies (CAS) at Texas State University where they will be made permanently available to future researchers per 13 Texas Administrative Code (TAC) 26.16-17.

Structure of the Report

Following this introduction, Chapter 2 presents environmental parameters, a brief cultural context, and a summary of previous archeological research near the APE. Chapter 3 discusses research goals, relevant methods, and the underlying regulatory considerations. Chapter 4 presents the results of the surveys and summarizes the implications of the investigations. References are provided in Chapter 5.

Curation

All materials (notes, photographs, administrative documents, and other project data) generated from this work will be housed at the CAS at Texas State University, where they will be made permanently available to future researchers per 13 TAC 26.16-17. No artifacts were collected and therefore none will be curated.

2 ENVIRONMENTAL AND CULTURAL CONTEXT

Topography, Geology, and Soils

Gregg County is located within the Interior Coastal Plains of the Gulf Coastal Plain physiographic province, consisting of parallel ridges and valleys with geologic beds that tilt toward the Gulf (BEG 1996). The APE is at elevations ranging from approximately 273 to 363 ft (83.2-110.6 m) above mean sea level along the 3.7-mi (5.9-km) segment of FM 2206 beginning at SH 42 on the west end and continuing east to Loop 281 in the center of the county. The project area is situated in a combination rural, oil patch, and residential setting that is rapidly developing as a result of suburban expansion.

Geologically, the majority of the APE is underlain by Tertiary Queen City Sand with a very small sliver of the western terminus underlain by Quaternary Terrace deposits and Quaternary Alluvium along Hawkins Creek (BEG 1975; USGS 2015). These Quaternary sediments have the potential to contain intact, deeply buried archeological deposits. According to Natural Resources Conservation Service (NRCS) data, soils within the APE are generally quite shallow and include:

- Bowie fine sandy loam on 1 to 5 percent slopes
- Bowie-Urban land complex on 2 to 5 percent slopes
- Cuthbert fine sandy loam on 8 to 25 percent slopes
- Kirvin gravelly sandy loam on 3 to 8 percent slopes
- Kullit very fine sandy loam on 1 to 3 percent slopes
- Lilbert loamy fine sand on 2 to 5 percent slopes
- Frequently flooded luka fine sandy loam
- Wrightsville-Raino complex on 0 to 1 percent slopes (NRCS 2015).

Vegetation, Physiography, and Land use

The project is located in the Pineywoods ecoregion at the north end and crosses into the Gulf Prairies and Marshes ecoregions toward the south, according to the Texas Parks and Wildlife (TPWD) Ecoregion Map (TPWD 2011), derived from Gould et al. (1960). According to the TPWD's *Vegetation Types of Texas* map and accompanying descriptions, the APE is in an area (Type 42) mapped as being covered with "Pine-Hardwood Forest" and is of Subtype 2 (McMahan et al. 1984). Subtype 2, Shortleaf Pine-Post Oak-Southern Red Oak, is primarily made up of loblolly pine, black hickory, sandjack oak, flowering dogwood, common persimmon, sweetgum, sassafras, greenbriar, yaupon, wax myrtle, American beautyberry, hawthorn, supplejack, winged elm, beaked panicum, sprangleglass, Indiangrass, switchgrass, three-awn, bushclover, and tickclover (McMahan et al 1984:25). Vegetation noted during the survey included various types of native and invasive grasses, blackberry bushes, thorny vines, pine, and oak and other hardwood trees.

Archeological Potential

The APE falls within the Northeast Texas archeological region (Perttula 2004a) where the archeological record is long and rich (details are provided below in the next section). The soils present in the APE are extremely shallow with E or Bt horizons present between 10 and 64 centimeters below surface (cmbs) according to NRCS data (2015), which is within the reach of hand excavations. The project area has also been impacted by the construction of the existing FM 2206 roadway; typical disturbance depth for roadway construction is estimated to be around 70 cmbs or 2 ft. Ground disturbance from the project would be deeper at Hawkins Creek for bridge supports and drainage areas along the existing roadways. Surface visibility ranged across the APE from 0 to 100 percent.

The oil field around the western portion of the project area has been in operation since the 1930s with new drilling equipment, storage facilities, and associated pipelines found adjacent to the APE. Between the January and March field sessions, one new pump jack was installed at the edge of the proposed new right-of-way on the south side of FM 2206 near Cox Road. Residential and commercial use of the eastern portion of the APE is heavier than in the western portion.

To summarize, the archeological potential for prehistoric and/or historic materials is considered low, but such materials could occur on or near the surface in the soil types present in the APE. Additionally, at this section of Hawkins Creek, Holocene soils begin to appear and are somewhat deeper than surrounding areas. These deposits may contain prehistoric archeological deposits in buried soil horizons, though the probability is generally considered only moderate to low. Moreover, within the project area, these Holocene soils have been disturbed by the existing roadway, underground utilities, and oil and gas drilling and transporting activities, etc. Thus, the likelihood that they contain intact archeological materials is considered low. The area further downstream along Hawkins Creek has greater potential for archeological materials.

Archeological Chronology for Northeast Texas

The APE lies within the Northeast Texas archeological region (Kenmotsu and Perttula 1993; Perttula 2004a; Story et al. 1990), an area with a "long, complex, and endlessly fascinating"cultural history extending back at least 12,000 years into the past (Schambach 1993:1). The story of human occupation during these 12,000 years is found in the remains left by mobile Paleoindian and Archaic foragers; the long distance trade and exchange of goods (e.g., lithic raw materials); the development of sedentary communities of foragers and possibly pre-maize cultigens users (e.g., Fritz 1994); the adoption of ceramics and the bow and arrow; the development of complex Caddo horticultural and agricultural societies (Perttula 1996); and the use of earthen mounds. Other occupation evidence includes the seemingly rapid abandonment of much of the region in the seventeenth and eighteenth centuries due in large part to the effects of European-introduced diseases, as well as the European colonization of traditional Caddo territory, followed by the permanent expulsion of Caddo groups (Perttula 2004b).

The chronological history by period is presented in **Table 1**. The dates assigned to the period interfaces represent a generalized time range but are based on scientific results from archeological research and are derived from Perttula (2004a).

Further discussion of the prehistory of Northeast Texas is beyond the scope of this document. For such a discussion regarding the prehistoric record, the reader is referred to Kenmotsu and Perttula (1993), Perttula (2004b), Story et al. (1990), and Thurmond (1988, 1990), among others.

Table 1: Archeological Chronology for East Texas*

Period	Years Before Present**
Paleoindian	
Early	12,000 – 9,500 B.P.
Late	95,000 – 8, 000 B.P.
Archaic	
Early	8,000 – 6,000 B.P.
Middle	6,000 – 4,000 B.P.
Late	4,000 – 2,000 B.P.
Woodland	2,000 – 1,900 B.P.
Ceramic	
Early	2,000 - 1,200 B.P.
Early to Historic Caddo	1,200 – 250 B.P.

*From Perttula 2004a: 9, Table 1.1
**Based on uncalibrated radiocarbon dates, which are typical in Texas archeology (see Perttula 2004a: 14, Note 1).

Historic Context

The first land patents in what was to become Gregg County were issued in 1835 by the Republic of Mexico and were recognized by the Republic of Texas soon afterward. In the early days of the Republic, this area was occupied by settlers rather than speculators as had occurred in other areas. By 1858 almost all of the land had been surveyed and patented. Gregg County was established in 1873 with land that was taken from Upshur County to the north; in 1874 the county's southern boundary was expanded with the addition of land from Rusk County. The bill to form the county originally called the new county Roanoke County, but it was changed during the passage of the bill to "Gregg" in honor of the Civil War hero John B. Gregg (Perry 2010).

Longview was founded around 1870 when the Southern Pacific Railroad (later the Texas and Pacific Railway) extended their track westward from Marshall in Harrison County and laid out the new town. A post office was established in 1871 with regular mail service. Longview was considered a rough

railroad town; by 1872 both the International-Great Northern and the Texas and Pacific railroads had come into Gregg County. Later, in 1877, a third railroad, the Longview and Sabine Valley, began construction from Longview. These railroads transferred goods into the region, expanding the economy in the areas surrounding Longview (McWorter 2010). This includes the small farming town of Greggton, located just outside Longview, which was established in 1873 as a station on the Texas and Pacific Railway. The town was then incorporated into Longview in the 1950s (Long 2010). Greggton, was known as Willow Springs from 1873 to the early 1930s,.

The county and the city of Longview continued to grow steadily until the turn of the century. Between the 1880s and 1930s the Gregg County economy was primarily focused on agriculture with cotton and corn as the most important crops. With the discovery of oil in the county in 1931, the population increased dramatically. The East Texas oilfield discoveries and the growth of related industries allowed Longview, although located a few miles away from the oilfield proper, to capitalize on its position as the established business center and governmental seat of Gregg County. Longview transformed from a sleepy cotton, lumber, and railroad town to a thriving commercial and industrial city dominated by southern newcomers (McWhorter 2010; Perry 2010).

In 1942, construction on the Big Inch pipeline began. This pipeline originated in Longview and transported more than 261 million barrels of crude oil to the East Coast for refining, ensuring an uninterrupted supply of gas and oil during World War II. For twenty years after the war, concerted efforts to diversify area industries resulted in construction of a large manufacturing plant for earth-moving equipment; the largest chemical complex in inland Texas (built by Texas Eastman Company, a subsidiary of Eastman Kodak Company); a Schlitz brewery (later Stroh's Brewery), an associated container factory; Gregg County Airport, and Lake Cherokee (McWhorter 2010). The population continued to grow over the next thirty years. Even though Gregg County was the fifth-highest producing county in Texas in 1980 and 1982, the recession in the East Texas oil industry affected employment in Gregg County in the 1980s; fortunately, other industries helped the city and county maintain an economy. In the early twenty-first century, oil, manufacturing, tourism, agribusiness, and lignite mining were central elements of the county's economy (Perry 2010).

Previous Investigations and Previously Identified Resources

A search of the *Texas Archeological Sites Atlas* (Atlas) maintained by the THC and the Texas Archeological Research Laboratory was conducted in order to identify archeological sites, historical markers (Recorded Texas Historic Landmarks), properties or districts listed on the National Register of Historic Places (NRHP), State Antiquities Landmarks (SALs), cemeteries, or other cultural resources that may have been previously recorded in or near the APE, as well as previous surveys undertaken in the area. Per TxDOT requirements, a review of a 1 km buffer area around the project APE was undertaken to provide insight into the types of known and potential historic properties that may be impacted by the project.

According to the Atlas survey coverage data, one previous archeological survey crosses a small portion of the APE. This linear survey was conducted in 2013 by TRC Environmental Corporation for Exxon-Mobil and begins south of FM 2206 opposite Lakeview Cemetery and extends south to a gas storage facility area (THC 2015). There have been four other archeological surveys within a 1 km buffer zone surrounding the APE. Three of the four surveys, located southeast of the APE, were conducted by Sphere 3 Environmental and took place in 2003, 2004, and 2011; one was sponsored by the City of Longview and the remaining two were sponsored by Pine Tree Independent School District (THC 2015). A survey conducted for the Public Utilities Commission in 1999 is located south of the project area and crosses the Sabine River.

There are no previously identified cultural resources within the APE but there are three archeological sites located within the 1 km buffer (**Figure 2**). All three sites are lithic scatters recorded by a THC Steward and have unknown eligibility status. Site 41GG72 is a Late Prehistoric site, 41GG73 is a Late Archaic site, and 41GG83 is a Middle Archaic site (THC 2015).

Two cemeteries (Lakeview Cemetery and Jordan Valley Cemetery) are located just outside the APE. Note that the APE's boundary apparently overlaps with Lakeview Cemetery on **Figure 2;** however, this is an artifact of mapping errors and does not reflect the on-the-ground reality. The cemetery's boundaries are well-known to the engineering team and are definitively outside of the right-of-way and APE. Lakeview Cemetery is adjacent to FM 2206 at Jordan Valley Road and Jordan Valley Cemetery is adjacent to Lakeview Cemetery on the north side (THC 2015). According to Tipton (2015), both cemeteries have been in use since the 1960s and remain in use today. However, according to Lakeview Memorial Gardens and Funeral Home staff, Lakeview Cemetery was established in the 1930s when a local family donated some of their farmland for a community cemetery. The boundaries of the two cemeteries are separated only by Jordan Valley Road but neither have ever extended down to the edge of the FM 2206 northern right-of-way (Bill Wright and Robert Coleman, personal communication July 16, 2015).

A review of the available historic aerials (from Nationwide Environmental Title Research or NETR), more recent Google Earth images (viewed through Google Earth Pro), and historic topographic maps was conducted. A road is visible along the current FM 2206 alignment in the 1939 *General Highway Map Upshur and Gregg Counties* map (Texas State Highway Department 1939) as well as on a 1936 topographic map (USGS 1936). Two cemeteries in the locations of the Lakeview and Jordan Valley cemeteries are noted on the 1961 *General Highway Map Gregg County* map (Texas State Highway Department 1961), both north of FM 2206. The earliest aerials available are from 1970 and show denser occupation on the east side of the project area in Greggton and oil/gas structures on the west end, but little in between. Though the 1970 topo does not show a cemetery marked at the location of the Lakeview Cemetery, burials are obvious on the 1970 aerial. The cemetery had likely been in use for only a decade or less by that point (Tipton 2015). Based on the 1970 and 1974 topographic maps, FM 2206 was built in its current configuration between those years. It is not until the 1990s that other

development along FM 2206 began to increase, particularly on the east end of the APE (NETR 2015; Google 2015).

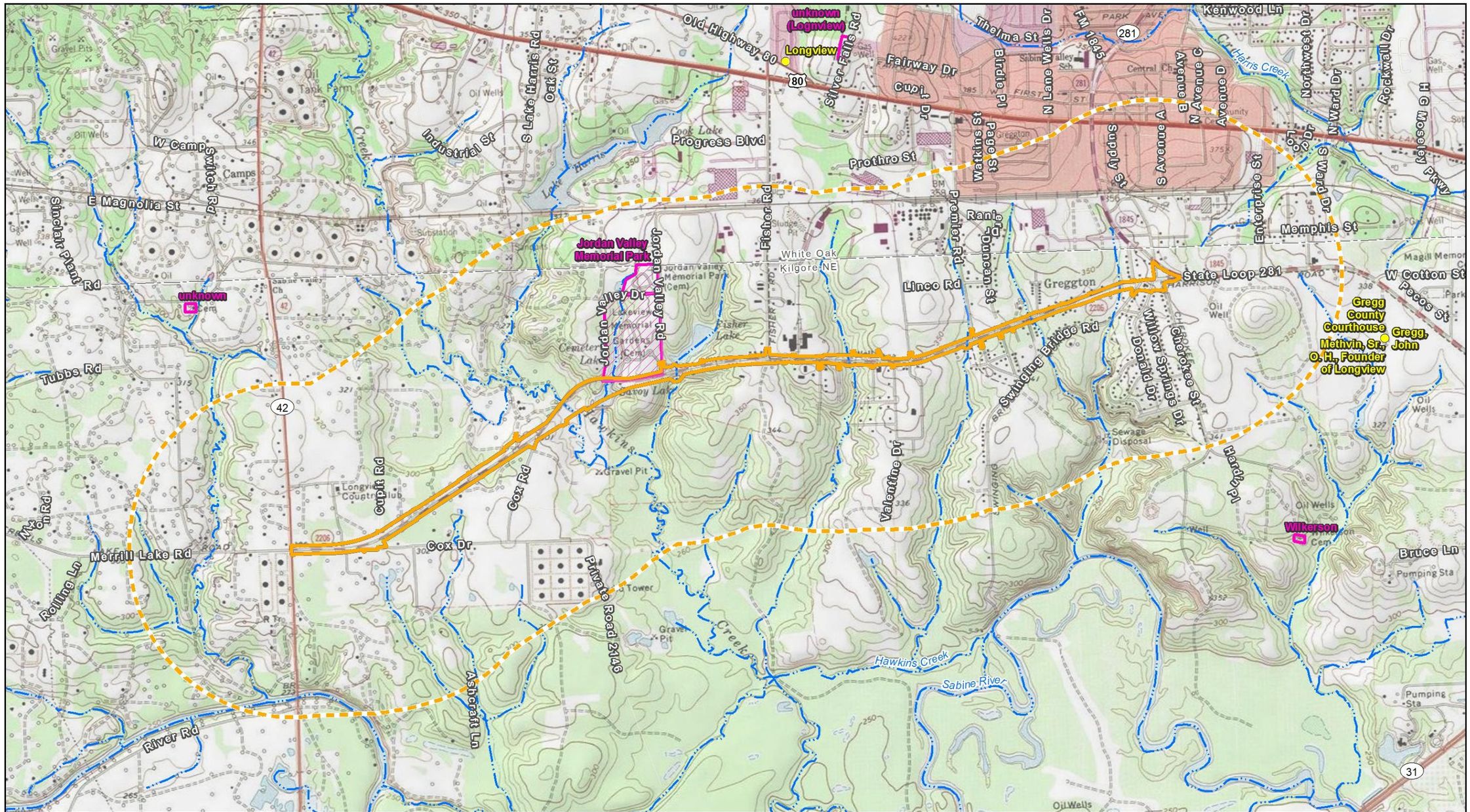

Figure 2
Location of Archeological APE
FM 2206 from SH 42 to Loop 281

Project APE
1-km Buffer of APE
Historical Marker
Cemetery

Data Sources: THC (2015), NHD (2014)
Basemap Source: USGS White Oak and Kilgore NE 7.5' Quadrangles (1978, 1971)

0 2,000 Feet
0 500 Meters

Prepared for: TxDOT	1 in = 2,000 feet
	Scale: 1:24,000
CSJ: 2073-01-009, 2073-01-010	Date: 5/23/2016

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3 RESEARCH GOALS AND METHODS

Purpose of the Research

The present study was carried out to accomplish three major goals:

1. Identify all historic and prehistoric archeological resources located within the APE defined in Chapter 1;
2. Perform a preliminary evaluation of the identified resources' potential for inclusion in the NRHP and/or designation as a SAL (typically performed concurrently); and
3. Make recommendations for further research concerning the identified resources based on the preliminary NRHP/SAL evaluation with guidance on methodology and ethics from the THC and the CTA.

