Draft
Environmental Assessment

US 59, TxDOT Beaumont District

From Fostoria Road at the Montgomery/Liberty County line to State Loop (SL) 573
CSJ Number: 0177-03-096
Montgomery and Liberty Counties, Texas
July 2017

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.

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List of Acronyms

ACS	American Community Survey
AOI	Area of Influence
ADT	Average Daily Traffic
APE	Area of Potential Effect
BE	Biological Evaluation
BGEPA	Bald and Golden Eagle Protection Act
BMPs	Best Management Practices
BO	Biological Opinion
CE	Categorical Exclusion
CFR	Code of Federal Regulations
CGP	Construction General Permit
CMP	Congestion Management Process
CSJ	Control-Section-Job
CWA	Clean Water Act
DHV	Daily Hourly Volume
DOT	U.S. Department of Transportation
EA	Environmental Assessment
EDR	Environmental Data Resources
EFH	Essential Fish Habitat
EMST	Ecological Mapping Systems of Texas
EO	Executive Order
EPIC	Environmental Permits, Issues, and Commitments
ESA	Endangered Species Act
EFSJR	East Fork of the San Jacinto River
ETJ	extraterritorial jurisdiction
FPPA	Farmland Protection Policy Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FWCA	Fish and Wildlife Coordination Act
ESA	Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FWCA	Fish and Wildlife Coordination Act
FTA	Federal Transit Authority
GIS	Geographic Information System
H-GAC	Houston-Galveston Area Council
IBWC	International Boundary and Water Commission
IPaC	Information for Planning and Conservation
ISA	Initial Site Assessment
HUD	Housing and Urban Development
LEP	Limited English Proficiency
MBTA	Migratory Bird Treaty Act
MOA	Memorandum of Agreement
MPO	Metropolitan Planning Organization
MSAT	Mobile Source Air Toxics
MTP	Metropolitan Transportation Plan
NAAQS	National Ambient Air Quality Standards
NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places

NPS	National Park Service
NWP	Nationwide Permit
PM	Particulate Matter
PWS	Public Water System
ROW	right-of-way
RTHL	Recorded Texas Historical Landmark
RTP	Regional Transportation Plan
RSA	Resource Study Area
SAL	State Antiquities Landmark
SGCN	Species of Greatest Conservation Need
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLRTP	State-wide Long Range Transportation Plan
SOV	Single Occupancy Vehicle
STIP	Statewide Transportation Improvement Program
SW3P	Stormwater Pollution Prevention Plan
TAC	Texas Administrative Code
TAQA	Traffic air quality analysis
TASA	Texas Archaeological Sites Atlas
TCEQ	Texas Commission on Environmental Quality
TERP	Texas Emissions Reduction Plan
THC	Texas Historical Commission
TIP	Transportation Improvement Program
TPDES	Texas Pollutant Discharge Elimination System
TPWD	Texas Parks and Wildlife Department
TWDB	Texas Water Development Board
TxDOT	Texas Department of Transportation
TXNDD	Texas Natural Diversity Database
TMA	Transportation Management Area
USACE	United States Army Corps of Engineers
USDOJ	United States Department of Justice
USFWS	United States Fish and Wildlife Service
USIBWC	United States Section, International Boundary and Water Commission
UST	Underground Storage Tank

1.0 Introduction

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) designated certain nationally significant highway corridors to be included in the National Highway System. Twenty-one "high priority corridors" were designated in areas not well-served by the existing interstate highway system. At that time, the Interstate Highway 69 (I-69) corridor was identified as High Priority Corridor Number 18 (Corridor 18) for the area between Memphis, Tennessee and Indianapolis, Indiana. Congress subsequently extended the limits of I-69 to extend from the Canadian border in Michigan to the Lower Rio Grande Valley in Texas. Since that time, planning studies were undertaken to address a variety of issues associated with the Congressional designation for I-69. Congressional legislation identified sections of United States Highway (US 59) through south Texas, Houston and to Texarkana for inclusion in the National Highway System (NHS) as part of designated High Priority Corridor Numbers 18 and 20, which would provide a transportation link between Indianapolis, Indiana and the lower Rio Grande Valley in Texas (Appendix A, Figures 1 and 2).

The Texas Department of Transportation (TxDOT) Beaumont District has proposed to undertake the improvement of the existing US 59 to meet current interstate highway design standards in a manner sensitive to the environment while also serving the access and mobility needs of the area. In accordance with Section 1105(e)(5) of ISTEA, the improved US 59 would be designated as part of the I-69 corridor system in Texas after construction is completed. The proposed project extends approximately 4.7 miles along US 59 from Fostoria Road near the Montgomery-Liberty County line to State Loop (SL) 573 in Montgomery and Liberty Counties, Texas (Appendix A, Figure 3). The area of proposed construction includes an approximately 5-acre detention basin, and the roadway improvements begin at the Montgomery-Liberty County line and end at SL 573. The detailed descriptions of the existing and proposed facility are provided in Section 2.0.

The purpose of this EA is to study the potential environmental consequences of the project and determine whether such consequences warrant preparation of an EIS. The EA is prepared to comply with TxDOT's environmental review rules and with the requirements of the National Environmental Policy Act (NEPA). The EA will be made available for public review. Following the prescribed comment period, TxDOT will consider any comments submitted. If TxDOT determines that there are no significant adverse effects, a Finding of No Significant Impact (FONSI) will be prepared and signed, which will be made available to the public.

2.0 Project Description

2.1 Existing Facility

The existing US 59 facility is a four (4)-lane (two lanes in each direction) divided highway with no designated frontage roads; the existing right-of-way (ROW) ranges from 310 to 350 feet in width (Appendix D). The project area is approximately 45 miles north of downtown Houston. Most of the project alignment is within the extraterritorial jurisdiction (ETJ) of Cleveland, Texas, approximately 22 miles east of Conroe and six miles north of Splendora. The East Fork of the San Jacinto River (EFSJR) crosses through the project area near County Road (CR) 383. The existing bridge across this river was constructed in 2001.

2.2 Proposed Project

The proposed roadway improvement project is a part of the planned improvements to the Congressionally-designated I-69 High Priority Corridor, which would provide a transportation link between Indianapolis, Indiana and the lower Rio Grande Valley in Texas (Appendix A, Figure 1). On July 26, 2012, the Texas Transportation Commission designated a 35-mile long corridor of US 59 as part of I-69 Texas between I-610 North in Houston to the Montgomery-Liberty County line, the southern terminus of the proposed project. The implementation of the proposed project would extend the interstate highway system and meet the intent of enacted legislation to advance the development and designation of I-69 by providing needed roadway improvements to achieve the necessary level of highway design. The proposed improvements along US 59 would extend the existing I-69 interstate system between I-610 North in Houston, Texas to SL 573 in Liberty County, Texas.

Planned construction would occur along an existing roadway and would occur within the existing road ROW to the extent possible given design requirements. Logical termini for project development are defined as (1) rational end points for a transportation improvement, and (2) rational end points for a review of the environmental impacts. The southern terminus of the proposed project is the Liberty-Montgomery County line near Fostoria Road, and the northern terminus is the southern limit of State Loop 573 in Cleveland. The logical termini for the proposed project encompass areas of construction and drainage improvements, and provide for the representation of environmental factors that may be affected by the proposed facility.

The proposed improvement project would widen the existing roadway to six (6) lanes (three lanes in each direction) and one-way, two (2)-lane frontage roads to maintain access and for shared use lanes. The proposed project would include installation of sidewalks on the outside of the proposed southbound frontage road and the construction of 8-foot wide, shared use lanes for bicycles on the northbound and southbound frontage lanes. The existing northbound bridge would be retained and serve as the northbound frontage road, bridges would be replaced/added at Pin Oak Road, the EFSJR, and at the Cleveland South Loop on-ramp. A short segment of ROW on the west side of US 59 between Pin Oak Road and the Loop 105 access ramp would be expanded by 20-83 feet to accommodate the additional improvements. The proposed typical sections are included in Appendix D. The proposed facility would be constructed within the existing US 59 ROW to the extent possible, and approximately 24 acres of new ROW would be required. No roadway construction activities would occur within the Montgomery County portion of the project; a 5-acre detention pond is

proposed on the west side of US 59 just north of Fostoria Road in Montgomery County. The project schematics are included in Appendix C.

Estimated construction costs for the proposed roadway improvements total approximately $100 million as of 2016; this estimate does not include ROW acquisition or relocation costs. Construction is expected to begin after engineering is completed and funding, environmental clearances, and permits have been acquired. TxDOT is funding the preliminary engineering design and environmental studies for the proposed project.

The proposed project is currently included in the Houston Galveston Area Council (H-GAC) financially constrained 2040 Regional Transportation Plan (RTP) and 2017-2020 Statewide Transportation Improvement Program (STIP), as shown in Appendix E.

The proposed project has independent utility in accordance with 23 CFR 771.111(f)(2) and the Coalition on Sensible Transportation (COST) v. Dole (D.C. Cir. 1987) because it would serve a significant purpose by itself and have independent and usable functionality even if no additional adjacent transportation improvements were to be implemented. Furthermore, the proposed project would not constitute segmentation that would restrict the consideration of alternatives or force major and unforeseen improvements beyond the proposed termini in accordance with 23 CFR 771.111(f)(3), and San Antonio Conservation Society v. Texas Highway Department (5th Circuit Court 1971).

3.0 Purpose and Need

3.1 Need

The need for the proposed project was demonstrated by a study conducted that determined the existing US 59 facility between the Montgomery-Liberty County line/Fostoria Road and SL 573 in Liberty County, Texas did not meet current interstate highway design standards. The implementation of the proposed project would meet the intent of enacted legislation to advance the development and designation of I-69 by providing needed roadway improvements to achieve the necessary level of interstate highway design. The proposed project would implement improvements to achieve interstate highway design criteria in accordance with the recommendations and guiding principles of the I-69 Advisory and Segment Committees. The need for the proposed project was determined and documented through public outreach and the collaboration of citizen-led committees overseen by TxDOT. During the I-69 planning process that was implemented in Texas, the following needs for this segment of I-69 were identified:

- Provide service for a growing Texas population
- Accommodate the increase in traffic that accompanies population growth
- Improve emergency evacuation routes—such as hurricane evacuation routes
- Maintain and improve economic competitiveness

Through work completed during previous corridor studies, the I-69 Steering Committee recognized that there were three primary needs that completion of I-69 would address:

- More efficiently move goods, primarily by truck, within the continental United States
- Improve the economic development opportunities in the traditionally depressed Mississippi Delta and Lower Rio Grande Valley regions
- Provide for improved transportation linkages in areas of the United States overlooked in the original design of the interstate highway system

The proposed improvements along US 59 would connect to the existing interstate system segment designated as such between IH 610 North in Houston, Texas and Montgomery County to SL 573 in Liberty County, Texas.

3.2 Supporting Facts and/or Data

I-69 Texas is important to the connectivity of the state because it provides access to inland ports, sea ports along the gulf coast, and connects major east-west interstates in Texas. I-69 crosses I-10, I-20, and I-30 and improves connectivity by providing convenient access to national east-west routes from Texas' ports and cities. I-69 also connects with I-35, I-37, and I-45 allowing for access to national north-south routes and travel corridors that would provide emergency evacuation routes essential for Texas coastal communities. I-69 provides more efficient truck and traffic movement between communities along the I-69 Texas system and national highway routes adding to the economic vitality and efficient movement of goods and services to rapidly expanding population centers.

3.3 Purpose

The purpose of the proposed project is to upgrade US 59 to meet current interstate highway design standards in a manner sensitive to the environment while also serving the access and mobility needs of the public. After construction, US 59 between the Montgomery-Liberty County line and SL 573 would be designated as part of the I-69 system in Texas, in accordance with Section 1105(e)(5) of ISTEA, as amended, and the following:

- US 59 has been identified as part of the I-69 High Priority Corridor system defined in Section 1105(c) of ISTEA, as amended
- US 59 connects to, or is planned to connect to, an existing segment of the interstate system by July 1, 2037
- US 59 would meet current interstate design standards

4.0 Alternatives

4.1 Build Alternative

Through project scoping, consideration of engineering design issues and public comments, and understanding the goals for the development of the I-69 interstate travel system, the following goals and objectives were developed for the proposed US 59 improvement project:

- Improve public safety
- Improve and maintain area mobility
- Avoid or minimize adverse social, economic, and environmental effects to protected or sensitive resources, including historic cemeteries and aquatic resources
- Contribute to air quality attainment
- Maximize use of existing ROW
- Minimize potential effects to floodplains
- Minimize displacements and effects to sensitive receptors

Using a systematic, interdisciplinary approach, the study team used the following criteria to develop and evaluate project alternatives:

- Satisfy the project needs by meeting the project objectives
- Satisfy the design requirements
- Achieve the desired benefits
- Achieve environmental protection and enhancement requirements

Four project alternatives were considered to address the identified project needs. These alternatives include the following:

- Transportation System Management (TSM)
- Transportation Demand Management (TDM)
- Build Alternative (Route Upgrade)
- No Build Alternative

TSM options are relatively low-cost transportation improvements or strategies that enhance the capacity of an existing roadway network by improving operational efficiency. These strategies include

freeway bottleneck removal, widening of arterials, intersection improvements, traffic signal improvements, signage improvements, traffic management systems, and other enhancements that improve traffic flow through the existing roadway network. The TSM alternative may also include a variety of Intelligent Transportation System (ITS) improvements such as communication systems, mobility assistant patrols, and advanced traffic management.

TDM alternatives are transportation strategies that are aimed at reducing the volume of vehicles on the existing roadway network. These strategies include carpooling, ridesharing, transit, telecommuting, park-and-ride facilities, bicycle and pedestrian facilities, and other alternative modes that would combine person-trips into fewer vehicle-trips. Successful TDM strategies could increase the efficiency of existing transportation facilities. H-GAC concluded that because this section of US 59 is in a rural area with a limited number of intersecting roadways and a sparsely populated area, there are no TDM or TSM measures that are appropriate for this facility (Appendix G). Therefore, TSM and TDM measures were not evaluated further.

The Build Alternative is the concept of constructing improvements to US 59 within the project area to satisfy the identified project need of upgrading the existing facility to meet interstate highway standards.

Two build alternatives were identified based on feasible alternative alignments for the proposed US 59 improvements. These alternatives are identified as Alternative A and Alternative B, as follows:

- Alternative A – Acquire new ROW to the west of the existing US 59 to construct the proposed improvements
- Alternative B – Acquire new ROW to the east of the existing US 59 to construct the proposed improvements

Both build alternatives would be designed to meet current TxDOT and AASHTO design standards, including requirements for shoulders, vertical clearance at bridges, and vertical and horizontal alignments. Each build alternative for the US 59 improvement project would add two additional travel lanes (one lane in each direction) to provide a six-lane divided interstate freeway with a center barrier. The proposed additional lanes would be constructed adjacent to the existing US 59 roadway, would tie into the existing I-69 designated freeway at the Montgomery-Liberty County line, would have a grade-separated intersection at State Highway (SH) 105, with shared-use lanes and sidewalks, and other grade-separated intersections as needed based on traffic and design studies. The proposed freeway would also include bike lanes along the northbound and southbound frontage roads, and sidewalks along southbound frontage road. Both build alternatives would avoid impacts to the historic Riggs Cemetery located within the existing US 59 ROW.

For the proposed build alternatives, an evaluation was conducted to identify whether “fatal flaws” are associated with either build alternative as an initial screening tool. This initial screening allowed for the elimination of an alternative that showed potential problems early in the planning process. The evaluation results are summarized in Table 4-1.

Table 4-1.Initial Evaluation of the Build Alternatives

Proposed Alternative	Initial Evaluation
Alternative A – widen to the west side of the existing US 59 facility	Consistent with TxDOT's plan for I-69 and the interstate highway system goals; would minimize effects to resources, including a historic cemetery and aquatic resources identified in the area of the EFSJR.
Alternative B – widen to the east side of the existing US 59 facility	Additional roadway ROW would require the acquisition of an existing UPRR ROW, and relocation of the rail line, located adjacent to US 59 on the east side of the existing facility. ROW acquisition would impact dense forest vegetation and wetlands.

The UPRR track is located within a 100-foot ROW that abuts the eastern boundary of the existing US 59 facility. The UPRR ROW and rail line is dedicated to railway traffic. The presence of the ROW and rail line severely constrains the ability to expand the proposed project to the east of the existing US 59. Additionally, the area east of the existing US 59 supports a forest vegetation community with wetland resources, particularly in the area of the EFSJR. Roadway expansion in that direction is not feasible for the proposed project; therefore, Alternative B is not a reasonable alternative for the proposed US 59 improvement project, since it would not be practical or feasible to encroach upon the existing 100-foot UPRR ROW.

Alternative A was identified as the Recommended Alternative and was developed based on the geometric design criteria and desired design benefits. The transportation improvements provided by Alternative A would best address the current and projected transportation demands and facility deficiencies while meeting the goals and objectives of the project. Anticipated benefits of Alternative A include:

- Increased traffic mobility
- Minimization of traffic or route delays
- Reduced traffic accidents and enhanced public safety due to the divided highway with a center barrier
- Minor increase in economic activity during construction as a result of construction workers requiring services such as food and lodging

Alternative A would consist of the addition of frontage roads to provide access control along the proposed US 59 facility. The mainlane typical section would remain the same and include two 12-foot lanes in each direction, 10-foot outside shoulders, 6-foot inside shoulders, and a 42-foot-wide center median with a barrier (Appendix D). Approximately 30 to 180 feet of grassy median would be between the mainlanes and the frontage roads. The frontage roads would include two 12-foot lanes, 10-foot outside shoulders, 4-foot inside shoulders, and a maximum of a 46-foot-wide ditches. The ROW would be a maximum of 610 feet wide and would be minimized in locations to avoid potential impacts and displacements. A 5-foot sidewalk would be provided on both sides of the facility between the frontage road and the ROW. Bicycle use would be permitted on the 10-foot outside shoulder of the frontage roads. With the addition of this lighting all design elements would meet or exceed the requirements for a 70 mph design speed.

4.1.1 Refinement of Build Alternative A

Similar to the area east of the existing US 59 roadway, some areas west of US 59 also contain a forest vegetation community with wetland resources. A portion of the EFSJR channel west of the existing is present within the proposed project ROW. There are also other aquatic resources occurring in the existing and proposed project ROW. Because of interstate design standard requirements for ROW widths, clearances, sight distances, horizontal and vertical roadway geometry, ROW maintenance, etc., complete avoidance of the identified aquatic resources to construct the proposed roadway improvements would not be feasible. However, in the area of the EFSJR, bridge design options were considered to minimize impacts to waters of the United States, including wetlands, and the one-percent annual exceedance probability (100-year) floodplain.

In the area of the bridge over the EFSJR, in accordance with TxDOT design standards, new ROW acquired for the proposed project would include an additional minimum 15 feet of ROW beyond the proposed edge of pavement to accommodate utilities, and to provide access for construction and maintenance purposes. The original design for the proposed improvements at the EFSJR crossing mimicked the existing US 59 bridge openings. However, a hydraulic analysis indicated that with this design, adverse impacts would result to the water surface elevation, thereby impacting the 100-year floodplain. The design refinement was to lengthen the proposed mainlane and frontage road bridge structures, thus expanding the bridge openings to eliminate upstream water surface impacts, thereby avoiding impacts to the 100-year floodplain. The extended bridge structure near the western limits of the proposed ROW allowed the portion of the EFSJR channel that is within the proposed ROW to be bridged, avoiding the need to directly impact the channel with earthen fill that otherwise would have been required for the approach to the bridge.

Other design refinements to minimize impacts to waters of the United States, including wetlands, included minimizing, to the extent practicable, the width of required new ROW; minimizing the number of bridge support columns required to be placed within streams and the EFSJR channel; and altering the design and location of a retaining wall to minimize impacts to a stream. Proposed project construction would be conducted in a manner that would avoid or minimize impacts to sensitive aquatic resources, including wetlands.

A stormwater detention mitigation area (approximately 7.2 acre feet of volume) is proposed at the southern end of the proposed project; requiring an additional 5 acres of property on an undeveloped parcel of land. The proposed roadway improvements would cause increases in flow toward a culvert located adjacent to the proposed detention basin area. These flow increases need to be offset by either detention volume near the culverts or by intercepting the flow upstream.

Avoidance of wetlands in the project area is difficult due to the proximity of the EFSJR and a large area located within the 100-year floodplain. The wetland located in the area proposed for detention are thought to be non-jurisdictional but will be verified during the USACE permitting process.

4.2 No Build Alternative

The No Build Alternative was proposed as a possible project alternative. This alternative assumes that all of the other programmed improvements within the US 59 corridor identified by the 2040 Regional Transportation Plan (RTP) would be constructed. The No Build Alternative would retain the existing roadway network and US 59 would remain as a four lane divided concrete section with a

variable width and center median. Access to cross streets would remain as currently provided through median opening and driveways that are connected to the existing US 59 mainlanes with no access control. No drainage or other roadway improvements would be constructed.

The No Build Alternative would not meet the project purpose of an interstate highway design that provides a safe, efficient, and cost effective transportation facility designed to meet projected travel demand. Costs associated with the No Build Alternative include: maintenance of the existing system – the longer the improvements and/or reconstruction are postponed, the higher maintenance costs on inadequate facilities.

The No Build Alternative avoids impacts associated with new construction, such as displacement and relocation, land use changes, and other environmental impacts. The No Build Alternative also allows construction funds to be shifted to other needed projects. Although the No Build Alternative avoids temporary and long term construction impacts, the lack of an interstate highway north of Montgomery County would remain.

The No Build Alternative would not meet interstate highway standards; therefore, not addressing any of the stated project needs. The No Build Alternative was eliminated as a viable project alternative, but was used as a comparison for impact evaluations.

4.3 Preliminary Alternatives Considered but Eliminated from Further Consideration

4.3.1 Build Alternative B

Alternative B, widening the proposed US 59 roadway to the east side of the existing US 59 facility, was eliminated from detailed study because required additional ROW acquisition would encroach into an existing UPRR track located within a 100-foot wide UPRR ROW immediately adjacent to the existing US 59 ROW. Acquiring the needed adjoining ROW for widening the existing facility would require the likely relocation of the existing rail line. This alternative, therefore, was not reasonably available to TxDOT and would not be feasible. Consequently, conforming to interstate highway design criteria would not be possible, thus, Alternative B was eliminated from detailed consideration.

5.0 Affected Environment and Environmental Consequences

During the scoping process, each resource or subject matter was evaluated to determine if the build or no-build alternatives would impact the resource or subject matter. The resources or subject matters that were either eliminated from further consideration or were studied in detail are listed and discussed below.

The technical reports prepared for the proposed project are listed below. Several technical memoranda and other documents were prepared in support of this Environmental Assessment (EA). A list of these documents is presented below in Table 5-1 and a summary of these reports is included in the respective sections below.

Table 5-1. Summary Technical Memoranda or Document

Technical Memoranda or Document
Historic Resources Reconnaissance Survey and Addendum
Archeological Survey and Addendum
Air Quality Technical Report
Hazardous Material Initial Site Assessment (ISA) and Addendum
Traffic Noise Technical Report
Wetland Assessment – Jurisdictional Waters of the United States
Aquatic Resources Assessment and Conceptual Mitigation Plan
Water Resources Technical Report
Indirect and Cumulative Impacts Technical Report
Biological Resources Technical Report

Technical reports can be reviewed at the Texas Beaumont District office at 8350 Eastex Freeway, Beaumont, Texas 77708-1701, or contact the district office at 1-409-892-7311.

5.1 Right-of-Way/Displacements

5.1.1 Existing Conditions

The existing ROW for the project area is approximately 198 acres. According to ROW documentation, the parcels for the original US 59 project were acquired from 1961 to 1964. The original as-built plans were signed in 1970.

5.1.2 Environmental Consequences

The proposed project would require 24 acres of new ROW, which includes 5 acres for a proposed detention basin. The location of property displacements are shown in Appendix F, Figure 2. Table 5-2 lists the structures that would be displaced due to the proposed new ROW. The proposed project would not cause any residential displacements.

Table 5-2. Structures Displaced by Proposed ROW

Displacement ID No.	Displacement Description	Business Displacements	Other
1	Billboard	0	1
2	Abandoned business	1	0
3	Fireworks Stand	1	0
4	Gasoline Dispensers and Cover Structure (US 69 Food Mart)	1	0
5	Covered Shed	0	1
6	Covered parking structure at closed business	0	1

Displacement ID No.	Displacement Description	Business Displacements	Other
7	Billboard	0	1
8	Shed	0	1
Total Displacements		3	5

Of the displacements listed as "Other" two displaced structures are billboards, and three are outbuildings (sheds). The displacement of the gasoline dispensers and cover structure at the US 69 Food Mart could also displace underground storage tanks, impacts due to this displacement are discussed in detail in Section 5.13, and the *Hazardous Material Initial Site Assessment (ISA) and Addendum*.

Business displacements are expected to have minimal impact to employment in the community. Displacement No. 4 is a partial displacement of gas pumps and possibly underground tanks, but won't impact the US69 Food Mart, and the fireworks stand and abandoned business are not expected to displace any full time employees.

When property acquisition is required, TxDOT's acquisition and relocation assistance program will provide assistance and counseling to residential property owners that would be required to relocate. The relocation assistance program is conducted in accordance with the Uniform Relocation and Real Property Acquisition Policies Act of 1970, as amended; 49 CFR Part 24, Subparts C through F; Title VIII of the Civil Rights Act of 1968 (Federal Fair Housing Law); Housing and Urban Development (HUD) Amendment Act of 1974, and TxDOT policies and procedures. Relocation resources will be available, without discrimination, to all affected property owners required to relocate as a result of implementation of a proposed project. Non-residential property owners, such as businesses, and others will be provided information on adequate replacement locations for their current property and may be reimbursed for costs based on TxDOT policies and procedures.

Compliance procedures for federal projects under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) include:

- Provide uniform, fair and equitable treatment of persons whose real property is acquired or who are displaced in connection with federally funded projects;
- Ensure relocation assistance is provided to displaced persons to lessen the emotional and financial impact of displacement;
- Ensure that no individual or family is displaced unless decent, safe, and sanitary housing is available within the displaced person's financial means;
- Help improve the housing conditions of displaced persons living in substandard housing; and,
- Encourage and expedite acquisition by agreement and without coercion,

5.1.3 Impacts of the No Build Alternative

No ROW acquisition or relocations would be anticipated as a result of the No Build Alternative.

5.2 Land Use

5.2.1 Existing Conditions

Land uses were identified within a one-mile distance from the project ROW. Existing land use data is based on Geographic Information System (GIS) data provided by H-GAC (H-GAC 2017). Land uses were further verified with desktop research and field investigations, and data was revised as needed.

As illustrated on Appendix F, Figure 2, 11 distinct land use categories were identified within the one-mile area. Vacant/developable (including farming) is 52 percent and Residential land uses (20.8 percent) are the highest percent of the land use, according to the H-GAC land use data. The land use data was compiled by parcel. Within the existing ROW H-GAC land use layers do not include existing land use; for areas within the proposed ROW or 1-mile study area aerial photograph and field verification was use to categorize land use. Table 5-3 summarizes the existing land use by category within one mile of the proposed project.

Table 5-3. Land Use within One-Mile of the Existing Project ROW

Land Use Category	Acres	Percent of the Land Use Category within the one-mile buffer
Commercial	104	1.3
Gov/Med/Edu	11	0.1
Industrial	96	1.2
Multiple*	564	7.2
Other	5	0.1
Residential	1,623	20.8
Undevelopable	1,149	14.7
Unknown	4	0.1
Vacant/Developable (including Farming)	4,200	53.7
Water	10	0.1
Railroad	56	0.7
Total	**7,822**	**100**

Source: H-GAC 2017
* Multiple- areas with mixed or multiple land uses
Note: Areas within the existing US 59 right-of-way are not included in land use in this table because information was not available from H-GAC. Therefore, the Riggs Cemetery and the existing US 59 ROW are not counted in the acreages.

5.2.2 Environmental Consequences

All land uses that would be directly impacted by the US 59 project would be permanently converted to transportation use, or roadway drainage. The proposed project would have the greatest impact on vacant/developable (including Farming) in comparison to other land uses. Table 5-4 displays the land use types and acres of each that would be affected by the proposed new right-of-way.

Table 5-4. Land Use Impacts within the New ROW

Land Use Category	Acres	Percent of New ROW
Commercial	0.7	2.8
Multiple*	0.7	3.1
Undevelopable	0.8	3.3
Vacant/Developable (including Farming)	21.8	90.8
Total	**24**	**100**

Source: H-GAC 2017
* Multiple- is areas with mixed or multiple land uses
Note: Areas within the existing US 59 right-of-way are not included in land use in this table because information was not available from H-GAC. Therefore, the Riggs Cemetery and the existing US 59 ROW are not counted in the acreages.

5.2.3 Impacts of the No Build Alternative

The No Build Alternative would not result in the acquisition of additional ROW and no existing land uses would be converted to transportation uses.

5.2.4 Encroachment Alteration Effects

The proposed project is expected to cause minor induced development; therefore, limited encroachment alteration impacts would result from conversion of undeveloped land to other land uses. As discussed in the US 59 *Indirect and Cumulative Impacts Technical Report* examining the area within what is defined as the Area of Influence (AOI), 35 percent of the AOI (an approximate 27,295 acre area) is developable. The AOI represents the geographical area where indirect effects related to project-influenced development and land use changes will likely occur. The extent of the AOI coincides with the traffic analysis zones (TAZs) and other physical boundaries such as water features that are touching or in close proximity to the proposed project. Residential and commercial properties located near the proposed project that are not physically impacted by the proposed project could also experience a change in market value, either positive or negative. No mitigation would be provided to address changes in land use.

5.3 Farmlands

The Farmland Protection Policy Act (FPPA), as codified in 7 USC 4201 through 4209, was enacted in 1981 "to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses and to assure that federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland" (7 USC 4201(b)). The FPPA requires federal agencies "to identify and take into account the adverse effects of their programs on the preservation of farmland, consider alternative actions, as appropriate, that could lessen such adverse effects, and assure that [administered] Federal programs, to the extent practicable, are compatible with State, units of local government, and private programs and policies to protect farmland."

According to the FPPA, United States Department of Agriculture (USDA) is the department "primarily responsible for the implementation of federal policy with respect to United States farmland." USDA granted Natural Resources Conservation Service (NRCS) the authority to determine the criteria used to designate certain soil units as prime farmland and the responsibility to maintain a nationwide inventory of prime and unique farmland. Under 7 CFR 657, NRCS identifies and defines the soil units that qualify as FPPA protected farmland, and protected farmland is evaluated using the criteria and process provided by NRCS in 7 CFR 658.

The FPPA provides protection to prime and unique farmlands, all of which are classified into four distinct types: prime, unique, and other farmlands of statewide or local importance.

5.3.1 Existing Conditions

There are nine NRCS soil mapping units within the proposed project area: Belrose loamy fine sand, 0 to 3 percent slopes; Hatliff-Pluck-Kian complex, 0 to 1 percent slopes; frequently flooded, Sorter silt loam, 0 to 1 percent slopes; Sorter-Tarkington complex, 0 to 1 percent slopes; Splendora fine sandy loam, 0 to 2 percent slope; Spendora-Urban complex, 0 to 2 percent slope; Spurger very fine sandy loam, 0 to 3 percent slopes; Urban Land, and Westcott-Plumgrove complex, 0 to 1 percent slope. Only the Westcott-Plumgrove complex is listed by NRCS a prime farmland, which is approximately 2 percent of the proposed project area. Approximately 8.5 acres of soils mapped and prime and unique farmland are within the proposed project ROW.

5.3.2 Environmental Consequences

A Farmland Conversion Impact Rating Form for Corridor Type Projects (NRCS-CPA-106) calculated the relative impact of the proposed project on prime farmland. Land evaluation and site assessment scores estimate the value of the impacted farmland and can add up to a maximum of 260 points. A critical score is 160 points, with a project receiving a score less than 160 points being given a minimal level of consideration for protection.

Approximately 8.5 acres of prime and unique farmland soils would be converted to transportation use. Per coordination with the NRCS it was determined that the critical score for the proposed project would be 39. The score is below 160; therefore, the NRCS only recommends accepted erosion control methods during all phases of construction, but no further coordination. Once the final design is complete, NRCS does request the final impact of conversion of prime and unique farmland to be sent to them. Coordination with the NRCS will continue. Copies of agency coordination letters are in Appendix G.

Erosion and sedimentation BMPs as specified by TCEQ to protect water quality would be used during construction.

Use of BMPs during construction would minimize erosion and sedimentation, with particular attention paid to water crossings or any areas with steep embankments.

5.3.3 Impacts of the No Build Alternative

Under the No-Build, the existing soils and prime and unique farmland soils would not be impacted unless by other development.

5.3.4 Encroachment Alteration Effects

US 59 is an established roadway; however, areas within the new ROW and surrounding areas are partially classified by H-GAC as farm/ranch land use. However, these areas are currently undeveloped. Reasons for future use of development of area of prime and unique farmland would not be due to the proposed project but would be developed based on other factors.

5.4 Utilities/Emergency Services

5.4.1 Existing Conditions

As shown on Figure 1 in Appendix F, several existing utilities are within or in proximity to the proposed project area. Utilities discussed include water wells, oil and gas wells, pipelines, and an electrical transmission line. The location and types of underground fiber optic lines were not specifically identified for this analysis. During final engineering design, the locations of other unknown utilities will be identified.

TCEQ's Water Utility Database and the TWBD groundwater database was searched for information pertaining to water wells located in the proposed project area. There are active community water utilities in Liberty County including the City of Cleveland and private corporations. Based on research performed, there are two active public water systems (PWSs) in the immediate vicinity of the proposed project identified by the TCEQ Safe Drinking Water Information System (SDWIS) (TCEQ 2017). One water well is installed to provide water at the Anderson Ford Mercury Dealership and one water well is installed at the People's Village Flea Market near County Road (CR) 379 (Appendix F, Figure 1). The TWDB identified four additional water wells within one quarter mile of the proposed project; uses for these wells were industrial, domestic, and plugged or abandoned. One well is located within the project ROW; this well is reported as plugged and abandoned. During construction, if excavation is needed in this area, further investigation may be required.

An oil and gas well record search was conducted based on ArcGIS dataset files and well records maintained by the Railroad Commission of Texas (RRC) and one gas well is mapped approximately 570 feet east of the existing US 59 ROW. No oil or gas wells are located within the proposed US 59 ROW, although numerous oil and gas wells within one mile of the proposed project.

Four pipelines cross or are in close proximity to the proposed project. These pipelines are owned by Natural Gas P/L Co of America LLC, subsystem Gulf Coast Mainline 1, 2, and 3. The pipeline diameters range from 30 to 36 inches. Based on records reviewed, these pipelines contain natural gas. The South Cleveland Field is located southwest of the proposed project and there may be collection lines or other facilities that connect to the identified pipelines in the vicinity. One pipeline easement extends in a general northeast to southwest trend at least 1,000 feet to the east of the proposed project, and appears to transect the South Cleveland Field. These utilities would not be affected by or affect the proposed project.

No hospitals, police or fire stations are located in the project area.

5.4.2 Environmental Consequences

Utilities such as water lines, sewer lines, gas lines, telephone cables, electrical lines, and other subterranean and aerial utilities would require adjustment. Aerial and/or underground utilities would be adjusted and the required adjustments may or may not be provided for by the affected utility. The extent of utility adjustments is not known at this time and would be determined during final design. Coordination of any utility adjustments would take place during the design phase or before construction begins. All utility adjustments would be in accordance with TxDOT policies. The adjustment and relocation of any utilities would be handled so that no substantial interruptions in service would occur while these adjustments are being made. De-watering would occur as needed during construction. The depth to shallow groundwater is anticipated to vary depending generally on presence and thickness of water-bearing sand layers in the subsurface and the distance from EFSJR, a potential source of surface to groundwater interaction. Shallow groundwater would likely occur within 20 to 30 feet of the ground surface in some areas and may be shallower in the vicinity of the river based on the area geology. Geotechnical studies would be performed during final design to evaluate the need for dewatering based on the depth shallow groundwater and soil properties.

The effect on mobility should improve response time of emergency services. Emergency services would remain unchanged throughout construction of the proposed project.

5.4.3 Impacts of the No Build Alternative

If the No Build Alternative were implemented, the proposed improvements would not be constructed. Scheduled maintenance on the existing facility would continue and may result in limited utility related impacts. The No Build Alternative would not improve mobility in the project area for use by police, fire, and health care (ambulance) services.

5.5 Bicycle and Pedestrian Facilities

5.5.1 Existing Conditions

The existing US 59 roadway does not have continuous frontage roads and/or sidewalks to accommodate other modes of transportation such as bicyclists and pedestrians.

5.5.2 Environmental Consequences

In accordance with the federal Policy Statement on Bicycle and Pedestrian Accommodations Regulations and Recommendations by U.S. Department of Transportation (March 2010), TxDOT is including bicycle and pedestrian accommodations in the proposed project. The proposed project would include installation of

sidewalks on the outside of the proposed southbound frontage road and the construction of 8-foot wide, shared use lanes for bicycles on the northbound and southbound frontage lanes. All intersections will be designed in compliance with the Americans with Disabilities Act (ADA) per federal requirements.

5.5.3 Impacts of the No Build Alternative

The No Build Alternative would not put in place accommodations for bicycle and pedestrians in the project area.

5.5.4 Encroachment Alteration Effects

Accommodating bicyclists and pedestrian along the project corridor could increase the use of this facility for other modes of transportation.

5.6 Community Impacts

The assessment of the community resources for the proposed project includes Community/Public Facilities, Environmental Justice (EJ) and Limited English Proficient populations in the project area. Other impacts such as Traffic Noise and Construction Phase Impacts are discussed in Sections 5.14 and 5.17.

5.6.1 Existing Conditions

5.6.1.1 *Community/Public Facilities*

The proposed project area is primarily undeveloped and rural, and a few residential homes are adjacent to the proposed project, as discussed in Section 5.2 and shown on Appendix F, Figure 2. As shown in Table 5-5, Census blocks within or in close proximity to the proposed project area are primarily unpopulated. The proposed project improvements would require a total of approximately 24 acres of new ROW. Most of the surrounding land use is farm/ranch (undeveloped), residential, and commercial. Directly adjacent to the project ROW, no known community or public facilities were identified. The only community resource identified in the project area is the Riggs Cemetery, which is located between the existing northbound and southbound mainlanes of the US 59 (Appendix C, Sheet 1D). Direct impacts to Riggs Cemetery will be avoided and access will be maintained to the cemetery during and after construction is complete.

The proposed project is an existing roadway facility, most of the construction would be within existing ROW and properties within or adjacent to the proposed ROW that are primarily undeveloped. No neighborhoods or residential communities would be separated or isolated; therefore, impacts to community cohesion in the project area are not anticipated.

One single family residence located south of SH 105 and west of US 59, near the proposed southbound frontage road, would be moved closer to the road, and would have a noise impact. As discussed in Section 5.14, no noise mitigation is proposed for this residential property (Receiver 8) because it is not feasible or reasonable, according to the FHWA noise guidance.

5.6.1.2 *Environmental Justice*

Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations” requires each Federal Agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low income populations.” Federal Highway Administration (FHWA) has identified three fundamental principles of environmental justice:

1. To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects on minority and/or low-income populations;

2. To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and
3. To prevent the denial of, reduction in, or significant delay in receipt of benefits by minority populations

A minority population is defined as a group of people and/or a community experiencing common conditions of exposure or impact that consists of persons classified by the U.S. Census Bureau as Black, Asian, American Indian or Alaska Native, Hispanic, or other non-white persons, including those persons of two or more races. A low income population is defined as a group of people and/or a community that, as a whole, lives below the national poverty level. The average poverty level threshold for a family of four people, as defined by the U.S. Department of Health and Human Services (HHS) thresholds, was a total annual household income of $24,600 in 2017. For purposes of determining low-income populations, median household was examined, using the U.S. Census poverty thresholds for 2010 to 2014 (a 5-year average), as reported in the American Community Survey (ACS).

The proposed project crosses four U.S. Census tracts, five U.S. Census block groups, and 66 U.S. Census blocks (Appendix F, Figure 3). U.S. Census tracts are reported for an area that typically contains approximately 4,000 persons; these units are considered small statistical subdivisions of a county. A U.S. Census block group is a collection of U.S. Census blocks within a defined U.S. Census tract.

Of the 66 U.S. Census blocks, 56 of the Census blocks have a reported zero population. Determination of the ethnicity of area population was therefore based on useable population data reported to be greater than zero. The average median household income for the 5 U.S. Census block groups is $46,515, according to the 2014 U.S. Census ACS 5-year survey.

Data compiled for the individual Census blocks within the project area were evaluated to identify minority and low-income populations within a relatively small geographic area. Minority populations within Census blocks, block groups, and tracts would be considered high if the minority population was greater than 50 percent of the total population in the project area. Low-income populations were considered to represent a high percentage of the total area population when the median household income was reported as being below the 2017 HHS poverty level for a family of four (i.e., less than $24,600).

