



# ENVIRONMENTAL ASSESSMENT

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Farm-to-Market Road (FM) 969  
From: FM 973 to: Hunters Bend Road  
CSJ: 1186-01-091

Travis County, Texas  
Austin District

September 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 and Abbreviations

Included below is a list of common acronyms used throughout this document and their definitions:

AASHTO	American Association of State Highway and Transportation Officials
ACS	American Community Survey
ADT	Average Daily Traffic
AOI	Area of Influence
APE	Area of Potential Effect
BMP	Best Management Practice
CAAA	Clean Air Act Amendments
CDC	Corridor Development Certificate
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CGP	Construction General Permit
CMP	Congestion Management Process
CWA	Clean Water Act
dB(A)	Decibels (A-weighted)
dbh	Diameter at Breast Height
DHHS	U.S. Department of Health and Human Services
DPM	Diesel Particulate Matter
EA	Environmental Assessment
ECOS	Environmental Compliance Oversight System
EMST	Ecological Mapping System of Texas
EPA	U.S. Environmental Protection Agency
EPIC	Environmental Permits, Issues, and Commitments
EO	Executive Order
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FTA	Federal Transit Authority
HEI	Health Effects Institute
IP	Individual Permit
IRIS	Integrated Risk Information System
ISA	Initial Site Assessment
LEP	Limited English Proficiency
LPST	Leaking Petroleum Storage Tank
MAPO	Meeting with Affected Property Owners
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer System
MSAT	Mobile Source Air Toxics
MTP	Metropolitan Transportation Plan
NAAQS	National Ambient Air Quality Standards

**List of Acronyms and Abbreviations (continued)**

NATA	National Air Toxics Assessment
NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
NWP	Nationwide Permit (USACE)
OHWM	Ordinary High Water Mark
PCN	Preconstruction Notification
PM	Particulate Matter
RGP	Regional General Permit
RPST	Registered Petroleum Storage Tank
RPW	Relatively Permanent Waterbody
SAL	State Antiquities Landmark
SGCN	Species of Greatest Conservation Need
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
STIP	Statewide Transportation Improvement Program
SW3P	Stormwater Pollution Prevention Plan
TCAP	Texas Conservation Action Plan
TCEQ	Texas Commission on Environmental Quality
TERP	Texas Emissions Reduction Plan
THC	Texas Historical Commission
TIP	Transportation Improvement Program
TNW	Traditionally Navigable Water
TPDES	Texas Pollution Discharge Elimination System
TPWD	Texas Parks and Wildlife Department
TSS	Total Suspended Solids
TxDOT	Texas Department of Transportation
TXNDD	Texas Natural Diversity Database
URARPAA	Uniform Relocation Assistance and Real Properties Acquisitions Act
US	U.S. Highway
USACE	U.S. Army Corps of Engineers
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VCP	Voluntary Cleanup Program
VMT	Vehicle Miles Traveled

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## 1.0 Introduction

### 1.1 Proposed Project Overview

Travis County and the Austin District of the Texas Department of Transportation (TxDOT) propose improvements to Farm to Market Road (FM) 969 in Travis County, Texas [Control Section Job (CSJ) Number 1186-01-091]. The project limits extend from FM 973 to Hunters Bend Road for a total project length of approximately two miles. The proposed road improvement project is being evaluated in this Environmental Assessment (EA) document, which has been prepared to comply with the requirements of the National Environmental Policy Act (NEPA) (42 U.S. Code [U.S.C.] Sections 4321-4375) and implementing regulations promulgated by the Council on Environmental Quality (CEQ, 40 Code of Federal Regulations [CFR] Part 1500) and the Federal Highway Administration (FHWA) (23 CFR Part 771).

**Appendix A** includes all project figures and maps. **Figure 1** shows the project site on an aerial photograph and **Figure 2** shows the project site on a U.S. Geological Survey (USGS) topographic map. **Appendix B** includes project area photographs.

The design schematic for the proposed improvements has been prepared and is available for inspection at the TxDOT Austin District office at 7901 N. I-35 Austin, TX 78753.

### 1.2 Project Funding and Consistency

The proposed project (CSJ 1186-01-091) is included in plans for FM 969 that are described in the Capital Area Metropolitan Planning Organization (CAMPO) 2040 Regional Transportation Plan (RTP) (as adopted May 11, 2015 and amended September 21, 2015) and is included in the CAMPO 2017-2020 Transportation Improvement Program (TIP). The most recent revision of the project's TIP listing is included in the October 17, 2016 revisions of the 2017-2020 TIP, where the total project cost estimate was changed from \$10,917,185.00 down to \$10,902,856.00. The Project is listed in the 2017-2020 State TIP (STIP); however, the project was not approved in the February 2017 STIP revision. The project is not included in the current pending revisions of the STIP; however, efforts are being made to ensure that the project is included in the pending revision cycle and that FHWA approval can occur in the near future. The 2017 Unified Transportation Program (UTP) lists the project and estimates \$5,806,181.00 would come from state funds, which have been approved in the Pass Through Finance Program. The remainder of project cost (\$5,906,675.00) would come from local contributions. **Appendix C** contains pertinent pages from the CAMPO RTP and TIP as well as the current UTP and TxDOT STIP.

## 2.0 Description of the Proposed Action

### 2.1 Description of the Proposed Project

The proposed project would provide a consistent section of four travel lanes (two in each direction), a continuous two-way center turn lane, outside shoulders, and a continuous sidewalk. The sidewalk would be constructed south of and roughly parallel to the roadway. This configuration would match the existing configuration at the intersection with State Highway (SH) 130. Travel lanes and turn lanes would be 12 feet wide, and outside shoulders would be six feet wide. The (usual) width of the sidewalk would be five feet. Stormwater management on the proposed facility would employ roadside swales and cross-draining culverts. Some modification to existing roadside swales would be necessary, but no modifications to cross-draining culverts are currently proposed. The proposed design speed on FM 969

is 60 miles per hour (mph). The posted speed is yet to be determined. Existing and proposed typical sections are presented in **Figure 3** and the proposed layout is presented in **Figure 4**.

The proposed sidewalk would provide continuous pedestrian facilities throughout the project limits, which would allow for the movement of pedestrians between facilities along the project corridor (e.g., school, church, commercial centers). The proposed sidewalk would complement and connect to existing, intermittent sidewalk sections that have been installed in conjunction with recent parcel development.

The proposed 6-foot outside shoulders would accommodate cyclists. Currently, outside shoulders within the project limits are inconsistent and considerably narrower. The continuous shoulders would allow cyclists to move through the project corridor separated from the main traffic lanes.

## 2.2 Purpose and Need

### 2.2.1 PROJECT NEED

The proposed project is needed because the existing facility does not adequately accommodate current traffic demands, nor would it meet expected future demands. Additionally, there are safety issues associated with the current configuration that impact motorists, cyclists, and pedestrians.

In TxDOT congestion maps based on 2012 traffic, no portions of the project area were categorized as less than moderately congested, and the western portion was categorized as heavily congested (TxDOT, 2016a). According to census data analyzed and published by the City of Austin (COA, 2016), the area surrounding the project is within Travis County’s fastest growth category. This growth is leading to increasing traffic demands. Overall traffic load within the project limits is predicted to increase by approximately 65 percent between the anticipated project letting (2017) and the project’s design year (2037), see **Table 1**, below (TxDOT, 2016a). TxDOT traffic counts within and around the project limits record Average Daily Traffic (ADT) (TxDOT, 2016b). According to these counts, traffic along FM 969 between FM 973 and SH 130 increased 10 percent over the four year period between 2010 and 2014. Comparing 2010 traffic count data from this location to traffic projections prepared for this project indicated that traffic will have increased 21 percent by the time of project letting and will have increased 92 percent by the project’s design year (TxDOT, 2016b). Additionally, recorded counts and traffic projections for a location immediately east of the project limits indicate that traffic increased 12 percent between 2010 and 2014 and will have increased 26 percent by project letting and 97 percent by the project’s design year. The area served by Delta Post Drive and Hunters Bend Road, which essentially extends Hunters Bend Road north of FM 969, is indicative of the area’s growth. In the recent past, residential development has expanded along here and now includes multiple phases of Austin’s Colony along with Forest Bluff, Plain View Estates, and Lambert Estates. FM 969 serves as the primary connector from these residential areas to the Austin metropolitan area and to major regional transportation corridors that allow for dispersal to the north and south (e.g., SH 130 and FM 973).

FM 969 from FM 973 to Hunters Bend Road	ADT in Vehicles Per Day	
	2017	2037
	19,900	31,400

Source: TxDOT TP&P Traffic Projections, February 2016.

Current safety concerns include unprotected left turn movements and inadequate accommodation for pedestrians and cyclists. These concerns were expressed during previous public involvement activities

and accounts of accidents in the project area can be found in local news outlets. These concerns are well founded. According to statewide traffic crash rates based on 2015 data, roadway setting and configuration effect crash rates. For example, two-lane, two-way and four-lane, divided roadways in urban settings have crash rates that are approximately 2.5 times higher than the same roads in rural settings. Additionally, two-lane, two-way roadways have an approximately 56 percent higher crash rate than four-lane, divided roadways, regardless of setting (TxDOT, 2016c). FHWA studies have shown that the installation of center two-way left-turn lanes can decrease overall crash rates by nearly 30 percent (Persuad, et al., 2007). These studies indicate that FM 969, as a two-lane, two-way roadway in an urbanizing area stands to see increasing crash rates if left unimproved.

With respect to cyclist and pedestrian safety, the current facility provides inconsistent amenities that allow varying degrees of separation from vehicular traffic. Cyclists that wish to share travel lanes with motorists or use the existing shoulders will find inadequate accommodations. TxDOT recommends 14-foot lane widths be established as a minimum in settings intended for shared use by motorists and cyclists and where the lanes have curbs or other barriers, with increased widths recommended in areas of high traffic and/or high rates of speed, as is the case along FM 969. The American Association of State Highway and Transportation Officials (AASHTO) recommends that shoulders intended to accommodate cyclists be constructed with minimum widths of 5 feet, wider in areas of higher speeds. The typical existing lane width is 11 feet. The typical shoulder width is 4 feet, but, in certain areas, are much reduced. Along the majority of the current facility, these lanes and shoulders are the only paved options available for use by pedestrians as well.

### 2.2.2 PROJECT PURPOSE

The purpose of the proposed project is to increase mobility in the project area and to decrease the risks associated with current unsafe traffic movements and with the current pedestrian and cyclist accommodations.

### 2.3 Right-of-Way Requirements, Displacements and Utility Relocations

The project would generally occur along the existing alignment and within the existing right-of-way of FM 969; however, the proposed alignment would straighten several existing curves in the roadway in an effort to increase sight distances, and thereby, safety. The roadway would also be widened. In order to accommodate the expanded lanes, and to some extent, the straightened curves, some new right-of-way (approximately 6.58 acres) would be required. Acquisition would occur in seven roughly linear strips adjacent to, and on both sides of, the existing right-of-way. The typical width of these strips varies from approximately 15 feet to approximately 50 feet with some atypically wide sections that approach a width of 85 feet. The proposed right-of-way acquisitions would potentially result in four displaced structures, which includes at least one occupied residence. These potential displacements are discussed further in **Section 5.2.4**.

Implementation of the proposed project may require the relocation and adjustment of utilities such as water lines, sewer lines, gas lines, telephone cables, electrical lines, and other subterranean and aerial utilities. The relocation and adjustment of any utilities would be coordinated with the affected utility provider to ensure that no substantial interruption of service would take place.

### 2.4 Logical Termini and Independent Utility

The logical termini for these improvements to FM 969 are FM 973 and Hunters Bend Road. Along this section, FM 969 connects the Austin Metropolitan area in the west to suburban and rural developments

in the east and also allows for the collection/distribution of traffic from the north and south via intersecting roadways such as FM 973 and the controlled-access, tolled SH 130.

The eastern terminus, Hunters Bend Road, serves as a collection/distribution point for FM 969 traffic. Increased development along Hunters Bend Road/Delta Post Drive has increased local traffic loads. Most of this traffic travels between Hunters Bend and points west, as evidenced by the ADT and congestion data cited in **Section 2.2.1**.

The western terminus, FM 973, serves as a collection/distribution node that connects to other regional highways and, unlike SH 130, does not impose access or fee restrictions. Increasing the capacity of FM 969 between Hunters Bend Road and FM 973 would improve traffic flow between the new residential development in the east to the metro areas and regional highways to the west. Additionally, this terminus would connect to previously-approved improvements along FM 969 that will extend to FM 3177 (Decker Lane). These pending improvements (CSJ 1186-01-090) were approved as a Categorical Exclusion on July 29, 2014 and were approved for letting in fall of 2016. The improvements would widen the current facility and match the alignment proposed here.

The proposed project has independent utility because it would improve traffic flow between densely developed areas and major traffic system nodes and it would improve safety for motorists through the addition of protected left turns, for cyclists through the addition of wider shoulders, and for pedestrians through the addition of a continuous sidewalk. These improvements would meet the need of the project, regardless of whether any additional projects were constructed.

## 3.0 Description of Existing Facility

### 3.1 Existing Facility

The majority of the existing FM 969 facility within the project limits consists of two undivided travel lanes with variable shoulders. Travel lanes are generally 11 feet wide and outside shoulders are generally four feet wide. Intermittent 11-foot wide left turn lanes are provided in some areas, especially near intersections. Additional travel lanes and turn lanes are provided near the intersection with SH 130 and near the proposed project's termini (four lanes near the east terminus and three lanes near the west terminus). Intermittent sidewalks have been provided in conjunction with retail development on adjacent parcels. The typical existing right-of-way is approximately 100 feet wide but widens to approximately 350 feet in some areas to accommodate features such as intersections and stormwater drainages. Stormwater on the existing facility is managed using roadside swales and cross-draining culverts. The posted speed limit is 55 mph. Existing typical sections are presented in **Figure 3**, and representative photographs of the project area are included in **Appendix B**.

### 3.2 Surrounding Terrain and Land Use

The proposed project is located on mostly level to gently rolling terrain at approximately 430-450 feet above mean sea level east of the city of Austin in eastern Travis County, Texas. The proposed project is located within the Texas Blackland Prairies Ecoregion (TPWD, 2011). Vegetation in and around the project area can be variably characterized as grassland, savanna grassland, fence line vegetation, and riparian vegetation. Elm Creek lies south of, and generally parallel to, FM 969, and U.S. Geological Survey (USGS) topographical maps indicate that two unnamed tributaries to Elm Creek intersect the proposed project.

Land within the existing right-of-way along the proposed project limits is dedicated to transportation use. Land surrounding the existing right-of-way is variably residential, commercial, and undeveloped. Undeveloped areas include some agricultural uses including hay fields and livestock grazing areas. Areas of proposed right-of-way are currently used for agricultural, residential, commercial, and community facility purposes. Land uses adjacent to the proposed improvements include commercial developments such as gas stations, landscape supply centers, grocery stores, general mercantiles, and a rehabilitation center. Community facilities include several churches and a public elementary school. Land uses are depicted on **Figure 5**.

## 4.0 Alternatives

### 4.1 No-Build Alternative

The No-Build Alternative represents the case in which the proposed project would not be constructed. Other transportation improvements may or may not be constructed, depending on project development and funding availability issues for each such improvement.

The No-Build Alternative has the advantage of avoiding negative impacts associated with new roadway construction and right-of-way acquisition, but the No-Build Alternative would not address traffic congestion or safety issues in the project area. For these reasons, the No-Build Alternative would not satisfy the need and purpose of the proposed project.

The No-Build Alternative is carried forward throughout the document as a baseline comparison to the Build Alternative.

### 4.2 Build Alternative

The Build Alternative is described in **Section 2.1**. Proposed typical sections are shown on **Figure 3**. The Build Alternative is the preferred alternative, as it would best fulfill the purpose and need of the project.

## 5.0 Potential Social, Economic, and Environmental Effects

Potential impacts associated with the proposed project were assessed for implications related to applicable federal, state, regional, and local regulations. Pertinent discussions are included in the following sections. Due to the project's location, no further consideration was given for implications related to Wild and Scenic Rivers, the Coastal Zone Management Plan, or the Trinity River Corridor Development Zone.

### 5.1 Natural Resources

#### 5.1.1 WATERS OF THE U.S., INCLUDING WETLANDS

##### No-Build Alternative

No impacts to waters of the U.S., including wetlands, would occur as a result of the No-Build Alternative.

### Build Alternative

The U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged and fill material into wetlands and other waters of the U.S. under Section 404, subsection 330.5(a)(21) of the Clean Water Act (CWA). Authorization is required from the USACE for any activity that would result in the discharge of dredged or fill material into waters of the U.S. Regulated activities may be permitted through the USACE via Individual Permits (IP), Regional General Permits (RGP), or Nationwide Permits (NWP).

The *1987 Corps of Engineers Wetland Delineation Manual* defines wetlands based on three criteria: hydrophytic vegetation, hydric soils, and wetland hydrology. In general, all three criteria must be present for an area to qualify as a wetland. Some exceptions can occur in disturbed areas or in newly formed wetlands, where one indicator (such as hydric soils) might be lacking. These areas would be dealt with on an individual basis as outlined in the *Field Guide for Wetland Delineation*.

In addition to the jurisdictional wetlands defined above, the Clean Water Act regulates impacts to other waters of the U.S. The term “waters of the U.S.” has broad meaning and incorporates both deepwater aquatic habitats and special aquatic sites, including wetlands, as listed below:

- The territorial seas with respect to the discharge of fill material;
- Coastal and inland waters, lakes, rivers, and streams that are navigable waters of the U.S., including their adjacent wetlands;
- Tributaries to navigable waters of the U.S., including adjacent wetlands; and
- Interstate waters and their tributaries, including adjacent wetlands.

For linear waters of the U.S., the Ordinary High Water Mark (OHWM) was determined by assessing a combination of factors at each site. In accordance with Sec. 328.3(e) of the Clean Water Act and Procedures for Jurisdictional Determinations (USACE-Fort Worth District, March 24, 2003), the following factors were considered in determining the jurisdictional boundary:

- Clear, natural line on the bank;
- Shelving;
- Changes in soil;
- Destruction of terrestrial vegetation; and/or
- Presence of litter and debris.

A field assessment to identify and delineate potential waters of the U.S. occurring within the project area was conducted in February 2014. One linear feature within the existing and proposed right-of-way was identified as a potential water of the U.S.

Qualified wetland ecologists reviewed a number of published data resources prior to the field visit in order to identify potential jurisdictional crossings. Sources consulted included National Wetland Inventory (NWI) maps, the National Hydrography Dataset (NHD), the National Resources Conservation Service (NRCS) Soil Survey for Travis County, USGS 7.5' quadrangle sheets (*Webberville, Texas; Manor, Texas; and Austin, Texas*), Geologic Atlas of Texas maps (Austin sheet), Federal Emergency Management Agency (FEMA) floodplain maps, and recent aerial photography.

Following the completion of preliminary data gathering and synthesis, the routine method of wetland determination was used to identify jurisdictional areas within the proposed project right-of-way.

Potential wetland sites were evaluated in the field, and localized hydrologic characteristics and the dominant vegetative species observed at the site were described.

In addition, potentially jurisdictional areas were evaluated based on guidance from the USACE related to the *Rapanos* case, which held that a non-navigable waterway or wetland must be shown to have a significant nexus to a traditional navigable water in order for the USACE to take jurisdiction. The decision provides two new analytical standards for determining whether water bodies that are not traditional navigable waters (TNWs), including wetlands adjacent to those non-TNWs, are subject to CWA jurisdiction: (1) if the water body is relatively permanent, or if the water body is a wetland that directly abuts (e.g., the wetland is not separated from the tributary by uplands, a berm, dike, or similar feature) a relatively permanent water body (RPW), or (2) if a water body, in combination with all wetlands adjacent to that water body, has a significant nexus with TNWs. A significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or an insubstantial effect on the chemical, physical, and/or biological integrity of a TNW.

Based upon the delineation completed for this project, one linear feature was determined to qualify as waters of the U.S.; however, no wetlands were identified within the existing or proposed right-of-way. A detailed description of Crossing 1, the one jurisdictional feature found in the right-of-way, is included below, and **Table 2** summarizes impact and permit issues. **Figure 6** depicts water resources in the project area, and Crossing 1 is indicated.

In addition to **Crossing 1**, NHD data indicates one additional stream intersecting the project area approximately 500 feet east of SH 130 (see **Figure 6**). Upon investigation, it was determined that this feature exhibited no OHWM within the right-of-way. Down-gradient from the existing culvert, an erosional feature has formed, but it is apparently not physically connected to any other bed-and-bank features or OHWM that would qualify it as a water of the U.S.

#### ***Crossing 1 – Unnamed Tributary to Elm Creek***

This unnamed tributary to Elm Creek intersects the proposed project approximately 0.33 miles east of the western terminus. It is shown on the *Manor, Texas*, USGS quadrangle, and is identified as an intermittent stream. It has a mapped FEMA Flood Insurance Rate Map (FIRM) 100-year floodplain. It is visible on recent and historic aerial imagery, but does not appear on the NWI maps (USFWS, 2015a). Based on field observations, this stream may be more appropriately categorized as ephemeral. The existing right-of-way is wider near the stream (320 feet) than in other areas (typically 225 feet). The stream is approximately 339 linear feet long within the right-of-way, and approximately 215 linear feet are controlled by box culverts, associated wing walls and concrete aprons.

The stream has an OHWM that is clearly visible upstream and downstream of the project area. Adjacent to the existing roadway, the OHWM was largely masked by existing stormwater infrastructure. Where not influenced by stormwater infrastructure, the OHWM measured approximately 10 feet. Sparse vegetation was noted in the bed of the channel, especially in the area immediately downstream of the culvert. This vegetation was primarily bermudagrass (*Cynodon dactylon*) and Johnson grass (*Sorghum halepense*), but sump weed (*Iva annua*) and spikerushes (*Eleocharis* spp.) were also present. Bed material was chiefly sand, gravel, and cobble, poorly sorted. The banks and adjacent areas are dominated by bermudagrass with Johnson grass and various forbs also making up a substantial component of the community.

The existing culvert is sufficient to accommodate the proposed roadway improvements. No changes to the existing stormwater infrastructure are proposed; therefore, there would be no permanent impacts to this feature. No temporary fill or structures would be required to carry out the proposed project; therefore, the proposed project would not result in temporary fill in this water feature. Water quality would be protected through the use of erosion and sediment control best management practices (BMPs) as required by the Texas Pollutant Discharge Elimination System (TPDES). BMPs will be outlined, installed, and maintained as described in the Stormwater Pollution Prevention Plan (SW3P) that would be developed and implemented for the project.

Anticipated impacts to potential waters of the U.S. and wetlands are listed in **Table 2**.

Table 2: Summary of Potential Waters of the U.S. Found Within the FM 969 Right-of-Way								
Jurisdictional Area	Type of Waters of the U.S.	Description	Avg. OHWM (feet)	Linear Feet Within Existing Right-of-Way	Permanent Impacts (Linear Feet)	Potential Temporary Impacts (Linear Feet)	NWP (Y/N)	IP (Y/N)
Crossing 1	Intermittent Stream	Unnamed Tributary to Elm Creek	10	339	0	0	N	N

Source: CMEC 2015.

### Permits and Mitigation

The proposed project would not require the placement of temporary or permanent fill material into the waters of the U.S.; therefore, the project would not require authorization by either Nationwide or Individual Permits, as administered by the USACE. Furthermore, no associated mitigation would be required.

### Executive Order 11990, Wetlands

Executive Order (EO) 11990 Protection of Wetlands (42 Federal Register 26961, May 24, 1977) provides the requirement "to avoid to the extent possible the long- 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."

The proposed project would not result in impacts to wetlands, as previously described; therefore, the project is consistent with EO 11990.

### General Bridge Act/ Rivers and Harbors Act of 1899

This project would not involve construction or modification of a bridge over a navigable water; therefore, Section 9 of the Rivers and Harbors Act does not apply, and navigational clearance under the General Bridge Act does not apply. Coordination with the U.S. Coast Guard regarding Section 9 and the General Bridge Act would not be required.

Section 10 of the Rivers and Harbors Act of 1899 authorizes the USACE to regulate any work in or affecting navigable waters of the U.S. The project does not involve work in or over a navigable water of the U.S.; therefore, Section 10 of the Rivers and Harbors Act does not apply. Coordination with the USACE related to Section 10 would not be required.

## 5.1.2 FLOODPLAINS

### No-Build Alternative

No floodplains would be impacted by the No-Build Alternative.

### Build Alternative

The project is located entirely within Travis County, which is a participant in the National Flood Insurance Program. According to the FEMA FIRM (Flood Hazard Boundary Map Community Panel No. 48453C0490J [revised 2014]), the project area is located within FEMA-designated 100-year floodplains associated with Elm Creek and two of its unnamed tributaries, including Crossing 1 (see **Figure 6**). The hydraulic design for this project would be in accordance with current FHWA and TxDOT design policies. The facility would permit the conveyance of the 100-year flood, inundation of the roadway being acceptable, without causing significant damage to the facility, stream, or other property. The proposed improvements to FM 969 would not result in impacts to the 100-year floodplain. Coordination with the local floodplain administrator was completed on October 6, 2016.

### 5.1.3 WATER QUALITY

#### No-Build Alternative

No impacts to water quality would occur as a result of the No-Build Alternative.

#### Build Alternative

##### **Section 303(d) of the Clean Water Act**

Runoff from this project would discharge directly into unnamed tributaries of Elm Creek. Elm Creek flows eastward to its confluence with Gilleland Creek. Gilleland Creek flows southward to its confluence with the Colorado River. The segment of Gilleland Creek that includes its confluence with Elm Creek has been designated as Assessment Unit 1428C\_01 by the Texas Commission on Environmental Quality (TCEQ). The segment of the Colorado River that includes its confluence with Gilleland Creek has been designated as Assessment Unit 1428\_01. Each of these segments is within five miles of the project area. Neither of these segments is included on the 2014 303d list of impaired water quality segments. Elm Creek is not included in regular water quality monitoring done by TCEQ; therefore, it is not an identified water quality segment. Because this project is not expected to contribute any constituents of concern to any impaired water body, coordination with the TCEQ related to impaired waters would not be required.

##### **Section 402 of the Clean Water Act: Texas Pollutant Discharge Elimination System, Construction General Permit**

This project would include five or more acres of earth disturbance. TxDOT would comply with TCEQ's TPDES Construction General Permit (CGP). An SW3P would be implemented, and a construction site notice would be posted on the construction site. A Notice of Intent (NOI) would be required.

##### **TCEQ Section 401 Water Quality Certification, Best Management Practices**

This project would not require a USACE Section 404 Permit; therefore Section 401 Certification would not be required. Nonetheless, water quality would be protected by erosion and sedimentation control BMPs as well as post-construction total suspended solids reduction BMPs. The implementation of BMPs would prevent water quality impacts from occurring during and after construction.

##### **Section 402 of the Clean Water Act: Texas Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System**

This project is located within the boundaries of the Phase II Municipal Separate Storm Sewer System (MS4) operated by Travis County, and would comply with the applicable MS4 requirements.

### 5.1.4 VEGETATION AND WILDLIFE HABITAT

#### No-Build Alternative

No impacts to vegetation or wildlife habitat would result from the No-Build Alternative.

Build Alternative

**Natural Region and Mapped Vegetation Types**

The proposed project is located within the Texas Blackland Prairies Ecoregion (TPWD, 2011). According to the Ecological Mapping Systems of Texas (EMST), vegetation types in the project area consist of “Row Crops”, “Barren”, “Native Invasive: Deciduous Woodland”, “Native Invasive: Juniper Shrubland”, “Native Invasive: Mesquite Shrubland”, “Post Oak Savanna: Post Oak Motte and Woodland”, “Post Oak Savanna: Savanna Grassland”, “Central Texas: Riparian Hardwood Forest”, “Blackland Prairie: Disturbance or Tame Grassland”, “Urban High Intensity”, and “Urban Low Intensity”, as listed in **Table 3** and shown on **Figures 7a-7d**.

Table 3: EMST Mapped Vegetation Types within the Project Area				
EMST Vegetation Type	NatureServe Ecological System Type	MOU Vegetation Type	MOU Threshold (acres)	EMST mapped Area (acres)
Row Crops	Agriculture	Agriculture	10	0.05
Barren	Barren	Agriculture	10	0.03
Native Invasive: Deciduous Woodland	Native Invasive Shrub and Woodland	Disturbed Prairie	3	0.01
Native Invasive: Juniper Shrubland	Native Invasive Shrub and Woodland	Disturbed Prairie	3	0.03
Native Invasive: Mesquite Shrubland	Native Invasive Shrub and Woodland	Disturbed Prairie	3	0.07
Post Oak Savanna: Post Oak Motte and Woodland	East-Central Texas Plains Post Oak Savanna and Woodland	Post Oak Savanna	2	0.23
Post Oak Savanna: Savanna Grassland	East-Central Texas Plains Post Oak Savanna and Woodland	Post Oak Savanna	2	8.67
Central Texas: Riparian Hardwood Forest	Southeastern Great Plains Riparian Forest	Riparian	0.1	0.02
Blackland Prairie: Disturbance or Tame Grassland	Texas Blackland Tallgrass Prairie	Tallgrass Prairie, Grassland	2	2.16
Urban High Intensity	Urban	Urban	-	0.08
Urban Low Intensity	Urban	Urban	-	11.87
<b>Total</b>				<b>23.22</b>

Sources: Missouri Resource Assessment Partnership (MoRAP). 2013. MoRAP Project: Texas Ecological Systems Classification <http://morap.missouri.edu/Projects.aspx?ProjectId=57>, also known as Ecological Mapping Systems of Texas (EMST), prepared for Texas Parks and Wildlife Department; ongoing 1998-2013, accessed March 03, 2015.

NatureServe. 2009. NatureServe Explorer Version 7.1 (February 2, 2009) <http://www.natureserve.org/explorer/>, data last updated July 2013.

Texas Parks and Wildlife Department (TPWD). 2012. Texas Conservation Action Plan.

**Project Area Vegetation**

Qualified biologists conducted field surveys in June 2015 to assess vegetation in and around the project area to determine what habitat types were present and which would be impacted by the proposed project. It was determined that vegetation within the project area is only partially consistent with the vegetation types presented in **Table 3**. No “Barren”, “Native Invasive: Juniper Shrubland”, “Native Invasive: Mesquite Shrubland”, “Central Texas: Riparian Hardwood Forest”, “Blackland Prairie: Disturbance or Tame Grassland”, or “Urban High Intensity”, habitat types occur within the project’s area of proposed impacts; however, “Native Invasive: Mesquite Shrubland” and “Central Texas: Riparian Hardwood Forest” do occur within the existing and proposed right-of-way. Vegetation within the existing right-of-way consists largely of maintained grasses with some isolated trees. Some riparian vegetation is also present in the existing right-of-way, but no impact to this vegetation is anticipated.

Habitat types found during field investigations and a measurement of the area of anticipated impact to each are listed in **Table 4** below. The distribution of these habitat types is shown on **Figures 8a-8d**.

Table 4: Impacts to Vegetation Types Occurring within the Project Area*				
Observed Vegetation Type	Area of Anticipated Impact (acres)	Corresponds to MOU Type	MOU Threshold (acres)	MOU Threshold Exceeded?
Row Crops	0.84	Agriculture	10	No
Native Invasive: Deciduous Woodland	0.05	Disturbed Prairie	3	No
Post Oak Savanna: Post Oak Motte and Woodland	0.08	Post Oak Savanna	2	No
Post Oak Savanna: Savanna Grassland	1.35	Post Oak Savanna	2	No
Urban Low Intensity	20.9	Urban	-	No
<b>Total</b>	<b>23.22</b>			

\*Note: Impacts presented here include vegetation impacted within both existing and proposed right-of-way.  
Source: Project team; field investigations performed June 06, 2015.

Habitat types observed during field investigations are described below.