Section 106 of the National Historic Preservation Act

Section 106 of the NHPA of 1966, as amended (16 USC 470; 36 CFR 800), directs federal agencies and entities using federal funds to "take into account the effect of their undertakings on historic properties" (36 CFR 800.1a), with "historic property" defined as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places [NRHP] maintained by the Secretary of the Interior" (36 CFR 800.16).

In order to determine the presence of historic properties (with this phrase understood in its broad Section 106 sense) an APE is first delineated. The APE is the area in which direct impacts (and in a federal context, indirect impacts as well) to historic properties may occur. Within the APE, resources are evaluated to determine whether they are eligible for inclusion in the NRHP, and to determine the presence of any properties that are already listed on the NRHP. To determine whether a property is significant, cultural resource professionals and regulators evaluate the resource using these criteria:

> . . . The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, material, workmanship, feeling, and association and
>
> a. that are associated with events that have made a significant contribution to the broad patterns of our history; or
> b. that are associated with the lives of persons significant in our past; or
> c. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
> d. that have yielded or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

Note that significance and NRHP eligibility are determined by two primary components: integrity *and* one of the four types of association and data potential listed under 36 CFR 60.4(a-d). The criterion most often applied to archeological sites is the last—and arguably the broadest—of the four; its phrasing allows regulators to consider a broad range of research questions and analytical techniques that may be relevant to a project (36 CFR 60.4[d]).

Occasionally, certain resources fall into categories that require further evaluation using one or more of the following Criteria Considerations. If a resource is identified and falls into one of these categories, the Criteria Considerations listed below may be applied in conjunction with one or more of the four National Register criteria listed above:

a. A religious property deriving primary significance from architectural or artistic distinction or historical importance, or

b. A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event, or

c. A birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his or her productive life, or

d. A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events, or

e. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived, or

f. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance, or

g. A property achieving significance within the past 50 years if it is of exceptional importance (36 CFR 60.4).

Resources that are listed in the NRHP or are recommended eligible are treated the same under Section 106, and are generally treated the same at the state level as well.

After cultural resources within the APE are identified and evaluated, effects evaluations are completed to determine whether the proposed project has no effect, no adverse effect, or an adverse effect on these resources. Effects are determined by assessing the impacts that the proposed project will have on the characteristics that make the property eligible for listing in the NRHP as well as its integrity. Types of potential adverse effects considered include physical impacts, such as the destruction of all or part of a resource; property acquisitions that adversely impact the historic setting of a resource, even if built resources are not directly impacted; noise and vibration impacts evaluated according to accepted professional standards; changes to significant viewsheds; and cumulative effects that may occur later in

time. If the project will have an adverse effect on cultural resources, measures can be taken to avoid, minimize, or mitigate this adverse effect. In some instances, changes to the proposed project can be made to avoid adverse effects. In other cases, adverse effects may be unavoidable, and mitigation to compensate for these impacts will be proposed and agreed upon by consulting parties.

Antiquities Code of Texas

Because the project is currently owned and funded by TxDOT, a political subdivision of the State of Texas, the project is subject to the Antiquities Code of Texas (9 TNRC 191), which requires consideration of effects on properties designated as—or eligible to be designated as—SALs, which are defined as:

> . . . sites, objects, buildings, structures and historic shipwrecks, and locations of historical, archeological, educational, or scientific interest including, but not limited to, prehistoric American Indian or aboriginal campsites, dwellings, and habitation sites, aboriginal paintings, petroglyphs, and other marks or carvings on rock or elsewhere which pertain to early American Indian or other archeological sites of every character, treasure imbedded in the earth, sunken or abandoned ships and wrecks of the sea or any part of their contents, maps, records, documents, books, artifacts, and implements of culture in any way related to the inhabitants, prehistory, history, government, or culture in, on, or under any of the lands of the State of Texas, including the tidelands, submerged land, and the bed of the sea within the jurisdiction of the State of Texas. (13 TAC 26.2)

Guidelines for the evaluation of cultural resources as SALs and/or for listing in the NRHP, which is also explicitly referenced at the state level, are detailed in 13 TAC 26. An archeological site identified on lands owned or controlled by the State of Texas may be of sufficient significance to allow designation as a SAL if at least one of the following criteria applies:

1. the site has the potential to contribute to a better understanding of the prehistory and/or history of Texas by the addition of new and important information;
2. the site's archeological deposits and the artifacts within the site are preserved and intact, thereby supporting the research potential or preservation interests of the site;
3. the site possesses unique or rare attributes concerning Texas prehistory and/or history;
4. the study of the site offers the opportunity to test theories and methods of preservation, thereby contributing to new scientific knowledge; or
5. the high likelihood that vandalism and relic collecting has occurred or could occur, and official landmark designation is needed to insure [*sic*] maximum legal protection, or alternatively further investigations are needed to mitigate the effects of vandalism and relic collecting when the site cannot be protected (13 TAC 26.10).

For archeological resources, the state-level process requires securing and maintaining a valid Texas Antiquities Permit from the THC, the lead state agency for Antiquities Code compliance, throughout all stages of investigation, analysis, and reporting.

Survey Methods and Protocols

With the goals and guidelines above in mind, CMEC personnel conducted reconnaissance and intensive surveys in September 2015 and March 2016, per category 6 under 13 TAC 26.15. Using the definitions in 13 TAC 26.3, they searched for previously identified and unidentified archeological sites. Field methods complied with the coverage requirements of 13 TAC 26.15, as expounded on by the THC and CTA. As the proposed right-of-way take is very narrow, formal transects were not employed, but rather a single transect was conducted with crew members leap frogging to place judgmental shovel tests where applicable. Between the September 2015 initial visit and the two visits in early 2016, weather conditions changed from dry to very wet. In both January and March, unit placement (both shovel tests and backhoe trenches) were often determined due to areas with standing water where placement of the perspective unit was moved or adjusted accordingly.

Shovel test units were focused in areas where ground surface visibility was below 30 percent, soils appeared to be of sufficient depth to contain subsurface cultural materials, and/or previous disturbance appeared minimal. All shovel tests were excavated in natural levels to subsoil or 60 cmbs (24 in), whichever was encountered first. Excavated matrix was screened through 0.635 centimeter (cm) or 0.25 inches (in) hardware cloth as allowed by moisture and clay content, which required that the removed sediment be crumbled/sorted by hand, trowel, and/or shovel point.

Deposits were described using conventional texture classifications and Munsell color designations, and all observations were recorded on standard CMEC shovel test forms. The testing protocol detailed in the approved scope for Texas Antiquities Permit 7404 called for radial shovel tests to be placed at 5 m (16 ft) intervals around each shovel test positive for cultural material until two negative units have been established in each cardinal direction, as allowed by project limits, observed disturbance, and other constraints. Since no shovel test contained prehistoric or historic material, no radial shovel tests were excavated.

Mechanical trenching was conducted at Hawkins Creek since the potential for buried archeological deposits was higher in that area. Each trench consisted of a central deep cut with a continuous exposure along the walls as well as at one end of the trench. The center cut measured 3 ft (1 m) across, two times the width of the bucket. The trenching progressed in 50 cm (20 in) depth increments; profiles and backdirt were closely examined for the presence of cultural materials and features. Because bridge bents are expected to be deep at the creek, the depth goal of the trenching in the floodplain was 5.5 m (18 ft). However, trenches would be terminated at higher levels if the water table was encountered and/or safety concerns related to soil stability became apparent. Following completion of the

mechanical excavations, CMEC personnel examined the exposed deposits and described them using conventional texture classifications and Munsell color designations. Following description of the deposits and sketching of any features observed, CMEC personnel supervised the complete backfilling and leveling of each trench.

For the purposes of this project, CMEC defines an archeological site as cultural materials (features and/or artifacts) that can be determined to be from the same occupation (i.e., era or period). Occupation eras or periods can be defined broadly, particularly where prehistoric materials are present as some artifacts types are ubiquitous throughout time (e.g., lithic debitage or burned rock). To address that, if artifacts are observed from at least two different materials (e.g., chert and quartzite debitage) or classes (e.g., stone tools, burned rock, and/or lithic debitage) and occur at a density of more than five items from two or more shovel tests or twenty or more artifacts within a 40 m square surface area, they will be treated as a site.

Stricter definitions are applied to defining historic materials as a site, since certain materials persist from the historic period to the modern age and some may not be definitively from the same period or even historic at all. Generally, however the approach outlined above is used. No historic-age sites were recorded during the present study as materials were either not noted at a density of twenty or more per 40 m square area on the surface and subsurface combined or the materials were not conclusively archeological in nature.

Much of the APE is located on privately-owned land; therefore, artifacts found from shovel tests, surface contexts and/or trenches were noted, described, photographed, and returned to their original contexts. All materials (notes, photographs, administrative documents, and other project data) generated from this work will be curated at CAS at Texas State University where they will be made permanently available to future researchers as per 13 TAC 26.16-17.

4 RESULTS AND RECOMMENDATIONS

General Field Observations Results

Fieldwork to conduct an intensive archeological survey of the entire 3.7 mile (5.9 km), 88.5ac (35.8 ha) APE was initiated in late summer 2015. Pedestrian survey with shovel testing was conducted over the majority of the APE on September 23-24, 2015 followed by backhoe trenching at Hawkins Creek on January 20, 2016. Late in February 2016, it was learned that new right-of-way was added to the design along the south side of FM 2206 between Cupit and Cox roads and the final survey efforts were carried out on those parcels on March 1, 2016. The full archeological APE consists of existing right-of-way that covers approximately 46 ac (18.6 ha), proposed new right-of-way that covers approximately 41.3 ac (16.7 ha), and temporary construction easements that cover 1.2 ac (0.5 ha) for a total of approximately 88.5 ac (35.8 ha).

The APE is situated in very hilly terrain dissected with several small unnamed streams and drainages that flow into the larger Hawkins Creek, which in turn flows into the Sabine River approximately 2.5 miles to the south-southeast. Several small wetlands fall within the APE, with the largest adjacent to Hawkins Creek on the west bank. This hilly terrain was covered in vegetation ranging from thick wooded areas with large and small pine trees, large and small hardwoods, small trash trees, briars, honeysuckle, wildflowers, and viny brush to mowed parcels of short native and invasive grasses. Ground visibility ranged from 0 to 100 percent. Some clearing of vegetation had occurred in the APE in a few areas since the 2015 aerials used for the project (see **Figures 3a-d**) had been taken.

Disturbances due to numerous buried utilities (including cable, phone, water, sewer; **Figures 4-5**), oil/gas pipelines, and overhead transmission lines were noted throughout the project APE, as were ingress and egress drives and roads, berms, ditches, lumbering activities, oil and gas drilling and storage facilities, and erosion and blow-outs caused by some of these man-made disturbances (**Figure 6**). The roadbed itself has been built-up over portions of the alignment (**Figure 7**). Land clearing and leveling for homes, businesses, or oil/gas storage or drilling are also very apparent from the remnants of push piles noted on a number of parcels (**Figure 8**). In fact, a new pump jack had been installed on a parcel just east of Cox Road on the south side of FM 2206 between CMEC's visits in January and March 2016 (**Figure 9**). The APE and larger area has been used for oil/gas exploration, transportation, and storage since the 1930s and evidence of these activities was apparent over much of the area surrounding and in the APE. Numerous pipelines crisscross the APE, particularly west of Hawkins Creek (see **Figure 3a-b**). Additional evidence of the extent of oil and gas activities was noted in a small drainage filled with oily water from a small pipeline crossing it (**Figure 10**). Several wetland areas also fall within the APE including a very large one adjacent to Hawkins Creek.

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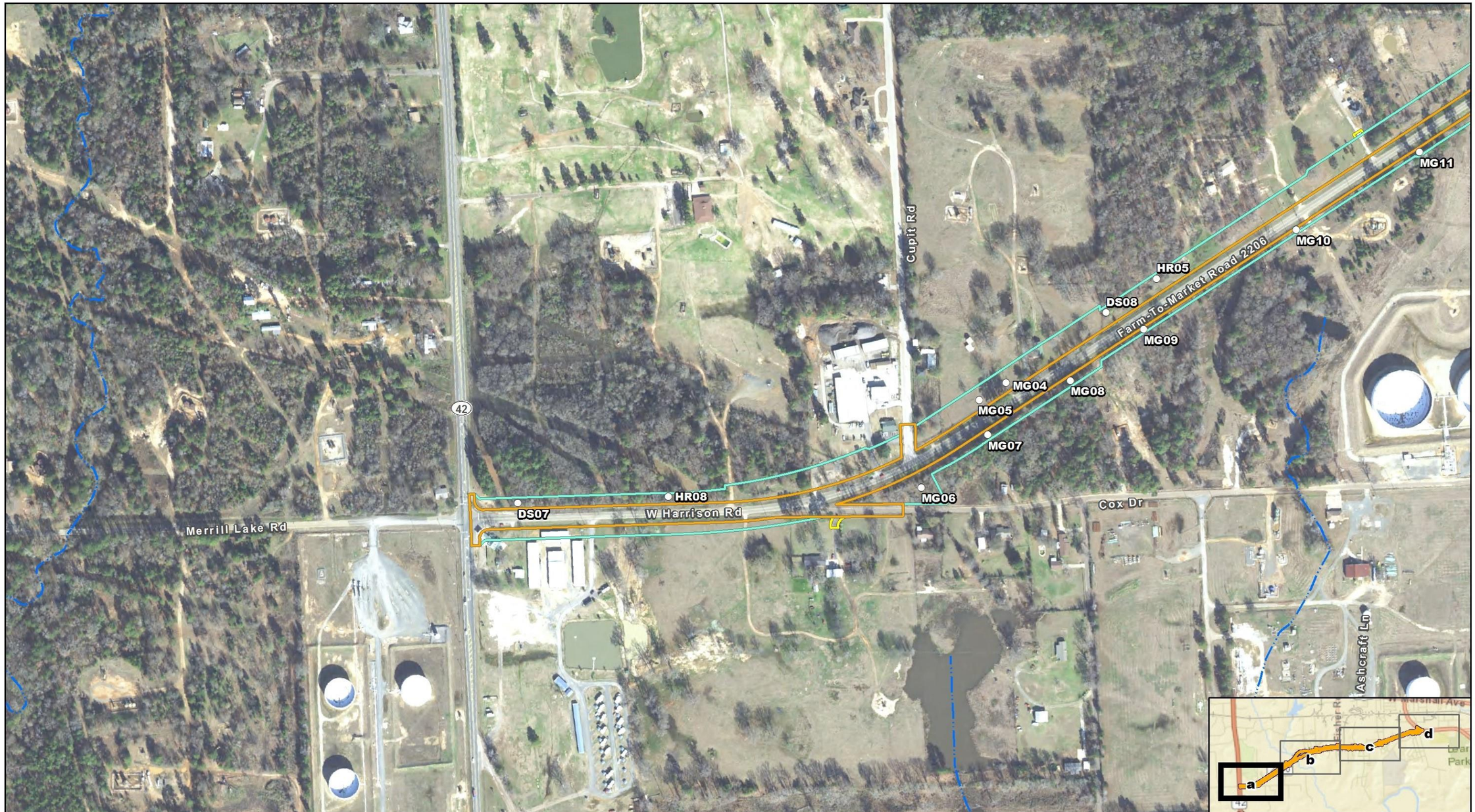

Figure 3a
Survey Results
FM 2206 from SH 42 to SH 281

Data Sources: CMEC (2015, 2016), THC (2015), TARL (2016), NHD (2014)
Aerial Source: TNRIS (2015)

Prepared for: TxDOT	1 in = 400 feet
	Scale:1:4,800
CSJ: 2073-01-009, 2073-01-010	Date: 3/3/2016

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Figure 3b
Survey Results
FM 2206 from SH 42 to SH 281

Existing Right-of-Way
Proposed Right-of-Way
Proposed Construction Easement
Cemetery
Negative Backhoe Trench
Negative Shovel Test

Data Sources: CMEC (2015, 2016), THC (2015), TARL (2016), NHD (2014)
Aerial Source: TNRIS (2015)

0 400 Feet
0 100 Meters

Prepared for: TxDOT	1 in = 400 feet
	Scale: 1:4,800
CSJ: 2073-01-009, 2073-01-010	Date: 3/3/2016

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Figure 3c
Survey Results
FM 2206 from SH 42 to SH 281

Existing Right-of-Way
Proposed Right-of-Way
Proposed Construction Easement
Negative Shovel Test

Data Sources: CMEC (2015, 2016), THC (2015), TARL (2016), NHD (2014)
Aerial Source: TNRIS (2015)

0 400 Feet
0 100 Meters

Prepared for: TxDOT	1 in = 400 feet
	Scale: 1:4,800
CSJ: 2073-01-009, 2073-01-010	Date: 3/3/2016

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Figure 3d
Survey Results
FM 2206 from SH 42 to SH 281

Existing Right-of-Way
Proposed Right-of-Way
Proposed Construction Easement

Data Sources: CMEC (2015, 2016), THC (2015), TARL (2016), NHD (2014)
Aerial Source: TNRIS (2015)

0 400 Feet
0 100 Meters

Prepared for: TxDOT	1 in = 400 feet
	Scale: 1:4,800
CSJ: 2073-01-009, 2073-01-010	Date: 3/3/2016

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The portion of the APE east of Hawkins Creek is more developed than the portion west of Hawkins Creek. This point is marked by Lakeview Cemetery which is situated just west of the creek, at the east end of the large curve in FM 2206 (see **Figures 2, 3b**). Residences and commercial and industrial enterprises also become more frequent further east (toward Loop 281). The portion west of Hawkins Creek is less developed than the eastern portion, with occasional residences and/or businesses. One park was noted just west of Cupit Road on FM 2206 in the southwest corner of a county office facility (**Figure 11**).