Of the 66 Census blocks in the project area, 9 Census blocks have minority populations ranging from 5.3 to 100 percent. However, 2 Census blocks have a high (i.e., more than 50 percent) minority populations. These two Census blocks are show in Appendix F, Figure 3. No Census block groups with low-income populations defined as median household incomes below the 2017 HHS poverty level were identified in the project area.

Table 5-5. Census Blocks Within or in Proximity to the Proposed Project Area

Geographic Area			Total 2010 Population	Merge/Ethnicity by Percent					Percent Minority*	Median Household Income
				White	Hispanic	African American	Asian	Other		
County and City										
Liberty County			75,643	69.2	18.0	10.7	0.4	1.7	30.8	47,722
Montgomery County			455,746	71.2	20.8	4.1	2.1	1.9	28.8	68,840
City of Cleveland			7,675	45.7	27.8	23.7	1.3	1.5	54.3	31,277
Census Areas										
Tract	Block Group	Block								
7001.00	--	--	4,147	59.5	36.1	2.0	0.4	2.0	40.5	32,412
	3	--	1,890	74.0	20.7	1.9	0.7	2.7	26.0	34,292
		3035	6	0.0	66.7	0.0	33.3	0.0	**100.0**	--
		3036	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3037	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3044	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3045	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3046	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3047	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3068	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3071	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3072	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3073	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3074	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3075	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3076	4	100.0	0.0	0.0	0.0	0.0	0.0	--
		3077	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3078	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3079	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3080	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3081	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3084	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3088	38	89.5	2.6	7.9	0.0	0.0	10.5	--
		3089	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3099	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3100	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3101	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3102	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3103	0	0.0	0.0	0.0	0.0	0.0	0.0	--

Geographic Area			Total 2010 Population	Merge/Ethnicity by Percent					Percent Minority*	Median Household Income
				White	Hispanic	African American	Asian	Other		
		3104	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3105	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3106	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3107	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3108	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3109	254	74.4	15.0	3.1	0.4	7.1	25.6	--
		3122	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3123	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3124	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3125	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3126	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3127	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3128	27	100.0	0.0	0.0	0.0	0.0	0.0	--
		3132	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3133	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3140	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3141	0	0.0	0.0	0.0	0.0	0.0	0.0	--
7003.00	--	--	9,514	67.2	25.8	5.0	0.4	1.6	32.8	42,493
	2	--	772	72.0	14.8	11.5	0.3	1.4	28.0	54,000
		2041	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		2045	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		2046	38	94.7	0.0	0.0	0.0	5.3	5.3	--
	3	--	3,513	71.1	25.0	1.8	0.5	1.5	28.9	50,313
		3006	184	69.0	31.0	0.0	0.0	0.0	31.0	--
		3007	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3008	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3020	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3021	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3022	107	60.7	27.1	7.5	0.0	4.7	39.3	--
		3025	43	79.1	16.3	2.3	2.3	0.0	20.9	--
		3027	47	17.0	80.9	0.0	0.0	2.1	83.0	--
		3028	292	90.8	5.1	1.0	1.7	1.4	9.2	--
		3030	0	0.0	0.0	0.0	0.0	0.0	0.0	--
6928.01	--	--	8,647	82.2	14.5	0.9	0.5	1.8	17.8	52,429
	3	--	1,685	80.1	17.0	1.2	0.1	1.6	19.9	50,833
		3000	0	0.0	0.0	0.0	0.0	0.0	0.0	--
		3001	0	0.0	0.0	0.0	0.0	0.0	0.0	--
6929.00	--	--	4,518	79.6	17.8	1.0	0.2	1.4	20.4	44,736

Geographic Area			Total 2010 Population	Merge/Ethnicity by Percent					Percent Minority*	Median Household Income
				White	Hispanic	African American	Asian	Other		
	1	–	2,111	77.6	20.5	0.7	0.0	1.2	22.4	43,136
		1001	799	77.0	21.8	0.6	0.0	0.6	23.0	–
		1020	41	100.0	0.0	0.0	0.0	0.0	0.0	–
		1021	3	100.0	0.0	0.0	0.0	0.0	0.0	–
		1022	0	0.0	0.0	0.0	0.0	0.0	0.0	–
		1024	0	0.0	0.0	0.0	0.0	0.0	0.0	–
		1028	0	0.0	0.0	0.0	0.0	0.0	0.0	–
		1029	0	0.0	0.0	0.0	0.0	0.0	0.0	–
Total for 4 Tracts	–	–	26,826	72.9	22.4	2.6	0.4	1.7	27.1	43,018
	Total for 5 Block Groups	–	9,971	74.6	21.1	2.2	0.4	1.7	25.4	46,515
		Total for 66 Blocks	1,883	76.9	19.3	1.5	0.5	1.9	23.1	–

Source: U.S. Census Bureau 2010 and ACS 2014 5-year estimates

*Percent minority includes all non-white races and persons of Hispanic origin.

5.6.1.3 *Limited English Proficiency*

Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency (LEP), requires agencies to examine the services they provide, identify any need for services to those with LEP, and develop and implement a system to provide those services so that LEP persons can have meaningful access to them.

The most recent LEP data for this project are available for the U.S. Census tract level and these data were used for the LEP analyses. According to the latest ACS 2014 5-year estimates, less than 5 percent of persons residing within the two Census tracts of the proposed project area speak English less than "very well," which is considered LEP.

Table 5-6 shows the percent LEP population and languages spoken for the Census tracts and block groups in the proposed project area, Liberty and Montgomery Counties and the City of Cleveland. The geographic area encompassing the proposed project does not have a high LEP population percentage relative to the total population. Of the LEP population, a majority are Spanish speaking. The proposed project is not anticipated to have a disproportionately negative effect on any LEP households in the project area. No indicators of LEP populations, such as signage in languages other than English, were observed in the vicinity of the project during field investigations and surveys.

Table 5-6. LEP Language Distribution in the Project Area

Geographic Area	Limited English Proficiency			Percent Composition LEP by Language			
	Total Population	LEP	Percent LEP	Spanish	Indo-European	Asian/Pacific	Other
City of Cleveland	7,092	850	12.0	100.0	0.0	0.0	0.0
Liberty County	71,504	4,345	6.1	94.5	2.0	3.5	0.0
Montgomery County	452,773	37,385	8.3	91.1	2.9	5.5	0.6
Census Tracts and Block Groups							
Tract 7001.00	4,387	670	15.3	99.6	0.4	0.0	0.0
Block Group 3	1,839	105	5.7	100.0	0.0	0.0	0.0
Tract 7003.00	9,371	1,153	12.3	97.7	2.3	0.0	0.0
Block Group 2	985	71	7.2	100.0	0.0	0.0	0.0
Block Group 3	3,704	340	9.2	92.1	7.9	0.0	0.0
Tract 6928.01	8,144	517	6.3	94.8	3.1	2.1	0.0
Block Group 3	1,236	53	4.3	100.0	0.0	0.0	0.0
Tract 6929.00	4,364	557	12.8	100.0	0.0	0.0	0.0
Block Group 1	2,140	315	14.7	100.0	0.0	0.0	0.0

Source: ACS 2014 5-year estimates

5.6.2 Environmental Consequences

5.6.2.1 *Community/Public Facilities*

As discussed in Section 5.6.1.1, the only community/public facility in the project area is Riggs Cemetery, which would not be impacted by the proposed project. Access to the cemetery could temporarily be impacted during construction but long-term impacts are not anticipated. Noise impacts to residential areas are discussed in detailed in Section 5.14. Visual impacts are discussed in Section 5.7. The proposed project is for an existing roadway facility, most of the construction would be within the existing ROW and properties within or adjacent to the proposed ROW that are primarily undeveloped. No neighborhoods or residential communities would be separated or isolated; therefore, impacts to community cohesion in the project area are not anticipated.

One single family residence located south of SH 105 and west of US 59, near the proposed southbound frontage road, would be moved closer to the road, and would have a noise impact. As discussed in Section 5.14, a traffic noise impact is expected for Residential Receiver 8 because a noise wall in this area would exceed the reasonable, cost-effectiveness criterion for FHWA's Noise Abatement Criterion.

5.6.2.2 *Environmental Justice*

No Census block groups have median household income, below the 2017 HHS poverty level, defined as low-income. Within the 2 Census blocks with high minority populations, no residential displacements are anticipated. One residence located in a Census block (Census Tract 7001, Block 3035) would be impacted by traffic noise. This is an area with mobile homes, which are mostly vacant and for sale at a Mobile homes sales commercial business. The population of the Census block is 6 persons. The location of Census Tract 7001, Block 3035 is shown in Appendix F, Figure 3B. As discussed in Section 5.14, a traffic noise impact is expected for Residential Receiver 9 because a noise wall in this area would exceed the reasonable, cost-effectiveness criterion for FHWA's Noise Abatement Criterion. This residential receiver appears to be a mobile home. Disproportionately high and adverse impacts to low-income and minority communities would not be expected as result of the proposed project.

Of the displaced businesses, one business will lose gas pumps but won't impact the convenience store. The other displacements include are a fireworks stand and an abandoned business. Displacements of these businesses would not affect any full time employees.

TxDOT has ensured that opportunities for community input in the National Environmental Policy Act (NEPA) process have been and would continue to be provided. A reasonable attempt to solicit public comments was made at the Public Meetings held in the project area on May 14, 2013 and November 19, 2015. English and Spanish language Public Notices were published in local newspapers, including the Cleveland Advocate, Eastex Advocate, The Dayton News, Liberty Vindicator, The Progress, The Liberty Gazette, and El Perico (Spanish Language Newspaper). Notices concerning the Public Meeting were developed in English and Spanish languages and mailed to adjacent landowners, elected officials, government officials, local organizations, civic groups, and published on the TxDOT website. The mailed notices and newspaper announcements provided opportunities for citizens to request language interpreters. No requests were received. LEP

populations were informed and will continue to be notified during regulatory process of the proposed project.

As discussed in Section 5.5, the proposed project would include installation of sidewalks on the outside of the proposed southbound frontage road and the construction of 8 foot wide, shared use lanes for bicycles on the northbound and southbound frontage lanes. Bicycle accommodations and sidewalks along the frontage roads, and all intersections will be designed in compliance with the Americans with Disabilities Act (ADA) per federal requirements. This would be a benefit to all the traveling public and the local community.

Right-of-way acquisition for the proposed project would result in loss of property and sales tax revenues for local jurisdictions. Conversion of land to roadway right-of-way would have a negative impact on the local economy as current tax generating properties would no longer be on the tax rolls, and displaced businesses may stop operations or relocate outside the taxing jurisdictions. Tax revenue losses may be temporary if displaced businesses and residents relocate within the same taxing jurisdiction.

The proposed project would not result in a substantial change in access, or result in a substantial change in traffic patterns throughout the project area. The new continuous southbound frontage road would increase access to adjacent land parcels. The northbound frontage road is constrained by the UPRR corridor to the east.

5.6.2.3 *Impacts of the No Build Alternative*

Under the No Build, there would be no direct impacts to adjacent properties. No mobility improvements such sidewalks to accommodate bicyclists would be implemented.

5.6.3 Encroachment Alteration Effects

Environmental justice individuals/populations and nearby neighborhood/communities could be adversely impacted as traffic increases in future years. The proposed project would not cause major changes in traffic patterns or access and the proposed project is expected to have minimal induced development; therefore, limited encroachment alteration impacts to community including EJ populations are anticipated.

5.7 Visual/Aesthetics Impacts

Aesthetic quality refers to an individual's perception of natural beauty in a landscape. It can be determined by the presence of designated scenic areas, overlooks along trails or roadways, or a positive endorsement of a particular view by the public. Aside from general descriptors, a number of other factors may be taken into account when considering the aesthetic quality of a certain feature or landscape.

Among the factors are the following:

- Uniqueness of the landscape in relation to the region as a whole;
- Whether the scenic area is a foreground, middle-ground, or background view;
- Focus of the view;
- Scale of elements in a scene;

- Number of potential viewers;
- Duration of the view; and
- The amount of previous modifications or disturbances to the landscape.

5.7.1 Existing Conditions

Based on the listed criteria, the proposed project exhibits a low to medium degree of aesthetic quality, with few unique views. A majority of the study area is categorized as farm/ranch (undeveloped), commercial, and vacant/developable. The vegetation communities in the undeveloped areas are primarily composed of Existing Mowed and Maintained ROW; Wet Savanna, Swamp; and Mixed Woodlands and Forests (consisting of Upland Hardwood Forest, Forested Wetlands), and Riparian. Existing views of the proposed project are shown in the project photographs (Appendix B).

In areas of existing roadway ROW, residents and travelers would be accustomed to the vistas and aesthetic nature of those roadway portions. Adjacent to the EFSJR and in the 100-year floodplain, the scenic attributes are primarily vistas of either swamp vegetation and mixed woodland and forests. The scenic vistas are generally associated with a rural lifestyle, except near the commercially developed areas along the project corridor, and possess an intrinsic value for those who live and travel through the area. The urbanized areas are comprised of commercial, light industrial and residential uses that are typically encountered near highway corridors.

5.7.2 Environmental Consequences

Visual impacts were evaluated based on professional judgment and simulated views to predict viewer groups' perceptions of the change to the environment. The extent of any potential impact is based on compatibility of the impact, viewer sensitivity of the impact, and the degree of the impact. Permanent and temporary visual impacts due to roadway design, construction activities, and displacement of businesses and sheds are expected.

Construction of the proposed project would remove existing vegetation. Where practical, mitigation measures would establish vegetation within medians, in order to blend into the existing landscape, and promote roadside native wildflower planting programs. Ambient light levels would be considered during final design to minimize impacts to residences and businesses near the proposed project. To the extent possible, the proposed project would be designed to create a visually and aesthetically pleasing experience for the traveler and the adjacent residents and landowners.

5.7.3 Impacts of the No Build Alternative

The No Build Alternative would not change the existing visual and aesthetic qualities in the area. The US 59 corridor would continue to be a local visual landmark and serve as the primary transportation corridor in the area.

5.8 Cultural Resources

Cultural Resources are structures, buildings, archeological sites, districts (a collection of related structures, buildings, or archeological sites), cemeteries, and objects. Both federal and state laws require consideration of cultural resources during project planning. At the federal level, NEPA and the National Historic Preservation Act (NHPA) of 1966, among others, apply to transportation projects such as this one. In addition, state laws such as the Antiquities Code of Texas apply to these

projects. Compliance with these laws often requires consultation with the Texas Historical Commission/Texas State Historic Preservation Officer (THC/SHPO) and/or federally-recognized tribes to determine the project's effect on cultural resources. Review and coordination of this project followed approved procedures for compliance with federal and state laws.

5.8.1 Archeology

5.8.1.1 *Existing Conditions*

For archeological resources the area of potential effects (APE) is the footprint of the proposed improvements. There are no recorded archeological sites within the APE. There is one nineteenth to early twentieth century cemetery located between the northbound and southbound lanes of US 59.

5.8.2 Historic Properties

5.8.2.1 *Existing Conditions*

A review of the National Register of Historic Places (NRHP), the list of State Archeological Landmarks (SAL), and the list of Recorded Texas Historic Landmarks (RTHL) indicated that no historically significant resources have been previously documented within a study area extending 1,300 feet beyond the proposed project limits. It has been determined through consultation with the SHPO that the APE for historic non-archeological resources is 150 feet beyond the proposed ROW between Pin Oak Road and SL 573, and the existing ROW elsewhere. A site visit performed by a TxDOT-precertified architectural historian identified and recorded five historic-age resources (built prior to 1978), located within the project APE. None of these properties are eligible for listing in the NRHP There are no Official Texas Historical Markers of historic districts within the APE.

5.8.2.2 *Environmental Consequences*

<u>Archeology</u>

Based on the results of background research and field investigations within the APE, the proposed project is not expected to have any effects on archeological resources. Field investigations have determined that no graves at the nineteenth to early twentieth century cemetery located between the north- and southbound lanes of US 59 would be impacted. No additional archeological investigations within the proposed APE are warranted at this time. The THC concurred with these findings on January 26, 2017 (see Appendix G). Tribal coordination was required. No tribal objections to the proposed project were received, see Appendix G.

<u>Historic Properties</u>

In compliance with the First Amended Statewide Programmatic Agreement for Transportation Undertakings (PA-TU), a TxDOT historian determined that there are no historic non-archeological properties present in the APE. Individual project coordination with SHPO is not required.

5.8.2.3 *Impacts of the No Build Alternative*

As there are no archeological sites or historic properties within the APE, the No Build Alternative would have no impacts to these resources.

5.8.2.4 *Encroachment Alteration Effects*

There are no known archeological sites or historic properties within 1,300 feet of the APE. Therefore, any changes to the environment around the project would have no effect on NRHP-eligible cultural resources. The project would have no indirect effects to archeological sites and historic properties.

5.9 Department of Transportation (DOT) ACT Section 4(f), Land and Water Conservation Fund (LWCF) Act Section 6(f), and Texas Parks and Wildlife Code (PWC) Chapter 26

The proposed project would not require the use of, nor substantially impair the purposes of, any publicly owned land from a public park, recreational area, wildlife and waterfowl refuge lands, or historic sites of national, state, or local significance; therefore, a Section 4(f) Evaluation is not required.

Section 6(f) of the Land and Water Conservation Fund Act requires that recreational facilities receiving U.S. Department of Interior funding from the Land and Water Conservation Fund Act as allocated by TPWD may not be converted to non-recreational uses unless approval is received from TPWD and the National Park Service (NPS). There are no Section 6(f) resources in the proposed project area.

Chapter 26 of the Texas Parks and Wildlife Code includes provisions similar to the federal Section 4(f) regulation, including requiring a finding that there is no feasible and prudent alternative to the use or taking of the protected land, that the project includes all reasonable planning to minimize harm and that a public hearing be held prior to the approval of the use of land from these publicly-owned park properties. There are no Chapter 26 resources in the proposed project area

5.10 Water Resources

5.10.1 Clean Water Act Section 404

Section 404 of the Clean Water Act (CWA) authorizes the USACE to regulate discharges of dredged or fill material into waters of the United States, including wetlands. Additionally, the discharge of dredged or fill material into jurisdictional waters requires CWA Section 401 water quality certification from the TCEQ. EO 11990, Protection of Wetlands, directs federal agencies to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands on federal lands.

5.10.1.1 *Existing Conditions*

In May of 2013, October and November of 2014, and December of 2015, qualified biologists and ecologists performed a wetland delineation of waters of the United States including wetlands, within the project ROW. Additional details are presented in two separate technical reports, *Wetland Assessment – Jurisdictional Waters of the United States* (March 2016) and *Aquatic Resources Assessment and Conceptual Mitigation Plan* (March 2016). The delineation consisted of a review of available published historical information and detailed site reconnaissance to evaluate the project area for the presence or absence of jurisdictional waters and wetlands according to criteria set forth in the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (v.2).*

As summarized in Table 5-7, a total of 4.40 acres of waters of the United States were found within the proposed project ROW, consisting of 1.65 acres (4,396 linear feet [LF]) of jurisdictional waters: EFSJR and unnamed tributaries to it) and 2.75 acres of adjacent wetlands. These features are identified in the Appendix F, Figure 5.

Table 5-7. Waters of the U.S. (Including Wetlands) within the Project ROW

Jurisdictional Features	Acres
Jurisdictional Waters*	
EFSJR	1.13 (1,608 LF)
Unnamed Tributaries to EFSJR	0.52 (2,788 LF)
Total Waters	**1.65 (4,396 LF)**
Adjacent Wetlands	
Wetland 1	0.050
Wetland 2	0.042
Wetland 3	0.016
Wetland 4	0.017
Wetland 5	0.229
Wetland 6	0.003
Wetland 7	0.012
Wetland 8	1.919
Wetland 9	0.070
Wetland 10	0.076
Wetland 11	0.008
Wetland 12	0.010
Wetland 13	0.299
Wetland 14	0.016
Wetland 15	0.016
Wetland 16	0.007
Wetland 17	0.010
Wetland 1 (Detention Pond)	0.455
Total Wetlands	**2.75**

* linear feet (LF) also listed

Also delineated within the proposed project area were 0.505 acre of potentially isolated wetlands and 2.44 acres (4,505 LF) of man-made ditches that are potentially non-jurisdictional. The southern portion of the proposed detention pond area may also contain an additional 0.50 to 1.50 acres of potentially isolated wetlands; due to lack of right-of-entry, this area has not yet been delineated. The findings have not yet been verified by the U.S. Army Corps of Engineers (USACE).

5.10.1.2 *Environmental Consequences*

If the Build Alternative is implemented, a Nationwide Permit (NWP) 14, Linear Transportation Projects, would likely be used to permit the anticipated impacts to both Unnamed Tributaries 6 and 7, since the combined anticipated jurisdictional impacts would be less than 0.10 acre.

Various bridge design options were considered in the area of the EFSJR, which was complex due to hydrological and environmental constraints. Bridge design options considered minimizing impacts to the floodplain, avoidance or impact minimization to waters of the United States, including wetlands, and avoidance of a cemetery on the north side of the EFSJR.

Roadway design modifications that minimized impacts to waters of the United States are as follows:

- EFSJR (East Fork Upstream) - Mainlanes and frontage road bridge structures were extended ~250 feet to the north to avoid impacts to 310 linear feet, reducing impacts to only ~6 bridge pilings. The Middle segment would be avoided.
- Unnamed Tributary 2 - retaining wall design changes were implemented to reduce impacts from 240 to 25 linear feet, needed for the proposed southbound frontage road; the remainder of the tributary will be avoided to maintain existing storm water flows.
- East Fork Downstream segment – Bridge design modifications reduced impacts to only one piling below the OHWM.
- Unnamed Tributaries 3, 4, and 5 – bridged rather than culverted, and where possible, bridge pilings would be located above the OHWM of these three stream segments.
- Temporary impacts to existing streams during construction would be restored to original contours, and stream banks would be vegetated as soon as practical after construction, following TxDOT standards, which includes but not limited to the following;
- Once construction is complete and disturbed areas have been revegetated, remove silt fence and accumulated sediment to reduce wildlife barriers and hazards.
- Minimize the use of equipment in streams and riparian areas during construction. When possible, equipment access should be from banks, bridge decks, or barges.
- When temporary stream crossings are unavoidable, remove stream crossings once they are no longer needed and stabilize banks and soils around the crossing.
- Wet-Bottomed detention ponds are recommended to benefit wildlife and downstream water quality. Consider potential wildlife-vehicle interactions when siting detention ponds.
- Rubbish found near bridges on TXDOT ROW should be removed and disposed of properly to minimize the risk of pollution. Rubbish does not include brush piles or snags.

With the exception of Wetland 1, which is located outside the proposed construction area and would not be impacted, all the wetlands within the project construction area would be excavated and/or filled, and graded to drain the project ROW. Impacts to the identified wetlands are anticipated to require a USACE individual permit, because anticipated impacts to Wetland 8 would exceed the 0.5 acre threshold for authorization under a NWP 14, Linear Transportation Projects. Jurisdictional wetland impacts would require compensatory mitigation, anticipated to occur through the purchase of credits from existing wetland mitigation banks. Three have available forested wetlands credits and service the proposed project area: Blue Elbow Swamp, Gin City, and Spellbottom.

5.10.1.3 *Impacts of the No Build Alternative*

The No Build Alternative would not result in impacts to waters of the United States. Water bodies within or traversing existing roadway rights-of-way would continue to be maintained to expedite the conveyance of storm water flows. Vegetated riparian areas adjacent to some of the water bodies within existing rights-of-way would likely persist in their present condition.

5.10.1.4 *Encroachment Alteration Effects*

Encroachment alteration effects are those effects that alter the behavior and functioning of the physical environment, and are related to design features, but are removed in time or distance from the direct effect. Anticipated fill impacts to waters of the U.S., including wetlands, would generally be limited to the proposed project footprint. Temporary and permanent impacts to waters of the U.S. would not be expected to disrupt any natural processes in the project area. Because induced development is not anticipated as a result of the proposed project, encroachment alteration impacts to wetlands and other waters of the U.S. that are farther removed in distance or time would be unlikely to occur.

5.10.2 Clean Water Act Section 401

The discharge of dredged or fill material into jurisdictional waters requires CWA Section 401 water quality certification from the TCEQ.

5.10.2.1 *Environmental Consequences*

It is anticipated that the proposed Build Alternative would meet the TCEQ's Section 401 Water Quality Certification Tier I (Small Projects), because it would impact less than 3 acres of waters of the U.S. including wetlands (or 1,500 linear feet of stream). The project would implement all BMPs required by the TCEQ for Tier I projects and in accordance with the Tier I Checklist.

5.10.2.2 *Impacts of the No Build Alternative*

The No Build Alternative would not result in impacts to waters of the United States. Water bodies within or traversing existing roadway rights-of-way would continue to be maintained to expedite the conveyance of storm water flows. Vegetated riparian areas adjacent to some of the water bodies within existing rights-of-way would likely persist in their present condition.

5.10.2.3 *Encroachment Alteration Effects*

Encroachment alteration effects are those effects that alter the behavior and functioning of the physical environment, and are related to design features, but are removed in time or distance from the direct effect. Anticipated fill impacts to waters of the U.S., including wetlands, would generally be limited to the proposed project footprint. Temporary and permanent impacts to waters of the U.S. would not be expected to disrupt any natural processes in the project area. Because induced development is not anticipated as a result of the proposed project, encroachment alteration impacts to wetlands and other waters of the U.S. that are farther removed in distance or time would be unlikely to occur.

5.10.3 Executive Order 11990 Wetlands

Executive Order 11990, Protection of Wetlands, established a national policy "to avoid to the extent possible, the long-term and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative." As discussed in the Section 4.1.1, modification to the original roadway design was implemented to avoid a large section of the EFSJR, and ROW was minimized as much as possible to avoid impacts to wetlands and water of US.

5.10.4 Rivers and Harbors Act

The proposed project does involve work over the EFSJR (above tidal). Due to historic use of the EFSJR for the timber industry; coordination with the U.S. Coast Guard New Orleans District was initiated to determine navigability. A Bridge Project Questionnaire was submitted by TxDOT in November 2016; TxDOT is waiting on a response from the U.S. Coast Guard.

5.10.5 Clean Water Act Section 303(d)

The TCEQ is required under Section 303(d) of the CWA to identify water bodies that do not meet, or are not expected to meet, applicable water quality standards for their designated uses.

5.10.5.1 *Environmental Consequences*

The TCEQ's Texas CWA Section 303(d) List identifies impaired waters (i.e., water bodies that do not meet minimum standards in specific categories). The proposed project would discharge directly into Segment 1003, EFSJR, which is listed on the 2014 303(d) List (EPA-approved on November 19, 2015) as a 5a impaired water body for elevated bacteria levels. The segment extends from the confluence of Caney Creek in Harris County to US 190 in Walker County; it was first listed in 2006. The project is located in the southern portion of the East Fork San Jacinto River Watershed, in assessment unit numbers 1003_01 (from the Caney Creek confluence upstream to US 59) and 1003_02 (from US 59 to a point 40km (25 mi) upstream (just upstream of Clear Creek confluence).

Seven EPA-approved Total Maximum Daily Load Limits (TMDLs) exist for indicator bacteria in the San Jacinto River (East and West Forks), Lake Houston, and Crystal Creek Watersheds. The approval date of these TMDLs is August 24, 2016. The EFSJR is also included in the TCEQ-approved Implementation Plan (I-Plan). The commission approved the implementation plan on January 30, 2013. This plan, developed by stakeholders in the Bacteria Implementation Group (BIG), originally implemented 72 TMDLs for 60 waterway segments in 10 counties; other TMDLs and water bodies have since been added. The TMDLs for San Jacinto River were added by vote of the BIG and the San Jacinto stakeholders in 2015; TCEQ approved this action in 2016. The proposed project and associated activities would be implemented, operated, and maintained in a manner that is consistent with the approved TMDL and I-Plan.

As part of the proposed project, the existing bridge would be reconstructed and a new bridge would be constructed to span the EFSJR; several bridge bents would be located within the river. Some culverting and fill would also occur within three unnamed tributaries to the river. Minimal temporary impacts to water quality may occur due to construction activities at river and stream crossings. BMPs would be incorporated to avoid and minimize impacts to the regional watershed. The proposed project would not alter the flow or capacity of the river.

5.10.5.2 *Impacts of the No Build Alternative*

The No Build Alternative would not result in impacts to waters of the United States. Water bodies within or traversing existing roadway rights-of-way would continue to be maintained to expedite the conveyance of storm water flows. Vegetated riparian areas adjacent to some of the water bodies within existing rights-of-way would likely persist in their present condition. No changes to the water quality of EFSJR are expected.

5.10.5.3 *Encroachment Alteration Effects*

Encroachment alteration effects could occur primarily due to increased impervious surface area, which could result in increased non-point source runoff, altered recharge (flow and quality) into the aquifer system and surface waters, increased localized erosion, and degraded water quality downstream. Effects would also occur in limited areas where vegetation in the proposed project area is removed during construction, which could accelerate off-site erosion due to runoff. Construction of the proposed roadway improvements could encroach on the surface or subsurface drainage areas of adjacent aquatic features, altering the hydrologic regime in those features. Use of BMPs within the proposed project area would minimize water quality effects downstream. With regard to groundwater, adverse ecological effects could occur if highway runoff reaches the water table due to infiltration of overland flow, or if water quality impairment.

5.10.6 Clean Water Act Section 402

Pursuant to Section 402 of the CWA, under TCEQ regulations for implementing the Texas Pollutant Discharge Elimination System (TPDES), this project would require a construction general permit (CGP), and the preparation of a Storm Water Pollution Prevention Plan (SW3P).

5.10.6.1 *Environmental Consequences*

The project would disturb more than 5 acres of earth and is thus considered a "large construction activity" under the CGP. TxDOT will obtain coverage by preparing and implementing an SW3P, posting a construction site notice, submitting a notice of intent (NOI) and associated fee to TCEQ, submitting the NOI to the operator of any Municipal Separate Storm Sewer System (MS4) into which stormwater will be directly discharged, and otherwise complying with the CGP terms. The CGP under which coverage is anticipated to be authorized was effective March 5, 2013 and expires on March 5, 2018.

5.10.6.2 *Impacts of the No Build Alternative*

The No Build Alternative would not require a construction general permit.

5.10.6.3 *Encroachment Alteration Effects*

Encroachment alteration effects could occur primarily due to increased impervious surface area, which could result in increased non-point source runoff, altered recharge (flow and quality) into the stormwater and surface waters, increased localized erosion, and degraded water quality downstream. Effects would also occur in limited areas where vegetation in the proposed project area is removed during construction, which could accelerate off-site erosion due to runoff. Construction of the proposed roadway improvements could encroach on the surface or subsurface drainage areas of adjacent aquatic features, altering the hydrologic regime in those features. Use of BMPs within the proposed project area would minimize water quality effects downstream.

5.10.7 Floodplains

Portions of the proposed project are located within the Federal Emergency Management Agency (FEMA) 100-year floodplain as depicted on FEMA Federal Insurance Rate Map (FIRM) Nos. 48291C0150C, 48291C0130C, and 48291C0125C for Liberty County, Texas (all dated May 2, 2008) and FIRM No. 48339C0450G for Montgomery County, Texas (dated August 18, 2014).

5.10.7.1 *Environmental Consequences*

Approximately 137.70 acres of 100-year floodplain of the EFSJR exist within the project's existing ROW, and approximately 19.45 acres exist within the proposed new ROW (Appendix F, Figure 6). Liberty and Montgomery Counties and the City of Cleveland are participants in the National Flood Insurance Program (NFIP).

Hydraulic design information would be coordinated with the local floodplain administrators for Liberty and Montgomery Counties and the City of Cleveland prior to construction so that the proposed project would not have an adverse effect on the floodplains/floodways in the project area. The proposed project would be designed so that natural drainage and/or ponding would not be affected and change the base flood elevations (BFEs) greater than one foot above the 100-year flood at any point in the community. The proposed project would not increase the BFEs to a level that would violate applicable floodplain regulations and ordinances. The proposed bridge structures traversing the EFSJR would be designed so that the floodplain would not be adversely affected, nor cause flooding to property owners upstream and downstream of the proposed project. No alteration or relocation of water bodies is anticipated as a result of the proposed project.

Section 60.3 (d)(3) of the National Floodplain Insurance Program (NFIP) regulations states that a community is to "prohibit encroachments, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base (100 year) flood discharge" (FEMA 2000).

Based on NFIP regulations, prior to issuance of construction permits involving activities in a regulated floodway, a letter of no objection must be obtained. The request for the letter of no objection must be supported by technical data stating that construction of the proposed project would not impact the base flood elevation, floodway elevations, or floodway data widths that are present prior to construction.

5.10.7.2 *Impacts of the No Build Alternative*

The No Build Alternative would not change the existing floodplain of the EFSJR.

5.10.7.3 *Encroachment Alteration Effects*

No encroachment alteration (or indirect) effects to floodplain are anticipated as a result of the proposed project.

5.10.8 Wild and Scenic Rivers

Texas has only one river segment that is designated as wild or scenic under the federal Wild and Scenic Rivers Act, the segment of the Rio Grande on the U.S. side of the river. Based on a project scoping analysis, it was determined that neither the No Build Alternative nor the Build Alternative would have an impact on this resource.

5.10.9 Trinity River Corridor Development Certification

The proposed project would not occur within the Regulatory Zone for the Trinity River Corridor; therefore, the requirements of this certification do not apply.

5.10.10 Coastal Barrier Resources

The Coastal Barrier Resources Act does not apply since the proposed project is not located in the coastal barrier resource area.

5.10.11 Coastal Zone Management

The Coastal Zone Management Act does not apply since the proposed project is not located in the Texas Coastal Zone.

5.10.12 Edwards Aquifer

The project will not be constructed over the recharge or contributing zones of the Edwards Aquifer; therefore, the project is not subject to regulation under TCEQ's Edwards Aquifer rules.

5.10.13 International Boundary and Water Commission

No project activities would cross or encroach upon the floodplains of any United States Section, International Boundary and Water Commission (USIBWC) flood control project or right-of-way. Therefore, no license or permit is required from the USIBWC.

5.10.14 Drinking Water Systems

The project is located over the Gulf Coast Aquifer. The Gulf Coast Aquifer parallels the coastline and increases in thickness in the direction of the Gulf of Mexico. This aquifer system includes four major components and several recognized water-producing formations. The Chicot Aquifer, which is the upper component of the Gulf Coast Aquifer system, consists of the Willis Sand, the Bentley and Montgomery Formations, the Beaumont Clay, and overlying alluvial deposits. The Lissie Formation is considered by some to be equivalent in age to the Montgomery and Bentley Formations. The Burkeville Clay lies beneath the Evangeline Aquifer and separates it from the Jasper Aquifer. According to the Texas Commission on Environmental Quality (TCEQ) database, two public drinking water wells were identified within a quarter mile of the proposed project. One water well is installed to provide water at the Anderson Ford Mercury Dealership and one water well is installed at the People's Village Flea Market near County Road (CR) 379 (Appendix F, Figure 1). However, none of the public drinking water wells are within the existing or new ROW of the proposed project. As discussed in Section 5.4, additional water wells were identified in the Texas Water Development Board (TWDB) groundwater database but those wells are not regulated as public water wells. Therefore, no impacts to groundwater wells are anticipated. Best management (BMPs) utilized to avoid water quality degradation would serve to protect groundwater quality.

5.11 Biological Resources

5.11.1 Vegetation

Full details regarding vegetation within the US 59 project area are presented in the *Biological* Resources Technical Report (April 2017), prepared for the proposed project and submitted under separate cover. The project area was surveyed for vegetation on May of 2013, October and November of 2014, and December of 2015 in accordance with TxDOT's September 2013 Memorandum of Understanding with the Texas Parks and Wildlife Department (TxDOT-TPWD MOU). According to TPWD's Ecological Mapping Systems of Texas (EMST), the project is located within the South Central Plains Level III Ecoregion. Based on field survey, five vegetation types were identified within the existing and proposed ROW: Existing Mowed and Maintained ROW; Wet Savanna, Swamp

& Baygall; Mixed Woodlands and Forests (consisting of Upland Hardwood Forest, Forested Wetlands), Urban, and Riparian.

Unusual vegetation features identified within the project area include unmaintained vegetation and riparian vegetation (within most of the proposed ROW). Bottomland hardwoods, a special habitat feature, are present within the project ROW along the East Fork of the San Jacinto River. Active cliff swallow nests were observed under bridges at Fostoria Road, the South Fork of the San Jacinto River, and SH 105 bypass.

This project is subject to and will comply with federal Executive Order 13112 on Invasive Species. The department implements this Executive Order on a programmatic basis through its Roadside Vegetation Management Manual and Landscape and Aesthetics Design Manual.

This project is subject to and will comply with the federal Executive Memorandum on Environmentally and Economically Beneficial Landscaping, effective April 26, 1994. The department implements this Executive Memorandum on a programmatic basis through its Roadside Vegetation Management Manual and Landscape and Aesthetics Design Manual.

5.11.1.1 *Environmental Consequences*

Implementation of the Build Alternative would result in a combined total of up to approximately 79.18 acres of permanent vegetation impacts and approximately 85.46 acres of temporary vegetation impacts. Permanent impacts would result from the construction of the additional paved areas and bridges and construction of the proposed detention pond. No temporary impacts to woody vegetation or wetlands are anticipated since construction activities would require clearing of these vegetated areas; some areas would be re-vegetated but not reestablished to their current vegetative state. However, acreages of actual impacts may be less since TxDOT would attempt to only clear the minimum area necessary to maintain construction areas and clear zones.

Table 5-8, it is estimated that permanent vegetation impacts would consist of approximately 48.78 acres of existing Mowed and Maintained ROW; 0.39 acre of Wet Savanna, Swamp, Baygall; 24.89 acres of Mixed Woodlands and Forests; 0.92 acre of Urban area; and 4.2 acres of Riparian vegetation. Approximately 85.46 acres of temporary impacts to existing mowed and maintained ROW are also anticipated.

Table 5-8. Estimated Impacts

MOU Type or Features	Anticipated Impact Type & Estimated Acreage of Impact					
	Existing ROW		Proposed ROW (Roadway)		Proposed ROW (Detention Pond)	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Mowed and Maintained ROW	85.46	48.78	0	0	0	0
Wet Savanna, Swamp, Baygall	0	0	0	0.39	0	0
Mixed Woodlands and Forest	0	2.23	0	17.66	0	5.0
Urban	0	0	0	0.92	0	0
Riparian	0	0	0	4.2	0	0

MOU Type or Features	Anticipated Impact Type & Estimated Acreage of Impact					
	Existing ROW		Proposed ROW (Roadway)		Proposed ROW (Detention Pond)	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
TOTALS:	85.46	51.01	0	23.17	0	5.0
Floodplain	137.70		19.45		0	0
Unusual Vegetation Features						
Unmaintained Vegetation	0.0	2.23	0.0	17.66	0	5.0
Special Habitat Features						
Bottomland Hardwoods	0	1.2	0	15.17	0	0
Bridges with Observed Bird Colonies	Fostoria Road, the South Fork of the San Jacinto River, and the SH 105 bypass. BMPs would be implemented to avoid impacts to migratory birds.				None	

Notes: At this time, it is assumed that TxDOT would clear all vegetation within the ROW but during construction would attempt to only clear the minimum area necessary to maintain construction areas (particularly in the detention areas). Therefore, impacts presented are a *conservative*, maximum estimate.
Due to the Mixed Woodlands and Forests being 'unmaintained', they are considered an unusual vegetation feature, and thus their acreages are identical.

The proposed project was evaluated against TPWD triggers for coordination with the agency. Several triggers would be met by the project and, therefore, coordination with TPWD is required.

5.11.1.2 *Impacts of the No Build Alternative*

If the No Build Alternative were implemented, the existing facility would continue to be mowed and maintained (where applicable) at current maintenance intervals. The habitat in the unmaintained sections of the proposed ROW would change with normal biological succession. The No Build Alternative would not result in any conversion of vegetated land to transportation use.

5.11.1.3 *Encroachment Alteration Effects*

Development in general encroaches on vegetation, and reductions in vegetation typically equate to reduced wildlife habitat. For this project, impacts to habitat would be limited to the area of direct impacts, and no encroachment impacts would be expected. The limited direct impacts on vegetation would not be expected to adversely affect the populations of any wildlife species in the area, nor is it expected that there would be indirect impacts to such species elsewhere as a result of habitat removal. Mitigation will be required for jurisdictional wetlands vegetation that is likely within the same or similar habitat. Furthermore, the existing habitats have been fragmented by the other surrounding commercial and residential properties. Due to the close interconnectivity of the proposed project, further habitat fragmentation resulting from impacts of the proposed project would not be expected beyond what already exists.

5.11.2 Wildlife

5.11.2.1 *Existing Conditions*

The project area lies within the Austroriparian biotic province. Wildlife observed in the field during site observations include the American bullfrog (*Rana catesbeiana*), an unidentified snake species, an unidentified egret, a rabbit, and various frogs, songbirds, and juvenile fishes. Further details

regarding wildlife and threatened and endangered species within the US 59 project area are presented in the *Biological Resources Technical Report* (April 2017).

Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act of 1918 (MBTA) states that it is unlawful to kill, capture, collect, possess, buy, sell, trade, or transport any migratory bird, nest, or egg in part or in whole, without a federal permit issued in accordance with the Act's policies and regulations. Cursory nest surveys were conducted during initial environmental investigations in May of 2013, October and November of 2014. Field reconnaissance identified no migratory bird nests within the proposed project limits, except for the presence of active Cliff Swallow nests at the existing bridges at Fostoria Road, the South Fork of the San Jacinto River, and SH 105 bypass. No visual evidence of bat colonies was noted during field investigations. However, the potential exists for future avian and bat colony use of the existing bridges. The surrounding woods and forest provide potential nesting habitat for other migratory birds.

Bald and Golden Eagle Protection Act of 1940, as amended

This act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. No active or suitable nesting sites were observed within the project limits, specifically because the trees available are too young to support a nest, have an obstructed flight path, and too far from a quality water body of sufficient size and access (wide enough) to support active hunting. The East Fork of the San Jacinto River would not be considered a preferred hunting habitat because of a restricted flight path and dense overgrowth preventing birds from sighting potential prey.

Essential Fish Habitat (EFH)

The Magnuson-Stevens Fishery Conservation and Management Act, as amended on October 11, 1996, requires all federal agencies whose actions would impact essential fish habitat (EFH) to consult with the National Marine Fisheries Service (NMFS) regarding potential adverse effects. The proposed project does not contain tidally influenced waters. Therefore, the requirements of the Magnuson-Stevens Fishery Management and Conservation Act do not apply.

5.11.2.2 *Environmental Consequences*

Implementation of the proposed Build Alternative is likely to have some temporary impacts on local wildlife individuals (as opposed to entire species), primarily during construction since animals could potentially be injured or killed by construction equipment. Some isolated impacts could result as individual animals are struck by vehicles in the additional, new lanes. Substantial fragmentation of existing habitat would not occur since the project area is already bisected by US 59 and SH 105. This habitat is not unique to the area nor does it provide habitat for any listed threatened or endangered species. No notable wildlife or tracks were observed during field reconnaissance activities.

In accordance with the MBTA, measures such as additional surveys prior to construction to ensure active nests are not present would be taken prior to vegetation clearing and bridge and culvert reconstruction, which would avoid harm to these species. If nests, eggs or young are present, no work would occur in that area during the nesting and breeding season (March 1 through September 30). The proposed project is not anticipated to have an effect on migratory birds (including their migration patterns), their nests, or their young.

The project would have no impact on Bald or Golden Eagles, since no active or suitable nesting sites or preferred hunting habitat were observed within the project limits.

5.11.2.3 *Impacts of the No Build Alternative*

The No Build Alternative would not require new ROW. Therefore, the existing US 59 facility would continue to have the impacts typically associated with a highway (e.g., occasional roadkill). No impacts to migratory birds, including Bald or Golden Eagles would be anticipated.

5.11.2.4 *Encroachment Alteration Effects*

The effects of removing areas of particular importance as wildlife habitat would not extend beyond the conditions present within the proposed project construction footprint. Development in general encroaches on vegetation, and reductions in vegetation typically equate to reduced wildlife habitat. Impacts to habitat would be limited to the area of direct impacts, and no encroachment impacts would be expected. The limited direct impacts on vegetation would not be expected to adversely affect the populations of any wildlife species in the area, nor is it expected that there would be indirect impacts to such species elsewhere as a result of habitat removal. Mitigation will be required for jurisdictional wetlands vegetation that is likely within the same or similar habitat. Furthermore, the existing habitats have been fragmented by the other surrounding commercial and residential properties. Due to the close interconnectivity of the proposed project, further habitat fragmentation resulting from impacts of the proposed project would not be expected beyond what already exists.

5.11.3 Threatened and Endangered Species

The Endangered Species Act of 1973 (ESA) assigns the responsibility of enforcement to the Secretary of the Interior and the USFWS. Chapters 68 and 88 of the TPWD code address TPWD's responsibilities regarding state-listed threatened and endangered species. TPWD and the USFWS identify several threatened or endangered species and SGCN that may occur within Liberty and Montgomery Counties. The proposed project area, which is defined for the threatened and endangered species assessment as the proposed project ROW, was evaluated using both the USFWS and TPWD lists of federally- and state-listed threatened and endangered species as required by the TxDOT and TPWD MOU. The MOU includes reviewing the TPWD Texas NDD, which manages and disseminates scientific information on rare species, native plant communities, and animal aggregations for defensible, effective conservation action. The federal and state listed status and anticipated effect to each species are presented in the *Biological Resources Technical Report* (April 2017). No federal or state listed threatened and endangered species were present within the project area during field surveys.

5.11.3.1 *Environmental Consequences*

Field surveys conducted on May 22, 2013, October 30-31 and November 18 and 26, 2014, and December 29, 2015, did not result in the observance of any listed species or their habitat, with the exception of the potential habitat for the following: Plains Spotted Skunk, Rafinesque's Big-eared Bat, Southeastern Myotis Bat, four mollusk species (Louisiana Pigtoe, Sandbank Pocketbook, Texas Heelsplitter, and Texas Pigtoe), Alligator Snapping Turtle, Timber Canebrake Rattlesnake, and three plant species (Cypress knee sedge, Florida pinkroot, and Marsh-elder dodder). These listed species and applicable BMPs to be utilized are further addressed in the Biological Resources Technical Report (April 2017) and are summarized in 5-9.

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Table 5-9. Potential Listed Species and Applicable BMPs

Common Name (Status)	Scientific Name	BMP
Southern Crawfish Frog (SGCN)	*Lithobates areolatus*	No BMP yet exists for this species.
Swallow-tailed Kite (State Threatened)	*Elanoides forficatus*	Bird BMPs: • Not disturbing, destroying, or removing active nests, including ground nesting birds, during the nesting season; • Avoiding the removal of unoccupied, inactive nests, as practicable; • Preventing the establishment of active nests during the nesting season on TxDOT owned and operated facilities and structures proposed for replacement or repair; Not collecting, capturing, relocating, or transporting birds, eggs, young, or active nests without a permit.
White-faced Ibis (State Threatened)	*Plegadis chihi*	
Creek Chubsucker (State Threatened)	*Erimyzon oblongus*	Fish BMPs: For projects within range of a SGCN or State-Listed fish and work is in the water: TPWD coordination required.
Paddlefish (State Threatened)	*Polyodon spathula*	
Gulf Coast Clubtail (SGCN)	*Gomphus modestus*	No BMP yet exists for this species.
Plains Spotted Skunk (SGCN)	*Spilogale putorius interrupta*	Advise contractors of potential occurrence in the project area, to avoid harming the species if encountered, and to avoid unnecessary impacts to dens.
Rafinesque's Big-eared Bat (State Threatened)	*Corynorhinus rafinesquii*	Tree Bat BMPs: large hollow trees would be surveyed for maternity colonies and, if found, should not be disturbed until after the pups fledge
Southeastern Myotis Bat (SGCN)	*Myotis austroriparius*	Bridge Bat BMPs: survey would be conducted by a qualified biologist to determine if bats are present. If present, appropriate measures would be taken as practical to ensure that bats are not harmed such as exclusion or timing activities. For maternity colonies, exclusion activities should be timed to avoid separating lactating females from nursing pups
Louisiana Pigtoe, Sandbank Pocketbook, Texas Heelsplitter, Texas Pigtoe, & Triangle Pigtoe (State Threatened)	*Fusconaia askewi, Fusconaia flava, Villosa lienosa, Truncilla donaciformis, & Fusconaia lananensis*	Freshwater mussel BMPs: 1) When work is in the water, survey project footprints for state listed species where appropriate habitat exists; 2) When work is in the water and mussels are discovered during surveys, relocate state listed and SGCN mussels under TPWD permit and implement Water Quality BMP's; 3) When work is adjacent to the water, implement Water Quality BMPs as part of the SW3P for a CGP or any conditions of the Section 401 water quality certification for the project.
Alligator Snapping Turtle (State Threatened)	*Macrochelys temminckii*	Minimize impacts to wetland and riverine habitats to the maximum extent practicable, and advise contractors of the turtle's potential occurrence in the project area and to avoid harming the species if encountered.
Timber/Canebrake Rattlesnake (State Threatened)	*Crotalus horridus*	Advise contractors of the species' potential presence and to avoid harming the species if encountered (i.e., stop work in the area and either see that the individual moves away from the area, or call a specialist to

Common Name (Status)	Scientific Name	BMP
		move an individual or nest to a similar area beyond the construction area).
Cypress knee sedge, Florida pinkroot, & Marsh-elder dodder (SGCN)	*Carex decomposita, Spigelia texana, & Cuscuta attenuata*	Specific BMPs for the plant species have not been established. Standard applicable vegetation BMPs: Minimize the amount of vegetation proposed for clearing. Avoid removal of native vegetation to the greatest extent practicable. Wherever practicable, replace impacted vegetation with in-kind on-site replacement/restoration of native vegetation. Discourage use of non-native vegetation in landscaping and revegetation; use locally adapted native species (including seed mix).

Source: Best Management Practices – Programmatic Agreement between Texas Department of Transportation and Texas Parks and Wildlife Department under the 2013 MOU.

A check of the TPWD Texas Natural Diversity Database (TXNDD) MIMIC version, conducted on January 2017, found no element of occurrence record (EOR) for any listed threatened and/or endangered species within a 1.5-mile radius of the proposed project. According to the TXNDD, the project is approximately 4.1 miles from the Sam Houston National Forest Wildlife Management Area (WMA) and 8.8 miles from the Lake Houston State Park WMA. Due to the distance from the proposed project to the forest and park properties, no impacts to these WMAs are anticipated.

Findings from field surveys and review of available records, as well as proposed implementation of appropriate species-specific BMPs, indicate that the proposed project would have no effect on any federally-listed threatened or endangered species and no impact on any state-listed species. Although the project is within the range of a state threatened or endangered species or SGCN and there is suitable habitat, TPWD coordination will not be required for species with BMPs. Should any of these species be encountered, appropriate BMPs would be implemented. However, several SGCN species (Southern Crawfish Frog, Gulf Coast Clubtail, Cypress knee sedge, Florida pinkroot, and Marsh-elder dodder) do not yet have BMPs in place. Therefore, coordination with TPWD will be required for those species. Since the proposed project would have no effect on any federally-listed species, coordination with the USFWS is not required.

5.11.3.2 *Impacts of the No Build Alternative*

The No Build Alternative would not require any construction work and, therefore, would have no effect on any federally- or state-listed threatened or endangered species or SGCN.

5.11.3.3 *Encroachment Alteration Effects*

The proposed project would not alter the hydrologic regime or reduce diversity within the ecosystem. Indirect effects to vegetation and wildlife habitat as a result of the proposed project would be anticipated to be minimal.

5.12 Air Quality

5.12.1 Existing Conditions

The proposed project is located within Liberty and Montgomery Counties, Texas which is part of the H-GAC and Houston-Galveston-Brazoria area that has been designated by the EPA as a moderate nonattainment area for the 2008 Ozone National Ambient Air Quality Standard (NAAQS); therefore, transportation conformity rules apply. The proposed project is currently included in H-GAC's

financially constrained 2040 Regional Transportation Plan (RTP) and 2017-2020 Transportation Improvement Program (TIP) (Appendix E), which were initially found to conform to the TCEQ State Implementation Plan (SIP) by FHWA and Federal Transit Authority (FTA) on September 11, 2015 and December 19, 2016, respectively. The *Air Quality Technical Report* dated March 2017, is on file TxDOT.

5.12.2 Environmental Consequences

Traffic data for the estimated time of completion (ETC) year 2020 and design year 2040 traffic is 45,400 vehicles per day (VPD) and 61,800 VPD, respectively. A prior TxDOT modeling study and previous analyses of similar projects demonstrated that it is unlikely that the carbon monoxide (CO) standard would ever be exceeded as a result of any project with an average annual daily traffic (AADT) below 140,000.

The amount of mobile source air toxics (MSATs) emitted would be proportional to the vehicle miles traveled (VMT), assuming that other variables such as fleet mix are the same for Build and No Build alternatives. The VMT estimated for the Build Alternative is expected to be slightly higher than the No Build Alternative, because the additional roadway capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSAT emissions for the Build alternative along the highway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to EPA's MOVES2014 model, emissions of all of the priority MSAT decrease as speed increases. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The additional travel lanes contemplated as part of the project would have the effect of moving some traffic closer to nearby homes, churches, and businesses. Therefore, under the Build Alternative there may be localized areas where ambient concentrations of MSAT could be higher than the No Build Alternative. The additional travel lanes will have the effect of moving some traffic closer to nearby homes, and businesses; therefore, under the Build Alternative there may be localized areas where ambient concentrations of MSAT could be higher under the Build Alternative than the No Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the expanded roadway sections that would be built along the southbound frontage roads. However, the magnitude and the duration of these potential increases compared to the No Build alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. In sum, when a highway is widened, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over

time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

In the FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated the proposed project. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with the proposed project. A full qualitative MSAT analysis is included in the *Air Quality Technical Report* (March 2017).

As discussed in the *Air Quality Technical Report* (March 2017), the congestion management process (CMP) congestion mitigation analysis indicates the Level of Service (LOS) for the proposed project will not deteriorate enough to justify adding capacity. US 59 has been designated an interstate highway (I-69); therefore, additional roadway capacity is warranted to bring the facility up to interstate highway standards. Therefore, the proposed project is justified. The CMP analysis for added single occupancy vehicle (SOV) capacity projects in the Transportation Management Area (TMA) is on file and available for review at H-GAC.

5.12.3 Impacts of the No Build Alternative

Although implementation of the No Build Alternative would be anticipated to result in increased congestion as a result of future traffic volumes, the overall trend of improving air quality in the region is expected to continue.

5.12.4 Encroachment Alteration Effects

Encroachment alteration effects to air quality are generally evaluated using a series of analyses when applicable: consistency with the regional conformity analysis, a CO traffic air quality analysis (TAQA), and a hot-spot analysis for criteria pollutants; and an MSAT analysis for air toxics. This project did not rise to the level of needing a CO TAQA or hot-spot analysis; however, the project does has to be consistent with the regional conformity analysis for the area which will be documented in a conformity report form, and a qualitative MSAT analysis is included in the *Air Quality Technical Report* (March 2017).

5.13 Hazardous Materials

This section describes baseline conditions and potential environmental impacts or effects of hazardous materials on the Build and No Build Alternatives of the proposed project. The information presented herein has been summarized primarily from the *Initial Site Assessment (ISA) Addendum* report issued in February 2017. The term "hazardous materials" refers to a broad category of hazardous wastes, hazardous substances and toxic chemicals that can negatively impact human health or the environment. Examples of potential hazardous materials sites include, but are not limited to, sites such as gasoline service stations, landfills, salvage yards, industrial sites, and other sites impacted by soil and groundwater contamination. A review of selected environmental regulatory environmental databases was conducted to determine the potential for hazardous material issues within and near the proposed project area. The review of the environmental regulatory databases was performed in general accordance with the ASTM Standard E1527-13 and TxDOT guidelines, which defines the environmental record sources to be reviewed and their minimum search distances.

5.13.1 Existing Conditions

The *ISA Addendum* report (February 2017) provided updated information pertaining to regulated facilities described by the approved ISA dated 2013 and the 20 federal and state-listed facilities within the ASTM standard search radius of the proposed US 59 improvement project area. This section summarizes the findings of the Addendum Report and describes the evaluation and analysis conducted to identify sites with the potential to affect the project. The evaluation of the sites was based on the review of available information presented by the Banks Environmental Data Regulatory Database Report and observations made in December 2016 during limited field investigations conducted along the proposed project ROW. The location of the regulated sites was refined during the field investigations and only parcels located within and adjacent to the proposed project were included in the additional review and evaluation. Using this methodology, a focused evaluation of the current land use and regulatory status of the recorded sites was conducted for the project limits. In addition, each of the sites located within and adjacent to the proposed project was evaluated so that an understanding of potential issues that could be encountered during construction activities was identified.

5.13.2 Environmental Consequences

Environmental impacts generated from hazardous materials in the project area would be associated with current or historical facilities that have impacted or have the potential to impact the environment. Facilities or regulated sites within the ROW would need to be acquired if a Build Alternative is selected. Additional investigation would be conducted at sites or facilities with known or potential hazardous materials impacts. The potential for encountering hazardous materials during construction would be identified during this assessment as well as any required sampling, analysis, remediation and soil/groundwater management.

After ROW acquisition, during construction of the proposed project, there is a possibility that hazardous materials impacts on or near existing hazardous materials sites may occur in areas adjoining mapped and identified contaminant migration areas. In particular, the following facilities or areas are located in the vicinity of proposed ROW acquisition and additional information may be required to evaluate the potential presence of hazardous materials released to the environment:

- US 69 Food Mart (former Texan Fuel Stop) at 2154 US 59 South in Cleveland, Texas
- Lambert's Ready Mix 3 at 3312 US 59 South in Cleveland, Texas
- Southern Pacific Train Derailment and Solvent Spill at State Highway 105 at Railroad Milepost 40.6 in Cleveland, Texas and Restricted Land Use Area

Appendix F, Figure 1 provides the location of the facilities and areas of concern identified above.

The proposed project would include construction of at-grade and elevated (bridge) sections with retaining walls and bridge supports; relocation and installation of utilities; demolition of structures, including buildings; and related activities that would require excavation, mixing, stockpiling, testing, and management of natural soils and fill material including soils and sediments. Excavation may increase the potential of encountering hazardous material contamination during construction. Additional subsurface environmental investigations would be conducted to determine whether possible contamination might be encountered during construction. If hazardous constituents were

confirmed, then appropriate soils and/or groundwater management plans for activities within these areas would be developed.

The proposed project would require the demolition of building structures and the demolition or renovation of existing bridge structures that may contain asbestos and/or lead-based paint. Asbestos issues would be addressed during ROW acquisition, prior to construction, and applicable asbestos inspections, specification, notification, license, accreditation, abatement, and disposal would be in compliance with federal, state, and local regulations. Prior to project letting, structures to be demolished would be analyzed for the presence or absence of lead-based paint. The presence or absence of lead-based paint on structures to be demolished would be determined through testing or process knowledge prior to project letting. If lead-based paint is discovered, contingencies would be developed to address worker safety, material recycling, and proper management and disposal of any paint-related wastes, as necessary. As a result, further investigation would be conducted prior to the acquisition of properties.

Storage and use of hazardous materials would be necessary during construction of the proposed project. For example, temporary aboveground storage tanks (ASTs) containing oil and diesel for on-site equipment and vehicles would be regulated and require control measures for spills and leaks. In addition, potential impacts from spills and leaks from fueling and maintenance of equipment and vehicles could occur on-site. These impacts would be minimized and best management practices (BMPs) would be implemented to reduce these types of impacts during construction. In addition, activities associated with the use and storage of hazardous materials would be required to conform to TxDOT standards for spill containment and control strategies.

Operations of the proposed project would include roadway and landscape maintenance, accident and emergency response including debris and spill cleanup, guardrail, pavement and bridge painting, and other activities as needed. None of the anticipated activities associated with highway operation for any of the build alternatives would be expected to result in adverse impacts from use of hazardous materials, or be affected by the presence of existing hazardous materials.

Based on the final engineering design drawings and prior to construction occurring, targeted subsurface investigations may be needed to determine potential hazardous materials impacts to the proposed construction.

5.13.3 Impacts of the No Build Alternative

The No Build Alternative would not result in hazardous materials impacts associated with the construction or operation of the proposed project. The No Build Alternative would provide no immediate changes to the land surface elevation, no excavation or soil exposure would occur, the landscape would remain unaltered, support structures would not be installed, surface water quality would not be potentially subjected to discharge of dust or soils generated during construction, pipelines and utilities would not be relocated or abandoned and large-scale earthmoving would not occur. On-going or planned remedial action, corrective actions and site cleanups to be administered or under the jurisdiction of existing regulatory processes would occur.

5.13.4 Encroachment Alteration Effects

Encroachment alteration effects are those that affect the functions of the natural or human environment due to proposed project features. Hazardous materials are not considered to be a natural or human environment, or a function of the natural or human environment. Therefore, encroachment alteration effects relative to hazardous materials would not occur for the proposed project.

5.14 Traffic Noise

5.14.1 Environmental Consequences

Sound from highway traffic is generated primarily from a vehicle's tires, engine and exhaust. It is commonly measured in decibels and is expressed as "dB."

Sound occurs over a wide range of frequencies. However, not all frequencies are detectable by the human ear; therefore, an adjustment is made to the high and low frequencies to approximate the way an average person hears traffic sounds. This adjustment is called A-weighting and is expressed as "dB(A)."

Also, because traffic sound levels are never constant due to the changing number, type and speed of vehicles, a single value is used to represent the average or equivalent sound level and is expressed as "Leq."

The traffic noise analysis typically includes the following elements:

- Identification of land use activity areas that might be impacted by traffic noise.
- Determination of existing noise levels.
- Prediction of future noise levels.
- Identification of possible noise impacts.
- Consideration and evaluation of measures to reduce noise impacts.

The FHWA has established the following Noise Abatement Criteria (NAC) for various land use activity areas that are used as one of two means to determine when a traffic noise impact would occur (Table 5-10).

Table 5-10. Noise Abatement Criteria

Activity Category	FHWA dB(A) Leq	Description of Land Use Activity Areas
A	57 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Residential.

Activity Category	FHWA dB(A) Leq	Description of Land Use Activity Areas
C	67 (exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F.
F	--	Agricultural, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	--	Undeveloped lands that are not permitted.

A noise impact occurs when either the absolute or relative criterion is met:

Absolute criterion: the predicted noise level at a receiver approaches, equals or exceeds the NAC. "Approach" is defined as one dB(A) below the FHWA NAC. For example: a noise impact would occur at a Category B residence if the noise level is predicted to be 66 dB(A) or above.

Relative criterion: the predicted noise level substantially exceeds the existing noise level at a receiver even though the predicted noise level does not approach, equal, or exceed the NAC. “Substantially exceeds” is defined as more than 10 dB(A). For example: a noise impact would occur at a Category B residence if the existing level is 54 dB(A) and the predicted level is 65 dB(A).

When a traffic noise impact occurs, noise abatement measures must be considered. A noise abatement measure is any positive action taken to reduce the impact of traffic noise on an activity area.

The FHWA traffic noise modelling software was used to calculate existing and predicted traffic noise levels. The model primarily considers the number, type, and speed of vehicles; highway alignment and grade; cuts, fills, and natural berms; surrounding terrain features; and the locations of activity areas likely to be impacted by the associated traffic noise. Twelve existing residences located along US 59 were modelled (Table 5-12 and Appendix F, Figure 4). As indicated in Table 5-12, eight of the 12 modelled receiver locations would experience noise levels in excess of the Absolute Noise Abatement Criteria for residences.

5.14.2 Encroachment Alteration Effects

Table 5-11 shows the traffic data utilized in the US 59 traffic noise models, as provided by TxDOT.

Table 5-11. Average Daily Traffic

Roadway	Speed Limit (mph)	K-Factor	2017 (vpd)	2040 (vpd)	Light Duty	Medium Duty
US 59 From Montgomery County Line to ~5,800 feet North of SH 105	65	0.097	45,400	61,800	86.6%	4.5%

Existing and predicted traffic noise levels were modelled at receiver locations (Table 5-12 and Appendix F, Figure 4) that represent the land use activity areas adjacent to the proposed project that might be impacted by traffic noise and potentially benefit from feasible and reasonable noise abatement.

Table 5-12. Traffic Noise Levels dB(A) Leq

Representative Receiver	NAC Category	NAC Level	Existing	Predicted 2040	Change (+/-)	Noise Impact
R1 Residence	B	67	64	66	+2	Yes
R2 Residence	B	67	66	68	+2	Yes
R3 Residence	B	67	65	67	+2	Yes
R4 Residence	B	67	68	68	+/-0	Yes
R5 Residence	B	67	68	68	+/-0	Yes
R6 Residence	B	67	68	68	+/-0	Yes
R7 Residence	B	67	63	65	+2	No
R8 Residence	B	67	66	74	+8	Yes
R9 Residence	B	67	66	68	+2	Yes
R10 Residence	B	67	64	64	+/-0	No
R11 Residence	B	67	59	61	+2	No
R12 Residence	B	67	55	57	+2	No

5.14.2.1 *Traffic Noise Mitigation*

The proposed project would result in traffic noise impacts and the following noise abatement measures were considered: traffic management, alteration of horizontal and/or vertical alignments, acquisition of undeveloped property to act as a buffer zone and the construction of noise walls.

R1 – R6: These receivers represent a total of 6 residences with driveways facing US 59. Continuous noise walls would restrict access to these residences. Gaps in a noise wall would satisfy access requirements but the resulting non-continuous wall segments would

not be sufficient to achieve the minimum, feasible reduction of 5 dB(A) or the noise reduction design goal of 7 dB(A).

R8 – R9: These receivers are separate, individual residences. Noise walls that would achieve the minimum feasible reduction of 5 dB(A) while achieving a 7 dB(A) noise reduction design goal at each of these receivers would exceed the reasonable, cost-effectiveness criterion of $25,000.

None of the above noise abatement measures would be both feasible and reasonable; therefore, no abatement measures are proposed for this project.

To avoid noise impacts that may result from future development of properties adjacent to the project, local officials responsible for land use control programs must ensure, to the maximum extent possible, no new activities are planned or constructed along or within the following predicted (2040) noise impact contours (see Table 5-13 and Traffic Noise Impacts Map).

Table 5-133. Land Use Contours for Undeveloped Land

Land Use	Land Use Contour	Distance from Right-of-Way
NAC Category B & C, South of SH 105	66 dB(A)	279 Feet
NAC Category E, South of SH 105	71 dB(A)	105 Feet
NAC Category B & C, North of SH 105	66 dB(A)	106 Feet
NAC Category E, North of SH 105	71 dB(A)	262 Feet

Noise associated with the construction of the project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable. None of the receivers are expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities is not expected. Provisions will be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.

A copy of this traffic noise analysis will be available to local officials. On the date of approval of this document (Date of Public Knowledge), FHWA and TxDOT are no longer responsible for providing noise abatement for new development adjacent to the project.

5.14.3 Impacts of the No Build Alternative

If the No Build Alternative were implemented, noise levels would be expected to increase with an associated increase in future traffic volumes.

5.15 *Induced Growth*

An *Indirect and Cumulative Impact Technical report* (March 2017) was developed to analyze potential induced growth impacts for the proposed project. In order to determine the likelihood of the proposed project to induce growth, TxDOT's July 2016 Guidance on Indirect Impacts Analysis (TxDOT

2016a) and the Risk Assessment Tool (TxDOT 2014) were used as the first step in evaluating whether the proposed project could induce growth as a result of the proposed project.

As discussed in Section 5.2.4, the AOI for induced growth effect analysis encompasses a total of approximately 27,295 acres, which includes areas of potential growth and development. The AOI boundaries are shown in Figure 5 of the *Indirect and Cumulative Impact Technical report*. The AOI represents the geographical area where indirect effects related to project-influenced development and land use changes will likely occur. The extent of the AOI coincides with the TAZs that are touching or in close proximity to the proposed project. TAZs are geographic areas that are used for land use projections, traffic demand modeling, and transportation planning at the local level. The TAZs within the AOI for the proposed project also follow existing physical boundaries such as bayous and other water features in the AOI. This area is larger than the general limits of the induced development discussed in National Cooperative Highway Research Program (NCHRP) Report 466 Desk Reference for Estimating Indirect effects of the Proposed Transportation Projects, but represents a reasonable travelshed for project corridor (NCHRP).

Based on evaluation for each screening question from the Indirect Effects Analysis Risk Assessment Tool, it was determined that an induced growth analysis was not warranted. The primary reasons for the conclusion of no induced development were: (1) The proposed project is not proposed due to economic development or a specific land development, (2) Although vacant land is available in the AOI for development, many areas are within the 100-year floodplain or have mapped wetlands making development more costly and challenging, (3) the project does increase mobility; however, the proposed project would not substantially change traffic patterns, the only substantial change in access would be the new continuous southbound frontage roads, but the northbound frontage road in constrained due by the UPRR, (4) According to a local planning study there are many constraints to development in the project area due to local planning decisions and regulations including infrastructure challenges

5.15.1 Environmental Consequences

As the result of the screening questions from the risk assessment form it was determined the proposed project would not result in substantial changes in access or travel patterns within the project area. The new continuous southbound frontage road would increase access to adjacent properties. However, access to the east of the northbound frontage road is constrained by the UPRR corridor.

Considering development trends, the 100-year floodplain, the existing UPRR adjacent to the US 59 northbound frontage road, and obstacles to development described in the City of Cleveland ETJ study, the proposed project would not be expected to induce more than a minor amount of development.

5.15.2 Impacts of the No Build Alternative

Induced growth impacts are not expected as a result of the No Build Alternative.

5.16 Cumulative Impacts

An *Indirect and Cumulative Impact Technical Report* dated March 2017 was developed to analyze potential cumulative impacts for the proposed project. In order to determine the cumulative impacts,

TxDOT's July 2016 Guidance on Cumulative Analysis (TxDOT 2016a) and the Risk Assessment Tool (TxDOT 2014) were used as the first step in evaluating whether the proposed project would have cumulative impacts.

According to TxDOT's July 2016 Cumulative Impacts Analysis Guidelines (TxDOT 2016b), if a project does not cause direct or indirect impacts on a resource, it will not contribute to a cumulative impact on that resource. Table 2 in the *Indirect and Cumulative Impact Technical* report includes direct and indirect impacts for each resource category for the Build Alternative and whether the resource is in poor or declining health or at risk. Resources substantially impacted by the proposed project or those that are currently in poor or declining health or at risk, even if proposed project impacts (either direct or indirect) are relatively small; only those resources meeting these criteria are brought forward for further analysis of cumulative effects.

5.16.1 Environmental Consequences

The proposed project would not result in substantial direct, indirect or induced impacts to any resource; therefore, no resources or subject matters were examined in further detail than as shown in the Cumulative Impacts table. Implementing best management practices for water quality and wildlife species would help ensure that the proposed project would not substantially impact natural, human, and physical resources in the project area. Therefore, no further cumulative effects analysis is required.

5.16.2 Impacts of the No Build Alternative

Cumulative impacts are not expected as a result of the No Build Alternative.

5.17 Construction Phase Impacts

5.17.1 Environmental Consequences

Potential short-term economic, employment, and tax revenue impacts, or those occurring during the construction period, would be both positive and negative. Positive impacts may result from the sizeable engineering and construction expenditures and short-term construction employment including potential employment of some area residents. It is anticipated that a portion of the construction wages would be spent on goods and services provided by local businesses. Short-term negative impacts may result from the removal of undeveloped properties from the tax rolls. The impact on the tax base could be offset and augmented with new construction values over the long term if growth and development occur in the local tax jurisdictions.

Traffic control during project construction would be in accordance with Part VI (Traffic Controls for Street and Highway Construction and Maintenance Operations) of the 2011 Texas Manual on Uniform Traffic Control Devices. During construction, travel lanes in each direction would be maintained. However, short-term lane closures may occur during off-peak hours. Access to adjacent property would be maintained during construction. Street intersections would be constructed in phases to maintain through traffic.

During the construction phase of this project, temporary increases in PM and MSAT emissions may occur from construction activities. The primary construction-related emissions of PM are fugitive dust from site preparation, and the primary construction-related emissions of MSAT are diesel particulate matter from diesel powered construction equipment and vehicles.

The potential impacts of particulate matter emissions would be minimized by using fugitive dust control measures contained in standard specifications, as appropriate. The Texas Emissions Reduction Plan (TERP) provides financial incentives to reduce emissions from vehicles and equipment. TxDOT encourages construction contractors to use this and other local and federal incentive programs to the fullest extent possible to minimize diesel emissions. Information about the TERP program can be found at: http://www.tceq.state.tx.us/implementation/air/terp/.

However, considering the temporary and transient nature of construction-related emissions, the use of fugitive dust control measures, the encouragement of the use of TERP, and compliance with applicable regulatory requirements; it is not anticipated that emissions from construction of this project would have any significant impact on air quality in the area.

The effect on mobility of the elderly and handicapped would be negligible. Emergency services ability to use the existing US 59 roadway would remain unchanged throughout construction of the proposed project.

Noise associated with the construction of the project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable.

None of the receivers are expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities is not expected. Provisions will be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.

6.0 Agency Coordination

TxDOT has or will initiate coordination with TPWD, USFWS, Coast Guard, NRCS, THC, H-GAC, TCEQ, USACE and EPA during the development of the proposed project. Coordination is described in the Table 6-1. Agency coordination documentation is included in Appendix E and G.

Table 6-1. Coordinating Agencies

Agency	Type of Coordination	Date of Coordination
TPWD	TxDOT-TPWD MOU	TBD
TCEQ	TxDOT-TCEQ MOU	TBD
USFWS	Threatened and Endangered Species List	January 2017
Coast Guard	Coast Guard Questionnaire	November 2016
NRCS	Farmland Conversion Impact Rating for Corridor Type Projects	February 2015 and February 2016
THC	Section 106	January 2017
H-GAC	CMP and RTP	December 2016
TCEQ	Notice of Intent, Stormwater Permit	TBD

Agency	Type of Coordination	Date of Coordination
USACE	Individual Permit	TBD
EPA	Individual Permit and Water Quality Certification	TBD

7.0 Public Involvement

Public outreach activities, including two public meetings, have been conducted by TxDOT for the proposed project. TxDOT plans to publish a notice affording an opportunity for a public hearing for this project.

7.1 Public Meetings

On May 14, 2013, TxDOT held a public meeting at the Cleveland Civic Center, 210 Peach Avenue, Cleveland, Texas 77327, from 4:00 p.m. to 7:00 p.m. The public meeting was held in an open house format that included a handout and opportunities for the public to ask questions and submit comments. Comments were also accepted until May 24, 2013. Twenty-two comments were received (including one written comment received after the comment period).

On November 19, 2015, TxDOT held a second public meeting at the Cleveland Civic Center, 210 Peach Avenue, Cleveland, Texas 77327, from 5:00 p.m. to 7:00 p.m. The public meeting was held in an open house format with handouts and opportunities for the public to ask questions and submit comments. Comments were accepted at the meeting and by mail until November 30, 2015. Five comments were received. Comments received as a result of the public meetings and responses to these comments are included in the Public Meeting summaries, available the Beaumont District office.

7.2 LEP Accommodations

During the US 59 project development process, TxDOT made accommodations for individuals speaking Spanish (the dominant language of LEP individuals in the project area), to ensure that opportunities for community input in the NEPA process have been and would continue to be provided. For the public meetings, English and Spanish language public notices were published in local newspapers. Meeting notices were provided in English and Spanish and mailed to adjacent landowners, community organizations, elected officials, government officials, civic groups, and published on the project website. The project team had staff available to provide translations during public meeting as needed, and many of the meeting materials were translated into Spanish, as well. Materials were posted on the project website prior to the public meetings, and all materials remain on the website. The mailed notices and newspaper announcements provided information on how citizens could request language interpreters. Although no advance requests for interpreters were received, some meeting attendees preferred speaking Spanish and they were directed to and assisted by the team members who were fluent in Spanish.

8.0 Environmental Permits, Issues and Commitments

8.1 Farmlands

BMPs would be implemented during construction to minimize erosion and sedimentation, with particular attention paid to water crossings or any areas with steep embankments.

8.2 Utilities

Utilities such as water lines, sewer lines, gas lines, telephone cables, electrical lines, and other subterranean and aerial utilities would require adjustment. The extent of utility adjustments is not known at this time and would be determined during final design. Coordination of any utility adjustments would take place during the design phase or before construction begins. All utility adjustments would be in accordance with TxDOT policies.

De-watering would occur as needed during construction. Shallow groundwater would likely occur within 20 to 30 feet of the ground surface in some areas and may be shallower in the vicinity of the river based on the area geology. Geotechnical studies would be performed during final design to evaluate the need for de-watering based on the depth shallow groundwater and soil properties.

8.3 Cultural Resources

In the event of an inadvertent archaeological discovery during construction, work at that location and within the immediate area that would affect the site would cease, and TxDOT archaeological staff would be immediately contacted to initiate post-review discovery procedures. TxDOT, in consultation with THC, will evaluate the need, if any, for further investigations. Construction in the location of the discovery may proceed only after the completion of the investigation in accordance with any applicable permit terms.

8.4 Water Resources

8.4.1 CWA Section 404

Construction activities are anticipated to involve stream impacts and discharges of dredged or fill material below the OHWM of identified wetlands, requiring authorization from the USACE. A CWA Section 404 permit application submitted to the USACE would include proposed mitigation to compensate for impacts to the identified jurisdictional waters. Mitigation for stream impacts would likely be accomplished through the purchase of stream credits from an approved mitigation bank, and compensation for wetland impacts would likely be accomplished through the purchase of wetlands credits from an approved mitigation bank.

The proposed project would result in modifications to and/or fill within several unnamed tributaries to the East Fork of the San Jacinto River and associated wetlands. Therefore, coordination with the USFWS per the Fish and Wildlife Coordination Act is required.

8.4.2 CWA Section 401

Section 401 water quality certification would be assessed by the TCEQ as part of the permit review process. The project would implement all BMPs required by the TCEQ for Tier I projects and in accordance with the Tier I Checklist.

8.4.3 Rivers and Harbors Act

The proposed project involves work over the EFSJR (above tidal). A U.S. Coast Guard Bridge Project Questionnaire was submitted by TxDOT in November 2016. Coordination with the agency will continue, and any requirements issued by the U.S. Coast Guard would be implemented.

8.4.4 CWA Section 303(d)

The proposed project and associated activities would be implemented, operated, and maintained in a manner that is consistent with the approved TMDL and I-Plan.

8.4.5 CWA Section 402

The proposed project would involve more than five acres of earth disturbance. TxDOT would comply with TCEQ's TPDES CGP. A SW3P would be prepared and implemented, and a construction site notice would be posted on the construction site. A NOI would be required. Pollution from storm water would be minimized through adherence to measures in the project's SW3P.

During construction, BMPs, including temporary erosion, sedimentation, and water pollution controls, would be implemented. All temporary erosion controls would be in compliance with TxDOT Standard Specifications and would be in place, according to the construction plans, prior to commencement of construction-related activities. The contractor would take appropriate measures to prevent, minimize, and control the spill of fuels, lubricants, and hazardous materials in the construction staging area.

The project would comply with the applicable MS4 requirements.

8.4.6 Floodplains

Hydraulic design information would be coordinated with the local floodplain administrators for Liberty and Montgomery Counties and the City of Cleveland prior to construction so that the proposed project would not have an adverse effect on the floodplains/floodways in the project area. The proposed project would be designed so that natural drainage and/or ponding would not be affected and change the BFEs greater than one foot above the 100-year flood at any point in the community. The proposed project would not increase the BFEs to a level that would violate applicable floodplain regulations and ordinances. The proposed bridge structures traversing the EFSJR would be designed so that the floodplain would not be adversely affected, nor cause flooding to property owners upstream and downstream of the proposed project.

Prior to issuance of construction permits involving activities in a regulated floodway, a letter of no objection must be obtained and supported by technical data stating that construction of the proposed project would not impact the base flood elevation, floodway elevations, or floodway data widths that are present prior to construction.

8.5 Biological Resources

Construction of the proposed project would unavoidably impact vegetative communities, which provide habitat for wildlife. Landscaping of the project area with native vegetation, and developing a maintenance mowing schedule that would allow for the reseeding of native species would benefit wildlife able to use the herbaceous habitats outside the paved areas of the project ROW.

Landscaping would be in compliance with the Executive Memorandum and the guidelines for environmentally and economically beneficial landscape practices. Native plant species would be used in the landscaping and in the seed mixes where practicable (per EO 13112).

Impacts to wildlife and habitat resources (and to the regional watershed) can be minimized through the use of a combination of any of the following generally recommended methods or other BMPs not specifically identified below, but that may be appropriate to address unanticipated site conditions.

- Minimize the amount of vegetation cleared. Removal of native vegetation, particularly mature native trees and shrubs would be avoided to the extent practicable. Where practicable and appropriate, impacted vegetation would be replaced with in-kind on-site replacement/ restoration of native vegetation.
- To minimize adverse effects, project construction and operation activities would be planned to preserve mature trees, particularly acorn nut and berry producing varieties. These types of vegetation have high value to wildlife as food and cover resources.
- Trees greater than 12 inches in diameter at breast height that are removed would be considered for replacement. TPWD recommends a 3:1 ratio (three trees planted for every one tree removed) be implemented to the extent practicable either on-site or off-site. Trees less than 12 inches diameter at breast height should be replaced at a 1:1 ratio.
- Replacement trees would be of equal or better wildlife quality than those removed and be regionally adapted native species.
- Regionally adapted native species would be considered to replace trees that are removed.
- For planted trees, a maintenance plan ensuring at least an 85 percent survival rate after three years would be considered for the replacement trees.
- The use of any non-native vegetation in landscaping and revegetation would be discouraged, as locally adapted native species would be preferred, which includes the use of seed mix(es) that contain seeds from locally adapted native species.
- The use of seed mix that contains seeds from only locally adapted native species
- The project would not alter the flow or capacity of the river.