Row crops, as observed in the project area, were primarily cultivated as hay fields. Some woody vines including cow itch vine (*Cissus trifoliata*), southern dewberry (*Rubus trivialis*), and grape vines (*Vitis* sp.) commonly grew along fences and property boundaries. Tree species included cedar elm (*Ulmus crassifolia*), Chinaberry (*Melia azedarach*), bois d'arc (*Maclura pomifera*), crape myrtle (*Lagerstroemia indica*), and eastern red cedar (*Juniperus virginiana*). Tree canopies were typically 20 feet high or less.

Native Invasive: Deciduous Woodland was observed within the proposed right-of-way and included soapberry (*Sapindus saponaria*), honey mesquite (*Prosopis glandulosa*), and hackberry (*Celtis laevigata*) trees. Prominent forbs included giant ragweed (*Ambrosia trifida*) and beebalm (*Monarda citriodora*). Heights of trees ranged from approximately 10 to 30 feet, with an average of approximately 20 feet. Many of the trees were multi-trunked and trunk diameter at breast height (dbh) measurements ranged from approximately four to six inches.

Post Oak Savanna: Post Oak Motte and Woodland was observed within the proposed right-of-way. Post Oak (*Quercus stellata*) trees in these area had dbh measurements in excess of 20 inches and canopy heights of approximately 40 feet. Slightly smaller black walnut (*Juglans nigra*) trees were also present. Approximately 0.5 acres of this motte lies within the proposed right-of-way, and this area may contain as many as ten trees. The entire motte covers approximately 5.5 acres.

Post Oak Savanna: Post Oak Savanna Grassland was noted in areas of the proposed right-of-way. These areas were undeveloped and apparently used for livestock grazing and hay production. Species noted included Texas wintergrass (*Nassella leucotricha*), firewheel (*Gaillardia pulchella*), beebalm, and silverleaf nightshade (*Solanum elaeagnifolium*). Woody species and vines occurred only in association with fence lines and included grape vines, hackberry trees, and chinaberry trees.

Urban Low Intensity was the predominant type within the existing right of way. This type was dominated by mowed and maintained grasses and forbs with some remnant trees and some ornamental trees and shrubs. Dominant grasses included bermudagrass, silver bluestem (*Bothriochloa saccharoides*), King Ranch bluestem (*Bothriochloa isachaemum*), Johnson grass (*Sorghum halepense*), Texas wintergrass, barnyardgrass (*Echinochloa crusgalli*), showy chloris (*Chloris virgate*), and windmillgrass (*Chloris*

*verticillata*). Dominant forbs included straggler daisy (*Calyptocarpus vialis*), beggar's lice (*Hackelia virginiana*), bee balm, and firewheel. Occasional remnant trees included post oak, cedar elm, and black walnut. Species typically associated with ornamental plantings included crape myrtle and pomegranate (*Punica granatum*).

The project area was investigated for the presence of special habitat features and unusual vegetation features as identified by the TxDOT-TPWD Memorandum of Understanding (MOU). Special habitat features can include bottomland hardwoods, caves, cliffs and bluffs, native prairies, seeps or springs, snags, bridges with known or observed bird or bat colonies, rookeries, or prairie dog towns. The SH 130 bridge supports a colony of Cliff Swallows (*Petrochelidon pyrrhonota*); however, no impacts to the bridge are anticipated. Unusual vegetation features can include unmaintained vegetation, fencerow vegetation, riparian vegetation, significant (historically or ecologically) or locally important trees, or unusual stands or islands of vegetation. No unusual vegetation features were identified within the project area.

### **Invasive Species/Beneficial Landscaping**

Permanent soil erosion control features would be constructed as soon as feasible during the early stages of construction through proper sodding and/or seeding techniques. Disturbed areas would be restored and stabilized as soon as the construction schedule permits, and temporary sodding would be considered where large areas of disturbed ground would be left bare for a considerable length of time.

In accordance with Executive Order 13112 on Invasive Species and the Executive Memorandum on Beneficial Landscaping, seeding and replanting with TxDOT approved seeding specifications that is in compliance with Executive Order 13112 would be done where possible. Moreover, abutting turf grasses within the right-of-way are expected to re-establish throughout the project length. Soil disturbance would be minimized, which would diminish opportunities for invasive species to become established in the right-of-way.

### **TPWD Coordination**

A Tier I site assessment was performed in accordance with the 2013 TxDOT-TPWD MOU to determine whether coordination with TPWD would be required for the proposed project. The Tier I site assessment defines the type and amount of habitat impacted using information from the Texas Conservation Action Plan (TCAP); EMST; Texas Natural Diversity Database (TXNDD); county lists of Rare and Protected Species of Texas maintained by the TPWD; county lists of endangered, threatened, and candidate species maintained by the U.S. Fish and Wildlife Service (USFWS); and the most current aerial photography available. **Table 5** lists the coordination triggers and responses to each. A positive response to any of the coordination triggers necessitates coordination between TxDOT and TPWD. As shown in **Table 5**, coordination with TPWD is not required for the proposed project because no conditions of any coordination trigger were met. Possible impacts to threatened or endangered species or Species of Greatest Conservation Need (SGCN) would be avoided through the application of protective BMPs. A copy of the Biological Evaluation for the project is on file at the TxDOT Austin District Office.

**Table 5: Tier I Site Assessment – TPWD Coordination Triggers**

Trigger	Applies to the Project?	Explanation
The project is within the range of a state threatened or endangered species or SGCN, as identified by the TPWD county list, and there is suitable habitat for the species within the project area unless BMPs as defined in the MOU are implemented as provided by a programmatic agreement.	No	The project is within range and suitable habitat of the state-listed threatened Texas horned lizard. The western burrowing owl, plains spotted skunk, cave myotis bat, spot-tailed earless lizard, and Texas garter snake, all SGCNs, could also occur within the project area. BMPs would be implemented for these species in accordance with the MOU.
The project may adversely impact important remnant vegetation based on the judgment of a qualified biologist or as mapped in the TXNDD.	No	No important remnant vegetation was identified within the project area by project biologists or by the TXNDD.
The project requires a nationwide permit with pre-construction notification or an individual permit issued by the USACE.	No	No impacts to waters of the U.S., including wetlands, are anticipated.
The project includes in the TxDOT right-of-way or conservation, construction, or drainage easement more than 200 linear feet of stream channel for each single and complete crossing of one or more of the following that is not already channelized or otherwise maintained: a) channel realignment; or b) stream bed or stream bank excavation, scraping, clearing, or other permanent disturbance.	No	All stream channels within the existing and proposed rights-of-way have previously been modified or realigned. Furthermore, existing conveyance structures would not be modified in association with the proposed project.
The project contains known isolated wetlands outside existing TxDOT right-of-way that will be directly impacted by the project.	No	No know isolated wetlands occur outside of the right-of-way that would be impacted by the project.
The project may impact at least 0.10 acre of riparian vegetation based on the judgment of a qualified biologist or as mapped in the EMST.	No	No riparian vegetation would be impacted by the project.
The project disturbs habitat in an area equal to or greater than the area of disturbance indicated in the <i>Threshold Table Programmatic Agreement</i> .	No	No impact thresholds for any vegetation type would be exceeded by the proposed project (see Table 4).

**Migratory Bird Treaty Act of 1918**

Cliff Swallow nests were observed under the SH 130 bridge. No impacts to the bridge or the nests are anticipated. No other nests, active or otherwise, were noted during field investigations. Should it become necessary to demolish or otherwise disturb standing buildings, these structures should be inspected for the presence of nesting birds (e.g., Barn Swallow, Eastern Phoebe). The Migratory Bird Treaty Act of 1918 states that it is unlawful to kill, capture, collect, possess, buy, sell, trade, or transport any migratory bird, nest, young, feather, or egg in part or in whole, without a federal permit issued in accordance within the Act’s policies and regulations. Migratory patterns would not be affected by the proposed project. In the event that migratory birds are encountered on-site during project construction, adverse impacts on protected birds, active nests, eggs, and/or young would be avoided. The contractor would remove all old migratory bird nests from October 1 to February 15 from any structure where work will be done. In addition, the contractor would be prepared to prevent migratory birds from building nests between February 15 and October 1, per the Environmental Permits, Issues, and Commitments (EPIC) plans.

**Fish and Wildlife Coordination Act**

The proposed project would not result in the control or modification of a natural stream or body of water; therefore the Fish and Wildlife Coordination act does not apply.

### 5.1.5 THREATENED/ENDANGERED SPECIES

#### No-Build Alternative

No effects or impacts to federally- or state-listed threatened or endangered species or species of greatest conservation need would result from the No-Build Alternative.

#### Build Alternative

##### **Endangered Species Act**

The Endangered Species Act affords protection for federally-listed threatened and endangered species and their habitats. State law prohibits direct harm to state-listed species. SGCN are designated by TPWD, and may be either federally-listed or state-listed species, or rare species that are not listed.

Lists of threatened and endangered species maintained by the USFWS and TPWD were consulted to determine species of potential occurrence in the vicinity of the proposed project. **Table 6** addresses federally- and state-listed threatened or endangered species and SGCNs for Travis County. For each species in the table, the listing status, a description of the habitat for the species, a statement of whether habitat for the species is present within the project area, a determination of the project's effect/impact on the species, and the reasoning for that determination is provided. Field investigations were performed by qualified biologists in June 2015.

**Table 6: Rare, Threatened, and Endangered Species of Potential Occurrence in Travis County**

Species	Federal Status	State Status	Species/Habitat Description	Habitat Present?	Species Effects	Pertinent Information
<b>Amphibians</b>						
Austin blind salamander <i>Eurycea waterlooensis</i>	LE	SGCN	Subterranean cavities of the Edwards Aquifer; known from outlets of Barton Springs and dependent upon water flow/quality from Barton Springs segment of Edwards Aquifer	No	No effect	No springs occur within the project area and runoff from the project would not flow toward the Barton Springs Segment of the Edwards Aquifer; therefore, this species would not be affected by the proposed project.
Barton Springs salamander <i>Eurycea sosorum</i>	LE	E	Spring dweller, ranges into water-filled subterranean caverns; found under rocks, in gravel, or among plants and algae; dependent upon water flow/quality from Barton Springs segment of Edwards Aquifer	No	No effect	No springs occur within the project area and runoff from the project would not flow toward the Barton Springs Segment of the Edwards Aquifer; therefore, this species would not be affected by the proposed project.
Jollyville Plateau salamander <i>Eurycea tonkawae</i>	LT	SGCN	Known from springs and waters of some caves north of the Colorado River	No	No effect	No caves or springs occur within project area.
Pedernales River springs salamander <i>Eurycea sp 6</i>	NL	SGCN	Endemic; known only from springs	No	No impact	No springs occur within project area.
<b>Arachnids</b>						
Bandit Cave spider <i>Cicurina bandida</i>	NL	SGCN	Small, subterranean, subterranean obligate	No	No impact	No caves occur within project area. The project occurs outside of all recognized karst zones.
Bee Creek Cave harvestman <i>Texella reddelli</i>	LE	SGCN	Small, blind, cave-adapted; endemic to a few caves in Travis and Williamson Counties	No	No effect	No caves occur within project area. The project occurs outside of all recognized karst zones.
Bone Cave harvestman <i>Texella reyesi</i>	LE	SGCN	Small, blind, cave-adapted; endemic to a few caves in Travis and Williamson Counties	No	No effect	No caves occur within project area. The project occurs outside of all recognized karst zones.
Tooth Cave pseudoscorpion <i>Tartarocreagris texana</i>	LE	SGCN	Small, cave-adapted; small limestone caves of the Edwards Plateau	No	No effect	No caves occur within project area. The project occurs outside of all recognized karst zones.
Tooth Cave spider <i>Neoleptoneta myopica</i>	LE	SGCN	Very small, cave-adapted, sedentary	No	No effect	No caves occur within project area. The project occurs outside of all recognized karst zones.

Table 6: Rare, Threatened, and Endangered Species of Potential Occurrence in Travis County

Species	Federal Status	State Status	Species/Habitat Description	Habitat Present?	Species Effects	Pertinent Information
Warton's cave meshweaver <i>Cicurina wartoni</i>	NL	SGCN	Very small, cave-adapted	No	No impact	No caves occur within project area. The project occurs outside of all recognized karst zones.
<b>Birds</b>						
American peregrine falcon <i>Falco peregrinus anatum</i>	DL	T	Potential migrant; occupies wide range of habitats during migration, including urban, with concentrations along coast and barrier islands; stopovers at leading landscape edges	No	No impact	Potential migrant; any use of project area would be incidental.
Arctic peregrine falcon <i>Falco peregrinus tundrius</i>	DL	SGCN	Potential migrant; occupies wide range of habitats during migration, including urban, with concentrations along coast and barrier islands; stopovers at leading landscape edges; due to similarity to American Peregrine Falcon when viewed from a distance, consider subspecies as state listed threatened	No	No impact	Potential migrant; any use of project area would be incidental.
Bald eagle <i>Haliaeetus leucocephalus</i>	DL	T	Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water	No	No impact	No nesting habitat occurs within project area. Potential migrant; any use of project area would be incidental.
Black-capped vireo <i>Vireo atricapilla</i>	LE	E	Oak-juniper woodlands with distinctive patchy, two-layered aspect; shrub and tree layer with open, grassy spaces; requires foliage reaching to ground level for nesting cover; deciduous broad-leaved shrubs and trees provide insects for feeding; nests March-late summer	No	No effect	No oak-juniper woodlands that could provide suitable habitat occur within the project area. The species is a potential migrant; any use of project area would be incidental.
Golden-cheeked warbler <i>Setophaga chrysoparia</i>	LE	E	Juniper-oak woodlands; long fine bark strips from mature Ashe juniper used in nest construction; nests are placed in trees other than Ashe juniper; forage for insects in broad-leaved trees and shrubs; nests late March-early summer	No	No effect	No juniper-oak woodlands that could provide suitable habitat occur within the project area. The species is a potential migrant; any use of project area would be incidental.

**Table 6: Rare, Threatened, and Endangered Species of Potential Occurrence in Travis County**

Species	Federal Status	State Status	Species/Habitat Description	Habitat Present?	Species Effects	Pertinent Information
Interior least tern <i>Sterna antillarum</i> <i>athalassos</i>	LE*	E	Listed only when inland (more than 50 miles from coastline); nests along sand and gravel bars within braided streams and rivers, and man-made structures; forages for small fish and crustaceans within a few hundred feet of breeding colony	No	No effect	No braided streams or sand and gravel bars occur within project area.
Mountain plover <i>Charadrius montanus</i>	NL	SGCN	Nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding; shortgrass plains and bare dirt fields	No	No impact	Species is a potential migrant. Any use of the project area would be incidental and would be most likely to occur during non-breeding seasons.
Red knot <i>Calidris canutus rufa</i>	LT*	SGCN	Prefers bay and coastal shorelines, seacoast tidal flats and beaches, or herbaceous wetlands. Will rarely use mudflats when inland. Uses coastal areas in Texas as for winter (non-breeding) habitat.	No	No effect	Species is a potential migrant. Any use of the project area would be incidental and would be most likely to occur during non-breeding seasons.
Sprague's pipit <i>Anthus spragueii</i>	C*	SGCN	In Texas during migration and winter; drawn to native upland prairie; locally common in coastal grasslands, avoids edges	No	No effect	The project area has existing transportation infrastructure and residential and commercial buildings, and, as such, has abundant edges. No native upland prairies are present.
Western burrowing owl <i>Athene cunicularia</i> <i>hypugaea</i>	NL	SGCN	Open grasslands, sometimes in vacant lots near human habitation; nests and roosts in abandoned burrows	Yes	May impact	Open grasslands are found within project area as are pastures and vacant lots; however, this species is a winter resident only. As such, impacts to active nests are not anticipated
Whooping crane <i>Grus americana</i>	LE	E	Potential migrant via plains throughout most of the state to the coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties	No	No effect	Potential migrant; any use of project area would be incidental.
<b>Crustaceans</b>						
An amphipod <i>Stygobromus russelli</i>	NL	SGCN	Subterranean waters of caves and limestone aquifers	No	No impact	No caves occur within project area. The project occurs outside of all recognized karst zones.
Balcones Cave amphipod <i>Stygobromus</i> <i>balconis</i>	NL	SGCN	Subaquatic, subterranean obligate amphipod	No	No impact	No caves occur within project area. The project occurs outside of all recognized karst zones.

Table 6: Rare, Threatened, and Endangered Species of Potential Occurrence in Travis County

Species	Federal Status	State Status	Species/Habitat Description	Habitat Present?	Species Effects	Pertinent Information
Bifurcated cave amphipod <i>Stygobromus bifurcatus</i>	NL	SGCN	Found in cave pools	No	No impact	No caves occur within project area. The project occurs outside of all recognized karst zones.
<b>Fishes</b>						
Guadalupe bass <i>Micropterus treculii</i>	NL	SGCN	Endemic to perennial streams of the Edwards Plateau	No	No impact	No perennial streams occur within the project area. Stormwater pollution control BMPs would be in place to protect water quality in any receiving streams.
Smalleye shiner <i>Notropis buccula</i>	LE*	SGCN	Medium to large prairie streams with sandy substrate and turbid to clear warm water	No	No effect	No perennial streams occur within the project area. Stormwater pollution control BMPs would be in place to protect water quality in any receiving streams.
<b>Insects</b>						
Kretschmarr Cave mold beetle <i>Texamaurops reddelli</i>	LE	SGCN	Small, cave-adapted beetle found under rocks buried in silt in small Edwards Limestone caves of the Edwards Plateau	No	No effect	No caves occur within project area. The project occurs outside of all recognized karst zones.
Leonora's dancier damselfly <i>Argia leonorae</i>	NL	SGCN	Small streams and seepages	No	No impact	The species could occur in association with Elm Creek or other cross-draining water features; however, these features are not within the limits of construction (i.e., current culverts and other stormwater infrastructure would not be altered).
Tooth Cave blind rove beetle <i>Cylindropsis sp 1</i>	NL	SGCN	One specimen collected from Tooth Cave	No	No impact	No caves occur within project area. The project occurs outside of all recognized karst zones.
Tooth Cave ground beetle <i>Rhadine persephone</i>	LE	SGCN	Resident, small, cave-adapted; small Edwards Limestone caves in Travis and Williamson Counties	No	No effect	No caves occur within project area. The project occurs outside of all recognized karst zones.
<b>Mammals</b>						
Cave myotis bat <i>Myotis velifer</i>	NL	SGCN	Colonial and cave-dwelling; also roosts in rock crevices, buildings, under bridges, and in abandoned cliff swallow nests; hibernates in limestone caves of Edwards Plateau	Yes	May impact	Some structures (abandoned houses, barns, etc.) that may provide suitable nesting habitat would be impacted by the proposed project. No evidence of the species was found during field investigations.

Table 6: Rare, Threatened, and Endangered Species of Potential Occurrence in Travis County

Species	Federal Status	State Status	Species/Habitat Description	Habitat Present?	Species Effects	Pertinent Information
Plains spotted skunk <i>Spilogale putorius interrupta</i>	NL	SGCN	Catholic; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers woody brushy areas and tallgrass prairie	Yes	May impact	The species could occur in various areas of proposed right-of-way.
Red wolf <i>Canis rufus</i>	LE*	E	Extirpated; formerly known throughout eastern half of Texas in brushy and forested areas and coastal prairie	No	No effect	The species is extirpated.
<b>Mollusks</b>						
Golden orb <i>Quadrula aurea</i>	C	T	Sand and gravel in some locations and mud at others; found in lentic and lotic; Guadalupe, San Antonio, and Nueces River basins	No	No effect	No perennial streams occur within the project area, which is not within the Guadalupe, San Antonio, or Nueces river basins. Stormwater pollution control BMPs would be in place to protect water quality in receiving streams.
False spike mussel <i>Fusconia (=Quadrula)mitchelli</i>	NL	T	Little known; substrates of cobble and mud; water lilies may be present	No	No impact	No perennial streams occur within the project area. Stormwater pollution control BMPs would be in place to protect water quality in receiving streams.
Smooth pimpleback <i>Quadrula houstonensis</i>	C	T	Small to moderate streams and rivers, as well as moderate size reservoirs; mixed mud, sand, and fine gravel; does not tolerate dramatic water level fluctuations	No	No effect	No perennial streams occur within the project area. Stormwater pollution control BMPs would be in place to protect water quality in receiving streams.
Texas fatmucket <i>Lampsilis bracteata</i>	C	T	Streams and rivers on sand, mud, gravel, or broken bedrock in moderately flowing water	No	No effect	No perennial streams occur within the project area. Stormwater pollution control BMPs would be in place to protect water quality in receiving streams.
Texas fawnsfoot <i>Truncilla macrodon</i>	C	T	Little known; possibly rivers and larger streams; intolerant of impoundment; prefers sand, gravel, and sandy-mud in moderate flows	No	No effect	No perennial streams occur within the project area. Stormwater pollution control BMPs would be in place to protect water quality in receiving streams.
Texas pimpleback <i>Quadrula petrina</i>	C	T	Mud, gravel, and sand substrates in areas with low flow rates	No	No effect	No perennial streams occur within the project area. Stormwater pollution control BMPs would be in place to protect water quality in receiving streams.
<b>Reptiles</b>						
Spot-tailed earless lizard <i>Holbrookia lacerata</i>	NL	SGCN	Moderately open prairie-brushland; fairly flat areas free of vegetation or other obstructions, including disturbed areas	Yes	May impact	Moderately open prairie-brushland occurs within the proposed ROW of the project.

Table 6: Rare, Threatened, and Endangered Species of Potential Occurrence in Travis County

Species	Federal Status	State Status	Species/Habitat Description	Habitat Present?	Species Effects	Pertinent Information
Texas garter snake <i>Thamnophis sirtalis annectens</i>	NL	SGCN	Wet or moist microhabitats conducive to species occurrence, but not restricted to them; breeds March-August	Yes	May impact	Species could occur in association with tributaries to Elm Creek; however, impacts to these areas would be minimal because culvert structures would not be modified. Furthermore, impacts would be restricted to the construction phase and would be mitigated by BMPs.
Texas horned lizard <i>Phrynosoma cornutum</i>	NL	T	Open, arid, and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush, and scrubby trees; soils may vary from sandy to rocky; burrows into soil; breeds March-September	Yes	May impact	Some areas of sparse vegetation occur in the project area including in areas of proposed right-of-way. Multiple harvester ant mounds were seen in the project area during field investigations, but no horned lizards were seen.
<b>Plants</b>						
Basin bellflower <i>Campanula reverchonii</i>	NL	SGCN	Endemic; among scattered vegetation on loose gravel, gravelly sand, and rock outcrops on open slopes with exposures of igneous and metamorphic rocks; on alluvial deposits along major rivers; flowers May-July	No	No impact	No igneous or metamorphic outcrops that are suitable to this species occur within the project area.
Boerne bean <i>Phaseolus texensis</i>	NL	SGCN	Narrowly endemic to canyons in Edwards Plateau; occurring on limestone soils in mixed woodlands, on limestone cliffs, and along creeks	No	No impact	The project is not on the Edwards Plateau. No canyons in limestone soils occur in the project area.
Bracted twistflower <i>Streptanthus bracteatus</i>	C	SGCN	Endemic; prefers clay soils over limestone, rocky slopes, openings in juniper-oak woodlands; flowers April-May	No	No effect	No clay soils over limestone on rocky slopes occur in the project area.
Correll's false dragon-head <i>Physostegia correllii</i>	NL	SGCN	Wet soils including riverbanks, streamsides, creekbeds, roadside ditches, and irrigation channels; flowers June-July	No	No impact	The species could occur in association with Elm Creek or other cross-draining water features; however, these features are not within the limits of construction (i.e., current culverts and other stormwater infrastructure would not be altered).
Gravelbar brickellbush <i>Brickellia dentate</i>	NL	SGCN	Essentially restricted to frequently-scoured gravelly alluvial beds in creek and river bottoms; Perennial; Flowering June-Nov; Fruiting June-Oct	No	No impact	No scoured gravelly alluvial beds present in the project area.

**Table 6: Rare, Threatened, and Endangered Species of Potential Occurrence in Travis County**

Species	Federal Status	State Status	Species/Habitat Description	Habitat Present?	Species Effects	Pertinent Information
Narrowleaf brickelbush <i>Brickellia eupatorioides</i> var. <i>gracillima</i>	NL	SGCN	Moist to dry gravelly alluvial soils along riverbanks but also on limestone slopes; Perennial; Flowering/Fruiting April-Nov	No	No impact	No alluvial soils or limestone slopes present in the project area.
Texabama croton <i>Croton alabamensis</i> var. <i>texensis</i>	NL	SGCN	Endemic; duff-covered loamy clay soils on rocky slopes in forested, mesic limestone canyons; also on deep, friable soils of limestone uplands, in the shade of evergreen woodland mottes; flowers late February-March	No	No impact	No mesic limestone canyons or deep soils on limestone uplands occur within project area.
Texas amorpha <i>Amorpha roemeriana</i>	NL	SGCN	Juniper-oak woodlands or shrublands on rocky limestone slopes, sometimes on dry shelves above creeks; Perennial; Flowering May-June; Fruiting June-Oct	No	No impact	No oak-juniper woodlands or shrublands present in the project area.
Warnock's coral-root <i>Hexalectris warnockii</i>	NL	SGCN	Found on narrow terraces along creek beds	No	No impact	No creek beds or narrow riparian terraces occur in the project area.
<p><b>Status</b>                      E = State-Listed Endangered                      T = State-Listed Threatened                      LE = Federally-Listed Endangered                      LT = Federally-Listed Threatened                      * = Species not recognized by the USFWS as occurring within the project area but designated by TPWD as occurring within the County.</p> <p>C = Candidate for listing                      NL = Not listed                      DL = Delisted                      SGCN = Species of Greatest Conservation Need</p>						

Sources: TPWD, 2015a. USFWS, 2015b.

**Texas Natural Diversity Database**

TPWD maintains the TXNDD, which provides information regarding recorded occurrences of rare species and habitats. The TXNDD was consulted for information regarding occurrences of listed and rare species in March 2015, using data obtained from TPWD’s version of the TXNDD. One Element of Occurrence (EO) intersects the project area. No other EOs are recorded within 1.5 miles of the proposed project area. The intersecting EO is for the Texas garter snake, which is an SGCN. The EO is mapped as circle with an approximately 10 mile diameter. The project area is approximately 4.6 miles from the center of this circle (TPWD, 2015b). See **Table 7**. It should be noted that the TXNDD cannot be used for presence/absence determinations.

Table 7: Elements of Occurrence from TXNDD within 1.5 Miles of the Proposed Project				
Element of Occurrence Number	Species Name	Listing Status		Approximate Distance and Direction from the Project
		Federal	State	
6167	Texas Garter Snake <i>Thamnophis sirtalis annectens</i>	-	SGCN	Intersects project limits

Source: TPWD, 2015b.

**Effects to Federally-listed Threatened and Endangered Species**

The proposed project area contains no habitat for Federally-listed threatened or endangered species. The proposed project would have no effect on Federally-listed species or critical habitat.

**Impacts to State-listed Species**

The proposed project area contains potential habitat for the state-listed threatened Texas horned lizard. In accordance with the TxDOT-TPWD *Best Management Practices Programmatic Agreement*, the following BMPs will be implemented:

- Texas horned lizard – Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered. This should include avoiding harvester ant mounds in the selection of Project Specific Locations (PSLs) where feasible.

**Impacts to SGCNs**

Potential habitat for five SGCNs, the Western burrowing owl, plains spotted skunk, cave myotis bat, spot-tailed earless lizard, and the Texas garter snake, is present within the proposed project area. In accordance with the TxDOT-TPWD *Best Management Practices Programmatic Agreement*, the following BMPs will be implemented:

- Western burrowing owl – 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.
- Plains spotted skunk – Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered, and to avoid unnecessary impacts to dens.
- Spot-tailed earless lizard – Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered.

- Texas garter snake – Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered.
- Cave myotis bat –
  - Bridge bat BMPs: Habitat assessment by qualified biologist to determine if bats are present; if bats are present, take appropriate measures as practicable to ensure that bats are not harmed such as exclusion or timing activities. For maternal colonies, exclusion activities should be timed to avoid separating lactating females from nursing pups. If structures used by bats are removed as a result of construction, replacement structures should incorporate bat-friendly design, or artificial roosts should be constructed to replace these features as practicable.
  - Cave/Cliff Bat BMPs: When TxDOT activities have the potential to impact cliffs or caves adjacent to roadways, these features will be surveyed by qualified biologist to determine if bats are present. Newly acquired TxDOT ROW will be surveyed by a qualified biologist for cliff/cave features. Conversion of property containing cliff or cave features to transportation purposes should be avoided where feasible. If bats are present, appropriate measures will be taken to ensure that bats are not harmed such as exclusion of bats from the project area, or timing activities to when bats are not present. For maternity colonies, exclusion activities should be timed to avoid separating lactating females from nursing pups. If features used by bats are removed as a result of construction, artificial roosts should be constructed to replace these structures as practicable.

While no cave or cliff features were found during field investigations and no impacts to bridges are anticipated, the cave myotis bat may find suitable habitat in abandoned structures. Due to the anticipated displacements associated with the proposed project, which include vacant and occupied residences, and the possibility that these structures may provide habitat, BMPs for cave/cliff bats as well as BMPs for bridge bats are included here. Additionally, these structures may provide nesting habitat for migratory birds (e.g., Barn Swallow, Eastern Phoebe) and measures should be taken to avoid impacts to the active nests of such species (see **Section 5.1.4**).

Additional information related to the assessment of potential impacts to protected species is presented in the Biological Evaluation, which was submitted under separate cover and is available in the TxDOT Austin District Office.

#### 5.1.6 TOPOGRAPHY AND SOILS

##### No-Build Alternative

No impacts to soils or topography would result from the No-Build Alternative.

##### Build Alternative

As reported by the NRCS Soil Survey data for Travis County, Texas (NRCS, 2015), the soils of the project area are listed in **Table 8** and shown on **Figure 9**.

Table 8: Soils Within the Existing and Proposed Right-of-Way in Travis County	
Soil Series Code	Soil Series
DoA	Heaton loamy fine sand, 0–2% slopes
HeD2	Heiden clay, 5–8% slopes, eroded
HhC	Hornsby gravelly loamy sand, 1–5% slopes
TrC	Travis soils, 1–5% slopes
WIB	Wilson clay loam, 1–3% slopes

Source: NRCS 2015.

Construction of the existing FM 969, existing utilities, and adjacent developments have disturbed a considerable portion of the soils within and adjacent to the right-of-way. The proposed project would involve some excavation/grading of existing soils and minor modification of the topography.

### Farmland Protection Policy Act

The project area, including several areas of proposed right-of-way, occurs on several soil series that are considered prime farmland. Apparent agricultural activities in the area include hay production and livestock grazing. Areas considered prime farmland would be permanently converted to non-agricultural uses as a result of the proposed project; however, it has been determined that this conversion would cause non-adverse effects. This determination was based, in part, on the following:

- Of the total area of proposed right-of-way that would be acquired in areas considered prime farmland (6.1 acres), approximately 4.2 acres have previously been converted to non-agricultural uses, and
- Acquisitions would occur in narrow strips adjacent to the existing right-of-way and would equal less than two percent of the area in each parcel that is currently in agricultural use.

Furthermore, the project was assessed using NRCS form CPA-106; Farmland Conversion Impact Rating for Corridor Type Projects, and the score in Part III of that form was 40. Form NRCS-CPA-106 is included in the Biological Evaluation, which is available for review at the TxDOT Austin District office.

Based on this information, no further coordination with the NRCS is warranted.

### 5.1.7 AIR QUALITY

#### No-Build Alternative

Implementation of the No-Build Alternative would lead to increased traffic congestion and decreased mobility, resulting in decreased vehicular speed and increased stop-and-go traffic. The No-Build Alternative is inconsistent with the Capital Area Metropolitan Planning Organization’s (CAMPO) 2040 RTP, which contains specific projects, programs, and policies intended to improve mobility, access, and air quality in the CAMPO Planning Area.

#### Build Alternative

The project is located in Travis County, which is in an area in attainment or unclassifiable for all National Ambient Air Quality Standards (NAAQS); therefore, the transportation conformity rules do not apply.