Figure 4. Typical view of utilities and development along the eastern portion of the APE, facing east. Note subsurface utilities locations marked by pin flags.

Figure 5. Evidence of subsurface utilities near unnamed drainage in APE with typical commercial enterprises in the background; view is to the north.

Figure 6. Example of an erosional blow-out along the existing roadway; south is toward the top of the photo.

Figure 7. Area where the roadbed has been built-up; view is to the west.

Figure 8. Example of large push piles on cleared lot; view is to the northwest.

Figure 9. Cleared area for new pump jack installed just outside proposed right-of-way; view is to the south. The cleared area extends into the right-of-way.

Figure 10. Oily water in small drainage with shallow pipeline crossing; top of the photo is north-northwest.

Figure 11. Artificial drainage at small county park; view to the east-northeast.

Twenty-nine shovel tests (ST) were excavated in proposed new (privately-owned) right-of-way corridor. The existing right-of-way exhibited extensive disturbances throughout, precluding shovel testing. In part due to the hilly terrain (**Figure 12**), shovel tests were judgmentally placed in areas where subsurface archeological materials might occur, no obvious impacts or disturbances were observed, slope was less than 30 percent, ground visibility was limited, and soil moisture was low.

Soils were fairly consistent with what was described by the NRCS consisting of sandy loam, silty loam, fine sand or silt, and sandy or silty clay. Colors varied from gray (**Figure 13**) to yellow/brown (**Figure 14**) to red (**Figure 15**) soils and subsoils throughout the corridor. Variability in Munsell designations is likely based on each individual's eye for color and whether the soil was wet or dry—soils were dry in September and damp to very wet in January and March.

Details of each shovel test are presented in **Table 2**. One ST DS04, exhibited an extremely disturbed profile (**Figure 16**). Naturally occurring hematite and limonite nodules and pebbles were observed in most of the shovel tests, drainages, road cuts, and on the surface in the APE. Small quartzite gravels and fist-sized iron-rich sandstone and mudstone (**Figure 17**) were also encountered in units on uplands. An iron pipe was encountered in the southeast corner of ST MG10 at 31 cmbs; the unit was terminated at this level. A number of pipeline markers and oil/gas-related facilities were present in the area near this shovel test, so this occurrence was not surprising. This pipe and a hollow rodent burrow found in the same unit (at 15 cmbs) further illustrated the type of disturbances in the area. No artifacts or features were observed in any other shovel tests.

Figure 12. Example of hilly terrain within the APE; view is to the east-northeast toward an unnamed drainage.

Figure 13. Typical profile of shovel test with gray soil; plan view of ST HR05.

Figure 14. Typical profile of shovel test with yellow soil; plan view of ST MG07.

Figure 15. Typical profile of shovel test with red subsoil; plan view of ST MG02.

Figure 16. Disturbed profile in ST DS04.

Figure 17. Iron-rich sandstone and mudstone cobbles from ST MG02.

Table 2: Shovel Test Unit Excavation Results*			
ST #	**Depth (cmbs**)**	**Description/Notes**	**Artifacts**
DS01	0-25	Yellowish brown (10YR 5/4) friable sandy loam; few grass roots and very few gravels	None
	25-35	Disturbed reddish brown (5YR 5/4) mixed with light yellowish brown (10YR 6/4) sandy clay loam; no gravels, few roots, small wood pieces	None
	35-60	Light yellowish brown (10YR 6/4) loose sand; no gravel and no roots; ST terminated at depth	None
DS02	0-20	Yellowish brown (10YR 5/4) friable sandy loam; few grass roots; very little gravel	None
	20-50	Yellowish red (5YR 5/8) firm sandy clay; no inclusions; ST terminated at subsoil	None
DS03	0-20	Yellowish brown (10YR 5/4) friable sandy loam; rootlets and roots, gravel, and broken wood	None
	20-35	Very disturbed yellowish red (5YR 5/8) mixed with light yellowish brown (10YR 6/4) and brown (7.5YR 4/2) sandy clay loam; very few roots or gravels; ST terminated at subsoil	None
DS04	0-15	Very disturbed mixed sand, sandy clay, and sandy loam with few roots and many gravels	None
DS05	0-25	Strong brown (7.5YR 5/6) friable, loose sand loam; many (pea to golf ball) gravels	None
	25-40	Yellowish red (5YR 5/6 firm to very firm clay; few gravels and no roots; ST terminated at subsoil	None
DS06	0-20	Light gray (10YR 7/2) loose sandy loam; many gravels, rootlets and roots	None
	20-25	Yellowish red (5YR 5/6 firm to very firm clay; few gravels and no roots; ST terminated at subsoil	None
DS07	0-100	Light brownish gray (10YR 6/2) loose, granular sandy loam; roots and rootlets to 25 cmbs, very few gravels throughout; ST terminated at depth	None
DS08	0-35	Light brownish gray (10YR 6/2) loose, granular sandy loam; some rootlets, roots, and gravel	None
	35-50	Strong brown (7.5YR 4/6) firm clay loam; no inclusions; ST terminated due to compactness	None
DS09	0-50	Very disturbed red (2.5YR 4/8) sandy clay loam; rootlets, roots, and lots of gravels; ST terminated at depth	None
DS10	0-20	Brown (7.5YR 5/2) friable sandy clay loam; few roots or rootlets, many gravels	None
	20-40	Yellowish red (5YR 5/8) firm clay loam; one root and few gravels; ST terminated at subsoil	None
HR01	0-5	Yellow (10YR 7/6) compact fine sandy loam	None
	5-15	Yellowish red (5YR 5/8) compact sandy clay; ST terminated at subsoil	None
HR02	0-20	Dark yellowish brown (10YR 4/6) fine sandy loam with some reddish yellow (5YR 7/8) clay bits at base; 50% gravels hematite and iron rich; ST terminated due to heavy gravels	None
HR03	0-30	Brown (10YR 5/3) silty sand; few small hematite gravels	None
	30-40	Very pale brown (10YR 7/4) compact silty sand; many hematite gravels; many roots; ST terminated due to large root	None
HR04	0-10	Yellowish red (5YR 5/8) sandy clay with yellowish brown (10YR 5/8) mottles; few hematite and sandstone gravels	None

Table 2: Shovel Test Unit Excavation Results*			
HR05	0-20 20-30	Light brownish gray (10YR 6/2) silty loam White (10YR 8/1) silty loam with brown (7.5YR 4/3) mottles; ST terminated at subsoil	None None
HR06	0-10	Yellowish red (5YR 5/8) clay; ; many gravels; subsoil at surface	None
HR07	0-20 20-40	Brown (10YR 5/3) silt loam Very pale brown (10YR 7/4) silt loam; few sandstone gravels; ST terminated due to large root	None None
HR08	0-5 5-10	Brown (10YR 5/3) compact silt loam; some roots Dark yellowish brown (10YR 4/6) silty clay with yellowish brown (10YR 5/8) mottles	None None
MG01	0-8 8-60	Dark brown (10YR 3/3) damp sand Strong brown (7.5YR 4/6 to 5/6) sand with iron-rick sandstone cobbles in upper 20-25 cmbs and hematite pebbles throughout	None None
MG02	0-16 16-36 36-41	Dark brown (10YR 3/3) sand Strong brown (7.5YR 4/6 to 5/6) sand with hematite pebbles; one iron-rich sandstone cobble in upper 20 cmbs Yellowish red (5YR 5/8) sandy to silty clay	None None None
MG03	0-10 10-50	Dark brown (10YR 3/3) sand Brown (7.5YR 4/4) silty loam	None None
MG04	0-10 10-30 30-45	Brown (10YR 4/3) damp silty sand Yellowish brown (10YR 5/4) damp silty sand with an occasional hematite pebble Strong brown (75.YR 5/6) compact silty clay with light yellowish brown (10YR 6/4) mottles and hematite pebbles	None None
MG05	0-9 9-40 40-49	Brown (10YR 4/3) damp silty sand Yellowish brown (10YR 5/4) damp silty sand with an occasional hematite pebble Strong brown (75.YR 5/6) compact silty clay with light yellowish brown (10YR 6/4) mottles and hematite pebbles and small cobbles; some limonite nodules noted	None None None
MG06	0-4 4-26	Very dark brown (10YR 2/2) sandy silt humus layer Brown (10YR 5/3) extremely wet silt; water seepage at depth; roots throughtout	None None
MG07	0-5 5-19 19-38 38-50	Very dark brown (10YR 2/2) sandy silt humus layer Yellowish brown (10YR 5/4) sandy silt with some roots Brown (10YR 5/3) to pale brown (10YR 6/3) damp sandy silt with hematite pebbles/nodules Brown (10YR 5/3) wet, sticky sandy silt with brown (7.5YR 4/4) mottles; hematite nodules increase	None None None
MG08	0-20 20-36	Brown (10YR 4/3) extremely wet silt; roots Brown (10YR 5/3) extremely wet silt with reddish yellow (7.5YR 6/6) mottles; water seepage at depth; roots	None None
MG09	0-14 14-33	Brown (10YR 4/3) extremely wet, sticky silt Brown (10YR 5/3) extremely wet silt with reddish yellow (7.5YR 6/6) mottles; water seepage at depth	None None
MG10	0-6 6-31	Dark brown (10YR 3/3) sandy silt humus layer Brown (7.5YR 4/4) damp sandy silt; rodent burrow running northeast/southwest through at 105 cmbs;	None Iron pipe (at 31 cmbs)

Table 2: Shovel Test Unit Excavation Results*			
MG11	0-6	Very dark brown (10YR 2/2) sandy silt humus layer	None
	6-20	Brown (7.5YR 4/4) damp sandy silt; two small quartzite pebbles	None
	20-25	Strong brown (7.5YR 5/6) damp, compact sandy silt	None

*All shovel tests were located on privately-owned property (proposed new right-of-way).
**Centimeters below surface

In addition to the excavations of shovel test pits near Hawkins Creek, three backhoe trenches (BHT) were excavated on the west side of Hawkins Creek moving from near the creek up the terrace edge toward the flat portion of the terrace (see **Figure 3b**). A large wetland occurs on both sides of the creek within the proposed new right-of-way (**Figure 18**). Hogs had recently rutted up much of the edge of the wetland and below the terrace edge causing damage several centimeters deep. At the time of the visit, there was quite a bit of standing water on both sides of the creek, but the west side was less inundated. The east side was not investigated as the terrace once housed an oil/gas well pad and small storage facility that was recently removed. This left a deflated and eroding surface and terrace edge (evidenced by visual inspection of the area and personal communication with a representative from the oil company onsite). In addition, several pipelines cross the APE at this location, including a very recently placed Exxon pipeline running in a northwest-southeast direction across the APE (**Figure 19**).

Each BHT was 70 cm (2.2 ft, the width of the bucket) wide and varied in length: BHT 1 was 3.3 m (10.8 ft) long, BHT 2 was 3.4 m (11.2 ft) long and BHT 3 was 2.2 m (7.2 ft) long. Soil from all of the trenches was very damp; water seepage only occurred in Trenches 1 and 2, which were located in the floodplain and off the terrace. Trenches 2 and 3 have homogenous, typical depositional profiles of sand or silt matrices over silty clay, although the color is not consistent (**Figures 20 and 21**) . In contrast, the profile of BHT 3 contains a large zone of very mottled silty sand (**Figure 22**). Details are found in **Table 3**. No artifacts, features, or paleosol horizons were observed in any of the trenches.

Figure 18. Large wetland in foreground with treeline on the west side of Hawkins Creek; view to the northeast.

Figure 19. View toward Exxon pipelines; alignment identified by above-ground caution markers; view to the southwest.

Figure 20. South wall profile of BHT 2; south is to the top of the photo.

Figure 21. South wall profile of BHT 3 at the edge of the terrace top; south is to the top of the photo.

Figure 22. South wall profile of BHT 1; south is to the top of the photo. Note the heavy mottling at 50 to 108 cmbs.

Table 3: Backhoe Trench Excavation Results*

BHT #	Depth (cmbs**)	Description/Notes	Artifacts
1	0-10	Brown (10Y 4/3) damp sand	None
3.3 m long	10-30	Brown (10YR 5/3) damp sand with dark yellowish brown (10YR 4/4) mottles	None
	30-40	Dark grayish brown (10YR 4/2) silty sand	None
	40-50	Brown (7.5YR 4/4) silty sand	None
	50-108	Strong brown (7.5YR 5/8) silty sand with grayish brown (10YR 5/2) mottles	None
	108-150	Dark gray (7.5YR 4/1) silty clay with water seepage at depth	None
2	0-30	Brown (7.5YR 4/4) silty sand	None
3.4 m long	30-65	Dark brown (10YR 3/3) silty sand with some roots	None
	65-135	Yellowish red(5YR 5/8) silty clay	None
	135-145	Strong brown (7.5YR 5/80) clay with some silt and light gray (7.5YR 7/1) mottles; some hematite pebbles; water seepage at depth	None
3	0-12	Brown (7.5YR 4/3) sand	None
2.2 m long	12-45	Reddish yellow (7.5YR 6/6) sand	None
	45-107	Yellowish red (5YR 5/6) very compact sandy silt	None
	107-120	Stong brown (7.5YF 5/8) clayey silt	None

*Backhoe trenches were located on privately-owned property (proposed new right-of-way).

**Centimeters below surface

Recommendations

The project APE is located on hilly terrain with very shallow soils, with the exception of deeper Holocene-age soils adjacent to Hawkins Creek. The potential for prehistoric and historic archeological remains and/or deposits was considered low. The area on or just below (within 50 cm of) the surface was thought to have the highest potential to contain prehistoric or historic materials. Archeological remains along Hawkins Creek in deeper Holocene soils could have occurred but clay subsoils were also found to occur within one meter of the surface.

Results of the survey indicate that the majority of the APE has been extensively disturbed by previous activities (e.g., oil and gas pipelines and other activities, utility installations, natural erosion) in the distant and recent past. The Holocene-age soils adjacent to Hawkins Creek yielded a fairly uniform profile that showed no evidence of buried soil horizons or archeological deposits or materials. All shovel tests and surface exposures were sterile of archeological materials as well and no evidence of preserved deposits with a high degree of integrity (associations with distinctive architectural and material culture styles, rare materials and assemblages, the potential to yield data important to the study of preservation techniques and the past in general, or potential attractiveness to relic hunters [13 TAC 26.10; 36 CFR 60.4]) were encountered. Therefore, no additional archeological investigations are warranted prior to construction activities.

No artifacts were collected; therefore, only project records will be curated per TAC 26.16 and 26.17. Project records will be curated at the CAS Texas State University where they will be made permanently available to future researchers.

If any unanticipated cultural materials or deposits are found at any stage of clearing, preparation, or construction, the work should cease in that area and TxDOT personnel should be notified immediately. While any unanticipated finds are being evaluated and coordination is ongoing between TxDOT and THC, clearing, preparation, and/or construction could continue in any other areas along the corridor where no such deposits or materials are observed.

5 REFERENCES

Bureau of Economic Geology (BEG)

1975 *Geological Atlas of Texas, Tyler Sheet*. University of Texas at Austin. Available at http://twbd.state.tx.us/groundwater/acquifer/GAT/. Accessed August 5, 2013.

1996 *Physiographic Map of Texas*. University of Texas at Austin.

Fritz, G.J.

1994 The Value of Archaeological Plant Remains in Paleodietary Reconstruction. In *Paleonutrition: The Diet and Health of Prehistoric Americans,* edited by Kristin D. Sobolik, pp. 21-33. Occasional Paper No. 22. Center for Archaeological Investigations, Southern Illinois University, Carbondale.

Google, Inc.

2015 Google Earth Pro imagery—Longview, Texas. Accessed June 11, 2015.

Gould, F. W., G. O. Hoffman, and C. A. Rechenthin

1960 *Vegetational Areas of Texas*. Texas Agricultural Experiment Station Leaflet No. 492. Texas A&M University, College Station.

Kenmotsu, N.A., and T.K. Perttula (editors)

1993 *Archeology in the Eastern Planning Region, Texas:* A Planning Document. Department of Antiquities Protection Cultural Resources Management Report 3. Texas Historical Commission, Austin.

Long, C.

2013 "Greggton, Texas". *The Handbook of Texas Online*. Texas State Historical Association. Available at www.tshaonline.org/handbook/online/articles/htg12. Accessed September 3, 2013.

McMahan, C.A., R.G. Frye, and K.L. Brown

1984 *The Vegetation Types of Texas*. Wildlife Division, Texas Parks and Wildlife Department, Austin.

McWhortor, E.W.

2010 "Longview, TX (Gregg County)". *Handbook of Texas Online*. Available at http//www.tshaonline.org/handbook/online/articles/HDL03. Accessed March 4, 2016.

Natural Resources Conservation Service (NRCS)

2015 NRCS SSURGO and STATSGO soil data viewed through SoilWeb KMZ interface for Google Earth. Available at http://casoilresource.lawr.ucdavis.edu/soilweb/. U.S. Department of Agriculture and California Soil Resource Laboratory, University of California, Davis. Accessed June 11, 2015.

