Draft Environmental Assessment

FM 664, Dallas District

Project limits: From IH 35 East to IH 45

CSJs: 1051-01-051, 1051-03-001, 0092-03-053, and 0442-03-042

Ellis County, Texas

May 2019

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

AADT	average annual daily traffic
ACHP	Advisory Council on Historic Preservation
ACS	American Community Survey
AOI	area of influence
APE	area of potential effect
BMP	Best Management Practices
BGPA	Bald and Golden Eagle Protection Act
CBRA	Coastal Barrier Resources Act
CEQ	Council on Environmental Quality
CMP	Coastal Management Program
cmp	Congestion Management Program
CO	carbon monoxide
CWA	Clean Water Act
DHHS	U.S. Department of Health and Human Services
EA	Environmental Assessment
EFH	Essential Fish Habitat
EMST	Ecological Mapping System of Texas
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FWCA	Fish and Wildlife Coordination Act
FM	Farm-to-Market Road
FONSI	Finding of No Significant Impact
FTA	Federal Transit Administration
FPPA	Farmland Protection Policy Act
IBWC	U.S. Section of the International Boundary and Water Commission
IPaC	Information for Planning and Consultation (USFWS)
ISA	Initial Site Assessment
LEP	Limited English Proficiency
MBTA	Migratory Bird Treaty Act

MMPA	Marine Mammal Protection Act
MOU	Memorandum of Understanding
MSAT	Mobile Source Air Toxics
MTP	Metropolitan Transportation Plan
NAAQS	National Ambient Air Quality Standards
NCTCOG	North Central Texas Council of Governments
NDD	Natural Diversity Database
NEPA	National Environmental Policy Act of 1969
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
NWP	Nationwide Permit
PALM	Potential Archeological Liability Map
PA-TU	Programmatic Agreement Regarding the Implementation of Transportation Undertakings
PCN	Pre-Construction Notification
PWC	Texas Parks and Wildlife Code
RTEST	Rare, Threatened, and Endangered Species of Texas (TPWD)
RTP	Regional Transportation Plan
ROW	right-of-way
RRC	Railroad Commission of Texas
RTHL	Recorded Texas Historical Landmarks
SAL	State Archaeological Landmark
SHPO	State Historic Preservation Office
SOV	single-occupancy vehicle
STIP	Statewide Transportation Improvement Program
SW3P	Storm Water Pollution Prevention Plan
TCEQ	Texas Commission on Environmental Quality
TERP	Texas Emissions Reduction Plan
THC	Texas Historical Commission
TIP	Transportation Improvement Plan

TPDES	Texas Pollutant Discharge Elimination System
TPWD	Texas Parks & Wildlife Department
TSS	total suspended sediments
TWDB	Texas Water Development Board
TxDOT	Texas Department of Transportation
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
vpd	vehicles per day
WOUS	Waters of the U.S.

1.0 INTRODUCTION

This Environmental Assessment (EA) presents the potential environmental effects of a project proposed by the Texas Department of Transportation (TxDOT) – Dallas District and the Federal Highway Administration (FHWA). The TxDOT – Dallas District proposes improvements to Farm-to-Market Road (FM) 664 from Interstate Highway (IH) 35 East (E) to IH 45 in Ellis County, Texas. The total project length includes 9.96 miles of FM 664; 1.70 miles of IH 35E; and 1.24 miles of IH 45 (**Appendix A**). The purpose of this EA is to study the potential environmental consequences of the proposed project and determine whether or not such consequences warrant preparation of an Environmental Impact Statement (EIS).

This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, Council on Environmental Quality (CEQ) Regulations (40 CFR §1502.13), Federal Highway Administration's (FHWA) Technical Advisory T6640.8A, and TxDOT guidance documents. 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 (MOU) dated December 16, 2014, and executed by FHWA and TxDOT.

The EA complies with TxDOT's environmental review rules and NEPA which is required for federally funded projects. The Draft EA will be made available for public review and, following the public comment period, TxDOT will consider all comments submitted. If TxDOT determines that there are no significant adverse effects, it will prepare and sign a Finding of No Significant Impact (FONSI), which will be made available to the public.

2.0 PROJECT DESCRIPTION

2.1 Existing Facility

FM 664 from IH 45 to IH 35

The existing FM 664 roadway consists of two undivided 12-foot travel lanes (one in each direction) with 10-foot outside shoulders and open ditches. The existing total Right-of-way (ROW) width is 100-foot. Intersections at IH 35, FM 342, and IH 45 are at-grade. Photos of the existing roadway can be found in **Appendix B** and a typical section of the existing roadway can be found in **Appendix D**.

2.2 Proposed Facility

FM 664 from IH 35E to IH 45

The proposed roadway from IH 35E to east of Tanner Farm Road would follow the existing FM 664 alignment. The proposed project would widen FM 664 to six travel lanes consisting of two 12-foot inside lanes and one 14-foot outside shared use lane, in each direction. The roadway would typically include 2-foot inside and outside curb offsets, a 17-foot raised median, and 5-6-foot sidewalks on both sides of the roadway. At various intersections, the 17-foot median is replaced by a 6-foot median and an 11-foot left-turn lane. The FM 664 improvements would be constructed within a 125-foot to 295-foot proposed ROW. The FM 664 project length is 9.96 miles in length.

Grade separations are proposed at the BNSF railroad/FM 342 and at the Union Pacific railroad intersection with FM 664. At the BNSF railroad/FM 342 intersection, the grade separated through lanes would consist of two 12-foot travel lanes in each direction crossing over the BNSF railroad and FM 342. These travel lanes would be separated by a 5-foot raised median and would have 2-foot inside curb offsets and 5-foot outside shoulders. The at-grade access roads would consist of one 14-foot travel lane in each direction, with 4-foot inside shoulders and 8-foot outside shoulders. Six -foot sidewalks with 2-foot curb offsets would also be included within the proposed ROW.

At the Union Pacific railroad intersection, two parallel bridge structures would be constructed. Each bridge structure would carry traffic in one direction over the Union Pacific railroad. Each bridge would consist of two 12-foot lanes and one 14-foot outside lane, 2-foot inside curb offsets, 6-foot sidewalks and 1-foot curb offsets.

FM 664 from east of Tanner Farm Road to the IH 45 interchange, the proposed roadway would consist of a 2.5-mile new location bypass. The proposed IH 45 interchange would be constructed approximately one-half mile south of FM 660. The bypass would consist of six travel lanes, with two 12-foot inside lanes and one 14-foot shared use (in each direction), with 2-foot inside and outside curb offsets, and a 17-foot raised median. Five-foot sidewalks would be constructed on both sides of the roadway.

IH 35E Red Oak Road to Tater Brown Road

The proposed interchange at IH 35E would consist of a grade-separated interchange with an underpass of FM 664 below IH 35E to provide an 18.5-foot clearance over IH 35E. The existing IH 35E mainlanes consist of six travel lanes (three 12-foot lanes in each direction) and 10-foot inside and outside shoulders. No additional lanes or added capacity is proposed on IH 35E as part of this project. Frontage roads, entrance and exit ramps would be reconstructed within the varying 300 to 324-foot proposed ROW. The IH 35E frontage roads would include two 12-foot travel lanes (one lane in each direction) and two 14-foot outside lanes (one lane in each direction) and 5-foot sidewalks on both sides of the roadway. The existing diamond configuration ramps between Red Oak Rd and FM 664 would be converted to an x-ramp design, with the northbound entrance from

FM 664 to be removed and not replaced. A diamond configuration is a ramp where traffic exits from the freeway to the frontage road in advance of the near cross street. Entering vehicles quickly access the freeway past the cross street. An x-ramp configuration traffic enters the freeway in advance of the nearest cross street and exits the freeway past the nearest cross street. Improvements along the IH 35E corridor would be 1.70 miles in length.

The FM 664 at IH 35E interchange would be in a single point urban interchange design, with two elevated lanes accessing FM 664, and two lower bypass lanes that would continue through the interchange with access to local businesses and jughandle roadways. A jughandle is an at-grade ramp between intersections that permit indirect left turns or U-turns.

IH 45 from IH 45 Crossover in Ferris to E. 8th Street

The proposed interchange at IH 45 would consist of a grade-separated interchange over the proposed FM 664. New grade-separated north and southbound IH 45 main lanes would be constructed consisting of six travel lanes (three 12-foot lanes in each direction) with 10-foot inside and 10-foot outside shoulders. Frontage roads, entrance and exit ramps would be reconstructed within the varying 350 to 462-foot proposed ROW. The IH 45 frontage roads would include two 12-foot travel lanes (one lane in each direction) and two 14-foot outside lanes (one lane in each direction) and 5-foot sidewalks on both sides. The IH 45 improvements would be 1.24 miles in length. The proposed project would require approximately 153.75 acres of additional ROW and 11.99 acres of permanent easements from adjacent properties. The ROW and permanent easements have undergone minor modifications since the completion of the Technical Reports. These Technical reports will be reevaluated and revised as necessary to include the revised ROW and easement areas before final environmental clearance of this project. The project schematic has been included in **Appendix C**. The Typical Sections have been included in **Appendix D**.

Federal regulations require that federally funded transportation projects have logical termini. 23 CFR 771.111(f)(1). Simply stated, this means that a project must have rational beginning and end points. Those end points may not be created simply to avoid proper analysis of environmental impacts. For the FM 664 section, IH 35E was selected as the western project limit and IH 45 was selected as the eastern project limit for logical termini purposes because they are major traffic generation points.

Federal regulations require that a project have independent utility and be a reasonable expenditure even if no other transportation improvements are made in the area (23 CFR 771.111(f)(2)). This means a project must be able to provide benefit by itself, and that the project not compel further expenditures to make the project useful. Stated another way, a project must be able to satisfy its purpose and need with no other projects being built. The proposed project would have independent utility (e.g., the facility would function on its own without further construction of an adjoining segment) because the project provides congestion relief along existing FM 664 and through the downtown area of Ferris. The proposed project is not an irretrievable commitment of federal funds

because the project stands alone. The project cannot and does not irretrievably commit federal funds for other transportation projects.

Federal law prohibits a project from restricting consideration of alternatives for other reasonably foreseeable transportation improvements (23 CFR 771.111(f)(3)). This means that a project must not dictate or restrict any future roadway alternatives. The proposed project would not restrict the consideration of alternatives for other foreseeable transportation improvements because it allows for and accommodates cross streets and does not restrict the consideration of future alternative improvements to these cross streets including widening. The proposed project does not have any control of access therefore, it would not restrict the consideration of new cross streets. It provides an overpass over a BNSR railroad and a Union Pacific Railroad with adequate horizontal and vertical clearances that would not restrict the consideration of future rail improvements. The proposed project would also not restrict the consideration of future transit or multimodal transportation improvement alternatives.

The NCTCOG (North Central Texas Council of Governments) adopted the 2045 Metropolitan Transportation Plan (MTP; Mobility 2045) on June 14, 2018 and the 2019-2022 Transportation Improvement Program (TIP) for the North Central Texas Area on May 10, 2018. The U.S. Department of Transportation (USDOT), including the FHWA and Federal Transit Administration (FTA), approved the 2019-2022 Statewide Transportation Improvement Program (STIP) on September 28, 2018.

The proposed project is listed in the 2019-2022 STIP as a state-funded project using monies from the passage of Proposition 7. Proposition 7 is a state constitutional amendment dedicating a portion of the general sales and use tax and the motor vehicle sales tax to the general highway fund. The project was assessed to federal NEPA standards in anticipation of securing FHWA funding and a federal nexus for an anticipated United States Army Corps of Engineers (USACE) permit for impacts to waters of the U.S. (WOUS). The project RTP, TIP, and STIP pages have been included in **Appendix E.** The proposed project would cost an estimated $326,000,000.

3.0 PURPOSE AND NEED

3.1 Need

FM 664 is a farm to market road in Red Oak and Ferris that is used by commuters traveling to and from Dallas, Fort Worth and surrounding communities for work and by Red Oak and Ferris residents traveling to local destinations. Transportation improvements are needed along FM 664 due to increasing population within the project area and surrounding communities. The increase in population is expected to lead to increased traffic volumes and conflicting travel movements, which impairs safety and inhibits mobility along the facility.

Ellis County and the cities of Red Oak and Ferris are experiencing substantial growth and the existing facility would not effectively accommodate projected future traffic within the project area. With the anticipated traffic growth, there would be increasing conflict between through traffic and turning movements along the existing facility.

3.2 Supporting Facts and/or Data

Traffic

The Annual Average Daily Traffic (AADT) on existing FM 664 within the project limits is 29,600 vehicles per day (vpd) for the year 2022 and the projected AADT for the proposed FM 664 is 40,200 vpd for the year 2042.

Level of service (LOS) is a qualitative measure for rating roadways based on operating conditions. LOS categories range from ratings of A through F, and the range describes a progressive deterioration of operating conditions from A (which indicates very good operating conditions) through F (which essentially represents the functional failure of the roadway in terms of traffic movement). **Table 1** describes the characteristics of LOS.

Table 1: LOS Characteristics

LOS Rating	Description
A	Free flow with low volumes and high speeds
B	Reasonably free flow, but speeds beginning to be restricted by traffic conditions
C	In stable flow zone, but most drivers are restricted in the freedom to select their own speeds
D	Approaching unstable flow where drivers have little freedom to select their own speeds
E	Unstable flow and may require short stoppages
F	Unacceptable congestion, stop-and-go, and forced flow

A Level of Service (LOS) analysis was conducted in May 2019 by TxDOT consultants. The analysis was completed for two segments of FM 664: FM 664 from IH 35E to SH 342; and FM 664 from SH 342 to North Central Street. The analysis concluded that the existing facility from IH 35E to SH 342 would operate at LOS D in the opening year (2024) and a LOS E in the design year (2044). The existing facility from SH 342 to North Central Street would operate at LOS B in the opening year and a LOS C in the design year. Based on these values, it was determined that there would be an increase in congestion throughout the project area.

Safety

Another need for this project is safety. Crash data from the Texas Department of Public Safety for the 5-year period of 2014 to 2018 showed that there have been 416 vehicle crashes on FM 664

within the project area. Comparisons of crash data in the project area and the state are included in **Table 2**.

Table 2: Crash Data

Year	Traffic Crashes per 100 million vehicle miles		
	FM 664	Statewide Urban FM Roads	Difference
2014	275.15	237.15	+16%
2015	538.25	298.55	+80%
2016	390.29	301.87	+29%
2017	567.69	295.61	+92%
2018	410.56	*	N/A

* Statewide crash data is not available for 2018.

Source: TxDOT 2018

Out of the 416 crashes reported from 2014-2018 within the project limits, 143 resulted in injuries or possible injuries. Six of these crashes were fatal, 13 caused incapacitating injuries, 52 caused non-incapacitating injuries and 78 caused possible injuries.

Population

The FM 664 project area has experienced a substantial increase in population over the past 20 years. Due to the growth in population, vehicular traffic on local roadways has increased. Currently within the project limits, FM 664 is utilized most heavily by local residents who reside in the vicinity of the project area; however, FM 664 experiences increased traffic during peak travel times by commuters who use the roadway to access IH 45 and IH 35E. Examining the projected growth within the project vicinity shows that growth is expected to increase by 19 percent in Ellis County over a 10-year period from 2010 to 2020. These population numbers are the latest available until the 2020 census is completed and processed. Based on the latest population estimates, the projected increase of 19 percent is on track for 2020 (**Table 3**).

Table 3: Population Trends

Area	2000	2010	2020 Projected	2030 Projected	2040 Projected	Percent Change (2000-2010)	Percent Change (2010-2020)	Percent Change (2020-2030)	Percent Change (2030-2040)
City of Red Oak	4,301	10,769	12,369	14,000	19,000	60%	13%	12%	26%
City of Ferris	2,175	2,436	2,946	3,550	4,174	11%	17%	17%	15%
State of Texas	20,851,820	25,145,561	29,510,184	33,628,653	37,736,338	17%	15%	12%	11%
Ellis County	111,360	149,610	183,814	224,000	276,931	26%	19%	18%	19%

Source: U.S. Census Bureau (1990, 2000, 2010 data) and Texas Water Development Board (2020, 2030, and 2040 projected data).

The proposed FM 664 would be classified as an urban roadway. To meet American Association of State Highway and Transportation (AASHTO) design standards for an urban roadway, raised medians were included in the proposed project. TxDOT policy is to incorporate pedestrian facilities into transportation projects, based on United States Code and the Code of Regulations Title 23-Highway, Title 49-Transportation, and Title 42-The Public Health and Welfare. In addition, Federal Highway Administration (FHWA) policy calls for the design and development of transportation projects to improve bicycling and walking conditions, to address the long-term need for bicyclists and pedestrians to cross corridors and travel along them. Exceptions are allowed under the following conditions: areas where bicyclists and pedestrians are prohibited by law from using the roadway: projects where the cost of establishing bikeways or walkways would be excessively disproportionate to the need or probable use; or projects where there is a sparsity of population or other factors to indicate an absence of need. This project does not meet the exceptions to improving bicycling and walking conditions for transportation projects.

3.3 Purpose

The purpose of the proposed project is to alleviate traffic congestion, accommodate future traffic associated with the growth of Ellis County, and improve mobility and safety for existing and future traffic demand in the project area.

4.0 ALTERNATIVES

4.1 Build Alternative

The Build Alternative consists of widening the existing two-lane undivided roadway to a six-lane divided roadway with a raised median and curb and gutter. The improvements of FM 664 would

include a new location, 2.5-mile bypass south of the City of Ferris. The 2.5-mile bypass would connect to a new interchange at IH 45. Major interchanges are proposed at IH 35E at the western terminus and at IH 45 on the eastern terminus. Ramp reconfigurations along IH 35E would convert the standard diamond interchange to an x-ramp style. The new IH 45 interchange would be a standard diamond configuration. The project would be both within the existing ROW and within proposed ROW. The total project length is 12.90 miles.

The Build alternative was determined to meet the stated need and purpose of the project because it would satisfy the need for improved mobility and safety, alleviate traffic congestion, and accommodate future traffic associated with the growth of Ellis County.

4.2 No-Build Alternative

The No-Build Alternative would leave the existing facility unimproved. Normal routine maintenance would continue, and all other pending, previously authorized actions would proceed as long as they do not require additional travel lanes. The No-Build Alternative would not meet or satisfy the need and purpose of the proposed project since future traffic volume demands, improved mobility, or improved safety would not be met. The No-Build alternative would be carried forward and evaluated throughout the EA for comparison purposes.