In accordance with the MBTA, measures such as additional surveys prior to construction to ensure active nests are not present would be taken prior to vegetation clearing and bridge and culvert reconstruction, which would avoid harm to these species. If nests, eggs or young are present, no work would occur in that area during the nesting and breeding season (March 1 through September 30).

The project area contains potential habitat several listed species. Species-specific BMPs to be utilized are summarized in

Table 5-9 of this EA.

8.6 Hazardous Materials

After ROW acquisition, during construction of the proposed project, there is a possibility that hazardous materials impacts on or near existing hazardous materials sites may occur in areas adjoining mapped and identified contaminant migration areas. In particular, the following facilities or areas are located in the vicinity of proposed ROW acquisition and additional information may be required to evaluate the potential presence of hazardous materials released to the environment:

- US 69 Food Mart (former Texan Fuel Stop) at 2154 US 59 South in Cleveland, Texas
- Lambert's Ready Mix 3 at 3312 US 59 South in Cleveland, Texas
- Southern Pacific Train Derailment and Solvent Spill at State Highway 105 at Railroad
- Milepost 40.6 in Cleveland, Texas and Restricted Land Use Area

The proposed project would include construction of at-grade and elevated (bridge) sections with retaining walls and bridge supports; relocation and installation of utilities; demolition of structures, including buildings; and related activities that would require excavation, mixing, stockpiling, testing, and management of natural soils and fill material including soils and sediments. Excavation may increase the potential of encountering hazardous material contamination during construction. Additional subsurface environmental investigations would be conducted to determine whether possible contamination might be encountered during construction. If hazardous constituents were confirmed, then appropriate soils and/or groundwater management plans for activities within these areas would be developed.

The proposed project would require the demolition of building structures and the demolition or renovation of existing bridge structures that may contain asbestos and/or lead-based paint. Asbestos issues would be addressed during ROW acquisition, prior to construction, and applicable asbestos inspections, specification, notification, license, accreditation, abatement, and disposal would be in compliance with federal, state, and local regulations. Prior to project letting, structures to be demolished would be analyzed for the presence or absence of lead-based paint. The presence or absence of lead-based paint on structures to be demolished would be determined through testing or process knowledge prior to project letting. If lead-based paint is discovered, contingencies would be developed to address worker safety, material recycling, and proper management and disposal of any paint-related wastes, as necessary. As a result, further investigation would be conducted prior to the acquisition of properties.

Storage and use of hazardous materials would be necessary during construction of the proposed project. For example, temporary aboveground storage tanks (ASTs) containing oil and diesel for on-site equipment and vehicles would be regulated and require control measures for spills and leaks. In addition, potential impacts from spills and leaks from fueling and maintenance of equipment and vehicles could occur on-site. These impacts would be minimized and best management practices (BMPs) would be implemented to reduce these types of impacts during construction. In addition, activities associated with the use and storage of hazardous materials would be required to conform to TxDOT standards for spill containment and control strategies.

Operations of the proposed project would include roadway and landscape maintenance, accident and emergency response including debris and spill cleanup, guardrail, pavement and bridge painting, and other activities as needed. None of the anticipated activities associated with highway operation for any of the build alternatives would be expected to result in adverse impacts from use of hazardous materials, or be affected by the presence of existing hazardous materials.

Based on the final engineering design drawings and prior to construction occurring, targeted subsurface investigations may be needed to determine potential hazardous materials impacts to the proposed construction.

Any unanticipated hazardous materials and/or petroleum contamination encountered during construction would be handled according to applicable federal, state and local regulations per TxDOT Standard Specifications. The contractor would take appropriate measures to prevent, minimize, and control the spill of hazardous materials in the construction staging area. The use of construction equipment within sensitive areas would be minimized or eliminated entirely. All construction materials used for this project would be removed as soon as work schedules permit.

One water well, reported as plugged and abandoned, is located within the project ROW. If excavation is needed in this area during construction, further investigation may be required.

9.0 Conclusion

The social, economic, and environmental investigations conducted this far indicate the Build Alternative best meets the need and purpose of the proposed project and would not substantially impact the human and natural environments. The No Build alternative would not meet the need and purpose of the proposed project. Implementation of the Build alternative would not substantially affect the quality of the human and natural environment. Thus, the determination of a Finding of No Significant Impact (FONSI) for the proposed project is requested.

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Appendices

Appendix A – Project Location Map

Appendix B – Project Photos

Appendix C – Schematics

Appendix D – Typical Sections

Appendix E – Plans and Program Excerpts

Appendix F – Resource-specific Maps

Appendix G – Resource Agency Coordination

Appendices

Appendix A - Project Location Map

US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573

TEXAS HIGH PRIORITY CORRIDORS
ON THE NATIONAL HIGHWAY SYSTEM

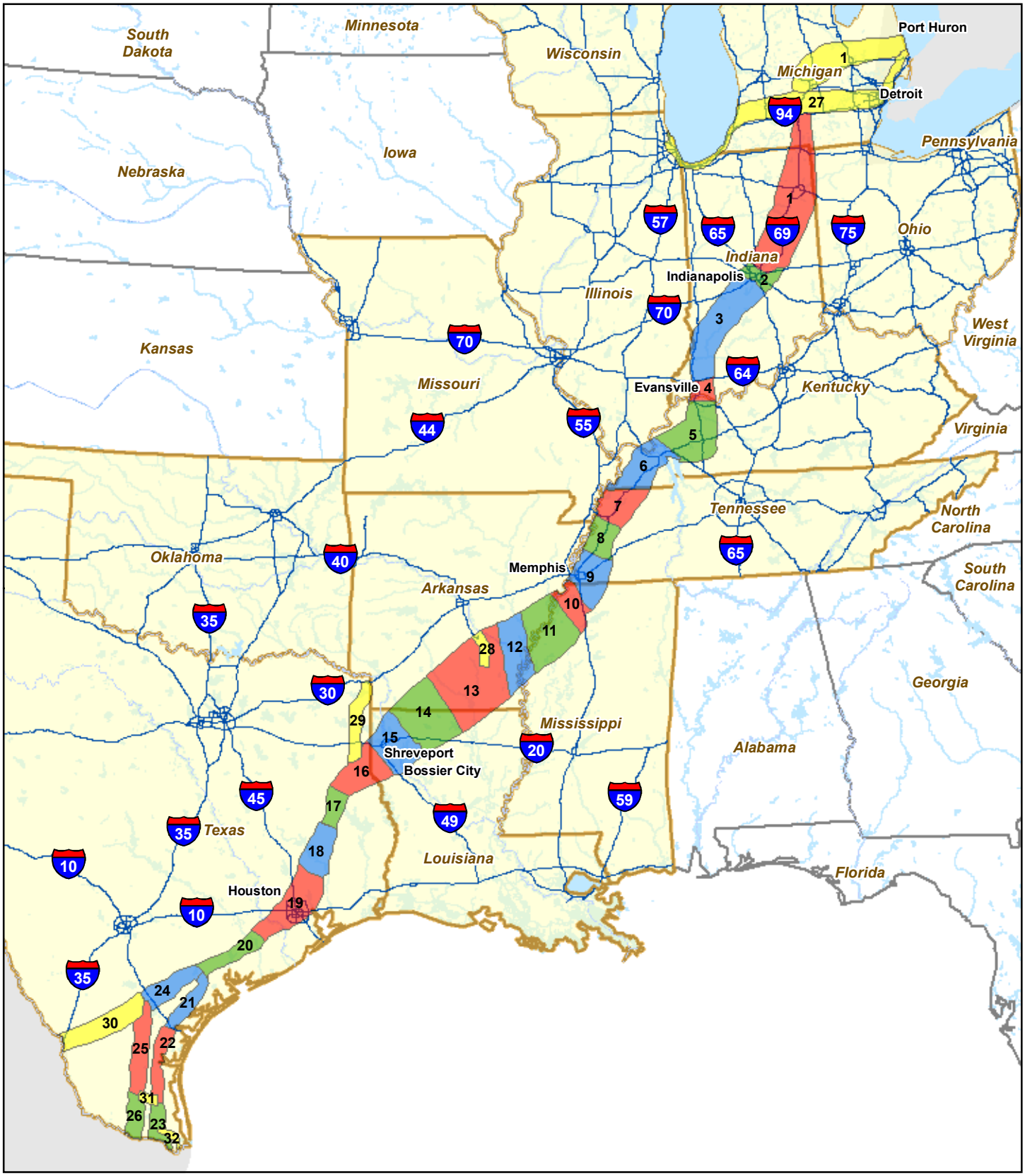
Texas Department of Transportation

N

0 60 120 Miles

Appendix A - Figure 1

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix A- Project Location Map\Sheet 1 - CHPC Highway System.mxd



US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573

I-69 TRADE CORRIDOR
SECTIONS OF INDEPENDENT UTILITY

Texas Department of Transportation

N

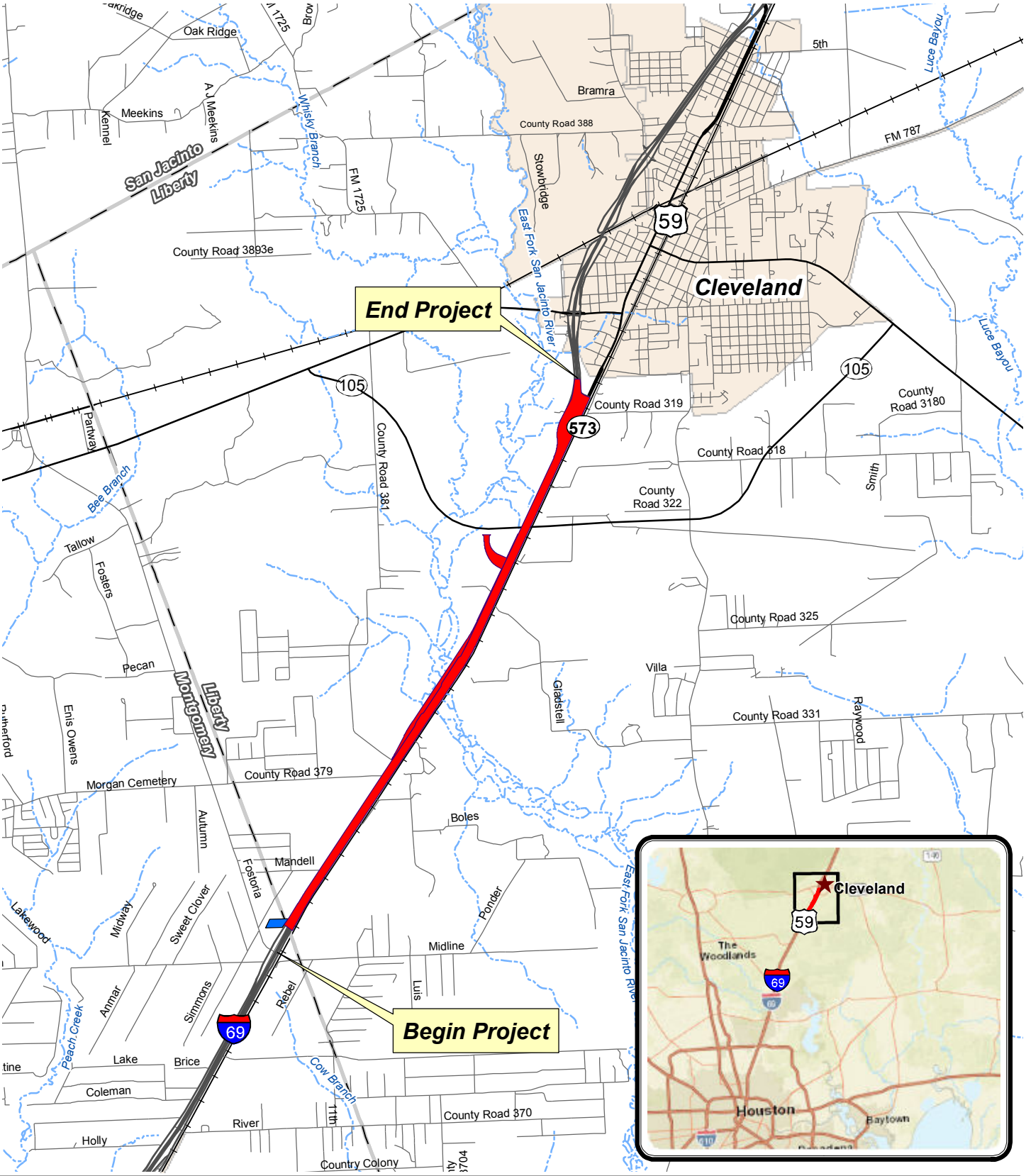
0 75 150 Miles

Legend

- I-69 Corridor Sections
- Connections to I-69 Corridor
- Corridor States

Appendix A - Figure 2

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix A- Project Location Map\Sheet 2 - Utility.mxd



US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573

PROJECT LOCATION MAP

Texas Department of Transportation

N

0 0.5 1 Miles

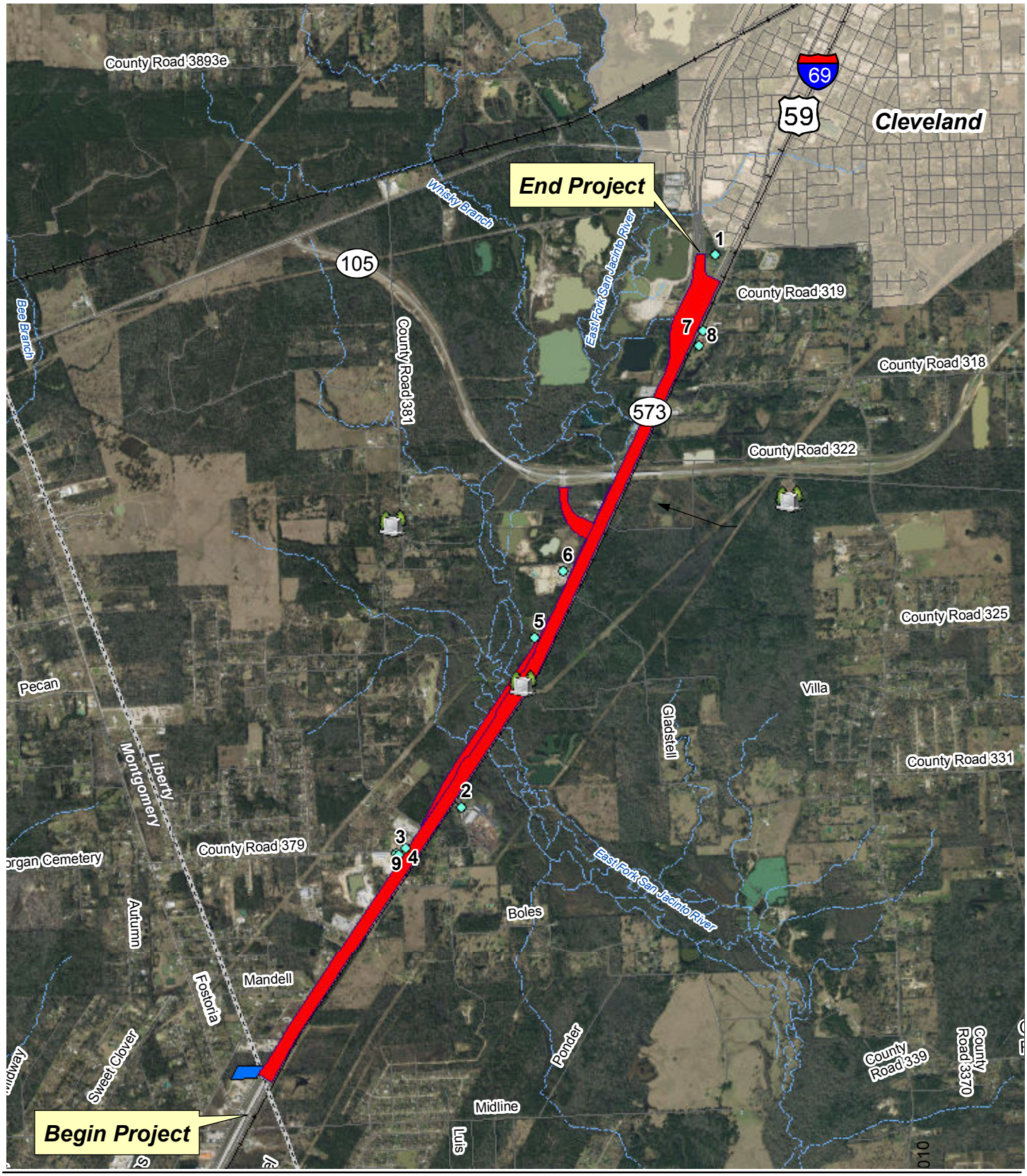
Legend

- Proposed Detention Pond
- Streams and Rivers
- County Boundaries
- Railroad

Appendix A - Figure 3

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix A- Project Location Map\Sheet 3 - Project Location Map.mxd

Appendix B - Project Photos



US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573

PHOTO LOCATION MAP

Legend

- County Boundaries
- US 59 Construction Area
- Proposed Detention Pond
- Streams and Rivers
- Photo Locations
- Railroad
- Cemeteries

Texas Department of Transportation

0 1,750 3,500
Feet

Appendix B - Figure 1

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix B- Typical Sections\Figure 1 - Photo Location Map.mxd

US 59 Improvement Project

Site Photographs

Site Location: Project Limits: Fostoria Rd at the Montgomery/Liberty County line to SL 573

Photo No.	1

Description:
View of existing bridge and active cliff swallow nests at the US 59/Fostoria Road intersection.

Photo No.	2

Description:
View of wetland within the proposed detention pond site, dominated by willow oak (Quercus phellos) and sweetgum (Liquidambar styraciflua).

US 59 Improvement Project

Site Photographs

Site Location: Project Limits: Fostoria Rd at the Montgomery/Liberty County line to SL 573

Photo No. 3

Description:
View of East Fork of the San Jacinto River and adjacent forested wetlands, taken from under US 59 facing southwest.

Photo No. 4

Description:
Typical view of existing US 59 and ROW, facing south near SH 105.

US 59 Improvement Project

Site Photographs

Site Location: Project Limits: Fostoria Rd at the Montgomery/Liberty County line to SL 573

Photo No.	5

Description:
View of existing SH 105 bridge crossing US 59 northbound mainlanes.

US 59 Improvement Project

Site Photographs

Site Location: Project Limits: Fostoria Rd at the Montgomery/Liberty County line to SL 573

Photo No. 6

Description:
View of Riggs Cemetery located between the mainlanes of US 59.

Photo No. 7

Description:
View of area where new ROW (near the proposed southbound frontage road) would be acquired near the US 69 Food Mart .

Site Location: Project Limits: Fostoria Rd at the Montgomery/Liberty County line to SL 573

Photo No. 8

Description:
Lambert's Ready Mix 3 (RN104744016) at 3312 US 59 South, Cleveland, Texas 77327. This location is at Pin Oak and US 59 southbound access road.

Photo No. 9

Description:
View of TXU electrical system adjacent to the proposed ROW on the southbound frontage road near the corner of Morgan Cemetery Road (CR 379) and US 59
Note: The flea market grounds/buildings are in the background.

Appendix C - Schematics

Cole

Cole

County Road 3750

Fostoria

Montgomery County

Liberty County

County Road 3755

Sidewalk

SB Frontage Road

A

Begin Project

Begin Construction Station 24+63.80

IH 69

25+00

30+00

35+00

40+00

US 59

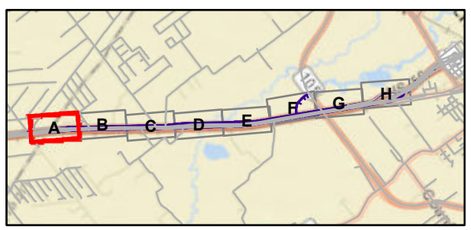
A

NB Frontage Road

Midline

Not To Scale

US 59
Fostoria Road at the Montgomery/ Liberty County line to SL 573



Legend

- County Boundaries
- Existing ROW
- Proposed ROW
- River/Stream
- Bridge Columns
- Bridge Bent Cap
- Retaining Wall
- Frontage Roads/Turnarounds
- Bridges
- Main Lanes
- Proposed Detention Pond
- Ramps
- Sidewalk

US 59 SCHEMATICS

Appendix C - Sheet 1A

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix C- Schematics\Sheet 1 - US 59 Schematics.mxd

County Road 3755

County Road 375

Sidewalk

SB Frontage Road

B

45+00

50+00

55+00

US 59

60+00

65+00

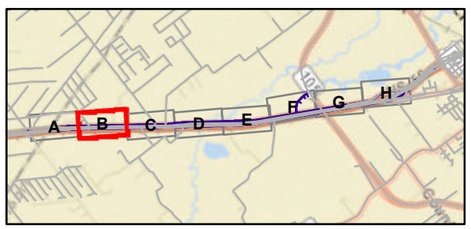
70+00

B

NB Frontage Road

Not To Scale

US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573



Legend

- County Boundaries
- Existing ROW
- Proposed ROW
- River/Stream
- Bridge Columns
- Bridge Bent Cap
- Retaining Wall
- Frontage Roads/Turnarounds
- Bridges
- Main Lanes
- Proposed Detention Pond
- Ramps
- Sidewalk

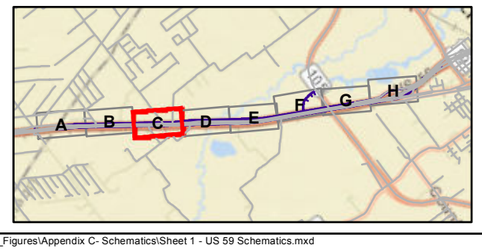
US 59 SCHEMATICS

Appendix C - Sheet 1B

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix C- Schematics\Sheet 1 - US 59 Schematics.mxd

Sidewalk
SB Frontage Road
Begin Bridge
C
D
County Road 379
County Road 381
75+00
80+00
85+00
US 59
90+00
95+00
100+00
NB Frontage Road
End Bridge
County Road 377
Not To Scale

US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573



Legend

- County Boundaries
- Existing ROW
- Proposed ROW
- River/Stream
- Bridge Columns
- Bridge Bent Cap
- Retaining Wall
- Frontage Roads/Turnarounds
- Bridges
- Main Lanes
- Proposed Detention Pond
- Ramps
- Sidewalk

US 59 SCHEMATICS

Appendix C - Sheet 1C

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix C- Schematics\Sheet 1 - US 59 Schematics.mxd

Sidewalk

SB Frontage Road

Begin Bridge

East Fork San Jacinto River

East Fork San Jacinto River

105+00

110+00

115+00

120+00

125+00

130+00

135+00

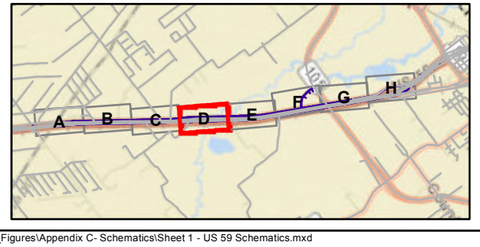
US 59

NB Frontage Road

County Road 383

Not To Scale

US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573



Legend

- County Boundaries
- Existing ROW
- Proposed ROW
- River/Stream
- Bridge Columns
- Bridge Bent Cap
- Retaining Wall
- Frontage Roads/Turnarounds
- Bridges
- Main Lanes
- Proposed Detention Pond
- Ramps
- Sidewalk

US 59 SCHEMATICS

Appendix C - Sheet 1D

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix C- Schematics\Sheet 1 - US 59 Schematics.mxd

East Fork San Jacinto River

East Fork San Jacinto River

Retaining Wall

Sidewalk

SB Frontage Road

E

140+00

145+00

150+00

155+00

160+00

165+00

US 59

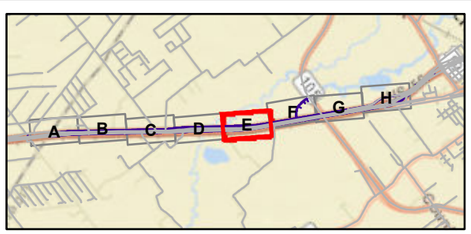
End Bridge

E

NB Frontage Road

Not To Scale

US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573



Legend

- County Boundaries
- Existing ROW
- Proposed ROW
- River/Stream
- Bridge Columns
- Bridge Bent Cap
- Retaining Wall
- Frontage Roads/Turnarounds
- Bridges
- Main Lanes
- Proposed Detention Pond
- Ramps
- Sidewalk

US 59 SCHEMATICS

Appendix C - Sheet 1E

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix C- Schematics\Sheet 1 - US 59 Schematics.mxd

Loop 105 Connector

SH 105

SB Frontage Road

Retaining Wall

Sidewalk

Sidewalk

Retaining Wall

F

170+00

175+00

180+00

US 59

185+00

190+00

195+00

County Road 332

Retaining Wall

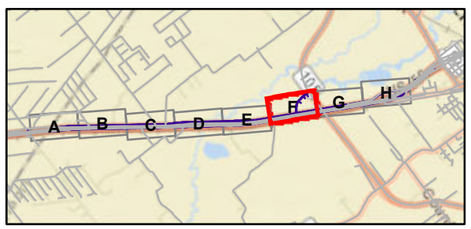
NB Frontage Road

Retaining Wall

F

Not To Scale

US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573



Legend

- County Boundaries
- Existing ROW
- Proposed ROW
- River/Stream
- Bridge Columns
- Bridge Bent Cap
- Retaining Wall
- Frontage Roads/Turnarounds
- Bridges
- Main Lanes
- Proposed Detention Pond
- Ramps
- Sidewalk

US 59 SCHEMATICS

Appendix C - Sheet 1F

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix C- Schematics\Sheet 1 - US 59 Schematics.mxd

East Fork San Jacinto River

Sidewalk

SB Frontage Road

G

SH 105

US 59

200+00

205+00

210+00

215+00

220+00

225+00

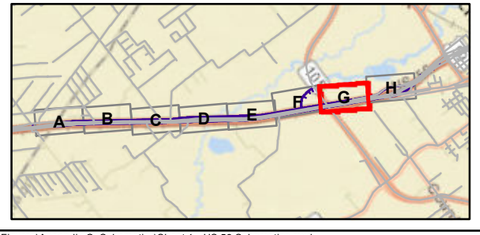
230+0

G

NB Frontage Road

Not To Scale

US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573



Legend

- County Boundaries
- Existing ROW
- Proposed ROW
- River/Stream
- Bridge Columns
- Bridge Bent Cap
- Retaining Wall
- Frontage Roads/Turnarounds
- Bridges
- Main Lanes
- Proposed Detention Pond
- Ramps
- Sidewalk

US 59 SCHEMATICS

Appendix C - Sheet 1G

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix C- Schematics\Sheet 1 - US 59 Schematics.mxd

SB Frontage Road

Sidewalk

End Project

End Project

US 59

245+00

250+00

255+00

260+00

240+00

235+00

SL 573

NB Frontage Road

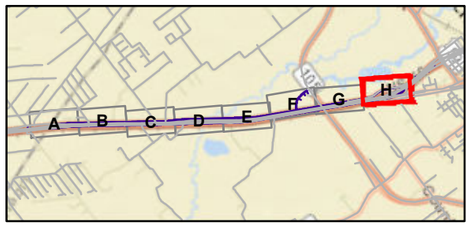
Travis

County Road 319

Not To Scale

US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573

Texas Department of Transportation



Legend

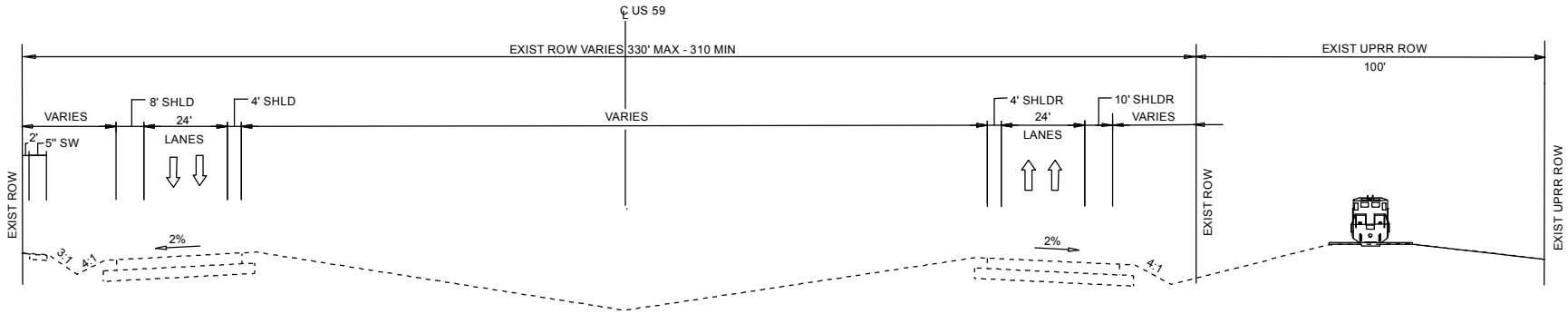
- County Boundaries
- Existing ROW
- Proposed ROW
- River/Stream
- Bridge Columns
- Bridge Bent Cap
- Retaining Wall
- Frontage Roads/Turnarounds
- Bridges
- Main Lanes
- Proposed Detention Pond
- Ramps
- Sidewalk

US 59 SCHEMATICS

Appendix C - Sheet 1H

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix C- Schematics\Sheet 1 - US 59 Schematics.mxd

Appendix D - Typical Sections



EXISTING TYPICAL SECTION
Not to Scale

Not to Scale

US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573

EXISTING TYPICAL SECTION

Legend

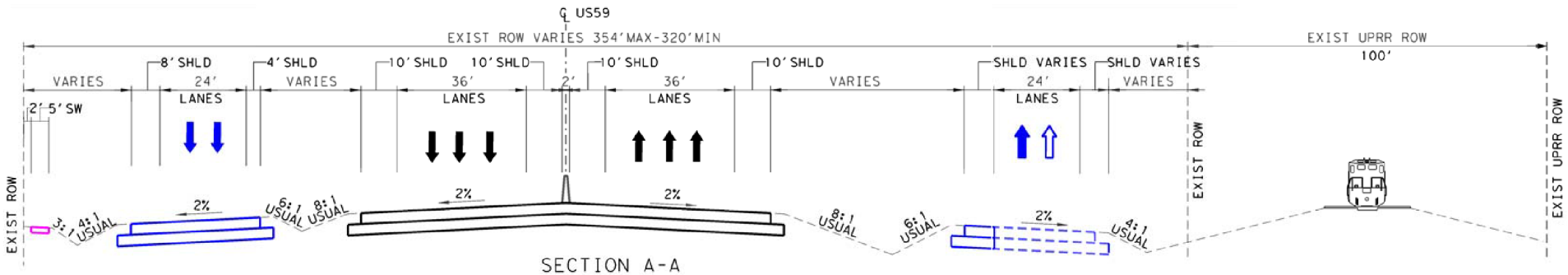
Existing Pavement

Existing Lane

Texas Department of Transportation

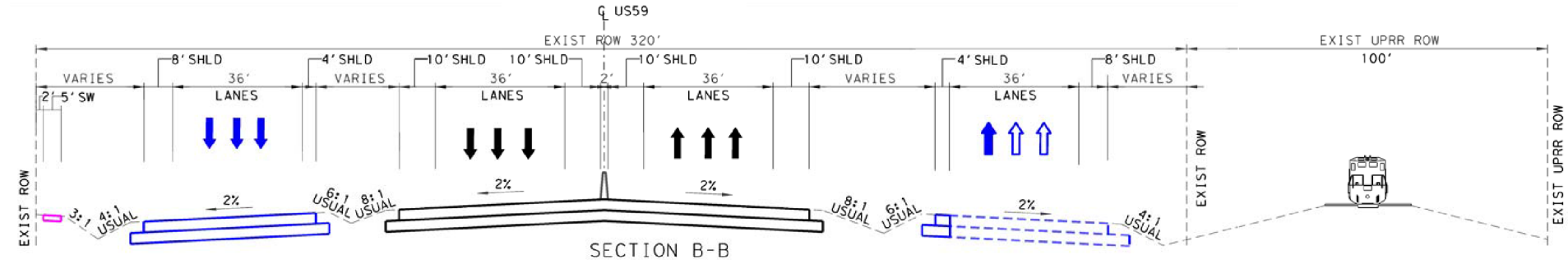
Appendix D - Sheet 1

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix B- Typical Sections\Sheet 1 - Existing Typical Section.mxd



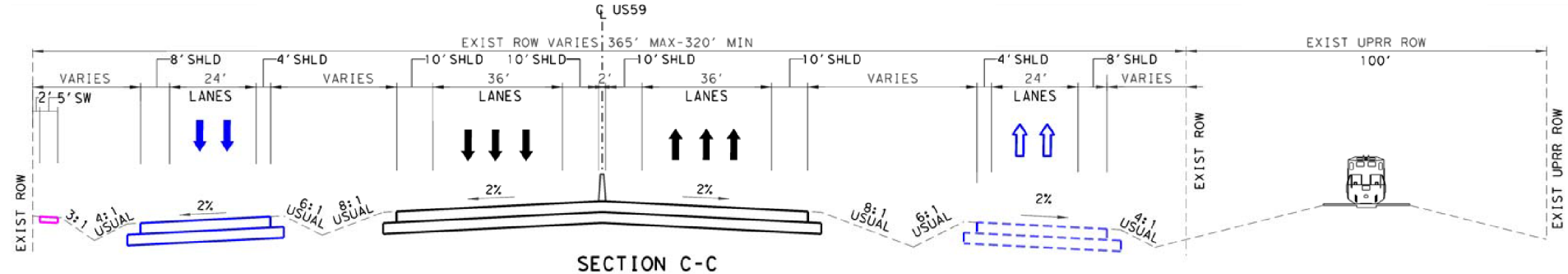
SECTION A-A

NTS



SECTION B-B

NTS



SECTION C-C

NTS

US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573

PROPOSED TYPICAL SECTIONS

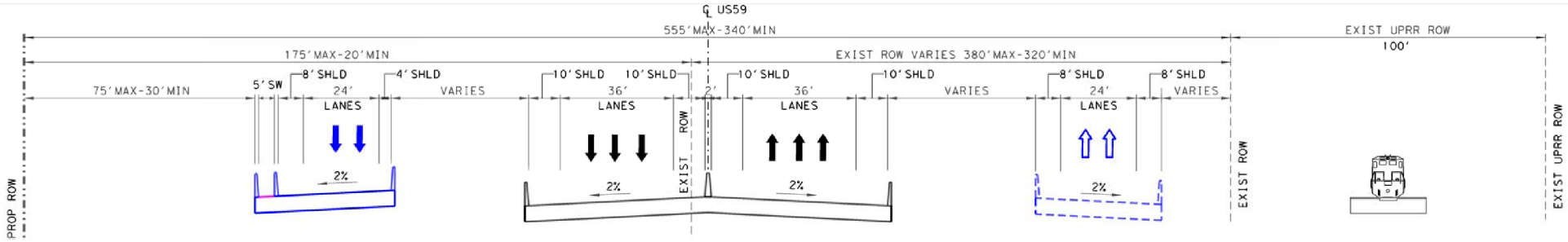
Legend

- Proposed Pavement
- Existing Pavement
- Proposed Lane
- Proposed Frontage Lane
- Existing Lane

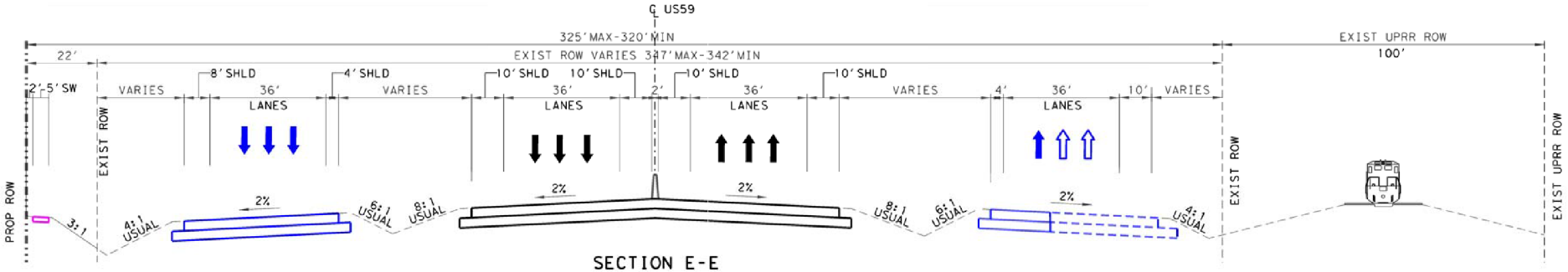
Texas Department of Transportation

Appendix D - Sheet 2

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix B- Typical Sections\Sheet 2A - Proposed Typical Sections.mxd



SECTION D-D
NTS



SECTION E-E
NTS

US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573

Legend

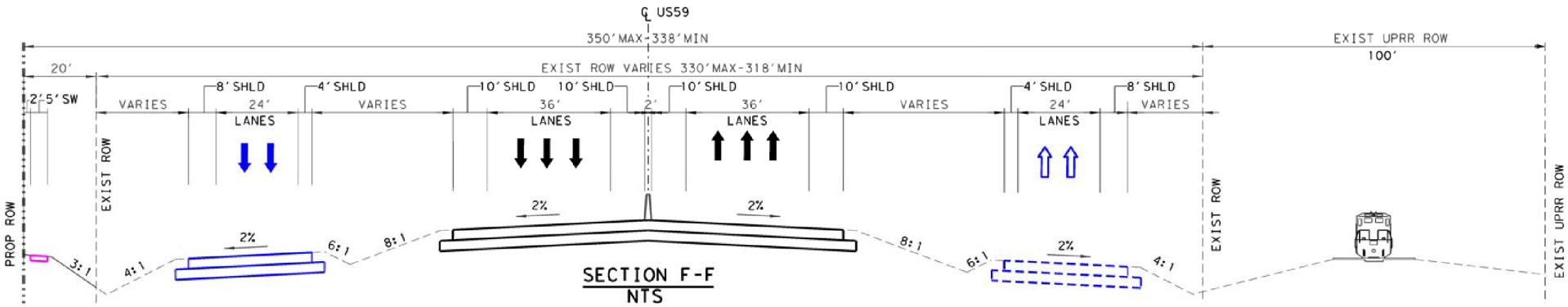
- Proposed Pavement
- Existing Pavement
- Proposed Lane
- Proposed Frontage Lane
- Existing Lane

PROPOSED TYPICAL SECTIONS

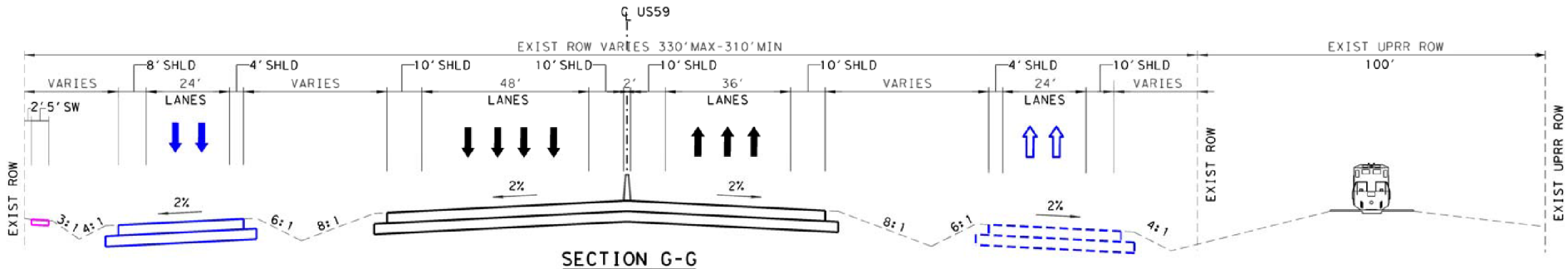
Texas Department of Transportation

Appendix D - Sheet 3

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix B- Typical Sections\Sheet 3B - Proposed Typical Sections.mxd



SECTION F-F
NTS



SECTION G-G
NTS

US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573

Legend

- Proposed Pavement
- Existing Pavement
- Proposed Lane
- Proposed Frontage Lane
- Existing Lane

PROPOSED TYPICAL SECTIONS

Texas Department of Transportation

Appendix D - Sheet 3

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix B- Typical Sections\Sheet 3C - Proposed Typical Sections.mxd

Appendix E - Plans and Program Excerpts

1/23/2017 (Feb 2017 STIP)

2040 RTP

FISCALLY CONSTRAINED PROJECTS

Part I: Corridor-Based Major Investments

Part II: Regional Investment Programs, Regionally Significant Projects Subject to Conformity

Part III: Regional Investment Programs, Exempt and Not Regionally Significant Projects in First Ten Years (FY 2015-2024)

EXEMPT: Project exempt from transportation conformity under 40 CFR §93.126
EREA: Project exempt from regional emissions analysis under 40 CFR §93.127
NRS: Project "Not Regionally Significant" under current conformity definition

CORRIDOR-BASED MAJOR INVESTMENTS

MPOID	CSJ	County	Facility	From	To	Description	Length (mi)	Main Lanes	Frontage Lanes	Fiscal Year	Analysis Year	Total Project Cost (M, YOE)
US 290												
16024	0050-08-903	Harris	US 290	SH 99	E OF MUESCHKE RD	RESTRIPE TO 8 MAIN LANES WITH AUXILIARY LANES	4.5	(10,8)	(4,4)	2032	2035	$ 4.80
16016	0050-09-089	Harris	US 290	W OF FM 529	W OF LITTLE YORK W	CONSTRUCT 3-LANE REVERSIBLE MANAGED LANE CONNECTOR AND T-RAMP TO METRO PARK & RIDE	1.5	(1,3)	n/a	2015	2017	$ 26.00
16017	0050-09-900	Harris	US 290	W OF W 34TH ST	IH 610	RESTRIPE TO 10 MAIN LANES WITH AUXILIARY LANES	1.8	(10,10)	(6,6)	2032	2035	$ 13.80
16018	0050-09-901	Harris	US 290	W OF PINEMONT DR	W OF 34TH ST	RESTRIPE TO 12 MAIN LANES WITH AUXILIARY LANES	2.0	(11,12)	(4,4)	2032	2035	$ 6.20
16019	0050-09-902	Harris	US 290	E OF LITTLE YORK RD W	W OF PINEMONT DR	RESTRIPE TO 10 MAIN LANES WITH AUXILIARY LANES	4.0	(11,10)	(4,4)	2032	2035	$ 6.40
16020	0050-09-903	Harris	US 290	W OF FM 529	W OF LITTLE YORK RD W	RESTRIPE TO 10 MAIN LANES WITH AUXILIARY LANES	1.8	(11,10)	(4,4)	2032	2035	$ 4.80
1933	0114-12-007	Harris	US 290	FM 2920	BADTKE RD	WIDEN TO 6-LANES WITH AUXILIARY LANES AND DISCONTINUOUS 2-LANE FRONTAGE ROADS	6.5	(4,6)	(4,4)	2015	2017	$ 59.01
16045	0114-12-008	Harris	US 290	0.191 MI W OF BADTKE RD	0.643 MI E OF BADTKE RD	WIDEN TO 6 MAIN LANES WITH AUXILIARY LANES AND TWO 2-LANE FRONTAGE ROADS (SEGMENT 11)	0.8	(4,6)	(4,4)	2015	2017	$ 12.72
13867	0912-72-930	Harris	US 290	SH 99	IH 610	CONSTRUCT COMMUTER TRANSIT RAIL ALONG HEMPSTEAD ROW (HIGH CAPACITY TRANSIT)(6 STATIONS)	24.0	n/a	n/a	2023	2025	$ 1,080.81
US 59N												
223	0177-03-096	Liberty	US 59 N	S END OF CLEVELAND BY-PASS	MONTGOMERY C/L	RECONSTRUCT AND WIDEN TO 6 MAIN LANES WITH FRONTAGE ROADS	4.3	(4,6)	(0,4)	2020	2025	$ 140.30
10909	0912-00-140	Multiple	IH 69	LIBERTY C/L	WHARTON C/L	MULTIMODAL TRANSPORTATION CORRIDOR FEASIBILITY STUDY	94.1	n/a	n/a	2015	EXEMPT	$ 1.30
188	0177-14-010	Montgomery	LP 494	N OF KINGWOOD DR	HARRIS C/L	RECONSTRUCT AND WIDEN TO 4-LANE DIVIDED URBAN SECTION (FLUSH MEDIAN)	0.9	(2,4)	n/a	2024	NRS (2035)	$ 29.70
114	0177-15-003	Harris	LP 494	N OF SORTERS-MCCLELLAN RD	MONTGOMERY C/L	RECONSTRUCT AND WIDEN TO 4-LANE DIVIDED URBAN SECTION (FLUSH MEDIAN)	0.6	(2,4)	n/a	2024	NRS (2035)	$ 6.55
10161	0177-05-093	Montgomery	US 59 N	N OF FM 2090	S OF EAST RIVER	CONSTRUCT NEW 2-LANE FRONTAGE ROAD	1.5	(6,6)	(2,4)	2015	NRS (2017)	$ 8.83

Projects shaded in GRAY are exempt from conformity or are not considered regionally significant under H-GAC regional emissions analysis.