National Environmental Title Research (NETR)

2015 Historic Aerials Database—Longview, Texas. Available at http://historicaerials.com. Accessed June 11, 2015.

Perry, S.
2010 "Gregg County". *Handbook of Texas Online*. Available at http//www.tshaonline.org/handbook/online/articles/heg10. Accessed March 4, 2016.

Perttula, T.K.
1996 Caddoan Area Archeology since 1990. *Journal of Archaeological Research* 4(4):295-348.

2004a An Introduction to Prehistoric Archeology in Texas. In *The Prehistory of Texas,* edited by Timothy K. Perttula, pp. 5-14. Texas A & M University Press, College Station.

2004b The Prehistoric and Caddoan Archeology of the Northeastern Texas Pineywoods. In *The Prehistory of Texas,* edited by Timothy K. Perttula, pp. 370-407. Texas A & M University Press, College Station.

Schambach, F.F.
1993 A Summary of the History of the Caddo People. *Notes on Northeastern Texas Archeology* No. 2:1-7

Story, D.A.
1990 Cultural History of the Native Americans. In *The Archeology and Bioarcheology of the Gulf Coastal Plain: Volume 1*, by D.A. Story, J.A. Guy, B.A. Burnett, M.D. Freeman, J.C Rose, D.G. Steele, B.W. Olive, and K.J. Reinhard, pp. 163-366. Arkansas Archeological Survey Research Series No. 38, Arkansas Archeological Survey, Fayetteville.

Texas Historical Commission (THC)
2015 *Texas Archeological Sites Atlas*. Texas Archeological Research Laboratory and the Texas Historical Commission. Available at http://nueces.thc.state.tx.us. Accessed April 3, 2015.

Texas Parks and Wildlife (TPWD) Website
2011 Gould Ecoregions of Texas Map. Texas Parks and Wildlife. Available at http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_mp_e0100_107ac_34.pdf. Downloaded April 5, 2013.

Texas State Highway Department
1939 *General Highway Map Upshur and Gregg Counties*. Available at https://www.tsl.texas.gov/cgi-bin/aris/maps/maplookup.php?mapnum=4874. Accessed July 16, 2015.

1961 General Highway Map Gregg County (two parts). Available at https://www.tsl.texas.gov/cgi-bin/aris/maps/maplookup.php?mapnum=5149 and https://www.tsl.texas.gov/cgi-bin/aris/maps/maplookup.php?mapnum=5150. Accessed July 16, 2015.

Thurmond, J.P.
1988 Caddoan Archeology—Its Present Status and Future Directions: A Perspective from Northeast Texas. Paper presented at the 30th Caddo Conference, Dallas.

1990 *Archeology of the Cypress Creek Drainage Basin, Northeastern Texas and Northwestern Louisiana*. Studies in Archeology 5. Texas Archeological Research Laboratory, University of Texas at Austin.

Tipton, J.
2015 *Find a Grave Cemetery Database—Gregg County, Texas*. Available at http://findagrave.com. Accessed April 3, 2015.

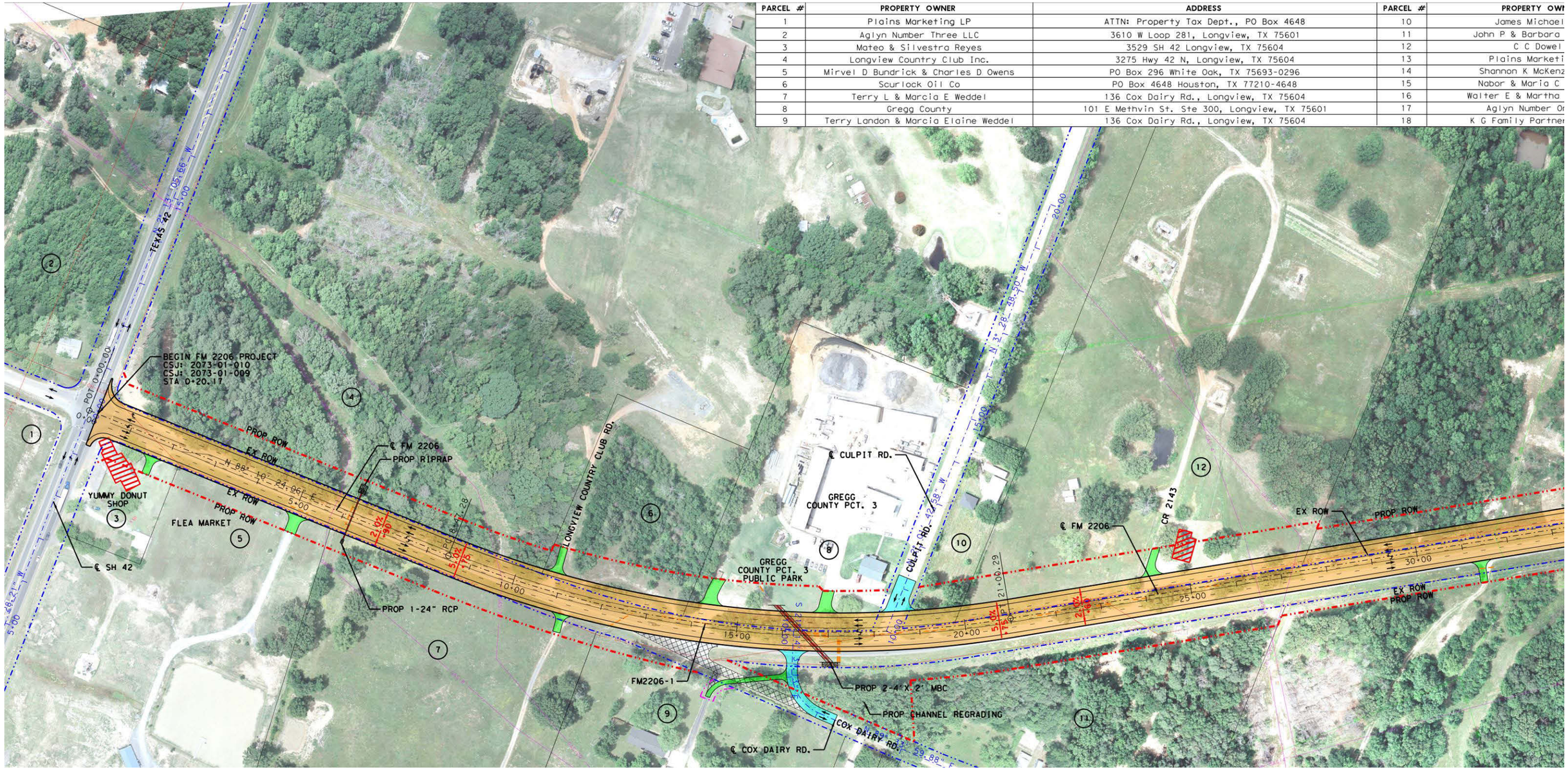
United States Geological Survey (USGS)
1936 *Kilgore, Texas Quadrangle (1:62,500)*. U.S. Department of the Interior, Washington, D.C.

2015 *Texas Geology Map Viewer*. Available at http://txpub.usgs.gov/dss/texasgeology/. Accessed June 30, 2015.

Appendix A

Design Documents

PARCEL #	PROPERTY OWNER	ADDRESS	PARCEL #	PROPERTY OWN
1	Plains Marketing LP	ATTN: Property Tax Dept., PO Box 4648	10	James Michael
2	Aglyn Number Three LLC	3610 W Loop 281, Longview, TX 75601	11	John P & Barbara
3	Mateo & Silvestra Reyes	3529 SH 42 Longview, TX 75604	12	C C Dowel
4	Longview Country Club Inc.	3275 Hwy 42 N, Longview, TX 75604	13	Plains Marketi
5	Mirvel D Bundrick & Charles D Owens	PO Box 296 White Oak, TX 75693-0296	14	Shannon K McKenz
6	Scurlock Oil Co	PO Box 4648 Houston, TX 77210-4648	15	Nabor & Maria C
7	Terry L & Marcia E Weddel	136 Cox Dairy Rd., Longview, TX 75604	16	Walter E & Martha
8	Gregg County	101 E Methvin St. Ste 300, Longview, TX 75601	17	Aglyn Number On
9	Terry Landon & Marcia Elaine Weddel	136 Cox Dairy Rd., Longview, TX 75604	18	K G Family Partner



EXISTING ROW
PROPOSED ROW
PROPOSED CONSTRUCTION EASEMENT
PARCEL NUMBER (XX)
PARCEL BOUNDARY
SUPERELEVATION TRANSITION POINT CROSS SLOPE AND PARTIAL STATION (3.8% / +35)
OIL & GAS UTILITY —GAS—
OVERHEAD ELECTRIC UTILITY -OH-ELEC-
WASTE WATER UTILITY —WW—
WATER UTILITY —W—

EXISTING CULVERT TO BE REMOVED
EXISTING CULVERT TO REMAIN
PROPOSED CULVERT
PROPOSED JUNCTION BOX
PROPOSED RIP RAP
ARTERIAL
CROSS STREET
DRIVEWAY
BRIDGE
SIDEWALK
PAVEMENT REMOVAL

0 50 100 200
SCALE IN FEET

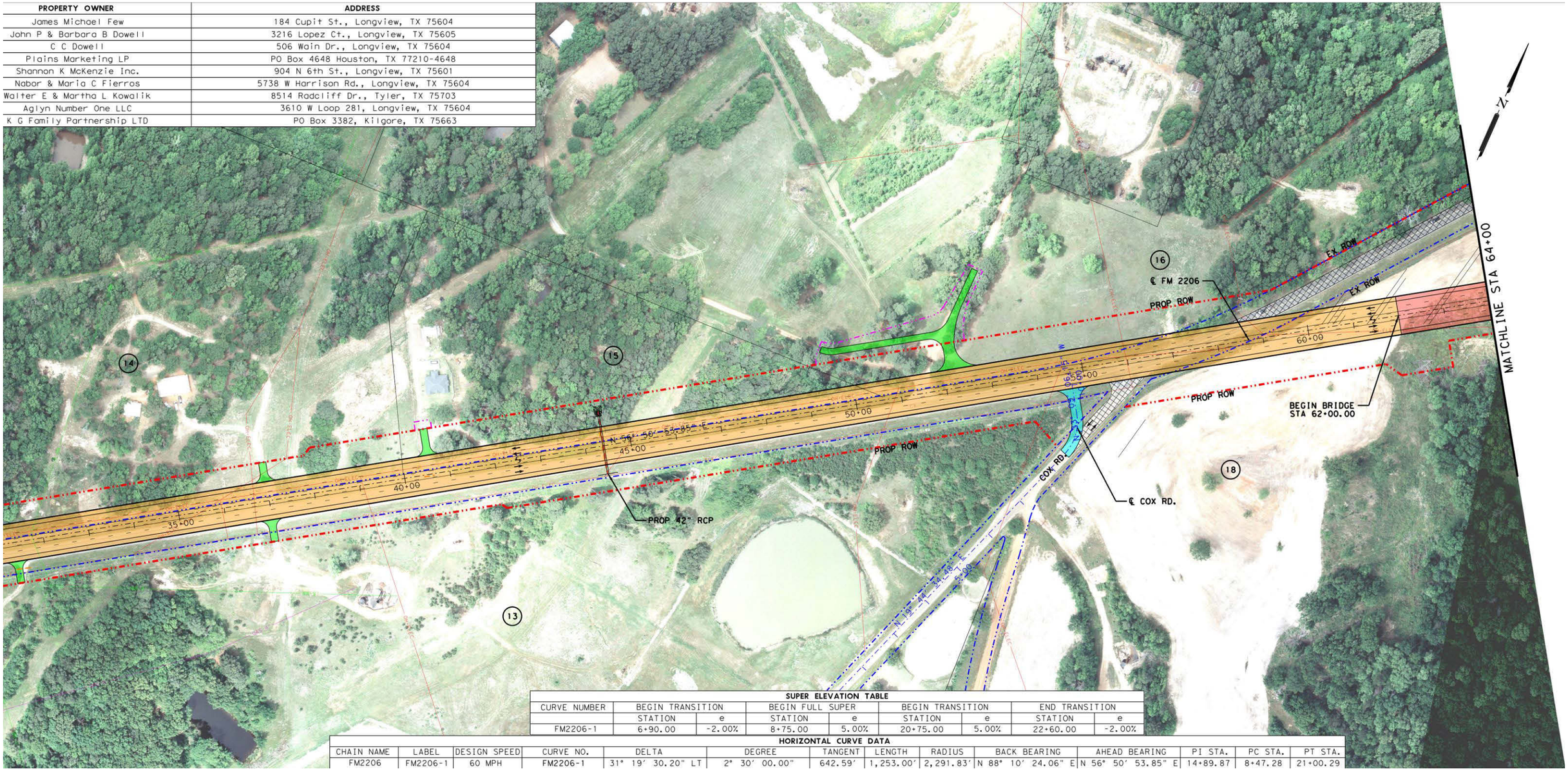
FM 2206 from SH 42 to Loop 281

Project Layout

CSJ: 2073-01-009, 2073-01-010

Sheet 1 of 6

PROPERTY OWNER	ADDRESS
James Michael Few	184 Cupit St., Longview, TX 75604
John P & Barbara B Dowell	3216 Lopez Ct., Longview, TX 75605
C C Dowell	506 Wain Dr., Longview, TX 75604
Plains Marketing LP	PO Box 4648 Houston, TX 77210-4648
Shannon K McKenzie Inc.	904 N 6th St., Longview, TX 75601
Nabor & Maria C Fierros	5738 W Harrison Rd., Longview, TX 75604
Walter E & Martha L Kowalik	8514 Radcliff Dr., Tyler, TX 75703
Aglyn Number One LLC	3610 W Loop 281, Longview, TX 75604
K G Family Partnership LTD	PO Box 3382, Kilgore, TX 75663



SUPER ELEVATION TABLE

CURVE NUMBER	BEGIN TRANSITION		BEGIN FULL SUPER		BEGIN TRANSITION		END TRANSITION	
	STATION	e	STATION	e	STATION	e	STATION	e
FM2206-1	6+90.00	-2.00%	8+75.00	5.00%	20+75.00	5.00%	22+60.00	-2.00%

HORIZONTAL CURVE DATA

CHAIN NAME	LABEL	DESIGN SPEED	CURVE NO.	DELTA	DEGREE	TANGENT	LENGTH	RADIUS	BACK BEARING	AHEAD BEARING	PI STA.	PC STA.	PT STA.
FM2206	FM2206-1	60 MPH	FM2206-1	31° 19' 30.20" LT	2° 30' 00.00"	642.59'	1,253.00'	2,291.83'	N 88° 10' 24.06" E	N 56° 50' 53.85" E	14+89.87	8+47.28	21+00.29

EXISTING ROW
PROPOSED ROW
PROPOSED CONSTRUCTION EASEMENT
PARCEL NUMBER (XX)
PARCEL BOUNDARY
SUPERELEVATION TRANSITION POINT CROSS SLOPE AND PARTIAL STATION (3.8% +35)
OIL & GAS UTILITY —GAS—
OVERHEAD ELECTRIC UTILITY -OH-ELEC-
WASTE WATER UTILITY —WW—
WATER UTILITY —W—

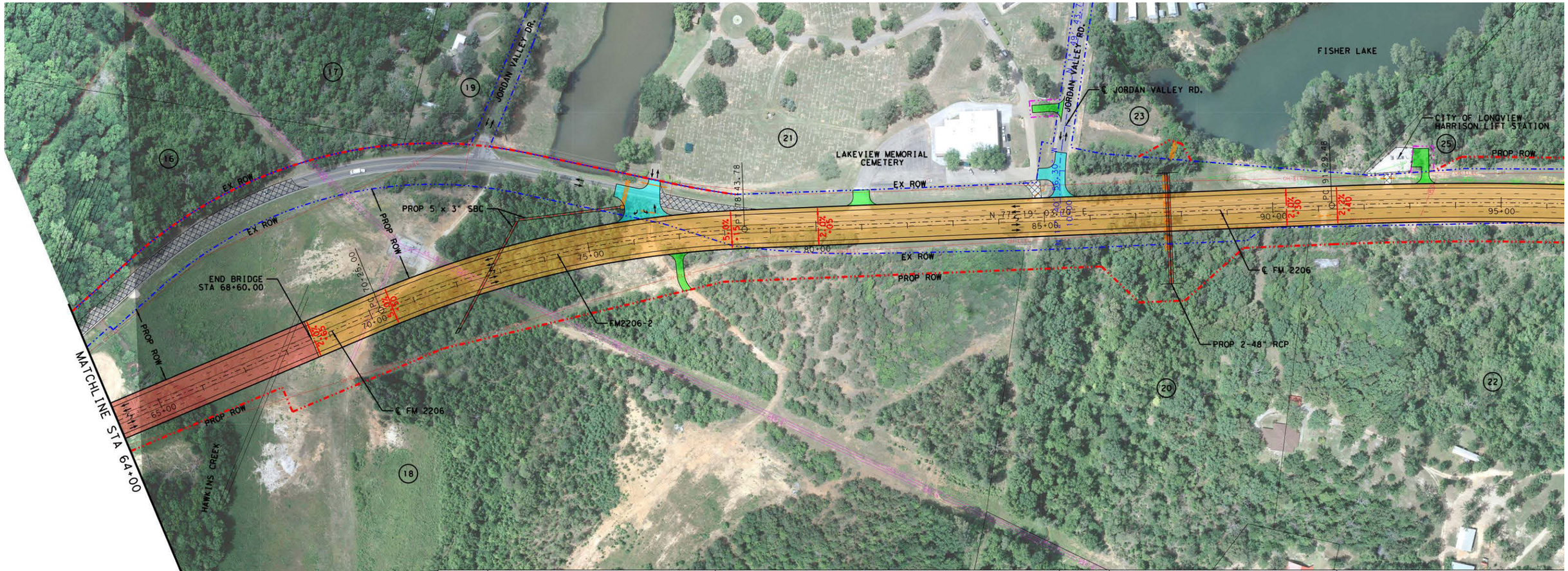
EXISTING CULVERT TO BE REMOVED
EXISTING CULVERT TO REMAIN
PROPOSED CULVERT
PROPOSED JUNCTION BOX
PROPOSED RIP RAP
ARTERIAL
CROSS STREET
DRIVEWAY
BRIDGE
SIDEWALK
PAVEMENT REMOVAL