4.3 Preliminary Alternatives Considered but Eliminated from Further Consideration

IH 35E and FM 664 Intersection

All possible interchange alternatives were evaluated using FHWA's CAP-X software based on traffic projections. A detailed screening was conducted on three interchange alternatives. The Build Alternative was selected based on the output from FHWA's CAP-X software to provide the best improvement to mobility without sacrificing constructability.

FM 664 from the IH 35E intersection to Tanner Farm Road

This portion of the project is proposed immediately adjacent to the existing FM 664 and is therefore constrained by existing commercial and residential infrastructure. Three preliminary alternatives were considered including widening entirely to the north; widening entirely to the south; or widening equally to the north and south of the existing ROW. The Build Alternative was developed using a combination of the three preliminary alternatives. The Build Alternative along existing FM 664 proposes to take ROW from both sides of the existing ROW with varying widths from zero to 295 feet. The Build Alternative was chosen to minimize impacts to environmental resources, commercial properties, and residences.

FM 664 from east of Tanner Farm Road to the IH 45 interchange

This section of the project is proposed as a new location bypass. Three preliminary alternatives were considered and in the planning of the new location bypass: one north of Ferris, one south of

Ferris, and one along the existing corridor through downtown Ferris. The route north of Ferris would potentially impact a school, landfill, and a public golf course. The preliminary alternative through downtown Ferris would require a structure to clear the railroad west of downtown and would displace several historic properties. The Build Alternative for the new location bypass south of Ferris was chosen to minimize impacts to environmental resources, commercial properties, and residences.

5.0 AFFECTED ENVIRONMENT and ENVIRONMENTAL CONSEQUENCES

The following technical reports and forms were prepared in support of this EA. These topics are addressed in the EA but are covered in greater detail within their respective reports. Copies of these documents are found at the Dallas District Office and will be available at future public involvement activities.

- Air Quality Technical Report
- Archeological Background Study
- Biological Technical Report
    - Biological Evaluation Form and supporting documentation
    - Tier I Site Assessment and supporting documentation
- Community Impacts Assessment Technical Report Form
- Hazardous Materials Initial Site Assessment Report
- Historic Studies Project Coordination Request
- Indirect and Cumulative Impacts Technical Report
- Traffic Noise Technical Report
- Water Resources Technical Report
- Wetland Delineation Report

5.1 Right-of-way/Displacements

A Community Impacts Assessment Technical Report Form for the proposed project which discussed ROW and displacements has been completed and is on file at the TxDOT's Dallas District office. The majority of the ROW within the project area consists of commercial and rural residential development, as well as fallow and active agricultural fields. The Build Alternative would require approximately 164.45 acres of additional ROW and 7.95 acres of permanent easements from adjacent properties. The existing FM 664 ROW is 100 feet. The FM 664 ROW would be widened to 125 feet to 295 feet, the IH 35E ROW would vary between 300 feet to 324 feet; and the IH 45 ROW would vary between 350 feet to 462 feet. The proposed project would require eleven displacements of single family residences, (both built and mobile homes), The project would require displacement of three multi-family properties including one duplex and two parcels that contain

multiple houses and/or mobile homes. In addition, a total of nine commercial properties which contain a total of 12 individual businesses would be displaced or impacted from the proposed project, as well as a total of six barns, sheds, or garages. The project will also displace one place of worship. According to multiple real estate websites, there are multiple homes listed that are comparable to the homes that are proposed to be displaced. Other comparable businesses are in the immediate area. There are approximately 388 parcels that would be wholly or partially acquired for the project, not including existing TxDOT ROW (**Appendix F, Exhibit 1**).

Partial Acquisition

Partial acquisition would occur in those instances where the project would result in changes to access and loss of frontage or parking to a structure's property or complex but would not result in the relocation of the business or structures' inhabitants. There is potential that loss of parking for some businesses could result in total displacement. This would be determined through the TxDOT ROW Division during the property acquisition process. There are no temporary easements proposed for the project.

Relocation Assistance by TxDOT

TxDOT offers relocation counseling and financial assistance to residences and businesses that are displaced by the acquisition of highway ROW in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (PL 91-646). Once it is determined that a structure must be acquired in order to construct this highway, the property owner and/or tenant is contacted by a relocation counselor who provides information on the benefits that the owner/tenant is eligible for and assists the owner/tenant in applying for those benefits. The relocation counselor would provide transportation to inspect the housing (especially for elderly and handicap persons), and referrals to other agencies that provide assistance for relocated persons.

The relocation counselor also provides a listing of the most current comparable housing, including those currently available on the market and within the financial means of the occupant. This listing would be as close as possible to the dwelling being taken in terms of number of rooms, living space, location, and square footage. The replacement housing has to meet all minimum standards established by the state (decent, safe, and sanitary) and conform to all local building codes.

Depending on the difference in prices of properties that are comparable, financial assistance in the form of a purchase supplement, rental assistance payments, or a down payment on a loan may be offered to the relocatee. No construction would occur in the area immediately adjacent to affected properties until comparable replacement housing has been made available to all relocatees.[1]

[1] TxDOT – Right-of-Way Manual, Volume 3. *Relocation Assistance*.

In addition to residential relocation assistance, TxDOT also provides assistance to relocated businesses, farms, and non-profit organizations. These benefits may be in the form of reimbursements for reasonable moving expenses and reestablishment expenses.

Potential Relocations/Displacements

A list of residences and businesses that could potentially be relocated/displaced for the project, either through total acquisition or due to the displacement of existing structures or parking, are provided in **Table 4.**

Table 4: Potential Relocations/Displacements

Map ID #	Reference ID #	Property Address	Acres to be Acquired (partial)	Property Type	Business Name/Area Affected
45	S11	313 N IH 35	0.09	Commercial	Jessie's Tire and Oil
43	S13	319 N IH 35	0.03	Commercial	A&J Auto Repair
47	S9	S IH 35 E Service Road	0.03	Commercial	Multiple; RL Harris BBQ/Rustic Furniture
37	S18	405 S IH 35 E Service Road	0.03	Residential	N/A
36	S19	407 S IH 35 E Service Road	0.03	Residential	N/A
38	S17	403 N IH 35	0.03	Residential	N/A
39 40	S16	401 S IH 35 E Service Road	0.07	Commercial	Woody's Club
82	E12	100 Harris Ave	0.05	Commercial	Exxon
29	W9	100 Norton St	0.09	Commercial	Exxon
28	W10	108 Norton St	0.08	Commercial	Valero
27	W11	505 S IH 35 E Service Road	0.11	Commercial	Multiple; Texas Quitters Vapor, Fathom Realty, and Professional Public Adjustors
26	W12	507 S IH 35 E Service Road	0.06	Worship Center	Discipleship Ministries
132	E28	519 E Ovilla Rd	0.05	Multi-Family Residential*	N/A
215	E71	101 Deborde Cir	0.4	Residential	N/A
220	E72	102 Deborde Cir	0.43	Residential	N/A

Map ID #	Reference ID #	Property Address	Acres to be Acquired (partial)	Property Type	Business Name/Area Affected
224	E73	138 Deborde Cir	0.42	Residential	N/A
229	E74	139 Deborde Cir	0.46	Residential	N/A
240	E77	101 Ridgecrest St	0.2	Residential	N/A
244	E78	102 Ridgecrest St	0.2	Residential	N/A
246	E79	101 Crest Brook Dr	0.16	Residential	N/A
292	E106	991 E Ovilla Rd	0.18	Commercial	Unknown
400	W143	554 FM 983	1.02	Residential	N/A
399 402	E157, E159	620 FM 983	0.32	Multi-Family Residential+	N/A
404	E160	FM 983 (no address available)	1.2	Multi-Family Residential§	N/A

Source: Study Team 2018
*Structure located on this parcel appears to be a duplex
+Three dwellings to be relocated occur on these two parcels, which share an address; there appears to be one built structure and two mobile homes
§Two dwellings to be relocated occur on this parcel; both appear to be mobile homes

As indicated in **Table 4**, the construction of the proposed project would potentially result in the relocation/displacement of 13 residential parcels; 10 displacements in zip code 75154 and 3 displacements in 75125. To assess availability of replacement residential properties within the project area, a search of the Multiple Listing Service (MLS) at www.har.com (December 2018) was conducted. Available residential properties were searched in two zip codes located directly adjacent to the project area (75154 and 75125). **Table 5** indicates that while an adequate quantity of replacement housing is available within the project vicinity, zip code 75154 provides the most replacement opportunities with a mix of housing prices for the potentially displaced residences, though 75146 provides a greater number of affordable options in the $150,000-$200,000 range.

Table 5: Housing Availability by Zip Code

Price Range	Zip Code				Total
	75154	75125	75146	75152	
$10,000 - $50,000	0	0	0	0	0
$50,000 - $100,000	1	0	0	0	1
$100,000 - $150,000	3	2	1	0	6
$150,000 - $200,000	5	6	14	2	27

Price Range	Zip Code				Total
	75154	75125	75146	75152	
$200,000 - $250,000	39	2	12	1	55
$250,000 - $300,000	42	1	1	0	44
$300,000 - $1,000,000	33	6	5	3	47
Total	**123**	**17**	**33**	**6**	**180**

Source: HAR December 2018 Listings.
Note: All housing units listed contained at least two bedrooms and one full bathroom; vacant residential lots were excluded.

As indicated in **Table 4**, the construction of the proposed project would potentially result in the relocation/displacement of nine commercial properties in zip code 75154—five gas stations/convenience stores or automotive shops, a bar, a restaurant, and a small shopping center. A search of the MLS at http://www.viprealtyinfo.com/Dallas-Commercial-Real-Estate.php (December 2018) was conducted. Available commercial properties for sale or lease were searched in two zip codes located directly adjacent (75165 and 75146) and within the same zip code (75154) where the potential displacements would occur. The data shown in **Table 7** indicates that sufficient commercial and retail space is available within the project area to provide sufficient and comparable relocation options to displaced property owners.

Table 6: MLS Commercial Availability

Properties	Zip Code		
	75154	75165	75146
Retail for Lease	4	9	1
Retail for Sale	9	10	4
Total	**13**	**19**	**5**

Source: VIP Realty December 2018 commercial property listings.

The businesses that have the potential to be displaced do not have any special requirements or require lots that are larger than the standard size available within the project vicinity. The products and services offered by the businesses that may be displaced would be available through other retailers while the displaced businesses relocate. There are no zoning regulations in Ellis County; therefore, any property that would be potentially displaced would not be limited by zoning to find an acceptable location to relocate.

The No-Build Alternative would require no additional ROW and no relocations or displacements would occur.

5.2 Land Use

The proposed project is located within the city of Red Oak and Ferris in Ellis County. According to the North Central Texas Council of Governments (NCTCOG), land use within 500 meters of the project area is summarized in **Table 7**. Land use is shown in **Appendix F**, **Exhibit 2**.

Table 7: Land Use

Land Use Type	Percent
Ranch/Farmland	52%
Residential	32%
Industrial/Commercial	10%
Vacant	5%
Water/Open Space	1%

Source: NCTCOG Regional Data Center, 2015.

The Build Alternative would require 164.45 acres of additional ROW. The additional ROW would largely be acquired along existing FM 664, IH 35E, and IH 45; as these are existing transportation corridors, the land use adjacent to the project area would not substantially change. However, where proposed FM 664 would be constructed on a 2.5-mile long new location bypass, approximately 54 acres of land currently categorized as ranch land would be converted to transportation uses, which could influence adjacent future land use.

The No-Build Alternative would have no direct effects on land use; however, growth and development would likely continue as population increases.

5.3 Farmlands

The purpose of the Farmland Protection Policy Act of 1981 (FPPA) is to minimize the extent to which Federal programs contribute to the unnecessary conversion of farmland to non-agricultural uses. The FPPA stipulates that Federal programs be compatible with state, local and private efforts to protect farmland. Projects considered exempt under the FPPA include those that require no additional ROW or if the proposed project is located in areas that are developed, urbanized, or zoned urban. The proposed project would include approximately 153.75 acres of new ROW and 11.99 acres of permanent easements of which approximately 3.5 acres are classified as prime farmland that would directly be impacted by the implementation of the proposed project. The Farmland Conversion Impact Rating for Corridor Type Projects (NRCS-CPA-106 form) was prepared for the FM 664 project. The NRCS-CPA-106 Form can be found in the Biological Technical Report in the project file and in **Appendix G**. As the score on Part VI of the form was less than 59, no coordination with the Natural Resources Conservation Service (NRCS) is required.

The No-Build Alternative would not have any environmental consequences on prime and unique farmland throughout the project limits.

5.4 Utilities/Emergency Services

For the Build Alternative, utilities such as electric, telephone, and cable lines would be relocated prior to construction. The services provided by the relocated electric, telephone, and cable television lines would not be interrupted or terminated because of the proposed project.

The Red Oak Fire Department is located adjacent to the project area to the east of Methodist Street. The station would not be affected by construction as FM 664 should remain open during construction to avoid delays to fire trucks routed through the project area. The addition of medians along FM 664 may require U-turns in certain areas to access all properties along FM 664. Proposed medians could slightly increase response times of emergency vehicles approaching from the east or west. However, this minor impact would likely be offset by the additional travel lanes, which would allow emergency responders to improve response time to the rest of the area and more safely pass other vehicles during responses.

The No-Build Alternative would have no effect on utilities or emergency services.

5.5 Bicycle and Pedestrian Facilities

For the Build Alternative, the inclusion of bicycle and pedestrian facilities were evaluated in compliance with TxDOT and USDOT policy. Pedestrians would be accommodated through the construction of 5-foot wide sidewalks and shared outside bike lanes along FM 664, and IH 35 and IH 45 frontage roads.

The No-Build Alternative would have no effect on bicycle or pedestrian facilities, which are not currently provided along existing FM 664 in the project area.

5.6 Community Impacts

A community Impacts Assessment Technical Report Form which addresses community impacts for the proposed project has been completed and is on file at the TxDOT Dallas District office.

Community Cohesion

FM 664, IH 35E, and IH 45 are existing community barriers, though there is currently no restriction to vehicular movement across FM 664. However, the Build Alternative would widen existing FM 664 and add a raised median with dedicated left turns. Since the westernmost five miles of the project consists of improvements to existing FM 664, no neighborhoods or portions of cohesive

communities along this segment would be separated from one another more than they already are. The proposed construction of the new bypass of Ferris would not impact community cohesion because the proposed bypass is being constructed in undeveloped agricultural land. No closure of cross or side streets is planned as part of the project. Proposed sidewalks throughout the project area would allow pedestrians to walk or cycle to destinations within the community.

The No-Build Alternative would not affect the existing structure of local communities; however, deterioration of mobility may occur with increased traffic volumes since the road would continue to be used heavily.

Access and Travel Patterns

Permanent changes to access and travel patterns include the addition of travel lanes, medians, median breaks, sidewalks, the new bypass of Ferris, and improved ramps and frontage roads at IH 35E and IH 45. Medians and median breaks would cause changes to access and travel patterns. The median breaks would allow drivers to make protected turns and U-turns in designated areas, increasing travel safety but restricting access to certain adjacent parcels and roads. A vehicle must travel the length of the median which ranges from 0.07 miles to 0.75 miles in length to reach a turn-around. Not all crossroads and driveways are located at a median break so this would require traveling to the nearest median break and turn around to travel the opposite direction. Medians would affect emergency response time if a turn is not available at median break. Otherwise, if an emergency vehicle is traveling through FM 664 or turning at a median break, response time would decrease due to the additional travel lanes.

The new construction of the bypass of Ferris would also cause a change in travel patterns. The bypass would direct traffic south of Ferris to reach IH 45. The new bypass would allow drivers to avoid slower speed limits and additional stops when traveling through Ferris. The bypass would also decrease traffic that goes through the center of Ferris, therefore making a pedestrian friendly and safer downtown area. The construction of sidewalks and shared bike lanes throughout the project area would promote safer walking and cycling conditions along FM 664.

The No-Build Alternative would not affect access along FM 664. There would continue to be no restriction to access and cars would remain the primary mode of transportation along FM 664.

5.6.1 Environmental Justice

Minority Populations

For the purposes of this analysis, an environmental justice population is present when the total minority population percentage equals or exceeds 50 percent. Census block groups are the smallest census data unit for which all parameters needed to conduct an environmental justice assessment are available. However, race and ethnicity are available at the census block level. This data combined with observations from site visits enabled the assessment of community-level racial and ethnic composition.

Census blocks adjacent to the proposed roadway were chosen as the study area limits, as these blocks are the most likely to be directly impacted by the proposed project. The census blocks were analyzed for race/ethnicity. There is a total of 198 blocks from 10 block groups in the study area as defined. Of these, 63 have a recorded population. Of these 63 blocks, there are 17 blocks where 50% or more of residents belong to ethnic or racial minority groups.

Low-income Populations

Census tracts located within and adjacent to the project area were analyzed using the American Community Survey (ACS) 5-year (2013-2017) estimates for low-income populations. The current (2019), as defined by the Department of Health and Human Services (DHHS), poverty guideline for a family of four is $25,750/year. Using 2017 data, one of the block groups within the study area has a median household income below the poverty guideline, Census Tract 601.01, Block Group 5 has a median household income of $23,815 (**Appendix F, Exhibit 4**).

EJ Determination

In order to determine if the proposed project would result in “disproportionately high and adverse effects" on a minority or low-income population or deny them benefits of the Build Alternative, several additional factors are also considered:

- Displacements: According to the schematics dated November 2018, A total of 16 single-family residences are proposed to be displaced from the proposed project. The displaced homes are scattered throughout the project area, so no single residential area would be divided by the displacement and there would not be a large proportion of homes displaced from within a small area. According to Realtor.com, replacement homes are available for sale and rent in the project area to replace the displaced residents.

  A total of 11 businesses and one place of worship are proposed to be displaced or impacted from the proposed project. The proposed displaced businesses primarily occur adjacent to IH 35E except for one adjacent to FM 664 and one adjacent to IH 45. Most of the displaced businesses serve travelers that are passing through the area. One displaced place of worship, Discipleship Ministries, primarily serves a minority population. Discipleship Ministries is located within a commercial shopping center. According to Loopnet.com,

multiple commercial properties and buildings are available to buy or lease, with the majority of these available properties located near IH 35E. If these businesses do not relocate, approximately 75 jobs would be lost, although similar job opportunities are likely to become available to potentially displaced employees since the area is experiencing growth. Although impacts would occur to the community because of residential and commercial displacements, replacement homes and commercial properties are available due to growth in the area.