STIP Portal

Logged in as Lindsey Kimmitt Log Out

Project Management | Reports | Support

Project Management > Area List > STIPs (M-HOUSTON-GALVESTON) > Revisions () > TIP Instances (Unassigned) > Highway Projects (Unassigned) > Project Details

Color Key: - Business rule violation - Value changed in current session - Different from DCIS or latest approved copy

Data

Statewide

TIP Revision: None

District: BEAUMONT

County: LIBERTY

MPO: HOUSTON-GALVES

Highway: US 59 N

CSJ: 0177 - 03 - 096

TIP FY: 2020

Phase: Construction; Engineering; Environmental; Engineering; Right-of-Way; Acquisition; Utilities; Transfer

Revision Date: 07/2016

Project Sponsor: TXDOT

MPO Proj Number: 223

MTP Reference:

City: CLEVELAND

Limits From: S END OF CLEVELAND BY-PASS

Limits To: MONTGOMERY C/L

Project Description: RECONSTRUCT AND WIDEN TO 6 MAIN LANES WITH FRONTAGE ROADS

P7 Remarks:

Project History:

NOX (Kg /D): 0 0000

VOC (Kg /D): 0 0000

PM10 (Kg /D): 0 0000

PM2.5 (Kg /D): 0 0000

CO (Lbs /D):

Total Project Cost Information

Prelim Engineering	$5,474,525
ROW Purchase	$1,737,450
Construction Cost	$111,725,000
Const Engineering	$4,469,000
Contingencies	$11,172,500
Indirect Costs	$5,675,630
Bond Financing	$0
Potential Chg Ord	$0
Total Project Cost	$140,254,105
YOE Cost	
Toll	
TCM	

Authorized Funding by Category/Share

Category	Federal	State	Regional	Local	Local Contributions	Total
2M	$0	$111,725,000	$0	$0	$0	$111,725,000
Total	$0.00	$111,725,000	$0.00	$0.00	$0.00	$111,725,000

DISTRICT	MPO	COUNTY	CSJ	HWY	PHASE	CITY	YOE COST
BEAUMONT	HOUSTON-GALVESTON	LIBERTY	0177-03-096	US 59 N C		CLEVELAND	$ 111,725,000

LIMITS FROM: S END OF CLEVELAND BY-PASS
LIMITS TO: MONTGOMERY C/L
PROJECT SPONSOR: TXDOT
REVISION DATE: 07/2016
MPO PROJ NUM: 223
FUNDING CAT(S): 2M
PROJECT DESCR: RECONSTRUCT AND WIDEN TO 6 MAIN LANES WITH FRONTAGE ROADS
REMARKS P7:
PROJECT HISTORY:

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 5,474,525
ROW PURCH:	$ 1,737,450
CONST COST:	$ 111,725,000
CONST ENG:	$ 4,469,000
CONTING:	$ 11,172,500
INDIRECT:	$ 5,675,630
BOND FIN:	$ 0
POT CHG ORD:	$ 0
TOTAL COST:	$ 140,254,105

COST OF APPROVED PHASES $ 111,725,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
2M	$ 0	$ 111,725,000	$ 0	$ 0	$ 0	$ 111,725,000
TOTAL	$ 0	$ 111,725,000	$ 0	$ 0	$ 0	$ 111,725,000

TIP History

2017-2020 STIP — **07/2016 Revision: Approved 12/19/2016**

DISTRICT	MPO	COUNTY	CSJ	HWY	PHASE	CITY	YOE COST
BEAUMONT	HOUSTON-GALVESTON	LIBERTY	0177-03-096	US 59 N	C	CLEVELAND	$ 111,725,000

LIMITS FROM: S END OF CLEVELAND BY-PASS
LIMITS TO: MONTGOMERY C/L
PROJECT SPONSOR: TXDOT
REVISION DATE: 07/2016
PROJECT DESCR: RECONSTRUCT AND WIDEN TO 6 MAIN LANES WITH FRONTAGE ROADS
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TOTAL COST:	$ 140,254,105

COST OF APPROVED PHASES $ 111,725,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

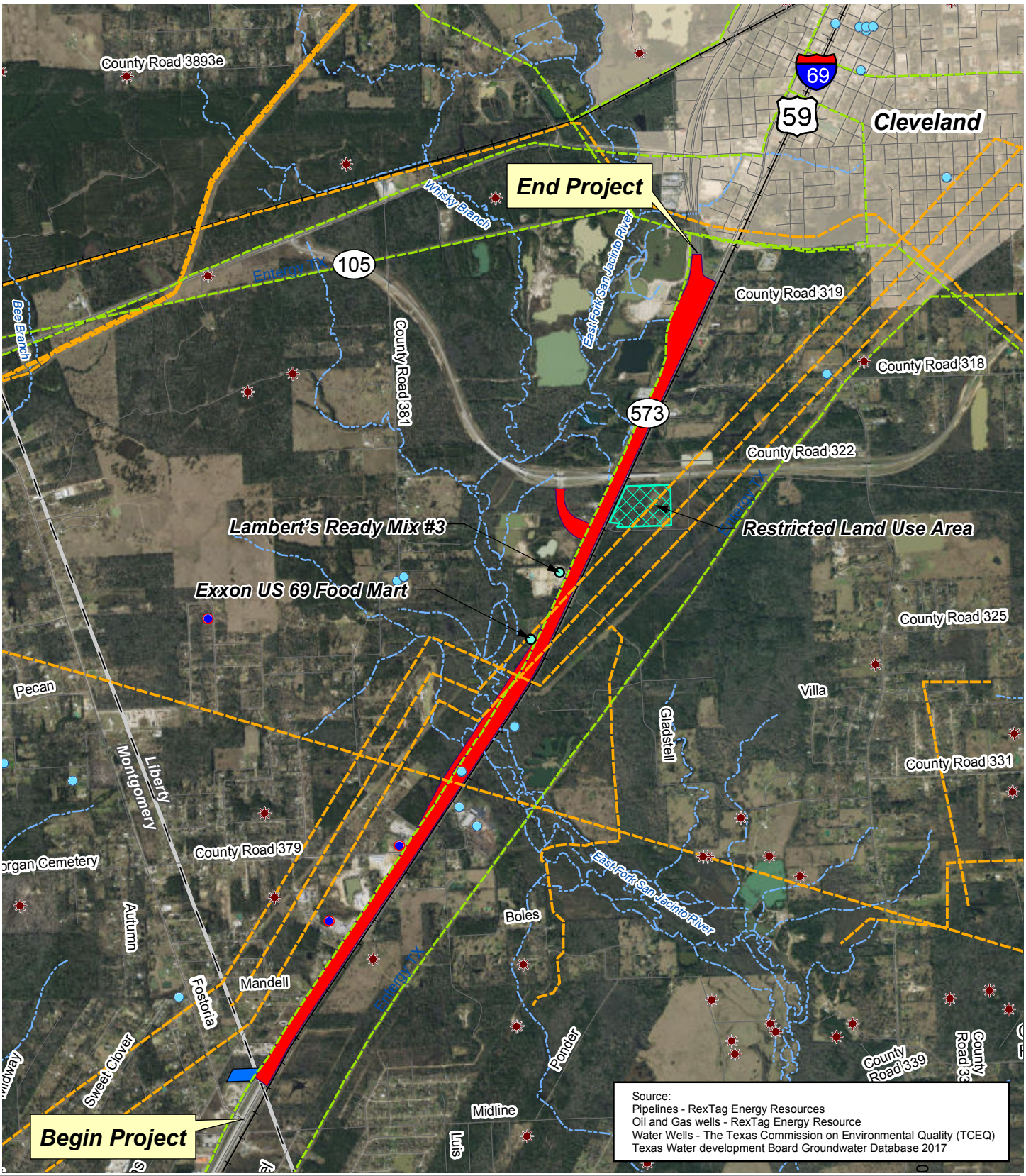
CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
2M	$ 0	$ 111,725,000	$ 0	$ 0	$ 0	$ 111,725,000
TOTAL	$ 0	$ 111,725,000	$ 0	$ 0	$ 0	$ 111,725,000

Comment History

Time	User	Comment	Related Approval
2016/11/22 18 11 19	David Wurdlow	Consistent with the approved conforming MTP, this project includes the construction of four frontage lanes See page I-11 of the current MTP project listing (dated 7/8/2016) www h-gac com/taq/airquality_model/conformity/2016/docs/Appendix3-7-8-16 pdf	
2016/11/18 16 48 44	Jose Campos	Approved Approval based upon clarification provided by H-GAC on November 23, 2016 concerning the number of frontage road lanes to be constructed with the proposed project	07/2016: Approved

STIP Portal — Texas Department of Transportation — Mon, Feb 06, 2017 1 04 52 PM

Appendix F - Resource Specific Maps



US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573

AREAS OF CONCERN, UTILITIES, AND WELLS

Legend

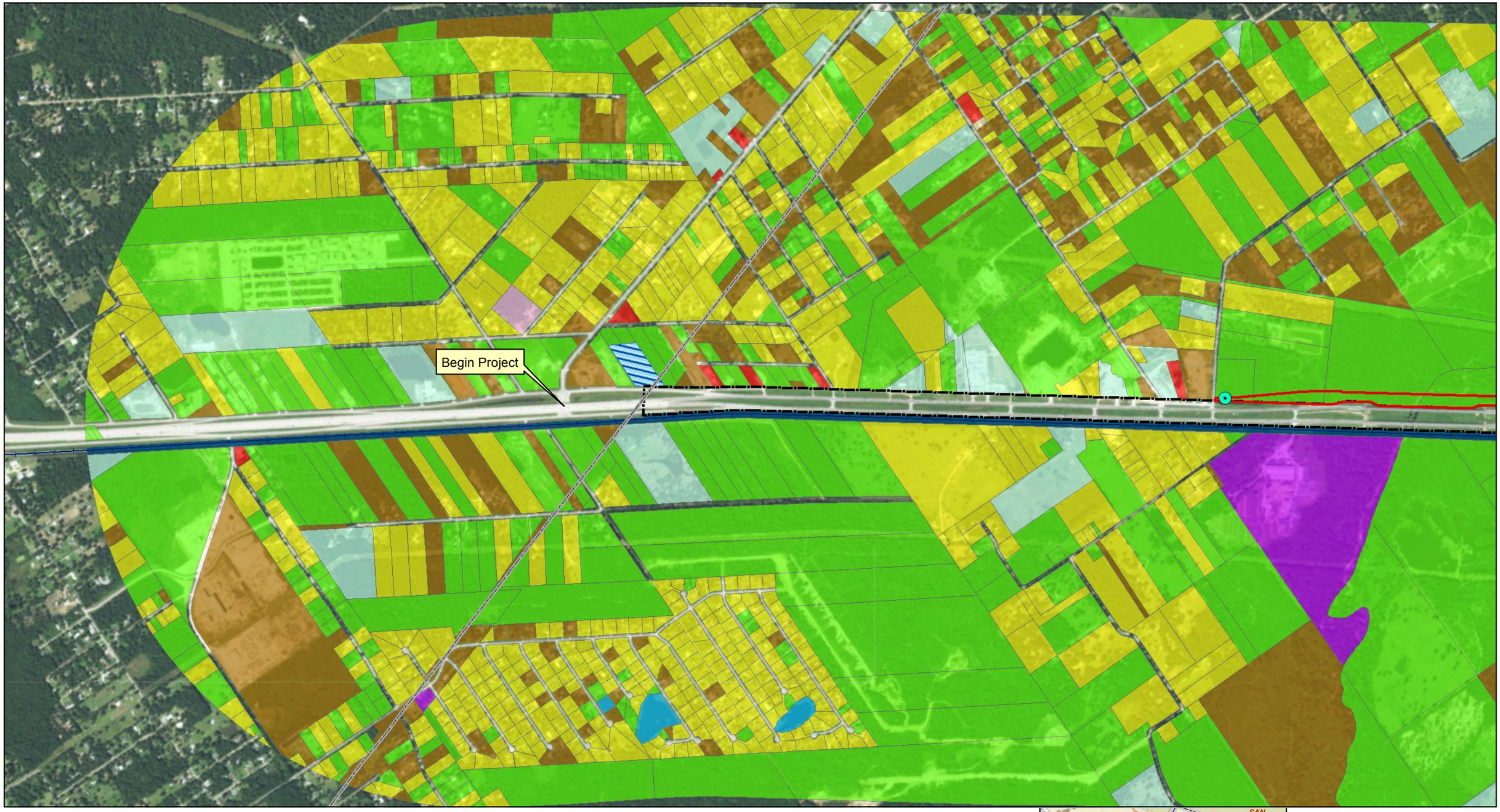
- County Boundaries
- US 59 Construction Area
- Proposed Detention Pond
- Electricity Transmission Lines
- Railroad
- Pipeline
- Streams and Rivers
- Oil and Gas Wells
- Public Water Wells
- Water Wells

Texas Department of Transportation

0 1,750 3,500
Feet

Appendix F - Sheet 1

Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix E- Resource Specific Maps\Sheet 1 - Areas of Concern, Utilities, and Wells.mxd



US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573

Texas Department of Transportation

0 625 1,250 Feet

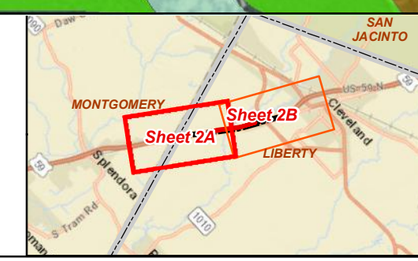
Legend

- County Boundaries
- Existing ROW
- Proposed ROW
- Proposed Detention Pond
- Cemeteries
- Displacement
- Railroad
- Deed Restriction Area

Land Use in 1 mile Buffer

- Commercial
- Gov/Med/Edu
- Industrial
- Multiple
- Other
- Railroad
- Residential
- Undevelopable
- Unknown
- Vacant Developable (includes Farming)
- Water

Aerial: TX Orthoimagery Program Texas 2015 Aerial
Land Use: HGAC 2016 April



LAND USE AND DISPLACEMENTS

Appendix F - Sheet 2A

Document Path: \\ushou1fs001\prod\Projects_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix E- Resource Specific Maps\Sheet 2 - Land Use.mxd

US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573

Texas Department of Transportation

0 625 1,250 Feet

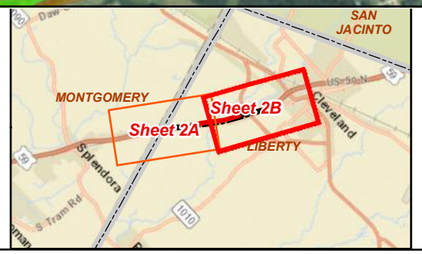
Legend

- County Boundaries
- Existing ROW
- Proposed ROW
- Proposed Detention Pond
- Cemeteries
- Displacement
- Railroad
- Deed Restriction Area

Land Use in 1 mile Buffer

- Commercial
- Gov/Med/Edu
- Industrial
- Multiple
- Other
- Railroad
- Residential
- Undevelopable
- Unknown
- Vacant Developable (includes Farming)
- Water

Aerial: TX Orthoimagery Program Texas 2015 Aerial
Land Use: HGAC 2016 April



LAND USE AND DISPLACEMENTS

Appendix F - Sheet 2B

Document Path: \\ushou1fs001\prod\Projects_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix E- Resource Specific Maps\Sheet 2 - Land Use.mxd

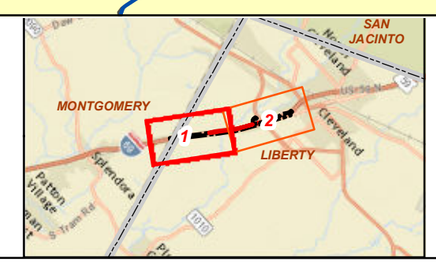
US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573

Texas Department of Transportation

0 500 1,000 Feet

Legend

- County Boundaries
- Existing ROW
- Proposed ROW
- Proposed Detention Pond
- Railroad
- 00 Census Tract
- 00 Census Block
- 00 Census Block Group
- High Minority Census Block



CENSUS TRACTS, BLOCK GROUPS AND BLOCKS IN THE PROJECT AREA

Appendix F - Sheet 3A

Document Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix E- Resource Specific Maps\Sheet 3 - Census Tract.mxd

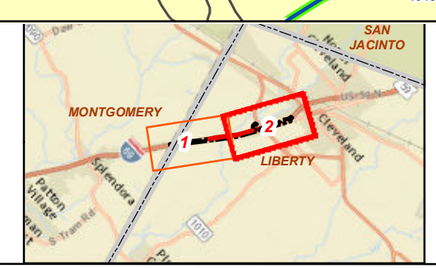
US 59
Fostoria Road at the Montgomery/
Liberty County line to SL 573

Texas Department of Transportation

0 500 1,000 Feet

Legend

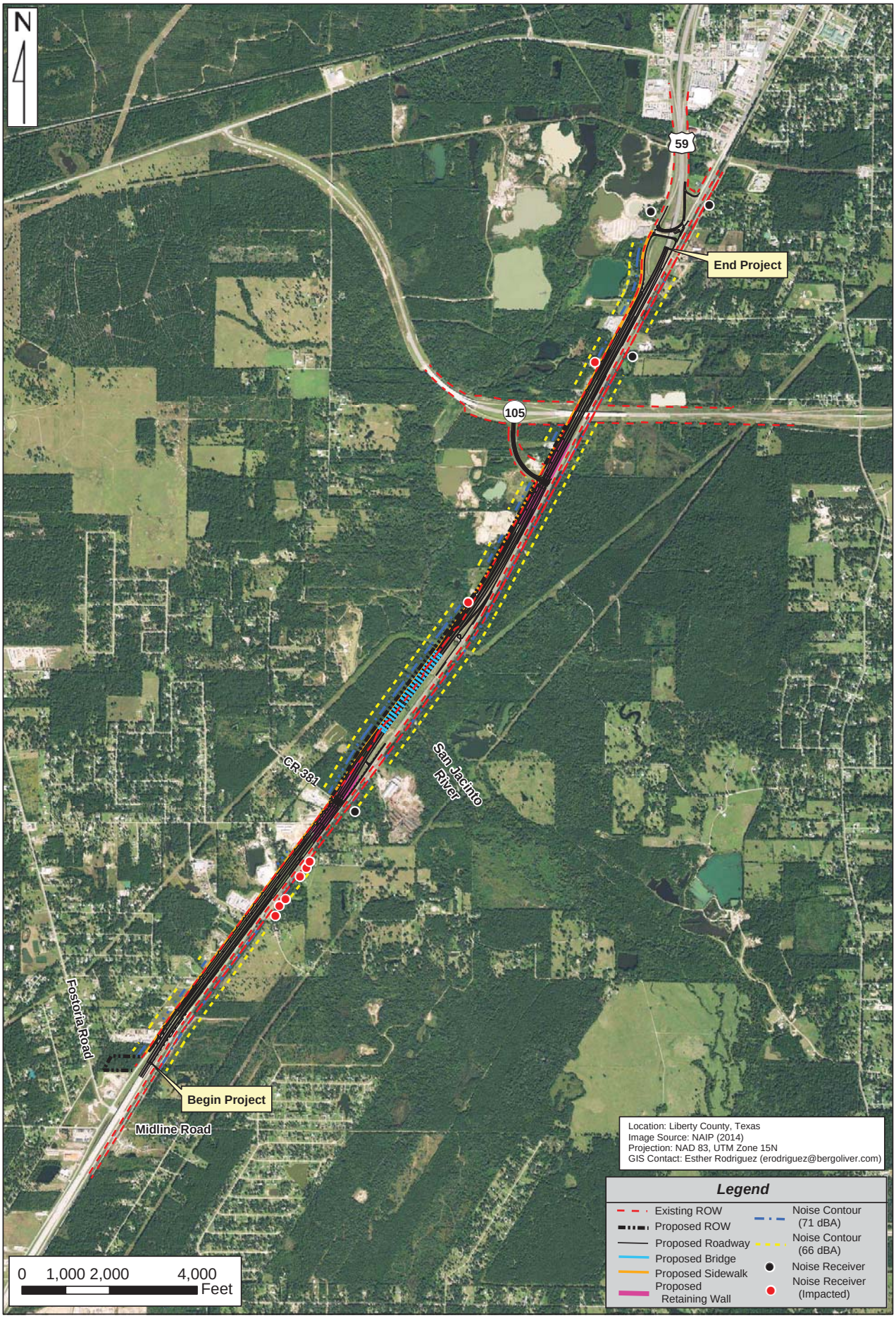
- County Boundaries
- Existing ROW
- Proposed ROW
- Proposed Detention Pond
- Railroad
- 00 Census Tract
- 00 Census Block
- 00 Census Block Group
- High Minority Census Block



CENSUS TRACTS, BLOCK GROUPS AND BLOCKS IN THE PROJECT AREA

Appendix F - Sheet 3B

Document Path: P:_TRANS\60278496-US 59 Schematic\400_Technical\423_Environmental\GIS\EA\EA_Appendix_Figures\Appendix E- Resource Specific Maps\Sheet 3 - Census Tract.mxd

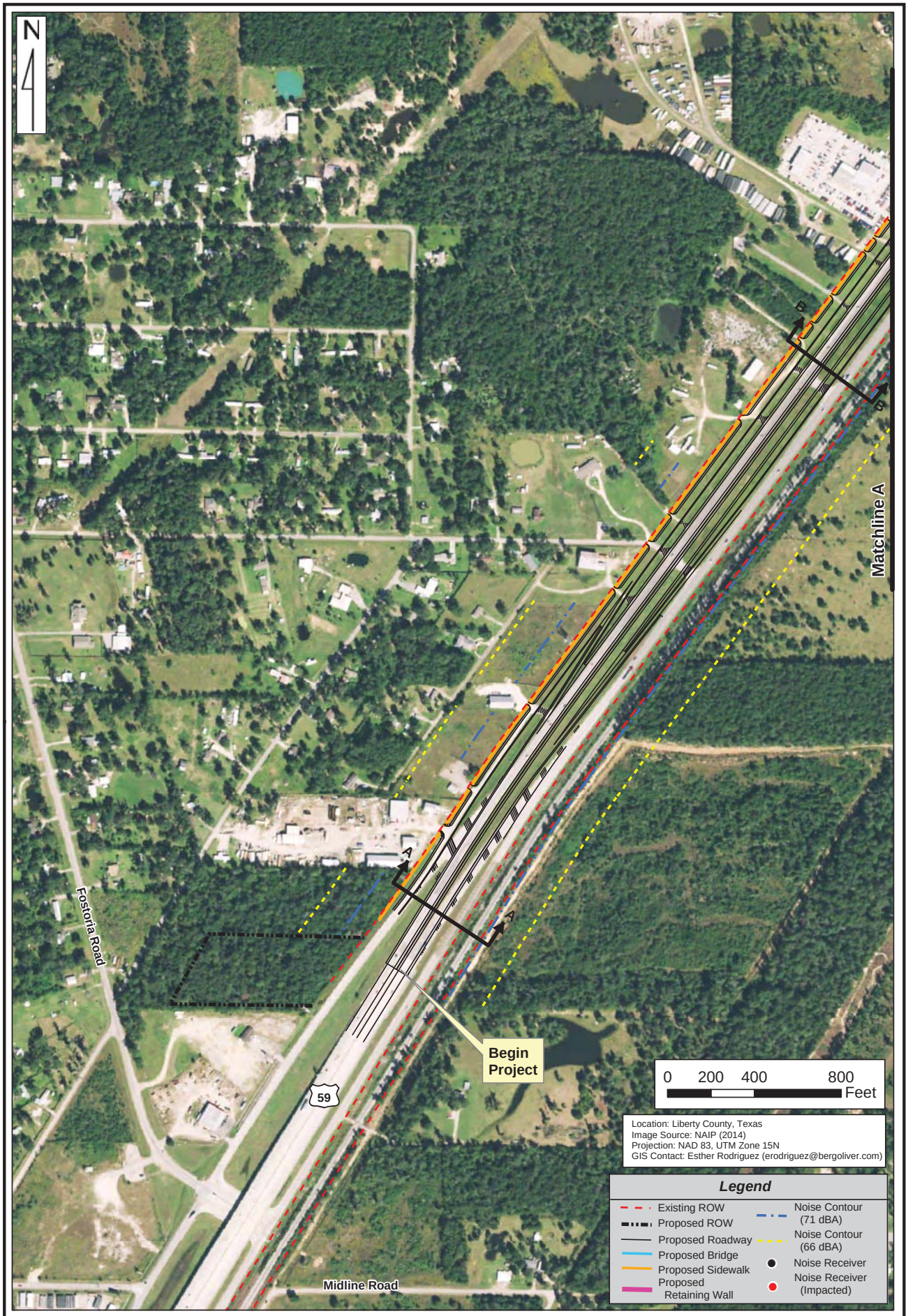


TRAFFIC NOISE IMPACTS MAP-OVERALL
Figure 4A

Project #: 8414T-EA; CSJ: 0177-03-096
For: AECOM (O/B TXDOT)
Location: US 59 (from Fostoria Rd to SL 573)
Montgomery and Liberty County, Texas

REVISIONS
Oct. 23, 2013 by MER
Feb. 23, 2016 by MER

BERG ✦OLIVER ASSOCIATES, INC.
ENVIRONMENTAL SCIENCE & LAND USE CONSULTANTS
14701 ST. MARY'S LANE, SUITE 400
HOUSTON, TEXAS 77079 PHONE (281)589-0898 http://www.bergoliver.com



TRAFFIC NOISE IMPACTS MAP
Figure 4B Sheet 1 of 5

Project #: 8414T-EA; CSJ: 0177-03-096
For: AECOM (O/B TXDOT)
Location: US 59 (from Fostoria Rd to SL 573)
Montgomery and Liberty County, Texas

REVISIONS
Sept. 11, 2013 by MER
Oct. 22, 2013 by MER
Feb. 23, 2016 by MER

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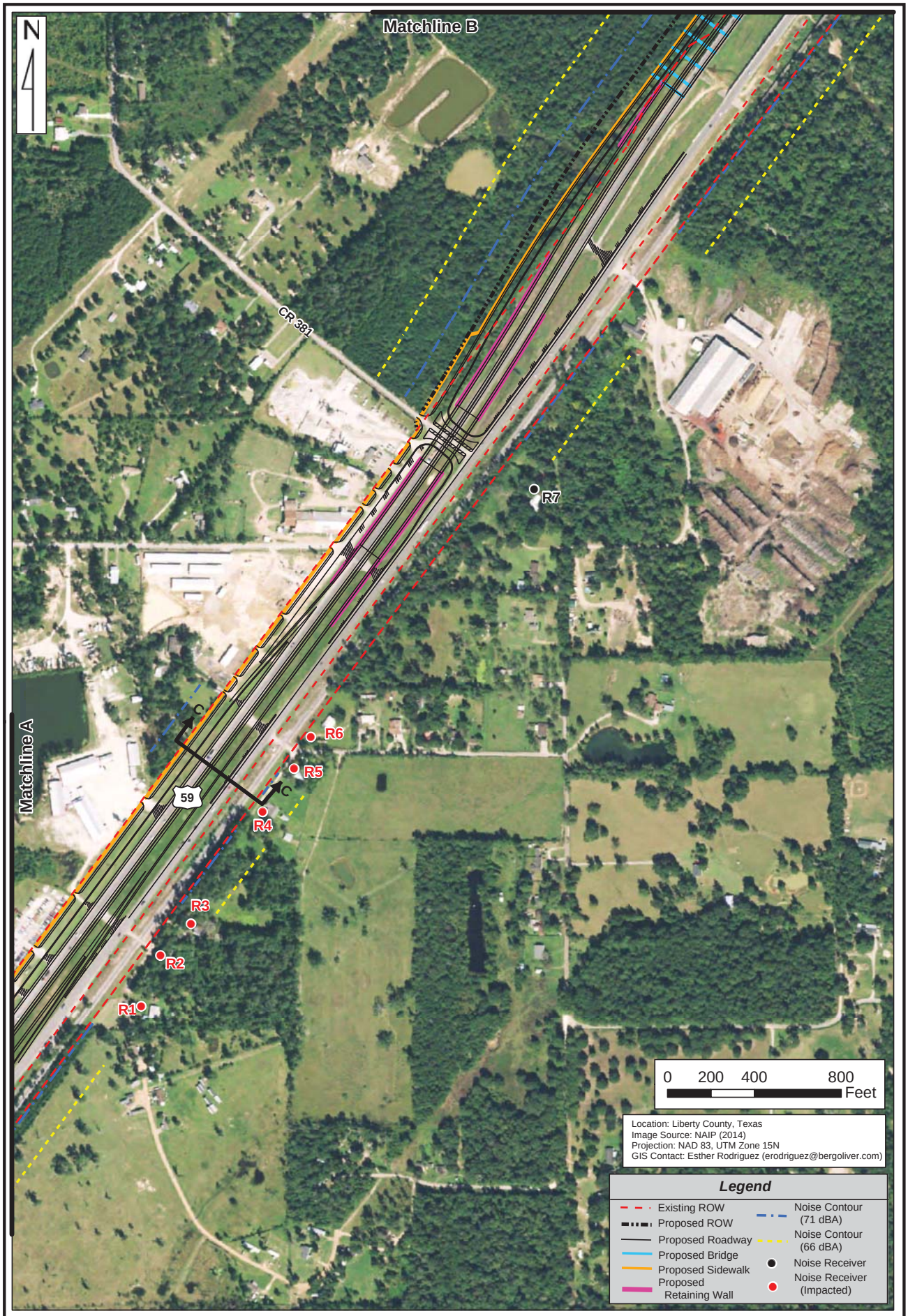

TRAFFIC NOISE IMPACTS MAP
Figure 4B Sheet 2 of 5

Project #: 8414T-EA; CSJ: 0177-03-096
For: AECOM (O/B TXDOT)
Location: US 59 (from Fostoria Rd to SL 573)
Montgomery and Liberty County, Texas

REVISIONS
Sept. 11, 2013 by MER
Oct. 22, 2013 by MER
Feb. 23, 2016 by MER

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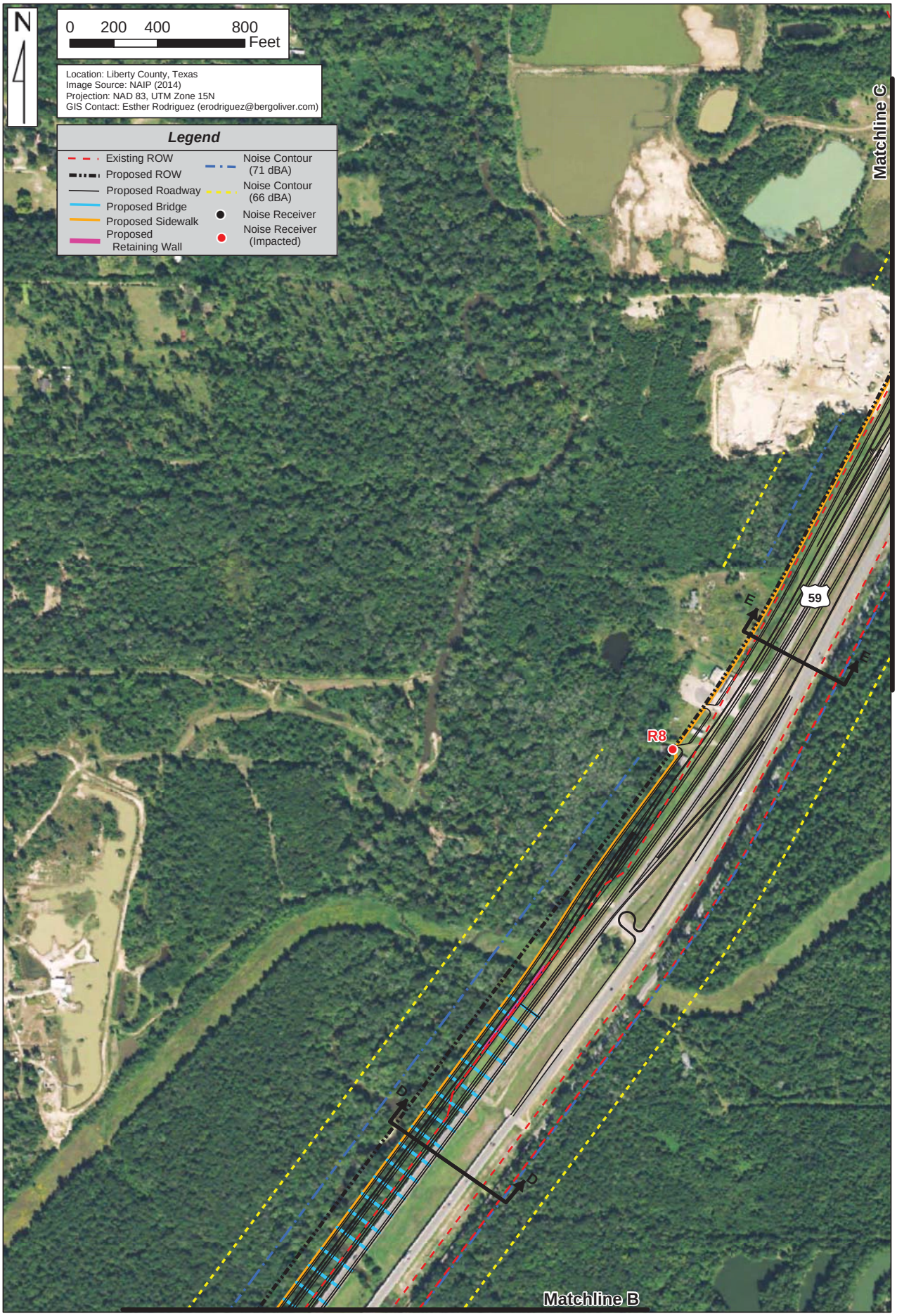

TRAFFIC NOISE IMPACTS MAP
Figure 4B Sheet 3 of 5

Project #: 8414T-EA; CSJ: 0177-03-096
For: AECOM (O/B TXDOT)
Location: US 59 (from Fostoria Rd to SL 573)
Montgomery and Liberty County, Texas

REVISIONS
Sept. 11, 2013 by MER
Oct. 22, 2013 by MER
Feb. 23, 2016 by MER

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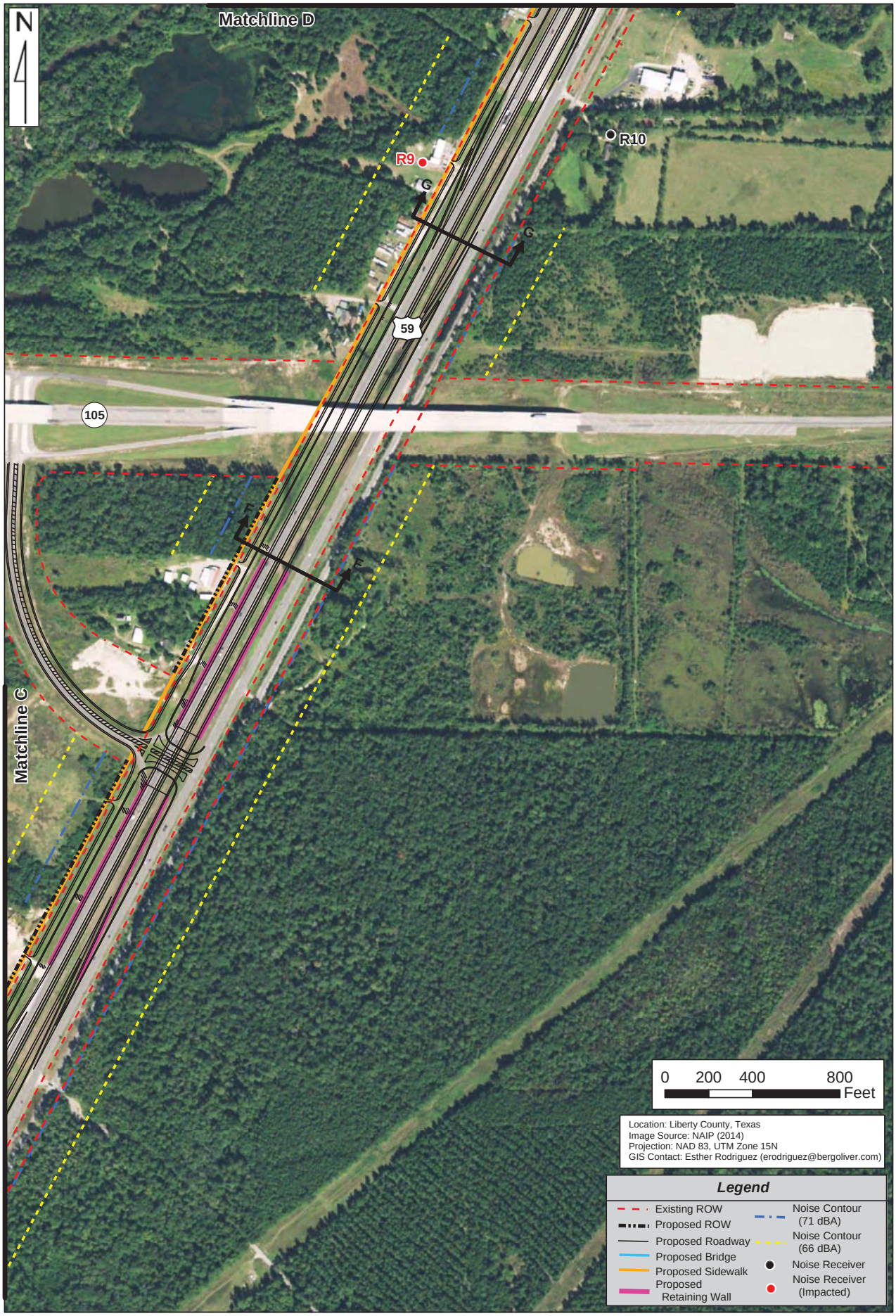