Sections 93.104(d), 93.116 and 93.117 of Title 40 CFR indicate that project level conformity analyses (i.e., hot-spot analyses) only apply to FHWA/Federal Transit Authority (FTA) projects. The proposed

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project has no federal funding and requires no United States Department of Transportation decision; therefore, a project level hot-spot analysis is not required

### **Traffic Air Quality Analysis**

In 2017, traffic numbers are anticipated to be 19,900 vehicles per day (vpd). Traffic volume is anticipated to be 31,400 vpd in the design year of 2037. A prior TxDOT modeling study and previous analyses of similar projects demonstrated that it is unlikely that a carbon monoxide standard would ever be exceeded as a result of any project with an average annual daily traffic (AADT) below 140,000. The AADT projections for the project do not exceed 140,000 vpd; therefore, a Traffic Air Quality Analysis is not required.

### **Mobile Source Air Toxics**

#### ***Qualitative MSAT Analysis***

##### ***Background***

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (<http://www.epa.gov/iris/>). In addition, EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers or contributors and non-cancer hazard contributors from the 2011 National Air Toxics Assessment (NATA) (<https://www.epa.gov/national-air-toxics-assessment>). These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

##### ***Motor Vehicle Emissions Simulator (MOVES)***

According to EPA, MOVES2014 is a major revision to MOVES2010 and improves upon it in many respects. MOVES2014 includes new data, new emissions standards, and new functional improvements and features. It incorporates substantial new data for emissions, fleet, and activity developed since the release of MOVES2010.

These new emissions data are for light- and heavy-duty vehicles, exhaust and evaporative emissions, and fuel effects. MOVES2014 also adds updated vehicle sales, population, age distribution, and vehicle miles travelled (VMT) data. MOVES2014 incorporates the effects of three new Federal emissions standard rules not included in MOVES2010.

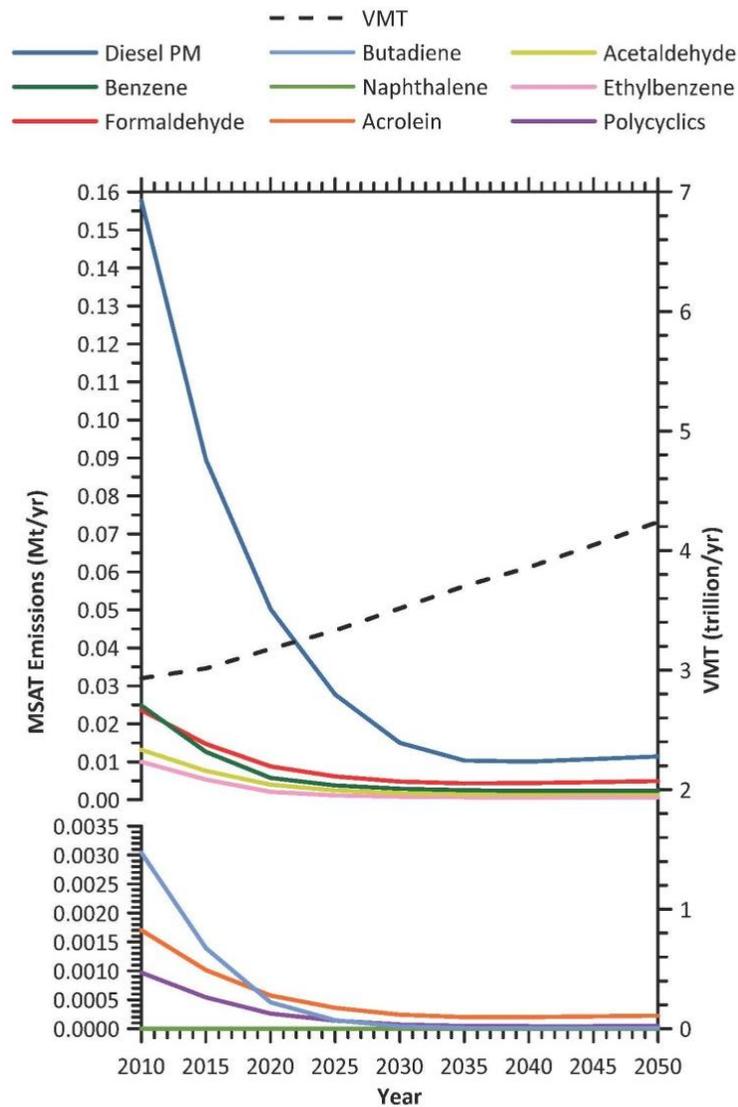
These new standards are all expected to impact MSAT emissions and include Tier 3 emissions and fuel standards starting in 2017 (79 FR 60344), heavy-duty greenhouse gas regulations that phase in during model years 2014-2018 (79 FR 60344), and the second phase of light duty greenhouse gas regulations that phase in during model years 2017-2025 (79 FR 60344).

Since the release of MOVES2014, EPA has released MOVES2014a. In the November 2015 MOVES2014a Questions and Answers Guide

(<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100NNR0.txt>), EPA states that for on-road emissions, MOVES2014a adds new options requested by users for the input of local VMT, includes minor updates to the default fuel tables, and corrects an error in MOVES2014 brake wear emissions. The change in brake wear emissions results in small decreases in PM emissions, while emissions for other criteria pollutants remain essentially the same as MOVES2014.

Using EPA's MOVES2014a model, as shown in **Exhibit 1**, FHWA estimates that even if VMT increases by 45 percent from 2010 to 2050 as forecast, a combined reduction of 91 percent in the total annual emissions for the priority MSAT is projected for the same time period.

**Exhibit 1:**  
**PROJECTED NATIONAL MSAT EMISSION TRENDS 2010 – 2050**  
**FOR VEHICLES OPERATING ON ROADWAYS**  
**USING EPA's Moves2014a Model**



Source: EPA MOVES2014a model runs conducted by FHWA, September 2016.

Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorological, and other factors.

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Diesel PM is the dominant component of MSAT emissions, making up 50 to 70 percent of all priority MSAT pollutants by mass, depending on calendar year. Users of MOVES2014a will notice some differences in emissions compared with MOVES2010b. MOVES2014a is based on updated data on some emissions and pollutant processes compared to MOVES2010b, and also reflects the latest Federal emissions standards in place at the time of its release. In addition, MOVES2014a emissions forecasts are based on lower VMT projections than MOVES2010b, consistent with recent trends suggesting reduced nationwide VMT growth compared to historical trends.

#### *MSAT Research*

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how potential public health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA. The FHWA, EPA, the Health Effects Institute, and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this field.

#### ***Project Specific MSAT Information***

For each alternative in this document, the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for each of the Build Alternatives is slightly higher than that for the No Build Alternative, because the additional 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 preferred action 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 90 percent between 2010 and 2050 (Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, Federal Highway Administration, October 12, 2016 – [http://www.fhwa.dot.gov/environment/air\\_quality/air\\_toxics/policy\\_and\\_guidance/msat/index.cfm](http://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/index.cfm)). 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 proposed throughout the project area will have the effect of moving some traffic closer to nearby homes, schools, and businesses; therefore, there may be localized areas where ambient concentrations of MSAT could be higher than the No Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the proposed expanded roadway sections. 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.

### ***Incomplete or Unavailable Information for Project-Specific MSAT Health Impacts Analysis***

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. 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 a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, <http://www.epa.gov/iris/>). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). A number of HEI studies are summarized in Appendix D of FHWA's Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents ([http://www.fhwa.dot.gov/environment/air\\_quality/air\\_toxics/policy\\_and\\_guidance/msat/index.cfm](http://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/index.cfm)). Among the adverse health effects linked to MSAT compounds at high exposures are; cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI Special Report 16, <https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects/>) or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

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There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (Special Report 16, <https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects>). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA states that with respect to diesel engine exhaust, “[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk (EPA IRIS database, Diesel Engine Exhaust, Section II.C. [https://cfpub.epa.gov/ncea/iris/iris\\_documents/documents/subst/0642.htm#quainhal](https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/0642.htm#quainhal)).”

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA’s approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable ([https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/\\$file/07-1053-1120274.pdf](https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/$file/07-1053-1120274.pdf)).

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

## **Conclusion**

In this document, a qualitative MSAT assessment has been provided relative to the Build and No-Build alternatives of MSAT emissions and while recognizing that the Build Alternative may result in increased exposure to MSAT emissions in certain locations, although the concentrations and duration of exposures are uncertain, and because of this uncertainty, the health effects from these emissions cannot be estimated.

## **Congestion Management**

This project is located in an area that is in attainment or unclassifiable for all NAAQS; therefore, a CMP analysis is not required.

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## Air Quality Construction Emissions Reduction Strategies

During the construction phase of this project, temporary increases in air pollutant emissions may occur from construction activities. The primary construction-related emissions are particulate matter (fugitive dust) from site preparation. These emissions are temporary in nature (only occurring during actual construction); it is not possible to reasonably estimate impacts from these emissions due to limitations of the existing models. However, the potential impacts of particulate matter emissions will be minimized by using fugitive dust control measures such as covering or treating disturbed areas with dust suppression techniques, sprinkling, covering loaded trucks, and other dust abatement controls, as appropriate.

The construction activity phase of this project may generate a temporary increase in MSAT emissions from construction activities, equipment and related vehicles. The primary MSAT construction-related emissions are particulate matter from site preparation and DPM from diesel-powered construction equipment and vehicles. The Texas Emissions Reduction Plan (TERP) includes incentive programs to encourage the development of multi-pollutant approaches to ensure that the air in Texas is both safe to breathe and meets minimum federal standards. TxDOT encourages construction contractors to utilize this program 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, as well as the mitigation actions to be utilized, it is not anticipated that emissions from construction of this project will have any significant impact on air quality in the area.

## 5.2 Community Impact Assessment

The following assessment is an evaluation of the potential impacts of the proposed project on the community and its quality of life in relation to such issues as regional and community growth, land use, economic impacts, relocations and displacements, access, and community cohesion. Limited English Proficiency (LEP) populations, environmental justice, public facilities and services, aesthetics, noise, and traffic operations were also evaluated. As previously established, the proposed project is located within Travis County, in the City of Austin's Extraterritorial Jurisdiction (ETJ).

### 5.2.1 REGIONAL AND COMMUNITY GROWTH

#### No-Build Alternative

Under the No-Build Alternative, regional and community growth is anticipated to occur at the same rate as is currently occurring, as projected by CAMPO.

#### Build Alternative

Extensive research was conducted by CAMPO in the 2040 Regional Transportation Plan. According to their publication, Travis County will experience a great amount of growth over the next 25 years. The majority of the population increase is predicted as the result of migration of people into the area, which will make up 67.2 percent of the population increase, compared to 32.8 percent expected to result from natural growth. In addition, employment is projected to increase by 111.8% (CAMPO, 2015). Regional and community population growth is anticipated to occur consistent with these projections, and the Build Alternative would not change the region's or community's populations or the variables and assumptions used to forecast future populations.

Table 9: Estimated Employment Projections for Travis County						
Place	Year/Number of Jobs				Change	
	2010	2020	2030	2040	Numerical Change 2010-2040	Percent Change 2010-2040
Travis County	564,517	760,518	970,962	1,195,673	631,156	111.8%

Source: CAMPO 2040 Regional Transportation Plan

[http://www.campotexas.org/wp-content/uploads/2015/05/Adopted-CAMPO-2040-Plan\\_5-22-15.pdf](http://www.campotexas.org/wp-content/uploads/2015/05/Adopted-CAMPO-2040-Plan_5-22-15.pdf)

### 5.2.2 LAND USE

#### No-Build Alternative

Under the No-Build Alternative, land use would not be directly affected by the acquisition of land for transportation use.

#### Build Alternative

Along the proposed project limits, FM 969 traverses a mostly undeveloped area, with some commercial mixed use areas, agricultural land, churches, and residences. There is a public school and four churches in the project area (see **Figure 5**). Additionally, the Travis County Emergency Service Division #4 operates a fire station on Hunters Bend Road immediately south of FM 969. Businesses in the area include a Dollar General, three gas stations, a restaurant, and a money transfer service. Land use in the project area, as noted during field investigations, is shown in **Figure 5**. **Table 10** below shows proposed land use conversions by the Build Alternative.

Table 10: Proposed Land Use Conversions by the Build Alternative	
Land Use	Acres to be Acquired
Church	0.99
Commercial	0.46
Residential	1.63
Undeveloped	3.16
School	0.3
Utility	0.04
<b>Total acres</b>	<b>6.58</b>

### 5.2.3 ECONOMIC IMPACTS

#### No-Build Alternative

Implementation of the No-Build Alternative would not improve mobility in the project area and Travis County. This may have an adverse effect on those who travel along FM 969 to commute to work or to conduct business.

#### Build Alternative

There are no major employers within the project limits; dominant economic activity is concentrated generally west of the project limits towards central Travis County. The people who live in the project area predominantly commute between the project area and employment centers outside of the project area. The proposed project would not displace any occupied commercial establishments. The additional travel lanes proposed under the Build Alternative would contribute to reduced commute times.

## 5.2.4 RELOCATIONS AND DISPLACEMENTS

### No-Build Alternative

Implementation of the No-Build Alternative would not require right-of-way acquisition, relocations, or displacements.

### Build Alternative

The proposed improvements would require approximately 6.58 acres of proposed right-of-way (see the inset on **Figure 10**) and would potentially result in four displacements. North of FM 969, between SH 130 and Gilbert Road, that include residences and commercial properties. The structure on **Figure 10** at Point 1 is a residence that appeared to be occupied at the time of field investigations (**Photo 12**). The structure on **Figure 10** at Point 3 is conservatively classified here as a residence; however, the structure was in disrepair, showed no signs of current occupancy, and may in fact be an outbuilding that provided storage or other similar utilitarian functions (**Photo 13**). A commercial property that would also be displaced is indicated on **Figure 10** at Point 2 and is shown in **Photo 12**. South of FM 969 at the intersection of Gilbert Road is an unoccupied residence that would also be displaced (**Figure 10**, Point 4 and **Photo 20**). The required displacements for the proposed project are primarily vacant structures. The residences are damaged from recent storms and are damaged by fallen trees and debris (**Photos 12** and **13**). According to field visits, two of the three residences and the commercial structure to be displaced appear to be unoccupied. Displacement of these structures is not anticipated to have an impact on the surrounding community.

Detailed information about the residential properties proposed to be relocated are presented below in **Table 11**, based on data obtained from the Travis County Appraisal District (TCAD).

Point on Figure 10	Address	TCAD Property ID #	Type	Occupancy Status	Approximate value*	Size (SF)
1	12808 FM 969	190407	Single Family Residence	Occupied	\$178,606	896
2	FM 969	190413	Commercial	Unoccupied	Unknown	Unknown
3	12810 FM 969	190410	Single Family Residence	Unoccupied	\$162,827	2,211
4	13103 FM 969	190490	Single Family Residence	Unoccupied	\$15,778	1,680

Sources: TCAD 2015, Zillow.com, Accessed September 8, 2015

\*Value includes land and all buildings on parcel, not just displaced structure

Note: Should right-of-way acquisitions be necessary, market values would be reassessed at that time, and these values may not be equal to the market value estimates that would be used at the time acquisitions.

The current market value of the homes was used to identify the number of similar available homes within the same ZIP code (78724). The results of the search conducted on Zillow.com in September 2015 are presented in **Table 12**.

Table 12: Summary of Available Residential Properties	
Price Range	Number of Homes in Zip Code 78724
Less than \$50,000	0
\$50,000 - \$99,999	1
\$100,000 - \$199,999	18
\$200,000 - \$299,999	6

Source: Zillow.com, accessed September 8, 2015

In addition, implementation of the proposed project may require the relocation and adjustment of utilities such as water lines, sewer lines, gas lines, telephone cables, electrical lines, and other subterranean and aerial utilities. The relocation and adjustment of any utilities would be coordinated with the affected utility provider to ensure that no substantial interruption of service would occur.

All property acquisition and relocation assistance would be in accordance with the Uniform Relocation Assistance and Real Properties Acquisitions Act (URARPA), as amended in 1987.

#### 5.2.5 ACCESS AND TRAVEL PATTERNS

##### No-Build Alternative

Under the No-Build Alternative for the proposed project, no impacts to access or travel patterns is anticipated.

##### Build Alternative

The FM 969 corridor has become increasingly more traveled as the population grows in eastern Travis County and Bastrop. FM 969 provides access to the SH 130/SH 45 toll and FM 973. Recent traffic data shows that the ADT along Hunter Road to FM 969 is 8,950 vehicles. Near the western edge of the project limits, the ADT for FM 969 just west of SH 130/SH 45 is 17,343 vehicles. Roadway improvements would increase the safety and efficiency of traffic flow in this area.

Because there are no detours anticipated during the construction phase, access and travel patterns are not expected to change during construction. Furthermore, efforts would be made to preserve access to residences, businesses, and other facilities throughout the construction phase. Access to existing cross streets would remain the same. Access and travel patterns would not be substantially changed by the project; current points of access and paths of travel would be enhanced.

#### 5.2.6 COMMUNITY COHESION

Community cohesion is a term that refers to an aggregate quality of a residential area. Cohesion is a social attribute that indicates a sense of community, common responsibility, and social interaction within a limited geographic area. It is the degree to which residents have a sense of belonging to their neighborhood or community or a strong attachment to neighbors, groups, and institutions as a continual association over time.

##### No-Build Alternative

Under the No-Build Alternative for the proposed project, a decline in community cohesion is not anticipated.

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### Build Alternative

The existing community in the area traversed by the Build Alternative is generally undeveloped, with some commercial mixed use areas, agricultural land, churches, and residences. As reflected in **Figure 5**, residential land uses are scattered along the proposed project limits. Minor changes in travel patterns and access are anticipated as a result of the addition of two travel lanes, a continuous two-way center turn lane, and a continuous sidewalk, but the proposed project would not substantially change the way local area residents access other parts of the community and participate in local activities. The proposed improvements would not affect, separate, or isolate any distinct neighborhoods, ethnic groups, or other specific groups as FM 969 is an existing roadway. The potential displacements do not represent a substantial percentage of the community; a majority of the potential displaced structures appear to be unoccupied. No adverse impacts to community cohesion are anticipated. TxDOT has and would continue to facilitate communication with the general public, adjacent property owners, business owners, residents, neighborhood groups, and public officials with interests along FM 969.

#### 5.2.7 LIMITED ENGLISH PROFICIENCY

Under both the No-Build and Build Alternatives, LEP individuals would be afforded the opportunity to participate in the decision-making process as discussed below.

Executive Order (EO) 13166, Improving Access to Services for Persons with 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. This EO requires federal agencies to work to ensure that recipients of federal financial assistance provide meaningful access to their LEP applicants and beneficiaries. Failure to ensure that LEP persons can effectively participate in or benefit from federally assisted programs and activities may violate the prohibition under Title VI of the Civil Rights Restoration Act of 1987 and Title VI regulations.

An analysis was conducted to identify LEP populations in the project area in order to appropriately plan for public involvement. LEP populations were identified using block group level data from the U.S. Census Bureau, 2009-2013 ACS. Census block groups adjacent to the proposed project limits were assessed. Within the population that is five years of age and older, persons who speak English less than “very well” are considered to have a limited English proficiency. The populations that speak English less than “very well,” according to the U.S. Census Bureau’s 2009-2013 ACS, are presented in **Table 13**.

As shown in **Table 13**, the LEP populations range from approximately 23 to 26 percent of the total population within all census block groups intersected by the project area. Of the 10,333 people within the three census block groups, approximately 24 percent speak English less than “very well.” Spanish is the predominant language spoken by LEP persons, followed by Indo-European and Asian/Pacific, and one half of a percent that speak languages classified as “other.” Windshield surveys during field visits indicated signage adjacent to FM 969 in the project area is presented in English and Spanish. An open house-style public meeting was held in November 2013. Notice of the meeting was published in English and Spanish. Potential participants were given guidance on interacting with Spanish speaking staff members or submitting comments in Spanish. No requests were made and no comments were received in Spanish. As the project moves forward, reasonable steps would be taken to ensure that all persons have meaningful access to the programs, services, and information TxDOT provides. Public involvement information and/or materials would be made available in English and Spanish as necessary, and a translator (for language or other special communication needs) would be provided upon request. Therefore, the requirements of EO 13166 appear to be satisfied.

Table 13: Percent of the Population <sup>1</sup> That Speaks English Less Than “Very Well”						
Census Tract/ Block Group	Total Population 5 Years and Over	Percent LEP (No. of persons)	Languages Spoken by Population % (No. of Persons)			
			Spanish	Indo-European	Asian/ Pacific Island	Other
2207/1	1,927	26.3% (507)	26.3% (507)	0% (0)	0% (0)	0% (0)
2207/2	6,286	23.5% (1,477)	22.9% (1,437)	0.5% (30)	0.2% (10)	0% (0)
2211/1	2,120	24.6% (521)	19.1% (404)	0% (0)	3.3% (69)	2.3% (48)
TOTAL	10,333	24.2% (2,505)	22.7% (2,348)	0.3% (30)	0.8% (79)	0.5% (48)

Source: U.S. Census Bureau, ACS 2009-2013 5-Year Estimates, Table B16004.

Note: <sup>1</sup>The term “populations” for the purposes of the LEP analysis includes the three census block groups adjacent to the proposed project.

### 5.2.8 PUBLIC FACILITIES AND SERVICES

#### No-Build Alternative

Under the No-Build Alternative for FM 969, no impacts to public facilities or services are anticipated.

#### Build Alternative

No public facilities such as medical centers, hospitals, or police stations are located immediately adjacent to the proposed project limits. There is one public school and a fire station in the area. The fire station is not adjacent to the project site, but the proposed improvements should improve emergency response times in the area due to increased traffic capacity and improved traffic flow. Proposed right-of-way acquisitions include 0.3 acres that would be taken from the Hornsby-Dunlap Elementary School property. The majority of this area is currently undeveloped and lies adjacent to a parking lot. The acquisition would also impact one of the school’s driveways. Efforts would be made to maintain access to this driveway throughout the construction phase. No other impacts to public services are anticipated.

As mentioned in **Section 2.3**, implementation of the proposed project may require the relocation and adjustment of utilities such as water lines, sewer lines, gas lines, telephone cables, electrical lines, and other subterranean and aerial utilities. The relocation and adjustment of any utilities would be coordinated with the affected utility provider to ensure that no substantial interruption of service would take place.

### 5.2.9 ENVIRONMENTAL JUSTICE

#### **Definition of Environmental Justice Populations**

EO 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

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by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations.” FHWA has identified three fundamental principles of environmental justice:

- To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority populations and low-income populations;
- To ensure full and fair participation by all potentially affected communities in the transportation decision-making process; and
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority populations and low-income populations.

FHWA Order 6640.23A defines a minority as a person who is:

- Black: a person having origins in any of the black racial groups of Africa;
- Hispanic or Latino: a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race;
- Asian American: a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent;
- American Indian and Alaska Native: a person having origins in any of the original people of North America, South America (including Central America), and who maintains cultural identification through tribal affiliation or community recognition; or
- Native Hawaiian and Other Pacific Islander: people having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific islands.

EO 12898 further defines a minority population as any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed FHWA program, policy, or activity.

Low income is defined as a household income at or below the Department of Health and Human Services (DHHS) poverty guidelines. In 2017, the DHHS poverty guideline for a four-person family is \$24,600 per year.

Adverse effects are defined in FHWA Order 6640.23A as the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to: bodily impairment, infirmity, illness or death; air, noise, and water pollution and soil contamination; destruction or disruption of man-made or natural resources; destruction or diminution of aesthetic values; destruction or disruption of community cohesion or a community’s economic vitality; destruction or disruption of the availability of public and private facilities and services; vibration; adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion, isolation, exclusion or separation of minority or low-income individuals within a given community from the broader community; and the denial of, reduction in, or significant delay in the receipt of, benefits of FHWA programs, policies, or activities.

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Disproportionately high and adverse human health or environmental effects are defined by FHWA as adverse effects that 1) are predominately borne by a minority population and/or a low-income population, or 2) would be suffered by the minority population and/or low-income population and are appreciably more severe or greater in magnitude than the adverse effects that would be suffered by the non-minority population and/or non-low-income population.

The potential effects of the proposed project have been evaluated in accordance with the requirements of EO 12898. Population data at the census block (*Census 2010*) and census block group levels (*2009-2013 American Community Survey [ACS] 5-Year Estimates*) from the U.S. Census Bureau were used in this socioeconomic analysis. Census block data provides information at the lowest scale available for race and ethnicity analysis. Census block group data provides information at the lowest scale available for household income. **Figure 11** in **Appendix A** depicts the census geography boundaries from *Census 2010* used in this analysis.

### **Definition of Minority and Low-Income Population Study Areas**

U.S. Census data were used to identify areas with high concentrations of minority and low-income populations. For purposes of this demographic analysis, the census tracts, block groups, and blocks located adjacent to the proposed project were assessed (**Figure 11**). The study areas for the minority and low-income population analyses differ due to the availability of census data.

The area traversed by the proposed project lies within three census block groups associated with the *2009-2013 ACS 5-Year Estimates* for income and nine populated census blocks associated with the *2010 Census* for race/ethnicity.

### **Minority Characteristics**

For purposes of the analysis, an environmental justice population is present when the total minority population percentage within the proposed project limits or individual census blocks equals or exceeds 50 percent. Data from *Census 2010* for the nine populated census blocks that are traversed or are immediately adjacent to the proposed project have been used in this analysis. **Table 14** contains the percent minority population for each populated census block in the minority population study area. (Note: Of the total 15 blocks that are adjacent to the proposed project, nine are populated according to *Census 2010*.)

Table 14: Racial and Ethnic Distribution

Census Geography		Race and Ethnicity (2010 Census)									
Census Tract/ Block Group	Block	Total Population	Percent White (No. of persons)	Percent Black (No. of persons)	Percent American Indian (No. of persons)	Percent Asian (No. of persons)	Percent Pacific Islander (No. of persons)	Percent Some Other (No. of persons)	Percent Two or More Races (No. of persons)	Percent Hispanic (No. of persons)	Percent Minority (No. of persons)
22.07/1		2,846	13.9% (396)	17.6% (501)	0.3% (9)	0.2% (7)	0% (0)	0.5% (14)	1.5% (42)	66% (1,877)	86.1% (2,450)
	1003	12	91.7% (11)	8.3% (1)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	8.3% (1)
	1011	54	33.3% (18)	25.9% (14)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	40.7% (22)	<b>66.7%</b> <b>(36)</b>
	1015	610	12.1% (74)	28% (171)	0% (0)	0.2% (1)	0% (0)	0% (0)	1.3% (8)	58.4% (356)	<b>87.9%</b> <b>(536)</b>
	1020	37	40.5% (15)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	2.7% (1)	56.8% (21)	<b>59.5%</b> <b>(22)</b>
22.07/2		5,533	15.2% (843)	27% (1,496)	0.1% (5)	0.9% (50)	0.1% (6)	0.3% (17)	1% (56)	55.3% (3,060)	84.8% (4,690)
	2001	258	10.9% (28)	31% (80)	0% (0)	0% (0)	0% (0)	0.4% (1)	1.2% (3)	56.6% (146)	<b>89.1%</b> <b>(230)</b>
	2004	434	13.4% (58)	30% (130)	0.2% (1)	2.1% (9)	0.2% (1)	0% (0)	0.7% (3)	53.5% (232)	<b>86.6%</b> <b>(376)</b>
	2016	9	100% (9)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
	2043	5	0% (0)	40% (2)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	60% (3)	<b>100%</b> <b>(5)</b>
22.11/1		2,220	12.9% (287)	17.1% (380)	0.1% (3)	1.2% (26)	0% (0)	0.2% (5)	1% (22)	67.4% (1,497)	87.1% (1,933)
	1020	208	22.6% (47)	4.8% (10)	0% (0)	0% (0)	0% (0)	0% (0)	1.9% (4)	70.7% (147)	<b>77.4%</b> <b>(161)</b>

Source: 2010 Census Summary File 1—Texas [machine-readable data files]/prepared by the U.S. Census Bureau, 2011. Table P9.

\*Complete Census race descriptions are: White alone; Black or African American alone; American Indian Alaska Native alone; Asian alone; Native Hawaiian and Other Pacific Islander alone; Some Other Race alone; Two or More Races, and Hispanic or Latino of any Race.

\*\*See 2010 Census Summary File 1 Technical Documentation for additional information here: <http://www.census.gov/prod/cen2010/doc/sf1.pdf>.

1. Census blocks that contain minority populations equal to or higher than 50 percent are **bolded**.

2. The latest Census data has been utilized to obtain socioeconomic data. 2010 Census data is used to obtain population counts and basic characteristics, while the Census Bureau's ACS 2009–2013 5-Year Estimate data is used to obtain demographic, social, economic, and housing characteristics.

The nine census blocks that are populated exhibit minority percentages ranging from 0 to 100 percent, and seven have minority populations that make up 50 percent or more of the total population. One of the nine census blocks contains 100 percent minority population; however, it is important to note that this block, 2043, has a total population of five persons. Census blocks 1011, 1015, 1020 (tract/block 22.07/1), 2001, 2004 (tract/block 22.07/2), and 1020 (tract/block 22.11/1) also exceed the 50 percent threshold. The data indicates that the study area contains minority environmental justice communities.

By comparison, census block group data indicates that minority populations make up a substantial portion of the total population in the immediate area of the proposed project. Minority percentages of the block groups range from approximately 85 to 87 percent, with all of the three block groups at higher than 50 percent minority. Data for the project area are consistent with comparison populations.

**Income Characteristics**

Due to the lack of income data at the census block level available from the 2010 census, data from the 2009-2013 ACS 5-Year Estimates, were obtained for the three census block groups containing the proposed project. These data were used to determine the presence or absence of low-income populations.

**Table 15** shows the median household income characteristics of the three census block groups in the study area.

Table 15: Median Household Income			
Census Tract / Block Group	Median Household Income in the Past 12 Months (in 2013 inflation-adjusted dollars) <sup>1</sup>	Total Households <sup>1</sup>	2017 DHHS Poverty Guideline
22.07/1	\$46,213	529	\$24,600
22.07/2	\$54,461	2,013	
22.11/1	\$47,794	744	

Source: U.S. Census Bureau, ACS 2009-2013 5-Year Estimates, Tables 1B19013

As shown in **Table 15**, the median household incomes within the block groups traversed by the proposed project range from \$46,213 to \$54,461. None of the project area block groups reported a median household income below the poverty guideline set by the DHHS.

**No-Build Alternative**

Implementation of the No-Build Alternative would not have disproportionately high and adverse human health or environmental effects on minority and/or low-income populations.

**Build Alternative**

Adjacent environmental justice populations and all of the users of FM 969 would benefit from the proposed improvements. The addition of two travel lanes in each direction, a center turn lane for the entire length of the project, 6-foot wide shoulders, and a sidewalk on the south side of the roadway

would improve traffic efficiency and safety. Though detours are not anticipated, efforts would be made to maintain access to all properties throughout the construction phase, and no permanent impacts to access would result from the proposed project. The proposed project may require displacement of one occupied residential structure, two unoccupied residential structures, and one unoccupied commercial structure. Over the long term, the entire corridor and users would benefit from the proposed improvements as a result of improved system mobility in the area. There do not appear to be any disproportionately high and adverse impacts on minority or low-income populations associated with the proposed project.

#### 5.2.10 VISUAL/AESTHETIC CONSIDERATIONS

##### No-Build Alternative

Aesthetic impacts are not anticipated under the No-Build Alternative.

##### Build Alternative

The visual landscape near the project area is characterized by a combination of land uses including: existing highways and local roadway, commercial mixed use areas, agricultural land, churches, and residential developments, as well as some vacant land. Because the proposed project consists of improvements to an existing roadway, the aesthetic character of the project area is not anticipated to noticeably change. Aesthetic treatments for structural components (e.g., retaining walls, etc.) and landscaping would be incorporated into the proposed project during final design. Plans, Specifications, and Estimates, and stakeholder input has been considered during the public involvement process so as to minimize the potential for aesthetic impacts.