0 50 100 200
SCALE IN FEET

FM 2206 from SH 42 to Loop 281

Project Layout

CSJ: 2073-01-009, 2073-01-010



PARCEL #	PROPERTY OWNER	ADDRESS	PARCEL #	PROPERTY OWNER	ADDRESS
16	Walter E & Martha L Kowalik	8514 Radcliff Dr., Tyler, TX 75703	31	Amanda Fisher Roberts & Amy Fisher White	PO Box 4073 Longview, TX
17	Aglyn Number One LLC	3610 W Loop 281, Longview, TX 75601	32	Longview CZ Properties LLC	PO Box 9441, Longview, TX
18	K G Family Partnership LTD	PO Box 3382, Kilgore, TX 75663	33	Corrine Redmond	PO Box 4073 Longview, TX
19	Avon & Arency P Mullins	570 Jordan Valley Rd., Longview, TX 75604	34	1114 West Harrison Road LLC	PO Box 305, White Oak, TX
20	Murphy A Fisher	206 PR 2150, Longview, TX 75604	35	Trinity Tank Car Inc.	2525 Stemmons Freeway, Dallas,
21	Gibraltar Mausoleum of Texas	PO Box 130548 Houston, TX 77219-7219	36	J J Barron Properties LLC	34 Bramlette Pl, Longview, T
22	Murphy A Fisher	206 PR 2150, Longview, TX 75604	37	Jim Pattison Dev Us Inc.	1101 W Harrison Rd., Longview,
23	Madison James Enterprises Inc.	9 Myrtle Oak Way, Santa Rosa Beach, FL 32459	38	D & R Investments	827 Fisher Rd., Longview, T
24	Floyd Berlin Etux	1214 W Harrison Rd., Longview, TX 75604	39	Sonoco Products	One North 2nd St., Tax Dept. B04, Har
25	City of Longview	PO Box 1952 Longview, TX 75606	40	Armas Ramon & Flor Maria	603 E Berkley St., Longview,
26	Floyd Berlin Etux	1214 W Harrison Rd., Longview, TX 75604	41	City of Longview	PO Box 1952 Longview, TX
27	Terroco Industries LTD	Site 14 Box 10, RR1 Red Deer, Alberta, Canada T4N 5E1	42	Phillip J Procell	1222 Marigold, Longview, TX
28	Oxbow Investments Inc.	903 Westminster Way, Southlake, TX 76092	43	Eugene J Wilkes	509 Rosedale, Longview, TX
29	Philip R. Nobles	NL 1 B Lake Cherokee, Longview, TX 75603	44	Minco Pipe Inc.	3400 W Marshal Dr. Ste 428, Longv
30	Kathy Lynn Falconer	1180 W Harrison Rd., Longview, TX 75604	46	RDJ Investment Co LLC	901 W Harrison Rd, Longview

EXISTING ROW
PROPOSED ROW
PROPOSED CONSTRUCTION EASEMENT
PARCEL NUMBER (XX)
PARCEL BOUNDARY
SUPERELEVATION TRANSITION POINT CROSS SLOPE AND PARTIAL STATION (3.8% •35)
OIL & GAS UTILITY (—GAS—)
OVERHEAD ELECTRIC UTILITY (-OH-ELEC-)
WASTE WATER UTILITY (—WW—)
WATER UTILITY (—W—)

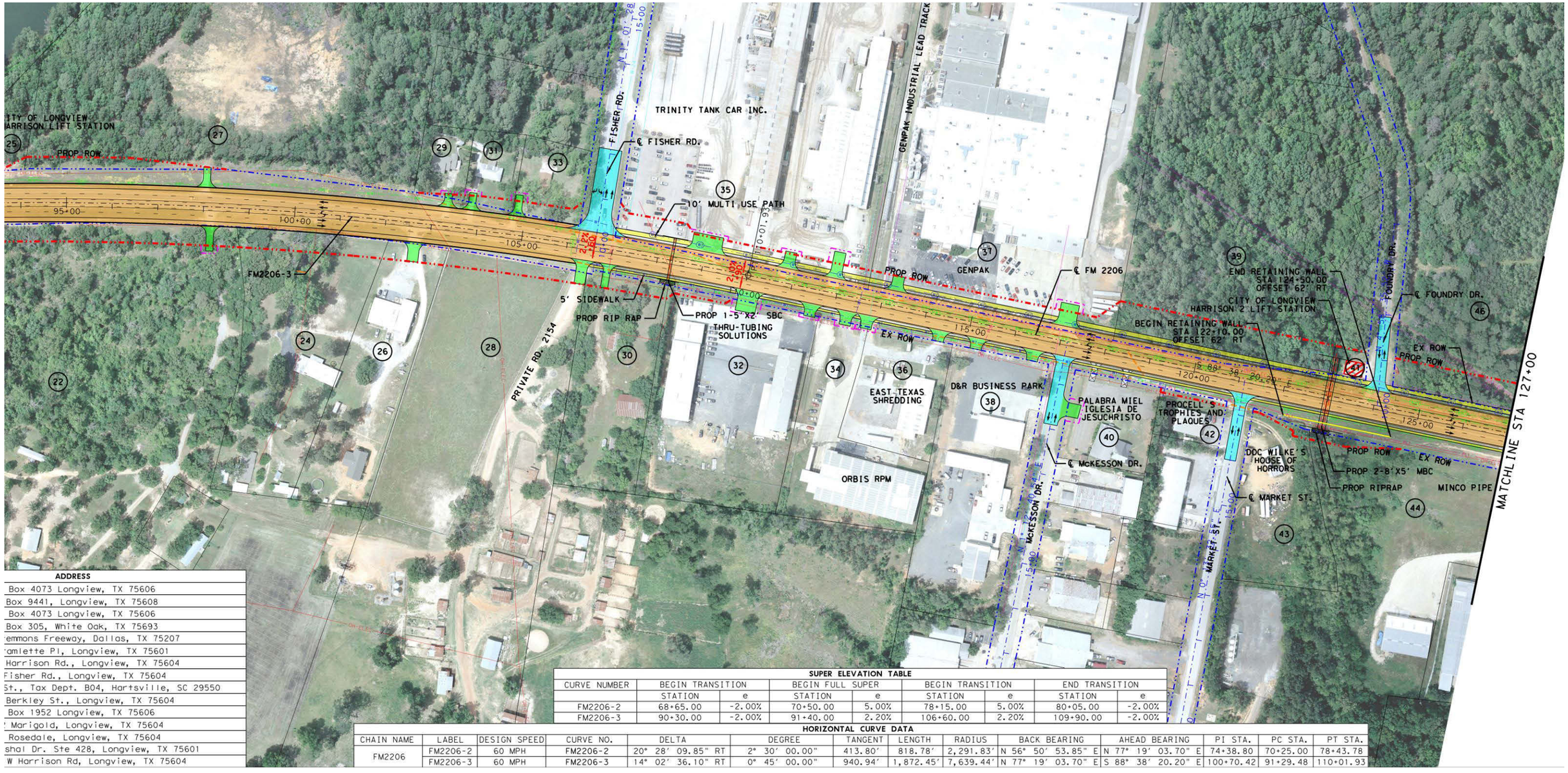
EXISTING CULVERT TO BE REMOVED
EXISTING CULVERT TO REMAIN
PROPOSED CULVERT
PROPOSED JUNCTION BOX
PROPOSED RIP RAP
ARTERIAL
CROSS STREET
DRIVEWAY
BRIDGE
SIDEWALK
PAVEMENT REMOVAL

0 50 100 200
SCALE IN FEET

FM 2206 from SH 42 to Loop 281

Project Layout

CSJ: 2073-01-009, 2073-01-010



ADDRESS
Box 4073 Longview, TX 75606
Box 9441, Longview, TX 75608
Box 4073 Longview, TX 75606
Box 305, White Oak, TX 75693
emmons Freeway, Dallas, TX 75207
amiette Pl, Longview, TX 75601
Harrison Rd., Longview, TX 75604
Fisher Rd., Longview, TX 75604
St., Tax Dept. B04, Hartsville, SC 29550
Berkley St., Longview, TX 75604
Box 1952 Longview, TX 75606
Marigold, Longview, TX 75604
Rosedale, Longview, TX 75604
shal Dr. Ste 428, Longview, TX 75601
W Harrison Rd, Longview, TX 75604

SUPER ELEVATION TABLE

CURVE NUMBER	BEGIN TRANSITION		BEGIN FULL SUPER		BEGIN TRANSITION		END TRANSITION	
	STATION	e	STATION	e	STATION	e	STATION	e
FM2206-2	68+65.00	-2.00%	70+50.00	5.00%	78+15.00	5.00%	80+05.00	-2.00%
FM2206-3	90+30.00	-2.00%	91+40.00	2.20%	106+60.00	2.20%	109+90.00	-2.00%

HORIZONTAL CURVE DATA

CHAIN NAME	LABEL	DESIGN SPEED	CURVE NO.	DELTA	DEGREE	TANGENT	LENGTH	RADIUS	BACK BEARING	AHEAD BEARING	PI STA.	PC STA.	PT STA.
FM2206	FM2206-2	60 MPH	FM2206-2	20° 28' 09.85" RT	2° 30' 00.00"	413.80'	818.78'	2,291.83'	N 56° 50' 53.85" E	N 77° 19' 03.70" E	74+38.80	70+25.00	78+43.78
	FM2206-3	60 MPH	FM2206-3	14° 02' 36.10" RT	0° 45' 00.00"	940.94'	1,872.45'	7,639.44'	N 77° 19' 03.70" E	S 88° 38' 20.20" E	100+70.42	91+29.48	110+01.93

EXISTING ROW
PROPOSED ROW
PROPOSED CONSTRUCTION EASEMENT
PARCEL NUMBER (XX)
PARCEL BOUNDARY
SUPERELEVATION TRANSITION POINT CROSS SLOPE AND PARTIAL STATION (3.8% +35)
OIL & GAS UTILITY —GAS—
OVERHEAD ELECTRIC UTILITY -OH-ELEC-
WASTE WATER UTILITY —WW—
WATER UTILITY —W—

EXISTING CULVERT TO BE REMOVED
EXISTING CULVERT TO REMAIN
PROPOSED CULVERT
PROPOSED JUNCTION BOX
PROPOSED RIP RAP
ARTERIAL
CROSS STREET
DRIVEWAY
BRIDGE
SIDEWALK
PAVEMENT REMOVAL

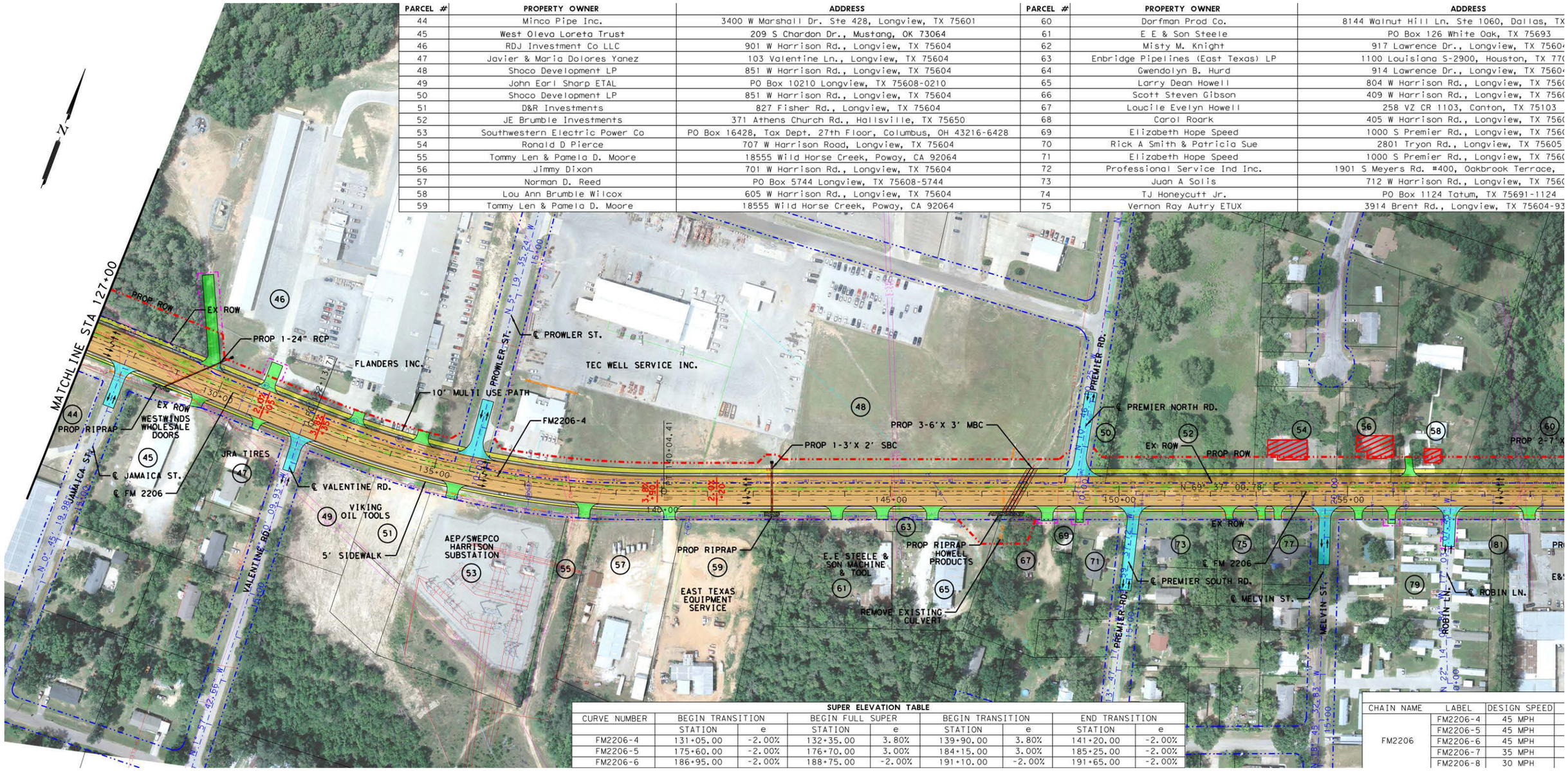
0 50 100 200
SCALE IN FEET

FM 2206 from SH 42 to Loop 281

Project Layout

CSJ: 2073-01-009, 2073-01-010

PARCEL #	PROPERTY OWNER	ADDRESS	PARCEL #	PROPERTY OWNER	ADDRESS
44	Minco Pipe Inc.	3400 W Marshall Dr. Ste 428, Longview, TX 75601	60	Dorfman Prod Co.	8144 Walnut Hill Ln. Ste 1060, Dallas, TX
45	West Oleva Loreta Trust	209 S Chardon Dr., Mustang, OK 73064	61	E E & Son Steele	PO Box 126 White Oak, TX 75693
46	RDJ Investment Co LLC	901 W Harrison Rd., Longview, TX 75604	62	Misty M. Knight	917 Lawrence Dr., Longview, TX 7560
47	Javier & Maria Dolores Yanez	103 Valentine Ln., Longview, TX 75604	63	Enbridge Pipelines (East Texas) LP	1100 Louisiana S-2900, Houston, TX 77
48	Shoco Development LP	851 W Harrison Rd., Longview, TX 75604	64	Gwendolyn B. Hurd	914 Lawrence Dr., Longview, TX 7560
49	John Earl Sharp ETAL	PO Box 10210 Longview, TX 75608-0210	65	Larry Dean Howell	804 W Harrison Rd., Longview, TX 756
50	Shoco Development LP	851 W Harrison Rd., Longview, TX 75604	66	Scott Steven Gibson	409 W Harrison Rd., Longview, TX 756
51	D&R Investments	827 Fisher Rd., Longview, TX 75604	67	Loucile Evelyn Howell	258 VZ CR 1103, Canton, TX 75103
52	JE Brumble Investments	371 Athens Church Rd., Hallsville, TX 75650	68	Carol Roark	405 W Harrison Rd., Longview, TX 756
53	Southwestern Electric Power Co	PO Box 16428, Tax Dept. 27th Floor, Columbus, OH 43216-6428	69	Elizabeth Hope Speed	1000 S Premier Rd., Longview, TX 756
54	Ronald D Pierce	707 W Harrison Road, Longview, TX 75604	70	Rick A Smith & Patricia Sue	2801 Tryon Rd., Longview, TX 75605
55	Tommy Len & Pamela D. Moore	18555 Wild Horse Creek, Poway, CA 92064	71	Elizabeth Hope Speed	1000 S Premier Rd., Longview, TX 756
56	Jimmy Dixon	701 W Harrison Rd., Longview, TX 75604	72	Professional Service Ind Inc.	1901 S Meyers Rd. #400, Oakbrook Terrace,
57	Norman D. Reed	PO Box 5744 Longview, TX 75608-5744	73	Juan A Solis	712 W Harrison Rd., Longview, TX 756
58	Lou Ann Brumble Wilcox	605 W Harrison Rd., Longview, TX 75604	74	TJ Honeycutt Jr.	PO Box 1124 Tatum, TX 75691-1124
59	Tommy Len & Pamela D. Moore	18555 Wild Horse Creek, Poway, CA 92064	75	Vernon Ray Autry ETUX	3914 Brent Rd., Longview, TX 75604-93