TRAFFIC NOISE IMPACTS MAP
Figure 4B Sheet 4 of 5

Project #: 8414T-EA; CSJ: 0177-03-096
For: AECOM (O/B TXDOT)
Location: US 59 (from Fostoria Rd to SL 573)
Montgomery and Liberty County, Texas

REVISIONS
Sept. 11, 2013 by MER
Oct. 22, 2013 by MER
Feb. 23, 2016 by MER

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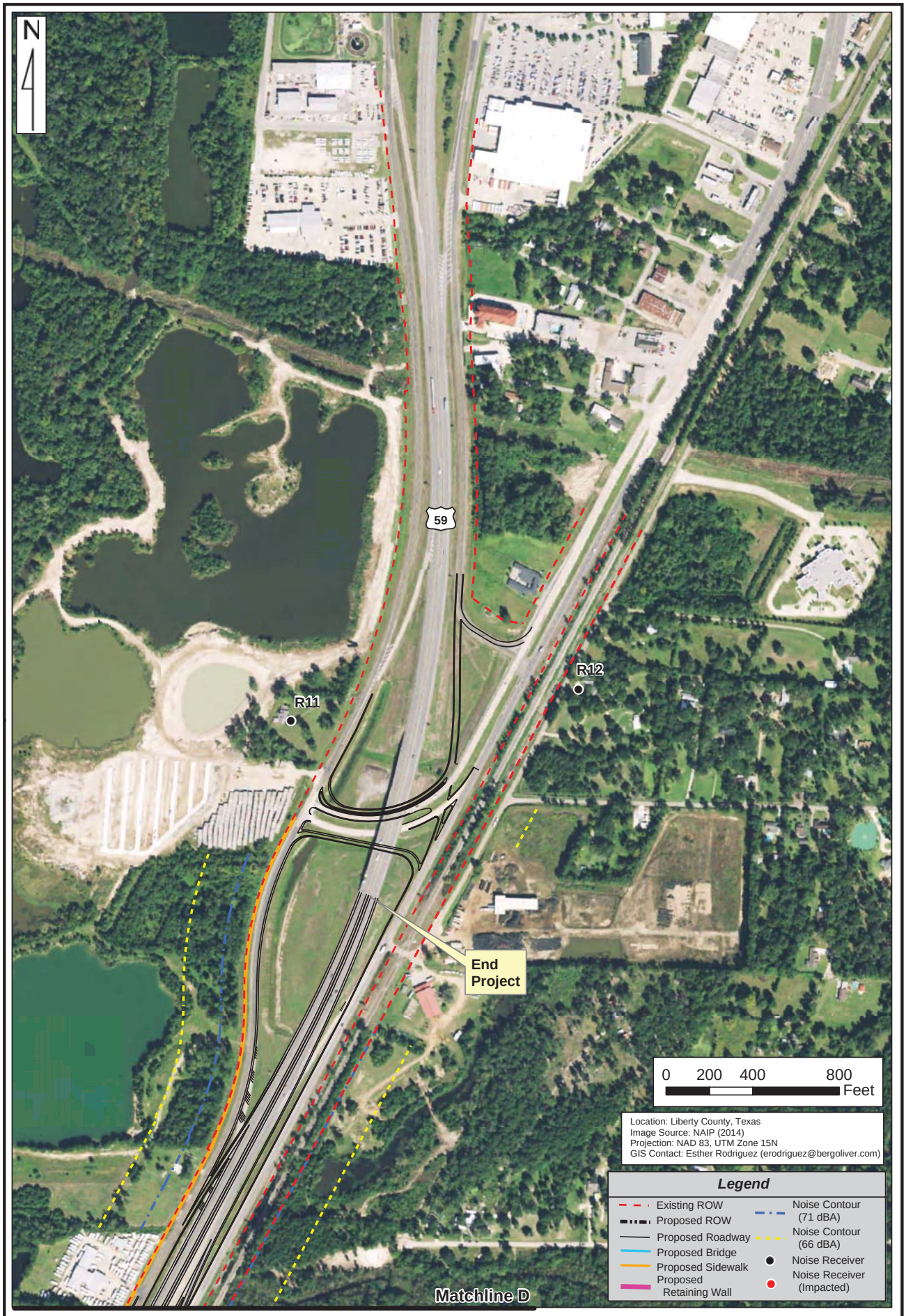

TRAFFIC NOISE IMPACTS MAP
Figure 4B Sheet 5 of 5

Project #: 8414T-EA; CSJ: 0177-03-096
For: AECOM (O/B TXDOT)
Location: US 59 (from Fostoria Rd to SL 573)
Montgomery and Liberty County, Texas

REVISIONS
Sept. 11, 2013 by MER
Oct. 22, 2013 by MER
Feb. 23, 2016 by MER

BERG ✦OLIVER ASSOCIATES, INC.
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14701 ST. MARY'S LANE, SUITE 400
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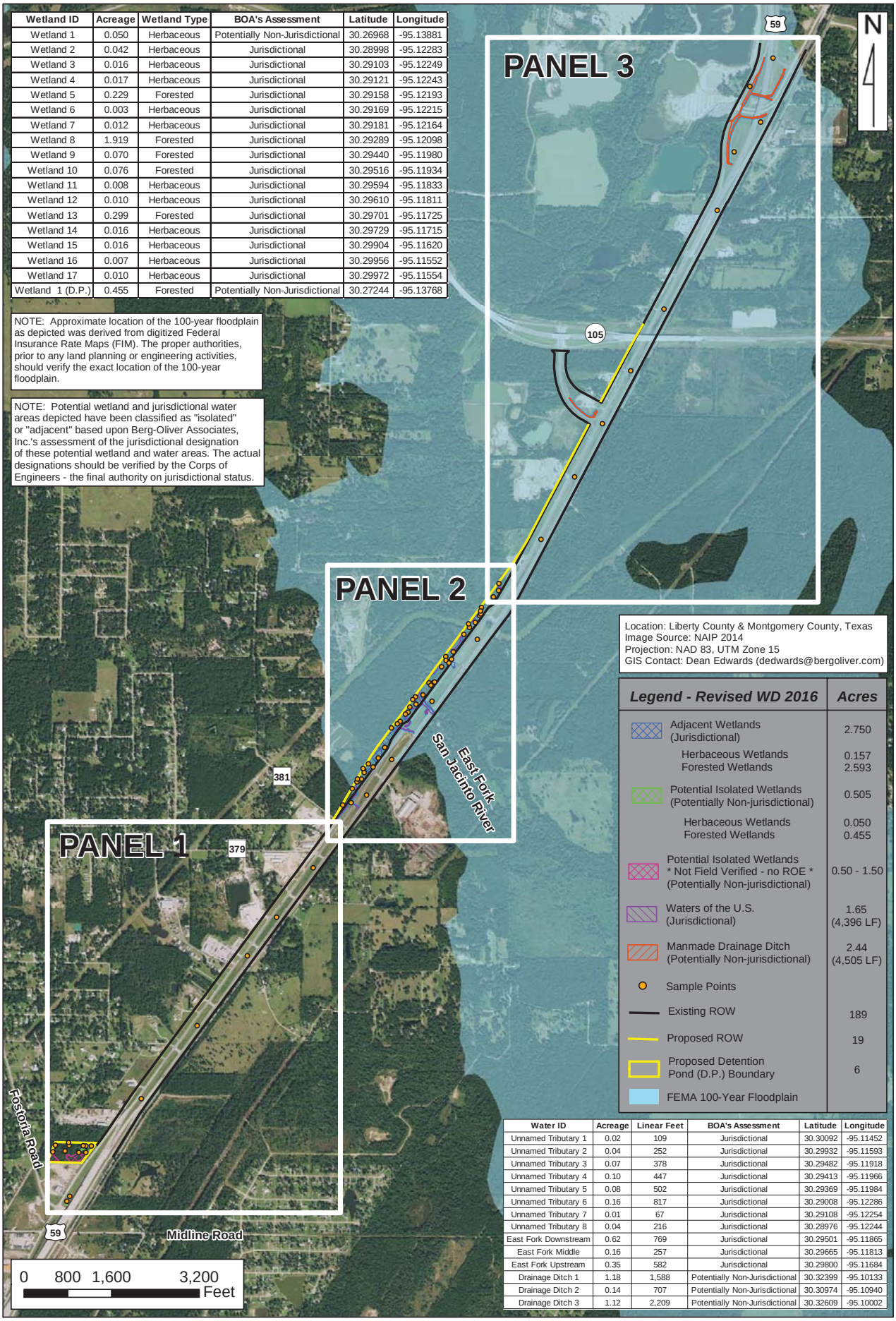
Wetland ID	Acreage	Wetland Type	BOA's Assessment	Latitude	Longitude
Wetland 1	0.050	Herbaceous	Potentially Non-Jurisdictional	30.26968	-95.13881
Wetland 2	0.042	Herbaceous	Jurisdictional	30.28998	-95.12283
Wetland 3	0.016	Herbaceous	Jurisdictional	30.29103	-95.12249
Wetland 4	0.017	Herbaceous	Jurisdictional	30.29121	-95.12243
Wetland 5	0.229	Forested	Jurisdictional	30.29158	-95.12193
Wetland 6	0.003	Herbaceous	Jurisdictional	30.29169	-95.12215
Wetland 7	0.012	Herbaceous	Jurisdictional	30.29181	-95.12164
Wetland 8	1.919	Forested	Jurisdictional	30.29289	-95.12098
Wetland 9	0.070	Forested	Jurisdictional	30.29440	-95.11980
Wetland 10	0.076	Forested	Jurisdictional	30.29516	-95.11934
Wetland 11	0.008	Herbaceous	Jurisdictional	30.29594	-95.11833
Wetland 12	0.010	Herbaceous	Jurisdictional	30.29610	-95.11811
Wetland 13	0.299	Forested	Jurisdictional	30.29701	-95.11725
Wetland 14	0.016	Herbaceous	Jurisdictional	30.29729	-95.11715
Wetland 15	0.016	Herbaceous	Jurisdictional	30.29904	-95.11620
Wetland 16	0.007	Herbaceous	Jurisdictional	30.29956	-95.11552
Wetland 17	0.010	Herbaceous	Jurisdictional	30.29972	-95.11554
Wetland 1 (D.P.)	0.455	Forested	Potentially Non-Jurisdictional	30.27244	-95.13768

NOTE: Approximate location of the 100-year floodplain as depicted was derived from digitized Federal Insurance Rate Maps (FIM). The proper authorities, prior to any land planning or engineering activities, should verify the exact location of the 100-year floodplain.

NOTE: Potential wetland and jurisdictional water areas depicted have been classified as "isolated" or "adjacent" based upon Berg-Oliver Associates, Inc.'s assessment of the jurisdictional designation of these potential wetland and water areas. The actual designations should be verified by the Corps of Engineers - the final authority on jurisdictional status.



Location: Liberty County & Montgomery County, Texas
Image Source: NAIP 2014
Projection: NAD 83, UTM Zone 15
GIS Contact: Dean Edwards (dedwards@bergoliver.com)

Legend - Revised WD 2016	Acres
Adjacent Wetlands (Jurisdictional)	2.750
Herbaceous Wetlands	0.157
Forested Wetlands	2.593
Potential Isolated Wetlands (Potentially Non-jurisdictional)	0.505
Herbaceous Wetlands	0.050
Forested Wetlands	0.455
Potential Isolated Wetlands * Not Field Verified - no ROE * (Potentially Non-jurisdictional)	0.50 - 1.50
Waters of the U.S. (Jurisdictional)	1.65 (4,396 LF)
Manmade Drainage Ditch (Potentially Non-jurisdictional)	2.44 (4,505 LF)
Sample Points	
Existing ROW	189
Proposed ROW	19
Proposed Detention Pond (D.P.) Boundary	6
FEMA 100-Year Floodplain	

Water ID	Acreage	Linear Feet	BOA's Assessment	Latitude	Longitude
Unnamed Tributary 1	0.02	109	Jurisdictional	30.30092	-95.11452
Unnamed Tributary 2	0.04	252	Jurisdictional	30.29932	-95.11593
Unnamed Tributary 3	0.07	378	Jurisdictional	30.29482	-95.11918
Unnamed Tributary 4	0.10	447	Jurisdictional	30.29413	-95.11966
Unnamed Tributary 5	0.08	502	Jurisdictional	30.29369	-95.11984
Unnamed Tributary 6	0.16	817	Jurisdictional	30.29008	-95.12286
Unnamed Tributary 7	0.01	67	Jurisdictional	30.29108	-95.12254
Unnamed Tributary 8	0.04	216	Jurisdictional	30.28976	-95.12244
East Fork Downstream	0.62	769	Jurisdictional	30.29501	-95.11865
East Fork Middle	0.16	257	Jurisdictional	30.29665	-95.11813
East Fork Upstream	0.35	582	Jurisdictional	30.29800	-95.11684
Drainage Ditch 1	1.18	1,588	Potentially Non-Jurisdictional	30.32399	-95.10133
Drainage Ditch 2	0.14	707	Potentially Non-Jurisdictional	30.30974	-95.10940
Drainage Ditch 3	1.12	2,209	Potentially Non-Jurisdictional	30.32609	-95.10002

Figure 5 - WETLAND DETERMINATION AND CLASSIFICATION

REVISED WETLAND DELINEATION FEBRUARY 2016

Project #: 8414T-EA CSJ:0177-03-096
For: AECOM (O/B TXDOT)
Location: US 59 (from Fostoria Rd to SH 105)
Liberty County & Montgomery County, Texas

REVISIONS
12/04/14 HNC
Jan. 11, 2016 by DBE
2/26/16 by ADY

BERG*OLIVER ASSOCIATES, INC.
ENVIRONMENTAL SCIENCE & LAND USE CONSULTANTS
14701 ST. MARY'S LANE, SUITE 400
HOUSTON, TEXAS 77079 PHONE (281)589-0898 http://www.bergoliver.com

Wetland ID	Acreage	Wetland Type	BOA's Assessment	Latitude	Longitude
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Wetland 2	0.042	Herbaceous	Jurisdictional	30.28998	-95.12283
Wetland 3	0.016	Herbaceous	Jurisdictional	30.29103	-95.12249
Wetland 4	0.017	Herbaceous	Jurisdictional	30.29121	-95.12243
Wetland 5	0.229	Forested	Jurisdictional	30.29158	-95.12193
Wetland 6	0.003	Herbaceous	Jurisdictional	30.29169	-95.12215
Wetland 7	0.012	Herbaceous	Jurisdictional	30.29181	-95.12164
Wetland 8	1.919	Forested	Jurisdictional	30.29289	-95.12098
Wetland 9	0.070	Forested	Jurisdictional	30.29440	-95.11980
Wetland 10	0.076	Forested	Jurisdictional	30.29516	-95.11934
Wetland 11	0.008	Herbaceous	Jurisdictional	30.29594	-95.11833
Wetland 12	0.010	Herbaceous	Jurisdictional	30.29610	-95.11811
Wetland 13	0.299	Forested	Jurisdictional	30.29701	-95.11725
Wetland 14	0.016	Herbaceous	Jurisdictional	30.29729	-95.11715
Wetland 15	0.016	Herbaceous	Jurisdictional	30.29904	-95.11620
Wetland 16	0.007	Herbaceous	Jurisdictional	30.29956	-95.11552
Wetland 17	0.010	Herbaceous	Jurisdictional	30.29972	-95.11554
Wetland 1 (D.P.)	0.455	Forested	Potentially Non-Jurisdictional	30.27244	-95.13768

Water ID	Acreage	Linear Feet	BOA's Assessment	Latitude	Longitude
Unnamed Tributary 1	0.02	109	Jurisdictional	30.30092	-95.11452
Unnamed Tributary 2	0.04	252	Jurisdictional	30.29932	-95.11593
Unnamed Tributary 3	0.07	378	Jurisdictional	30.29482	-95.11918
Unnamed Tributary 4	0.10	447	Jurisdictional	30.29413	-95.11966
Unnamed Tributary 5	0.08	502	Jurisdictional	30.29369	-95.11984
Unnamed Tributary 6	0.16	817	Jurisdictional	30.29008	-95.12286
Unnamed Tributary 7	0.01	67	Jurisdictional	30.29108	-95.12254
Unnamed Tributary 8	0.04	216	Jurisdictional	30.28976	-95.12244
East Fork Downstream	0.62	769	Jurisdictional	30.29501	-95.11865
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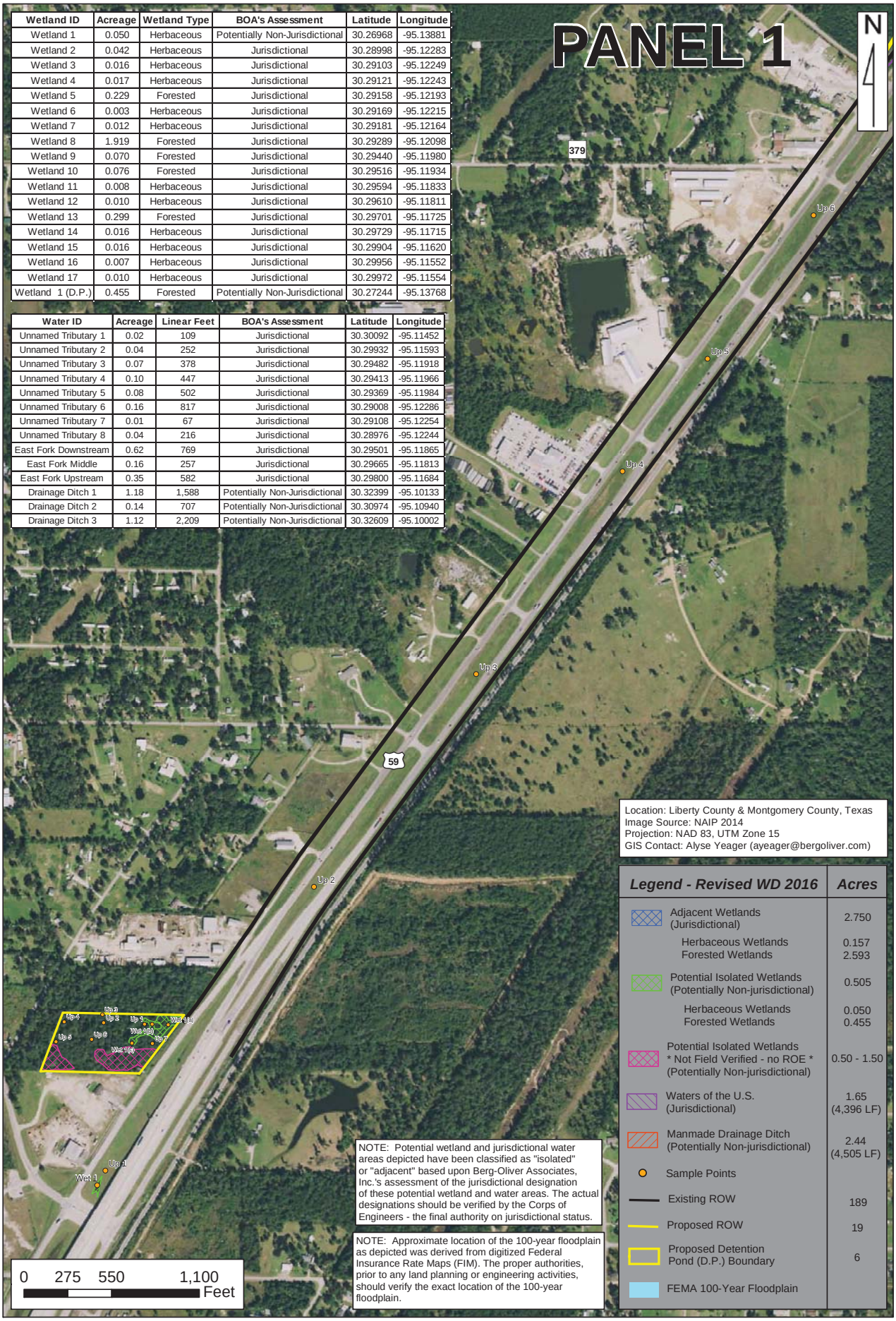
Drainage Ditch 1	1.18	1,588	Potentially Non-Jurisdictional	30.32399	-95.10133
Drainage Ditch 2	0.14	707	Potentially Non-Jurisdictional	30.30974	-95.10940
Drainage Ditch 3	1.12	2,209	Potentially Non-Jurisdictional	30.32609	-95.10002



Location: Liberty County & Montgomery County, Texas
Image Source: NAIP 2014
Projection: NAD 83, UTM Zone 15
GIS Contact: Alyse Yeager (ayeager@bergoliver.com)

Legend - Revised WD 2016	Acres
Adjacent Wetlands (Jurisdictional)	2.750
Herbaceous Wetlands	0.157
Forested Wetlands	2.593
Potential Isolated Wetlands (Potentially Non-jurisdictional)	0.505
Herbaceous Wetlands	0.050
Forested Wetlands	0.455
Potential Isolated Wetlands * Not Field Verified - no ROE * (Potentially Non-jurisdictional)	0.50 - 1.50
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Manmade Drainage Ditch (Potentially Non-jurisdictional)	2.44 (4,505 LF)
Sample Points	
Existing ROW	189
Proposed ROW	19
Proposed Detention Pond (D.P.) Boundary	6
FEMA 100-Year Floodplain	

NOTE: Potential wetland and jurisdictional water areas depicted have been classified as "isolated" or "adjacent" based upon Berg-Oliver Associates, Inc.'s assessment of the jurisdictional designation of these potential wetland and water areas. The actual designations should be verified by the Corps of Engineers - the final authority on jurisdictional status.

NOTE: Approximate location of the 100-year floodplain as depicted was derived from digitized Federal Insurance Rate Maps (FIM). The proper authorities, prior to any land planning or engineering activities, should verify the exact location of the 100-year floodplain.

Figure 5 - WETLAND DETERMINATION AND CLASSIFICATION
PANEL 1- REVISED WETLAND DELINEATION FEBRUARY 2016

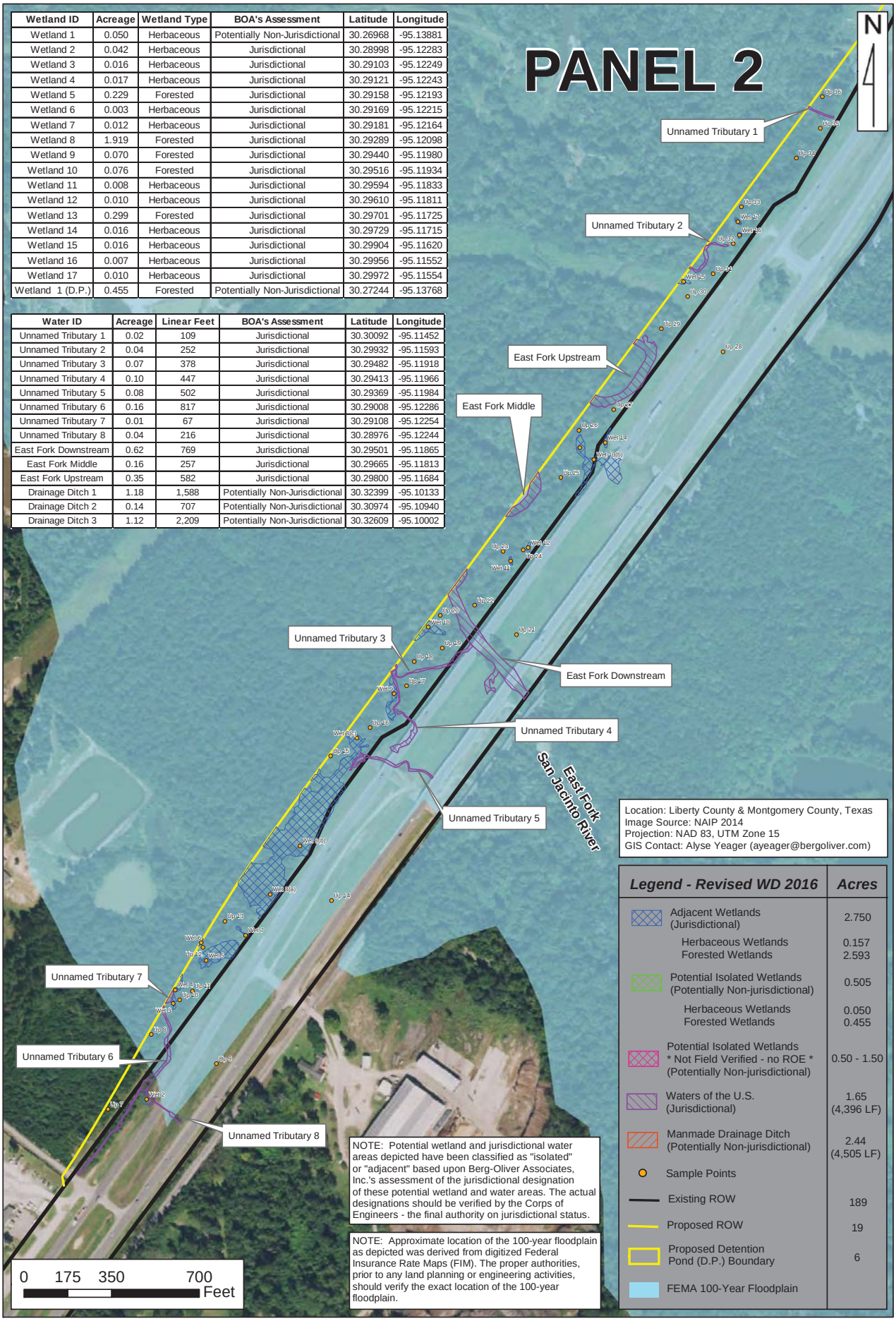
Project #: 8414T-EA CSJ:0177-03-096
For: AECOM (O/B TXDOT)
Location: US 59 (from Fostoria Rd to SH 105)
Liberty County & Montgomery County, Texas

REVISIONS
10/29/14 HNC
11/03/14 HNC
11/18/14 HNC
12/04/14 HNC
02/26/16 by ADY

BERG OLIVER ASSOCIATES, INC.
ENVIRONMENTAL SCIENCE & LAND USE CONSULTANTS
14701 ST. MARY'S LANE, SUITE 400
HOUSTON, TEXAS 77079 PHONE (281)589-0898 http://www.bergoliver.com

Wetland ID	Acreage	Wetland Type	BOA's Assessment	Latitude	Longitude
Wetland 1	0.050	Herbaceous	Potentially Non-Jurisdictional	30.26968	-95.13881
Wetland 2	0.042	Herbaceous	Jurisdictional	30.28998	-95.12283
Wetland 3	0.016	Herbaceous	Jurisdictional	30.29103	-95.12249
Wetland 4	0.017	Herbaceous	Jurisdictional	30.29121	-95.12243
Wetland 5	0.229	Forested	Jurisdictional	30.29158	-95.12193
Wetland 6	0.003	Herbaceous	Jurisdictional	30.29169	-95.12215
Wetland 7	0.012	Herbaceous	Jurisdictional	30.29181	-95.12164
Wetland 8	1.919	Forested	Jurisdictional	30.29289	-95.12098
Wetland 9	0.070	Forested	Jurisdictional	30.29440	-95.11980
Wetland 10	0.076	Forested	Jurisdictional	30.29516	-95.11934
Wetland 11	0.008	Herbaceous	Jurisdictional	30.29594	-95.11833
Wetland 12	0.010	Herbaceous	Jurisdictional	30.29610	-95.11811
Wetland 13	0.299	Forested	Jurisdictional	30.29701	-95.11725
Wetland 14	0.016	Herbaceous	Jurisdictional	30.29729	-95.11715
Wetland 15	0.016	Herbaceous	Jurisdictional	30.29904	-95.11620
Wetland 16	0.007	Herbaceous	Jurisdictional	30.29956	-95.11552
Wetland 17	0.010	Herbaceous	Jurisdictional	30.29972	-95.11554
Wetland 1 (D.P.)	0.455	Forested	Potentially Non-Jurisdictional	30.27244	-95.13768

Water ID	Acreage	Linear Feet	BOA's Assessment	Latitude	Longitude
Unnamed Tributary 1	0.02	109	Jurisdictional	30.30092	-95.11452
Unnamed Tributary 2	0.04	252	Jurisdictional	30.29932	-95.11593
Unnamed Tributary 3	0.07	378	Jurisdictional	30.29482	-95.11918
Unnamed Tributary 4	0.10	447	Jurisdictional	30.29413	-95.11966
Unnamed Tributary 5	0.08	502	Jurisdictional	30.29369	-95.11984
Unnamed Tributary 6	0.16	817	Jurisdictional	30.29008	-95.12286
Unnamed Tributary 7	0.01	67	Jurisdictional	30.29108	-95.12254
Unnamed Tributary 8	0.04	216	Jurisdictional	30.28976	-95.12244
East Fork Downstream	0.62	769	Jurisdictional	30.29501	-95.11865
East Fork Middle	0.16	257	Jurisdictional	30.29665	-95.11813
East Fork Upstream	0.35	582	Jurisdictional	30.29800	-95.11684
Drainage Ditch 1	1.18	1,588	Potentially Non-Jurisdictional	30.32399	-95.10133
Drainage Ditch 2	0.14	707	Potentially Non-Jurisdictional	30.30974	-95.10940
Drainage Ditch 3	1.12	2,209	Potentially Non-Jurisdictional	30.32609	-95.10002



Location: Liberty County & Montgomery County, Texas
Image Source: NAIP 2014
Projection: NAD 83, UTM Zone 15
GIS Contact: Alyse Yeager (ayeager@bergoliver.com)

Legend - Revised WD 2016	Acres
Adjacent Wetlands (Jurisdictional)	2.750
Herbaceous Wetlands	0.157
Forested Wetlands	2.593
Potential Isolated Wetlands (Potentially Non-jurisdictional)	0.505
Herbaceous Wetlands	0.050
Forested Wetlands	0.455
Potential Isolated Wetlands * Not Field Verified - no ROE * (Potentially Non-jurisdictional)	0.50 - 1.50
Waters of the U.S. (Jurisdictional)	1.65 (4,396 LF)
Manmade Drainage Ditch (Potentially Non-jurisdictional)	2.44 (4,505 LF)
Sample Points	
Existing ROW	189
Proposed ROW	19
Proposed Detention Pond (D.P.) Boundary	6
FEMA 100-Year Floodplain	

NOTE: Potential wetland and jurisdictional water areas depicted have been classified as "isolated" or "adjacent" based upon Berg-Oliver Associates, Inc.'s assessment of the jurisdictional designation of these potential wetland and water areas. The actual designations should be verified by the Corps of Engineers - the final authority on jurisdictional status.

NOTE: Approximate location of the 100-year floodplain as depicted was derived from digitized Federal Insurance Rate Maps (FIM). The proper authorities, prior to any land planning or engineering activities, should verify the exact location of the 100-year floodplain.

Figure 5- WETLAND DETERMINATION AND CLASSIFICATION
PANEL 2 - REVISED WETLAND DELINEATION FEBRUARY 2016

Project #: 8414T-EA CSJ:0177-03-096
For: AECOM (O/B TXDOT)
Location: US 59 (from Fostoria Rd to SH 105)
Liberty County & Montgomery County, Texas

REVISIONS
12/04/14 HNC
02/26/16 by ADY

BERG OLIVER ASSOCIATES, INC.
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HOUSTON, TEXAS 77079 PHONE (281)589-0898 http://www.bergoliver.com

Wetland ID	Acreage	Wetland Type	BOA's Assessment	Latitude	Longitude
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Wetland 3	0.016	Herbaceous	Jurisdictional	30.29103	-95.12249
Wetland 4	0.017	Herbaceous	Jurisdictional	30.29121	-95.12243
Wetland 5	0.229	Forested	Jurisdictional	30.29158	-95.12193
Wetland 6	0.003	Herbaceous	Jurisdictional	30.29169	-95.12215
Wetland 7	0.012	Herbaceous	Jurisdictional	30.29181	-95.12164
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Wetland 10	0.076	Forested	Jurisdictional	30.29516	-95.11934
Wetland 11	0.008	Herbaceous	Jurisdictional	30.29594	-95.11833
Wetland 12	0.010	Herbaceous	Jurisdictional	30.29610	-95.11811
Wetland 13	0.299	Forested	Jurisdictional	30.29701	-95.11725
Wetland 14	0.016	Herbaceous	Jurisdictional	30.29729	-95.11715
Wetland 15	0.016	Herbaceous	Jurisdictional	30.29904	-95.11620
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Wetland 17	0.010	Herbaceous	Jurisdictional	30.29972	-95.11554
Wetland 1 (D.P.)	0.455	Forested	Potentially Non-Jurisdictional	30.27244	-95.13768

Water ID	Acreage	Linear Feet	BOA's Assessment	Latitude	Longitude
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Unnamed Tributary 6	0.16	817	Jurisdictional	30.29008	-95.12286
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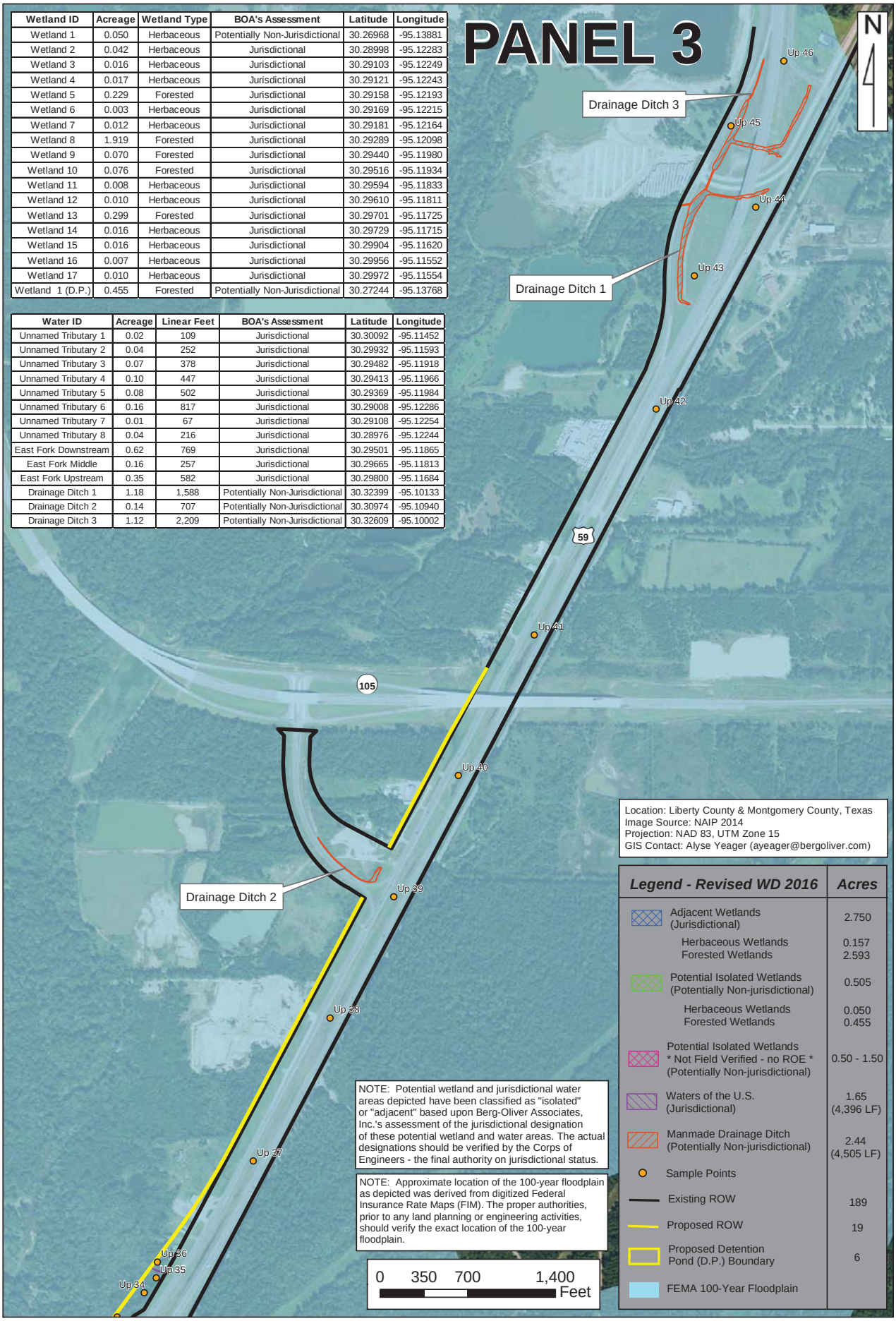

Figure 5- WETLAND DETERMINATION AND CLASSIFICATION

PANEL 3- REVISED WETLAND DELINEATION FEBRUARY 2016

Project #: 8414T-EA CSJ:0177-03-096
For: AECOM (O/B TXDOT)
Location: US 59 (from Fostoria Rd to SH 105)
Liberty County & Montgomery County, Texas

REVISIONS
12/04/14 HNC
1/05/16 DBE
02/26/16 by ADY

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HOUSTON, TEXAS 77079 PHONE (281)589-0898 http://www.bergoliver.com