- Transportation Needs: Impacts to access and travel patterns would not take place in any predominantly minority or low-income census geographies. Any inconveniences of the roadway being used for access to residences or businesses would be minimized during project construction.
- Exposure to pollution and hazardous materials: There may be short term, localized effects to air quality (i.e. dust) as well as noise levels generated by construction equipment during construction; however, these effects would be temporary and not selectively limited to minority or low-income communities.

No disproportionately high and adverse impacts on minority and/or low-income populations would occur due to the proposed project. Five homes near the intersection of the new bypass of Ferris and FM 983 that are proposed to be displaced are located in Census Tract 601.01, Block Group 4, Block 4064, This Block is composed of a greater than 50% minority population. Five displacements in a predominately minority population would not be disproportionate because it is out of 16 total displacements. Travel and access pattern changes would occur throughout the entire project area so impacts would not just affect minority and/or low-income populations.

5.6.2 Limited English Proficiency

Executive Order 13166, entitled "Improving Access to Services for Persons with Limited English Proficiency (LEP)", mandates that Federal agencies 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 LEP persons can have meaningful access to them. It is expected that agency plans would provide for such meaningful access consistent with, and without unduly burdening, the fundamental mission of the agency. Each agency shall also work to ensure that recipients of Federal financial assistance (recipients) provide meaningful access to their LEP applicants and beneficiaries (65 Federal Register 50123, August 16, 2000).

There were ten census block groups within or adjacent to the project area analyzed to determine the percent of persons who speak English less than 'very well', which is considered LEP. All but one block group has LEP persons, with the remaining block groups ranging from 1% to 26%. The most common primary language spoken by LEP persons was Spanish. According to the American Community Survey, every census tract within the project areas identified LEP persons. Other

languages such as Indo-European languages and Asian and Pacific Island languages were present in minute amounts.

A public meeting was held on November 15, 2018 at the Live Oak Professional Development Center located at 200 Live Oak Street, Red Oak, Texas. The meeting was advertised in the *Dallas Morning News* (regional newspaper), *Waxahachie Daily Light* (local newspaper), and *Al Dia* (local Spanish newspaper). Public meeting notices were mailed to adjacent property owners and elected officials in English and Spanish. The public meeting notice included instructions on requesting an interpreter or other special assistance through the TxDOT Dallas District Office. Two Spanish translators were available to assist at the meeting and one attendee asked for language assistance at the meeting.

A public hearing would be held. Announcements and advertisements would be made in English and Spanish for the public hearing. Translators for Spanish and/or any other language would be provided upon request. It is anticipated that requests for assistance in Spanish would be received at the public hearing. If any other language assistance is requested, arrangements would be made to accommodate the request.

5.7 Visual/Aesthetic Impacts

Visual and aesthetic qualities of an area include topography, water features, recreational parks, historic features, buildings, bridges, businesses and residences. Existing visual and aesthetic resources in the study area can be viewed by drivers and passengers, residents near the roadway, and visitors of businesses and residences. The existing facility is surrounded by commercial, residential and rural land use including subdivisions, retail centers, and open fields. Houses and businesses can be seen from the existing facility and are present throughout the length of the proposed ROW, becoming more common at the western terminus of the project. The surrounding area is generally flat, with larger changes in elevation at drainageways. The existing facility is unobtrusive because it is at-grade with no elevated structures present.

The Build Alternative includes two new grade separations on FM 664, one new grade separation on IH 45, and a new location bypass. For the grade separations, the road would be elevated above its current location and commercial and residential structures would have a new visual component introduced to their viewshed. Additional light impacts may result from new illumination, particularly at grade-separated intersections. Construction of the roadway in new ROW would possibly result in homes and businesses being located closer to a roadway. Removal of vegetation in the form of scattered trees and hedges along the new ROW would result in a reduction of vegetative screening. The Build Alternative has the potential to result in some loss of visual or aesthetic quality; however, the impacts would be relatively small and/or localized.

Temporary impacts on the visual character of the surrounding environment related to construction activities include those related to vehicle and equipment activity, construction staging, stockpiling of excavated material, temporary signage, and traffic congestion. Developed and naturally vegetated areas within the proposed ROW may be cleared for the construction of the roadway. Construction activities would result in increased levels of dust, indirect transfer of dirt between locations, and vehicle drivers. Staging areas should be located away from visually sensitive areas where practicable and where land is available. Construction activities would be primarily limited to daylight hours to eliminate the need to use high-wattage lighting sources to operate during nighttime hours. Revegetation would take place in areas disturbed by construction.

The No-Build Alternative would have no direct effects on visual or aesthetic qualities; however, increased traffic congestion could lead to impacts on the existing facility or surrounding area.

5.8 Cultural Resources

5.8.1 Archeology

An Archeological Resources Background Study has been prepared and is on file at the TxDOT Dallas District office. Background research for this project consisted of an online records search through the Texas Historical Commission's Archeological Sites Atlas (Atlas) and the Potential Archeological Liability Map (PALM) for the Dallas District, as well as a review of historical aerial and geologic maps, and current soil surveys. Research focused on the identification of archeological sites, sites listed as State Antiquities Landmarks (SALs), Recorded Texas Historic Landmarks (RTHLs), sites listed on the National Register of Historic Places (NRHP), cemeteries, and previously conducted archeological surveys within one kilometer (0.62 mile) of the area of potential effects (APE). The search identified six previously conducted archeological surveys, two cemeteries, one Official Texas Historical Marker (OTHM) and one previously recorded archeological site. No RTHLs or SALs were recorded within one kilometer of the project area. Two of the six archeological surveys cross or parallel a portion of the APE, while the remaining surveys are located within 1 kilometer of the APE.

Two previous archeological surveys overlap with portions of the APE, though no archeological sites were documented within or adjacent to the project area. Based on the PALM, the potential for intact prehistoric archeological deposits is moderate to high in the eastern half of the APE. The creek crossings that bisect the APE have not been previously surveyed and may have intact terrace deposits. Meanwhile, there is potential for remains from a few isolated farmsteads to be present at specific locations. A cultural resources survey of the APE is recommended in all areas of high potential for archeological resources.

Pedestrian and intensive archeological surveys within the APE were conducted to evaluate and inventory archeological sites. Of the four sites identified for survey, three were surveyed, and no further work is recommended. Right-of-Entry was not granted on one of the parcels identified for

intensive survey. A survey on this site would be conducted after ROW acquisition for the area has occurred.

Section 106 review and consultation was completed for the proposed project in accordance with the First Amended Programmatic Agreement (PA) among TxDOT, THC, the Federal Highway Administration (FHWA), and the Advisory Council on Historic Preservation (ACHP), as well as the Memorandum of Understanding (MOU) between THC and TxDOT. The State Historic Preservation Officer (SHPO) concurred with the findings of the Archeological Resources Intensive Survey Report on April 10, 2019. The SHPO concurrence letter has been included in **Appendix G**.

The No-Build Alternative would not have any impacts to archeological resources and would not require archeological studies to be performed.

5.8.2 Historic Resources

A Project Coordination Request for Historical Studies Project and a Report for Historical Studies Survey documenting the results of a reconnaissance survey have been prepared and is on file at TxDOT's Dallas District Office.

A review of the NRHP, the list of SAL, and the list of RTHL identified two cemeteries, one Official Texas Historical Marker (OTHM).

The one historical marker commemorates the City of Ferris and was erected in 1974. Neither of the two cemeteries intersect or overlap the APE.

A reconnaissance survey was conducted in the APE, which was the proposed ROW and the area extending 300 feet from the proposed ROW and the existing ROW where no new acquisition is proposed. In all, 56 historic-age resources (constructed before 1977) on 39 parcels were documented. None of the documented resources are recommended eligible for the National Register of Historic Places as a result of the survey.

Given these results, TxDOT historians have determined that, pursuant to the Section 106 PA among TxDOT, THC, FHWA, and ACHP as well as the MOU between THC and TxDOT, there are no historic, non-archeological properties in the APE. Therefore, individual project coordination with SHPO is not required.

The No-Build Alternative would not have any impacts to historic properties.

5.9 DOT Act Section 4(f), LWCF Act Section 6(f), and PWC Chapter 26

The proposed project would not require the use or substantially impair the purposes of any publicly owned land from a public park, recreational area, wildlife and waterfowl refuge lands or historic sites of nations, State, or local significance; therefore, a Section 4(f) evaluation would not be required.

The proposed project would not impact any Texas Parks and Wildlife Chapter 26, Land and Water Conservation Act, or Section 6(f) properties in the project area

The No-Build Alternative would not require the use of any publicly owned land from a public park, recreational area, wildlife and waterfowl refuge lands or historic sites of nations, State, or local significance; therefore, a Section 4(f) evaluation would not be required.

5.10 Water Resources

5.10.1 Clean Water Act Section 404

A water Resources Technical Report which includes Wetlands/Waters of the U.S. has been completed and is on file with TxDOT's Dallas District office. The methodologies and results of wetlands determination are documented in the report. The Build alternative may impact up to 0.06-acre of jurisdictional wetlands and 2,118 linear feet of jurisdictional stream within the project area (**Table 8; Appendix F Exhibit 5**). A completed Wetland Delineation Report detailing the wetlands and WOUS delineated within the project area is available in the project file at the TxDOT Dallas District Office.

Table 8: Summary of Acreages

Feature Name	Feature Type	Area (acres)	Jurisdictional Impacts (acres)	Length in Project Area (linear ft)	Jurisdictional Impacts (linear ft)
Wetland 1	PEM	0.02	0.01	N/A	N/A
Wetland 2	PEM	0.03	0.03	N/A	N/A
Wetland 3	PEM	0.02	0.02	N/A	N/A
Wetland 4	PSS	0.02	0	N/A	N/A
Wetland 5	PEM	0.04*	0	N/A	N/A
Total		**0.13**	**0.06**		
Stream 1	WOUS	N/A	N/A	209	209
Stream 2	WOUS	N/A	N/A	555	0
Stream 3	WOUS	N/A	N/A	252	152

Feature Name	Feature Type	Area (acres)	Jurisdictional Impacts (acres)	Length in Project Area (linear ft)	Jurisdictional Impacts (linear ft)
Stream 4	WOUS	N/A	N/A	77	0
Stream 5	WOUS	N/A	N/A	369	0
Stream 6	WOUS	N/A	N/A	142	81
Stream 7	WOUS	N/A	N/A	99	23
Stream 8	WOUS	N/A	N/A	280	75
Stream 9	WOUS	N/A	N/A	421	0
Stream 10	WOUS	N/A	N/A	91	31
Stream 11	WOUS	N/A	N/A	143	22
Stream 12	WOUS	N/A	N/A	429	0
Stream 13	WOUS	N/A	N/A	242	82
Stream 14	WOUS	N/A	N/A	158	119
Stream 15	WOUS	N/A	N/A	24	0
Stream 16	WOUS	N/A	N/A	48	0
Stream 17	WOUS	N/A	N/A	593	465
Stream 18	WOUS	N/A	N/A	486	358
Stream 19	WOUS	N/A	N/A	231	231
Stream 20	WOUS	N/A	N/A	514	221
Stream 21	WOUS	N/A	N/A	101	0
Stream 22	WOUS	N/A	N/A	352	0
Stream 23	WOUS	N/A	N/A	332	0
Stream 24	WOUS	N/A	N/A	59	0
Stream 25	WOUS	N/A	N/A	1007	49
Total				**7,214**	**2,118**

*Wetland 5 does not have a connection to WOUS; therefore, it is likely non-jurisdictional
WOUS = Waters of the U.S.
PEM = Palustrine Emergent
PSS = Palustrine Shrub-Scrub

The Build Alternative would require USACE authorization under Section 404 of the Clean Water Act (CWA) prior to the discharge of fill materials into WOUS, including wetlands. The project would likely fall under the scope of a nationwide permit (NWP) 14 and require a pre-construction notice (PCN) based on proposed impacts, though the USACE has final discretion over which permit would apply. All appropriate permits would be acquired by TxDOT prior to construction. A review of USACE requirements would be conducted as design plans are finalized. A Section 404 application would

be submitted to the USACE-Fort Worth District and any coordination received by the USACE would be updated in this document upon approval.

In accordance with the provisions of Section 404(b)(1) Guidelines, an applicant must demonstrate that the proposed project has avoided and minimized effects to WOUS to the greatest extent practicable before compensatory mitigation can be proposed. The majority of the proposed project has been aligned within the existing ROW, thus avoiding and minimizing impacts to surrounding areas to the greatest extent practicable. Additionally, no hydrology would be discontinued or severed by the proposed project.

This project is not anticipated to impact acreages and/or linear feet of jurisdictional waters that exceed the thresholds for a Nationwide Permit 14. In accordance with Section 404 of the CWA and USACE guidelines, for wetland losses of 1/10-acre or less that require a PCN, the district engineer may determine on a case-by-case basis that compensatory mitigation is required. In accordance with the USACE – Fort Worth District Regional Conditions, compensatory mitigation is generally required for all losses to streams that exceed 300 linear feet. A Stream Mitigation Plan would be required based on projected stream impacts. During the permitting process, if needed, mitigation credits would be obtained of offset any unavoidable functional loss. Mitigation would be in compliance with the 2008 Federal Mitigation Rule and approved by the USACE.

The loss of, or impacts to, wetlands and WOUS would not extend beyond the project area; therefore, potential indirect effects as a result of encroachment alteration impacts are not anticipated.

The No-Build Alternative would not affect jurisdictional wetlands or waters of the US (WOUS) identified within the project area

5.10.2 Clean Water Act Section 401

The proposed project meets the Texas Commission on Environmental Quality (TCEQ) Section 401 Water Quality Certification Tier II (Large Projects) requirements since the project would impact more than 1,500 linear feet of streams. TCEQ's recommended best management practices (BMPs) would address erosion control, sedimentation control, and post-construction total suspended soils (TSS) control. Erosion control would be addressed by installing temporary vegetation and erosion control blankets and matting to disturbed areas. Sedimentation control would be addressed by the installation of silt fences across drainage swales and/or upstream of water bodies to prevent turbid discharges from adversely affecting ambient water quality. Post-construction TSS control would be addressed by planting permanent vegetation to create grass-lined drainage ditches. The ditches would accept roadway runoff as sheet flow and filter it along the front slopes and the bottoms of the ditches. Because TCEQ's recommended BMPs would be implemented to prevent any degradation to water quality as a result of the proposed project, long-term water quality effects are not anticipated.

A Tier II 401 Certification Questionnaire and Alternatives Analysis Checklist would be submitted to TCEQ during the Section 404 permitting process.

The No-Build Alternative would not involve any impacts to water quality.

5.10.3 Executive Order 11990 Wetlands

Executive Order 11990 requires that federally funded projects minimize the 'destruction, loss or degradation' of wetlands, which is similar to the CWA Section 404(b)(1) guidelines. Section 5.10.1 discusses the avoidance and minimization of impacts to wetlands in the project area, which satisfies the requirements of Executive Order 11990.

The No-Build Alternative would not involve any impacts to wetlands or other waters of the U.S.

5.10.4 Rivers and Harbors Act

The General Bridge Act of 1946 and Section 9 and 10 of the Rivers and Harbors Act of 1899 prohibit the unauthorized obstruction (including bridge construction) or alteration of any navigable waters of the U.S., unless the work has been authorized by permit from the U.S. Coast Guard and the USACE. No navigable waterways or waters subject to the ebb and flow of the tide occur in areas traversed by the proposed project. No waters regulated under the Rivers and Harbors Act are found within the project area. Therefore, neither a Section 9 or Section 10 Permit of the Rivers and Harbors Act is required for this project

Based on the project scoping analysis, it was determined that neither the Build nor the No-Build Alternative would have an impact on this resource category or subject matter.

5.10.5 Clean Water Act Section 303(d)

The proposed project is located in the Red Oak Creek watershed. No segments of water within the project area are classified as impaired by the TCEQ 2014 Section 303(d) List. The 303(d) List identifies water bodies for which effluent limitations are not stringent enough to implement water quality standards, and for which the associated pollutants are suitable for measurement by a maximum daily load. The proposed project drains to Red Oak Creek, Long Branch Creek, and Bear Creek, none of which are located within five (5) miles upstream of an impaired segment. The water quality of wetlands and waters in the State shall be maintained in accordance with all applicable provisions of the Texas Surface Water Quality Standards including the General, Narrative and Numerical Criteria.

The No-Build Alternative would no impact water quality.

5.10.6 Clean Water Act Section 402

Since TPDES CGP authorization and compliance (and the associated documentation) occur outside of the environmental clearance process, compliance is ensured by the policies and procedures that govern the design and construction phases of the project. The Project Development Process Manual and the Plans, Specifications, and Estimates (PS&E) Preparation Manual require a SWP3 be included in the plans of all projects that disturb one or more acres. The Construction Contract Administration Manual requires that the appropriate CGP authorization documents (notice of intent [NOI] or site notice) be completed, posted, and submitted, when required by the CGP, to TCEQ and the municipal separate storm sewer system (MS4) operator. It also requires that projects be inspected to ensure compliance with the CGP.

The PS&E Preparation Manual requires that all projects include Standard Specification Item 506 (Temporary Erosion, Sedimentation, and Environmental Controls), and the "Required Specification Checklists" require Special Provision 506-003 on all projects that need authorization under the CGP. These documents require the project contractor to comply with the CGP and SWP3, and to complete the appropriate authorization documents.

The No-Build Alternative would not require a TPDES permit.

5.10.7 Floodplains

The project corridor was investigated for encroachments into the 100-year floodplain. This information was obtained from the project's Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) numbers for Ellis County: panels 48139C0100F and 48139C0075F, (effective June 03, 2013) and panels 48113C0640K, 48113C0645K, 48113C0665K, 48113C0670K, (effective July 07, 2014). The proposed project traverses the regulated floodway of Bear Creek and Long Branch Creek as well as the 1% annual chance flood zone (the 100-year flood zone; zones A and AE) of Bear Creek, Long Branch Creek, and their tributaries. The proposed project also traverses the 0.2% annual chance flood zone (the 500-year flood zone; zone X) of Bear Creek and Long Branch Creek (**Appendix F**, **Exhibit 6**).