#### 5.2.11 TRAFFIC NOISE

##### No-Build Alternative

Highway traffic is the dominant source of noise in developed areas adjacent to the proposed project. Under the No-Build Alternative, the predicted increase in future traffic volumes on FM 969 would likely increase future ambient noise levels.

##### Build Alternative

A traffic noise analysis was accomplished in accordance with TxDOT's (FHWA approved) *Guidelines for Analysis and Abatement of Roadway Traffic Noise* (2011).

Existing and predicted traffic noise levels were modeled at receiver locations (see **Figures 12a-12c**) 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. Noise levels are measured in a-weighted decibels [dB(A)], which approximate the loudness of sounds as perceived by the human ear.

The proposed project would result in a traffic noise impact at eight representative receivers 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.

Before any abatement measure can be proposed for incorporation into the project, it must be both feasible and reasonable. In order to be "feasible," the abatement measure must be able to reduce the noise level at greater than 50 percent of impacted, first row receivers by at least five dB(A); and to be "reasonable," the abatement measure must be able to reduce the noise level at least one impacted,

first row receiver by at least seven dB(A) and the cost of the abatement measure must not exceed \$25,000 per benefitted receiver.

Noise barriers were evaluated for each of the impacted receiver locations:

Noise barriers would be feasible and reasonable for the following impacted receivers and, therefore, are proposed for incorporation into the project (**Table 16**):

- Receivers R17 – R17.8 represent a total of nine single-family residences along Castleman Drive, located directly adjacent to FM 969. Design-year noise levels at receivers R17 – R17.7 are predicted to exceed the absolute criterion for residential areas; therefore, each of these eight receivers would be impacted. A noise barrier was modeled in this location and was found to be both reasonable and feasible. The proposed noise wall (see **Figure 12c**) would stand 8 feet tall and 507 feet long along the edge of the existing TxDOT right-of-way. The barrier would reduce design-year traffic noise levels by more than seven dB(A) for multiple receivers, and all nine receivers (R17 – R17.8) would benefit by a reduction of five dB(A) or more. At \$18 per square foot, the barrier would cost a total of approximately \$72,994, or approximately \$9,118 per benefitted receiver.

**Table 16: Noise Barrier Proposal (preliminary)**

Barrier	Representative Receivers	Total # Benefitted	Length	Height	Total Cost	\$/Benefitted Receiver
1	R17 – R17.7	8	507	8	\$72,944	\$9,118

Any subsequent project design changes may require a reevaluation of this preliminary noise wall proposal. The final decision to construct the proposed noise wall will not be made until completion of the project design, utility evaluation, and polling of adjacent property owners.

For additional information regarding the analysis of the predicted noise environment, please refer to the Noise Analysis Technical Memorandum, submitted under separate cover.

#### 5.2.12 COMMUNITY IMPACT ASSESSMENT SUMMARY

The proposed project would increase mobility and improve safety for users of the FM 969 corridor. The proposed improvements to FM 969 would not affect, separate, or isolate any distinct neighborhoods, ethnic groups, or other specific groups within the project area.

As discussed in **Section 5.2.6**, of the 10,333 people within the Census block groups, approximately 24 percent of the population speaks English less than “very well,” which is comprised of individuals who speak Spanish, Indo-European, Asian/Pacific Island, and Other languages. Reasonable steps would be taken to ensure all persons have meaningful access to the programs, services, and information TxDOT provides. Any public involvement information and/or materials would be made available in English and Spanish and a translator would be provided upon request. Therefore, the requirements of EO 13166 pertaining to LEP appear to be satisfied.

Environmental justice populations are present in the proposed project area. As explained in **Section 5.2.4**, approximately four displacements or relocations are anticipated. Three of the four structures anticipated to be displaced are currently unoccupied. No existing neighborhoods would be divided, and permanent disruptions to the normal daily activities in this area are not expected. Furthermore, the proposed project would function to increase mobility and improve safety for motorists and all populations, including environmental justice populations. No disproportionately high and adverse impacts on minority or low-income populations are anticipated as a result of the proposed project; therefore, the requirements of EO 12898 are satisfied (see **Section 5.2.7**).

As discussed in **Section 5.2.8**, the proposed project would not impact the surrounding public facilities, which include two public schools and a fire station. Also, because the proposed project consists of improvements to an existing roadway, the aesthetic character of the project area is not anticipated to noticeably change. Stakeholder input would be considered during the public involvement process so as to minimize the potential for aesthetic impacts (see **Section 5.2.9**).

As discussed in **Section 5.2.10**, the proposed project would result in a traffic noise impact. One proposed noise barrier would be feasible and reasonable. See **Figure 12a - 12c** for noise receiver and proposed noise barrier locations. The final decision to construct the proposed noise barriers would not be made until completion of the final project design, utility evaluation, and polling of adjacent property owners.

### **5.3 DOT Act Section 4(f), LWCF Act 6(f), and PWC Chapter 26 Properties**

#### No-Build Alternative

Implementation of the No-Build would not impact any Section 4(f) or Section 6(f) resources.

#### Build Alternative

There are no Section 4(f) or Section 6(f) properties present in the project area. Furthermore, the proposed improvements would not require the use or taking of any public land that was previously designated and used as a park, recreation area, scientific area, wildlife refuge, or historic site. Therefore, Chapter 26 does not apply.

### **5.4 Cultural Resources**

Cultural resources are structures, buildings, archeological sites, districts (a collection of related structures, buildings, and/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 (THC)/State Historic Preservation Officer (SHPO) and/or federally recognized tribes to determine the project's effects on cultural resources. Review and coordination of this project followed approved procedures for compliance with federal and state laws. Coordination documentation is included in **Appendix D**.

#### **5.4.1 NON-ARCHEOLOGICAL HISTORIC RESOURCES**

##### No-Build Alternative

Under the No-Build Alternative, additional right-of-way would not be acquired; therefore, no impacts to historic resources are anticipated.

### Build Alternative

A review of the National Register of Historic Places (NRHP), the list of State Antiquities Landmarks (SAL), and the list of Recorded Texas Historic Landmarks (RTHLs) indicated that no historically significant resources were previously documented within the area of potential effects (APE). It has been determined through consultation with the SHPO that the APE for the proposed project is 150-feet from the existing and proposed right-of-way.

TxDOT performed a reconnaissance survey of the project's APE to identify any unknown resources that may be eligible for listing in the NRHP. The survey documented 26 historic-age (built prior to 1972) resources on 18 parcels. Of these, there are 17 domestic, three agricultural, two religious, two healthcare, one windmill, and one commemorative resources. TxDOT historians determined that none of the 26 resources are eligible for listing in the NRHP due to lack of significance and integrity, as detailed in the Report for Historical Studies Survey.

Therefore, pursuant to Stipulation IX, Appendix 6 "Undertakings with the Potential to Cause Effects per 36 CFR 800.16(i)" of the Section 106 PA and MOU, TxDOT historians determined that there are no adverse effects to historic, non-archeological properties in the APE. Therefore, individual project coordination with SHPO is not required. Detailed resource assessments are included in the Historic Resources Survey Report that was prepared for this project and submitted under separate cover.

## 5.4.2 ARCHEOLOGICAL RESOURCES

### No-Build Alternative

Under the No-Build Alternative, no impacts to archeological sites are anticipated.

### Build Alternative

The archeological APE covers an area of 43.44 acres or 17.58 hectares. The footprint includes 6.58 acres (2.66 hectares) of proposed right-of-way in non-contiguous segments along both sides of the 1.96-mile alignment and 36.86 acres (14.92 hectares) of existing right-of-way. The existing right-of-way (36.86 acres) was subject to an archeological survey in 2005; TxDOT recommended no further work within that area and the THC concurred with that recommendation. As there are 6.58 acres of proposed right-of-way, an archeological survey of the proposed right-of-way was conducted in October and November 2015. The survey effort included pedestrian survey that was supplemented by the excavation of shovel test units. Ten total shovel test units were excavated; these units revealed that the soils in the project area are primarily sand over a sandy clay with the sand extending from 60 to 100 centimeters below surface (cmb).

Two of the shovel test units were positive for cultural materials. No other subsurface materials were noted in the vicinity of these units. In addition to the positive units, there are five previously recorded archeological sites (41TV1282, 41TV1982, 41TV1993, 41TV2345, and 41TV2410) that are within the APE. Only the boundary for site 41TV2410 extends into the proposed right-of-way; the other four sites (41TV1282, 41TV1982, 41TV1993, and 41TV2345) are located entirely within existing right-of-way and have presumably been destroyed by construction of State Highway (SH) 130 and FM 969. All five sites have been previously determined ineligible for listing in the National Register of Historic Places (NRHP) or for designation as a State Antiquities Landmark (SAL). These findings were presented in an Archeological Resources Survey Report to the THC along with a recommendation that no further work be conducted prior to construction. The THC concurred with the recommendations on March 10, 2016. Additional tribal consultation was carried out and no further recommendations for work prior to construction were received.

## 5.5 Hazardous Materials and Other Potential Issues

### 5.5.1 HAZARDOUS MATERIALS

#### No-Build Alternative

Under the No-Build Alternative, additional right-of-way would not be acquired; therefore, no impacts from hazardous materials are anticipated.

#### Build Alternative

No potential hazardous materials sites were identified within the proposed limits of construction by means of a database search and an initial site assessment. A hazardous materials database search was conducted for the proposed project by Banks Environmental Data on March 25, 2015. **Table 17** shows the databases searched. Sites identified in the project area by the search are depicted on **Figure 13**.

Table 17: Hazardous Materials Databases Searched			
Database Abbreviation	Database	Distance Searched	# of Sites Found
NPL	National Priorities List Facilities	One mile	0
DNPL	Delisted National Priorities List Facilities	One-half mile	0
CER	Comprehensive Environmental Response, Compensation, and Liability Information System	One-half mile	0
CER NFRAP	CERCLIS No Further Remedial Action Planned	One-half mile	0
RCRA COR	Resource Conservation and Recovery Information System – Corrective Action	One mile	0
RCRA TSD	RCRA – Treatment Storage or Disposal	One-half mile	0
RCRA – GEN	RCRA – Generators	One-quarter mile	0
FED BWN	Federal Brownfield	One-half mile	0
FED IC	Federal Institutional Control	One-half mile	0
FED EC	Federal Engineering Control	One-half mile	0
ERNS	ERNS List	One-quarter mile	4
ST NPL	State/Tribal Equivalent NPL	One mile	0
ST CER	State/Tribal Equivalent CERCLIS	One-half mile	0
SWLF	State/Tribal Disposal or Landfill	One-half mile	5
LPST	State/Tribal Leaking Storage Tank	One-half mile	0
RPST	State/Tribal Storage Tank	One-quarter mile	3
ST IC	State/Tribal Institutional Control	One-quarter mile	0
ST EC	State/Tribal Engineering Control	One-half mile	0
VCP	State/Tribal VCP	One-half mile	0
ST BWN	State/Tribal Brownfield	One-half mile	0
RCRA	RCRA	One-quarter mile	0
DRYC	Dry Cleaners	One-quarter mile	0
IHW	Industrial Hazardous Waste	One-quarter mile	0

Source: Banks Environmental Data, March 25, 2015.

Twelve potential hazardous material sites were identified in the project area. Of these, three are adjacent to the project site. These three sites are shown on **Figure 13**. The numerical identifiers on **Figure 13** match the Map ID Numbers presented in the hazardous materials database search report.

Four Emergency Response Notification System (ERNS) sites were identified, none of which had specific location information. Based on the nature and timing of the associated spills, none are presumed to pose potential threats to the proposed project. Five solid waste landfills were identified in the project area, one of which had no associated location information. Of the four mapped sites, two are adjacent to the project site. These two are associated with the same composting facility, which operates as a

landscaping supply company (**Site 1** on **Figure 13** and **Photo 21**). Based on the nature of the facility and observations made during field investigations, the sites are not anticipated to pose a threat to the proposed project. Three Registered Petroleum Storage Tank (RPST) sites were identified adjacent to the project site. One of these is associated with the landscape supply company discussed above and is indicated on **Figure 13** as **Site 1**. The two remaining sites are associated with operating gas stations and are indicated on **Figure 13** as **Site 2** and **Site 3**. No property acquisitions are planned in the areas of these sites; therefore, no acquisitions of infrastructure used to store or transport petroleum products is anticipated.

Initial field investigations identified six structures that were within areas of proposed right-of-way acquisitions. These included temporary and permanent structures associated with both commercial and residential uses. Demolition or removal of several of these buildings is ongoing (unrelated to the proposed project) and, four structures remained at the time of the most recent field investigations (**Figure 10**). Testing for hazardous materials (e.g., asbestos containing materials) should be conducted prior to any required demolition activities that are proposed for remaining buildings.

West of **Site 4** on **Figure 10**, previously noted buildings and items stored in or near proposed right-of-way acquisitions included an abandoned vehicle, a drum from a concrete truck, and miscellaneous rubbish. Also noted was a small (~30 gallon) storage tank that may have contained gasoline or another petroleum product.

All records (including maps) from the database search are included in the Initial Site Assessment (ISA). Incorrect or incomplete addresses may result in some facilities being listed as unmappable due to discrepancies in the location of some facilities. No potential hazardous material issues were identified within the project area during field investigations. No impacts to potential hazardous materials sites are anticipated as a result of the proposed project based on current data.

Any unanticipated hazardous materials and/or petroleum contamination encountered during construction would be handled according to applicable federal and state regulations per TxDOT Standard Specifications. No unresolved hazardous materials situations for which TxDOT would be responsible are anticipated with respect to the project. Any adjustments to pipelines or potential utilities would use standard techniques. 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.

A copy of the Hazardous Materials ISA is on file at the TxDOT Austin District Office.

### 5.5.2 OTHER POTENTIAL ISSUES

#### **Construction Impacts**

##### No-Build Alternative

The No-Build Alternative would not result in any construction impacts.

##### Build Alternative

Although temporary congestion may occur as a result of project construction, access to residential and businesses in the project area would be maintained during all phases of construction. No detours would be necessary, and no substantial adverse impacts to routes available for pedestrians and bicyclists

would occur. All practicable steps would be taken to minimize the inconvenience to drivers using the roadway during the construction phase. People living and working in the immediate area of the proposed project may experience increased levels of noise and dust due to the construction activities.

### **Airway-Highway Clearance**

#### No-Build Alternative

The No-Build Alternative would result in no change to airway-highway clearance.

#### Build Alternative

The nearest airport to the proposed project is the Austin-Bergstrom International Airport, which is located approximately 4.5 miles southeast of the project area. As the distance to the airport is greater than 2 miles, airway-highway clearance is not required.

## **5.6 Encroachment-Alteration Effects**

Encroachment-alteration effects are those that affect the functions of the natural and socio-economic environments due to proposed project features but are removed in time or distance from the direct effects.

### **5.6.1 ECOLOGICAL ENCROACHMENT-ALTERATION IMPACTS**

Potential encroachment-alteration impacts on waters of the U.S. (including wetlands) from roadway projects include the fill and degradation of waters of the U.S. from induced development. Potential encroachment-alteration impacts on floodplains from roadway projects include increases in stormwater runoff due to changes in land use and increased development that may be accelerated by improved mobility to the transportation system in the surrounding area. Anticipated fill impacts to waters and floodplain impacts would generally be limited to the project footprint. With regard to erosion of soil from construction sites, erosion and sedimentation would be minor and temporary (BMPs would be in place) and would cease upon establishing permanent vegetation cover after construction.

Potential encroachment-alteration impacts could occur with respect to vegetation removal for any induced development. As described in **Section 5.1.5**, the project has the potential to impact one state-listed threatened species and five SGCNs. The conversion of vegetation to transportation use would contribute to habitat fragmentation, alteration, or loss. The proposed project would not alter the hydric regime or reduce diversity within the ecosystem. Indirect effects to vegetation and wildlife habitat are discussed further in **Section 5.7**.

### **5.6.2 SOCIO-ECONOMIC ENCROACHMENT-ALTERATION IMPACTS**

Substantial changes in travel patterns and access are not anticipated as a result of the project. No undeveloped areas would be newly opened for development. Minor economic impacts could occur with a loss of property tax revenue from acquired lands; however, construction costs in terms of labor and materials captured locally could result in positive economic impacts. Changes in community cohesion, neighborhood stability, access to specific services, and perceived quality of the natural environment are not expected. Mobility and safety improvements would generally benefit the traveling public. Because there would be only minor positive and negative socioeconomic impacts, socioeconomic encroachment-alteration effects are not further examined in this analysis.

## 5.7 Indirect Impacts

### 5.7.1 GUIDANCE

The preceding sections of this document have described the proposed project and its direct effects on the environment. The CEQ defines direct effects as those effects that are “caused by the action and occur at the same time and place” (40 CFR 1508.8). Direct effects are predictable and are a direct result of the project.

In addition to direct effects, major transportation projects may also have indirect effects on land use and the environment. As defined by the CEQ, indirect effects are “caused by an action and occur later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems” (40 CFR 1508.8). This section describes the potential indirect induced growth caused by the proposed project, utilizing guidance from TxDOT’s Environmental Handbook: *Indirect Impacts Analysis* (September 2015).

The risk assessment checklist for indirect impacts provided in TxDOT’s Environmental Compliance Toolkit was used to determine if indirect induced growth impacts analysis is required for the proposed project. **Table 18** summarizes the steps laid out in the risk assessment checklist and confirms the need to conduct the induced development analysis.

Table 18: Risk Assessment Screening Tool – Induced Development	
Does the Purpose and Need include economic development, or is the project proposed to serve a specific development?	No
Are economic development or new opportunities for growth/development cited as benefits of the project?	No
Is land in the project area available for development and/or redevelopment?	Yes
Does the project add capacity?	Yes
Is the project located in a rural area outside of the MPO boundary?	No
Does the project substantially increase access or mobility in the project area?	Yes
Is the project area experiencing population and/or economic growth?	Yes

Source: TxDOT, April 2014

### 5.7.2 STEP 1: DEFINE THE METHODOLOGY

A planning judgment approach, supported by the planning assumptions and land use predictions made by Travis County, was utilized to identify anticipated development trends and the probability of the proposed project to influence local land use decisions within the area of influence (AOI). An essential aspect of scoping the proposed project for potential indirect induced growth is coordination with local government staff who are intimately acquainted with the characteristics of the community and plans for addressing socio-economic issues. Accordingly, to obtain input relevant to defining the AOI, as well as current planning documents, proposed development projects, and other data relevant to the analysis of the proposed project's indirect and cumulative impacts, a representative from the Travis County Development Services was consulted during September 2015.

Information from an interview with Travis County engineering staff, planning documents, and various maps made publicly available by Travis County is provided in the discussion of indirect induced growth impacts. Information from the county’s engineering staff also guided the exercise of planning judgment

that necessarily extends throughout the analysis of indirect impacts (K. Taylor, Personal Communication, October, 2015).

This analysis provides quantified acreages of land uses within the AOI when appropriate; however, given the uncertainty inherent in predicting induced growth, some qualitative assumptions and assessments are necessary.

### 5.7.3 STEP 2: DEFINE THE AOI AND STUDY TIMEFRAME

The first objective is to define the scope of the analysis by considering the potential indirect induced growth impacts and the possible geographic range of those impacts. This is done by considering the attributes and context of the proposed project, and leads to a general assessment of the level of impacts anticipated. In addition, the assessment considers the distance from the project construction footprint necessary for those impacts to attenuate to a negligible level. This approach helps determine the level of effort and approach needed to complete the analysis, and is also vital in achieving the second objective of determining the geographic extent of the indirect impacts study area or AOI.

#### **Project Attributes and Context**

FM 969 is a primary east-west transportation corridor in eastern Travis County. The project area is located within the City of Austin's ETJ. This roadway links unincorporated communities of eastern Travis County and intersects with the SH 130 corridor, a major north-south regional corridor. Along FM 969 in the project area, the community can be characterized as undeveloped rural and commercial land uses adjacent to agricultural fields and residential areas. The project area has historically been primarily rural, but eastern Travis County has seen increased growth in recent years. The proposed project has been planned to increase traffic capacity, improve traffic flow, and to improve safety along FM 969.

#### **Geographic Boundary of the AOI**

The basic objective in creating an AOI is to delineate a study area within which all substantial project-related impacts are expected to occur. As the assessment of direct project impacts generally stops at the limits of the construction area within existing and proposed right-of-way/easements (i.e. the 'project footprint'), establishing an AOI extends the area of consideration to the point where all impacts are expected to attenuate to a negligible level or where other infrastructure constituted a greater impact on development compared to the proposed project.

The AOI encompasses an area of approximately 1,107 acres. It is generally defined as parcels adjacent to the proposed project area, bounded on the west by FM 973 and on the east by Cadillac Drive. The adjacent parcels that surround the limits of the proposed project are considered the most likely to experience potential induced growth due access enhancement resulting from the proposed project.

#### **Time Frame for Assessing Indirect Impacts**

A temporal frame of reference is necessary in addressing the range of impacts that may be caused by the proposed project in the future. The discussion below considers indirect induced growth impacts that may occur between the time of project construction and 2040, the planning horizon for the CAMPO's 2040 Regional Transportation Plan.

5.7.4 STEP 3: IDENTIFY AREAS SUBJECT TO INDUCED GROWTH IN THE AOI

Scattered areas of undeveloped land and potential sites for redevelopment are present within the AOI. A categorization of land uses within the AOI by parcel was developed using information collected during field survey, aerial imagery, and parcel data, and is presented below in **Table 19**. Based on this information, approximately 486 acres are considered developable (e.g. land located outside of the 100-year floodplain, not including future right-of-way, etc.), representing approximately 44 percent of the land within the AOI.

<b>Table 19: Current Land Uses within the Area of Influence</b>		
<b>Land Use Category</b>	<b>Acres</b>	<b>Percent of AOI</b>
<b>Developed</b>		
Assisted Living	2.0	0.2
Church	15.7	1.4
Commercial	14.5	1.3
Fire Department	1.1	<0.1
Residential	52.4	4.7
Residential and Agricultural	102.3	9.2
Right-of-Way	100.0	9.0
School	3.1	0.3
Utility	0.7	<0.1
<b>Developable</b>		
Agricultural	74.2	6.7
Undeveloped	412.6	37.2
<b>Floodplain</b>		
Floodplain	328.6	29.7
<b>Total</b>	<b>1,107.2</b>	<b>100%</b>

Source: CMEC 2015.

In **Table 19** above, agricultural and undeveloped land represent the land use categories that could be developed. These types of tracts are evenly dispersed throughout the AOI.

5.7.5 STEP 4: DETERMINE IF GROWTH IS LIKELY TO OCCUR IN THE INDUCED GROWTH AREAS

Limited formal plans exist to promote, guide, and monitor development activity in unincorporated Travis County. These plans include the CAMPO's 2040 RTP and various Travis County plans (including the recent Land Water, and Transportation Plan approved in December 2014). As previously noted, the project limits are located in the City of Austin's 2-mile ETJ.

Communication with Travis County engineering staff revealed a general lack of development pressure within the AOI. No developments or redevelopments are planned within the AOI at this time. In addition, the county engineering staff does not believe the proposed improvements to FM 969 would influence or affect the rate of development within the AOI.

5.7.6 STEPS 5 AND 6: IDENTIFY RESOURCES SUBJECT TO INDUCED GROWTH IMPACTS AND IDENTIFY MITIGATION IF APPLICABLE

In consideration of the above factors, the proposed improvements would not likely result in induced growth within the AOI. While the proposed project would increase traffic capacity, improve traffic flow, and to improve safety along FM 969, these transportation improvements would not result in changes considered substantial enough to cause shifts in current development rates and patterns within the AOI. Considering the nature of the proposed improvements, coupled with the absence in demand

for land use changes along the FM 969 corridor or within the AOI, the proposed improvements would not result in induced growth or related effects. This approximate 2-mile stretch of FM 969 would be expected to continue to function primarily as a primary east-west transportation corridor, connecting eastern Travis County to SH 130 and beyond.

There is no induced growth anticipated; therefore, no resources are anticipated to be impacted and no mitigation is proposed.

### **5.8 Cumulative Impacts**

Cumulative effects are defined as effects “on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7, 1978). As this regulation suggests, the purpose of a cumulative impacts analysis is to view the direct and indirect impacts of the proposed project within the larger context of past, present, and future activities that are independent of the proposed project, but which are likely to affect the same resources in the future. Environmental and social resources are evaluated from the standpoint of relative abundance among similar resources within a larger geographic area. Broadening the view of resource impacts in this way allows the decision maker an insight into the magnitude of project-related impacts in light of the overall health and abundance of selected resources. In essence, a cumulative impacts evaluation first paints a conceptual picture of the existing or “baseline” condition of each resource which is based on historical information and an assessment of the current condition of the resource. Second, the analysis then inventories future projects in the vicinity that are planned and financed, but unrelated to the proposed project, and assesses the likely collective impacts of those projects for each resource. Third, the analysis then describes the expected future status of the resource (i.e., in terms of quantity and condition) after the combined (i.e., ‘cumulative’) effects of the proposed project and other foreseeable projects are fully realized. Finally, the cumulative impacts analysis assesses the level of concern that should be associated with the expected cumulative impacts to a resource based on the scarcity or current condition of that resource.

The evaluation of cumulative impacts discussed in this document follows TxDOT’s March 2014 “Cumulative Impacts Analysis Guidelines.”

#### **Step 1: Risk Assessment – Is the Analysis Necessary?**

The following discussion summarizes the questions and answers from the TxDOT Cumulative Impacts Risk Assessment.

**Question 1: Will the project have substantial direct or indirect impacts on any resource?** No substantial direct or indirect impacts are anticipated. Technical reports have been prepared for the following environmental resources/issues: biological resources, air quality, traffic noise, community impacts, cultural resources (historic and archeology), and hazardous materials.

**Question 2: Are any resources in the project area in poor or declining health?** Yes. Potential habitat for state-listed threatened species occurs in the project area.

**Question 3: Will the project impact a resource that is in poor or declining health?** No.

**Table 20** below provides additional information about the direct and indirect impacts on each resource and the health of each resource.

<b>Table 20: Resource/Issues Considered for Cumulative Impacts Analysis</b>				
<b>Subject Considered for Direct and Indirect Impacts</b>	<b>TxDOT/CEQ Criteria <sup>1</sup></b>		<b>Included for Cumulative Impacts Analysis</b>	<b>Explanation for Including or Excluding the Subject from Cumulative Impacts Analysis</b>
	<b>Would Proposed Project or Induced Growth Result in Substantial Adverse Impacts?</b>	<b>Is Subject a Scarce Resource or in Poor or Declining Health?</b>		
<b>NATURAL RESOURCES</b>				
<b>Waters of the U.S., including Wetlands</b>	No	No	No	Excluded. The proposed project would not result in temporary or permanent impacts to waters of the U.S., including wetlands. No coverage under either Nationwide or Individual Permits is anticipated.
<b>Floodplains</b>	No	No	No	Excluded. Although small portions of the project would lie within the 100-year floodplain, the hydraulic design of the project would permit conveyance of the 100-year flood, and potential inundation of the highway would not cause substantial damage to it, the streams, or other property.
<b>Water Quality</b>	No	No	No	Excluded. No permanent water quality impacts are expected from the proposed project and required permits to control erosion during construction are expected to result in minimal temporary degradation of water quality.
<b>Vegetation and Wildlife Habitat</b>	No	Yes	No	Excluded. The construction of the proposed project is expected to impact a total of 23.22 acres of vegetation located within existing and proposed right-of-way. However, the vegetation types are widespread in the area and these impacts are not anticipated to result in any adverse impacts to state-listed species.
<b>Federally listed Threatened/ Endangered Species</b>	No	No	No	Excluded. No recorded occurrences or habitat of federally listed threatened or endangered species are located in the project area.
<b>Topography and Soils</b>	No	No	No	Excluded. It was determined that the conversion of areas considered prime farmland would cause non-adverse effects. Based on the results of the NRCS CPA-106 Form, further coordination with NRCS is not required.
<b>Air Quality</b>	No	No	No	Excluded. Travis County is in attainment or unclassifiable for all NAAQS. Because the project's potential direct and indirect impacts on air quality and MSATs are projected to be offset by Federal fuel and vehicle control programs or state and Federal regulatory programs, negative impacts on air quality are not anticipated.
<b>COMMUNITY IMPACT ASSESSMENT</b>				
<b>Community Impacts</b>	No	No	No	Excluded. The proposed project would not affect, separate, or isolate any distinct neighborhoods, ethnic groups, or other specific groups within the project area. Beneficial encroachment-alteration impacts in the form of changes in travel patterns, potential increases in local property/sales tax revenues, and expansion of modal choices are anticipated. Future development would be consistent with existing planning documents.

**Table 20: Resource/Issues Considered for Cumulative Impacts Analysis**

Subject Considered for Direct and Indirect Impacts	TxDOT/CEQ Criteria <sup>1</sup>		Included for Cumulative Impacts Analysis	Explanation for Including or Excluding the Subject from Cumulative Impacts Analysis
	Would Proposed Project or Induced Growth Result in Substantial Adverse Impacts?	Is Subject a Scarce Resource or in Poor or Declining Health?		
Limited English Proficiency	No	No	No	Excluded. Adequate steps are planned to assist the LEP population within the project area throughout the public involvement process.
Environmental Justice	No	No	No	Excluded. No disproportionately high or adverse impacts on minority or low-income populations are anticipated as a result of the proposed project.
Public Facilities/ Services/Utilities	No	No	No	Excluded. The proposed project would not displace any public facilities/services, and improved mobility would provide a benefit.
Traffic Noise	No	No	No	Excluded. Although there are traffic noise impacts, any impacts would be mitigated by the planned construction of proposed noise barriers.
<b>SECTION 4(F) AND 6(F) PROPERTIES</b>				
Section 4(f) and 6(f) Properties	No	No	No	Excluded. No adverse impacts are anticipated to local parks and recreation areas.
<b>CULTURAL RESOURCES</b>				
Historic-Age Properties	No	No	No	Excluded. The proposed project is not expected to adversely affect historic resources.
Archeological Resources	No	No	No	Excluded. The proposed project is not expected to adversely affect any archeological resources or cemeteries.

Notes: 1. In accordance with TxDOT and CEQ selection criteria for limiting the scope of cumulative impacts analyses.

Based on the results of the risk assessment, supported by information presented in **Table 20** and in the technical reports prepared for the proposed project, further Cumulative Impacts Analysis is not required.

## 6.0 Agency Coordination

Potential impacts to vegetation and wildlife resources were reviewed per the 2013 TxDOT-TPWD MOU. Potential impacts would be addressed through the inclusion on BMPs (described in **Section 5.1.5** and **Section 8.0**) as developed in a PA as part of the 2013 MOU. The inclusion of BMPs removed the requirement for TPWD review.

Potential impacts to Archeological and Non-archeological Historic resources were coordinated with the THC. An Intensive Archeological Survey was conducted and the resulting report was reviewed by THC. Upon review, the THC found that the report, which recommended no further work prior to construction, was acceptable on March 10, 2016. A Historic Resources Survey Report was prepared for the proposed project and TxDOT historians determined that there were no adverse effects to historic, non-archeological properties and that individual project coordination with the SHPO was not required (December 23, 2015).

TxDOT initiated tribal coordination in March of 2016. The Comanche Nation responded (March 21, 2016) to inform TxDOT that a review of the proposed project found that no tribal properties would be

affected, and the Caddo Nation responded (April 4, 2016) to inform TxDOT that they concurred with the findings and recommendations of the archeological resources investigations.

The project would not result in impacts to waters of the U.S. or wetlands; therefore, no permit authorization from the USACE would be required nor would coordination with the agency.

## 7.0 Public Involvement

An open house public meeting was held on Tuesday November 19, 2013 that presented information pertaining the proposed project and the project associated with CSJ 1186-01-090 (described in **Section 2.4**). There were 40 comments received, the majority of which expressed concern about the need for improved bike and pedestrian facilities. Other comments addressed improvements to bus service, turn lanes, and overall safety. A summary of that meeting is on file at the TxDOT Austin District office.