SUPER ELEVATION TABLE

CURVE NUMBER	BEGIN TRANSITION		BEGIN FULL SUPER		BEGIN TRANSITION		END TRANSITION	
	STATION	e	STATION	e	STATION	e	STATION	e
FM2206-4	131+05.00	-2.00%	132+35.00	3.80%	139+90.00	3.80%	141+20.00	-2.00%
FM2206-5	175+60.00	-2.00%	176+70.00	3.00%	184+15.00	3.00%	185+25.00	-2.00%
FM2206-6	186+95.00	-2.00%	188+75.00	-2.00%	191+10.00	-2.00%	191+65.00	-2.00%

CHAIN NAME	LABEL	DESIGN SPEED
FM2206	FM2206-4	45 MPH
	FM2206-5	45 MPH
	FM2206-6	45 MPH
	FM2206-7	35 MPH
	FM2206-8	30 MPH

EXISTING ROW
PROPOSED ROW
PROPOSED CONSTRUCTION EASEMENT
PARCEL NUMBER (XX)
PARCEL BOUNDARY
SUPERELEVATION TRANSITION POINT CROSS SLOPE AND PARTIAL STATION (3.8% +35)
OIL & GAS UTILITY —GAS—
OVERHEAD ELECTRIC UTILITY -OH-ELEC-
WASTE WATER UTILITY —WW—
WATER UTILITY —W—

EXISTING CULVERT TO BE REMOVED
EXISTING CULVERT TO REMAIN
PROPOSED CULVERT
PROPOSED JUNCTION BOX
PROPOSED RIP RAP
ARTERIAL
CROSS STREET
DRIVEWAY
BRIDGE
SIDEWALK
PAVEMENT REMOVAL

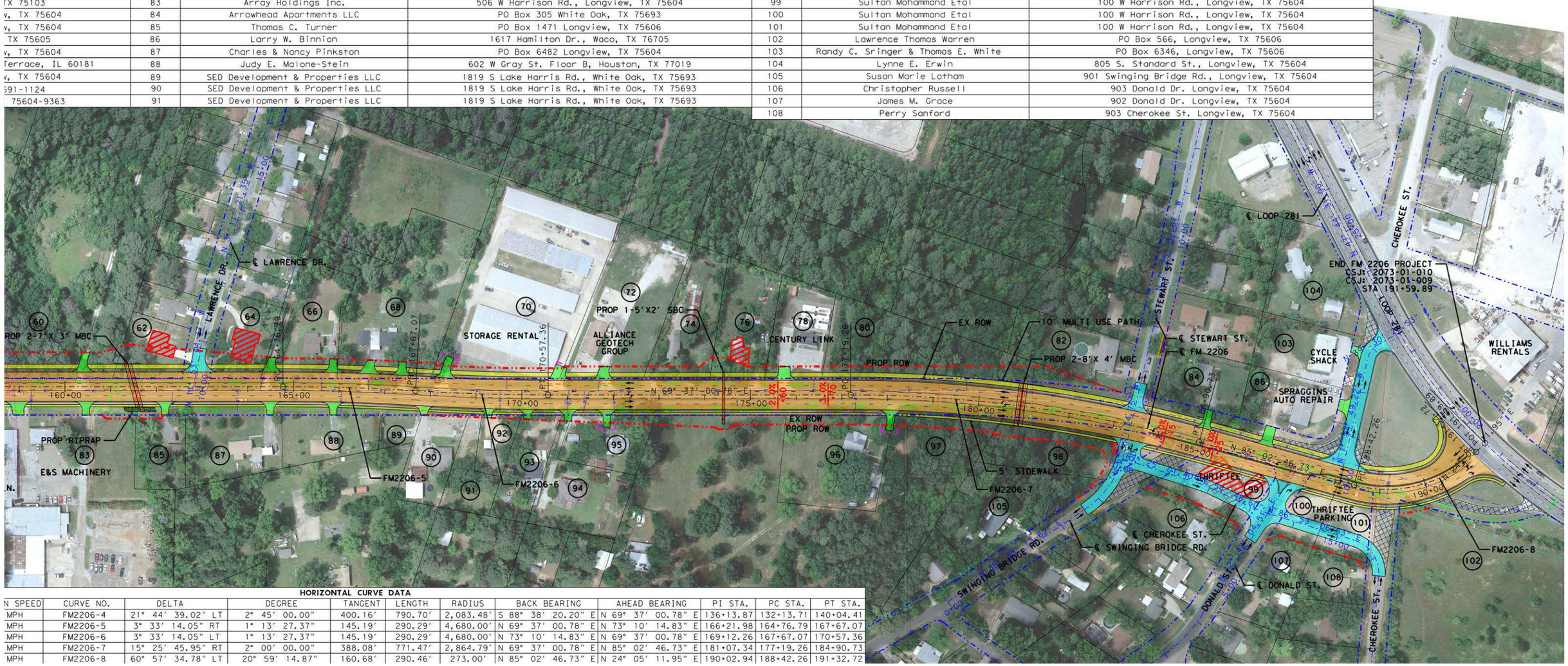
0 50 100 200
SCALE IN FEET

FM 2206 from SH 42 to Loop 281

Project Layout

CSJ: 2073-01-009, 2073-01-010

	PARCEL #	PROPERTY OWNER	ADDRESS	PARCEL #	PROPERTY OWNER	ADDRESS
allas, TX 75231	76	Jimmy Laxton	309 W Harrison Rd., Longview, TX 75604	92	Lam C Phan	1316 Nottingham Dr., White Oak, TX 75693
< 75693	77	Robert A Harris	702 W Harrison Rd., Longview, TX 75604	93	Hilario & Josefina Solis	811 Valentine, Longview, TX 75604
TX 75604	78	CenturyTel Acquisition LLC	100 CenturyTel Dr., Monroe, LA 71203	94	Barbara Ramsey	318 W Harrison Rd., Longview, TX 75604
on, TX 77002	79	J W Sewell	3515 Gardenia Rd., Gilmer, TX 75645	95	Barbara Ramsey	318 W Harrison Rd., Longview, TX 75604
TX 75604	80	CenturyTel Acquisition LLC	100 CenturyTel Dr., Monroe, LA 71203	96	Curtis F. Kruse & Robbie Lynn	1101 Swinging Bridge Rd., Longview, TX 75604
v, TX 75604	81	Gulf South Pipeline Company LP	9 Greenway, Houston, TX 77046	97	Curtis F. Kruse	1101 Swinging Bridge Rd., Longview, TX 75604
v, TX 75604	82	Ricardo A. Loya	PO Box 151364 Longview, TX 75615-1364	98	Susan Marie Latham	901 Swinging Bridge Rd., Longview, TX 75604
TX 75103	83	Array Holdings Inc.	506 W Harrison Rd., Longview, TX 75604	99	Sultan Mohammand Etal	100 W Harrison Rd., Longview, TX 75604
v, TX 75604	84	Arrowhead Apartments LLC	PO Box 305 White Oak, TX 75693	100	Sultan Mohammand Etal	100 W Harrison Rd., Longview, TX 75604
v, TX 75604	85	Thomas C. Turner	PO Box 1471 Longview, TX 75606	101	Sultan Mohammand Etal	100 W Harrison Rd., Longview, TX 75604
TX 75605	86	Larry W. Binnion	1617 Hamilton Dr., Waco, TX 76705	102	Lawrence Thomas Warren	PO Box 566, Longview, TX 75606
v, TX 75604	87	Charles & Nancy Pinkston	PO Box 6482 Longview, TX 75604	103	Randy C. Sringer & Thomas E. White	PO Box 6346, Longview, TX 75606
Terrace, IL 60181	88	Judy E. Malone-Stein	602 W Gray St. Floor B, Houston, TX 77019	104	Lynne E. Erwin	805 S. Standard St., Longview, TX 75604
v, TX 75604	89	SED Development & Properties LLC	1819 S Lake Harris Rd., White Oak, TX 75693	105	Susan Marie Latham	901 Swinging Bridge Rd., Longview, TX 75604
591-1124	90	SED Development & Properties LLC	1819 S Lake Harris Rd., White Oak, TX 75693	106	Christopher Russell	903 Donald Dr. Longview, TX 75604
75604-9363	91	SED Development & Properties LLC	1819 S Lake Harris Rd., White Oak, TX 75693	107	James M. Grace	902 Donald Dr. Longview, TX 75604
				108	Perry Sanford	903 Cherokee St. Longview, TX 75604



HORIZONTAL CURVE DATA

N SPEED	CURVE NO.	DELTA	DEGREE	TANGENT	LENGTH	RADIUS	BACK BEARING	AHEAD BEARING	PI STA.	PC STA.	PT STA.
MPH	FM2206-4	21° 44' 39.02" LT	2° 45' 00.00"	400.16'	790.70'	2,083.48'	S 88° 38' 20.20" E	N 69° 37' 00.78" E	136+13.87	132+13.71	140+04.41
MPH	FM2206-5	3° 33' 14.05" RT	1° 13' 27.37"	145.19'	290.29'	4,680.00'	N 69° 37' 00.78" E	N 73° 10' 14.83" E	166+21.98	164+76.79	167+67.07
MPH	FM2206-6	3° 33' 14.05" LT	1° 13' 27.37"	145.19'	290.29'	4,680.00'	N 73° 10' 14.83" E	N 69° 37' 00.78" E	169+12.26	167+67.07	170+57.36
MPH	FM2206-7	15° 25' 45.95" RT	2° 00' 00.00"	388.08'	771.47'	2,864.79'	N 69° 37' 00.78" E	N 85° 02' 46.73" E	181+07.34	177+19.26	184+90.73
MPH	FM2206-8	60° 57' 34.78" LT	20° 59' 14.87"	160.68'	290.46'	273.00'	N 85° 02' 46.73" E	N 24° 05' 11.95" E	190+02.94	188+42.26	191+32.72

EXISTING ROW
PROPOSED ROW
PROPOSED CONSTRUCTION EASEMENT
PARCEL NUMBER (XX)
PARCEL BOUNDARY
SUPERELEVATION TRANSITION POINT CROSS SLOPE AND PARTIAL STATION (3.8% •35)
OIL & GAS UTILITY —GAS—
OVERHEAD ELECTRIC UTILITY -OH-ELEC-
WASTE WATER UTILITY —WW—
WATER UTILITY —W—

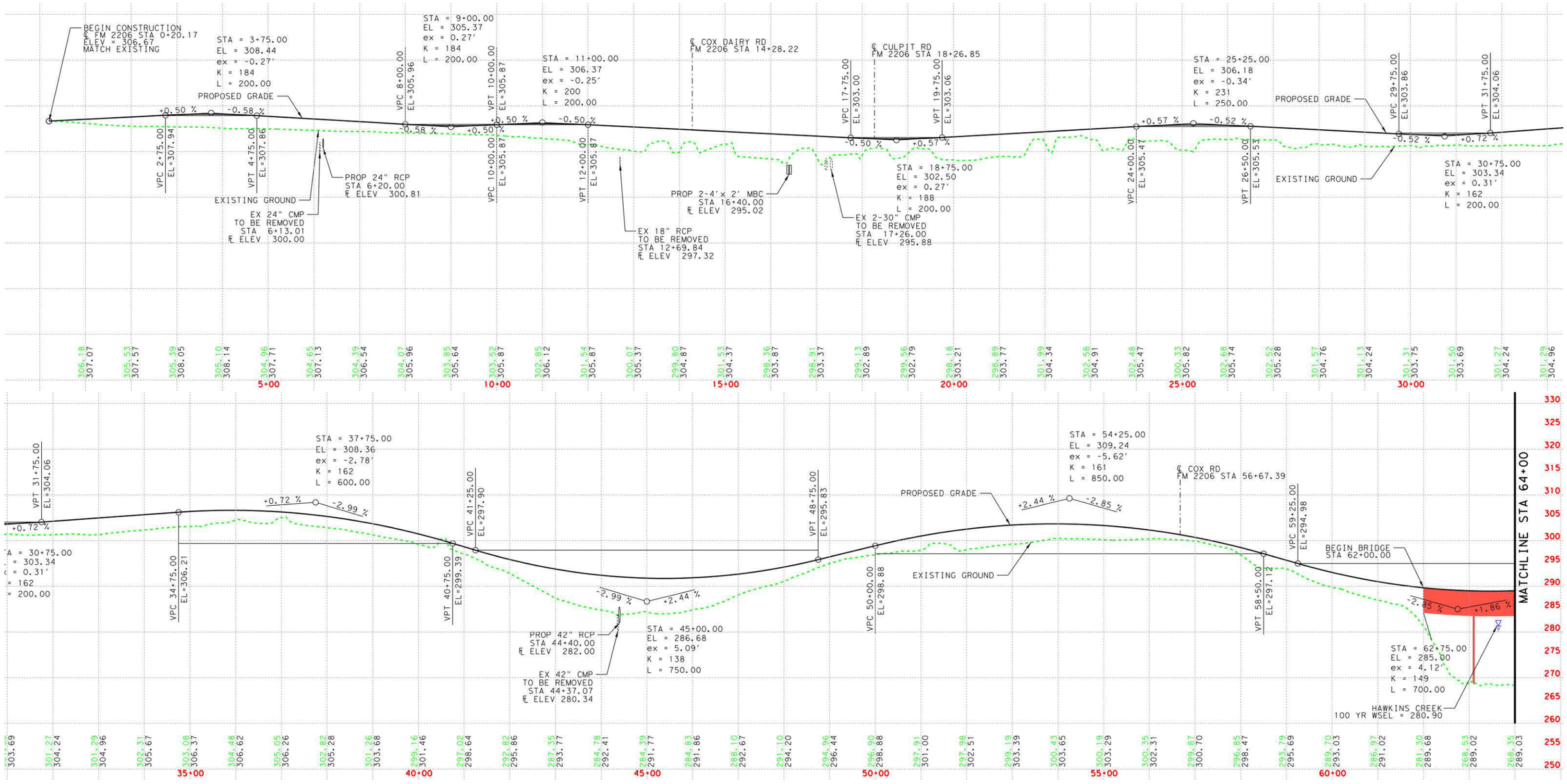
EXISTING CULVERT TO BE REMOVED
EXISTING CULVERT TO REMAIN
PROPOSED CULVERT
PROPOSED JUNCTION BOX
PROPOSED RIP RAP
ARTERIAL
CROSS STREET
DRIVEWAY
BRIDGE
SIDEWALK
PAVEMENT REMOVAL