Avoidance of floodplains for the Build Alternative is not possible due to the proposed project crossing an area of the floodplain perpendicularly. Additionally, the western portion of the project is designed immediately adjacent to, and parallel with existing FM 664. Conveyance of tributaries to Red Oak Creek, Bear Creek, and Long Branch Creek through the project ROW was accomplished by installation of culverts and conveyance of Bear Creek and Long Branch Creek through the project ROW was accomplished by the construction of bridges. The existing culverts and bridges would be modified as a result of this project. Additionally, conveyance of tributaries to Bear Creek and Long Branch Creek through the proposed new location bypass would be accomplished by the instillations of culverts and bridges.

The hydraulic design practices for this project would be in accordance with current TxDOT design policy and standards. The hydraulic design of the roadway would be completed using the most recent floodplain data that is available. The final hydraulic design would be in accordance with the applicable federal, state, and local policies and in accordance with 23 CFR 650.113.
Direct impacts to floodplains would not extend beyond the project area; therefore, potential indirect effects as a result of encroachment alteration impacts are not anticipated.

This project is subject to and would comply with federal Executive Order 11988 on Floodplain Management. The department implements this Executive Order on a programmatic basis through its Hydraulic Design Manual. Design of this project would be conducted in accordance with the department's Hydraulic Design Manual. Adherence to the TxDOT Hydraulic Design Manual ensures that this project would not result in a "significant encroachment" as defined by FHWA's rules implementing Executive Order 11988 at 23 CFR 650.105(q).

The No-Build Alternative would not result in further encroachment on the floodplain.

5.10.8 Wild and Scenic Rivers

The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition. There are no waters designated as Wild and Scenic Rivers within the project area.

Based on the project scoping analysis, it was determined that neither the Build nor the No-Build Alternative would have an impact on this resource category or subject matter.

5.10.9 Coastal Barrier Resources

The Coastal Barrier Resources Act (CBRA) was enacted by Congress in 1982 to discourage development in certain coastal areas that are vulnerable to hurricane damage and that are host to valuable natural resources. The act designated certain undeveloped coastal areas as part of the Coastal Barrier Resources System and made those areas ineligible for most new federal expenditures and financial assistance. Ellis County is not included as one of the counties that needs to demonstrate compliance with the CBRA.

Based on the project scoping analysis, it was determined that neither the Build nor the No-Build Alternative would have an impact on this resource category or subject matter

5.10.10 Coastal Zone Management

The proposed project is not located within the Texas Coastal Management Program (CMP) boundary; therefore, the Texas CMP does not apply to the proposed project.

Based on the project scoping analysis, it was determined that neither the Build nor the No-Build Alternative would have an impact on this resource category or subject matter.

5.10.11 Edwards Aquifer

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

Based on the project scoping analysis, it was determined that neither the Build nor the No-Build Alternative would have an impact on this resource category or subject matter.

5.10.12 International Boundary and Water Commission (IBWC)

The project does not encroach upon floodplains of flood control projects or rights-of-way under the jurisdiction of the U.S. Section of the International Boundary and Water Commission (IBWC). Therefore, no license or permit will be required from the IBWC to proceed with this project.

Based on the project scoping analysis, it was determined that neither the Build nor the No-Build Alternative would have an impact on this resource category or subject matter.

5.10.13 Drinking Water Systems

Per the Texas Water Development Board (TWDB) Groundwater Data Viewer, there is one (1) private water well in the project area, classified as unused by the TWDB. Based on TCEQ's Source Water Assessment Viewer, there is one public well located north of FM 664 parallel with Cobblestone Cir. In this area, 50-foot of additional ROW is proposed; TxDOT would make every effort to leave this well intact during road construction, though it may require replacement. Stormwater BMP's used by TxDOT for road construction projects would serve to prevent stormwater runoff from entering groundwater aquifers at wellheads.

5.11 Biological Resources

A Biological Evaluation Form has been completed for the proposed project and is on file with the TxDOT Dallas District office. The results are summarized below.

5.11.1 Texas Parks and Wildlife Coordination

In accordance with §2.205 (a)(2) of the MOU between the TxDOT and the Texas Parks and Wildlife Department (TPWD), effective September 1, 2013, a Tier I site assessment was performed to identify and map vegetation within the project area. In addition, a Biological Evaluation Form was completed for the proposed project.

The results of the Tier I assessment were compared with triggers in §2.206 of the MOU between TxDOT and TPWD, and with the Threshold Table Programmatic Agreement between TxDOT and TPWD to determine if coordination with TPWD would be necessary for the proposed project. The TPWD Ecological Mapping Systems of Texas (EMST) data for the project area was reviewed to determine the type and size of Ecological Systems located within the project area. The project area was assessed by a qualified biologist to identify the correct vegetation assemblage in the project area. The biologist determined if the EMST ecological regions and region boundaries for the project area were accurate.

TPWD Ecological System boundaries were compared with the actual habitat of the project area and the ecological region boundaries were adjusted to accurately depict current site conditions. The direct impacts to each Ecological System were calculated using the results of the existing condition assessment performed by the qualified biologist. The direct impacts were then compared to the threshold for each Ecological System to determine if further coordination with TPWD would be required. Thresholds were exceeded for Agriculture, Disturbed Prairie, Mixed Woodlands and Forest, Riparian, and Tallgrass Prairie, Grassland. TPWD coordination was required for the proposed project because thresholds were exceeded for multiple ecological systems and because the project would have impacts to wetlands and waters of the U.S. TPWD coordination record is included in in **Appendix G**.

5.11.2 Impacts to Vegetation

According to the EPA's Level III and IV Ecoregions of Texas the project area is located within the Texas Blackland Prairies Level III Ecoregion and the Northern Blackland Prairie Level IV Ecoregion. The proposed project is located within existing and proposed ROW. The existing ROW consists of existing roadway and maintained roadside grasses, dominated by common introduced herbaceous vegetation and opportunistic weeds. Predominant vegetation found within the maintained ROW include Bermuda grass (*Cynodon dactylon*), bahiagrass (*Paspalum notatum*), perennial rye grass (*Lolium perenne*), and Canada goldenrod (*Solidago canadensis*).

Additional ecological systems found outside of the existing ROW include: urban, agriculture, riparian, disturbed prairie, tallgrass prairie, and mixed woodland and forest. Urban ecological systems, including urban vegetation such as lawns, landscaping, and business lots, contain much of the same vegetation present within the existing ROW as well as typical turf grasses such as St.

Augustine grass (*Stenotaphrum secundatum*). Agriculture common to Ellis County includes forage land, wheat, cotton, and beef cattle. Seasonally fallow agricultural fields within the project ROW were dominated by perennial rye grass, johnsongrass (*Sorghum halepense*), black medic (*Medicago lupulina*), dandelion (*Taraxacum officinale),* and Bermuda grass. Riparian vegetation identified within the proposed project area was located in and around streams, wetlands, and low areas. Common riparian vegetation within the proposed project area includes cedar elm (*Ulmus crassifolia*), sugar hackberry (*Celtis laevigata*), black willow (*Salix nigra*), curly dock (*Rumex crispus*), and mountain spikerush (*Eleocharis montana*).

A Tier I site assessment was performed to identify and map vegetation within the project area using TPWD Ecological Mapping System of Texas (EMST) data and field reconnaissance. An existing condition assessment was performed by a qualified biologist to compare mapped TPWD EMST boundaries with the actual habitat found in the project area. Direct habitat impacts were then calculated using existing conditions. TPWD coordination thresholds were exceeded for Agriculture, Disturbed Prairie, Mixed Woodlands and Forest, Riparian, and Tallgrass Prairie Grassland Ecological Systems.

The loss of vegetation is not anticipated to extend beyond the construction limits, nor would the proposed project have indirect effects to, or further encroach upon, surrounding vegetation. The proposed project is not anticipated to have encroachment alteration effects on vegetation.

No unusual vegetation features or special habitat features were identified during field investigations within the project limits. The Vegetation BMPs detailed in the TxDOT-TPWD 2013 MOU would be utilized for the proposed project.

The No-Build Alternative would not impact any vegetation communities and would not require coordination with TPWD.

5.11.3 Executive Order 13112 on Invasive Species

This project is subject to and would comply with federal Executive Order 13112 on Invasive Species. The department implements this Executive Order on a programmatic basis through its Roadside Vegetation Management Manual and Landscape and Aesthetics Design Manual. In accordance with Executive Order 13112 on Invasive Species, seeding and replanting with TxDOT-approved seed mixes containing native species would be done where possible. Soil disturbance would be minimized in the ROW in order to minimize invasive species establishment.

5.11.4 Executive Memorandum on Environmentally and Economically Beneficial Landscaping

This project is subject to and would comply with the federal Executive Memorandum on Environmentally and Economically Beneficial Landscaping, effective April 26, 1994. The department implements this Executive Memorandum on a programmatic basis through its Roadside Vegetation Management Manual and Landscape and Aesthetics Design Manual. Seeding and replanting of disturbed areas with TxDOT-approved seed mixes that are in compliance with Executive Memorandum on Beneficial Landscaping would be done where possible.

5.11.5 Impacts to Wildlife

The vegetation types located within the project area could support various wildlife species, such as small birds and mammals. Some mammalian species may continue to exist for years in these areas because of their ability to adapt to urban development. Typical mammals that could occur within the study area include Virginia opossum (*Didelphis virginiana*), house mouse (Mus musculus), common raccoon (*Procyon lotor*), and hispid cotton rat (*Sigmodon hispidus*).

Examples of birds that may occur within these areas include cattle egret (*Bubulcus ibis*), red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), eastern meadowlark (*Sturnella magna*), American crow (*Corvus brachyrhynchos*), northern harrier (*Circus cyaneus*), barn swallow (*Hirundo rustica*), northern mockingbird (*Mimus polyglottos*), scissor-tailed flycatcher (*Tyrannus forficatus*), and mourning dove (*Zenaida macroura*), These birds could occur in the study area on a transient or permanent basis.

Reptiles and amphibians common to disturbed or agriculturally dominated areas in north central Texas include copperhead (*Agkistrodon contortrix*), diamondback water snake (*Nerodia rhombifer*), Texas ratsnake (*Pantherophis obsoletus*), red-eared slider (*Trachemys scripta elegans*), bullfrog (*Rana catesbeiana*), Gulf Coast toad (*Incilius nebulifer*), and green anole (*Anolis carolinensis*).

Given that the western portion of the proposed project is located along an existing transportation corridor, no new barriers to wildlife movement would be introduced in this area. Temporary effects to wildlife habitat include the decreased attractiveness of habitat adjacent to the project corridor as well as possible disturbances to normal behavior patterns on wildlife as a result of increased noise levels due to construction activities. Given that the project area is an urbanized area with very little habitat to support wildlife species and the habitat that is present is continuously maintained, it is unlikely to permanently impact or cause displacement to wildlife species in the area.

The proposed new location roadway in the eastern portion of the project area contains habitats including urban vegetation, agricultural fields, and pasturelands. Construction of the proposed roadway could result in potential long-term impacts to wildlife including habitat destruction, habitat

fragmentation, and permanent displacement. However, the habitats currently show signs of substantial human disturbance (rangeland, cropland, developed vegetation communities). Mitigation for impacts to wildlife communities would include BMPs for freshwater mussels, water quality, birds, and terrestrial reptiles. Other measures that could reduce long-term effects of the project would be the instillation of culverts or bridges that would facilitate movement under the roadway and selective removal of undesirable or introduced plant species. Effects/Impacts to Threatened and Endangered Species and Species of Greatest Conservation Need can be found in Section 5.11.11.

The No-Build Alternative would not impact any wildlife.

5.11.6 Migratory Bird Protections

The Migratory Bird Treaty Act (MBTA) 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. The contractor would remove all old migratory bird nests from any structure where work would be done from October 1 to February 15. In addition, the contractor would be prepared to prevent migratory birds from building nest(s) between February 15 and October 1. In the event that migratory birds are encountered on-site during project construction, efforts to avoid adverse impacts on protected birds, active nests, eggs, and/or young would be observed.

This project would comply with applicable provisions of the Migratory Bird Treaty Act and Texas Parks and Wildlife Code Title 5, Subtitle B, Chapter 64, Birds. It is the department's policy to avoid removal and destruction of active bird nests except through federal or state approved options. In addition, it is the department's policy to, where appropriate and practicable:

- Use measures to prevent or discourage birds from building nests on man-made structures within portions of the project area planned for construction, and
- Schedule construction activities outside the typical nesting season.

5.11.7 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) requires consultation with the U.S. Fish and Wildlife Service (USFWS) when "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted . . . or otherwise controlled or modified". Any impacts to WOUS would necessitate a permit from the USACE before project construction, which would satisfy this requirement.

5.11.8 Bald and Golden Eagle Protection Act of 2007

The Bald and Golden Eagle Protection Act (BGPA) forbids 'take' of bald and golden eagle parts, nests, or eggs. The range of the golden eagle does not extend to the project area. There is no nesting or foraging habitat for the bald eagle within the project area or within its immediate vicinity. Therefore, no additional coordination is required for this species.

5.11.9 Magnuson-Stevens Fishery Conservation Management Act

There are no tidally influenced waters in Ellis County, and the proposed project would not affect essential fish habitat. Coordination with the National Marine Fisheries Service (NMFS) is not required.

Based on the project scoping analysis, it was determined that neither the Build nor the No-Build Alternative would have an impact on this resource category or subject matter.

5.11.10 Marine Mammal Protection Act

The proposed project would not affect marine mammals.

Based on the project scoping analysis, it was determined that neither the Build nor the No-Build Alternative would have an impact on this resource category or subject matter.

5.11.11 Threatened, Endangered, and Candidate Species

Federal Threatened and Endangered Species

The Endangered Species Act (ESA) was enacted in 1973 to provide a program for the conservation of threatened and endangered species and the ecosystems upon which these species depend. The ESA is codified at 16 USC 1531 – 1544. Section 7(a)(1) (16 USC 1536) of the ESA directs all Federal agencies to work to conserve endangered and threatened species and to use their authorities to further to purposes of the Act. Section 7(a)(2) requires Federal agencies to consult with USFWS and/or NMFS to ensure that any Federal action authorized, funded, or carried out is not likely to jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of critical habitat, unless granted an exemption for such action. In fulfilling section 7(a)(2) obligations, Federal agencies shall use the best scientific and commercial data available. The Code of Federal Regulations (CFR) at 50 CFR 402 provides the implementing regulations for interagency cooperation with respect to section 7.

Federal listed threatened and endangered species for Ellis County were determined using the USFWS' Information for Planning and Consultation (IPaC) database in October 2018. In addition to a database search, a field habitat assessment was completed by a qualified biologist. No suitable

habitat was observed within the project area for any federally listed species. The USFWS Official Species List letter indicated that no critical habitat lies within the project area and identified four threatened or endangered species which needed further evaluation for this project: Least Tern (*Sterna antillarum*), Piping Plover (*Charadrius melodus*), Red Knot (*Calidris canutus rufa*), and Whooping Crane (*Grus americana*).

According to the Official Species List letter, the Least Tern, Piping Plover and Red Knot only need consideration for wind energy projects. Piping Plovers and Red Knots are migratory species that utilize coastal bays, mud flats, and coastal wetlands. Least Terns have been observed in the Dallas metro area utilizing large bodies of water in the Trinity River system, such as Lewisville Lake. Large braided streams, lakes, and gravel pits are sometimes utilized by inland least terns. Suitable habitat is not present within the action area for these three species. Therefore, TxDOT has determined that this transportation project would have no effect on Least Tern, Piping Plover, or Red Knot.

Whooping cranes are large migratory birds that utilize prairie and marsh habitat along their migratory route, from Canada to the Texas coast. While whooping cranes have recently been observed using appropriate habitat in the greater DFW metroplex area during migration, no appropriate habitat was identified within the action area by qualified biologists. Therefore, TxDOT has determined that the proposed project would have no effect on whooping cranes.

The Build Alternative is not anticipated to have any effect on any federally listed threatened or endangered species. A completed BE Form detailing the federally listed species and associated suitable habitat within the project area is available in the project file at the TxDOT Dallas District Office.

The No-Build Alternative would have no effect on any federally listed threatened or endangered species.

State Threatened and Endangered Species

Endangered species legislation passed in Texas in 1973—amended in 1981, 1985, and 1987—and subsequent 1975 and 1981 revisions to the Parks and Wildlife Code established a state regulatory vehicle for the management and protection of threatened and endangered fish and wildlife species and to regulate the taking or possession of such species.

State listed threatened and endangered species for Ellis County were determined using the TPWD's Rare, Threatened, and Endangered Species of Texas (RTEST) database in April 2018. The TPWD Natural Diversity Database (NDD) was used to determine past and present occurrence information of state and federally listed threatened and endangered species, as well as natural communities deemed unique or vulnerable. These 'element occurrence' records were requested (March 26, 2018) and reviewed to determine those listed species and natural communities documented within

a 10-mile radius of the project area. There were 15 occurrences of state or federally listed species or vulnerable natural communities within a 10-mile radius of the project area. Two of these occurrences were within a 1.5 radius of the project area, including Hall's prairie clover (*Dalea hallii*) and little bluestem-indiangrass series (*Schizachyrium scoparium-sorghastrum nutans*). It should be noted that data from the NDD does not provide a definitive statement as to the presence, absence, or condition of special species, natural communities, or other significant features within a given project area.

In addition to a database search, a field habitat assessment was completed by a qualified biologist. It was determined that suitable habitat may exist within the project area for five state listed species: the Plains spotted skunk (*Spilogale putorius interrupta*), western burrowing owl (*Athene cunicularia hypugaea*), Texas garter snake (*Thamnophis sirtalis annectens*), Louisiana pigtoe (*Pleurobema riddellii*), and Texas heelsplitter (*Potamilus amphichaenus*).

Open fields, croplands, and fence rows are present within the project area and are potential habitat for both the Plains spotted skunk and the western burrowing owl. Small amounts of potential owl and skunk habitat is within the project area. Individuals, if present, would be able to move from the project area into the surrounding habitat outside the project area.

The project would include work within tributaries of Red Oak Creek, Bear Creek, and Long Branch Creek which are within the Trinity River Watershed and would be considered habitat for two state-listed mussel species. The proposed project may impact, but is not likely to adversely impact the Louisiana pigtoe and the Texas heelsplitter.

The transitional areas between disturbed prairie and riparian corridors in the eastern portion of the project area are appropriate habitat for the Texas garter snake, although the project is at the eastern extent of the subspecies' range. No unique, critical, designated, or proposed designated habitat exists in or near the proposed project area.