A public hearing for the proposed project was held on December 13, 2016. Notice of Availability of the Draft EA was provided to the public on November 21, 2016. Notification was provided in the Austin American Statesman, the TxDOT hearing and meeting schedule website, and through public media accounts held by Daley Middle School (the event venue). Printed copies of the Draft EA were made available for review at the TxDOT Austin District Office, the Travis County Transportation and Natural Resources Office, and at the University Hills Branch of the Austin Public Library. Public input that pertained to the scope of the project generally focused on traffic congestion, safety, and inquiries about the duration of the planning process. Public comments did not result in modifications to the proposed design. It was determined that the current design would alleviate many of the traffic-related issues raised at the hearing and that other concerns (e.g., traffic light sequencing) would be addressed during project development. Public hearing documentation, which includes all comments received and responses to each comment, is on file at the TxDOT Austin District Office and may be inspected and copied (for a nominal fee) upon request. Additional public involvement may be required related to right-of-way acquisitions and noise abatement. All design-phase agency coordination has been completed. Notice of impending construction will be provided to adjacent property owners, affected local governments, and affected public officials after issuance of an environmental decision and before earthmoving or other activities requiring the use of heavy equipment begin. Notice may be provided via signs posted in the project right-of-way, mailed notice, printed notices distributed by hand, or on a website that has been made known to affected parties.

## 8.0 Environmental Permits, Issues, and Commitments

All project-specific commitments and conditions of approval, including resource agency permitting compliance and monitoring requirements, would be incorporated in the project plan for the proposed project. These project-specific commitments and conditions for approval, as further described below, may vary depending on the project's final design and construction. Mitigation monitoring would be conducted by TxDOT and other federal, state, and local agencies to ensure compliance. A summary of Permits and Approvals is presented in **Table 21** at the end of this section.

This section summarizes the elements that constitute the EPIC sheet. The EPIC sheet, found in the Environmental Compliance Oversight System (ECOS), documents and communicates permit issues and environmental commitments that must be incorporated into the Plans, Specifications, and Estimates design

for the proposed project. The permits, impacts and commitments relevant to the proposed project are as follows:

- TxDOT would comply with TCEQ's TPDES CGP. A SW3P would be implemented, and a construction site notice would be posted on the construction site. A NOI would be required.
- This project is located within the boundaries of the Phase II MS4 operated by Travis County, and would comply with the applicable requirements.
- In accordance with the TxDOT-TPWD *Best Management Practices Programmatic Agreement*, the following BMPs would be implemented:
  - Texas horned lizard – Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered. This should include avoiding harvester ant mounds in the selection of Project Specific Locations (PSLs) where feasible.
  - Western burrowing owl – 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.
  - Texas garter snake – Contractors will be advised of the potential occurrence in the project area, and to avoid harming the species if encountered.
  - Spot-tailed earless lizard – Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered.
  - Plains spotted skunk – Contractors will be advised of the potential occurrence in the project area, and to avoid harming the species if encountered, and to avoid unnecessary impacts to dens.
  - Cave myotis bat
    - Bridge bat BMPs: Habitat assessment by qualified biologist to determine if bats are present; if bats are present, take appropriate measures as practicable to ensure that bats are not harmed such as exclusion or timing activities. For maternal colonies, exclusion activities should be timed to avoid separating lactating females from nursing pups. If structures used by bats are removed as a result of construction, replacement structures should incorporate bat-friendly design, or artificial roosts should be constructed to replace these features as practicable.
    - Cave/Cliff Bat BMPs: When TxDOT activities have the potential to impact cliffs or caves adjacent to roadways, these features will be surveyed by qualified biologist to determine if bats are present. Newly acquired TxDOT ROW will be surveyed by a qualified biologist for cliff/cave features. Conversion of property containing cliff or cave features to transportation purposes should be

avoided where feasible. If bats are present, appropriate measures will be taken to ensure that bats are not harmed such as exclusion of bats from the project area, or timing activities to when bats are not present. For maternity colonies, exclusion activities should be timed to avoid separating lactating females from nursing pups. If features used by bats are removed as a result of construction, artificial roosts should be constructed to replace these structures as practicable.

- Permanent soil erosion control features would be constructed as soon as feasible during the early stages of construction through proper sodding and/or seeding techniques. Disturbed areas would be restored and stabilized as soon as the construction schedule permits and temporary sodding would be considered where large areas of disturbed ground would be left bare for a considerable length of time.
- In accordance with EO 13112 on Invasive Species and the Executive Memorandum on Beneficial Landscaping, seeding and replanting with TxDOT approved seeding specifications that is in compliance with EO 13112 would be done where possible. Moreover, abutting turf grasses within the right-of-way are expected to re-establish throughout the project length. Soil disturbance would be minimized to ensure that invasive species would not establish in the right-of-way.
- In the event that migratory birds are encountered on-site during project construction, adverse impacts on protected birds, active nests, eggs, and/or young would be avoided. The contractor would remove all old migratory bird nests from October 1 to February 15 from any structure where work will be done. In addition, the contractor would be prepared to prevent migratory birds from building nests between February 15 and October 1, per the EPIC plans.
- Travis County would be responsible for the right-of-way acquisitions. Acquisition and relocation assistance would be in accordance with the U.S. Department of Transportation (USDOT) policy, as mandated by the URARPA, as amended in 1987, Travis County would provide relocation resources (including any applicable special provisions or programs) to all displaced persons without discrimination.
- In the event that unanticipated archeological deposits are encountered during construction, work in the immediate area will cease, and TxDOT archeological staff will be contacted to initiate post-review discovery procedures.
- Any unanticipated hazardous materials and/or petroleum contamination encountered during construction would be handled according to applicable federal and state regulations per TxDOT Standard Specifications. No unresolved hazardous materials situations for which TxDOT would be responsible are anticipated with respect to the project. Any adjustments to pipelines or potential utilities would use standard techniques. 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.

**Table 21: Permits and Approvals**

<b>PERMIT/APPROVAL</b>	<b>AGENCY</b>
Construction General Permit	TCEQ

## 9.0 Conclusion

The No-Build Alternative would avoid the direct impacts associated with the Build Alternative; however, it would not address the purpose and need for the proposed project.

The Build Alternative is the recommended alternative, as it is responsive to the needs for the transportation improvement project based on historic and projected population increases, urbanization, and the existing inadequacy of the road network in the area. The engineering, social, economic, and environmental investigations conducted indicate that the proposed project would result in no significant impacts to the quality of the human or natural environment; a Finding of No Significant Impact (FONSI) is recommended for this project.

## 10.0 References

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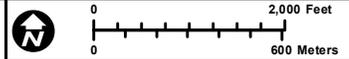
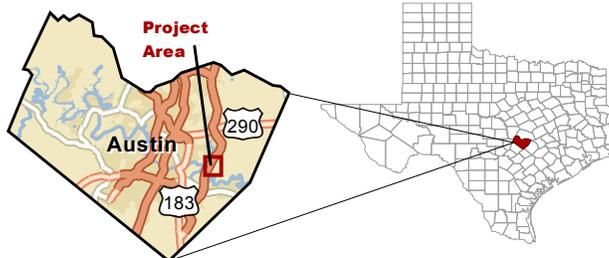
## Appendix A

### Figures



 Project Location

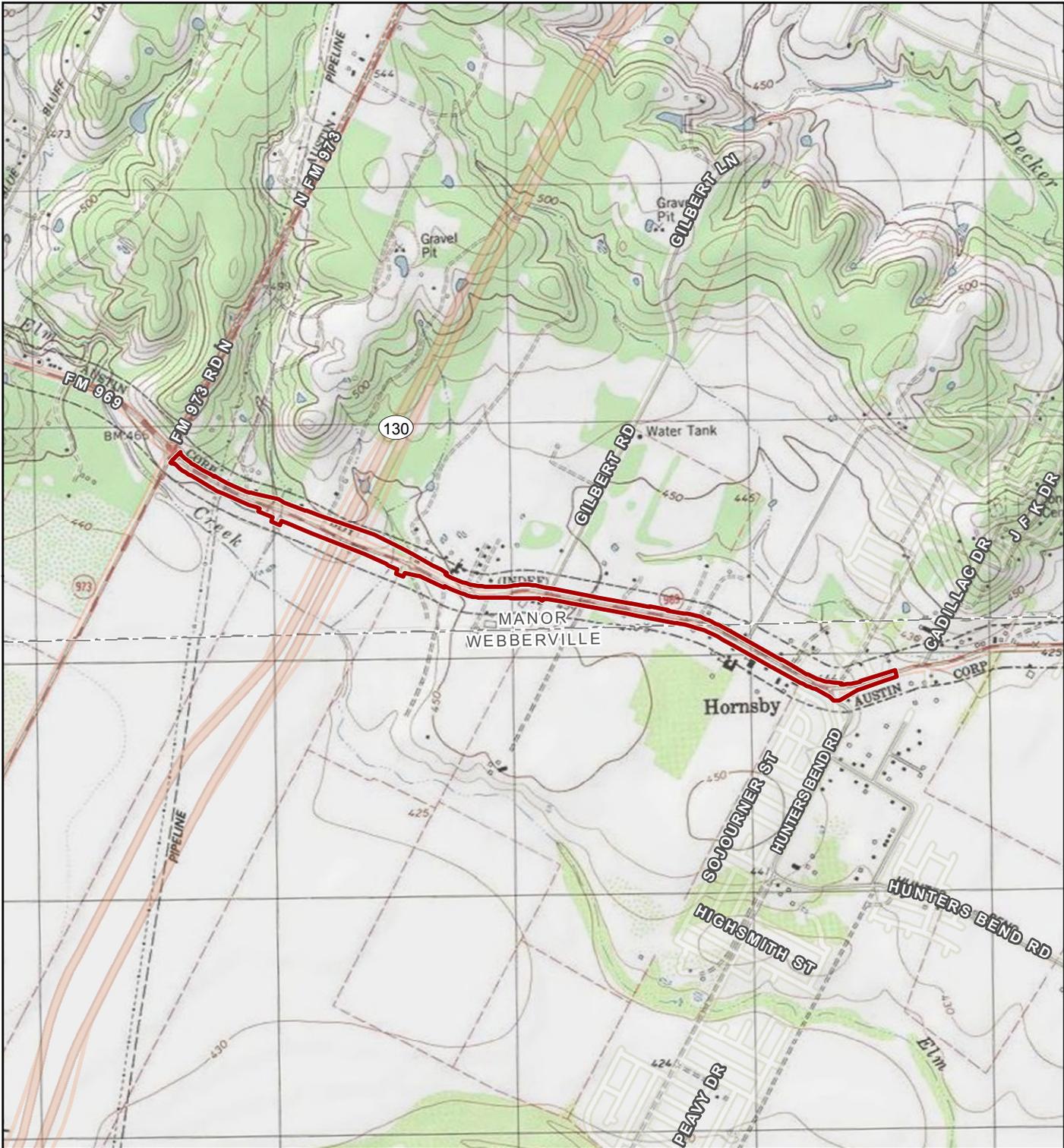
Travis County



**Figure 1**  
Project Location  
(Aerial Base)

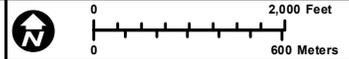
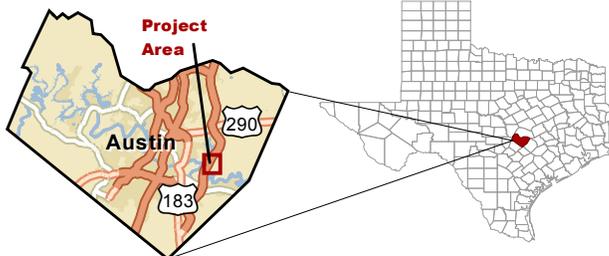
FM 969 from FM 973  
to Hunters Bend Road

Prepared for: TxDOT	1 in = 2,000 feet
Travis County	Scale: 1:24,000
CSJ: 1186-01-091	Date: 7/27/2015



 Project Location

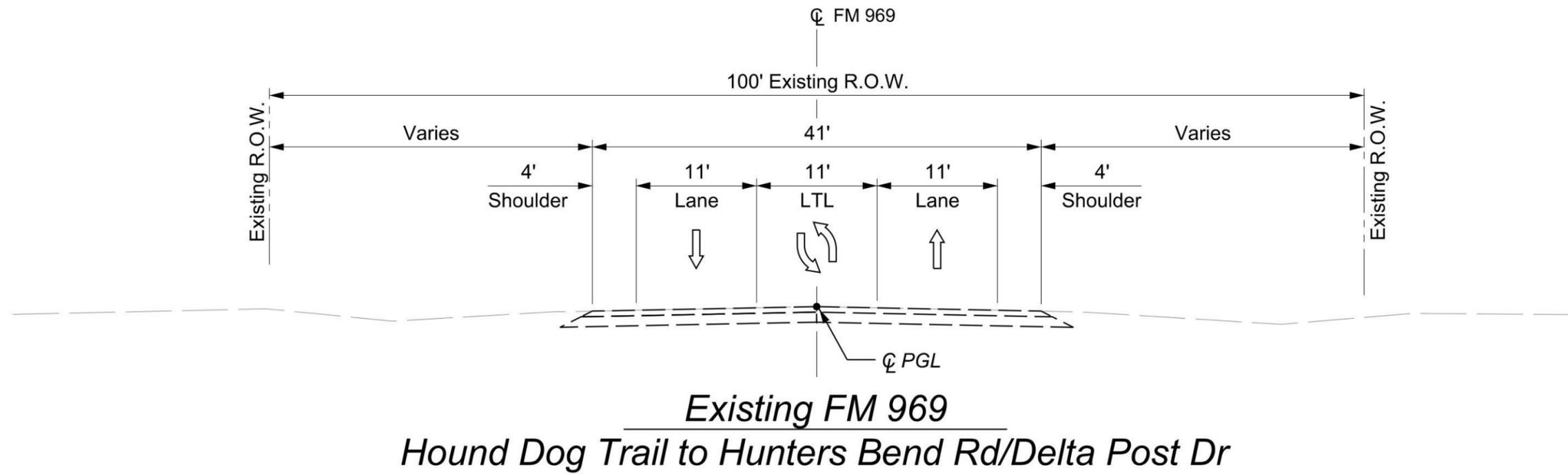
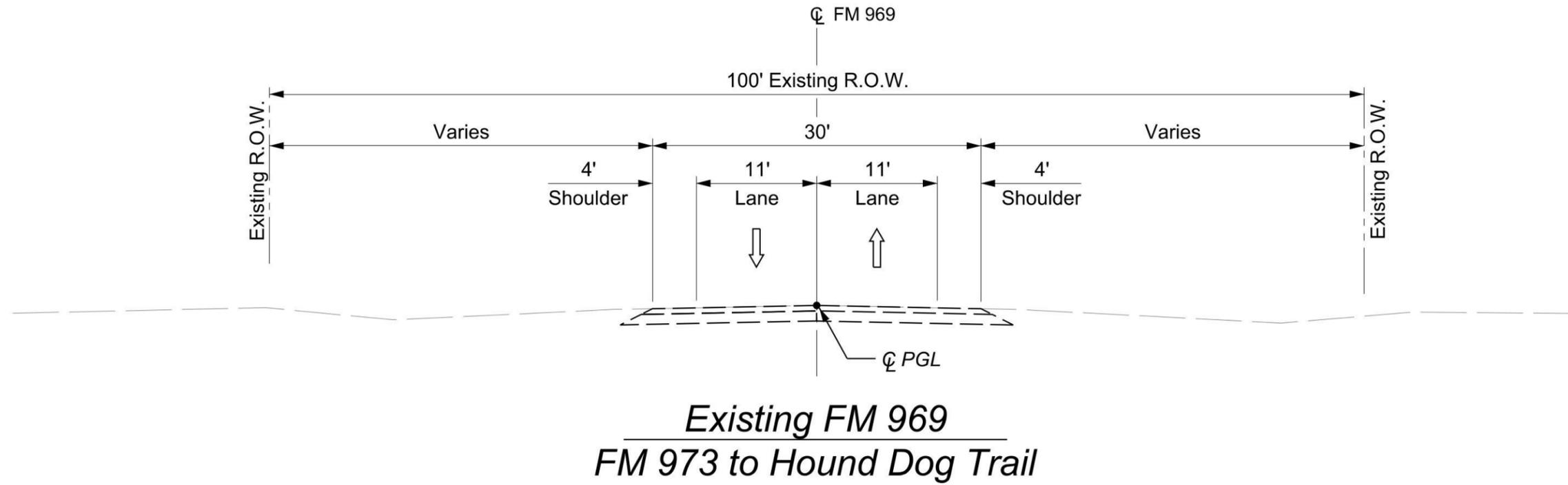
Travis County



**Figure 2**  
**Project Location**  
 (Topographic Base)

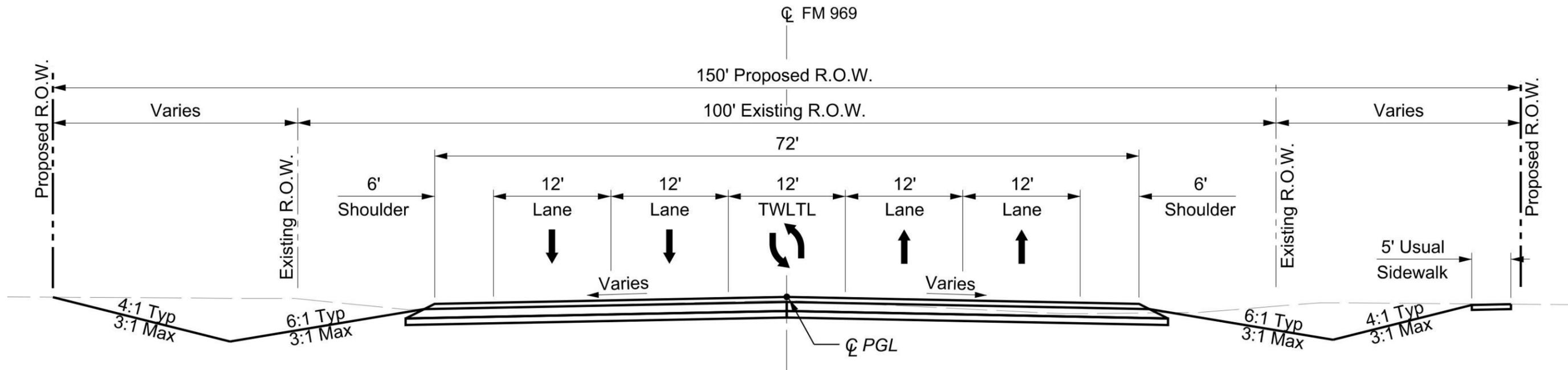
**FM 969 from FM 973  
 to Hunters Bend Road**

Prepared for: TxDOT	1 in = 2,000 feet
Travis County	Scale: 1:24,000
CSJ: 1186-01-091	Date: 7/27/2015



**Figure 3a: Existing Typical Sections**

**FM 969 From FM 973 to Hunters Bend Road**



*Proposed FM 969 Phase 2*  
*FM 973 to Hunters Bend Rd/Delta Post Dr*

**Figure 3b: Proposed Typical Sections**

**FM 969 From FM 973 to Hunters Bend Road**

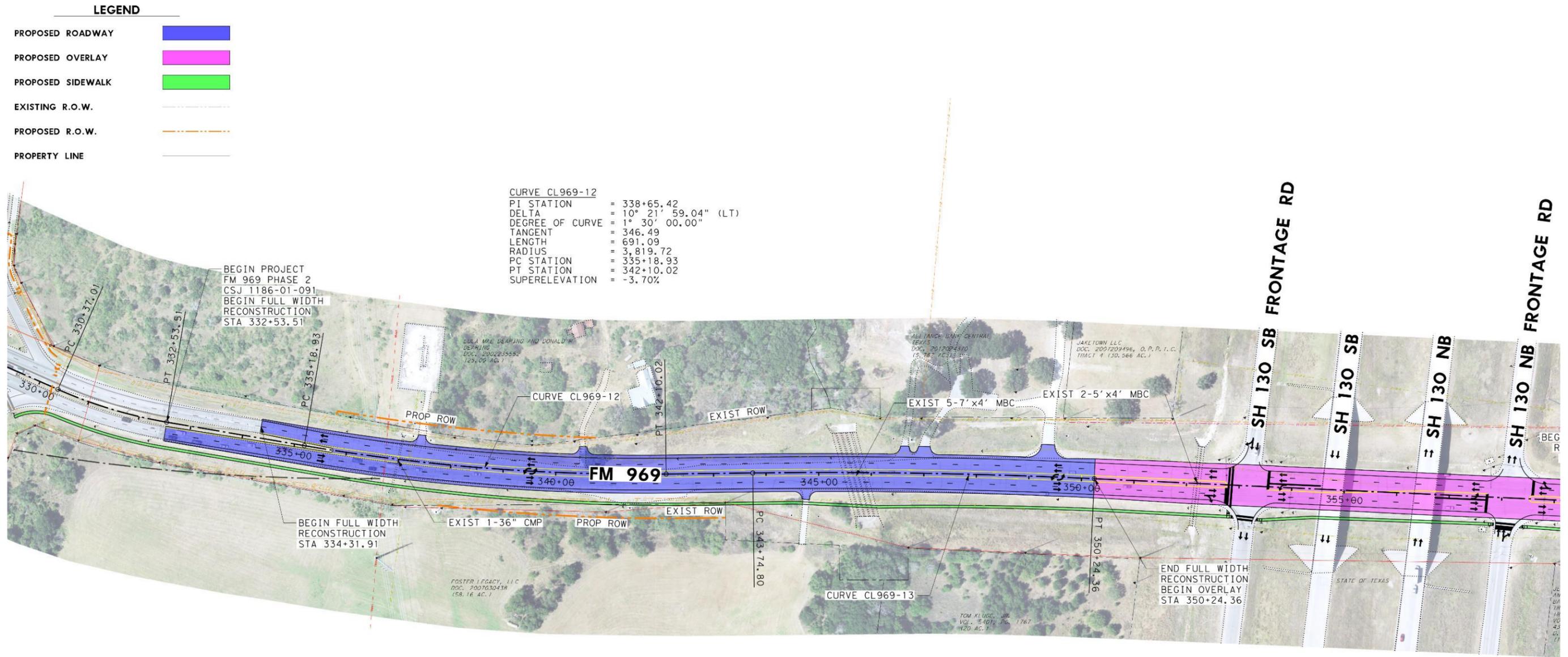


Figure 4a: Proposed Layout

FM 969 From FM 973 to Hunters Bend Road

FM 969 - CROSS SLOPE DATA	
STATION	X-SLOPE
332+53.51	-5.0% M.E.
333+75	-5.0%
335+55	-3.7%
341+74	-3.7%
343+54	-1.5%
350+24.36	-1.5% M.E.
361+49.36	-1.0% M.E.
363+30	-2.0%
369+27	-2.0%
371+93	-6.0%
376+02	-6.0%
384+37	5.8%

N.C.(NORMAL CROWN)  
M.E.(MATCH EXISTING)

**CURVE CL969-14**  
 PI STATION = 364+26.71  
 DELTA = 2° 51' 45.46" (RT)  
 DEGREE OF CURVE = 0° 30' 58.24"  
 TANGENT = 277.35  
 LENGTH = 554.58  
 RADIUS = 11,100.00  
 PC STATION = 361+49.36  
 PT STATION = 367+03.94  
 SUPERELEVATION = NORMAL CROWN

**CURVE CL969-15**  
 PI STATION = 374+28.44  
 DELTA = 24° 29' 11.42" (LT)  
 DEGREE OF CURVE = 4° 18' 28.63"  
 TANGENT = 288.61  
 LENGTH = 568.40  
 RADIUS = 1,330.00  
 PC STATION = 371+39.84  
 PT STATION = 377+08.24  
 SUPERELEVATION = -6.00%

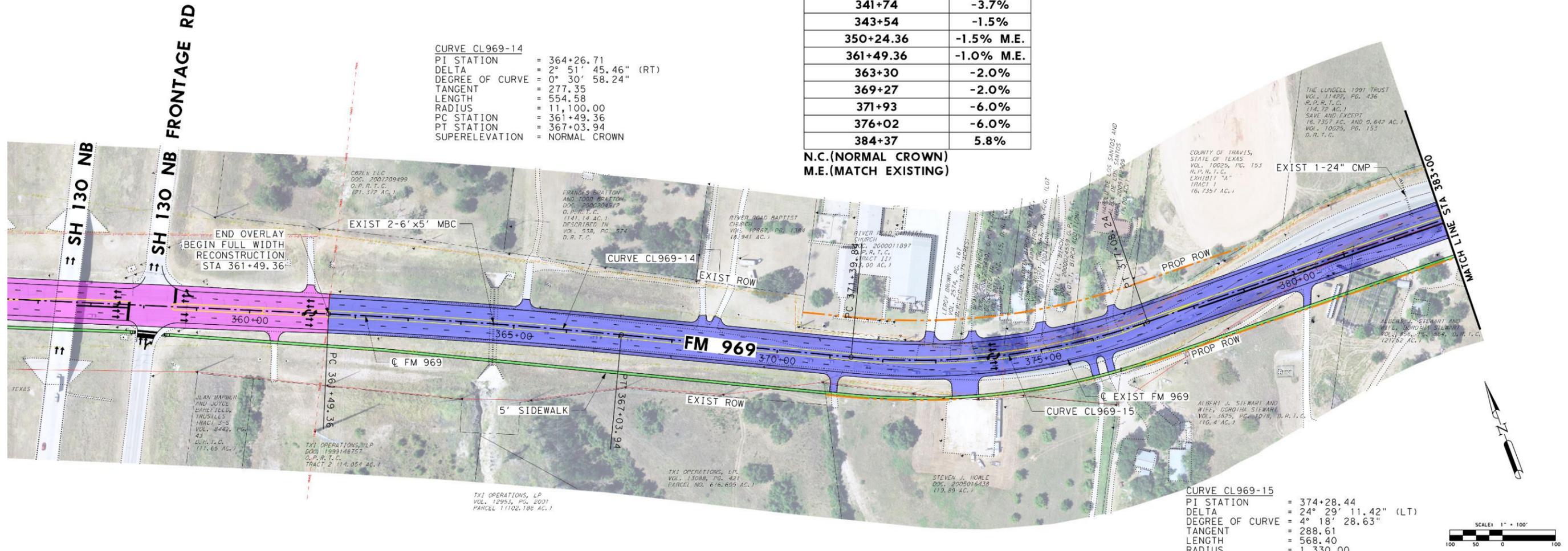
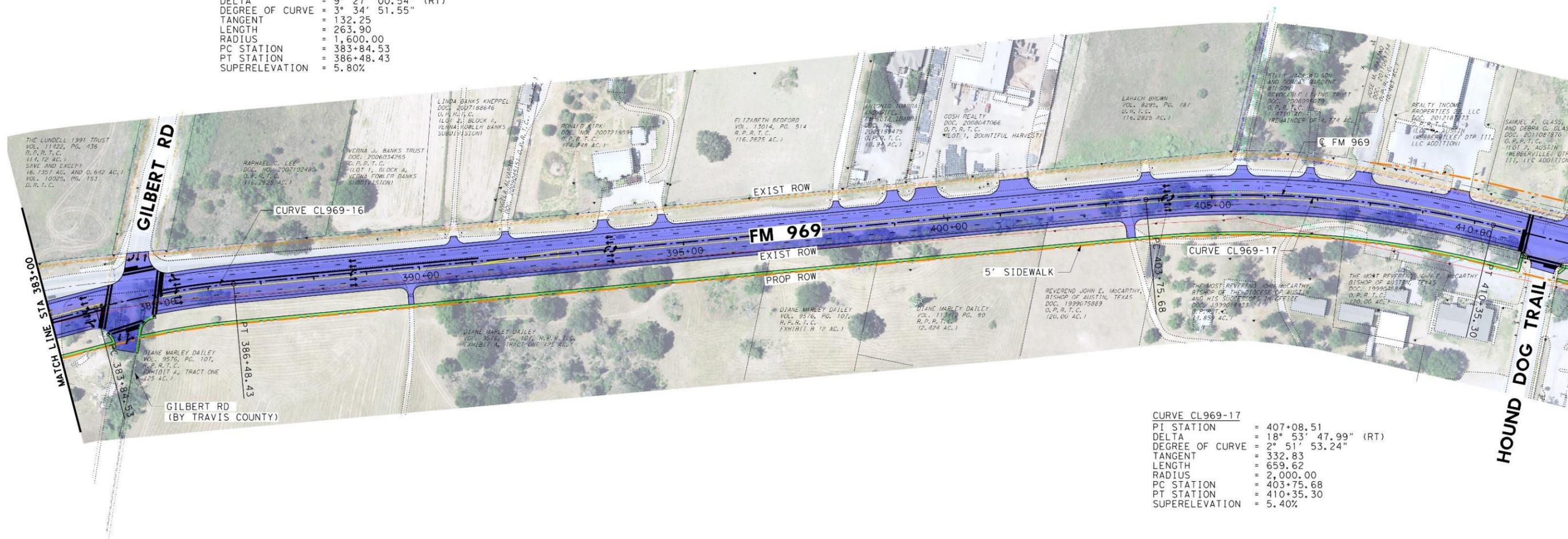


Figure 4b: Proposed Layout

FM 969 From FM 973 to Hunters Bend Road

**CURVE CL969-16**

PI STATION = 385+16.78  
 DELTA = 9° 27' 00.54" (RT)  
 DEGREE OF CURVE = 3° 34' 51.55"  
 TANGENT = 132.25  
 LENGTH = 263.90  
 RADIUS = 1,600.00  
 PC STATION = 383+84.53  
 PT STATION = 386+48.43  
 SUPERELEVATION = 5.80%



**CURVE CL969-17**  
 PI STATION = 407+08.51  
 DELTA = 18° 53' 47.99" (RT)  
 DEGREE OF CURVE = 2° 51' 53.24"  
 TANGENT = 332.83  
 LENGTH = 659.62  
 RADIUS = 2,000.00  
 PC STATION = 403+75.68  
 PT STATION = 410+35.30  
 SUPERELEVATION = 5.40%