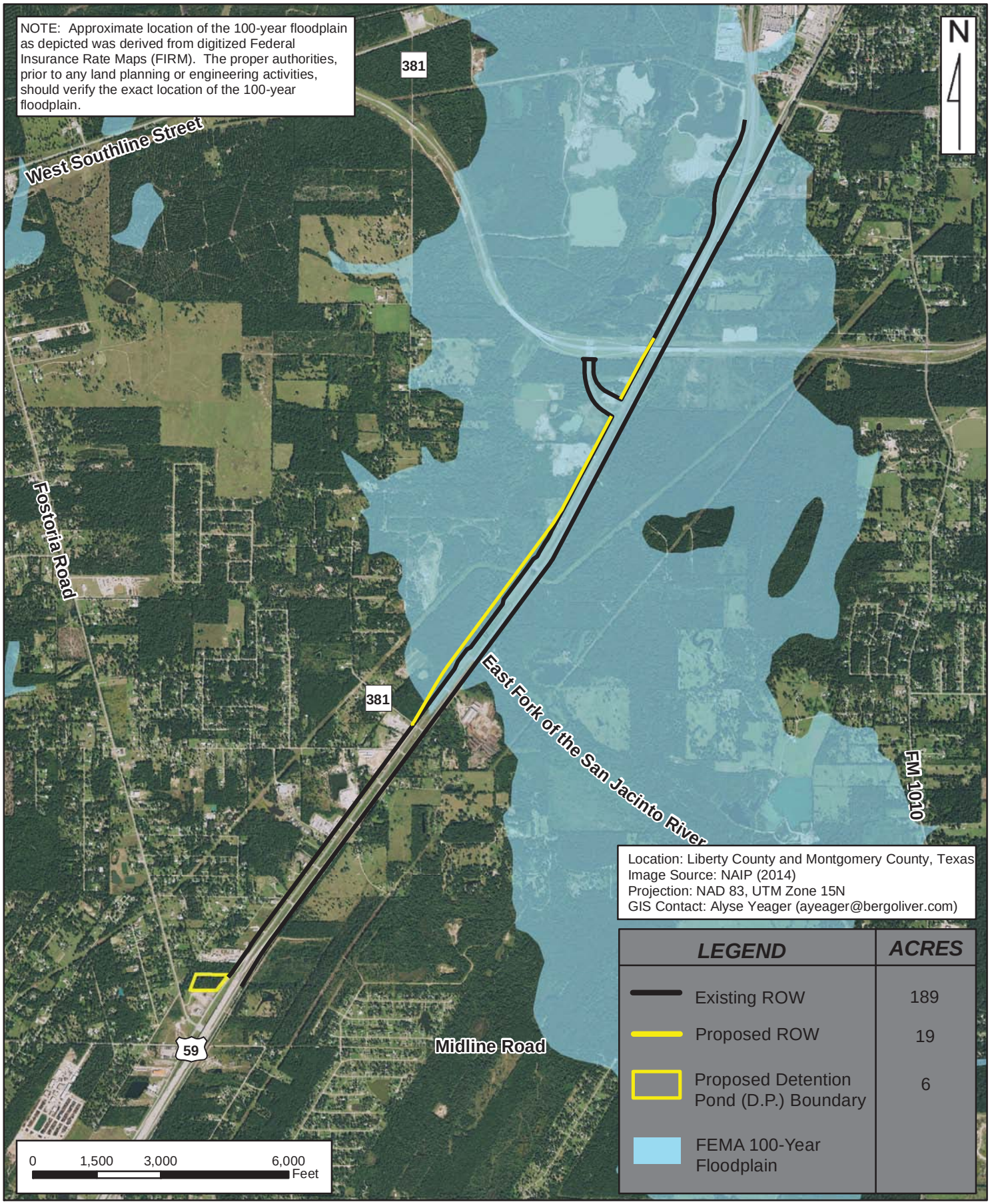
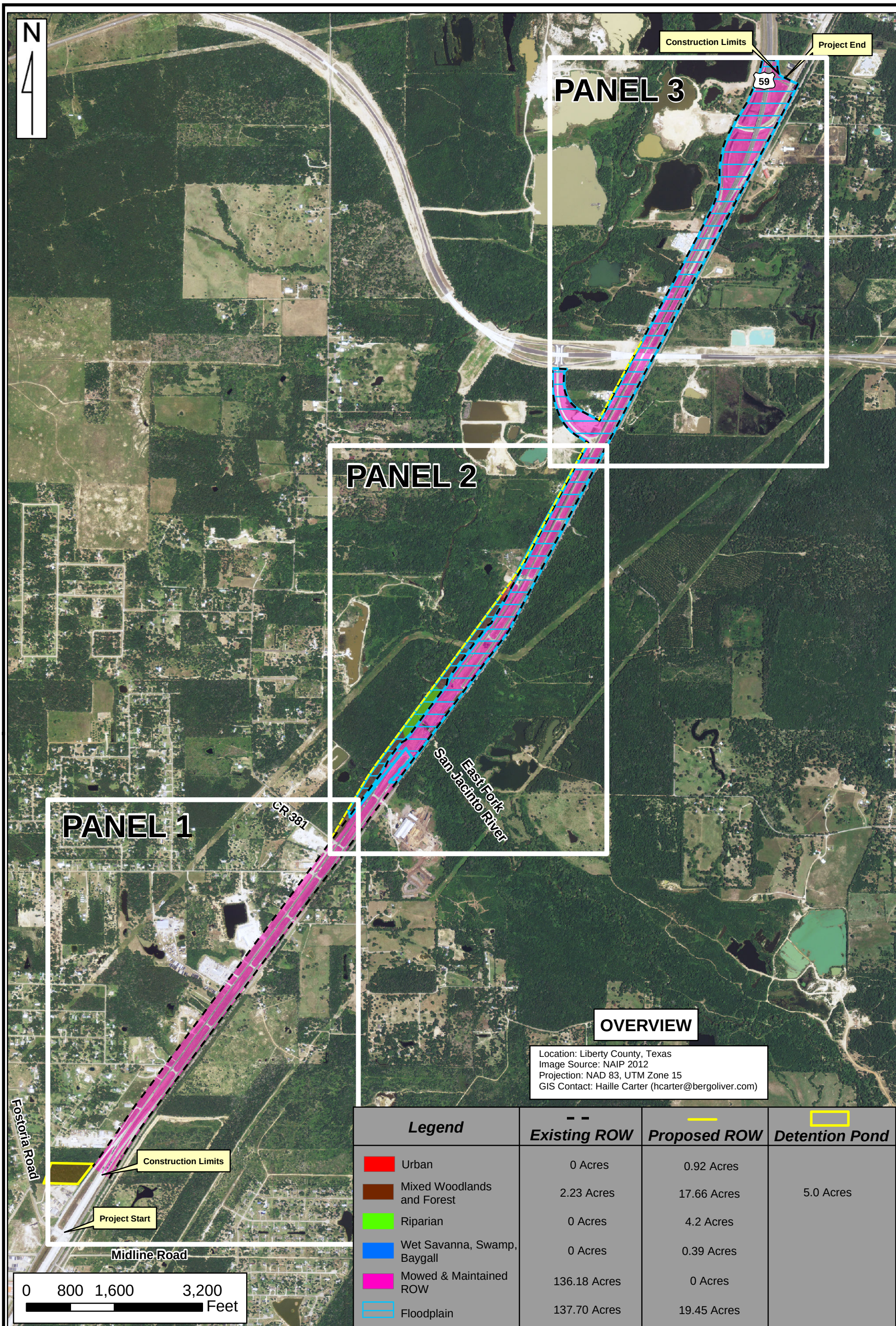


Figure 6 - FEMA 100-YEAR FLOODPLAIN ON 2014 NAIP AERIAL

Project #: 8414T-EA CSJ: 0177-03-096
For: AECOM (O/B TXDOT)
Location: US 59 (from Fostoria Rd to SL 573)
Liberty County and Montgomery County, Texas

REVISIONS
2/26/16 by ADY

BERG◆OLIVER ASSOCIATES, INC.
ENVIRONMENTAL SCIENCE & LAND USE CONSULTANTS
14701 ST. MARY'S LANE, SUITE 400
HOUSTON, TEXAS 77079 PHONE (281)589-0898 http://www.bergoliver.com

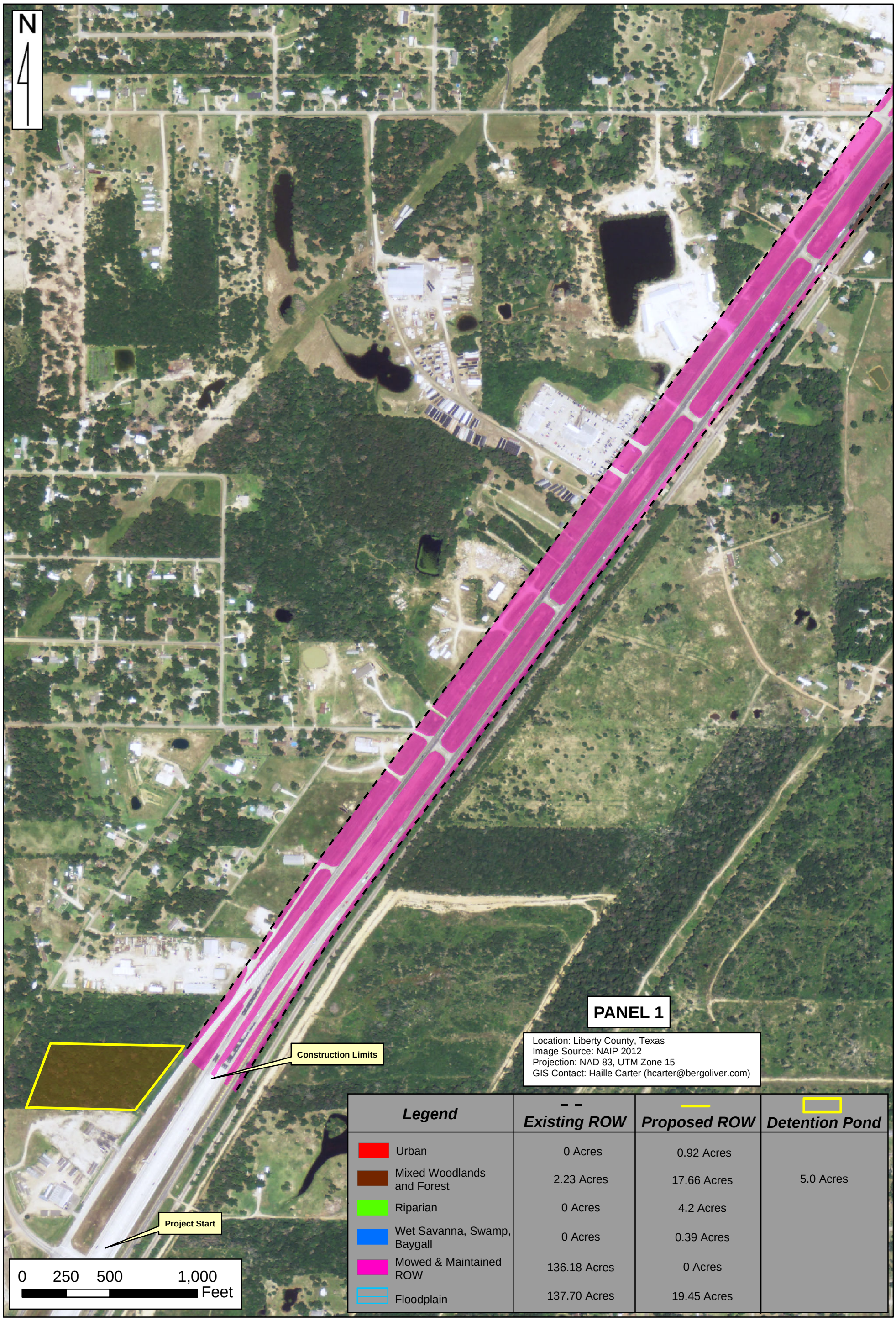


Legend	Existing ROW	Proposed ROW	Detention Pond
Urban	0 Acres	0.92 Acres	
Mixed Woodlands and Forest	2.23 Acres	17.66 Acres	5.0 Acres
Riparian	0 Acres	4.2 Acres	
Wet Savanna, Swamp, Baygall	0 Acres	0.39 Acres	
Mowed & Maintained ROW	136.18 Acres	0 Acres	
Floodplain	137.70 Acres	19.45 Acres	

Figure 7- US 59 SITE VEGETATION MAP

Project #: 8414T-EA CSJ:0177-03-096
For: AECOM (O/B TXDOT)
Location: US 59 (from Fostoria Rd to SL 573)
Montgomery & Liberty Counties, Texas

REVISIONS
May 30, 2013 HNC
July 12, 2013 by MDB
Feb. 1, 2016 by MDB
Nov. 15, 2016 by MDB



Legend	Existing ROW	Proposed ROW	Detention Pond
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Figure 7- US 59 SITE VEGETATION MAP

Project #: 8414T-EA CSJ:0177-03-096
For: AECOM (O/B TXDOT)
Location: US 59 (from Fostoria Rd to SL 573)
Montgomery & Liberty Counties, Texas

REVISIONS
May 30, 2013 HNC
July 12, 2013 by MDB
Feb. 1, 2016 by MDB
Nov. 15, 2016 by MDB

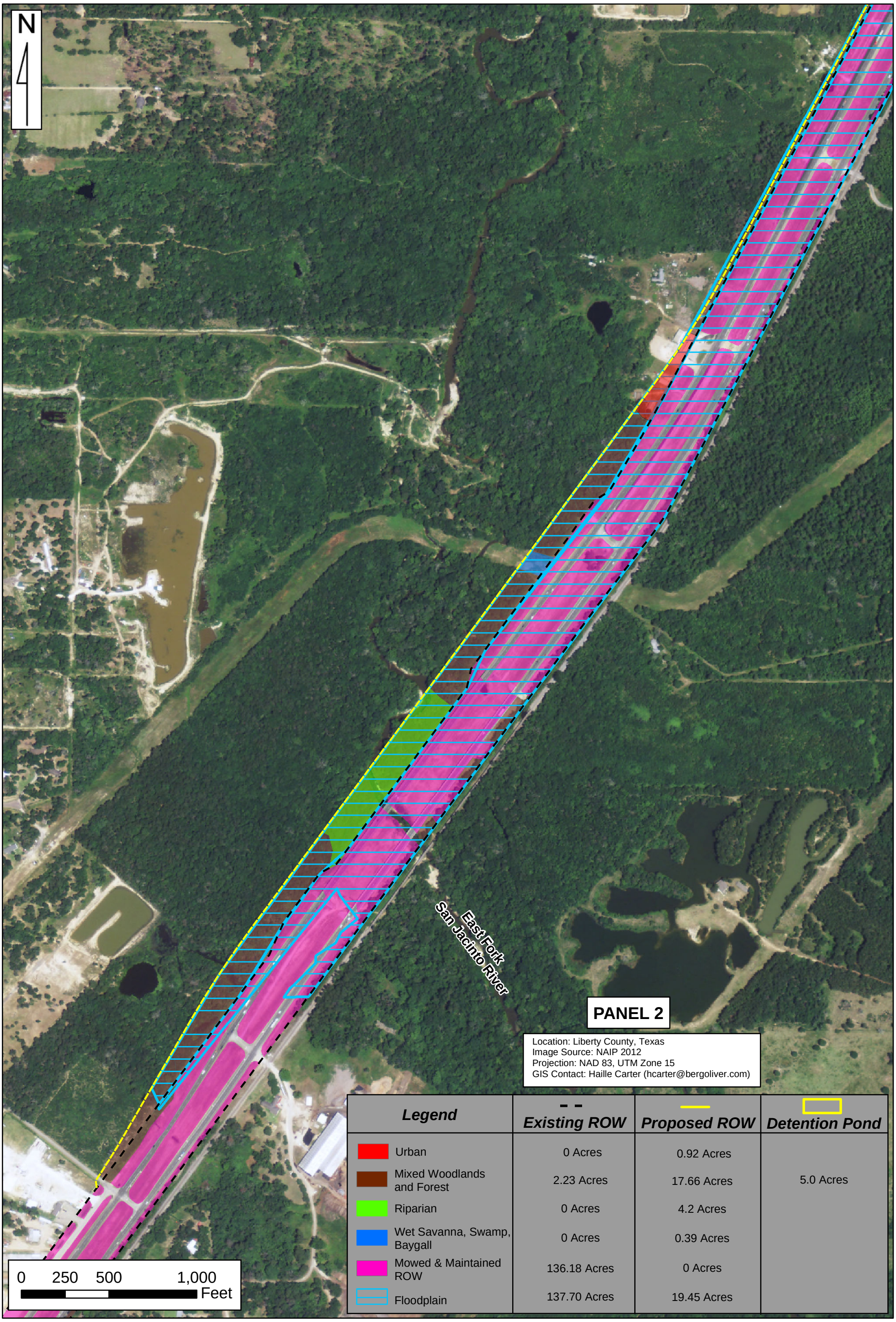

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Figure 7- US 59 SITE VEGETATION MAP

Project #: 8414T-EA CSJ:0177-03-096
For: AECOM (O/B TXDOT)
Location: US 59 (from Fostoria Rd to SL 573)
Montgomery & Liberty Counties, Texas

REVISIONS
May 30, 2013 HNC
July 12, 2013 by MDB
Feb.1, 2016 by MDB
Nov. 15, 2016 by MDB

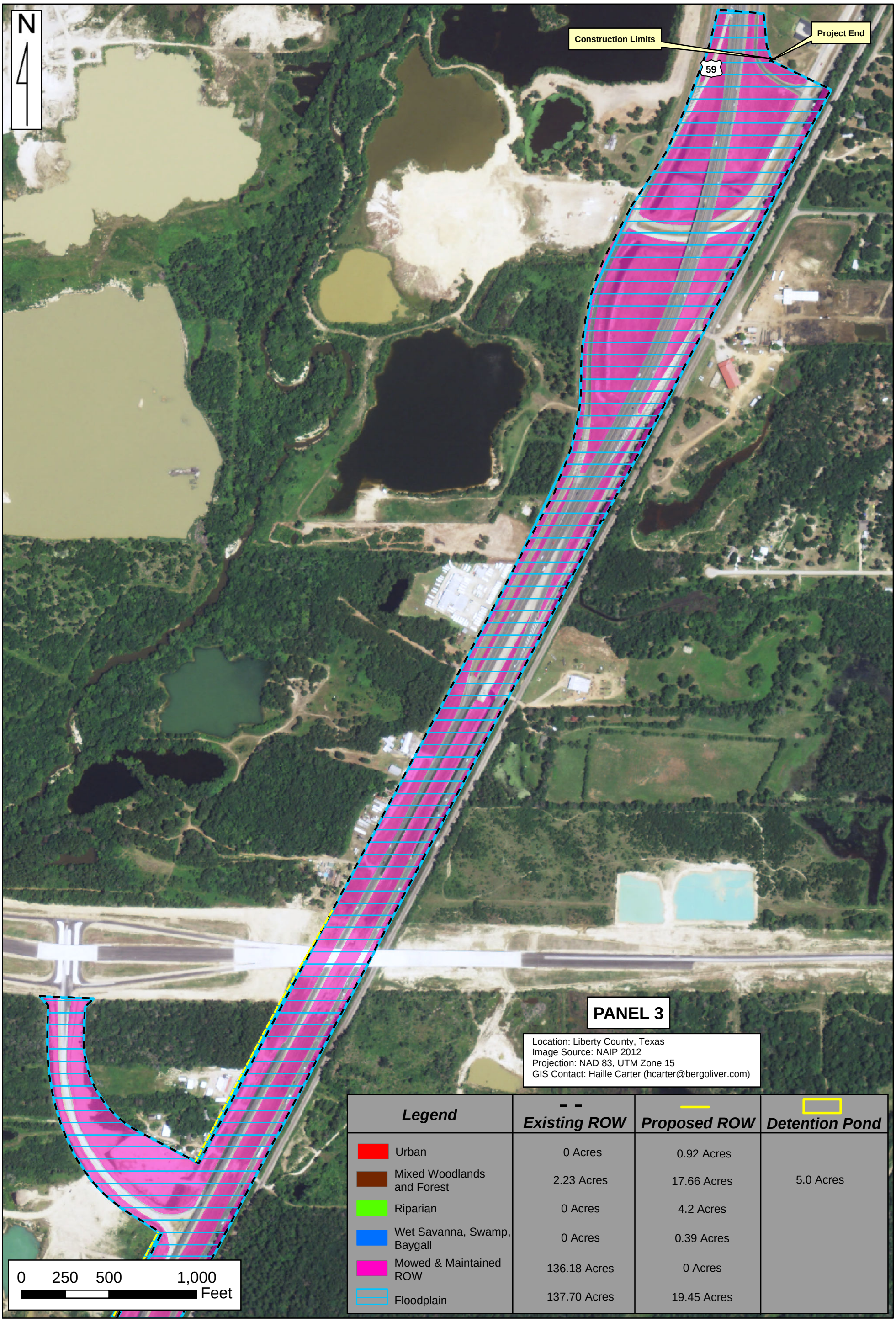

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Figure 7- US 59 SITE VEGETATION MAP

Project #: 8414T-EA CSJ:0177-03-096
For: AECOM (O/B TXDOT)
Location: US 59 (from Fostoria Rd to SL 573)
Montgomery & Liberty Counties, Texas

REVISIONS
May 30, 2013 HNC
July 12, 2013 by MDB
Feb. 1, 2016 by MDB
Nov. 15, 2016 by MDB

Appendix G - Resource Agency Coordination

Houston-Galveston Area Council

Congestion Mitigation Analysis

CSJ 0177-03-096
December 21, 2016

Analyst:
Stephan Gage

December 21, 2016

Scott Ayres
Texas Department of Transportation
Beaumont District
8350 Eastex Freeway
Beaumont, Texas 77708-1701

RE: Congestion Mitigation Analysis for US 59 from the Montgomery County line to South of Cleveland Bypass — CSJ# 0177-03-096

Dear Mr. Ayres:

The Houston-Galveston Area Council (H-GAC), the designated Metropolitan Planning Organization (MPO) for the region, has completed the Congestion Mitigation Analysis (CMA) for the above referenced project. Please review the findings of the CMA and forward them to the appropriate parties at the Texas Department of Transportation (TxDOT) and/or other organizations.

The results of the analysis indicate that the Level of Service for US 59 from the Montgomery County line to South of Cleveland Bypass is not and will not deteriorate enough to justify adding capacity. However, because US 59 has been designated an interstate highway, TxDOT would be justified in adding capacity as part of upgrading this section of highway to interstate standards as stated in the Purpose and Need Section of the Environment Assessment for the project.

Since this is a US Highway in a rural area, with a limited number of intersecting roadways and a sparse population, no Transportation System Management (TSM) and/or Travel Demand Management (TDM) strategies are appropriate for this project. Therefore, the implementing agency does not have to commit to include TSM or TDM strategies as part of the project.

If you have any questions or concerns about the CMA report, please do not hesitate to contact me at (713) 499-6692.

Sincerely,

Stephan Gage
Chief Transportation Planner
Houston-Galveston Area Council

Project Description

The limits of this project are US 59 from the Montgomery County, Texas line to the South end of the US 59 Cleveland Bypass in Cleveland, Texas. It is an existing 4.28-mile stretch of US 59 with four lanes and an open center median with no frontage roads. The facility is located in a rural area with limited development. The proposed project would upgrade the facility to interstate standards by widening the freeway to 6 lanes and adding frontage roads. This upgrade would make this section of the facility consistent with sections south to Houston, TX, and north through Cleveland, TX.

Findings

The Level of Service (LOS) on US 59 from the Montgomery County, Texas line to the South end of the US 59 Cleveland Bypass in Cleveland, Texas is currently level A (See Exhibit A). LOS for projected roadway volumes in 2025 are level B (See Exhibit B). Additional roadway capacity is not justified based on LOS. However, US 59 has been designated as an interstate highway (I-69), additional roadway capacity is warranted to bring the facility up to interstate standard as quickly as possible.

Because this section of the facility is in a rural area with a limited number of intersecting roadways and a sparsely populated area there are no Transportation System Management (TSM) or Travel Demand Management (TDM) measures appropriate for this facility. Additional capacity on this facility can be further investigated contingent to the considerations describe below.

Background

The current Congestion Management Process (CMP) for the Houston-Galveston metropolitan area was adopted in January 2015. The CMP requires the performance of a Congestion Mitigation Analysis (CMA) on significant added capacity roadway projects. It is the stated policy of the CMP to apply cost-effective TSM and/or TDM measures as the first component of all congestion reduction strategies. Added capacity roadway projects, such as those being considered for this section of US 59 are typically only justified if cost-effective congestion reduction strategies fail to reduce vehicular congestion to acceptable levels.

EXHIBIT A

BASIC FREEWAY WORKSHEET

BASIC FREEWAY SEGMENTS WORKSHEET

General Information			Site Information		
Analyst	*Stephan Gage*		Highway/Direction of Travel	*US 59*	
Agency or Company			From/To	*Montgomery CO to Cleveland Byp*	
Date Performed	*12/21/2016*		Jurisdiction	*TxDOT Beaumont*	
Analysis Time Period	*2016*		Analysis Year	*2016*	
Project Description	*CMA for CSJ 0177-03-096*				

☑ Oper.(LOS) ☐ Des.(N) ☑ Planning Data

Flow Inputs					
Volume, V	*2191*	veh/h	Peak-Hour Factor, PHF	*0.94*	
AADT	*44266*	veh/day	%Trucks and Buses, P_T	*5*	
Peak-Hr Prop. of AADT, K	*0.09*		%RVs, P_R	*0*	
Peak-Hr Direction Prop, D	*55*		General Terrain:	*Rolling*	
DDHV = AADT x K x D	*2191*	veh/h	Grade % Length Up/Down %	*mi*	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*2.0*
E_T	*2.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.930*

Speed Inputs			Calc Speed Adj and FFS		
Lane Width		ft			
Rt-Side Lat. Clearance		ft	f_{LW}		mph
Number of Lanes, N	*4*		f_{LC}		mph
Total Ramp Density, TRD		ramps/mi	TRD Adjustment		mph
FFS (measured)	*70.0*	mph	FFS	*70.0*	mph
Base free-flow Speed, BFFS		mph			

LOS and Performance Measures			Design (N)		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*626*	pc/h/ln	Design LOS		
S	*70.0*	mph	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
D = v_p / S	*8.9*	pc/mi/ln	S		mph
LOS	*A*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

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Page 1 of 1 12/21/2016

EXHIBIT B

BASIC FREEWAY WORKSHEET

BASIC FREEWAY SEGMENTS WORKSHEET

General Information			Site Information		
Analyst	*Stephan Gage*		Highway/Direction of Travel	*US 59*	
Agency or Company			From/To	*Montgomery CO to Cleveland Byp*	
Date Performed	*12/21/2016*		Jurisdiction	*TxDOT Beaumont*	
Analysis Time Period	*2025*		Analysis Year	*2025*	
Project Description	*CMA for CSJ 0177-03-096*				

☑ Oper.(LOS) ☐ Des.(N) ☑ Planning Data

Flow Inputs					
Volume, V	*3410*	veh/h	Peak-Hour Factor, PHF	*0.94*	
AADT	*68889*	veh/day	%Trucks and Buses, P_T	*5*	
Peak-Hr Prop. of AADT, K	*0.09*		%RVs, P_R	*0*	
Peak-Hr Direction Prop, D	*55*		General Terrain:	*Rolling*	
DDHV = AADT x K x D	*3410*	veh/h	Grade % Length Up/Down %	*mi*	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*2.0*
E_T	*2.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.930*

Speed Inputs			Calc Speed Adj and FFS		
Lane Width		ft			
Rt-Side Lat. Clearance		ft	f_{LW}		mph
Number of Lanes, N	*4*		f_{LC}		mph
Total Ramp Density, TRD		ramps/mi	TRD Adjustment		mph
FFS (measured)	*70.0*	mph	FFS	*70.0*	mph
Base free-flow Speed, BFFS		mph			

LOS and Performance Measures			Design (N)		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*975*	pc/h/ln	Design LOS		
S	*70.0*	mph	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
D = v_p / S	*13.9*	pc/mi/ln	S		mph
LOS	*B*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

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Page 1 of 1 12/21/2016

Attachment 3

USDA

United States Department of Agriculture

Natural Resources
Conservation Service

State Office

101 S. Main Street
Temple, TX 76501
Voice 254.742.9800
Fax 254.742.9819

February 4, 2015

AECOM
5444 Westheimer Road
Suite 200
Houston, Texas 77056

Attention: Miranda Maldonado

Subject: LNU-Farmland Protection
Proposed US 59 Roadway Expansion
Montgomery and Liberty Counties, Texas

We have reviewed the information provided in your correspondence dated January 20, 2015 concerning the roadway expansion in Montgomery and Liberty Counties, Texas. This review is part of the National Environmental Policy Act (NEPA) evaluation for Federal Highway Administrations (FHWA). We have evaluated the proposed site as required by the Farmland Protection Policy Act (FPPA).

The proposed project does contain soils classified as Important Farmland Soils. We have completed Parts II, IV, and V of the Farmland Conversion Impact Rating for Corridor Type Projects (CPA-106). The relative value of farmland in Part V should be used in your calculation for Part VII.

To meet reporting requirements of section 1546 of the Act, 7 U.S.C 4207, and for data collection purposes, after your agency has made a final decision on a project in which one or more of the alternative sites contain farmland subject to the FPPA, NRCS is requesting a return copy of the Form CPA-106, which indicates the final decision. We urge you to use accepted erosion control methods during all phases of construction.

If you have any questions, please contact me at (254) 742-9826, Fax (254) 742-9859 or by email at micki.yoder@tx.usda.gov.

Sincerely,

Drew Kinney

for Micki Yoder
NRCS Soil Conservationist

Attachment

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request 1/20/15	4. Sheet 1 of 1
1. Name of Project **US 59 Roadway Expansion**	5. Federal Agency Involved **FHWA**	
2. Type of Project	6. County and State **Montgomery and Liberty Counties, Texas**	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS 1/20/15	2. Person Completing Form Drew Kinney
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐		4. Acres Irrigated 5242 / Average Farm Size 195
5. Major Crop(s) Improved Bermudagrass	6. Farmable Land in Government Jurisdiction Acres: 602,210 80%	7. Amount of Farmland As Defined in FPPA Acres: 440,313 58 %
8. Name Of Land Evaluation System Used LESA	9. Name of Local Site Assessment System N/A	10. Date Land Evaluation Returned by NRCS 2-4-15

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	58			
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor				
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	8.5			
B. Total Acres Statewide And Local Important Farmland	43.7			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.0119			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	93			
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	39			

PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	Maximum Points				
1. Area in Nonurban Use	15				
2. Perimeter in Nonurban Use	10				
3. Percent Of Corridor Being Farmed	20				
4. Protection Provided By State And Local Government	20				
5. Size of Present Farm Unit Compared To Average	10				
6. Creation Of Nonfarmable Farmland	25				
7. Availablility Of Farm Support Services	5				
8. On-Farm Investments	20				
9. Effects Of Conversion On Farm Support Services	25				
10. Compatibility With Existing Agricultural Use	10				
TOTAL CORRIDOR ASSESSMENT POINTS	160	0	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland (From Part V)	100	0	0	0	0
Total Corridor Assessment (From Part VI above or a local site assessment)	160	0	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	0	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES ☐ NO ☐

5. Reason For Selection:

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

Amy M. Brook

From: Maldonado, Miranda <Miranda.Maldonado@aecom.com>
Sent: Thursday, February 11, 2016 1:16 PM
To: Amy M. Brook
Subject: RE: Proposed US 59 Expansion (BOA # 8414) - FPPA complete

Great!! Thanks.

Miranda Maldonado
Environmental Planner III
D 713.267.3220
miranda.maldonado@aecom.com

AECOM
5444 Westheimer Rd, Suite 200
Houston, TX 77056
T 713.780.4100 F 713.780.0838 www.aecom.com

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Please consider the environment before printing this e-mail.

From: Amy M. Brook [mailto:ABrook@bergoliver.com]
Sent: Thursday, February 11, 2016 12:50 PM
To: Maldonado, Miranda
Subject: FW: Proposed US 59 Expansion (BOA # 8414) - FPPA complete

Okay, Miranda…
Check out the email chain below… You're DONE with FPPA coordination.

Amy

From: Brittney Davis
Sent: Wednesday, February 10, 2016 12:18 PM
To: Yoder, Micki - NRCS, Temple, TX <Micki.Yoder@tx.usda.gov>
Cc: Amy M. Brook <ABrook@bergoliver.com>
Subject: RE: Proposed US 59 Expansion (BOA # 8414)

Great, thank you!

BD

From: Yoder, Micki - NRCS, Temple, TX [mailto:Micki.Yoder@tx.usda.gov]
Sent: Wednesday, February 10, 2016 12:16 PM
To: Brittney Davis <BDavis@bergoliver.com>
Subject: RE: Proposed US 59 Expansion (BOA # 8414)

Nothing you need to do.
Micki

From: Brittney Davis [mailto:BDavis@bergoliver.com]
Sent: Wednesday, February 10, 2016 12:11 PM
To: Yoder, Micki - NRCS, Temple, TX <Micki.Yoder@tx.usda.gov>
Cc: Amy M. Brook <ABrook@bergoliver.com>
Subject: RE: Proposed US 59 Expansion (BOA # 8414)

Thank you, Micki.

The conversion has not yet happened because the project design is not yet finalized.

Regarding the 160 threshold, our TxDOT form indicates that we do not need to complete Section VI because Section V scored below 60. Is there something you need us to do, or was that statement more of an FYI?

Thanks!!

BD
Brittney Davis, AICP
NEPA Specialist/Land Planner

Berg♦Oliver Associates, Inc.
14701 St. Mary's Lane, Suite 400
Houston, Texas 77079
281-589-0898 (office)
281-854-6195 (direct)
281-850-2836 (mobile)
bdavis@bergoliver.com

From: Yoder, Micki - NRCS, Temple, TX [mailto:Micki.Yoder@tx.usda.gov]
Sent: Wednesday, February 10, 2016 11:47 AM
To: Brittney Davis <BDavis@bergoliver.com>
Subject: RE: Proposed US 59 Expansion (BOA # 8414)

We would just like to know if the land in question did actually get converted even though it was under the 160 requirement and you could proceed. We have to send a report in at the end of the year of actual amounts of prime farmland that was converted where or not it was under 160 or not.

Just a curtesy I guess for our records. Nothing set in stone you have to do anything more.
Micki

From: Brittney Davis [mailto:BDavis@bergoliver.com]
Sent: Wednesday, February 10, 2016 10:57 AM
To: Yoder, Micki - NRCS, Temple, TX <Micki.Yoder@tx.usda.gov>

Cc: Amy M. Brook <ABrook@bergoliver.com>
Subject: Proposed US 59 Expansion (BOA # 8414)

Good morning, Micki.

I wanted to follow up with you regarding the attached CPA-106 form and request sent from your office last year.

The letter asks that we complete Section VII and return the form to your office. However, Section V only scored a 39 making coordination unnecessary. How should we proceed?

Please advise.

Thanks,

BD

Brittney Davis, AICP
NEPA Specialist/Land Planner

Berg♦Oliver Associates, Inc.
14701 St. Mary's Lane, Suite 400
Houston, Texas 77079
281-589-0898 (office)
281-854-6195 (direct)
281-850-2836 (mobile)
bdavis@bergoliver.com

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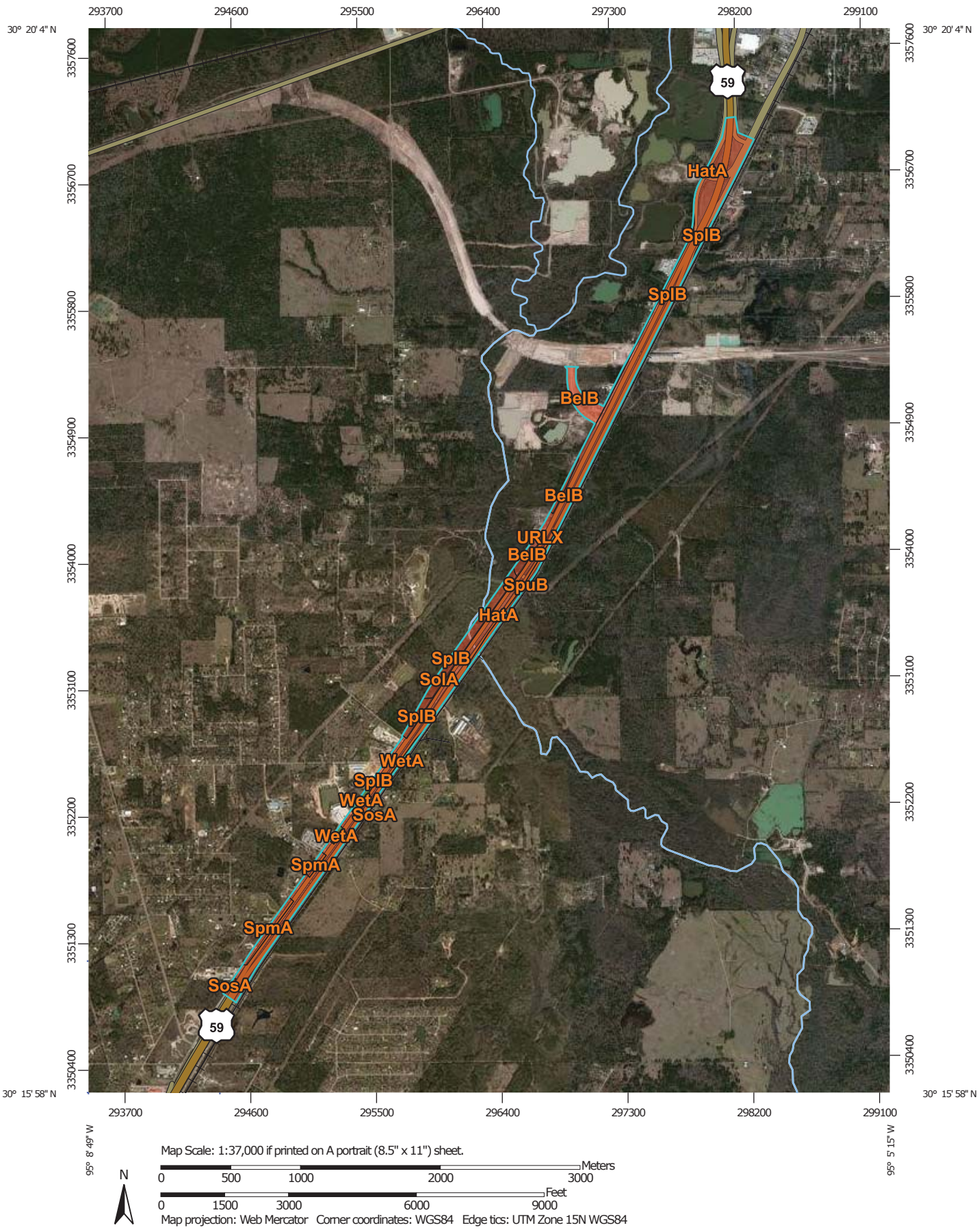
Farmland Classification—Liberty County, Texas
(New_BND)



Map Scale: 1:37,000 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 500 1000 2000 3000

Feet: 0 1500 3000 6000 9000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Liberty County, Texas
Survey Area Data: Version 13, Sep 28, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 5, 2011—Apr 19, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Farmland Classification— Summary by Map Unit — Liberty County, Texas (TX291)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
BelB	Belrose loamy fine sand, 0 to 3 percent slopes	Not prime farmland	20.5	9.1%
HatA	Hatliff-Pluck-Kian complex, 0 to 1 percent slopes, frequently flooded	Not prime farmland	14.4	6.4%
SolA	Sorter silt loam, 0 to 1 percent slopes	Not prime farmland	4.9	2.2%
SosA	Sorter-Tarkington complex, 0 1 percent slopes	Not prime farmland	0.5	0.2%
SplB	Splendora fine sandy loam, 0 to 2 percent slopes	Not prime farmland	8.1	3.6%
SpmA	Splendora-Urban land complex, 0 to 2 percent slopes	Not prime farmland	7.0	3.1%
SpuB	Spurger very fine sandy loam, 0 to 3 percent slopes	Not prime farmland	0.2	0.1%
URLX	Urban land	Not prime farmland	165.6	73.3%
WetA	Westcott-Plumgrove complex, 0 to 1 percent slopes	All areas are prime farmland	4.7	2.1%
Totals for Area of Interest			**225.9**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Texas Department of Transportation

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

January 25, 2017

Section 106 / Antiquities Code of Texas: Continuing Coordination
CSJ: 0177-03-096
Permit # 6671

RE: *Transmittal of the Report for Archeological Survey within the Area of Potential Effects along US 59 in Montgomery and Liberty Counties under Texas Antiquities Permit 6671.*

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

Dear Ms. Mercado-Allinger,

This letter initiates consultation for TxDOT's proposed expansion of US 59 from Fostoria Road to State Loop (SL) 573. In accordance with the Programmatic Agreement (PA) among the Advisory Council on Historic Preservation, the Federal Highway Administration (FHWA), the Texas State Historic Preservation Officer (SHPO), and the Texas Department of Transportation (TxDOT), as well as the Memorandum of Understanding (MOU) between TxDOT and Texas Historical Commission (THC), we hereby initiate consultation under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas for the undertaking identified above.

Your office previously issued Texas Antiquities Permit No. 6671 to AmaTerra Environmental, Inc. to conduct an intensive archeological survey within the proposed area of potential effects (APE) for the project, located in Montgomery and Liberty Counties, Texas. AmaTerra completed an initial archeological survey of the APE in February and October of 2014, completing their fieldwork in 2015 after a design change altered the original APE. The survey included a cemetery investigation and covered a total of approximately 214 acres, including 24 acres of new ROW. No archeological materials or features were discovered during the survey, and it was determined that the project would not impact the Riggs Cemetery.

TxDOT recommends that no further work is warranted for the project. At this time, the State requests that the Intensive Survey Report, which has been attached for your review, be accepted in fulfillment of State Antiquities Permit #6671. Further, we request your explicit concurrence on the following points:

- the Archeological Intensive Survey Report meets the minimum required documentation and reporting requirements for allowing construction activities to proceed within the proposed APE;
- there is no potential for unmarked graves to be identified outside the fenced limits of the Riggs Cemetery, and the proposed undertaking would have no effect on marked or unmarked graves;
- the twentieth-century earthen berm and concrete footings discovered south of the East Fork of the San Jacinto River does not merit recording as an archeological site;

- as no sites were recorded, the proposed project would have no effect on archeological historic properties; and
- further field investigations within the proposed APE are not warranted,

We look forward to receipt of your comments on the draft document so that we may complete our obligations under the Antiquities Code. If you have any questions, please contact me at (713) 802-5804.

Sincerely,

Jason W. Barrett, Ph.D.
Archeological Studies Program
Environment Affairs Division

cc w/o attachments: ECOS

Concurrence by: Date: 1/26/17
For Mark Wolfe, State Historic Preservation Officer and Executive Director

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
125 EAST 11TH STREET | AUSTIN, TEXAS 78701-2483 | (512) 463-8588 | WWW.TXDOT.GOV

February 18, 2016

RE: CSJ: 0177-03-096; US 59, Roadway Widening, Section 106 Consultation; Liberty and Montgomery Counties, Beaumont District

To: Representatives of Federally-recognized Tribes with Interest in this Project Area

The above referenced transportation project is being considered for construction by the Federal Highway Administration (FHWA) and the Texas Department of Transportation (TxDOT). Environmental studies are in the process of being conducted for this project. 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.

The purpose of this letter is to contact you in order to consult with your Tribe pursuant to stipulations of the Programmatic Agreement among the Federal Highway Administration, the Texas Department of Transportation, the Texas State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Implementation of Transportation Undertakings (PA-TU). The project is located in an area that is of interest to your Tribe.

Undertaking Description

TxDOT's Beaumont District is proposing roadway widening on US 59 from Fostoria Road at the Montgomery-Liberty County line to the south end of the Cleveland Bypass at SL 573 in Liberty County, Texas (Exhibits A and B).