BMPs would be implemented during the construction of the proposed project including freshwater mussel BMPs, water quality BMPs, bird BMPs, terrestrial reptile BMPs, and Plains Spotted Skunk BMPs. A detailed listing of the BMPs can be found in **Section 8.2**. A completed Tier I Form detailing the state listed species and associated suitable habitat within the project area is available in the project file at the TxDOT Dallas District Office.

No additional effects due to fragmentation, loss of connectivity, barrier effects, or edge effects are anticipated. The proposed project would have no effect on any known population or individuals of state and/or federally listed threatened or endangered species. The project would not directly or indirectly affect or diminish the value of any other critical habitat for the survival or recovery of any listed species.

The Build Alternative may impact, but is not likely to adversely impact the Louisiana pigtoe and the Texas heelsplitter.

Under the No-Build Alternative, there would be no effect/no impact on any Federal and/or state-listed threatened or endangered species or their habitats.

5.12 *Air Quality*

An Air Quality Technical Report was completed for the proposed project and is maintained in the project file at the TxDOT Dallas District Office. The Notice of Availability will be sent to TCEQ.

Transportation Conformity

This project is located within the Dallas-Fort Worth area that has been designated by the U.S. Environmental Protection Agency (EPA) as a moderate nonattainment area for the 2008 8-hour Ozone (O3) national ambient air quality standards (NAAQS); therefore, the transportation conformity rules apply. Effective August 3, 2018, the EPA designated Ellis county as marginal nonattainment for the 2015 ozone NAAQS. In accordance with 40 CFR 93.109(c), transportation conformity to this new standard is required by August 3, 2019 (one year after the effective date)

Both the 2045 Metropolitan Transportation Plan (MTP) and the 2017-2020 Transportation Improvement Program (TIP) were initially found to conform to the Texas Commission on Environmental Quality (TCEQ) State Implementation Plan (SIP) by the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) on November 21, 2018 and September 28, 2018, respectively; Copies of the MTP and TIP pages are included in **Appendix E**.

The project is not located within a carbon monoxide (CO) or particulate matter (PM) nonattainment or maintenance area; therefore, a project level hot-spot analysis is not required.

Carbon Monoxide Traffic Air Quality Analysis

Traffic data in Section 1 of the project, from IH 35E to SH 342, for design year (2042) is 40,200 vehicles per day (vpd), while traffic data in Section 2 of the project, from SH 342 to Business Loop IH 45, for design year (2042) is 22,700 vpd. A prior TxDOT modeling study and previous analyses of similar projects demonstrated that it is unlikely that the CO standard would ever be exceeded as a result of any project with an average annual daily traffic (AADT) below 140,000 vehicles per day (vpd). 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 (MSAT)

A qualitative Mobile Source Air Toxics (MSAT) analysis was completed for the proposed project and found 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. However, MSAT emissions would likely be lower than present levels in future years as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 90 percent from 2010 to 2050. The full qualitative MSAT is included in the Air Quality Technical Report and is available for review at the TxDOT Dallas District office.

Congestion Management Process (CMP)

The congestion management process (CMP) is a systematic process for managing congestion that provides information on transportation system performance and on alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet state and local needs. This project was developed from the NCTCOG's CMP, which meets all requirements of 23 CFR 450.320 and 500.109, as applicable.

The region commits to operational improvements and travel demand reduction strategies at two levels of implementation: program level and project level. Program level commitments are inventoried in the regional CMP, which was adopted by NCTCOG; they are included in the financially constrained MTP, and future resources are reserved for their implementation.

The CMP element of the plan carries an inventory of all project commitments (including those resulting from major investment studies) that details type of strategy, implementing responsibilities, schedules, and expected costs. At the project's programming stage, travel demand reduction strategies and commitments will be added to the regional TIP or included in the construction plans. The regional TIP provides for programming of these projects at the appropriate time with respect to the single occupancy vehicle (SOV) facility implementation and project-specific elements.

Committed congestion reduction strategies and operational improvements within the study boundary will consist of the addition of travel lanes, intersection improvements, and the construction of a shared use lane and sidewalks. There are no additional congestion mitigation projects within the travel corridor.

In an effort to reduce congestion and the need for SOV lanes in the region, TxDOT and NCTCOG will continue to promote appropriate congestion reduction strategies through the Congestion Mitigation and Air Quality Improvement (CMAQ) program, the CMP, and the MTP. The congestion reduction strategies considered for this project would help alleviate congestion in the SOV study boundary but would not eliminate it.

Therefore, the proposed project is justified. The CMP analysis for added SOV capacity projects in the Transportation Management Area (TMA) is on file and available for review at NCTCOG.

In July 2013, the Regional Transportation Council (RTC) also adopted a policy that requires the review and application of congestion mitigation strategies to correct corridor deficiencies identified

in the CMP when performing corridor and environmental studies and report findings back to NCTCOG. Therefore, NCTCOG has developed a project level CMP analysis. The analysis requires completion of the Project Implementation Form, and, if warranted, the Roadway Corridor Deficiency Form and Corridor included in the Air Quality Technical Report maintained in the project file at the TxDOT Dallas District Office.

Construction Emissions

It is not anticipated that emissions from construction of this project would have any significant impact on air quality in the area due to the use of fugitive dust control measures, the encouragement of the use of the Texas Emissions Reduction Plan (TERP), and compliance with applicable regulatory requirements. A more thorough discussion of construction emissions is available at: https://www.tceq.texas.gov/airquality/terp.

The No-Build Alternative would not have any environmental consequences on the air quality throughout the project area.

5.13 Hazardous Materials

A Hazardous Materials Initial Site Assessment (ISA) was completed and is available for review at the TxDOT Dallas District office. The ISA was conducted to determine the potential for encountering hazardous substances and/or contamination within the vicinity of the proposed project. The preliminary investigation included a review of federal and state databases, historical aerial photographs, and a visual survey of the study area. A visual observation during field reconnaissance was conducted in March 2018 to verify the findings of the regulatory database report and to observe the general environmental conditions at the listed facilities and on properties located immediately adjacent to the proposed project.

The regulatory databases were searched within a one-mile radius of the project corridor in accordance with the American Society for Testing and Materials (ASTM) Standard E 1527-13 and TxDOT standard search radii. The regulatory database listings include only those sites that are known to the regulatory agencies to be contaminated or are in the process of evaluation for potential contamination at the time of publication. The database report also shows federal and state regulated sites that could be within the standard search area but were unplottable due to insufficient address or other locator information. These unplottable sites are called “Orphan Sites” in the regulatory report.

The regulatory database search identified 96 regulatory listings at 51 sites (based on addresses) within the ASTM and TxDOT standard search radii, of which 16 were determined to have a level of environmental risk to the proposed project. Of these 16, 5 sites were determined to pose either a moderate (Map IDs 2 and 5) or high (Map IDs 12, 13, and 32) environmental risk. All three high risk sites are gas stations considered as commercial displacements. In addition to these three

displacements, ROW would be acquired from ten (10) sites and acquired adjacent to three (3) sites identified in the radius report. Locations and corresponding regulatory sites and relative risk levels are shown in **Appendix F, Exhibit 7**. All sites identified and a complete listing of the federal and state regulated databases searched is located in the radius report on file with TxDOT Dallas District.

Further investigation was performed on the moderate and high risk sites in February 2019 by TxDOT ENV Division Hazardous Materials Management (ENV-HMM). ENV-HMM determined the likelihood of encountering landfill debris and/or contaminants at Map IDs 2 and 5, respectively, would be low based on the amount of ROW acquisition and/or the type of construction occurring at these areas. For the high risk sites Map IDs 13 and 32, ENV-HMM determined impacts from these sites would likely be low since these sites have no known releases. It was further stated that TxDOT ROW Division would remove the underground fuel tanks at the time of property acquisition and contaminant confirmation sampling would be performed. The TCEQ regulatory file was reviewed for Map ID 12. The file information identified minor levels of benzene in soils at a location away from the proposed construction areas and no groundwater impacts. Based on the file information, the impacts from this site location are anticipated to be low.

It was noted on the aerials from 2008 to 2017 that a property on FM 983 that is located along the proposed new location section of FM 664 has a large amount of debris/surface dumping (**Appendix F, Exhibit 7**). This property is not a regulatory site. During the ROW acquisition process, the debris would be handled and disposed of according to applicable regulations. The presence of the surface dumping is considered a low environmental risk.

The No-Build Alternative would not require the disturbance of soils potentially containing hazardous materials. The probability of encountering hazardous materials would remain the same as if no construction were to occur along FM 664 within the project area. Because the Build Alternative would involve sites determined to pose a moderate to high environmental risk to the project, additional investigations are warranted. These would be covered in a later version of this EA.

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

The proposed project includes the demolition and/or relocation of building structures. The buildings may contain asbestos or lead paint containing materials. Asbestos and lead paint inspections, specifications, notification, license, accreditation, abatement, and disposal, as applicable, would comply with federal and state regulations. Asbestos issues would be addressed during the ROW acquisition process prior to construction.

The proposed project includes the replacement of four bridges and one bridge class culvert and the widening of one bridge class culvert. These bridge structures may contain asbestos or lead paint containing materials. Asbestos and lead paint inspections, specifications, notification, license, accreditation, abatement, and disposal, as applicable, would comply with federal and state regulations. Asbestos and lead-based paint testing and abatement, if applicable, would be performed prior to construction.

Oil/Gas Wells

A review of the Railroad Commission of Texas (RRC) well bore database was performed in March 2018 and indicated there are no oil/gas wells located within the project area or within one-mile of the project area; therefore, no impact to oil/gas wells is anticipated from the proposed project.

Petroleum Pipelines

A review of the RRC indicated there are eleven (11) petroleum pipelines (9 active, 2 abandoned) located within a 1.0-mile radius of the proposed project. Three (3) natural gas pipelines cross the proposed project area, one of which is abandoned. Based on the contents of the natural gas pipelines, these features are not considered an environmental concern. Formal utilities location and advance planning would be required to facilitate pipeline and utilities adjustments and to otherwise avoid associated impacts. The approximate location of the active pipelines crossing the project area are shown in **Appendix F, Exhibit 7.**

5.14 Traffic Noise

A Traffic Noise Technical Report was completed and is available for review at the TxDOT Dallas District Office. A traffic noise analysis was accomplished in accordance with TxDOT's (FHWA approved) Guidelines for Analysis and Abatement of Roadway Traffic Noise (2011).

The FHWA has established the following Noise Abatement Criteria (NAC) for various land use activity areas that are used as one of two means to determine when a traffic noise impact would occur **Table 9**.

Table 9: FHWA Noise Abatement Criteria (NAC)

Activity Category	dB(A) Leq	Description of Land Use Activity Areas
A	57 (exterior)	Lands on which serenity and quiet are of extra-ordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Residential
C	67 (exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or non-profit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F.
F	--	Agricultural, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	--	Undeveloped lands that are not permitted.

A noise impact occurs when either the absolute or relative criterion is met: Absolute criterion: The predicted noise level at a receiver approaches, equals, or exceeds the NAC. “Approach” is defined as one dB(A) below the NAC. For example: a noise impact would occur at a Category B residence if the noise level is predicted to be 66 dB(A) or above.

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

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

Existing and predicted traffic noise levels were modeled at receiver locations (**Table 10** and **Appendix F, Exhibit 8**) that represent the land use activity areas adjacent to the proposed project that might be impacted by traffic noise and that could potentially benefit from feasible and reasonable noise abatement.

Table 10: Traffic Noise Levels dB(A) Leq

Representative Receiver	NAC Category	NAC Level	Existing (2022)	Predicted (2042)	Change (+/-)[2]	Noise Impact
R1- Residence	B	67	62	68	6	**Yes**
R2- Residence	B	67	67	70	3	**Yes**
R3- Residence	B	67	68	71	3	**Yes**
R4- Residence	B	67	70	72	2	**Yes**
R5- Restaurant	E	72	69	70	1	No
R6- Restaurant	E	72	70	68	-2	No
R7- Residence	B	67	72	74	2	**Yes**
R8- Residence	B	67	73	74	1	**Yes**
R9- Residence	B	67	73	74	1	**Yes**
R10- Residence	B	67	74	74	0	**Yes**
R11- Hotel	E	72	68	70	2	No
R12- Restaurant	E	72	65	67	2	No
R13- Church (interior)	D	52	40	40	0	No
R14- Residence	B	67	64	67	3	**Yes**
R15- Restaurant	E	72	67	68	1	No
R16- Church (interior)	D	52	40	40	0	No
R17- Residence	B	67	55	57	2	No
R18- Residence	B	67	52	55	3	No
R19- Residence	B	67	51	53	2	No
R20- Residence	B	67	51	53	2	No
R21- Residence	B	67	63	64	1	No
R22- Residence	B	67	64	64	0	No
R23- Residence	B	67	65	65	0	No
R24- Residence	B	67	63	63	0	No
R25- School	C	67	47	50	3	No
R26- Residence	B	67	52	55	3	No

Representative Receiver	NAC Category	NAC Level	Existing (2022)	Predicted (2042)	Change (+/-)[2]	Noise Impact
R27- Residence	B	67	52	55	3	No
R28- Residence	B	67	52	54	2	No
R29- Residence	B	67	52	55	3	No
R30- Residence	B	67	55	56	1	No
R31- Residence	B	67	58	59	1	No
R32- Residence	B	67	62	63	1	No
R33- Residence	B	67	60	63	3	No
R34- Residence	B	67	61	64	3	No
R35- Residence	B	67	61	61	0	No
R36- Residence	B	67	60	60	0	No
R37- Residence	B	67	60	61	1	No
R38- Residence	B	67	60	61	1	No
R39- Residence	B	67	61	61	0	No
R40- Residence	B	67	59	59	0	No
R41- Residence	B	67	62	66	4	**Yes**
R42- Residence	B	67	63	63	0	No
R43- Residence	B	67	64	64	0	No
R44- Residence	B	67	61	64	3	No
R45- Residence	B	67	61	64	3	No
R46- Residence	B	67	63	64	1	No
R47- Residence	B	67	63	64	1	No
R48- Residence	B	67	60	60	0	No
R49- Residence	B	67	60	60	0	No
R50- Residence	B	67	61	61	0	No
R51- Residence	B	67	61	61	0	No
R52- Residence	B	67	61	60	-1	No
R53- Residence	B	67	61	63	2	No
R54- Residence	B	67	60	63	3	No
R55- Residence	B	67	56	58	2	No
R56- Residence	B	67	62	65	3	No
R57- Residence	B	67	57	59	2	No
R58- Residence	B	67	54	57	3	No
R59- Residence	B	67	55	58	3	No
R60- Residence	B	67	60	61	1	No
R61- Residence	B	67	53	56	3	No

Representative Receiver	NAC Category	NAC Level	Existing (2022)	Predicted (2042)	Change (+/-)[2]	Noise Impact
R62- Residence	B	67	61	64	3	No
R63- Church	C	67	58	59	1	No
R64- Residence	B	67	63	63	0	No
R65- Residence	B	67	58	58	0	No
R66- Residence	B	67	59	61	2	No
R67- Residence	B	67	63	65	2	No
R68- Residence	B	67	51	53	2	No
R69- Residence	B	67	59	61	2	No
R70- Residence	B	67	56	58	2	No
R71- Residence	B	67	53	55	2	No
R72- Residence	B	67	58	60	2	No
R73- Church	C	67	51	53	2	No
R74- Residence	B	67	60	60	0	No
R75- Residence	B	67	56	56	0	No
R76- Residence	B	67	52	53	1	No
R77- Residence	B	67	51	53	2	No
R78- Residence	B	67	53	54	1	No
R79- Residence	B	67	51	52	1	No
R80- Residence	B	67	57	60	3	No
R81- Residence	B	67	50	53	3	No
R82- Residence	B	67	54	56	2	No
R83- Restaurant	E	72	63	67	4	No
R84- Residence	B	67	54	55	1	No
R85- Residence	B	67	60	62	2	No
R86- Residence	B	67	56	59	3	No
R87- Residence	B	67	59	62	3	No
R88- Residence	B	67	56	57	1	No
R89- Residence	B	67	56	57	1	No
R90- Residence	B	67	56	59	3	No
R91- Church	C	67	58	61	3	No
R92- Residence	B	67	58	59	1	No
R93- Residence	B	67	58	60	2	No
R94- Residence	B	67	52	54	2	No
R95- Residence	B	67	50	53	3	No
R96- Residence	B	67	50	52	2	No

Representative Receiver	NAC Category	NAC Level	Existing (2022)	Predicted (2042)	Change (+/-)[2]	Noise Impact
R97- Residence	B	67	53	55	2	No
R98- Residence	B	67	56	58	2	No
R99- Residence	B	67	52	54	2	No
R100- Residence	B	67	55	56	1	No
R101- Residence	B	67	56	57	1	No
R102- Residence	B	67	57	57	0	No
R103- Residence	B	67	54	55	1	No
R104- Residence	B	67	55	55	0	No
R105- Residence	B	67	57	56	-1	No
R106- Residence	B	67	57	56	-1	No
R107- Residence	B	67	57	57	0	No
R108- Residence	B	67	59	58	-1	No
R109- Residence	B	67	56	57	1	No
R110- Residence	B	67	57	58	1	No
R111- Residence	B	67	60	61	1	No
R112- Residence	B	67	59	60	1	No
R113- Residence	B	67	61	62	1	No
R114- Residence	B	67	53	54	1	No
R115- Residence[1]	B	67	61	59	-2	No
R116- Residence[1]	B	67	61	57	-4	No
R117- Residence[1]	B	67	61	58	-3	No
R118- Residence	B	67	67	67	0	**Yes**
R119- Residence	B	67	52	55	3	No
R120- Residence	B	67	58	59	1	No
R121- Residence	B	67	57	59	2	No

1- Existing background measurements were collected in June 2018 by EPR for receivers 115, 116 and 117 along the new location bypass. Irregular changes (negative) are due to comparing background noise measurements to a TNM noise model on a new location roadway.

2- Receiver locations with reduced noise levels are due to additional ROW being acquired on the opposite side of the roadway from the receiver. New travel lanes would be built farther from the receiver, shifting traffic away from the receiver and reducing the predicted noise levels.

As indicated in **Table 10** the proposed project would result in a traffic noise impact 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 barriers. 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% of impacted, first row receivers

by at least five dB(A); and to be "reasonable," it must not exceed the cost-effectiveness criterion of $25,000 for each receiver that would benefit by a reduction of at least five dB(A) and the abatement measure must be able to reduce the noise level for at least one impacted, first row receiver by at least seven dB(A).