**Figure 4c: Proposed Layout**

**FM 969 From FM 973 to Hunters Bend Road**

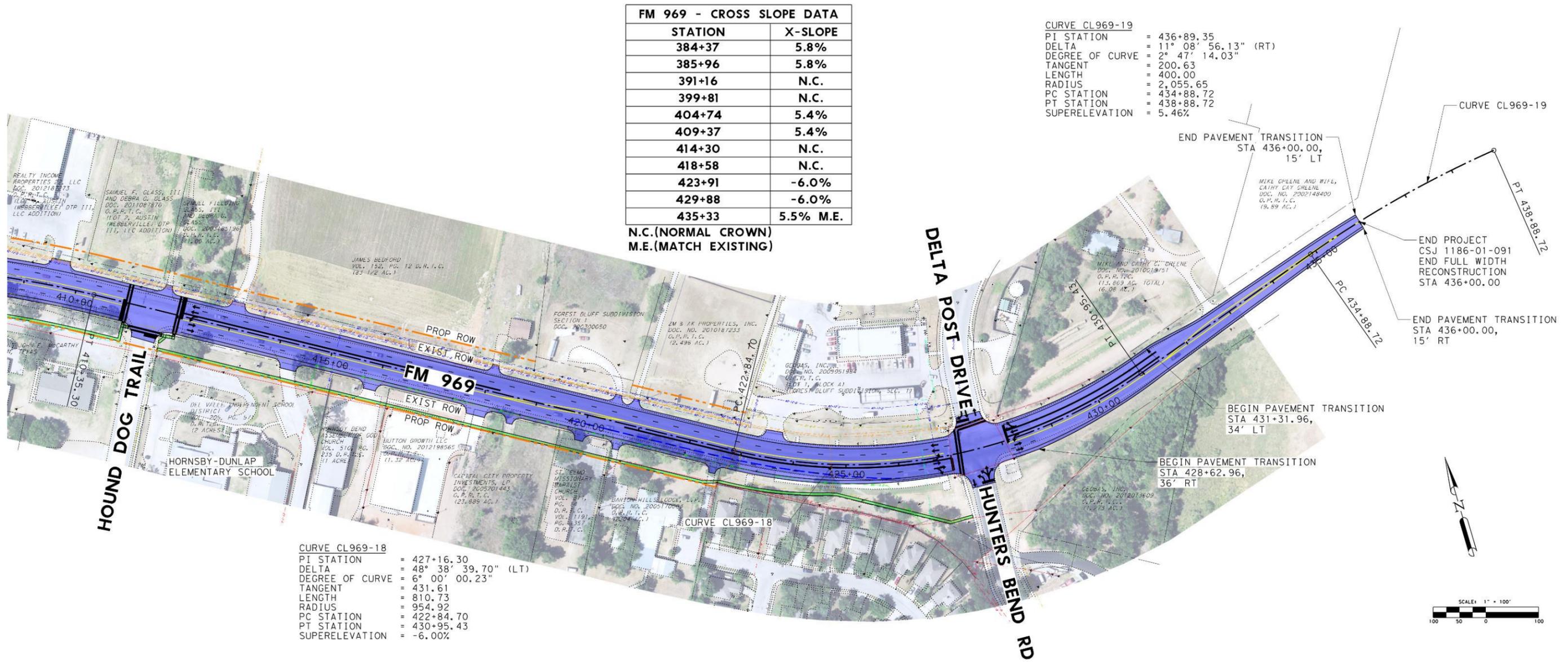
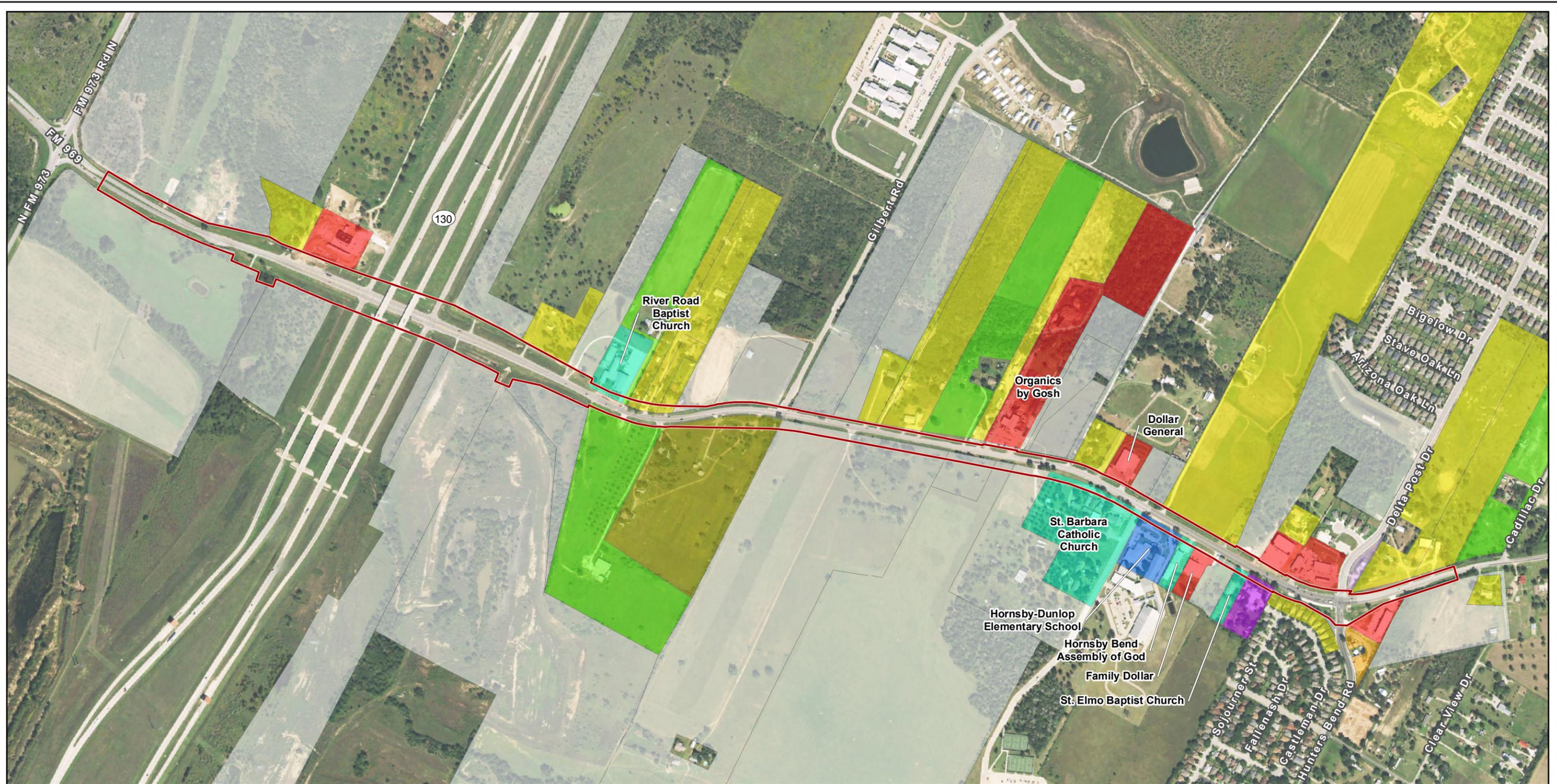
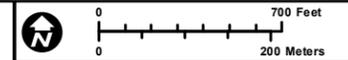


Figure 4d: Proposed Layout

FM 969 From FM 973 to Hunters Bend Road



- ▭ Project Location
- ▭ Fire Department
- Land Use**
- ▭ Residential
- ▭ Agricultural
- ▭ Residential and Agricultural
- ▭ Assisted Living
- ▭ School
- ▭ Church
- ▭ Undeveloped
- ▭ Commercial
- ▭ Utility



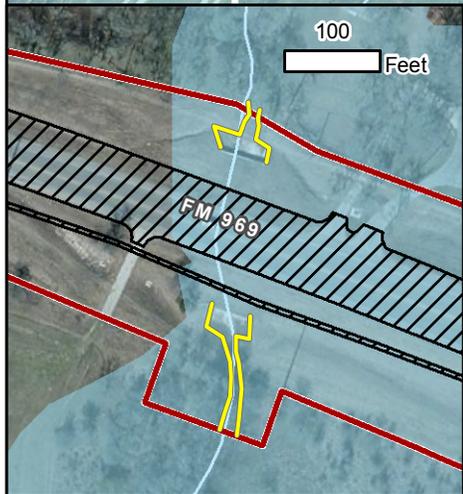
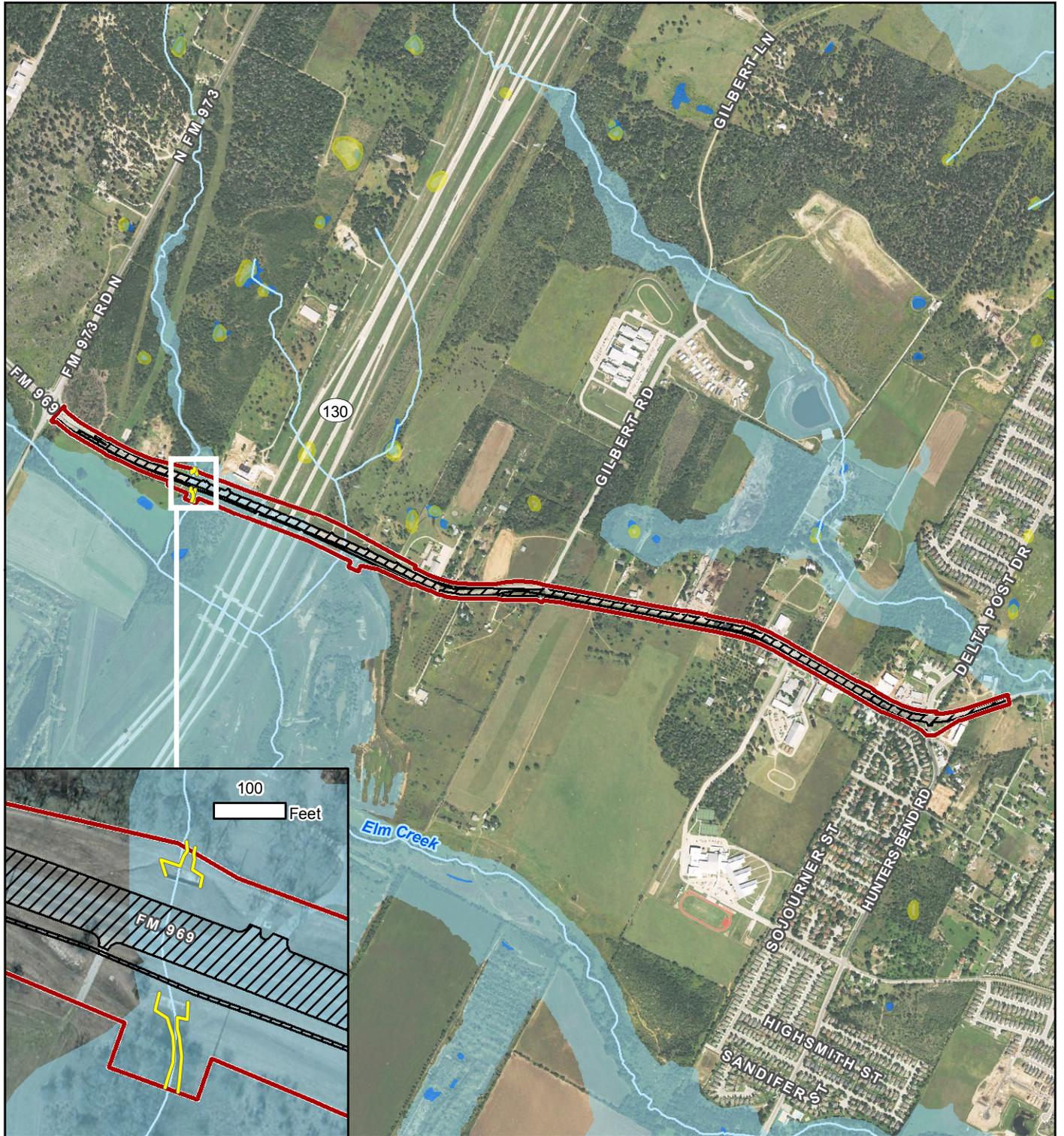
**Figure 5**  
**Project Area**  
**Land Use**

**FM 969 From FM 973**  
**to Hunters Bend Road**

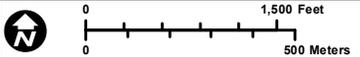
Data Sources: TCAD (2015), CMEC (2015)  
 Aerial Source: NAIP (2014)

G:\Projects\TravisCO\FM\_969\Phase 2\_EA\_Figure 5\_Land Use\_20151015.mxd

Prepared for: TxDOT,	1 in = 700 feet
Travis County	Scale: 1:8,400
CSJ: 1186-01-091	Date: 10/15/2015



-  Project Location
-  Proposed Impacts
-  NHD Stream
-  NHD Water
-  NWI Wetland
-  100-Year Flood Zone
-  Delineated OHWM

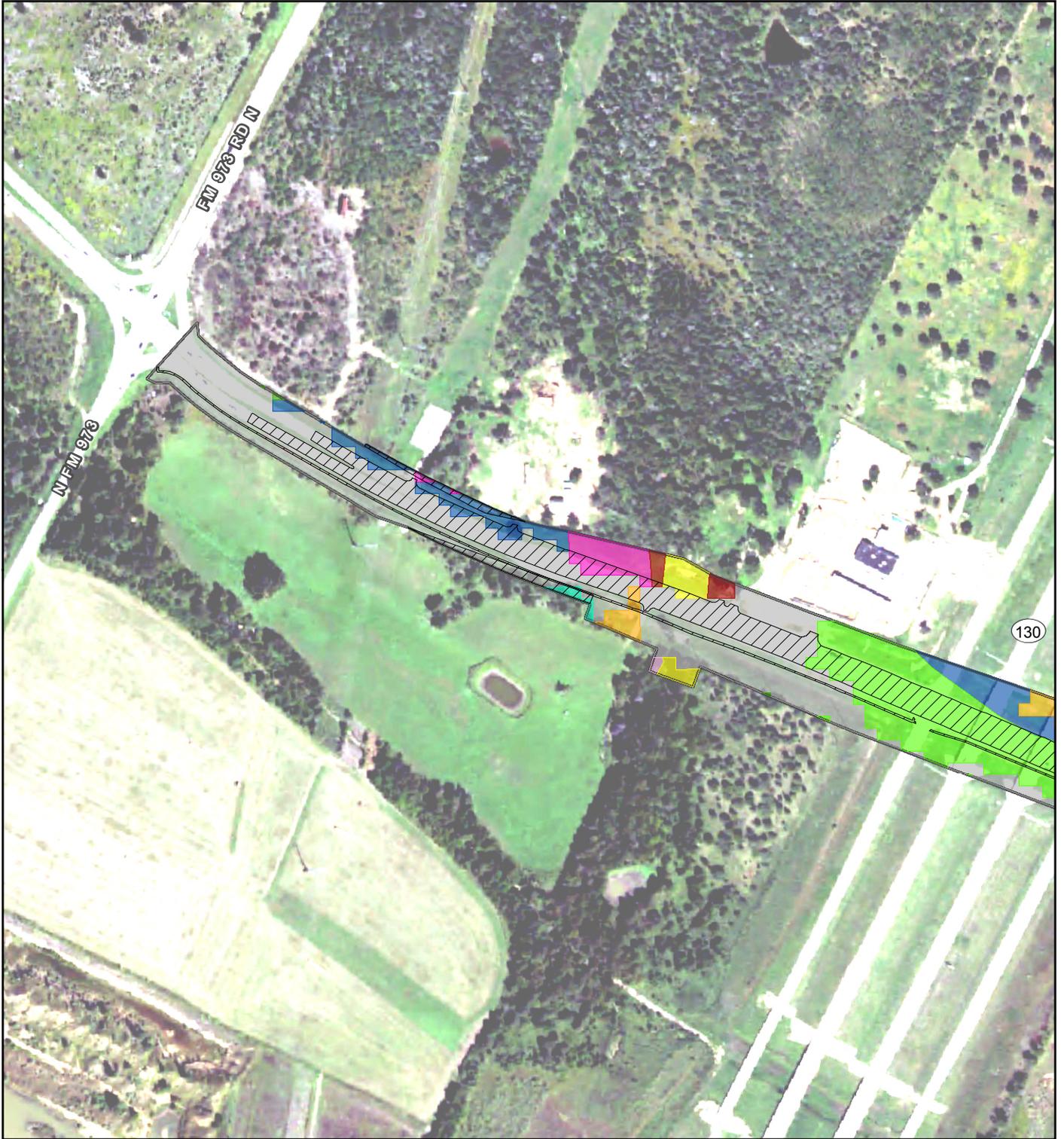


**Figure 6**  
**Water Resources**

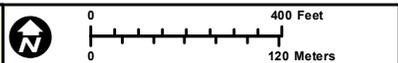
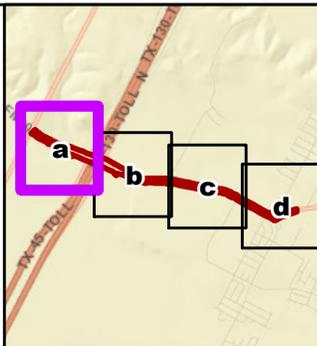
**FM 969 from FM 973  
 to Hunters Bend Road**

Prepared for: TxDOT,	1 in = 1,500 feet
Travis County	Scale: 1:18,000
CSJ: 1186-01-091	Date: 7/27/2015

Data Sources: NHD (2014), NWI (2014), FEMA NFHL (2014), CMEC (2015)  
 Aerial Source: NAIP (2014)  
 G:\Projects\TravisCO\FM\_969\Phase2\_JD\_Figure 6 Water Resources\_20150727.mxd



-  Project Location
-  Proposed Impacts
-  Blackland Prairie: Disturbance or Tame Grassland
-  Central Texas: Riparian Hardwood Forest
-  Crosstimbers: Post Oak Woodland
-  Native Invasive: Deciduous Woodland
-  Native Invasive: Juniper Shrubland
-  Native Invasive: Mesquite Shrubland
-  Post Oak Savanna: Post Oak Motte and Woodland
-  Post Oak Savanna: Savanna Grassland
-  Row Crops
-  Urban Low Intensity



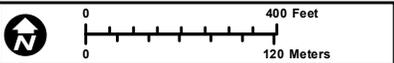
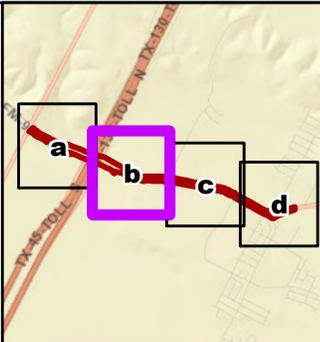
**Figure 7a**  
**EMST Mapped**  
**Vegetation Types**

**FM 969 from FM 973**  
**to Hunters Bend Road**

Prepared for: TxDOT,	1 in = 400 feet
Travis County	Scale: 1:4,800
CSJ: 1186-01-091	Date: 10/15/2015



-  Project Location
-  Proposed Impacts
-  Barren
-  Blackland Prairie: Disturbance or Tame Grassland
-  Central Texas: Riparian Herbaceous Vegetation
-  Native Invasive: Juniper Shrubland
-  Native Invasive: Mesquite Shrubland
-  Post Oak Savanna: Savanna Grassland
-  Urban Low Intensity



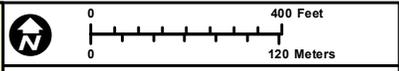
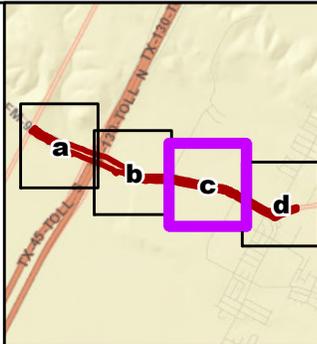
**Figure 7b**  
**EMST Mapped**  
**Vegetation Types**

**FM 969 from FM 973**  
**to Hunters Bend Road**

Prepared for: TxDOT,	1 in = 400 feet
Travis County	Scale: 1:4,800
CSJ: 1186-01-091	Date: 10/15/2015



-  Project Location
-  Proposed Impacts
-  Native Invasive: Mesquite Shrubland
-  Post Oak Savanna: Post Oak Motte and Woodland
-  Post Oak Savanna: Savanna Grassland
-  Urban High Intensity
-  Urban Low Intensity



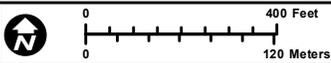
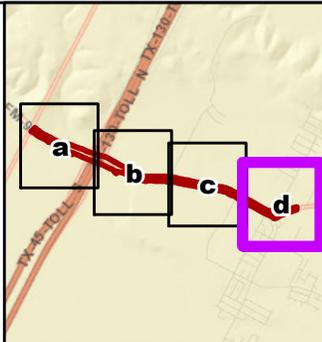
**Figure 7c**  
**EMST Mapped**  
**Vegetation Types**

**FM 969 from FM 973**  
**to Hunters Bend Road**

Prepared for: TxDOT,	1 in = 400 feet
Travis County	Scale: 1:4,800
CSJ: 1186-01-091	Date: 10/15/2015



-  Project Location
-  Proposed Impacts
-  Barren
-  Blackland Prairie: Disturbance or Tame Grassland
-  Native Invasive: Mesquite Shrubland
-  Post Oak Savanna: Live Oak Motte and Woodland
-  Post Oak Savanna: Savanna Grassland
-  Urban Low Intensity



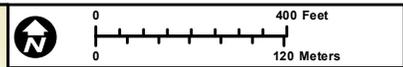
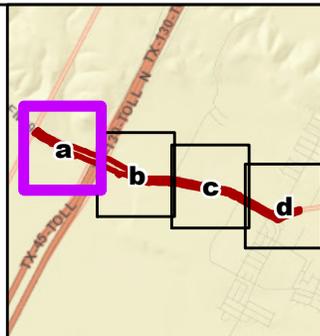
**Figure 7d**  
**EMST Mapped**  
**Vegetation Types**

**FM 969 from FM 973**  
**to Hunters Bend Road**

Prepared for: TxDOT,	1 in = 400 feet
Travis County	Scale: 1:4,800
CSJ: 1186-01-091	Date: 10/15/2015



-  Project Location
-  Proposed Impacts
-  Central Texas: Riparian Hardwood Forest
-  Native Invasive: Deciduous Woodland
-  Post Oak Savanna: Post Oak Motte and Woodland
-  Post Oak Savanna: Savanna Grassland
-  Urban Low Intensity



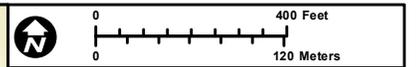
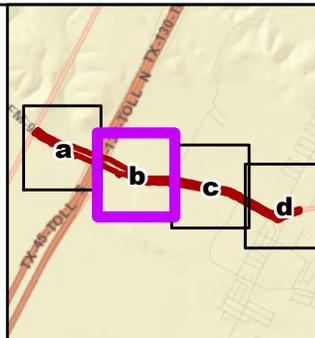
**Figure 8a**  
Observed Vegetation

FM 969 from FM 973  
to Hunters Bend Road

Prepared for: TxDOT,	1 in = 400 feet
Travis County	Scale: 1:4,800
CSJ: 1186-01-091	Date: 10/15/2015



-  Project Location
-  Proposed Impacts
-  Row Crops
-  Urban Low Intensity



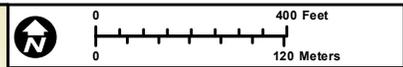
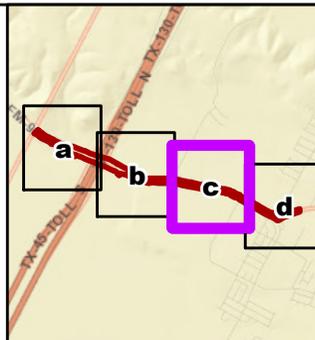
**Figure 8b**  
Observed Vegetation

FM 969 from FM 973  
to Hunters Bend Road

Prepared for: TxDOT,	1 in = 400 feet
Travis County	Scale: 1:4,800
CSJ: 1186-01-091	Date: 10/15/2015



-  Project Location
-  Proposed Impacts
-  Post Oak Savanna: Post Oak Motte and Woodland
-  Post Oak Savanna: Savanna Grassland
-  Row Crops
-  Urban Low Intensity



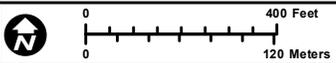
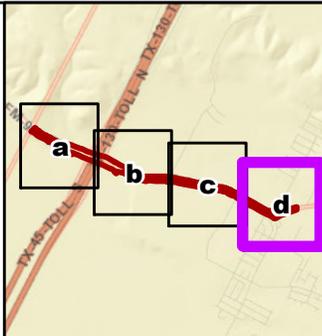
**Figure 8c**  
Observed Vegetation

FM 969 from FM 973  
to Hunters Bend Road

Prepared for: TxDOT,	1 in = 400 feet
Travis County	Scale: 1:4,800
CSJ: 1186-01-091	Date: 10/15/2015



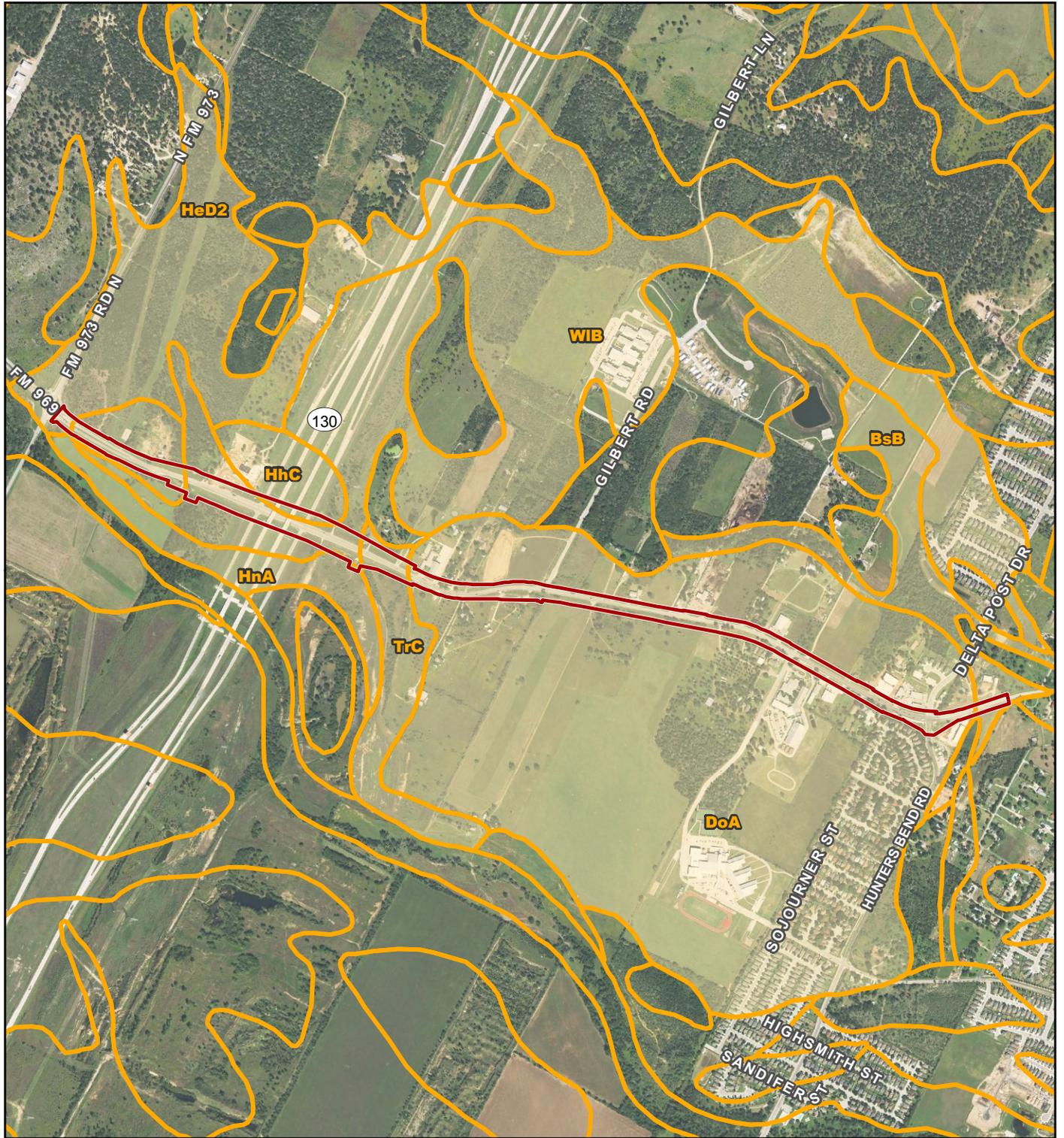
-  Project Location
-  Proposed Impacts
-  Post Oak Savanna: Savanna Grassland
-  Row Crops
-  Urban Low Intensity



**Figure 8d**  
Observed Vegetation

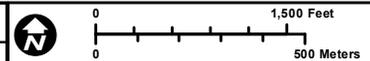
FM 969 from FM 973  
to Hunters Bend Road

Prepared for: TxDOT,	1 in = 400 feet
Travis County	Scale: 1:4,800
CSJ: 1186-01-091	Date: 10/15/2015



-  Project Location
-  Soils

Label	Soil Type
BsB	Burleson clay, 1 to 3 percent slopes
DoA	Heaton loamy fine sand, 0 to 2 percent slopes
HeD2	Heiden clay, 5 to 8 percent slopes, eroded
HhC	Hornsby gravelly loamy sand, 1 to 5 percent slopes
HnA	Houston Black clay, 0 to 1 percent slopes
TrC	Travis soils, 1 to 5 percent slopes
WIB	Wilson clay loam, 1 to 3 percent slopes



**Figure 9**  
Project Area Soils

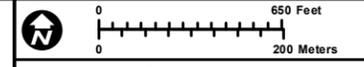
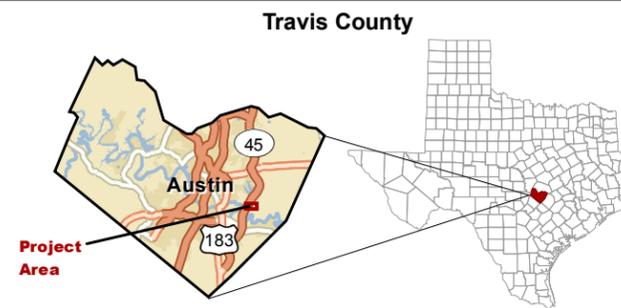
FM 969 from FM 973  
to Hunters Bend Road

Prepared for: TxDOT,	1 in = 1,500 feet
Travis County	Scale: 1:18,000
CSJ: 1186-01-091	Date: 10/15/2015

Data Source: NRCS (2014)  
Aerial Source: NAIP (2014)



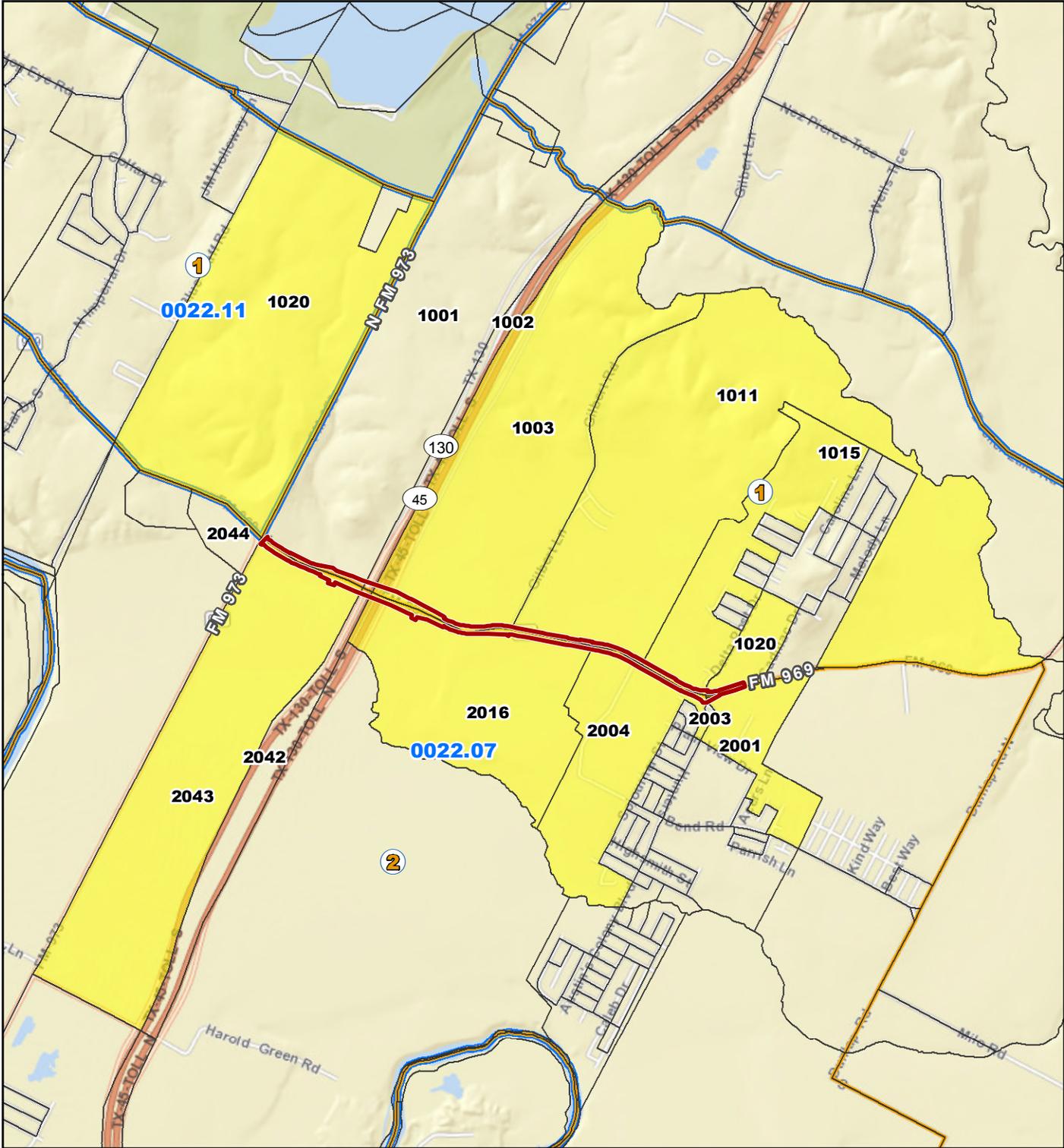
- ▭ Project Location
- Proposed Right-of-Way
- Displacements**
- ◆ Commercial
- ◆ Residential