The proposed project would widen US 59 from a 4-lane divided roadway to a 6-lane freeway with frontage roads (Exhibit C). The proposed project would require approximately 24 acres of new ROW. No temporary or permanent easements, or utility locations outside of the existing State-owned ROW, are anticipated.

Area of Potential Effects

The project's area of potential effects (APE) comprises the following area.

- The project limits extend approximately 4.45-miles along US 59, US 59 from Fostoria Road at the Montgomery-Liberty County line to the south end of the Cleveland Bypass at SL 573.
- The existing right of way varies from 310-feet to 350-feet in width, flaring at the San Jacinto River crossing where it measures between 475-feet and 510-feet.

- The existing right of way comprises an area estimated at 189 acres. An additional 24 acres of proposed new right of way makes the full APE approx. 213 acres.
- The estimated depth of impacts is typically less than three feet along the roadway, with maximum impacts extending to 50-feet for bridge support columns at the San Jacinto River crossing.
- For the purposes of this cultural resources review, the APE also includes an additional 50-foot area around the previously-described horizontal dimensions to account for potential alterations to the proposed APE included in the final project design. Consultation would be continued if potential impacts extend beyond this additional area, based on the final design.

Identification Efforts

For this project, TxDOT has conducted an archeological intensive survey.

- No previously identified archeological sites had been recorded in the APE. The survey undertaken by TxDOT identified one new archeological site, characterized as an earthen berm and three poured concrete footings possibly associated with the area's early 20th century timber industry.
- The survey found that the project's APE has been extensively disturbed by railroad development, deforestation and landscape remodeling, and highway construction and maintenance. Such activities would have destroyed any fragile archeological materials and moved more durable archeological materials from their original location, if any such material occurred within the APE. Any sites that may occur within the existing ROW would likely lack sufficient integrity of location, association, and materials to be able to address important questions of history and prehistory (36 CFR 60.4).
- Given the extensive disturbance recorded, as well as the pervasiveness of inundated soils, there is little to no reasonable potential to expect archeological historic properties (36 CFR 800.16(l)) to be located within the APE.

Findings and Recommendations

Based on the above, TxDOT proposes the following findings and recommendations:

- survey of the APE has found no archeological historic properties (36 CFR 800.16(l)), the project would have no effect on such properties, and the proposed project may proceed to construction;
- that a zone of 50 feet beyond the horizontal project limits be considered as part of the cultural resources evaluation; and
- if any future changes to the project APE extend beyond the additional 50-foot zone or if archeological deposits are discovered, your Tribe would then be contacted for further consultation.

According to our procedures and agreements currently in place regarding consultation under Section 106 of the National Historic Preservation Act, we are writing to request your comments on historic properties of cultural or religious significance to your Tribe that may be affected by the proposed project APE and the area within the above defined buffer. Any comments you may have on the TxDOT findings and recommendations should also be provided. Please provide your comments within 30 days of receipt of this letter. Any comments provided after that time

will be addressed to the fullest extent possible. If you do not object that the proposed findings and recommendations are appropriate, please sign below to indicate your concurrence. In the event that further work discloses the presence of archeological deposits, we will contact your Tribe to continue consultation.

Thank you for your attention to this matter. If you have questions, please contact Jason W. Barrett (TxDOT Archeologist) at 713/802-5804 (email: Jason.Barrett@txdot.gov) or Chantal McKenzie at 512/416-2770 (email: Chantal.McKenzie@txdot.gov). When replying to this correspondence by US Mail, please ensure that the envelope address includes reference to the Archeological Studies Branch, Environmental Affairs Division.

Sincerely,

Scott Pletka, Supervisor
Archeological Studies Branch
Environmental Affairs Division

_____ _____
Concurrence by: Date:

Attachments
cc w/attachments: ENV-ARCH ECOS

Re: Section 106 Consultation, National Historic Preservation Act;
Proposed Texas Department of Transportation Project
CSJ: 0177-03-096; US 59, Roadway Widening, Liberty County

Exhibit A: General Project Location Map

Exhibit B: Detailed Project Location Map

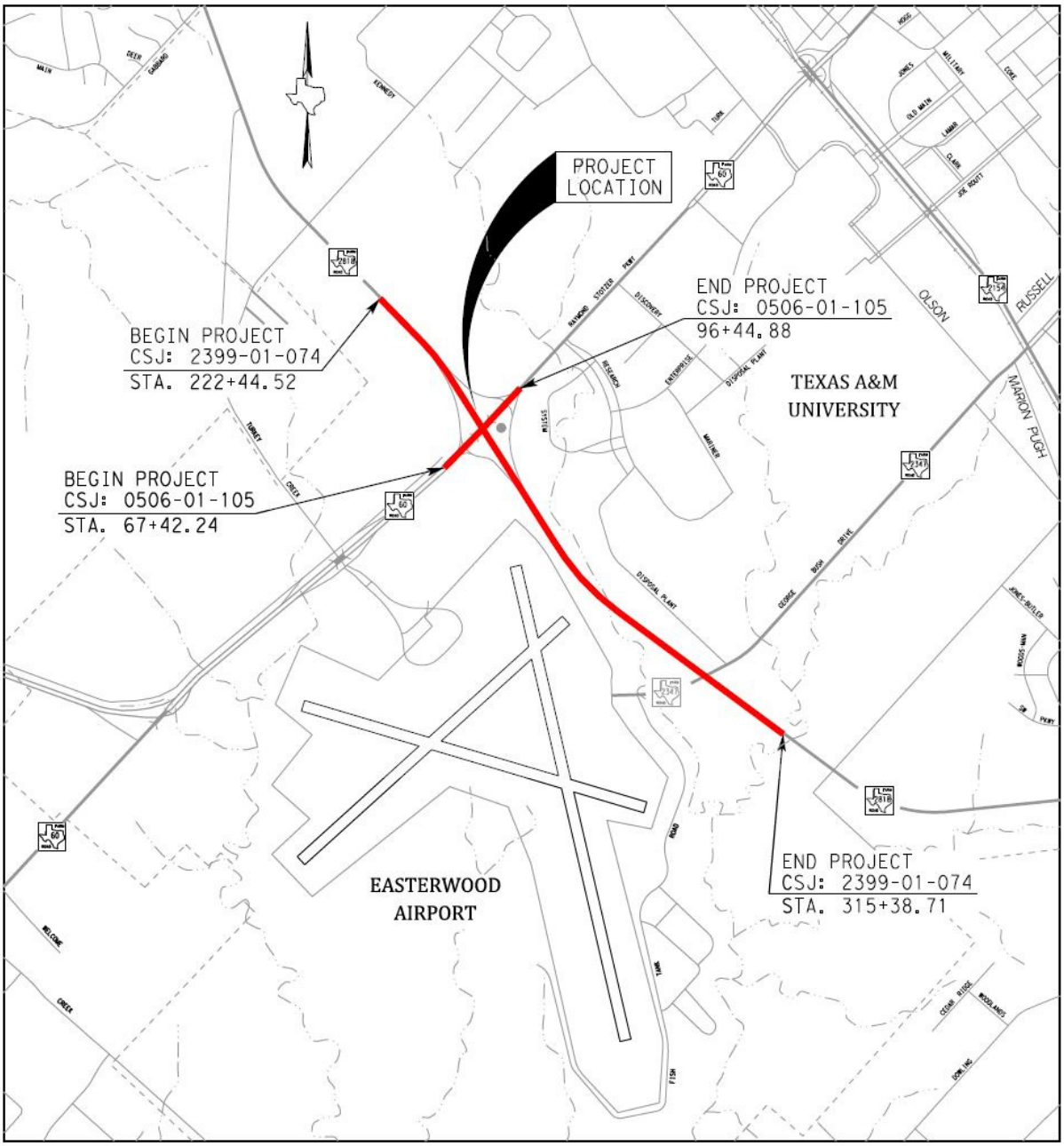
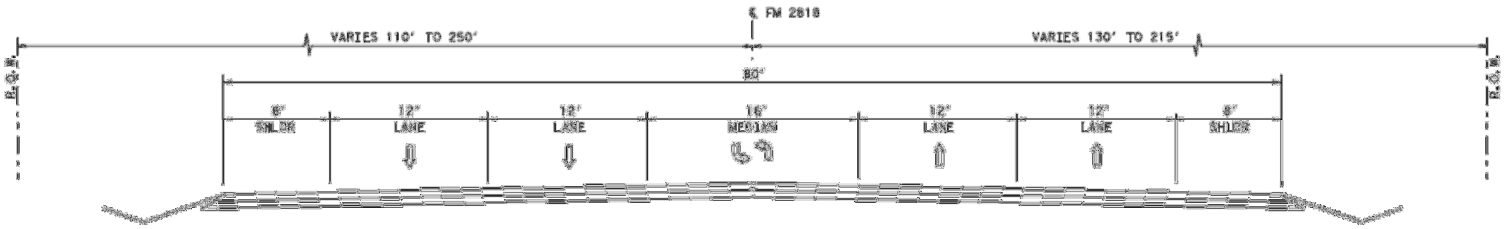
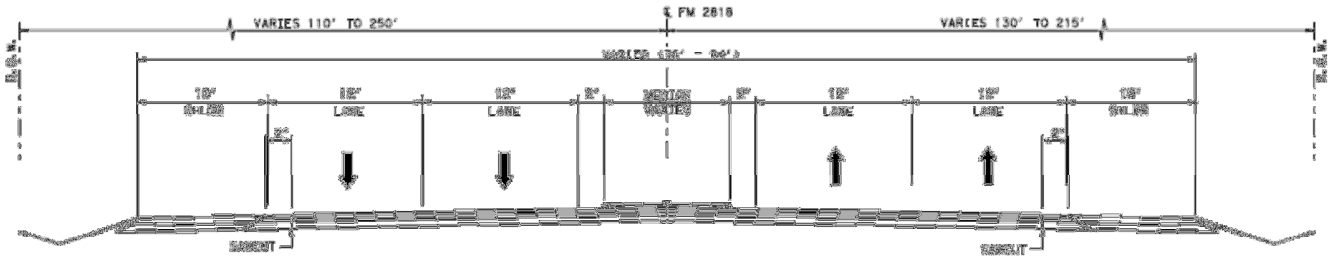


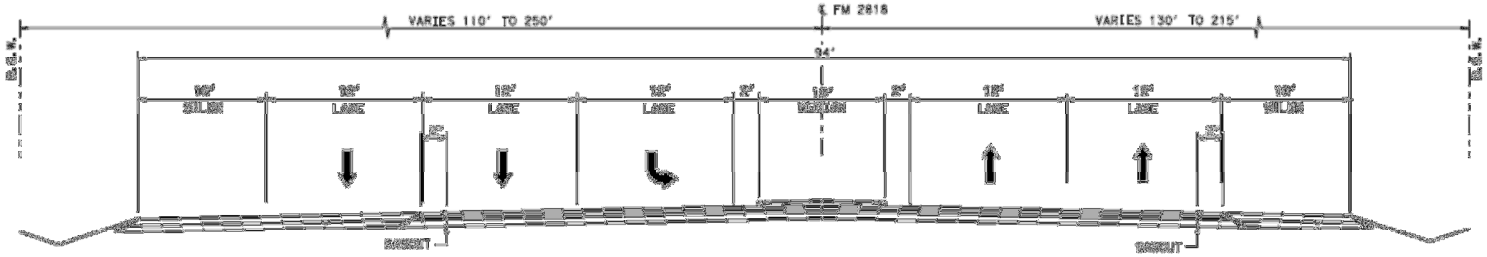
Exhibit C: Project Typical Sections



FM 2818 EXISTING TYPICAL SECTION
STA 221+86.90 TO STA 315+33.34

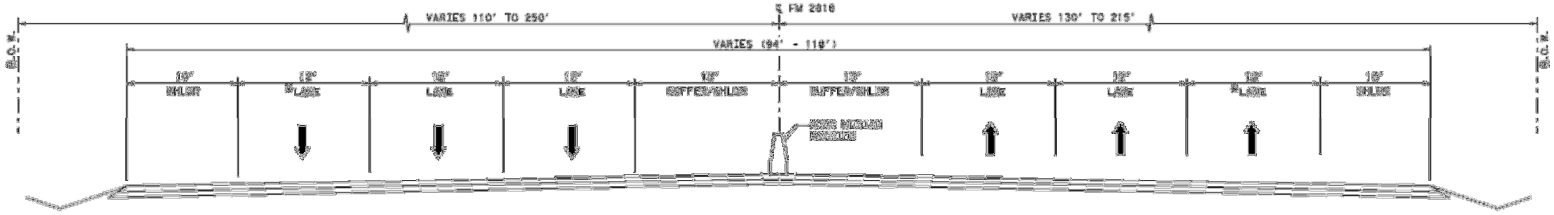


FM 2818 PROPOSED TYPICAL SECTION
STA 221+86.90 TO STA 228+54.21
STA 237+35.05 TO STA 239+25.96



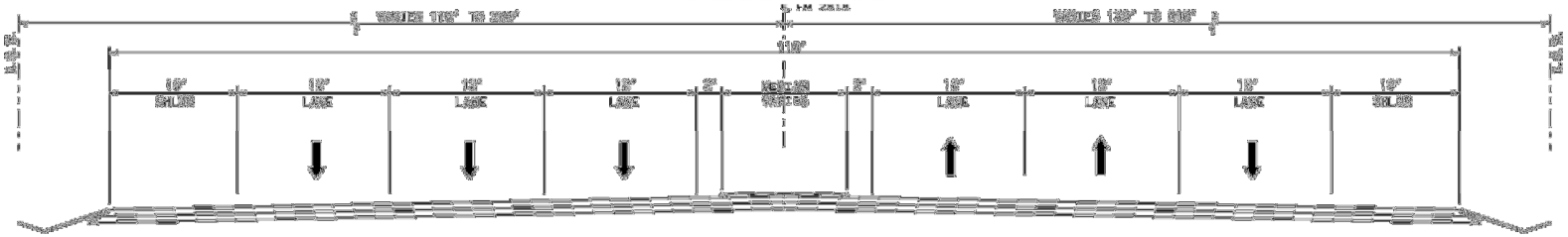
FM 2818 PROPOSED TYPICAL SECTION
STA 228+54.21 TO STA 237+35.05

Exhibit C (continued): Project Typical Sections

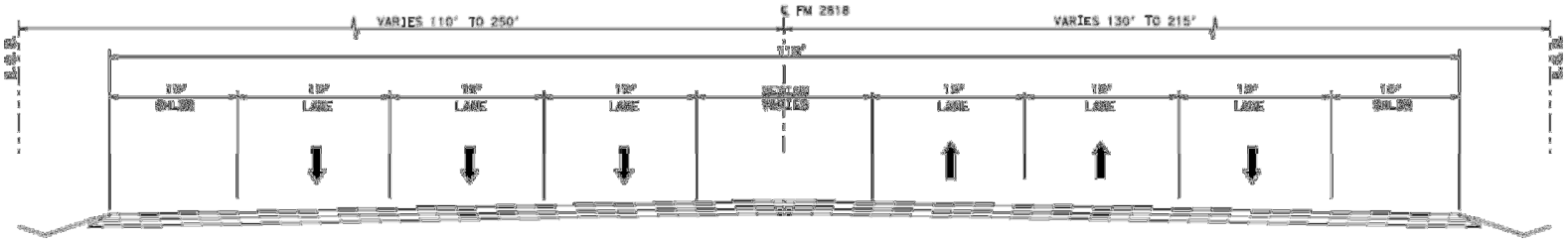


FM 2818 PROPOSED TYPICAL SECTION

STA 239+25.96 TO STA 260+00.00
* STA 260+00.00 TO STA 289+93.12



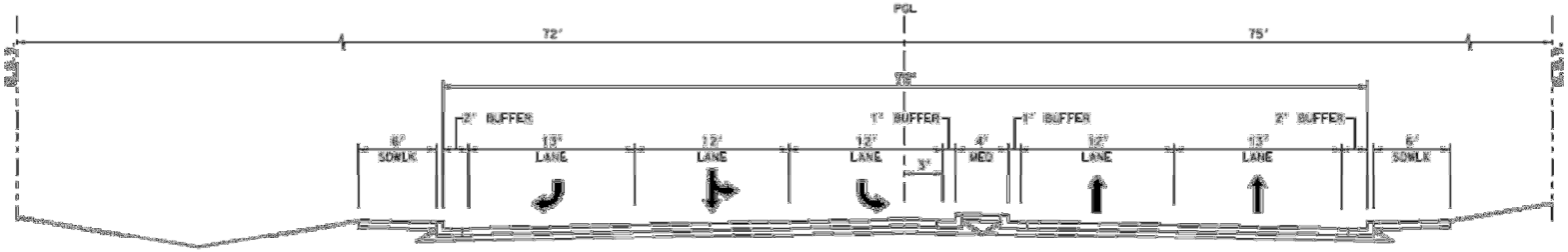
FM 2818 PROPOSED TYPICAL SECTION



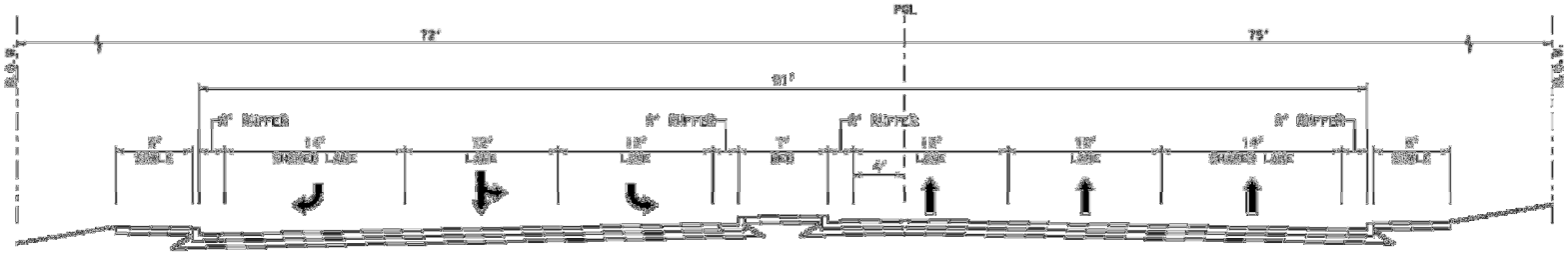
FM 2818 PROPOSED TYPICAL SECTION

STA 289+93.12 TO STA 303+61.33

Exhibit C (continued): Project Typical Sections

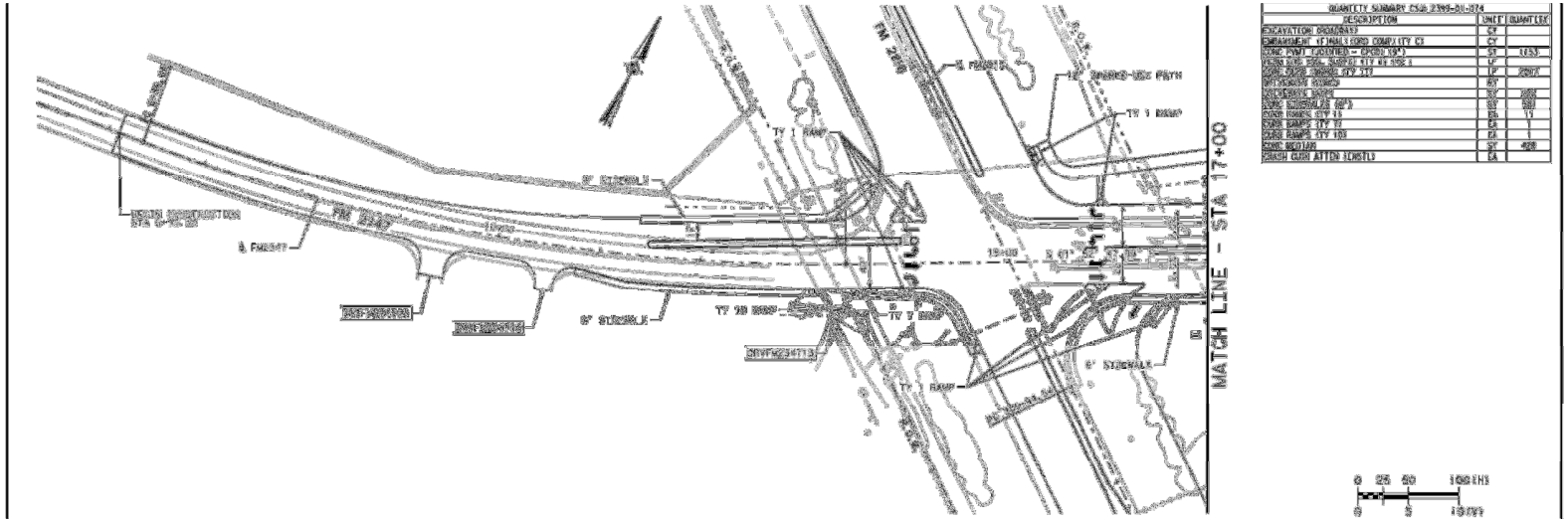


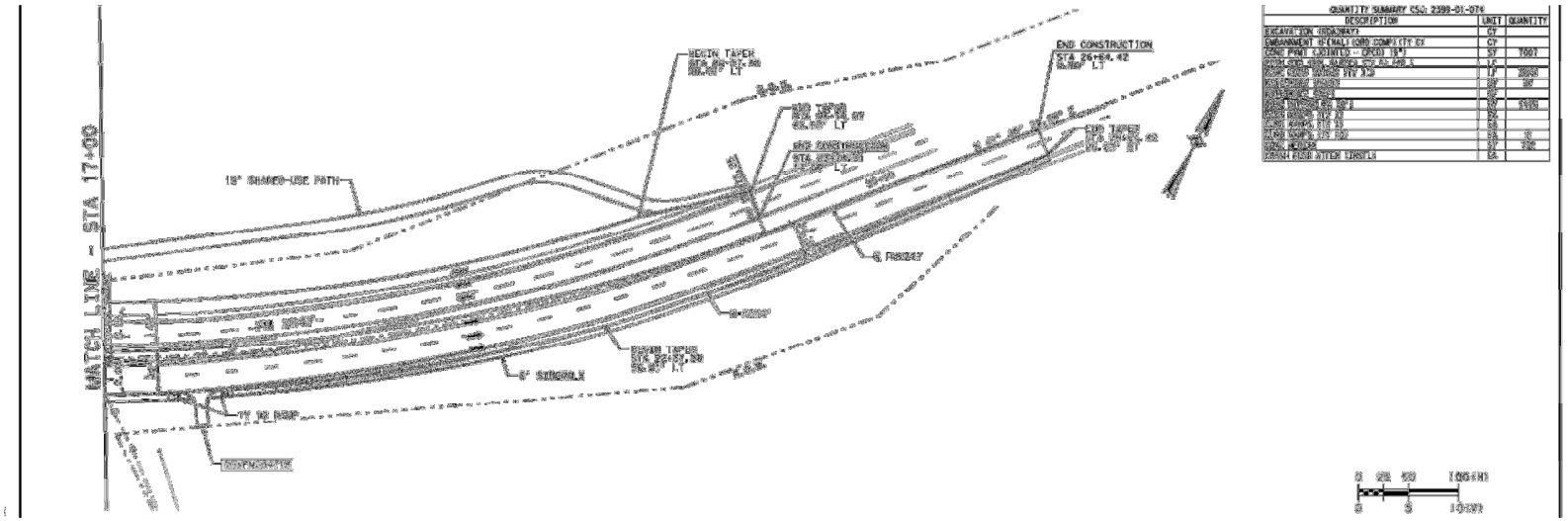
FM 2347 EXISTING TYPICAL SECTION
STA 6+10.50 TO STA 26+64.42



FM 2347 PROPOSED TYPICAL SECTION
STA 6+10.50 TO STA 26+64.42

Exhibit C (continued): Project Typical Sections





Chantal McKenzie

From: Theodore Villacana <theodorev@comanchenation.com>
Sent: Wednesday, February 24, 2016 10:23 AM
To: Chantal McKenzie
Subject: Consult Response for - RE: Section 106, Texas Department of Transportation, CSJ 0177-03-096

Ms. McKenzie,

In response to your request, the above reference project has been reviewed by staff of this office to identify areas that may potentially contain prehistoric or historic archeological materials. The location of your project has been cross referenced with the Comanche Nation site files, where an indication of ***"No Properties"*** have been identified.

Please contact this office at (580) 595-9960/9618 if you require additional information on this project.

This review is performed in order to identify and preserve the Comanche Nation and State cultural heritage, in conjunction with the State Historic Preservation Office.

Regards

Comanche Nation Historic Preservation Office
Theodore E. Villicana ,Resource Technician
#6 SW "D" Avenue , Suite C
Lawton, OK. 73502

From: Jimmy Arterberry
Sent: Friday, February 19, 2016 3:47 PM
To: Theodore Villacana
Subject: FW: Section 106, Texas Department of Transportation, CSJ 0177-03-096

From: Chantal McKenzie [mailto:Chantal.McKenzie@txdot.gov]
Sent: Friday, February 19, 2016 2:13 PM
To: Jimmy Arterberry <jimmya@comanchenation.com>; holly@mathpo.org
Subject: Section 106, Texas Department of Transportation, CSJ 0177-03-096

Good afternoon,

We kindly request your comments regarding a proposed undertaking. Please see the attached letter for project details and information.

Thank you in advance for your consideration.

Regards,

Chantal

Chantal McKenzie
Cultural Resource Specialist
Environmental Affairs Division
Texas Department of Transportation

will be addressed to the fullest extent possible. If you do not object that the proposed findings and recommendations are appropriate, please sign below to indicate your concurrence. In the event that further work discloses the presence of archeological deposits, we will contact your Tribe to continue consultation.

Thank you for your attention to this matter. If you have questions, please contact Jason W. Barrett (TxDOT Archeologist) at 713/802-5804 (email: Jason.Barrett@txdot.gov) or Chantal McKenzie at 512/416-2770 (email: Chantal.McKenzie@txdot.gov). When replying to this correspondence by US Mail, please ensure that the envelope address includes reference to the Archeological Studies Branch, Environmental Affairs Division.

Sincerely,

Scott Pletka, Supervisor
Archeological Studies Branch
Environmental Affairs Division

Concurrence by: Amanda Meyer

Date: 2/22/16

Attachments
cc w/attachments: ENV-ARCH ECOS

and recommendations are appropriate, please sign below to indicate your concurrence. In the event that further work discloses the presence of archeological deposits, we will contact your Tribe to continue consultation.

Thank you for your attention to this matter. If you have questions, please contact Jason W. Barrett (TxDOT Archeologist) at 713/802-5804 (email: Jason.Barrett@txdot.gov) or Chantal McKenzie at 512/416-2770 (email: Chantal.McKenzie@txdot.gov). When replying to this correspondence by US Mail, please ensure that the envelope address includes reference to the Archeological Studies Branch, Environmental Affairs Division.

Sincerely,

Scott Pletka, Supervisor
Archeological Studies Branch
Environmental Affairs Division

Concurrence by: _____ Date: 2/22/10

Attachments
cc w/attachments: ENV-ARCH ECOS

DRAFT REPORT
ACCEPTABLE
by William A. Martin
for Mark Wolfe
Executive Director, THC
Date 1/26/17
Track#

Texas Department of Transportation

Archeological Survey of US 59 South from Fostoria Road at the Montgomery-Liberty County Line to State Loop 573

Montgomery and Liberty Counties, Texas CSJ 0177-03-096

Texas Antiquities Permit No. 6671

Prepared by: Bruce A. Darnell and Rachel Feit

Date: November 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.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Texas Coastal Ecological Services Field Office
17629 EL CAMINO REAL, SUITE 211
HOUSTON, TX 77058
PHONE: (281)286-8282 FAX: (281)488-5882
URL: www.fws.gov/southwest/es/TexasCoastal/;
www.fws.gov/southwest/es/ES_Lists_Main2.html

Consultation Code: 02ETTX00-2017-SLI-0508 January 19, 2017
Event Code: 02ETTX00-2017-E-00755
Project Name: US 59 (from Fostoria Road to SH 105)

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The U.S. Fish and Wildlife Service (Service) field offices in Clear Lake, Tx, and Corpus Christi, Tx, have combined administratively to form the Texas Coastal Ecological Services Field Office. A map of the Texas Coastal Ecological Services Field Office area of responsibility can be found at: http://www.fws.gov/southwest/es/TexasCoastal/Map.html. All project related correspondence should be sent to the field office responsible for the area in which your project occurs. For projects located in southeast Texas please write to: Field Supervisor; U.S. Fish and Wildlife Service; 17629 El Camino Real Ste. 211; Houston, Texas 77058. For projects located in southern Texas please write to: Field Supervisor; U.S. Fish and Wildlife Service; P.O. Box 81468; Corpus Christi, Texas 78468-1468.

The enclosed species list identifies federally threatened, endangered, and proposed to be listed species; designated critical habitat; and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list is provided by the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information from updated surveys, changes in the abundance and distribution of species, changes in habitat conditions, or other factors could change the list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS-IPaC website http://ecos.fws.gov/ipac/ at regular intervals during project planning and implementation for updates to species list and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

Candidate species have no protection under the Act but are included for consideration because they could be listed prior to the completion of your project. The other species information should help you determine if suitable habitat for these listed species exists in any of the proposed project areas or if project activities may affect species on-site, off-site, and/or result in "take" of a federally listed species.

"Take" is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. In addition to the direct take of an individual animal, habitat destruction or modification can be considered take, regardless of whether it has been formally designated as critical habitat, if the activity results in the death or injury of wildlife by removing essential habitat components or significantly alters essential behavior patterns, including breeding, feeding, or sheltering.

Section 7

Section 7 of the Act requires that all Federal agencies consult with the Service to ensure that actions authorized, funded or carried out by such agencies do not jeopardize the continued existence of any listed threatened or endangered species or adversely modify or destroy critical habitat of such species. It is the responsibility of the Federal action agency to determine if the proposed project may affect threatened or endangered species. If a "may affect" determination is made, the Federal agency shall initiate the section 7 consultation process by writing to the office that has responsibility for the area in which your project occurs.

Is not likely to adversely affect - the project may affect listed species and/or critical habitat; however, the effects are expected to be discountable, insignificant, or completely beneficial. Certain avoidance and minimization measures may need to be implemented in order to reach this level of effects. The Federal agency or the designated non-Federal representative should seek written concurrence from the Service that adverse effects have been eliminated. Be sure to include all of the information and documentation used to reach your decision with your request for concurrence. The Service must have this documentation before issuing a concurrence.

Is likely to adversely affect - adverse effects to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not discountable, insignificant, or beneficial. If the overall effect of the proposed action is beneficial to the listed species but also is likely to cause some adverse effects to individuals of that species, then the proposed action "is likely to adversely affect" the listed species. An "is likely to adversely affect" determination requires the Federal action agency to initiate formal section 7 consultation with this office.

No effect - the proposed action will not affect federally listed species or critical habitat (i.e., suitable habitat for the species occurring in the project county is not present in or adjacent to the action area). No further coordination or contact with the Service is necessary. However, if the project changes or additional information on the distribution of listed or proposed species becomes available, the project should be reanalyzed for effects not previously considered.

Regardless of your determination, the Service recommends that you maintain a complete record of the evaluation, including steps leading to the determination of affect, the qualified personnel

conducting the evaluation, habitat conditions, site photographs, and any other related articles.

Please be advised that while a Federal agency may designate a non-Federal representative to conduct informal consultations with the Service, assess project effects, or prepare a biological assessment, the Federal agency must notify the Service in writing of such a designation. The Federal agency shall also independently review and evaluate the scope and contents of a biological assessment prepared by their designated non-Federal representative before that document is submitted to the Service.

The Service's Consultation Handbook is available online to assist you with further information on definitions, process, and fulfilling Act requirements for your projects at: http://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf

Section 10

If there is no federal involvement and the proposed project is being funded or carried out by private interests and/or non-federal government agencies, and the project as proposed may affect listed species, a section 10(a)(1)(B) permit is recommended. The Habitat Conservation Planning Handbook is available at http://www.fws.gov/midwest/endangered/permits/hcp/hcphandbook.html.

Service Response

Please note that the Service strives to respond to requests for project review within 30 days of receipt, however, this time period is not mandated by regulation. Responses may be delayed due to workload and lack of staff. Failure to meet the 30-day timeframe does not constitute a concurrence from the Service that the proposed project will not have impacts to threatened and endangered species.

Candidate Species

Several species of freshwater mussels occur in Texas and five are candidates for listing under the ESA. The Service is also reviewing the status of six other species for potential listing under the ESA. One of the main contributors to mussel die offs is sedimentation, which smothers and suffocates mussels. To reduce sedimentation within rivers, streams, and tributaries crossed by a project, the Service recommends that that you implement the best management practices found at: http://www.fws.gov/southwest/es/TexasCoastal/FreshwaterMussels.html.

Candidate Conservation Agreements (CCAs) or Candidate Conservation Agreements with Assurances (CCAAs) are voluntary agreements between the Service and public or private entities to implement conservation measures to address threats to candidate species. Implementing conservation efforts before species are listed increases the likelihood that simpler, flexible, and more cost-effective conservation options are available. A CCAA can provide participants with assurances that if they engage in conservation actions, they will not be required to implement additional conservation measures beyond those in the agreement. For additional information on CCAs/CCAAs please visit the Service's website at http://www.fws.gov/endangered/what-we-do/cca.html.

Migratory Birds

The Migratory Bird Treaty Act (MBTA) implements various treaties and conventions for the protection of migratory birds. Under the MBTA, taking, killing, or possessing migratory birds is unlawful. Many may nest in trees, brush areas or other suitable habitat. The Service recommends activities requiring vegetation removal or disturbance avoid the peak nesting period of March through August to avoid destruction of individuals or eggs. If project activities must be conducted during this time, we recommend surveying for active nests prior to commencing work. A list of migratory birds may be viewed at http://www.fws.gov/migratorybirds/regulationspolicies/mbta/mbtandx.html.

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the Act on August 9, 2007. Both the bald eagle and the goden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to "disturb" eagles. Under the BGEPA, the Service may issue limited permits to incidentally "take" eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For more information on bald and golden eagle management guidlines, we recommend you review information provided at http://www.fws.gov/midwest/eagle/pdf/NationalBaldEagleManagementGuidelines.pdf

The construction of overhead power lines creates threats of avian collision and electrocution. The Service recommends the installation of underground rather than overhead power lines whenever possible. For new overhead lines or retrofitting of old lines, we recommend that project developers implement, to the maximum extent practicable, the Avian Power Line Interaction Committee guidelines found at http://www.aplic.org/.

Meteorological and communication towers are estimated to kill millions of birds per year. We recommend following the guidance set forth in the Service Interim Guidelines for Recommendations on Communications Tower Siting, Constructions, Operation and Decommissioning, found online at: http://www.fws.gov/habitatconservation/communicationtowers.html, to minimize the threat of avian mortality at these towers. Monitoring at these towers would provide insight into the effectiveness of the minimization measures. We request the results of any wildlife mortality monitoring at towers associated with this project.

We request that you provide us with the final location and specifications of your proposed towers, as well as the recommendations implemented. A Tower Site Evaluation Form is also available via the above website; we recommend you complete this form and keep it in your files. If meteorological towers are to be constructed, please forward this completed form to our office.

More information concerning sections 7 and 10 of the Act, migratory birds, candidate species, and landowner tools can be found on our website at: http://www.fws.gov/southwest/es/TexasCoastal/ProjectReviews.html.

Wetlands and Wildlife Habitat

Wetlands and riparian zones provide valuable fish and wildlife habitat as well as contribute to

ood control, water quality enhancement, and groundwater recharge. Wetland and riparian vegetation provides food and cover for wildlife, stabilizes banks and decreases soil erosion. These areas are inherently dynamic and very sensitive to changes caused by such activities as overgrazing, logging, major construction, or earth disturbance. Executive Order 11990 asserts that each agency shall provide leadership and take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial value of wetlands in carrying out the agency's responsibilities. Construction activities near riparian zones should be carefully designed to minimize impacts. If vegetation clearing is needed in these riparian areas, they should be re-vegetated with native wetland and riparian vegetation to prevent erosion or loss of habitat. We recommend minimizing the area of soil scarification and initiating incremental re-establishment of herbaceous vegetation at the proposed work sites. Denuded and/or disturbed areas should be re-vegetated with a mixture of native legumes and grasses. Species commonly used for soil stabilization are listed in the Texas Department of Agriculture's (TDA) Native Tree and Plant Directory, available from TDA at P.O. Box 12847, Austin, Texas 78711. The Service also urges taking precautions to ensure sediment loading does not occur to any receiving streams in the proposed project area. To prevent and/or minimize soil erosion and compaction associated with construction activities, avoid any unnecessary clearing of vegetation, and follow established rights-of-way whenever possible. All machinery and petroleum products should be stored outside the oodplain and/or wetland area during construction to prevent possible contamination of water and soils.

Wetlands and riparian areas are high priority fish and wildlife habitat, serving as important sources of food, cover, and shelter for numerous species of resident and migratory wildlife. Waterfowl and other migratory birds use wetlands and riparian corridors as stopover, feeding, and nesting areas. We strongly recommend that the selected project site not impact wetlands and riparian areas, and be located as far as practical from these areas. Migratory birds tend to concentrate in or near wetlands and riparian areas and use these areas as migratory yways or corridors. After every effort has been made to avoid impacting wetlands, you anticipate unavoidable wetland impacts will occur; you should contact the appropriate U.S. Army Corps of Engineers office to determine if a permit is necessary prior to commencement of construction activities.

If your project will involve filling, dredging, or trenching of a wetland or riparian area it may require a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers (COE). For permitting requirements please contact the U.S. Corps of Engineers, District Engineer, P.O. Box 1229, Galveston, Texas 77553-1229, (409) 766-3002.

Beneficial Landscaping

In accordance with Executive Order 13112 on Invasive Species and the Executive Memorandum on Beneficial Landscaping (42 C.F.R. 26961), where possible, any landscaping associated with project plans should be limited to seeding and replanting with native species. A mixture of grasses and forbs appropriate to address potential erosion problems and long-term cover should be planted when seed is reasonably available. Although Bermuda grass is listed in seed mixtures, this species and other introduced species should be avoided as much as possible. The Service also recommends the use of native trees, shrubs, and herbaceous species that are adaptable, drought tolerant and conserve water.

State Listed Species

The State of Texas protects certain species. Please contact the Texas Parks and Wildlife Department (Endangered Resources Branch), 4200 Smith School Road, Austin, Texas 78744 (telephone 512/389-8021) for information concerning fish, wildlife, and plants of State concern or visit their website at: http://www.tpwd.state.tx.us/huntwild/wild/wildlife_diversity/texas_rare_species/listed_species/.

If we can be of further assistance, or if you have any questions about these comments, please contact 281/286-8282 if your project is in southeast Texas, or 361/994-9005 if your project is in southern Texas. Please refer to the Service consultation number listed above in any future correspondence regarding this project.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: US 59 (from Fostoria Road to SH 105)

Official Species List

Provided by:

Texas Coastal Ecological Services Field Office
17629 EL CAMINO REAL, SUITE 211
HOUSTON, TX 77058
(281) 286-8282
http://www.fws.gov/southwest/es/TexasCoastal/
http://www.fws.gov/southwest/es/ES_Lists_Main2.html

Consultation Code: 02ETTX00-2017-SLI-0508
Event Code: 02ETTX00-2017-E-00755

Project Type: TRANSPORTATION

Project Name: US 59 (from Fostoria Road to SH 105)
Project Description: The proposed project would upgrade the section of US 59 between Fostoria Road and SH 105 to a 6-lane divided freeway with 3-lane frontage roads in each direction. Bridges would be replaced/added at Pin Oak Road, the East Fork of the San Jacinto River, and at the Cleveland South Loop on-ramp. A short segment of ROW on the west side of US 59 between Pin Oak Road and the Loop 105 access ramp would be expanded by 20-83 feet to accommodate the additional improvements.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-95.1125322008903 30.302135370005182, -95.0968300682353 30.32857880410411, -95.09674599242541 30.328641696554705, -95.0966420701718 30.328626717657695, -95.09657917772121 30.328542641847804, -95.09659415661821 30.328438719594196, -95.11231203322306 30.301971371108266, -95.13883371596232 30.26884116351083, -95.13892570564842 30.268790546322023, -95.13902654393671 30.268819801095407, -95.13907716112551 30.2689117907815, -95.13904790635213 30.26901262906979, -95.1125322008903 30.302135370005182)))

Project Counties: Liberty, TX | Montgomery, TX

Endangered Species Act Species List

There are a total of 4 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 3 of these species should be considered only under certain conditions. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	Status	Has Critical Habitat	Condition(s)
Least tern *(Sterna antillarum)* Population: interior pop.	Endangered		Wind related projects within migratory route.
Piping Plover *(Charadrius melodus)* Population: except Great Lakes watershed	Threatened	Final designated	Wind related projects within migratory route.
Red Knot *(Calidris canutus rufa)* Population: Wherever found	Threatened		Wind related projects within migratory route.
Red-Cockaded woodpecker *(Picoides borealis)* Population: Wherever found	Endangered		

Critical habitats that lie within your project area

There are no critical habitats within your project area.