Noise barriers are the most commonly used noise abatement measure and were evaluated for each of the impacted receiver locations. A summary of the results from the traffic noise analysis report is presented below.

Noise barriers would not be feasible and reasonable for the following impacted receivers and, therefore, are not proposed for incorporation into the project as abatement measures.

R1, R2, R3, and **R4** - These receivers represent four single-family homes adjacent to IH 35E north of Augusta Street. Based on preliminary calculations, a series of four noise barriers with gaps for access totaling 169 feet and 20 feet high parallel to IH35 E would not achieve the minimum feasible reduction of 5 dB(A) or the minimum noise reduction goal of 7 dB(A).

R7, R8, and R9 - This receiver represents three single-family homes adjacent to IH 35E between Roxy and Dana Street. Based on preliminary calculations, a series of three noise barriers noise with gaps for access totaling 117 feet and 20 feet high parallel to IH 35E would not achieve the minimum feasible reduction of 5 dB(A) or the minimum noise reduction goal of 7 dB(A).

R10 - This receiver represents a single-family home adjacent to IH 35E and north of Baldwin Street. Based on preliminary calculations, a noise barrier totaling 133 feet and 20 feet high parallel to IH 35E would not achieve the minimum feasible reduction of 5 dB(A) or the minimum noise reduction goal.

R14 - This receiver represents a single-family home adjacent to FM 664 and Ranch Road. Based on preliminary calculations, a noise barrier totaling 193 feet and 20 feet high parallel to the IH 35E would achieve the minimum feasible reduction of 5 dB(A) but not the minimum noise reduction goal of 7 dB(A).

R118 - This receiver represents one single-family home adjacent to the IH 45 southbound frontage road. Based on preliminary calculations, a noise barrier 89 feet long and 20 feet high parallel to IH 45 would not achieve the minimum feasible reduction of 5 dB(A) or the minimum noise reduction goal of 7 dB(A).

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

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

To avoid noise impacts that may result from future development of properties adjacent to the project, local officials responsible for land use control programs must ensure, to the maximum extent possible, no new activities are planned or constructed along with the following predicted 2042 noise impact contours (**Table 11**).

Table 11: Noise Impact Contours

Land Use	Impact Contour	Distance from Proposed ROW
NAC Category B&C	66 dB(A)	25 feet
NAC Category E	71 dB(A)	Within ROW

Impact contours are one dB(A) lower than the NAC per category to reflect impacts that would occur as a result of approaching the NAC for the respective contours.

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

The No-Build Alternative may maintain existing noise levels or noise levels may change as traffic volumes increase with time.

5.15 Induced Growth

An Indirect and Cumulative Impacts Technical Report was completed and is available for review at the TxDOT Dallas District Office. Indirect and cumulative analysis determines induced growth and other indirect effects related to the proposed project. Indirect effects, as defined by CEQ regulations, are those:

"…effects, caused by the action and are 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).

Based on TxDOT's Indirect Effects Analysis Guidance (July 2016) and the Induced Growth Indirect Impacts Decision Tree (April 2014), it was determined that the project required an induced growth analysis. This outcome is based on the fact that proposed project features land available for development in the project area, adds capacity, substantially increases access or mobility, and is located in an area experiencing population and economic growth. This analysis was submitted to TxDOT in an Indirect and Cumulative Impacts Technical Report.

The project's Area of Influence (AOI) extends along FM 664 between the cities of Red Oak and Ferris and encompasses 10,465 acres (16.4 sq. miles). As shown in Section 3.2, these cities, as well as Ellis County, have grown steadily in population, but building trends appear to be closely tied to economic cycles (**Table 12**).

Table 12: Year Structure Built/Percent Built by Decade within Jurisdictions in the AOI, 1990-2014

Geography	Total Homes	Year Structure Built/% Built Within Decade					
		1990-1999		2000-2009		2010 or later	
		#	%	#	%	#	%
City of Ferris	800	81	10	123	15	30	3
City of Red Oak	3,874	558	14	1,669	43	156	4
Ellis County	55,628	10,476	19	16,955	30	1,247	2

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates (Table B25034), "Year Structure Built".

Land within the AOI was classified as developed or undeveloped based on NCTCOG 2015 land use data. In addition, some undeveloped land was considered 'undevelopable' (generally, mapped floodplains) or already planned for development (properties currently for sale). **Table 13** shows the current breakdown of developed and undeveloped land in the AOI. Once the amount of undevelopable land properties for sale is subtracted from the undeveloped land total, 5,388 acres (51%) of the AOI is considered developable. Most of what was categorized as developable land in this analysis is currently in agricultural/rangeland use.

Table 13: Acres of Land Available for Project Influenced Development within the AOI

Existing Land Uses		Acres	% of Total AOI (10,465 acres)
Total Developed Land		4,178	40%
Total Undeveloped Land		6,287	60%
Undeveloped Land Analysis	Land Currently for Sale	147	1%
	Undevelopable Land	752	7%
Total Developable Land		**5,388**	**51%**

The analysis of the proposed projects potential induced growth effects determined that the project would not substantially impact floodplains, threatened and endangered species, cultural resources, air quality, socioeconomic concerns, and community cohesion. The proposed project may have

induced growth impacts on vegetation and wildlife habitat, water resources, and farmlands; therefore, these resources were carried forward to assess consequences and consider or develop mitigation where appropriate. An increased rate of development resulting from the project could occur within the indirect effects AOI. Most affected areas are already planned for residential or mixed use. Demographic trends suggest that Red Oak and Ferris would likely attract development whether FM 664 was widened or not, although induced growth impacts in the AOI may be accelerated somewhat as a result of the proposed project. No specific mitigation to possible impacts of the improvements to FM 664 is proposed. The cities of Red Oak and Ferris or developers have possible mitigation measures that could or presumably will be undertaken to mitigate induced growth impacts to vegetation and wildlife habitat, water resources, and prime farmlands. These mitigation measures are detailed in an Indirect and Cumulative Impacts Technical Report maintained in the project file at the TxDOT Dallas District Office

The cities of Red Oak and Ferris have indicated in Future Land Use Plan documentation that most of the currently undeveloped areas within the AOI are expected to be developed for either single-family residential or mixed uses. If current demographic trends continue, as is expected, it can be assumed that development is going to occur. However, it is possible that such development may occur more rapidly as a result of the proposed project. The most likely indirect impact of the proposed project is an acceleration of foreseeable growth, rather than inducement of new growth that would not have occurred without the proposed project.

5.16 Cumulative Impacts

As addressed by the CEQ, cumulative impacts are defined as:

…the impact on the environment which results from the incremental impact of the action (project) 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).

TxDOT's Cumulative Impacts Analysis Guidelines (July 2016), Cumulative Impacts Decision Tree (April 2014), and Cumulative Impacts Risk Assessment (April 2014) were utilized to determine if the proposed project required a cumulative impacts analysis. The Cumulative Impacts Decision Tree determined that there are resources in the project area in poor or declining health and that the project would impact those resources. The induced growth analysis submitted to TxDOT in the Indirect and Cumulative Impacts Technical Report determined that there would be no adverse impacts to environmental justice, community cohesion, cultural resources, park lands, floodplains, or air quality from the proposed project; therefore, these were eliminated from the cumulative impacts analysis. The impacts considered in this analysis are those affecting vegetation and

wildlife, water resources, and prime farmland. Vegetation and wildlife are considered together since vegetation communities also provide wildlife habitat.

The Resource Study Area (RSA) for vegetation/wildlife and water resources is the combined watersheds of Brushy and Bear Creeks and Long Branch, which includes portions of two U.S. Geological Survey (USGS) 12-digit Hydrologic Unit Codes (HUCs) and is approximately 49,657 acres. The RSA for prime farmlands encompasses the combined territorial and extraterritorial jurisdictions of Red Oak and Ferris and is approximately 30,782 acres. **Table 14** summarizes potential cumulative effects of the project on these resources, including direct and indirect effects, as well as past and reasonably foreseeable future actions in the RSA.

Table 14: Summary of Cumulative Effects

Resource	Direct Impacts	Indirect Impacts	Impacts of Other Actions	Potential Cumulative Impacts
Vegetation/Wildlife Habitat	108	5,388	1,089	6,575 acres
Water Resources*	--	--	--	--
Wetlands (acres)	0.06	122	1.35	123.41 acres
Jurisdictional Waters (linear ft.)	2,118	173,822	5,706	181,646 linear ft.
Prime Farmland	60	4,229	609	4,898 acres

* Does not include WOUS delineated for the project that are not anticipated to be impacted by project construction

Vegetation/Wildlife Habitat

Direct impacts are those from the loss of currently vegetated habitat due to project construction. Indirect impacts could stem from the conversion of undeveloped land to developed land uses at a faster rate than may otherwise occur. As discussed in Section 5.15, approximately 5,388 acres of undeveloped land in the indirect effects AOI (encompassed by the RSA) has the potential to be developed, resulting in decreased habitat value in areas of increased commercial and residential development. Impacts from other actions include the amount of formerly vegetated land developed since 2000 (797 acres) as well as vegetated land anticipated to be converted to roadway uses for the Loop 9 Corridor B project, which would connect IH-35E and IH-45 approximately 1.5 miles to the north (292 acres). Therefore, potential cumulative impacts to vegetation/habitat in the RSA total 6,575 acres, or 13%.

As TxDOT does not have the authority to implement zoning or planning regulations, mitigation for cumulative effects on vegetation and wildlife or continued conversion of undeveloped land to developed land would require the collaborative efforts of local, county, and regional planners, the public, and private developers. In addition, local governments such as the cities of Red Oak and Ferris have adopted land use plans to deal with the orderly growth within their jurisdiction and

could consider codifying additional regulations, or strengthening existing codes, to minimize future adverse effects of unplanned growth.

Water Resources

Direct impacts are those to jurisdictional WOUS (streams and wetlands) anticipated to occur due to project construction. The portion of the indirect effects AOI subject to accelerated development includes approximately 122 acres of wetlands mapped by the National Wetlands Inventory (NWI), as well as approximately 173,822 linear ft. of jurisdictional waters. Induced growth could result in both direct stream/wetland loss and/or degradation of stream/wetland quality and function through increased stormwater amounts and velocities as well as additional pollutant loadings of waterways and increased sedimentation of wetlands. Impacts from other actions include stream and wetland losses from development since 2000 (1 acre of wetland), potential development impacts from properties in the RSA currently for sale (1,170 linear ft. of stream), and jurisdictional impacts anticipated from the Loop 9 Corridor B project (4,536 linear ft. of stream and 0.35 acre of wetland).

Water quality mitigation for cumulative effects could potentially include collaboration among agencies to minimize impacts to surface and groundwater resources. Compliance with existing regulatory mechanisms that govern impacts to water resources at the federal, state, and local level during continued development within the RSA could also stabilize or prevent additional impacts to surface and groundwater supply or a decline in water quality.

Prime Farmland

Direct impacts are losses to prime farmland anticipated to occur due to project construction. Prime farmland within the RSA accounts for 21,349 acres (69%) of the approximately 30,782-acre total. Approximately 4,229 acres of prime farmland in the indirect effects AOI are currently undeveloped (including agricultural uses). However, future land use and zoning maps indicate that all of these areas are planned for development. Impacts from other actions include the amount of prime farmland developed in the RSA since 2000 (466 acres) as well as prime farmland anticipated to be converted to roadway uses for the Loop 9 Corridor B project (143 acres). Therefore, potential cumulative impacts to prime farmland in the RSA total 4,898 acres, or 23% of the total amount of prime farmlands found within the RSA.

No specific mitigation related to prime farmland is proposed. The FPPA does not apply to private development, which is likely to be the dominant driver of growth in the RSA. If the cities of either Red Oak or Ferris choose to prioritize preservation of prime farmland, they have the authority to enact city ordinances or offer tax incentives to require or encourage preservation.

5.17 Construction Phase Impacts

The proposed project construction would not require detours. Ingress and egress to any affected private, governmental, commercial, or retail establishments would be maintained throughout the construction period. Short-term construction impacts would occur due to the movement of workers and materials through the area. The temporary disruption of traffic on local roads may also affect residents and businesses in the project vicinity. Short-term construction impacts would occur due to the movement of workers and materials through the area. Coordination between TxDOT and landowners regarding construction scheduling and access to the construction site and ROW would help to minimize such temporary disruptions.

During the construction phase of the project, due to operations normally associated with road construction, there is a possibility that noise levels would be greater than normal in the areas adjacent to the ROW. Construction is normally limited to daylight hours when occasional loud noises are better tolerated. Due to the relatively short-term exposure periods imposed on any one receiver, extended disruption of normal activities is not considered likely. Reasonable efforts would be made to minimize construction noise.

Every effort would be made to preserve as much vegetation as possible within the ROW.

Construction Emissions

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

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

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

The No-Build Alternative would not have any environmental consequences due to construction impacts throughout the project area.

6.0 AGENCY COORDINATION

Agency coordination documentation is included in **Appendix G**. A USACE Nationwide Permit would be obtained for the proposed project and necessary project coordination with the USACE would take place during the permitting process.
The proposed project did not require coordination with the U.S. Fish and Wildlife Service because the proposed project would not affect any federally listed species.

The proposed project required Early Coordination with the Texas Parks and Wildlife Department. The early coordination was completed by TxDOT on February 13, 2019.

The proposed project requires coordination with the THC; coordination with the THC was initiated by TxDOT during the Project Coordination Request (PCR) process.

Coordination with the NRCS was not required because the score on Part IV of the FPPA Form SCS-CPA 106 scored less than the 60-point coordination threshold for prime farmland impacts.

7.0 PUBLIC INVOLVEMENT

A Public Meeting Summary Report was completed for the proposed project and is maintained in the project file at the TxDOT Dallas District Office. In accordance with 43 TAC §2.106, a public meeting for the proposed project was held on November 15, 2018 at the Live Oak Professional Development Center to familiarize local residents and elected officials with the proposed road improvements and given the opportunity to provide verbal and written comments. The meeting was advertised in 3 different newspapers: *Dallas Morning News, Waxahachie Daily Light*, and *Al Dia,* a Spanish newspaper. The meeting was conducted in English with the option for communication and accommodation needs available through the TxDOT Dallas District Public Information Office. A total of 123 people attended the hearing and fifty members of the public provided comments. Comments from the Public Meeting are included in **Appendix H**. The comments received stated support for the project. Most of the comments expressed concerns over median opening locations and left turn access. After a review of the comments, TxDOT continued to evaluate the left turn at one intersection. The final design would be available for review at the public hearing.

A public hearing will be conducted following the approval of the Draft EA.

8.0 POST ENVIRONMENTAL CLEARANCE ACTIVITIES AND CONTRACTOR COMMUNICATIONS

8.1 Post-Environmental Clearance Activities

This section described environmental permits and approvals required for this project. Greater detail under the respective resource categories are described in Section 5.0 of this document.

Table 15: Environmental Permits, Issues, and Commitments

Environmental Issues*	Coordinating Agency	Commitments and Permits	Time of Anticipated Activity
1. Cultural Resources (Historical/Archeological)	THC	Two previous archeological surveys overlap portions of the APE, though no archeological sites were documented within or adjacent to the project area. The potential for intact historic-age archeological sites is relatively low throughout most of the project area. Meanwhile, there is potential for remains from a few isolated farmsteads to be present at specific locations. A cultural resources survey is recommended in all areas of high potential for archeological resources.	Prior to Construction
2. Water Quality	TCEQ	Clean Water Act Certification by implementing BMPs for water quality under Section 401 of the Clean Water Act including erosion, sedimentation, and suspended solid controls are to be utilized. A SWP3 shall be prepared and a Notice of Intent would be submitted to TCEQ and the cities of Ferris and Red Oak.	Prior to Construction for All
3. Floodplain	Floodplain administrators	Coordination with appropriate state and local floodplain administrators would be required.	Prior to Construction
4. Wetlands/Waters of U.S.	USACE	It is anticipated that the proposed project would fall under the scope of a NWP 14. Compensatory mitigation would be obtained if necessary	Prior to Construction
5. Vegetation	TPWD	Coordination Thresholds were exceeded for Agriculture, Disturbed Prairie, Mixed Woodland and Forests, Riparian, and Tallgrass Prairies and Grasslands Ecological Systems, requiring coordination with TPWD for the proposed project.	Prior to Construction
*The commitments listed in Table 15 are not intended to be an all-encompassing list of commitments involved in construction. These commitments are specific to TxDOT EPIC sheets to accompany general environmental commitments utilized in every TxDOT construction project.			

8.2 Contractor Communications

This section of the EA lists any project-specific avoidance measures that would be conveyed to the design or construction contractor as a result of the department's environmental review of the project.

Table 16: Contractor Communications

Environmental Issues*	Avoidance measures or special instructions
1. Endangered Species/Wildlife	In addition to complying with the Migratory Bird Treaty Act (MBTA) perform the following: • Prior to construction, perform daytime surveys for nest including under bridges and in culverts to determine if they are active before removal. Nests that are active should not be disturbed. • Do not disturb, destroy, or remove active nests, including ground nesting birds, during the nesting season; • Avoid the removal of unoccupied, inactive nests, as practicable; • Prevent the establishment of active nests during the nesting season on TxDOT owned and operated facilities and structures proposed for replacement or repair; • Do not collect, capture, relocate, or transport birds, eggs, young or active nests without a permit. The following Plains Spotted Skunk BMPs would be incorporated into the proposed project: 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. The following Terrestrial Reptile BMPs would be incorporated into the proposed project: • Apply hydro-mulching and/or hydroseeding in disturbed areas where feasible. If hydromulching and/or hydroseeding are not feasible due to site conditions, utilize erosion control blankets or mats that contain no netting or contain loosely woven, natural fiber netting is preferred. Plastic netting should be avoided to the extent practicable. • For open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Visually inspect excavation areas for trapped wildlife prior to backfilling. • Inform contractors that if reptiles are found on project site allow species to safely leave the project area. • Avoid or minimize disturbing or removing downed trees, rotting stumps, and leaf litter where feasible. • Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered.