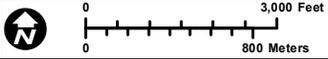
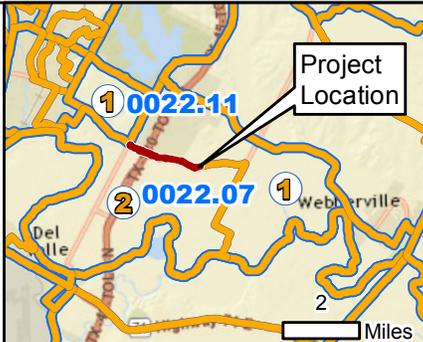
**Figure 10**  
**Displacements**

**FM 969 from FM 973  
to Hunters Bend Road**

Prepared for: TxDOT,	1 in = 650 feet
Travis County,	Scale: 1:7,800
CSJ: 1186-01-091	Date: 10/15/2015



-  Project Location
-  2010 Census Tract
-  2010 Census Block Group
-  2010 Census Block
-  Populated Adjacent 2010 Census Block



**Figure 11**  
Census Geographies

FM 969 from FM 973  
to Hunters Bend Road

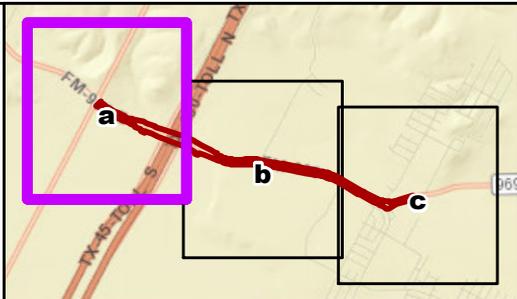
Prepared for: TxDOT,	1 in = 3,000 feet
Travis County	Scale: 1:36,000
CSJ: 1186-01-091	Date: 10/15/2015

Data Source: US Census Bureau (2010)  
Basemap Source: ESRI (2014)



Project Location  
 Parcels

Data Sources: CMEC (2015), TCAD (2008)  
 Aerial Source: NAIP (2014)




 0 800 Feet  
 0 200 Meters

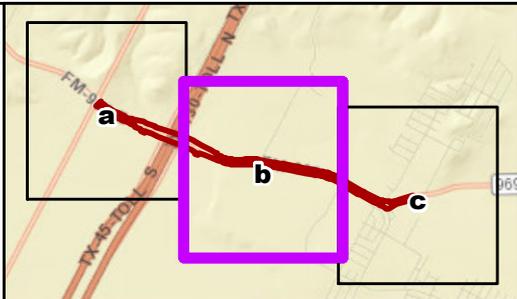
**Figure 12a**  
**Location of Noise Receivers**

Prepared for: TxDOT	1 in = 800 feet
CSJ: 1186-01-091	Scale: 1:9,600
	Date: 4/22/2016



- Project Location
- Parcels
- Non-impacted Receiver

Data Sources: CMEC (2015), TCAD (2008)  
 Aerial Source: NAIP (2014)

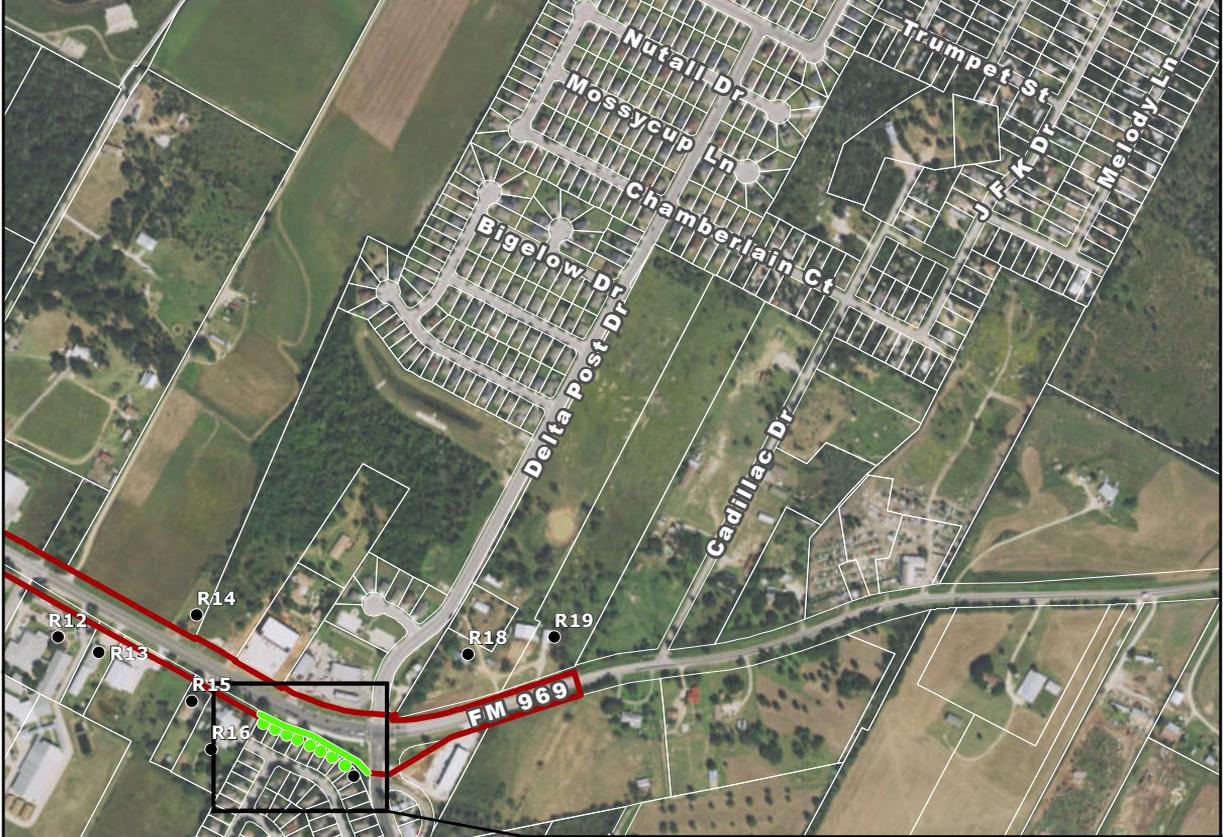


0 800 Feet

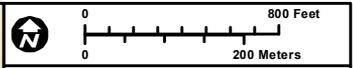
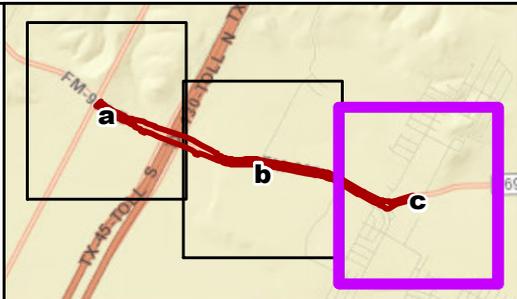
0 200 Meters

**Figure 12b**  
**Location of Noise Receivers**

Prepared for: TxDOT	1 in = 800 feet
CSJ: 1186-01-091	Scale: 1:9,600
	Date: 4/22/2016



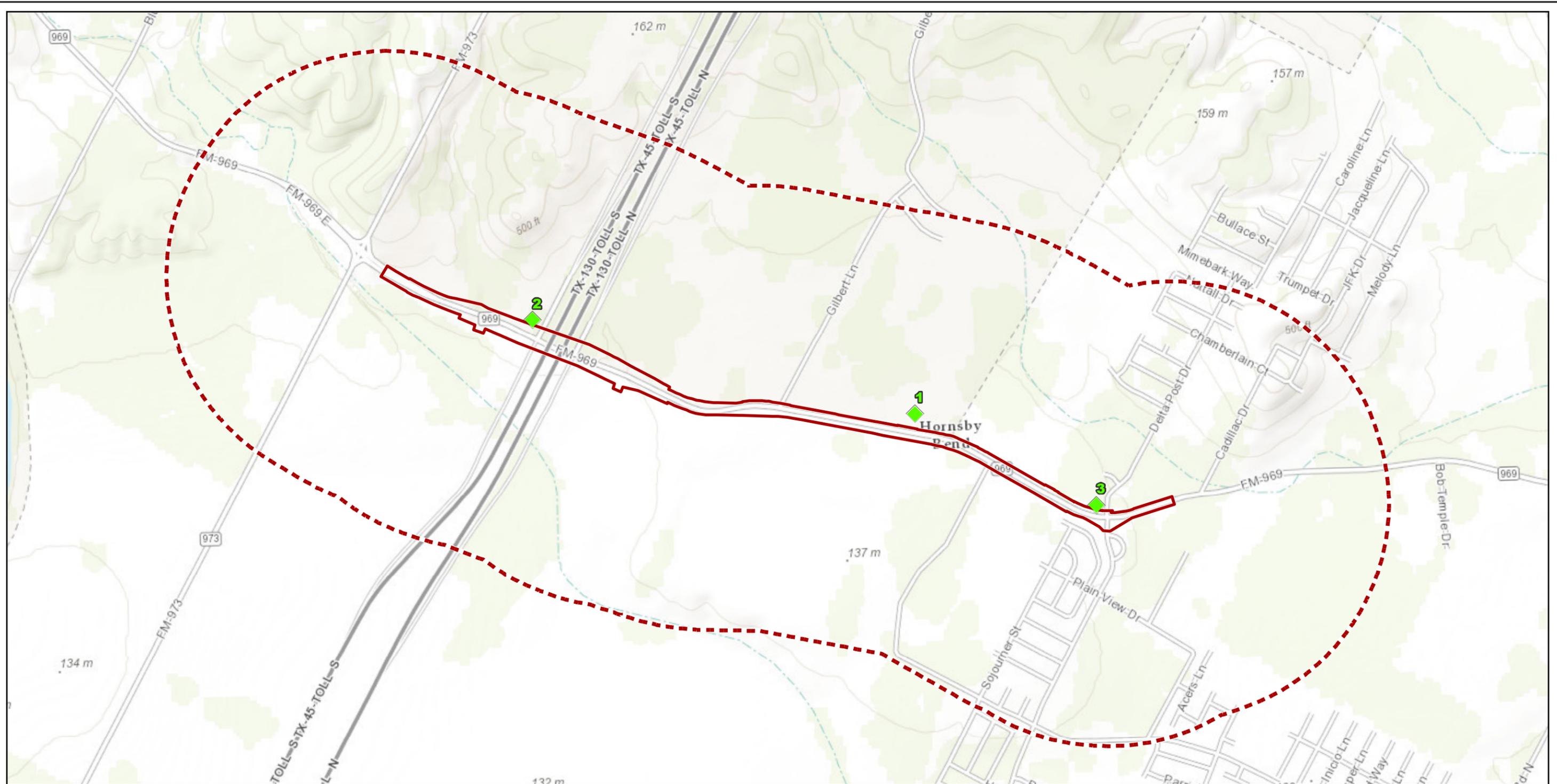
- Project Location
- Parcels
- Proposed Wall
- Benefiting Receiver
- Non-impacted Receiver



**Figure 12c**  
**Location of Noise Receivers**

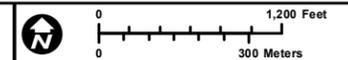
Data Sources: CMEC (2015), TCAD (2008)  
 Aerial Source: NAIP (2014)

Prepared for: TxDOT	1 in = 800 feet
CSJ: 1186-01-091	Scale: 1:9,600
	Date: 4/22/2016



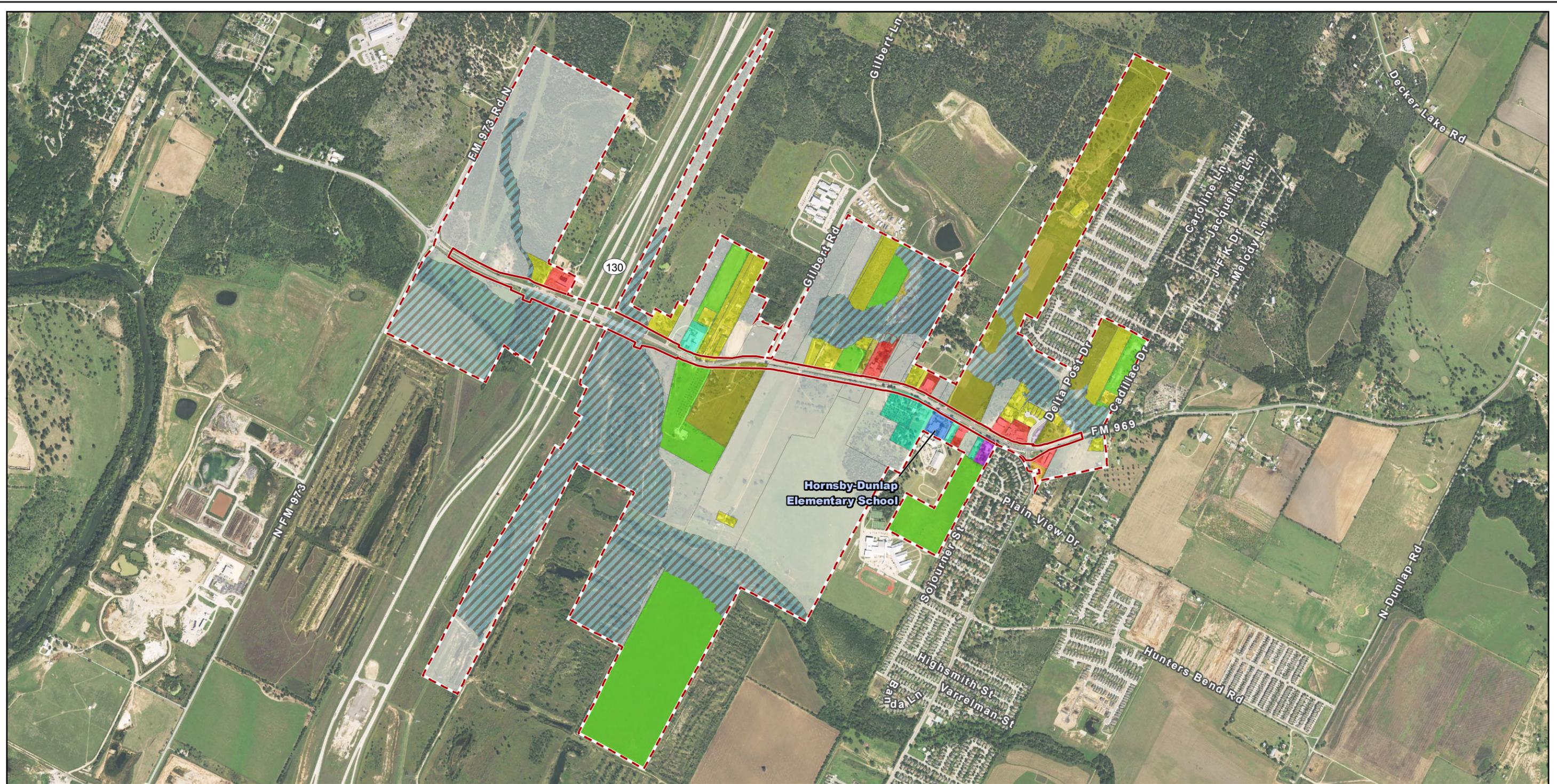
-  Project Location
-  Half-Mile Buffer of Project Location
-  Potential Hazardous Materials Site

Map ID	Type	Name
1	1 - PST, 2 - SWLFs	Organics "By Gosh"
2	PST	Valero
3	PST	Texaco

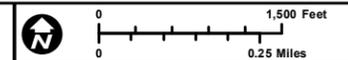


**Figure 13**  
**Potential Hazardous**  
**Materials Sites**

**FM 969 From FM 973**  
**to Hunters Bend Road**



- Project Location
- Project Area of Influence (AOI)
- Land Use**
- Agricultural
- Assisted Living
- Church
- Commercial
- Fire Department
- Floodplain
- Residential
- Residential and Agricultural
- School
- Undeveloped
- Utility



**Figure 14**  
**Indirect Impacts**  
**Area of Influence**

**FM 969 From FM 973**  
**to Hunters Bend Road**

Data Sources: TCAD (2015), FEMA NFHL (2015)  
 Aerial Source: NAIP (2014)

G:\Projects\Travis\CO\FM\_969\Phase 2\_EA\_Figure 14\_AOI\_20151009.mxd

Prepared for: TxDOT,	1 in = 1,500 feet
Travis County	Scale: 1:18,000
CSJ: 1186-01-091	Date: 10/15/2015

**Appendix B**  
**Project Area Photographs**



Photo 1: View near western terminus of the project area, facing east. Note transition from divided to undivided sections



Photo 2: View from under the existing SH 130 bridge, facing east. Note the four-lane configuration with dedicated turn lane.

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Photo 3: Roadway configuration near eastern terminus. Note two westbound lanes, one eastbound lane, and dedicated left turn lane. Viewing southeast.



Photo 4: Roadway configuration near Gilbert Road (intersection is behind photo point). Note sharp turns and one lane east- and westbound with dedicated turn lane to accommodate traffic turning onto Gilbert Road. Viewing west.

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Photo 5: Roadway configuration east of Gilbert Road. Note lack of turn lane and single travel lanes in each direction. Viewing east.



Photo 6: Hornsby-Dunlap Elementary School near the intersection of FM 969 and Hound Dog Trail.

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Photo 7: Santa Barbara Catholic Church near Hound Dog Trail, one of several churches in the project area.



Photo 8: River Road Baptist Church near SH 130, one of several churches in the project area.

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Photo 9: Recently developed retail facility near the eastern terminus. Several retail facilities have been established in this part of the project area in the recent past.



Photo 10: Retail Facility and church near the project's eastern terminus. The retail facility was constructed relatively recently.



Photo 11: Valero service station near SH 130. This facility was recently constructed.



Photo 12: Occupied residence and (possibly) open-aired market (no longer in operation) that would be displaced by proposed right-of-way acquisitions. Facing north.

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Photo 13: Alternate view of residence and open-air market with view of additional structure (photo right) that would also be affected by proposed right-of-way acquisitions. Facing north.



Photo 14: Residence adjacent to FM 969. Many residences in the project area are removed from the current and proposed right-of-way by several hundred feet. This is especially true of areas west of Hound Dog Trail.

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Photo 15: Undeveloped parcel adjacent to the project site. Hay was recently harvested from this area. Viewing north.



Photo 16: Undeveloped parcel between a residential and a commercial lot. Signage indicated that several such parcels were for sale at the time of field investigations.

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Photo 17: Existing culvert at the linear water feature described as Crossing 1. This culvert carries the stream under FM 969. Viewing south (downstream).



Photo 18: Crossing 1 as seen from atop the existing culvert. Viewing north (upstream).

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Photo 19: Existing culvert at Crossing 1. Viewing north (upstream).



Photo 20: Displacement Point 4, unoccupied residence within proposed right of way, facing north.

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Photo 21: Organics by Gosh composting site Hazmat **Site 1**, facing northeast.

**Appendix C**  
**RTP, TIP, STIP, and UTP Pages**

Road Projects (continued)

ID	Sponsor	Cosponsor	County	Project	Limits/Location	Description	Let Year	YOE Cost (Millions)	Funding Source
152	Hays		Hays	FM 165	US 290 - Blanco County Line	MAU-2	2030	\$23.1	Local
153	Hays		Hays	FM 621 / Staples Rd	SH 123 - Guadalupe Line	MAU-2	2025	\$14.8	Local
154	Williamson	TxDOT	Williamson	FM 734 / Parmer Ln	RM 1431 - Brushy Creek	Widen from 4 lanes with median to 6 lanes with median	2015	\$14.4	Local
155	Williamson	TxDOT	Williamson	FM 734 / Parmer Ln	Brushy Creek - Spectrum Dr	Widen from 4 lanes with median to 6 lanes with median	2015	\$4.0	Local
156	Travis		Travis	FM 812	FM 973 N - Maha Loop Rd	Improve to MAD-4	2038	\$28.0	Local
157	Travis		Travis	FM 812	Maha Loop Rd - Travis County Line	Widen to MAD-4	2040	\$11.3	Local
158	Hays		Hays	FM 967	FM 1626 - Main St	MAD-2	2020	\$13.8	Local
159	Hays		Hays	FM 967	FM 1826 - FM 1626	MAU-4	2025	\$17.4	Local
160	Hays	Buda	Hays	FM 967 / S. Loop 4 / S. Main St	Main St - W Goforth	MAU-4	2020	\$1.7	Local
161	Hays	Buda	Hays	FM 967 / S. Loop 4 / S. Main St	W Goforth - IH 35	MAU-4	2020	\$0.7	Local
163	Travis		Travis	FM 969	FM 3177 - Hunters Bend	Improve to MAD-4	2017	\$18.0	Regional
164	Travis		Travis	FM 969	Hunters Bend - Webberville City Limit	Improve to MAD-4	2038	\$49.7	Local
165	Travis		Travis	FM 973	FM 973 Relocation - SH 71 E	Widen to MAD-4	2040	\$61.2	Regional
166	Travis		Travis	FM 973	SH 71 E - FM 812	Widen to MAD-4	2040	\$26.5	Regional
167	Travis		Travis	FM 973	FM 812 - US 183	Widen to MAD-4	2040	\$16.2	Regional
168	Travis		Travis	FM 973 Relocation	US 290 - FM 973	New MAD-4/Improve to MAD-4	2020	\$20.5	Local
169	Travis		Travis	FM 973 to Blake Manor Rd. Connector	FM 973 - Blake Manor Rd	New MAD-4	2020	\$12.0	Local
170	Elgin		Bastrop	FM 1100	Travis County Line - SH 95	Construct MAD-4	2040	\$24.2	Regional
172	Buda	Hays / TxDOT	Hays	FM 1626	0.2 miles south of Brodie Ln to FM 967	Widen to 4-lane divided	2013	\$49.3	Regional
173	Hays		Hays	FM 1626	FM 967 - FM 2770	MAD-4	2015	\$40.0	Regional
174	Travis		Travis	FM 1626	Manchaca Rd - 0.2 miles south of Brodie Ln	Improve to MAD-4	2018	\$12.2	Regional
175	Hays		Hays	FM 1626	SH 45 SW - IH 35	MAD-6	2030	\$49.8	Local
176	Travis		Travis	FM 1626	IH 35 - Manchaca Road	Widen to MAD-4	2040	\$15.3	Regional
177	TxDOT	Williamson	Williamson	FM 1660	SH 29 - FM 3349	Widen from 2 lanes to 4 lanes with median	2026-2035	\$82.3	Local
178	TxDOT	Williamson	Williamson	FM 1660 Realignment	800' south of CR 101 - US 79	Construct new location 2-lane roadway	2016	\$32.3	Regional

STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM  
CAMPO - HIGHWAY PROJECTS  
FY 2019

2017-2020 STIP		02/2017 Revision: Not Approved 05/18/2017							
DISTRICT	MPO	COUNTY	CSJ	HWY	PHASE	CITY	YOE COST		
AUSTIN	CAMPO	TRAVIS	1186-01-091	FM 969	C,E,R	AUSTIN	\$ 0		
<b>LIMITS FROM</b> FM 973		<b>PROJECT SPONSOR</b> Travis County							
<b>LIMITS TO</b> Hunters Bend Road		<b>REVISION DATE</b> 02/2017							
<b>PROJECT</b> Widen FM 969, an existing 2-lane undivided arterial, to provide for two addition		<b>MPO PROJ NUM</b>							
<b>DESCR</b> al travel lanes, a continuous left turn lane, shoulders, and a sidewalk on one s		<b>FUNDING CAT(S)</b>							
<b>REMARKS</b> Approved in the Pass Through Finance Program for \$5		<b>PROJECT</b> February 2017 revision removed from TIP/STIP							
P7 ,274,846		<b>HISTORY</b>							
TOTAL PROJECT COST INFORMATION			AUTHORIZED FUNDING BY CATEGORY/SHARE						
PREL ENG \$	952,946	<b>COST OF APPROVED PHASES</b>	<b>CATEGORY</b>	<b>FEDERAL</b>	<b>STATE</b>	<b>REGIONAL</b>	<b>LOCAL</b>	<b>LC</b>	<b>TOTAL</b>
ROW PURCH \$	2,000,000		TOTAL	\$ 0	\$ 0	\$ 0	\$ 0	0	0
CONSTR \$	6,311,383								
CONST ENG \$	43,664								
CONTING \$	1,609,192								
INDIRECT \$	0								
BOND FIN \$	0								
PT CHG ORD \$	0								
<b>TOTAL CST \$</b>	<b>10,917,185</b>								

2017-2020 STIP		07/2016 Revision: Not Approved 12/19/2016							
DISTRICT	MPO	COUNTY	CSJ	HWY	PHASE	CITY	YOE COST		
AUSTIN	CAMPO	TRAVIS	1186-01-091	FM 969	C,E,R	AUSTIN	\$ 10,917,185		
<b>LIMITS FROM</b> FM 973		<b>PROJECT SPONSOR</b> Travis County							
<b>LIMITS TO</b> Hunters Bend Road		<b>REVISION DATE</b> 07/2016							
<b>PROJECT</b> Widen FM 969, an existing 2-lane undivided arterial, to provide for two addition		<b>MPO PROJ NUM</b>							
<b>DESCR</b> al travel lanes, a continuous left turn lane, shoulders, and a sidewalk on one s		<b>FUNDING CAT(S)</b>							
<b>REMARKS</b> Approved in the Pass Through Finance Program for \$5		<b>PROJECT</b>							
P7 ,274,846		<b>HISTORY</b>							
TOTAL PROJECT COST INFORMATION			AUTHORIZED FUNDING BY CATEGORY/SHARE						
PREL ENG \$	952,946	<b>COST OF APPROVED PHASES</b>	<b>CATEGORY</b>	<b>FEDERAL</b>	<b>STATE</b>	<b>REGIONAL</b>	<b>LOCAL</b>	<b>LC</b>	<b>TOTAL</b>
ROW PURCH \$	2,000,000		3PTF	\$ 0	\$ 5,274,846	\$ 0	\$ 0	0	5,274,846
CONSTR \$	6,311,383		3LC	\$ 0	\$ 0	\$ 0	\$ 5,642,339	5,642,339	5,642,339
CONST ENG \$	43,664		TOTAL	\$ 0	\$ 5,274,846	\$ 0	\$ 5,642,339	5,642,339	10,917,185
CONTING \$	1,609,192								
INDIRECT \$	0								
BOND FIN \$	0								
PT CHG ORD \$	0								
<b>TOTAL CST \$</b>	<b>10,917,185</b>								

DISTRICT	COUNTY	CSJ	HWY	PHASE	CITY	PROJECT SPONSOR	FY	YOE COST
AUSTIN	TRAVIS	1186-01-091	FM 969	C,E	AUSTIN	Travis County	2019	\$ 10917185

PROJECT TYPE: Roadway

Revision Date: 11/1/2014

LIMITS FROM: FM 973

MPO Project ID: 163b

LIMITS TO: Hunters Bend Road

RTP Reference: 163

DESCRIPTION: Widen FM 969, an existing 2-lane undivided arterial, to provide for two additional travel lanes, a continuous left turn lane, shoulders, and a sidewalk on one side of the roadway.

Project History:  
 CAMPO TPB Resolution 2016-4-6

REMARKS: Approved in the Pass Through Finance Program for \$5,274,846

BICYCLE/ PEDESTRIAN: Sidewalk on one side of the roadway and shoulders

Total Project Cost Information:		Authorized Funding by Category/Share						
		Category	Federal	State	Regional	Local	Local Contribution	Funding by Category
Preliminary Engineering:	\$952,946							
Right Of Way:	\$2,000,000							
Construction:	\$6,311,383	3PTF	\$0	\$5,274,846	\$0	\$0	\$0	\$5,274,846
Construction Engineering:	\$43,664	3LC	\$0	\$0	\$0	\$0	\$5,642,339	\$5,642,339
Contingencies:	\$1,609,192							
Indirects:	\$0	<b>Funding by Share</b>	\$0	\$5,274,846	\$0	\$0	\$5,642,339	\$10,917,185
Bond Financing:	\$0							
Potential Change Orders	\$0							
<b>Total Project Cost:</b>	<b>\$10,917,185</b>							
<b>Cost of Approved Phases:</b>	<b>\$ 10917185</b>							

Austin	TRAVIS	3136-01-015	SL 1	C	Austin	TxDOT	2019	\$ 54095679
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PROJECT TYPE: Roadway

Revision Date: 5/1/2016

LIMITS FROM: North of Slaughter

MPO Project ID: 101

LIMITS TO: South of LaCrosse

RTP Reference: 101

DESCRIPTION: Grade Separation of Main Lanes with 2 through-lanes in each direction

Project History:  
 CAMPO TPB Resolution 2016-4-6. CAMPO Administrative Amendments - April 29, 2016.