0 50 100 200
SCALE IN FEET

FM 2206 from SH 42 to Loop 281

Project Layout

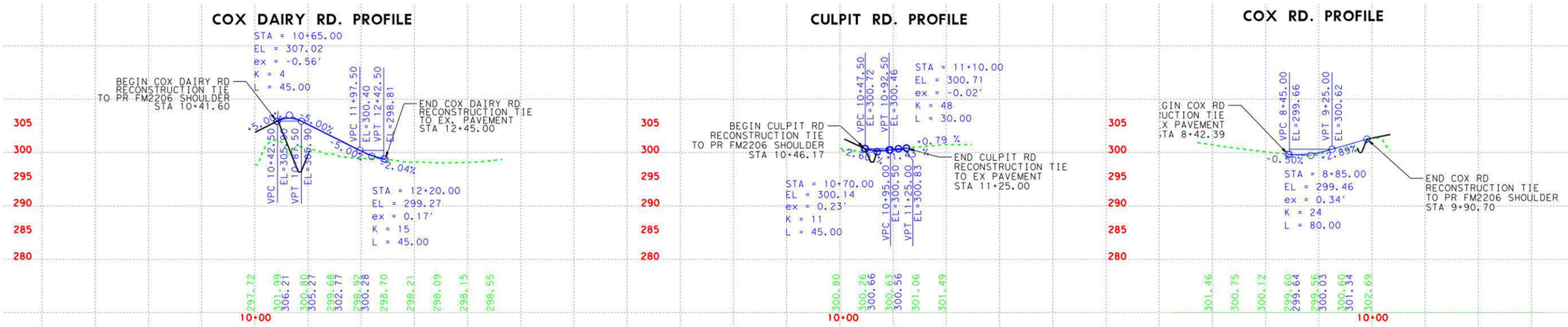
CSJ: 2073-01-009, 2073-01-010

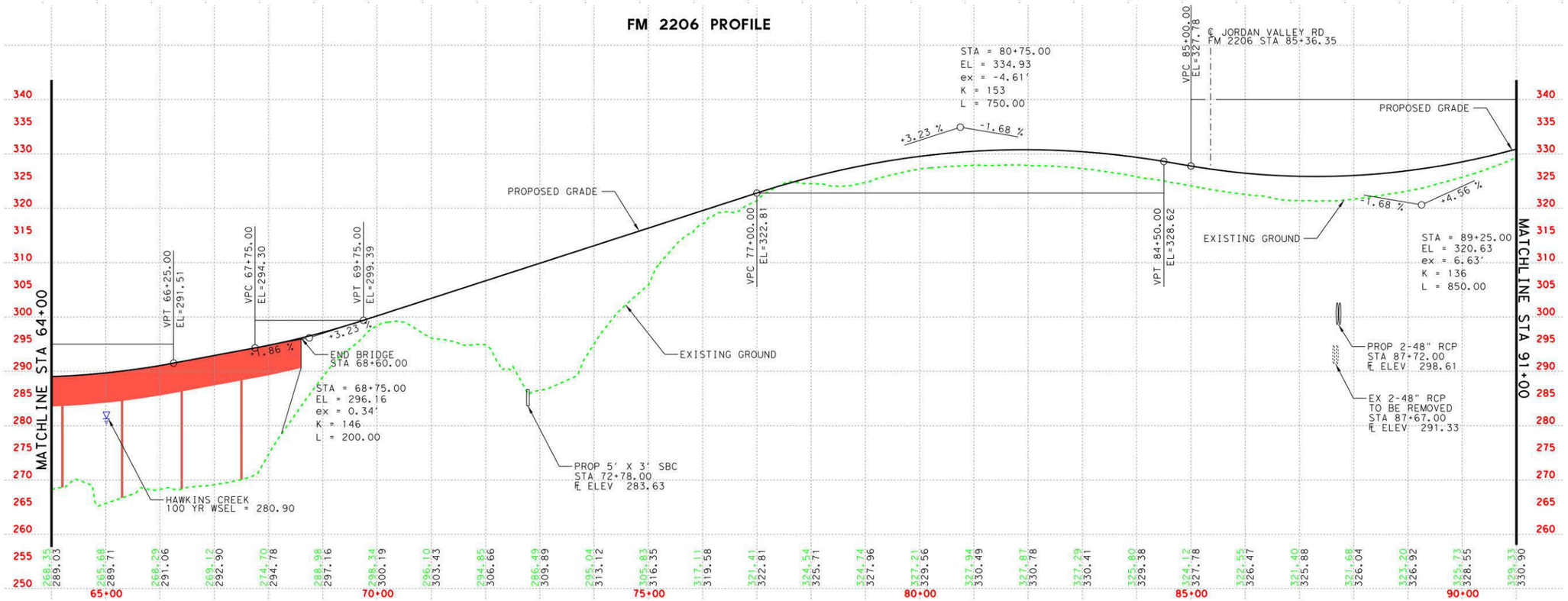


FM 2206 from SH 42 to Loop 281

Profile

CSJ: 2073-01-009, 2073-01-010

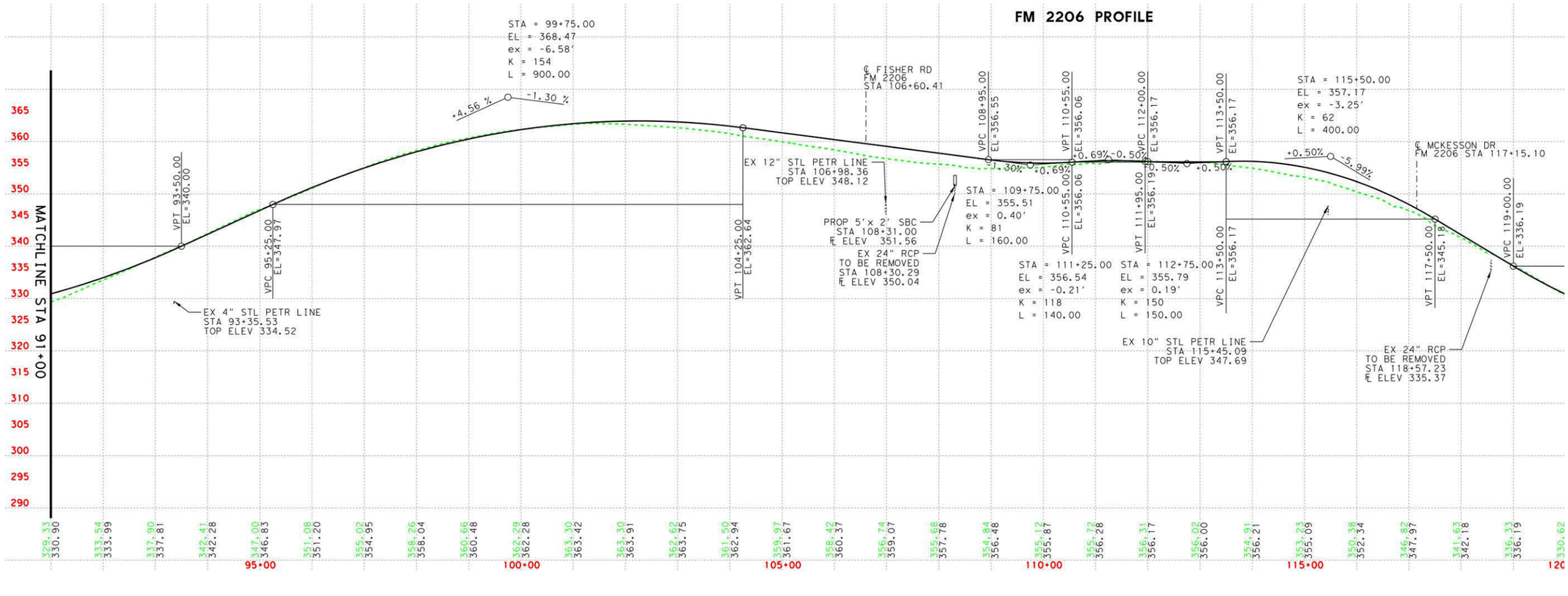




FM 2206 from SH 42 to Loop 281

Profile

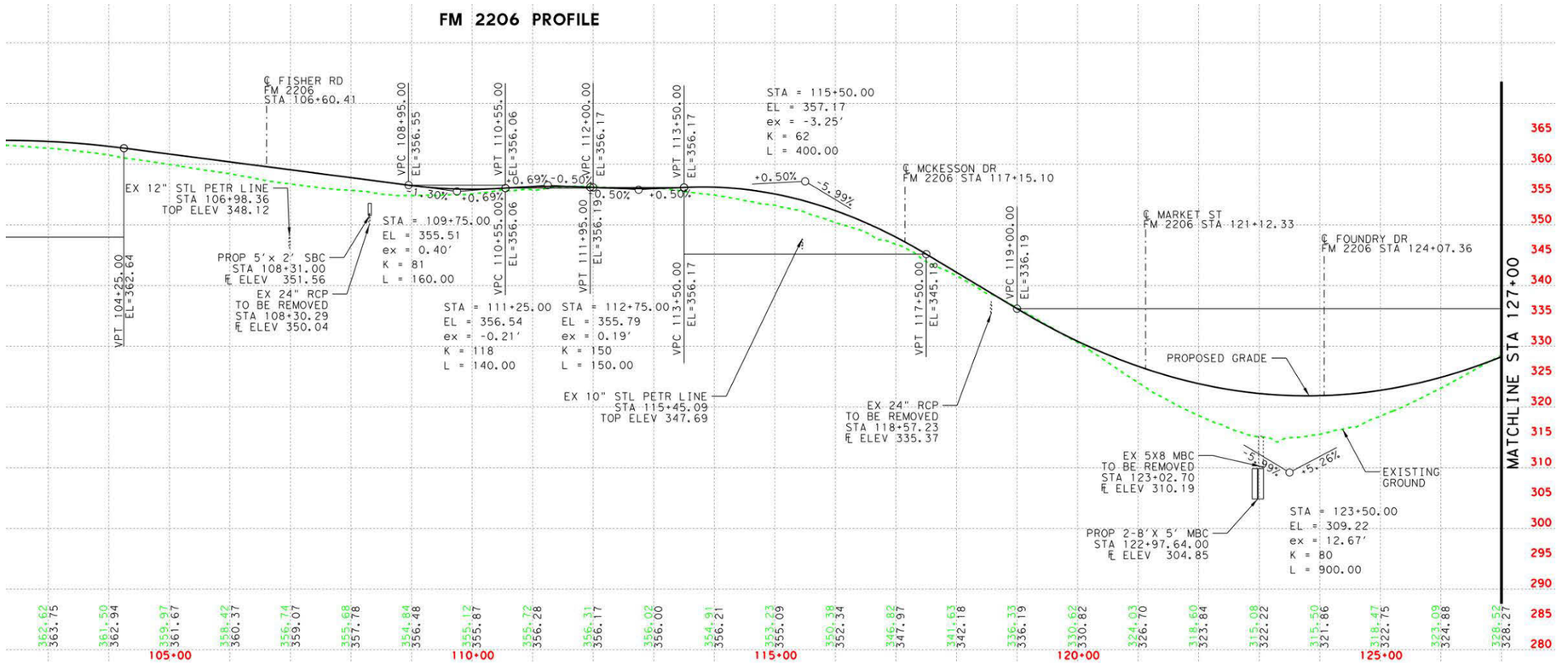
CSJ: 2073-01-009, 2073-01-010

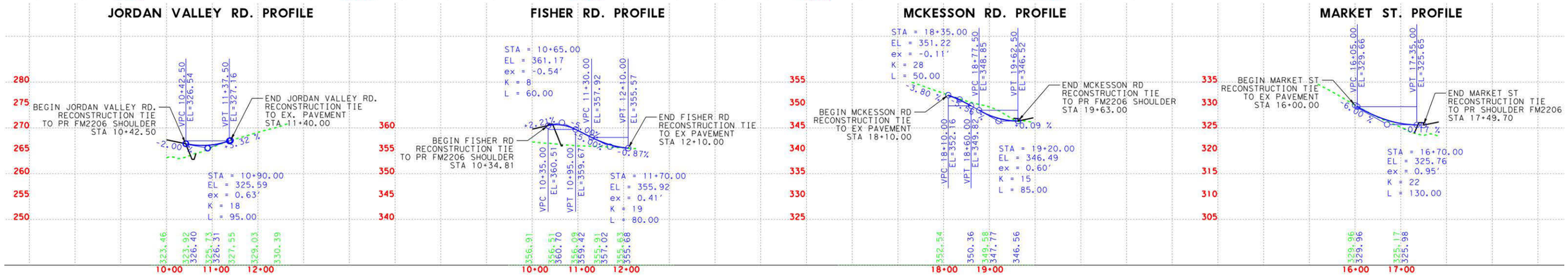


FM 2206 from SH 42 to Loop 281

Profile

CSJ: 2073-01-009, 2073-01-010



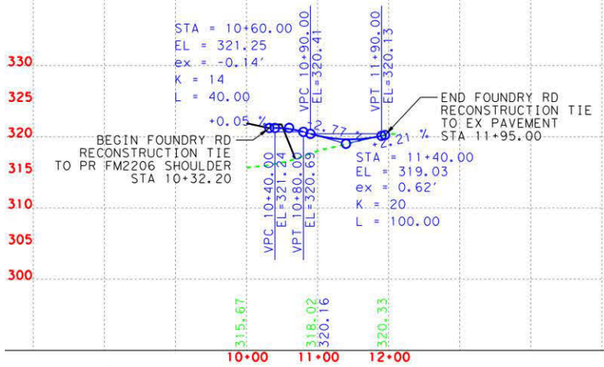


FM 2206 from SH 42 to Loop 281

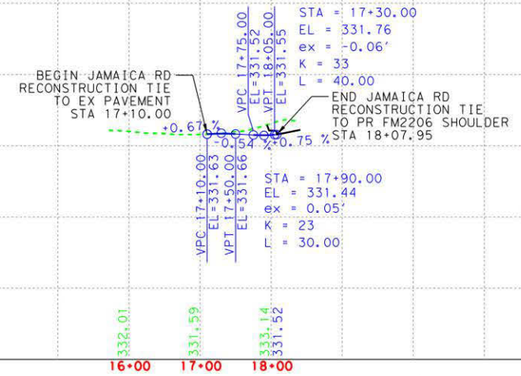
Profile

CSJ: 2073-01-009, 2073-01-010

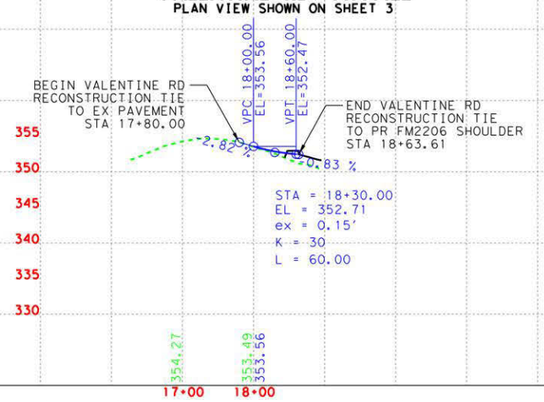
FOUNDRY RD. PROFILE



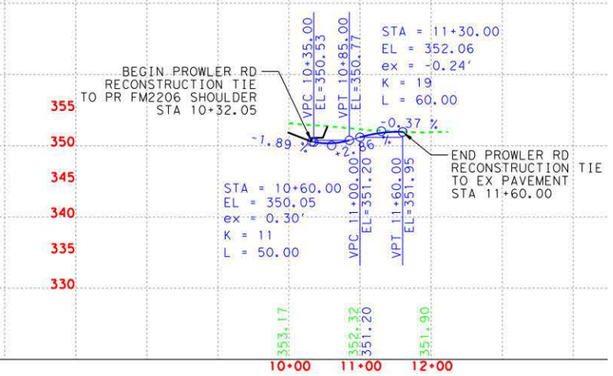
JAMAICA RD. PROFILE
PLAN VIEW SHOWN ON SHEET 3



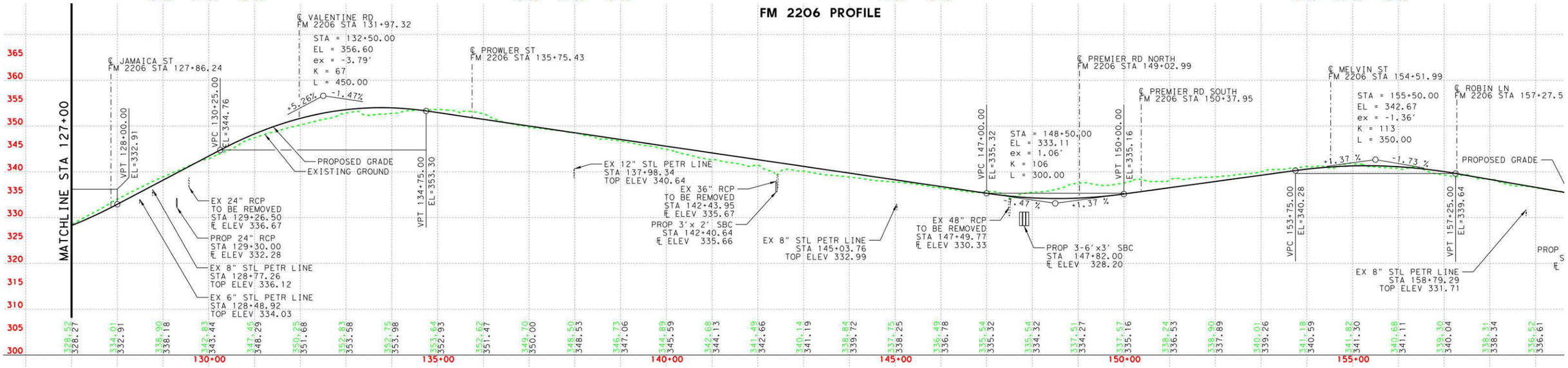
VALENTINE RD. PROFILE
PLAN VIEW SHOWN ON SHEET 3