Environmental Issues*	Avoidance measures or special instructions
	The following Freshwater Mussel BMPs would be incorporated into the proposed project: • When work is in the water; survey project footprints for state listed species where appropriate habitat exists. • When work is in the water and mussels are discovered during surveys; relocate state listed and SGCN mussels under TPWD authorization and implement Water Quality BMPs. • When work is adjacent to the water; Water Quality BMPs implemented as part of the SWPPP for a construction general permit or any conditions of the 401 water quality certification for the project will be implemented. The following Water Quality BMPs would be incorporated into the proposed project when work occurs adjacent to the water: • Minimize the use of equipment in streams and riparian areas during construction. When possible, equipment access should be from banks, bridge decks, or barges. • When temporary stream crossings are unavoidable, remove stream crossings once they are no longer needed and stabilize banks and soils around the crossing. • Water quality BMPs implemented as part of the SWPPP for a construction general permit or any conditions of the 401 water quality certification for the project would be implemented.
2. Noise	Provisions would be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.
3.. Vegetation	Preserve native vegetation to the extent practical. Contractor must adhere to Construction Specification Requirements Specs 162, 164, 192, 193, 506, 730, 751 & 752 in order to comply with requirements for invasive species, beneficial landscaping, and tree/brush removal commitments.
4.. Traffic Control	A traffic control plan is to be implemented prior to construction activities.
5. Beneficial Landscape Practices	Landscaping would be a part of the proposed project activities. Revegetation of disturbed areas would be in compliance with the Executive Memorandum on Environmentally and Economically Beneficial Landscaping. Regionally native and noninvasive plants would be used to the extent practicable in landscaping and revegetation. No landscaping would be included in the proposed project. However, seeding and sodding of disturbed areas for erosion control would occur. In accordance with Executive

Environmental Issues*	Avoidance measures or special instructions
	Order 13112 on Invasive Species, seeding and replanting with TxDOT-approved seed mixes containing native species would be done where practicable. Soil disturbance would be minimized in order to minimize invasive species establishment.
6. Vegetation Management	Re-vegetation of disturbed areas would be in compliance with the Executive Order on Invasive Species (EO 13112). Regionally native and non-invasive plants would be used to the extent practicable in landscaping and re-vegetation.
7. Hazardous Materials	ROW would be acquired from Hazardous Material sites. The proposed project includes the demolition and/or relocation of building structures as well as replacement or widening of bridge structures. The buildings and bridges may contain asbestos or lead paint containing materials.
*The commitments listed in Table 16 are not intended to be an all-encompassing list of commitments involved in construction. These commitments are specific to TxDOT EPIC sheets to accompany general environmental commitments utilized in every TxDOT construction project.	

9.0 CONCLUSION

Based on the information in this EA, TxDOT recommends implementation of the Build Alternative. The engineering, social, economic, and environmental studies conducted thus far indicate that the proposed project would not result in a significant impact on the human or natural environment.

TxDOT recommends that TxDOT's Environmental Affairs' Division find that implementing the Build Alternative would not be a major federal action significantly affecting the quality of the human or natural environment and thus issue a FONSI for this project.

10.0 REFERENCES

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2016b Cumulative Impacts Analysis Guidelines
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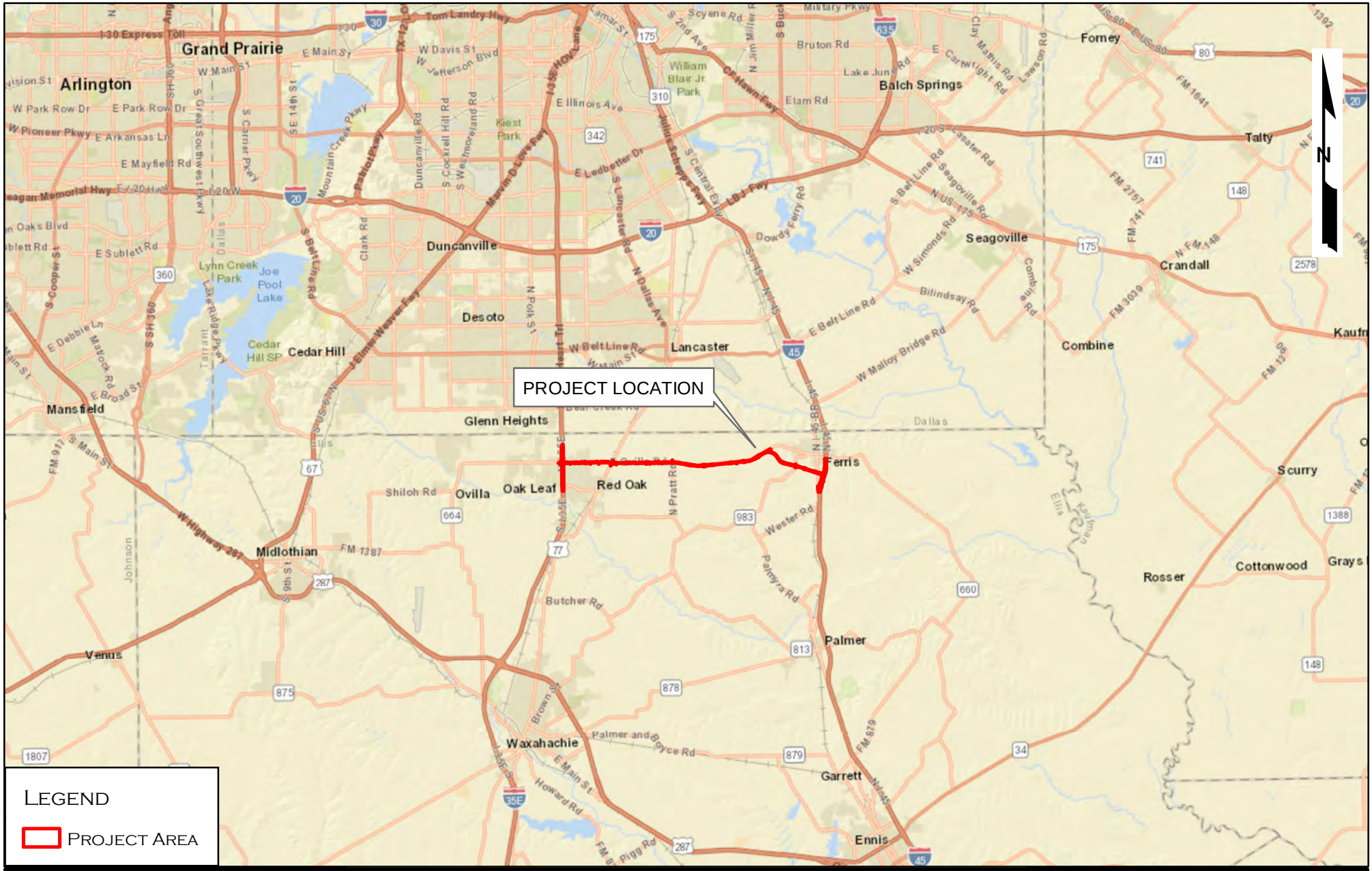
APPENDIX A: PROJECT LOCATION MAPS

Figure 1: Project Location Map



FM 664 (From IH 35 East to IH 45)

Project Location Map

Texas Department of Transportation

Appendix A

Ellis County, Texas

April 2019

APPENDIX B: PROJECT PHOTOS

Photo 1: FM 664 facing east, maintained ROW within the project area.

Photo 2: Proposed ROW within the project area, correctly identified as agricultural in the EMST.

Photo 3: Stream 9, Bear Creek, photo facing south.

Photo 4: Stream 20, photo facing south.

Photo 5: Wetland 1, photo facing east along FM 664

Photo 6: Wetland 2, showing sparse understory and seasonally dry conditions.

Photo 7: Radius Report, Map ID #5 is a Gateway 36 at a Shell gas station with one active UST in use. Final concurrence was issued for the LPST in 2014.

Photo 8: Radius Report Map ID # 12 is Tiger Mart 12 at an Exxon gas station with one active UST in use. Final Concurrence was issued for the LPST in 2007.

Photo 9: Radis Report Map ID #13 is Star Mart 1 at a Valero gas station, with 4 active USTs in use.

Photo 10: Radius Report, Map ID #32 is Tiger Mart 16 Exxon gas station with two active USTs in use.

Photo 11: Property located on FM 983 that has debris/surface dumping.

APPENDIX C: SCHEMATICS

Texas Department of Transportation

Dallas District

Design Schematic

Submitted & Recommended by:

Senior District Engineer

IH 35E at FM 664

From IH 35E in Red Oak

To Turner Street in Red Oak

Functional Class Urban Principal Arterial

IH 35E at FM 664

From IH 35E in Red Oak

To Turner Street in Red Oak

Functional Class Urban Principal Arterial

IH 45 at FM 664

From Bus Inds Crossover in Ferris

To IH 35E in Red Oak

Functional Class Urban Principal Arterial

Length 7.23 Miles

Total Project Length: 13.19 Miles

IH 35E / IH 45 Mainlanes 10 Mph

Frontage Roads 30 Mph

Ramps 30 Mph

FM 664 Mainlanes 40 Mph

FM 664 Shoulder 30 Mph

Cross Streets 30 Mph

Sidewalks 10 Mph

Scales 1" = 100'

NOVEMBER 2018

PRELIMINARY

SUBJECT TO REVISION

NOT FOR CONSTRUCTION

PERMITS, OR BIDDING PURPOSES

SHEET 1 OF 6

HDR

HDR Engineering, Inc. of Texas

5839 Greenville Ave, Suite 100

Dallas, Texas 75206

(214) 346-6200

KEY MAP

MOREVIEW ST

NORTON ST

ELLIS AVE

SHARAF AVE

W RED OAK RD

N HWY 77

FM 664

IH 35E

IH 45

Texas Department of Transportation

Dallas Trinity
Design Schematic
Dallas County
Section 0 (Interior Engineer)

IH 35E at FM 664

From IH 35E in Red Oak
to Turner Avenue in Red Oak

Functional Class: Urban Principal Arterial

FM 664

From IH 35E in Red Oak
to Turner Avenue in Red Oak
CSJ: 0351-01-061

Functional Class: Principal Arterial

IH 45 at FM 664

From Bus 287 Crossover in Ferris
to Lone Star Road in Ferris
CSJ: 0196-03-076

Functional Class: Urban Principal Arterial
Length: 7.23 Miles
Total Project Length: 13.19 Miles

IH 35E / IH 45 Mainlanes: 70 MPH
Frontage Roads: 40 MPH
Ramps: 40 MPH
FM 664 Mainlanes: 45 MPH
FM 664 Shoulder: 45 MPH
Ramps: 40 MPH
Frontage Roads: 30 MPH

Scales 1" = 100'

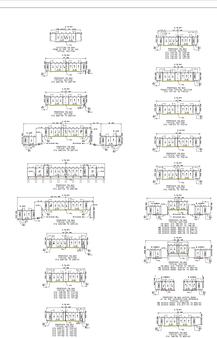
NOVEMBER 2018

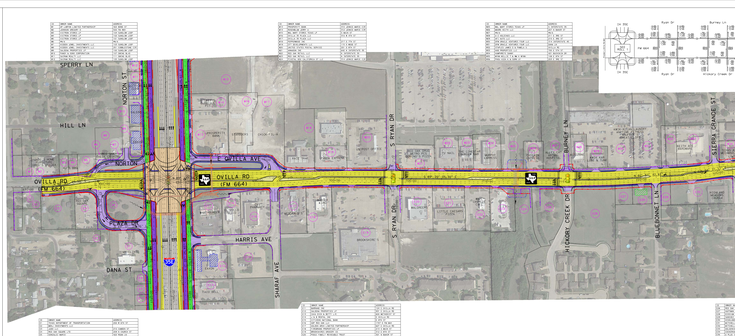
PRELIMINARY
SUBJECT TO REVISION
DUSTIN C. PRUSKE, P.E.
118 E. TYLER STREET
LONGVIEW, TEXAS 75601
903-757-7400
DATE: 11/30/2018
RELEASED FOR INTERIM USE

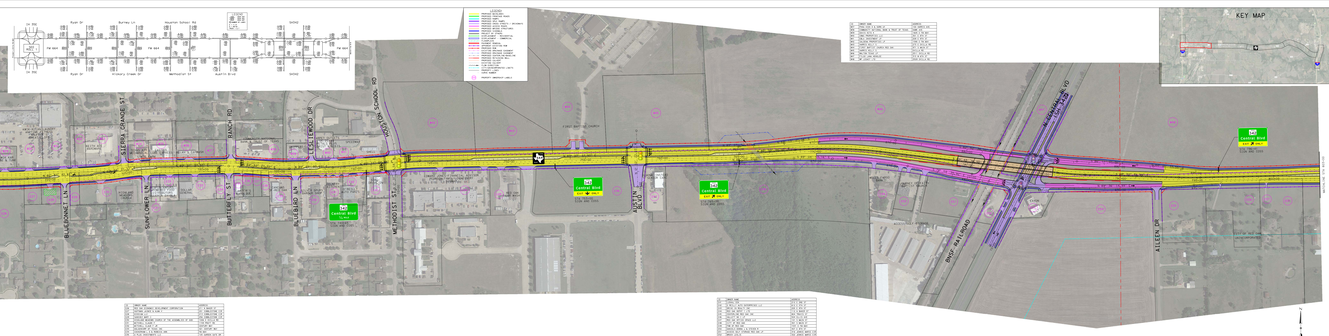
SHEET 2 OF 6

HDR

HDR Engineering, Inc. of Texas
Lone Star Road, Suite 500
Dallas, Texas 75238







Scales 1" = 100'

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NOVEMBER 2018

PRELIMINARY
SUBJECT TO REVISION
DUSTIN C. PRUSKE, P.E.
118 E. TYLER STREET
LONGVIEW, TEXAS 75601
903-757-7400
DATE: 11/30/2018
RELEASED FOR INTERIM USE

SHEET 2 OF 6

HDR

HDR Engineering, Inc. of Texas
Lone Star Road, Suite 500
Dallas, Texas 75238

Texas Department of Transportation

Dallas District

Design Schematic

Submitted By, Sealed By:

Section Director Engineer

IH 35E at FM 664

Ellis County, Texas

IH 35E at FM 664

From: IH 35E in Red Oak

To: Turner Road in Red Oak

Functional Class: Urban

Functional Class: Otherwise

Length: 1.23 Miles

IH 45 at FM 664

From: Bus 34th Crossover in Ferris

To: Turner Road in Red Oak

Functional Class: Urban

Functional Class: Otherwise

Length: 1.23 Miles

Total Project Length: 13.59 Miles

IH 35E / IH 45 Mainlanes: 70 MPH

Frontage Roads: 40 MPH

Ramps: 40 MPH

FM 664 Mainlanes: 45 MPH

FM 664 Shoulder: 45 MPH

Ramps: 40 MPH

Scales 1" = 100'

NOVEMBER 2018

FINAL SUBMITTAL

SUBJECT TO REVISIONS

DISTRICT PROJECT NO.

0015-05-109

CONTROL SECTION JOB

0015-05-109

FEDERAL AID PROJECT NO.

STP 2018(XXX)

SHEET 3 OF 6

HDR

HDR Engineering Inc. F-754

Cross Towers Road, Suite 300

Dallas, Texas 75234

KEY MAP

CANTON BLVD

FM 664

CANTON BLVD

FM 664

COBBLESTONE CIR

COBBLESTONE CTR

COLL RD

PRAIRIE VIEW LN

PRAIRIE CREEK RD

DEBORAH CIR

DEBORAH CTR

WIGHT LN

CONLEY DR

HUGE CREST DR

CHESTBROOK DR

HAMMON LN

PRATT RD

PRATT RD

Texas Department of Transportation

Dallas District

Design Schematic

Submitted By, Sealed By:

Section Director Engineer

IH 35E at FM 664

Ellis County, Texas

IH 35E at FM 664

From: IH 35E in Red Oak

To: Turner Road in Red Oak

Functional Class: Urban

Functional Class: Otherwise

Length: 1.23 Miles

IH 45 at FM 664

From: Bus 34th Crossover in Ferris

To: Turner Road in Red Oak

Functional Class: Urban

Functional Class: Otherwise

Length: 1.23 Miles

Total Project Length: 13.59 Miles

IH 35E / IH 45 Mainlanes: 70 MPH

Frontage Roads: 40 MPH

Ramps: 40 MPH

FM 664 Mainlanes: 45 MPH

FM 664 Shoulder: 45 MPH

Ramps: 40 MPH

Scales 1" = 100'

NOVEMBER 2018

FINAL SUBMITTAL

SUBJECT TO REVISIONS

DISTRICT PROJECT NO.

0015-05-109

CONTROL SECTION JOB

0015-05-109

FEDERAL AID PROJECT NO.