REMARKS:

BICYCLE/ PEDESTRIAN:

Total Project Cost Information:		Authorized Funding by Category/Share						
		Category	Federal	State	Regional	Local	Local Contribution	Funding by Category
Preliminary Engineering:	\$2,707,987							
Right Of Way:	\$700,000							
Construction:	\$55,265,049	1	\$215,306	\$53,827	\$0	\$0	\$0	\$269,133
Construction Engineering:	\$2,591,931	2M	\$43,061,237	\$10,765,309	\$0	\$0	\$0	\$53,826,546
Contingencies:	\$1,652,425							
Indirects:	\$0	<b>Funding by Share</b>	\$43,276,543	\$10,819,136	\$0	\$0	\$0	\$54,095,679
Bond Financing:	\$0							
Potential Change Orders								
<b>Total Project Cost:</b>	<b>\$62,917,392</b>							
<b>Cost of Approved Phases:</b>	<b>\$ 54095679</b>							

**2017 - 2020 Transportation Improvement Program: *Modify Projects***

Map ID	Control Section Job	Project Name	From	To	Amendment Type	Funding Source	Cost	Let Year	City	County	Sponsor	TxDOT Concurrence	Project Description
RTP 07	0914-04-172	City of Rollingwood Bike Lane & Walking Trail	City Limits		Description	Category 7	\$160,439.00	2017	Rollingwood	Travis	City of Rollingwood	N/A (Off System)	Installation of Bike Lanes and signage in the City of Rollingwood.
RTP 19	0016-01-121	IH 35	SH 45SE	Onion Creek Parkway	Description, Cost, Let Year	DA-Development Authority	\$9,700,000.00	2019	Austin	Travis	TxDOT	N/A	Southbound Ramp Reversal
RTP 21	0016-03-114	IH 35	South of SH 80	North of RM 12	Description, Limits, Cost, Let Year	DA-Development Authority	\$97,200,000.00	2020	San Marcos	Hays	TxDOT	N/A	Improve interchange, bridge clearance and operations.
TIP 01	0914-33-075	Hopkins (SH 80) Multiuse Bike/Ped Facility	CM Allen Pkwy	Thorpe Road	Funding Source, Let Year	Category 7, Transportation Credits	\$2,918,056.00	2019	San Marcos	Hays	City of San Marcos	Yes	Multi-use bike/pedestrian path and facilities.
TIP 02	1186-01-090	FM 969	FM 3177	FM 973	Cost	Category 3	\$11,509,725.00	2017	Unincorporated	Travis	Travis County	Yes: Finance Agreement	Widen FM 969, an existing 4-lane undivided arterial, to provide for a continuous left turn lane, shoulders, and sidewalk on one side of the roadway.
TIP 03	1186-01-091	FM 969	FM 973	Hunters Bend Road	Cost	Category 3	\$10,902,856.00	2019	Unincorporated	Travis	Travis County	Yes: Finance Agreement	Widen FM 969, an existing 2-lane undivided arterial, to provide for two additional travel lanes, a continuous left turn lane, shoulders, and a sidewalk on one side of the roadway.
TIP 06	0337-01-043	DB Wood at SH 29	Intersection of DB Wood at SH 29		Cost, Let Year	Category 3	\$11,700,000.00	2018	Georgetown	Williamson	Williamson County	Yes	Reconstruct roadway from existing 4-lane roadway with continuous left turn lane to 4-lane roadway with raised median and turn lanes at the intersection of D.B. Wood.
TIP 18	1566-01-009	FM 1660	CR 101 North of Hutto	US 79	Description, Let Year	Category 3	\$17,459,709.00	2020	Hutto	Williamson	Williamson County	Yes	Interim 2-lane roadway on new alignment (Plan ID 178); ultimate MAD-4 (Plan ID 177)
TIP 19	1566-02-020	FM 1660	US 79	FM 3349	Description, Let Year	Category 3	\$17,459,709.00	2020	Hutto	Williamson	Williamson County	Yes	Interim 2-lane roadway on new alignment (Plan ID 178); ultimate MAD-4 (Plan ID 177)
TIP 93	N/A	William Cannon Drive	McKinney Falls Parkway	US 183 South	Let Year	Category 3	\$25,718,891.00	2018	Unincorporated	Travis	Travis County		New construction of a four lane divided arterial with bike lanes and sidewalks from McKinney Falls Parkway to US 183 S.
TIP 76	0016-02-149 0016-03-110	IH 35	North of River Ridge	South of Loop 82	Description, Cost, Let Year	DA-Development Authority	\$10,400,000.00	2018	San Marcos	Hays	TxDOT	N/A	Northbound Ramp Improvements
TIP 77	0015-13-396	IH 35	At Parmer Lane		Description, Cost, Let Year	DA-Development Authority	\$25,000,000.00	2018	Austin	Travis	TxDOT	N/A	Reconstruct intersection, improve freight bottleneck.

**Total Cost: \$240,129,385.00**

**Total Projects: 12**

CSJ District TRAVIS MPO City Letting FY  
**0914-04-303** **AUSTIN** **COUNTY** **VA** **2017**

Limits From VARIOUS LOCATIONS IN CITY OF AUSTIN

Limits To .

Ranking Tier 2

Project Description INTERSECTION IMPROVEMENTS

Total Project Cost Information		Programmed Funding					
<b>INFORMATIONAL PURPOSES ONLY</b>		Category	Description	Authorized	Other	Local	Total
Preliminary Engineering	\$51,744	3	LOCAL	\$0	\$0	\$1,056,000	\$1,056,000
ROW & Utilities	\$0						
Construction	\$1,056,000		<b>Total</b>	\$0	\$0	\$1,056,000	\$1,056,000
Construction Engineering	\$67,373						
Contingencies	\$13,622						
Indirect Costs	\$0						
Potential Change Orders	\$61,037						
<b>Total Project Cost</b>	<b>\$1,249,776</b>						

CSJ District TRAVIS MPO City Letting FY  
**1186-01-090** **AUSTIN** **COUNTY** **CAMPO** **FM 969** **2017**

Limits From FM 3177

Limits To 0.108 MI. EAST OF FM 973

Ranking Tier 2

Project Description REHAB ROADWAY AND ADD TWLTL & SHOULDERS

Total Project Cost Information		Programmed Funding					
<b>INFORMATIONAL PURPOSES ONLY</b>		Category	Description	Authorized	Other	Local	Total
Preliminary Engineering	\$322,717	3	PASS-THROUGH	\$0	\$7,629,580	\$0	\$7,629,580
ROW & Utilities	\$5,000						
Construction	\$6,586,069		<b>Total</b>	\$0	\$7,629,580	\$0	\$7,629,580
Construction Engineering	\$322,717						
Contingencies	\$3,293						
Indirect Costs	\$0						
Potential Change Orders	\$297,690						
<b>Total Project Cost</b>	<b>\$7,537,488</b>						

CSJ District TRAVIS MPO City Letting FY  
**1186-01-091** **AUSTIN** **COUNTY** **CAMPO** **FM 969** **2017**

Limits From FM 973

Limits To HUNTERS BEND RD.

Ranking Tier 2

Project Description WIDEN ROADWAY

Total Project Cost Information		Programmed Funding					
<b>INFORMATIONAL PURPOSES ONLY</b>		Category	Description	Authorized	Other	Local	Total
Preliminary Engineering	\$357,276	3	PASS-THROUGH	\$0	\$5,806,181	\$0	\$5,806,181
ROW & Utilities	\$5,000						
Construction	\$7,291,353		<b>Total</b>	\$0	\$5,806,181	\$0	\$5,806,181
Construction Engineering	\$361,651						
Contingencies	\$145,098						
Indirect Costs	\$0						
Potential Change Orders	\$272,697						
<b>Total Project Cost</b>	<b>\$8,433,075</b>						

CSJ District TRAVIS MPO City Letting FY  
**1186-01-092** **AUSTIN** **COUNTY** **CAMPO** **FM 969** **2017**

Limits From 0.3 MI W OF US 183

Limits To 0.1 MI W OF JOHNNY MORRIS

Ranking Tier 2

Project Description SAFETY LIGHTING

Total Project Cost Information		Programmed Funding					
<b>INFORMATIONAL PURPOSES ONLY</b>		Category	Description	Authorized	Other	Local	Total
Preliminary Engineering	\$9,102	8	SAFETY	\$177,497	\$0	\$0	\$177,497
ROW & Utilities	\$0						
Construction	\$185,759		<b>Total</b>	\$177,497	\$0	\$0	\$177,497
Construction Engineering	\$8,303						
Contingencies	\$0						
Indirect Costs	\$0						
Potential Change Orders	\$5,777						
<b>Total Project Cost</b>	<b>\$208,942</b>						

Note: As passed by the 84th Legislature funding allocations and project listings identified in the UTP that generally involve allocations in Categories 2, 4, 11 and 12 may be subject to further consideration by the Texas Transportation Commission to ensure that the Texas Department of Transportation and HB 20 designated Planning Organizations (TxDOT Districts and Metropolitan Planning Organizations) have complied with the requirements of HB 20. Any proposed revisions to funding allocations or project listings will be addressed in future updates to the UTP.

**Appendix D**  
**Coordination**



# Texas Department of Transportation<sup>®</sup>

DEWITT C. GREER STATE HIGHWAY BLDG. • 125 E. 11TH STREET • AUSTIN, TEXAS 78701-2483 • (512) 463-8585

March 10, 2016

RE: Section 106 and Antiquities Code of Texas Consultation: PA-TU and MOU: FM 969 from FM 973 to Hunter's Bend Road: Travis County: Austin District: CSJ: 1186-01-091: Cox/McClain Environmental Consulting: Draft Intensive Archeological Survey Report and Recommendations for No Effect and No Further Work  
Texas Antiquities Permit No. 7408

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

Dear Ms. Mercado-Allinger:

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

This undertaking proposes to improve a segment of Farm to Market Road 969 (FM 969) located east of Austin, in Travis County, Texas. The existing roadway has one lane of traffic in each direction with 4-foot outside shoulders and a center turn lane at some major intersections. The proposed roadway will have two travel lanes in each direction, a center turn lane for the entire length of the project, 6-foot wide shoulders, and a sidewalk on the south side of the roadway. All non-bridge class drainage structures located within the project limits would be extended and safety end treated to match the wider roadway. There are no bridge class structures located within the project area. Approximately 6.58 acres of proposed new right of way (ROW) would be required.

The undertaking's area of potential effects (APE) is defined as the 100 to 150 foot wide existing FM 969 ROW beginning at FM 973 and extending 1.96 miles east to Hunter's Bend Road. In addition, the APE includes approximately 6.58 acres of proposed new ROW located along both sides of FM 969 in multiple, noncontiguous areas (please see attached plan view for location details). According to typical roadway design, the depth of impacts is estimated to be no more than 6 feet below the current ground surface for culvert work and up to four feet in depth for the remainder of the project. The project encompasses a total of 43.44 acres.

Your office issued Texas Antiquities Permit No. 7408 to Cox/McLain Environmental Consulting (CME) to conduct an intensive archeological survey of the APE. CME has recently completed their investigations and have submitted a draft survey report. Due to previous surveys and THC consultations covering 100% of the existing ROW, the investigators recommended that survey was not warranted in the 36.86 acres of the existing FM 969 ROW within the APE. The current survey consisted of 100% pedestrian survey with shovel testing within the 6.58 acres of the proposed new ROW within the APE. Due to the APE not possessing any recent deep alluvial settings that could harbor buried intact archeological deposits,

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mechanical trenching was deemed unnecessary and was not conducted.

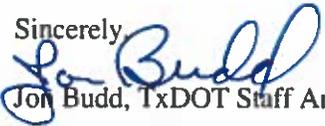
The current investigation confirmed that there are a total of five archeological sites (41TV1282, 41TV1982, 41TV1993, 41TV2345, and 41TV2410) overlapping onto the APE. The THC has previously concurred with recommendations that the portions of the archeological sites 41TV1282, 41TV1982, 41TV1993, and 41TV2345 located within the existing FM 969 ROW within the current APE do not contribute to any of the sites' eligibility for listing on the National Register of Historic Places (NRHP) and do not warrant status as State Antiquities Landmarks (SAL). The current investigation confirmed that none of the archeological sites 41TV1282, 41TV1982, 41TV1993, and 41TV2345 overlaps onto the 6.58 acres of proposed new ROW. The current investigation also confirmed that a portion of the previously recorded archeological site 41TV2410 overlaps onto the proposed new ROW. However, the THC has previously determined that the portion of the site overlapping onto the proposed new ROW also does not contribute to the site's eligibility for listing on the NRHP and does not warrant status as a SAL. All five of the ineligible determinations for these sites are posted on the Texas Archeological Sites Atlas website.

Other than the identification of two minor isolated finds recorded during the current investigation, no other archeological deposits have been identified within the entire 43.44 acres of the APE. Based upon the results of all investigations conducted within the project area, the investigators have recommended that no further work is required for the undertaking. A copy of the CME report is attached for your review.

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

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

Sincerely,

  
Jon Budd, TxDOT Staff Archeologist

Concurrence by:  Date: 3-10-16  
For Mark Wolfe, State Historic Preservation Officer and Executive Director

#### Attachments

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

INTENSIVE ARCHEOLOGICAL SURVEY FOR  
PROPOSED IMPROVEMENTS TO FM 969 BETWEEN  
FM 973 AND HUNTERS BEND ROAD,  
TRAVIS COUNTY, TEXAS  
(CSJ: 1186-01-091)  
[DRAFT]

Prepared by  
Haley Rush, MA, RPA (Principal Investigator)  
Cox | McLain Environmental Consulting, Inc.  
6010 Balcones Drive, Suite 210  
Austin, TX 78731

For  
Travis County  
700 Lavaca Street, 5<sup>th</sup> Floor  
Austin, TX 78767

Reviewed by  
Texas Department of Transportation Environmental Affairs Division  
118 East Riverside  
Austin, TX 78704

Under  
Texas Antiquities Permit 7408

<b>DRAFT REPORT ACCEPTABLE</b>

for Mark Wolfe Executive Director, THC
Date <u>3-10-16</u>
Task# Report 112

Cox | McLain Environmental Consulting, Inc. Archeological Report 112  
(CMEC-AR-112)



COX | McLAIN  
Environmental Consulting

March 2, 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.*

*This report contains archeological site location information (not for public disclosure).*



# MEMO

December 22, 2015

**TO:** Administrative File  
**From:** Mark M. Brown *MMB*

**District:** Austin  
**County:** Travis  
**CSJ#:** 1186-01-091  
**Highway:** FM 969  
**Let Date:** March 2017

**Project Limits:** from FM 973 to Hunters Bend Road

**Project Description:** Stipulation IX, Appendix 6. Widen to four lane divided with center turn lane. 6.6 acres of new ROW. No historic, non-archeological, properties present.

**SUBJECT:** Internal review under the Section 106 Programmatic Agreement (Section 106 PA) among the Texas Department of Transportation, Texas State Historic Preservation Officer, Advisory Council on Historic Preservation, and Federal Highway Administration; and the Memorandum of Understanding (MOU) between the Texas Historical Commission and the Texas Department of Transportation

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.

## Existing Conditions:

The existing roadway has one lane of traffic in each direction with 4-foot outside shoulders and a center turn lane at some major intersections.

## Proposed Project:

The proposed project would add two travel lanes in each direction, a center turn lane, and 6-foot wide shoulders and sidewalk on the south side of the roadway and require 6.6 acres of new ROW.

## Stipulation IX, Appendix 6:

A review of the National Register of Historic Places (NRHP), the list of State Antiquities Landmarks (SAL), and the list of Recorded Texas Historic Landmarks (RTHL) indicated that no historically significant resources were previously documented within the area of potential effects (APE). It has been determined through consultation with the State Historic Preservation Officer (SHPO) that the APE for the proposed project is 150 feet from the project ROW. A site visit by TxDOT historians identified 26 historic-age resources (constructed before 1972) located on 18 parcels. Of these 17 are domestic, 3 agricultural, 2 religious, 2 healthcare, 1 windmill, and 1 commemorative. None of the documented resources are eligible for the National Register of

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Historic Places (NRHP) as a result of the survey. (See pages 10 - 14 of the attached survey report for further details.)

*Not NRHP Eligible:*

Resources #10A is a c. 1920 one story, brick veneer, Tudor Revival residence with characteristic steep pitch roof and prominent gable. It is a common type and style in the Travis County context.

Resources 3D, 4A, 5, 6A, 12A, 12B, and 15B are one-story residential resources constructed in the mid-twentieth century. Each of these resources is a common example of a modest Ranch or other simple rectangular plan.

Resources 3A, 3B, 3C, 3E, 6G, 9, 11B, 14B, 16A, and 17A are residential resources constructed in the first half of the twentieth century. They lack integrity from alterations or are in severe disrepair.

Resources 3F, 7, and 18 are common agricultural barns and out buildings.

Resource 8 is a common example of an Aermotor windmill and tank.

Resource 14A is the Transitions Recovery Center, a drug-treatment facility, constructed in 1962 in the Ranch style. This resource is an undistinguished building type.

Resources 2A and 13A are religious buildings lacking architectural or artistic distinction and are thus not NRHP eligible per Criterion Consideration A.

Resource 1 is a rough-cut granite marker commemorating Reuben Hornsby as the "first settler in Travis County." It is not NRHP eligible under Criterion Consideration F as it lacks significance in its own right.

### **Determinations of National Register Eligibility**

TxDOT historians have evaluated the surveyed properties through the application of the Criteria of Eligibility for listing in the National Register of Historic Places and have determined that Resource #s 1-18 are **not** known to be associated with a significant historical event, or associated with a person of transcendent importance, or embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master. Therefore, these historic-age resources are determined not eligible for listing in the National Register of Historic Places.

### **Determination of Effects**

In accordance with 36 CFR 800.5, TxDOT Historians applied the *Criteria of Adverse Effect* and determined that the proposed project **poses no effects** to historic properties in the APE:

- Direct Effects: The project would cause no effects because there are no historic properties present in the APE
- Indirect Effects: Project activities pose no indirect effects on historic properties as there are none in the APE.

- Cumulative Effects: Per TxDOT's official guidance, "if a project will not cause direct or indirect impacts on a resource, it will not contribute to a cumulative impact on the resource."

TxDOT historians informally reviewed these evaluations of eligibility and effects with SHPO on December 10, 2015.

Therefore, pursuant to Stipulation IX, Appendix 6 "Undertakings with the Potential to Cause Effects per 36 CFR 800.16(i)" of the Section 106 PA and the MOU, TxDOT historians determined that there are no adverse effects to historic, non-archeological properties in the APE. Therefore, individual project coordination with SHPO is not required.

Lead Reviewer RNDobrasko for TxDOT 12/21/15  
Rebekah Dobrasko Date

Approved by [Signature] for TxDOT 12-23-15  
Bruce Jensen Date

CC: ECOS; THC; Shirley Nichols, Austin District

## Chantal McKenzie

---

**From:** Theodore Villacana <theodorev@comanchenation.com>  
**Sent:** Monday, March 21, 2016 10:42 AM  
**To:** Chantal McKenzie  
**Subject:** Consult Response for - RE: Section 106 Consultation, Texas Department of Transportation, CSJ 118601091

Dear 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. Villacana, Resource Technician  
#6 SW “D” Avenue, Suite C  
Lawton, OK. 73502

---

**From:** Jimmy Arterberry  
**Sent:** Wednesday, March 16, 2016 3:38 PM  
**To:** Theodore Villacana  
**Subject:** FW: Section 106 Consultation, Texas Department of Transportation, CSJ 118601091

---

**From:** Chantal McKenzie [<mailto:Chantal.McKenzie@txdot.gov>]  
**Sent:** Wednesday, March 16, 2016 3:26 PM  
**To:** Alabama-Quassarte HPO <[AQhpo@mail.com](mailto:AQhpo@mail.com)>; Amber Toppah <[kbo@kiowatribe.org](mailto:kbo@kiowatribe.org)>; Amie R. Tah-Bone ([atahbone@kiowatribe.org](mailto:atahbone@kiowatribe.org)) <[atahbone@kiowatribe.org](mailto:atahbone@kiowatribe.org)>; Bryant J. Celestine ([celestine.bryant@actribe.org](mailto:celestine.bryant@actribe.org)) <[celestine.bryant@actribe.org](mailto:celestine.bryant@actribe.org)>; Gary McAdams ([Gary.McAdams@wichitatribe.com](mailto:Gary.McAdams@wichitatribe.com)) <[Gary.McAdams@wichitatribe.com](mailto:Gary.McAdams@wichitatribe.com)>; Holly Houghten ([holly@mathpo.org](mailto:holly@mathpo.org)) <[holly@mathpo.org](mailto:holly@mathpo.org)>; Jason Ross ([jross@delawarenation.com](mailto:jross@delawarenation.com)) <[jross@delawarenation.com](mailto:jross@delawarenation.com)>; Jimmy Arterberry <[jimmya@comanchenation.com](mailto:jimmya@comanchenation.com)>; Judy Jones <[jones.j@sno.nsn.gov](mailto:jones.j@sno.nsn.gov)>; Kim Penrod <[kpenrod@caddonation.org](mailto:kpenrod@caddonation.org)>; Lyman Guy ([chairman@apachetribe.org](mailto:chairman@apachetribe.org)) <[chairman@apachetribe.org](mailto:chairman@apachetribe.org)>; Miranda Myer ([mallen@tonkawatribe.com](mailto:mallen@tonkawatribe.com)) <[mallen@tonkawatribe.com](mailto:mallen@tonkawatribe.com)>; Nekole Alligood ([NAlligood@delawarenation.com](mailto:NAlligood@delawarenation.com)) <[NAlligood@delawarenation.com](mailto:NAlligood@delawarenation.com)>; Tarpie Yargee <[Chiefchief@alabama-quassarte.org](mailto:Chiefchief@alabama-quassarte.org)>; Terri Parton ([Terri.Parton@wichitatribe.com](mailto:Terri.Parton@wichitatribe.com)) <[Terri.Parton@wichitatribe.com](mailto:Terri.Parton@wichitatribe.com)>  
**Subject:** Section 106 Consultation, Texas Department of Transportation, CSJ 118601091

Good afternoon,

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

Thank you in advance for your consideration.

Please let me know if you have any questions.

Regards,

Chantal

*Chantal McKenzie*

Cultural Resource Specialist

Environmental Affairs Division

Texas Department of Transportation

512-416-2770

[Chantal.McKenzie@TxDOT.gov](mailto:Chantal.McKenzie@TxDOT.gov)





March 16, 2016

RE: CSJ: 1186-01-091; FM 969 from FM 973 to Hunter's Bend Road, Widen Roadway, Section 106 Consultation; Travis County, Austin 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 Austin District is proposing to widen a portion of Farm to Market Road 969 (FM 969) located east of Austin in Travis County, Texas. Exhibit A illustrates the project location on the Travis County Map. Exhibit B illustrates the project location on the Austin East, Manor, and Webberville USGS Topographic Maps.

The existing roadway has one lane of traffic in each direction with 4-foot outside shoulders and a center turn lane at some major intersections. The proposed roadway will have two travel lanes in each direction, a center turn lane for the entire length of the project, 6-foot wide shoulders, and a sidewalk on the south side of the roadway. All non-bridge class drainage structures located within the project limits would be extended and safety end treated to match the wider roadway. There are no bridge class structures located within the project area. Approximately 6.58 acres of proposed new right of way (ROW) would be required.

#### *Area of Potential Effects*

The undertaking's area of potential effects (APE) is defined as the 100 to 150 foot wide existing FM 969 ROW beginning at FM 973 and extending 1.96 miles east to Hunter's Bend Road. In addition, the APE includes approximately 6.58 acres of proposed new ROW located along both sides of FM 969 in multiple, noncontiguous areas. According to typical roadway design, the depth of impacts is estimated to be no more than 6 feet below the current ground surface for culvert work and up to four feet in depth for the remainder of the project. The project encompasses a total of 43.44 acres.

Section 106 Consultation, National Historic Preservation Act;  
Proposed Texas Department of Transportation Project  
CSJ: 1186-01-091; FM 969, Roadway Widening, Travis County

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, Travis County, the project sponsor, contracted a Cox/McLain Environmental Consulting (CME) to conduct an intensive archeological survey of the APE. CME has recently completed their investigations and have submitted a draft survey report. Due to previous surveys and consultations with the Texas State Historic Preservation Officer (TSHPO) covering 100% of the existing ROW, the investigators recommended that survey was not warranted in the 36.86 acres of the existing FM 969 ROW within the APE. The current survey consisted of 100% pedestrian survey with shovel testing within the 6.58 acres of the proposed new ROW within the APE. Due to the APE not possessing any recent deep alluvial settings that could harbor buried intact archeological deposits, mechanical trenching was deemed unnecessary and was not conducted.

The current investigation confirmed that there are a total of five archeological sites (41TV1282, 41TV1982, 41TV1993, 41TV2345, and 41TV2410) overlapping onto the APE. Sites 41TV1282 and 41TV1982 were recorded as historic homesteads. Sites 41TV1993 and 41TV2345 were recorded as prehistoric lithic scatters and a light historic artifact scatters. Site 41TV2410 was recorded as a mid-twentieth century residence and associated outbuildings.

The TSHPO has previously concurred with recommendations that the portions of the archeological sites 41TV1282, 41TV1982, 41TV1993, and 41TV2345 located within the existing FM 969 ROW within the current APE do not contribute to any of the sites' eligibility for listing on the National Register of Historic Places (NRHP). The current investigation confirmed that none of the archeological sites 41TV1282, 41TV1982, 41TV1993, and 41TV2345 overlap onto the 6.58 acres of proposed new ROW. The current investigation also confirmed that a portion of the previously recorded archeological site 41TV2410 overlaps onto the proposed new ROW. However, the TSHPO has previously determined that the portion of the site overlapping onto the proposed new ROW also does not contribute to the site's eligibility for listing on the NRHP. All five of the ineligible determinations for these sites are posted on the Texas Archeological Sites Atlas website.

Other than the identification of two minor isolated finds recorded during the current investigation, no other archeological deposits have been identified within the entire 43.44 acres of the APE. Based upon the results of all investigations conducted within the project area, the investigators have recommended that no further work is required for the undertaking. Due to the size of the report, it would be problematic to email it entirely. However, excerpts from the CME report including the Management Summary, Archeological Sites Section (pg. 11), as well as the Recommendations (pg. 37) are attached for your review as Exhibit C. A link to the entire report is available upon request

TxDOT has reviewed the CME report and agrees with the investigators' recommendations. TxDOT recommends that the archeological inventory of the undertaking is complete, for a finding of "no historic properties affected", and no further work or consultation is required.

Section 106 Consultation, National Historic Preservation Act;  
Proposed Texas Department of Transportation Project  
CSJ: 1186-01-091; FM 969, Roadway Widening, Travis County

*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.
- 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 Jon Budd (TxDOT Archeologist) at 512/416-2640 (email: jon.budd@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

*Kim Penrod Caddo Nation Acting THPO*

Concurrence by:

April 4, 2016

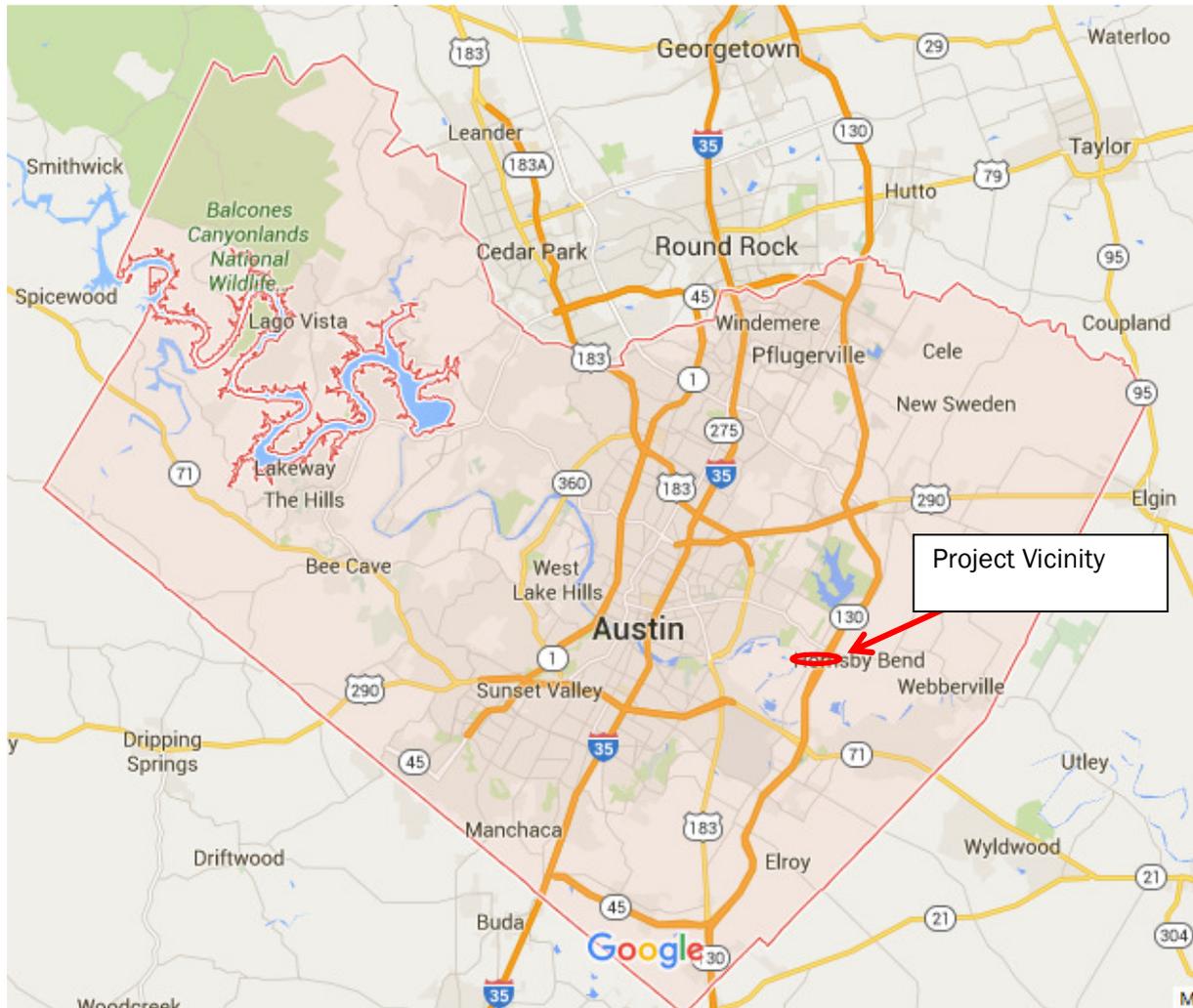
Date:

Attachments

cc w/attachments: ENV-ARCH ECOS

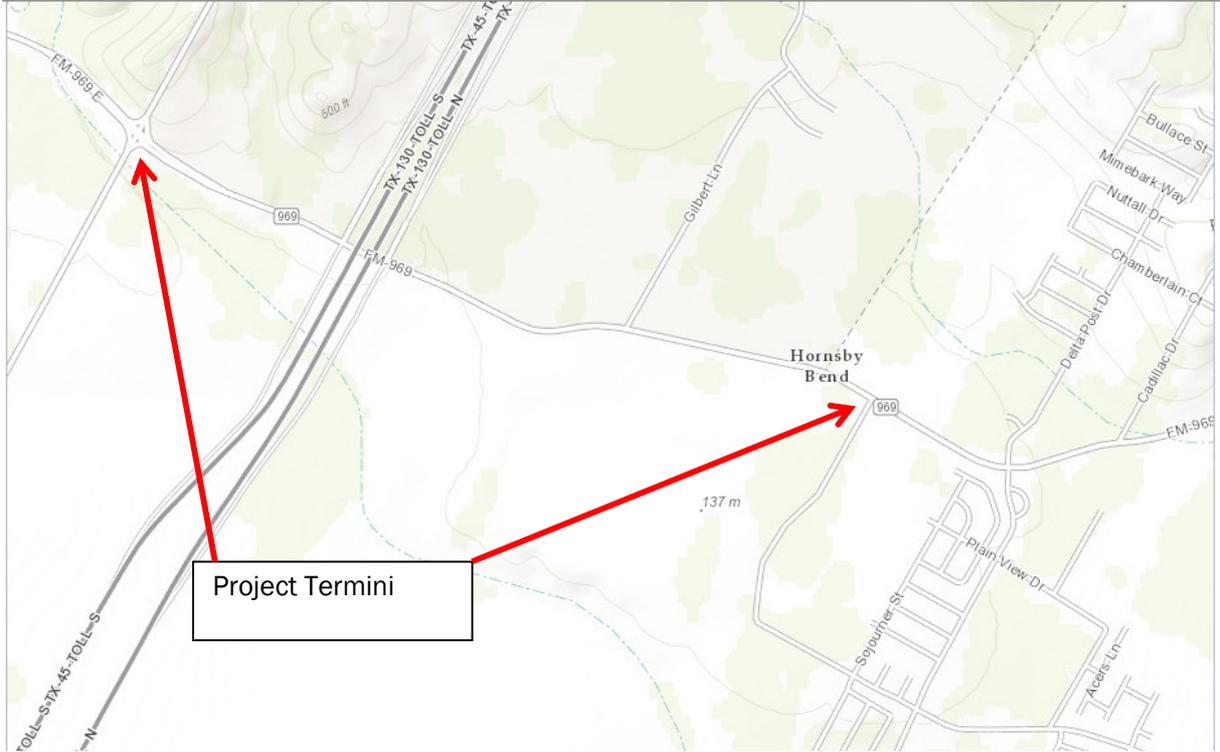
Section 106 Consultation, National Historic Preservation Act;  
Proposed Texas Department of Transportation Project  
CSJ: 1186-01-091; FM 969, Roadway Widening, Travis County

**Exhibit A: Project Location: Travis County**



Section 106 Consultation, National Historic Preservation Act;  
Proposed Texas Department of Transportation Project  
CSJ: 1186-01-091; FM 969, Roadway Widening, Travis County

**Exhibit B: Project Location Map**



Section 106 Consultation, National Historic Preservation Act;  
Proposed Texas Department of Transportation Project  
CSJ: 1186-01-091; FM 969, Roadway Widening, Travis County

**Exhibit C: Cox/McLain Intensive Survey Report**