PROWLER RD. PROFILE
PLAN VIEW SHOWN ON SHEET 3



FM 2206 PROFILE



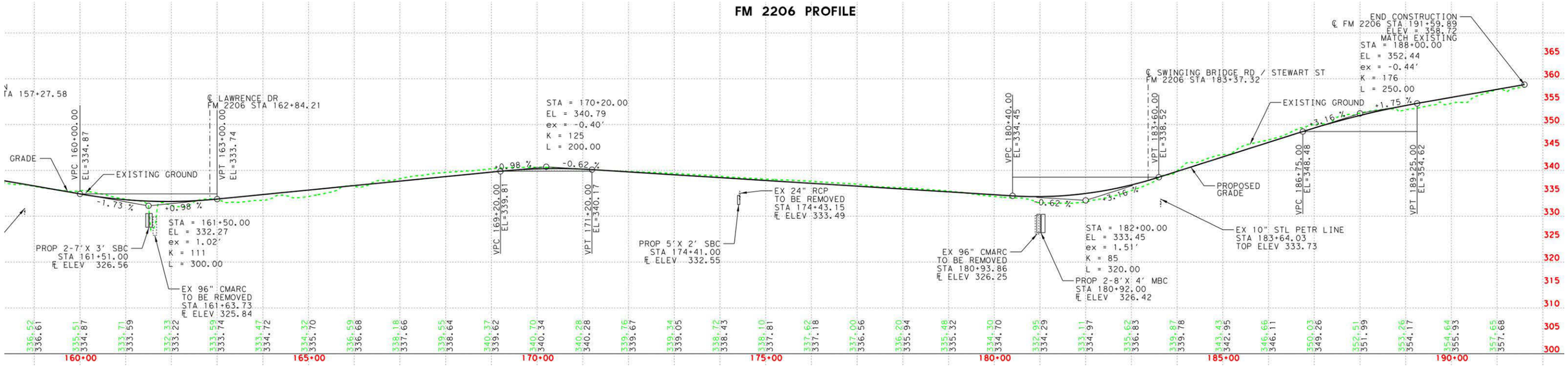
FM 2206 from SH 42 to Loop 281

Profile

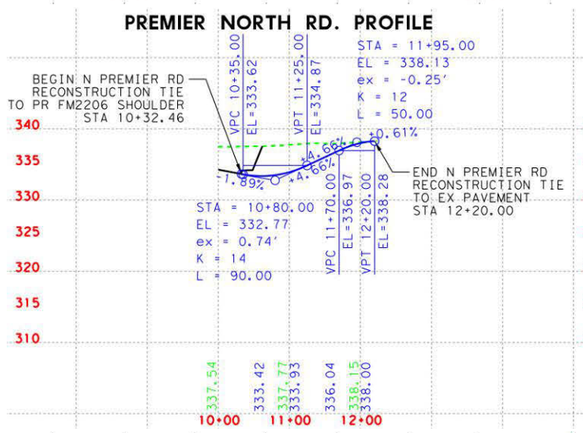
CSJ: 2073-01-009, 2073-01-010

Sheet 5 of 6

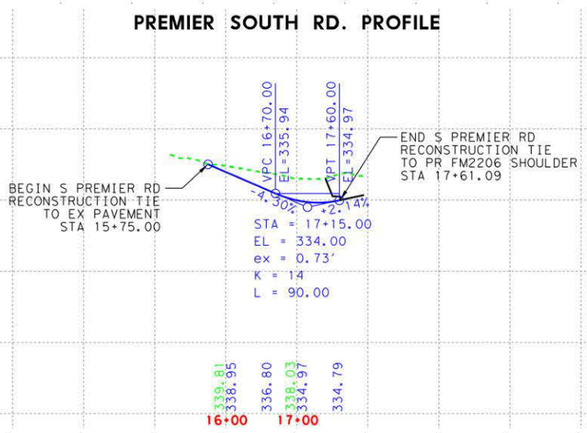
FM 2206 PROFILE



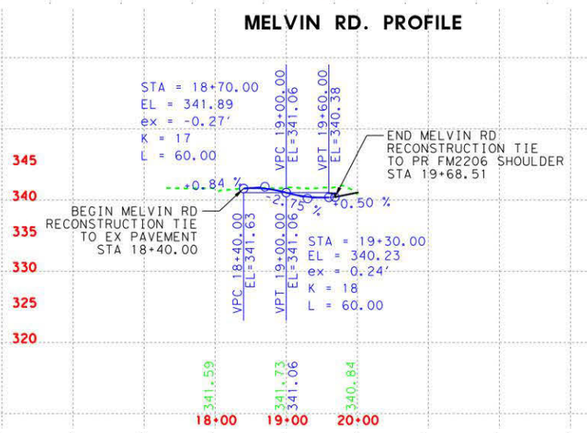
PREMIER NORTH RD. PROFILE



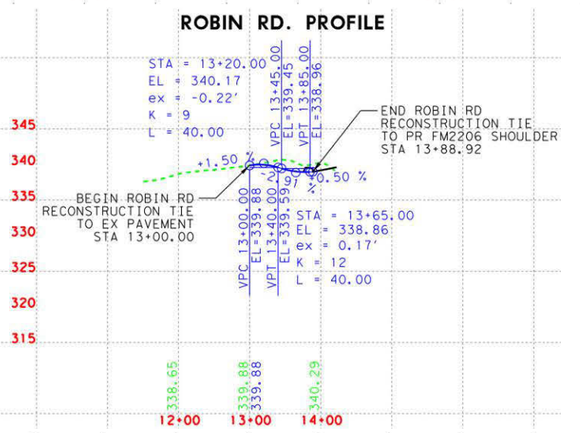
PREMIER SOUTH RD. PROFILE



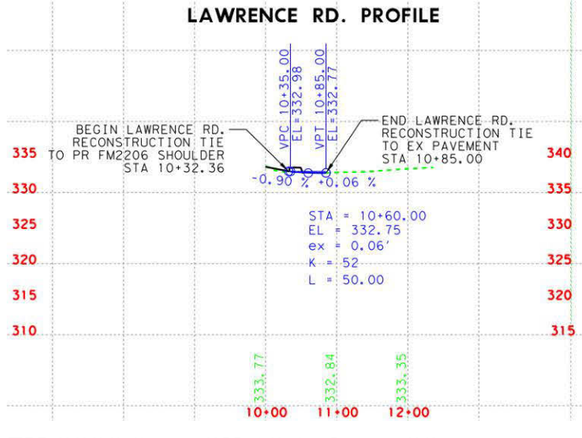
MELVIN RD. PROFILE



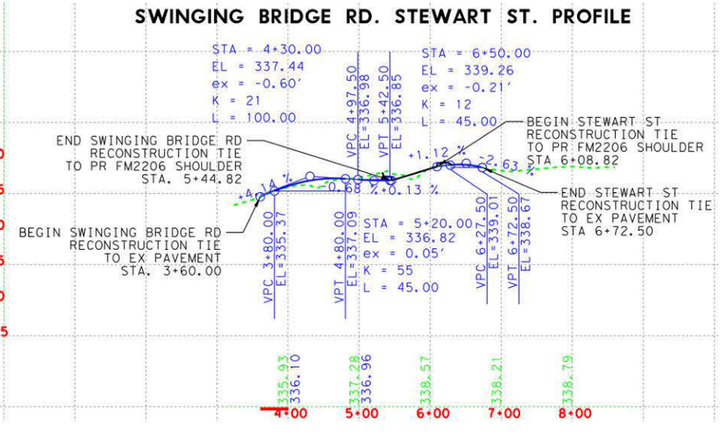
ROBIN RD. PROFILE



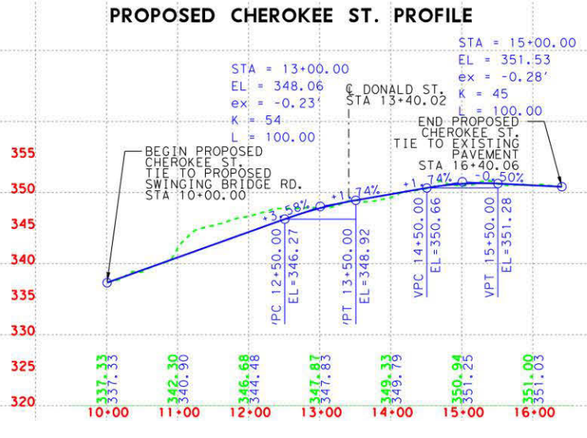
LAWRENCE RD. PROFILE



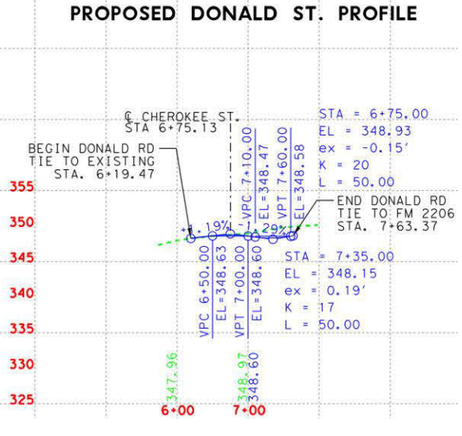
SWINGING BRIDGE RD. STEWART ST. PROFILE



PROPOSED CHEROKEE ST. PROFILE



PROPOSED DONALD ST. PROFILE



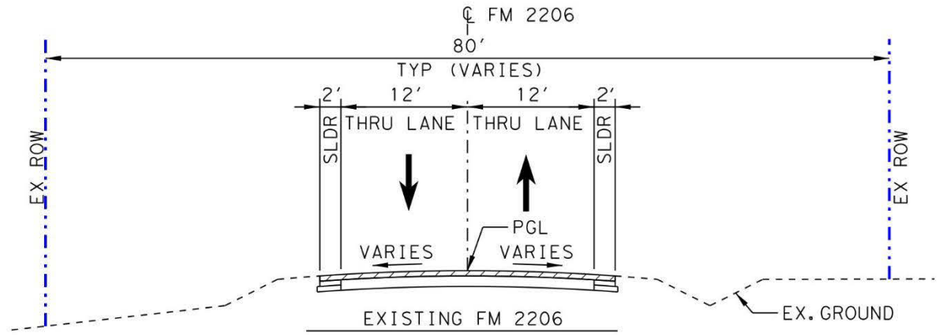
FM 2206 from SH 42 to Loop 281

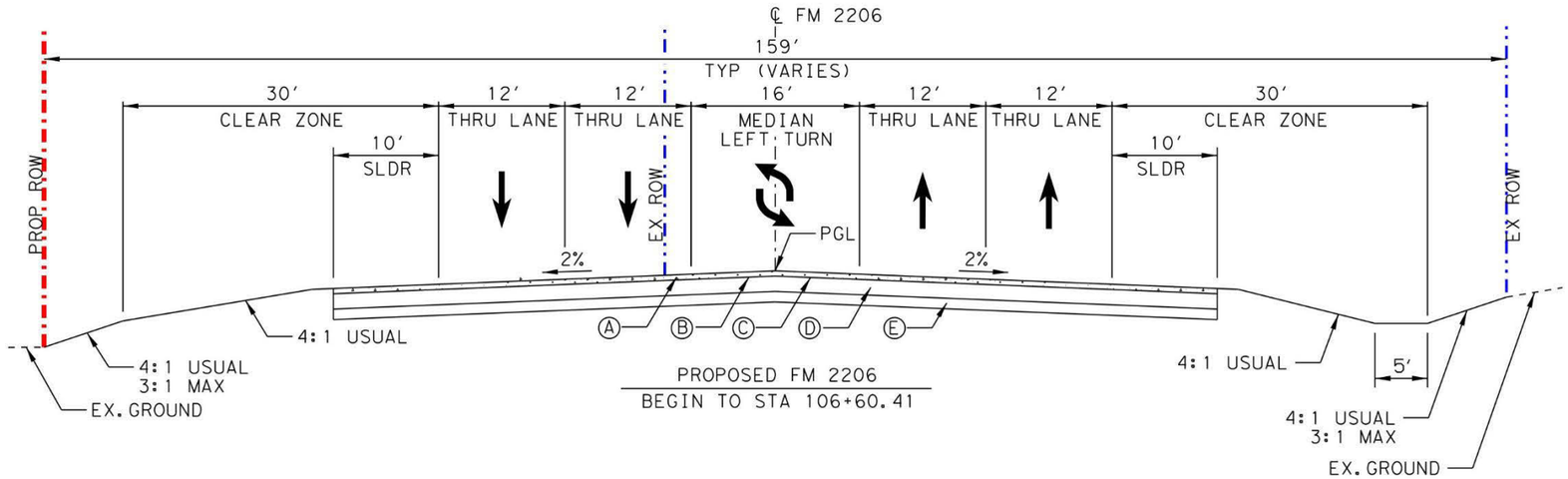
Profile

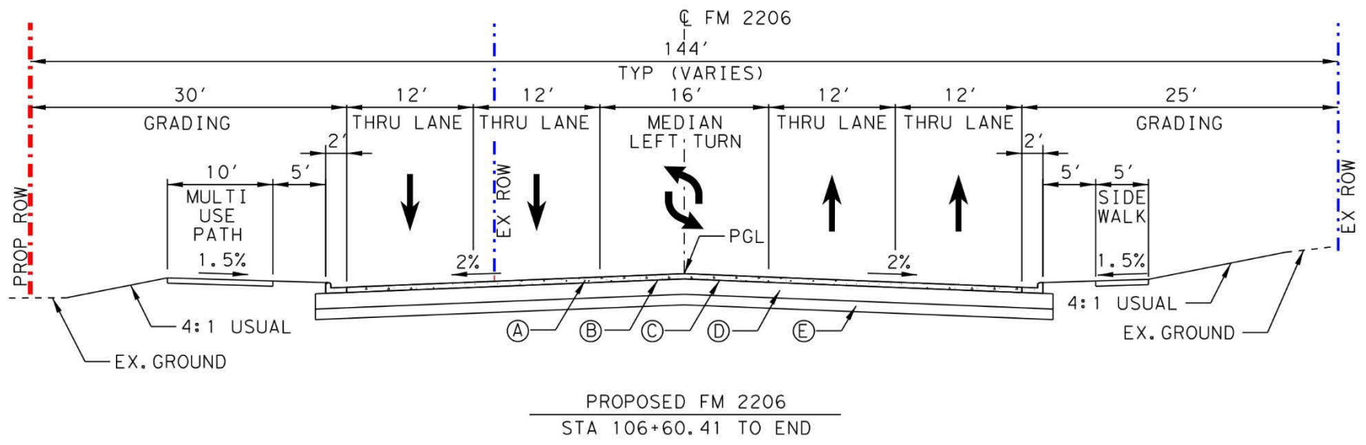
CSJ: 2073-01-009, 2073-01-010

PAVEMENT LEGEND - SEE GENERAL NOTE 5

- Ⓐ 2" HMA
- Ⓑ ONE COURSE SURFACE TREATMENT
- Ⓒ PRIME COAT
- Ⓓ 14" FLEX BASE
- Ⓔ 8" CEM TRT







FM 2206 from SH 42 to Loop 281

Typical Sections

CSJ: 2073-01-009, 2073-01-010

Appendix B

Regulatory Correspondence

Texas Department of Transportation

125 EAST 11TH STREET, AUSTIN, TEXAS 78701-2483 | 512.463.8588 | WWW.TXDOT.GOV

March 24, 2016

RE: Section 106 and Antiquities Code of Texas Consultation: PA-TU and MOU: FM 2206 from SH 42 to Loop 281: Gregg County, Texas: Cox/McLain Environmental Consulting Inc., Draft Intensive Archeological Survey Report and Recommendations for No Effect and No Further Work
CSJs: 2073-01-009 and 2073-01-010
Texas Antiquities Permit No. 7404

Patricia A. Mercado-Allinger
Division of Archeology
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711

Dear Ms. Mercado-Allinger:

In accord with the First Amended Programmatic Agreement among the Federal Highway Administration, the Texas Department of Transportation, the Texas State Historic Preservation Officer (TSHPO), and the Advisory Council on Historic Preservation Regarding the Implementation of Transportation Undertakings (PA-TU), as well as the Memorandum of Understanding (MOU) between the Texas State Historic Preservation Officer and TxDOT, we are initiating Section 106 and Antiquities Code of Texas consultation for the proposed undertaking.

This undertaking proposes to improve Farm to Market Road 2206 (FM 2206) in Gregg County, Texas. The proposed improvements would include widening the existing two-lane road to a four-lane divided highway with a continuous left-turn lane/flush median. The proposed roadway design includes both a rural roadway design with adjacent open drainage ditches and an urban roadway design with curb and gutter and a closed storm sewer system. Cross-drainage culverts are sized by delineating contributing drainage areas and calculating the runoff flows to the culverts. The width of the project varies from 80 to 130 feet wide and mostly follows the existing FM 2206 corridor. For the urban section of the roadway (from Loop 281 to Fisher Road) the proposed project would have a 10 feet wide shared use path. The existing bridge on FM 2206 at Hawkins Creek would be replaced with a wider structure. Approximately 41.3 acres of proposed new right of way (ROW) and 1.2 acres of proposed new temporary construction easements would be required.

The undertaking's area of potential effects (APE) is defined as the existing 60 to100 foot wide FM 2206 ROW beginning at SH 42 and extending 3.7 miles northeast to Loop 281. In addition, the APE contains approximately 41.3 acres of proposed new right of way (ROW) and 1.2 acres of proposed new temporary construction easements that are delineated on the Project Location Map embedded in the attached archeological survey report. According to typical roadway design, the depth of impacts is estimated to be up to 20 feet below the current ground surface for bridge supports for the bridge replacement at Hawkins Creek and up to 6 feet for the remainder of the project. The APE consists of approximately 88.5 acres which includes 46 acres of existing ROW.

Your office issued Texas Antiquities Permit No. 7404 to Cox/ McLain Environmental Consulting

Inc., (CME) to conduct an intensive archeological survey of the APE. CME has recently completed their investigations and have submitted a draft survey report. Their investigation consisted of 100% pedestrian survey of the APE, the installation of 29 shovel tests throughout the APE, and the excavation of three backhoe trenches in the vicinity of Hawkins Creek. No archeological sites were identified during the investigation. CME has recommended no further work for the undertaking. A copy of their draft report is attached for your review.

TxDOT has also reviewed the CME report and agrees with the investigators' recommendations. TxDOT therefore seeks your concurrence that the archeological inventory of the undertaking is complete, for a finding of "no historic properties affected", no State Antiquities Landmarks affected, and no further work or TSHPO consultation is required. In addition, TxDOT seeks your concurrence that the attached report is adequate and that the stipulations set forth in the Antiquities Code of Texas have been fulfilled. Please signify your concurrence by signing on the signature line provided below.

In the event that archeological materials are discovered during construction, construction in the immediate area shall cease, and the TSHPO will be contacted to initiate accidental discovery procedures in accordance of the terms of the Programmatic Agreement among the Texas Historical Commission, the Federal Highway Administration, and the Texas Department of Transportation. If you have any questions, please contact me at 416-2640. Thank you for your consideration in this matter.

Sincerely,

Jon Budd, TxDOT Staff Archeologist

Concurrence by: _____ Date: 3-24-16

For Mark Wolfe, State Historic Preservation Officer and Executive Director

Attachments

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated 12-16-14, and executed by FHWA and TxDOT.

DRAFT

Intensive Archeological Survey for Proposed Improvements to Farm-to-Market Road 2206 from State Highway 42 to Loop 281 Gregg County, Texas

(Tyler District CSJs: 2073-01-009 and 2073-01-010)

Prepared by
Melissa M. Green, MA, RPA (Principal Investigator)
Haley Rush, MA, RPA
Cox | McLain Environmental Consulting, Inc.
600 E John Carpenter Freeway, Suite 380
Irving, TX 75062

For
Texas Department of Transportation
Tyler District

Under
Texas Antiquities Permit 7404

Cox | McLain Environmental Consulting, Inc.
Archeological Report 119
(CMEC-AR-119)

COX | McLAIN
Environmental Consulting

DRAFT REPORT
ACCEPTABLE
by
for Mark Wolfe
Executive Director, THC
Date 3-24-16
Track#

March 15, 2016

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a memorandum of understanding dated December 16, 2014, and executed by FHWA and TxDOT.