STP 2018(XXX)

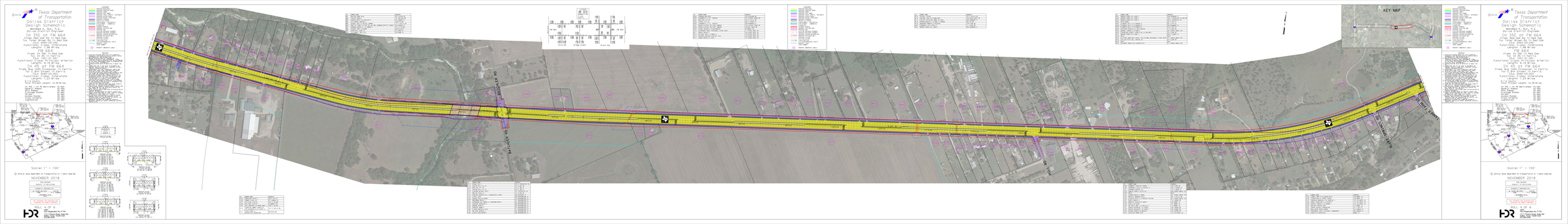
SHEET 3 OF 6

HDR

HDR Engineering Inc. F-754

Cross Towers Road, Suite 300

Dallas, Texas 75234


Texas Department of Transportation
Dallas Transportation Complex
Design Schematic
Submitted By, Approved By:
Section Director Engineer
IH 35E at FM 664
From IH 35E in Red Oak
To Tower Drive in Red Oak
Ellis County
Functional Class: Urbanized
FM 664
From IH 35E in Red Oak
To IH 45 in Ferris
Ellis County
Functional Class Principal Arterial
IH 45 at FM 664
From Bus 34th Crossover in Ferris
To IH 35E in Red Oak
Ellis County
Functional Class: Urbanized
Lengths 7.23 Miles
Total Project Length: 13.59 Miles
IH 35E / IH 45 Mainlanes 12 Ft Lanes
IH 35E Shoulder 10 Ft Outside
IH 45 Shoulder 10 Ft Outside
FM 664 Shoulder 10 Ft Outside
Frontage Roads 12 Ft Lanes
KEY MAP
Scales 1" = 100'
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NOVEMBER 2018
FINAL SUBMITTAL
SUBJECT TO REVISIONS
DISTRICT PROJECT NO.
CSJ 0918-00-000
CONTROL SECTION JOB
SHEET 4 OF 6
ALL CHANGES MUST BE APPROVED BY THE DESIGN ENGINEER
HDR
HDR Engineering, Inc. of Texas
Cypress Waters Blvd, Suite 160
Dallas, Texas 75019
BATCHLER RD
HILL RD
FM 664
Texas Department of Transportation
Dallas Transportation Complex
Design Schematic
Submitted By, Approved By:
Section Director Engineer
IH 35E at FM 664
From IH 35E in Red Oak
To Tower Drive in Red Oak
Ellis County
Functional Class: Urbanized
FM 664
From IH 35E in Red Oak
To IH 45 in Ferris
Ellis County
Functional Class Principal Arterial
IH 45 at FM 664
From Bus 34th Crossover in Ferris
To IH 35E in Red Oak
Ellis County
Functional Class: Urbanized
Lengths 7.23 Miles
Total Project Length: 13.59 Miles
IH 35E / IH 45 Mainlanes 12 Ft Lanes
IH 35E Shoulder 10 Ft Outside
IH 45 Shoulder 10 Ft Outside
FM 664 Shoulder 10 Ft Outside
Frontage Roads 12 Ft Lanes
Scales 1" = 100'
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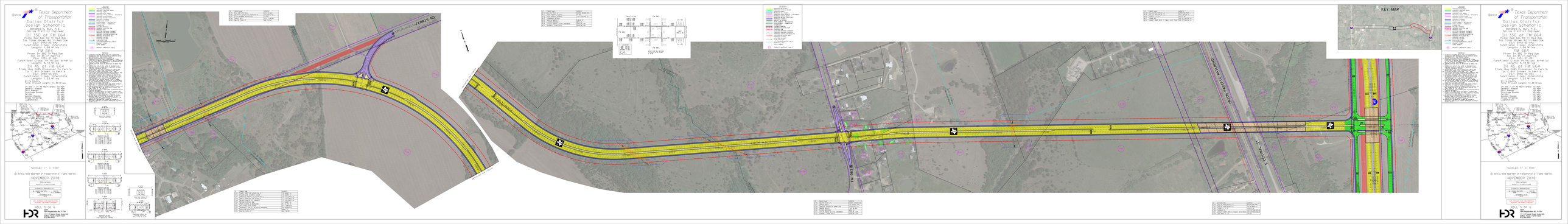
NOVEMBER 2018
FINAL SUBMITTAL
SUBJECT TO REVISIONS
DISTRICT PROJECT NO.
CSJ 0918-00-000
CONTROL SECTION JOB
SHEET 4 OF 6
ALL CHANGES MUST BE APPROVED BY THE DESIGN ENGINEER
HDR
HDR Engineering, Inc. of Texas
Cypress Waters Blvd, Suite 160
Dallas, Texas 75019


Texas Department of Transportation
Dallas District
Design Schematic
Designed As Built
Dallas District Engineer
IH 35E at FM 664
From IH 35E in Red Oak
To Tower Drive in Red Oak
Ellis County
Functional Class Orthogonal
FM 664
From IH 35E in Red Oak
To Tower Drive in Red Oak
Ellis County
Functional Class Principal Arterial
(Urban)
IH 45 at FM 664
From Bus 34th Crossover in Ferris
To IH 45 in Ferris
Ellis County
Functional Class Orthogonal
Length: 1.23 Miles
Total Project Length: 13.39 Miles
IH 35E / IH 45 Mainlanes 70 MPH
FM 664 70 MPH
FM 664 Ramps 50 MPH
FM 664 Bridge 70 MPH
FM 664 Shoulder 70 MPH
Frontage Roads 30 MPH
Signalized 30 MPH
KEY MAP
Scales 1" = 100'
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NOVEMBER 2018
FINAL SUBMITTAL
SUBJECT TO REVISIONS
DESIGN ENGINEER OF RECORD
Name: Jeffrey Hall
Date: 11/16/2018
RELEASED FOR CONSTRUCTION
Name:
Date:
SHEET 5 OF 6
HDR
HDR Engineering, Inc. of the
Central Western Plaza, Suite 900
817.335.1996
FERRIS RD
FM 664
MAYNE PATTERSON DR
S PATTERSON ST

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Dallas District Design Schematic

Mohamed K. Bur, P.E.
Dallas District Engineer

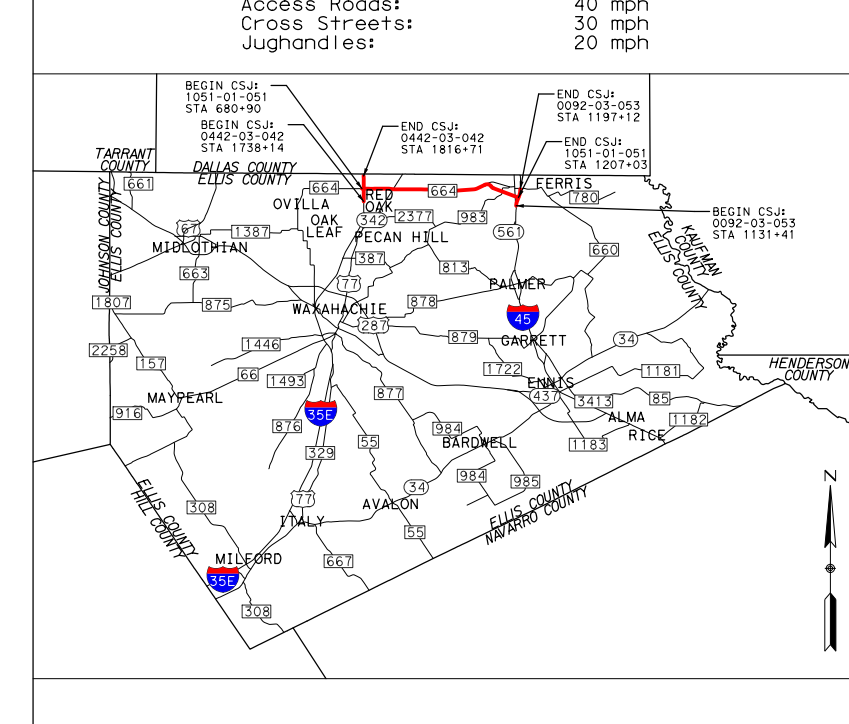
IH 35E at FM 664
From: Red Oak Rd in Red Oak
To: Tater Brown Rd in Red Oak
CSJ: 0442-03-042
Functional Class: Interstate
Length: 1.98 Miles

FM 664
From: IH 35E in Red Oak
To: IH 45 in Ferris
CSJ: 1051-01-051
Functional Class: Principal Arterial
Length: 9.18 Miles

IH 45 at FM 664
From: Bus IH45 Crossover in Ferris
To: E 8th Street in Ferris
CSJ: 0092-03-053
Functional Class: Interstate
Length: 1.23 Miles

Ellis County
Total Project Length: 12.39 Miles

IH 35E / IH 45 Mainlanes:	70 mph
General Ramps:	50 mph
SPUI Ramps:	40 mph
Frontage Roads:	40 mph
FM 664	40 mph
Access Roads:	40 mph
Cross Streets:	30 mph
Jughandles:	20 mph



Scale: 1" = 100'

NOVEMBER 2018

PRELIMINARY
SUBJECT TO REVISIONS

SCHEMATIC PREPARED BY:
M. SHANE WALTERS 100195
NAME P.E. NUMBER
NOVEMBER 2018
DATE

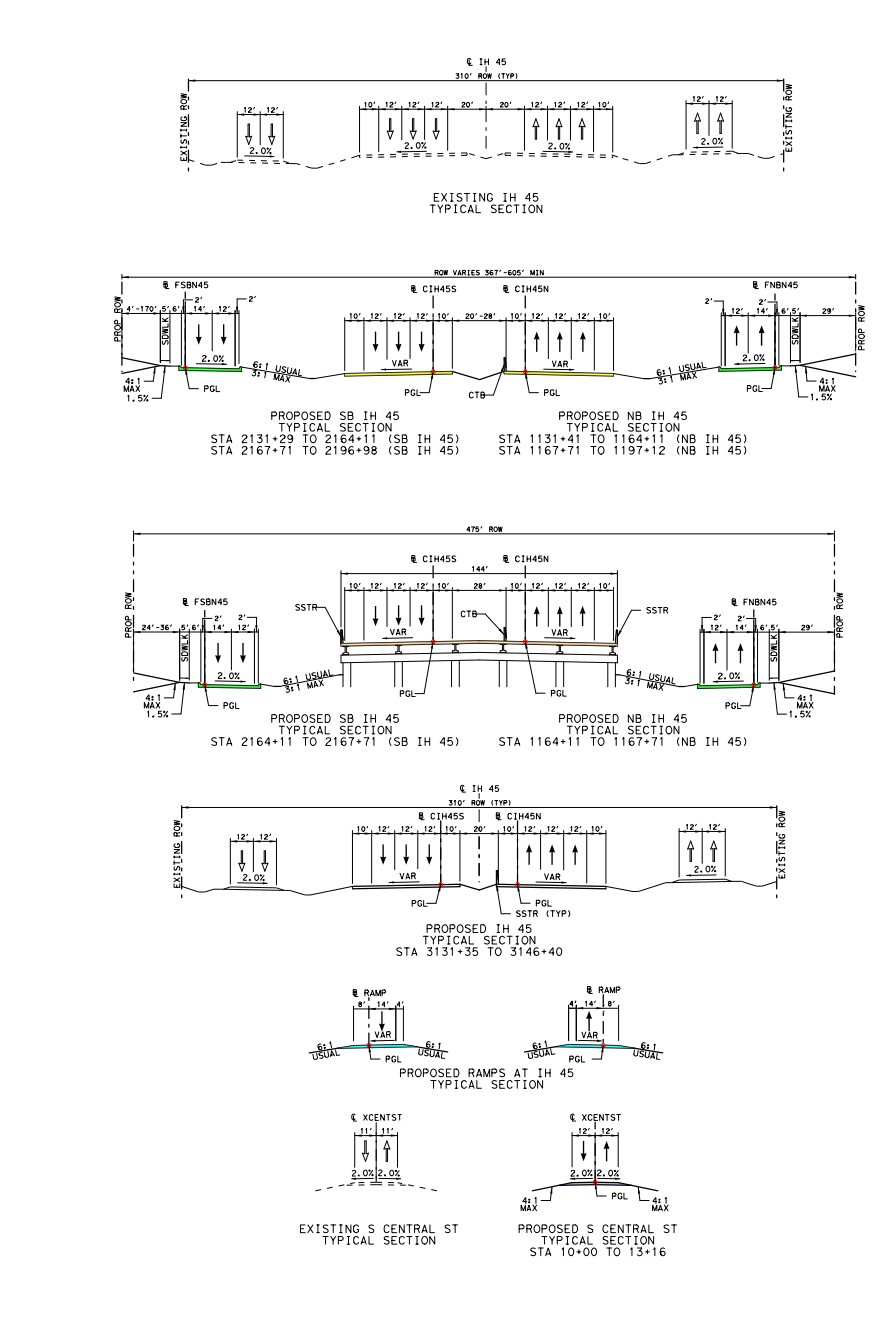
NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

ROLL 6 OF 6

HDR
Firm Registration No. F-754
17111 Preston Road, Suite 300
Dallas, Texas 75248-1229
972.960.4400

LEGEND:
- PROPOSED MAINLANES
- PROPOSED FRONTAGE ROADS
- PROPOSED RAMPS
- PROPOSED SPUI RAMPS
- PROPOSED CROSS STREETS / DRIVEWAYS
- PROPOSED ACCESS ROADS
- PROPOSED BRIDGE STRUCTURES
- PROPOSED SIDEWALK
- PROJECT BY OTHERS
- DISPLACEMENT - RESIDENTIAL
- DISPLACEMENT - COMMERCIAL
- FLOODPLAIN
- PAVEMENT REMOVAL
- APPARENT EXISTING ROW
- PROPOSED ROW
- EXISTING DRAINAGE EASEMENT
- PROPOSED DRAINAGE EASEMENT
- PROPOSED CENTERLINE/BASELINE
- PROPOSED RETAINING WALL
- PROPOSED CULVERT
- EXISTING CULVERT
- FLOW DIRECTION
- CITY/UNINCORPORATED LIMITS
- PROPERTY LINES
- CURVE NUMBER
- XX PROPERTY OWNERSHIP LABELS

NOTES:
1. EXISTING FEATURES WERE NOT FIELD SURVEYED. SCHEMATICS ARE BASED ON AERIAL SURVEYS DATED SEPTEMBER 2017 AND RECORD PLANS.
2. MEDIAN OPENINGS WERE DETERMINED IN COORDINATION WITH LOCAL GOVERNMENT. FINAL LOCATION OF MEDIAN OPENINGS WILL BE DETERMINED IN THE PS&E DEVELOPMENT PHASE IN COORDINATION WITH THE LOCAL GOVERNMENTS.
3. SUPERELEVATION AXIS OF ROTATION IS ABOUT THE PGL.
4. DIMENSIONS ARE TO THE EDGE OF PAVEMENT OR NOMINAL FACE OF CURB, RAIL, BARRIER, OR WALL (UNLESS OTHERWISE NOTED).
5. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE RATE MAPS.
6. EXISTING CULVERT LOCATIONS, SIZE, AND ELEVATIONS OBTAINED FROM RECORD DOCUMENTS AND ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.
7. EXISTING DRIVEWAYS WILL REMAIN UNLESS IT IS DETERMINED DURING DETAILED DESIGN STAGE AND COORDINATION WITH THE LOCAL GOVERNMENT THAT THE DRIVEWAY IS A SAFETY ISSUE AND/OR IS LOCATED WITHIN ACCESS DENIAL LIMITS SHOWN.
8. BUILDINGS ARE SHOWN AS POTENTIAL DISPLACEMENT IF THE PROPOSED ROW PHYSICALLY INTERSECTS THE EXISTING BUILDING STRUCTURE.
9. CURBS ON THE FRONTAGE ROAD AND CROSS STREETS ARE TYPE II (UNLESS NOTED OTHERWISE).
10. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.
11. WB-62 DESIGN VEHICLE WAS USED IN EVALUATION OF TURNING MOVEMENTS.
12. TRAFFIC VOLUMES BASED ON TRAFFIC COUNTS AND GROWTH RATES PROVIDED BY TP&P. TRAFFIC VOLUMES APPROVED BY TXDOT TP&P (JULY 2018).
13. AS PER WARRANT REQUIREMENTS, A TRAFFIC SIGNAL WARRANT ANALYSIS WILL BE REQUIRED AFTER INTERSECTIONS ARE CONSTRUCTED TO JUSTIFY THE INSTALLATION OF TRAFFIC SIGNALS.
14. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM ELLIS COUNTY APPRAISAL DISTRICT (MARCH 2018).



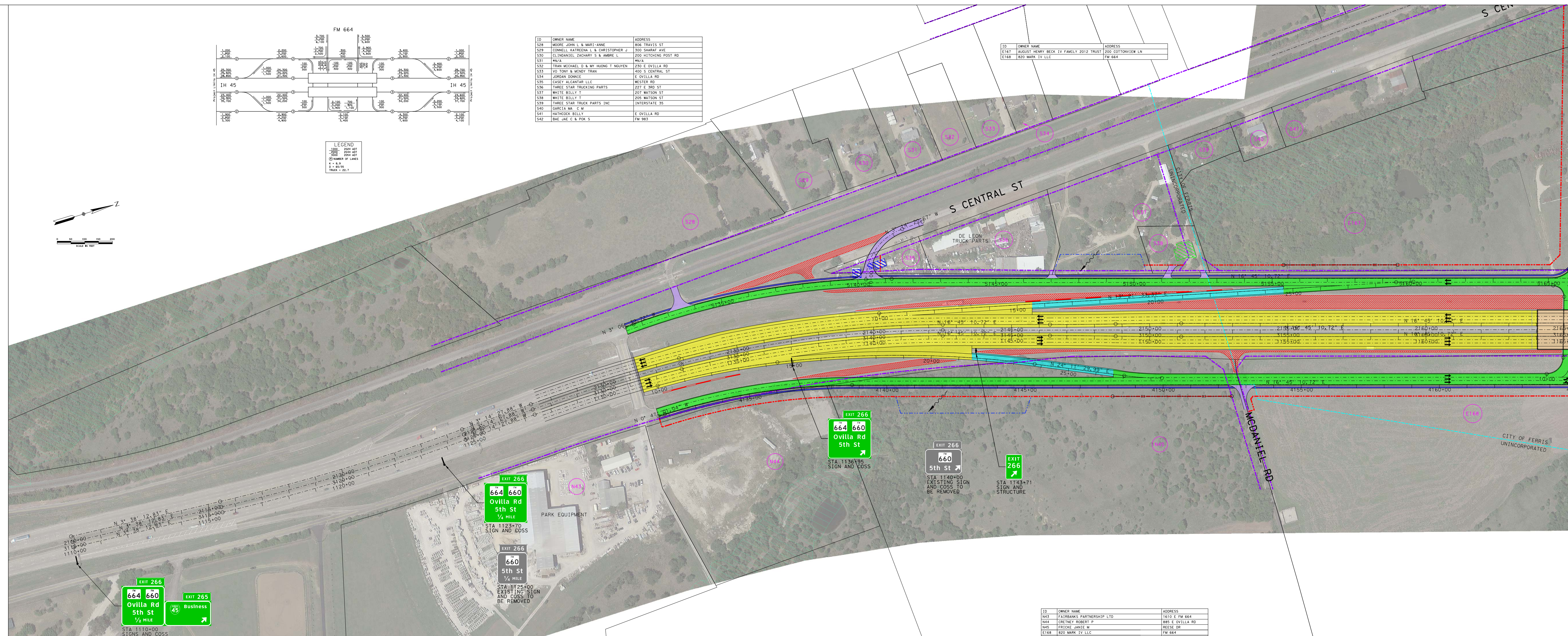
LEGEND
1000 2024 ADT
2000 2044 ADT
3000 2044 ADT
○ NUMBER OF LANES
K = 8.9
D = 65/35
TRUCK = 22.7

ID	OWNER NAME	ADDRESS
S28	MOORE JOHN L & MARI-ANNE	806 TRAVIS ST
S29	CONNELL KATREENA L & CHRISTOPHER J	300 SHARAF AVE
S30	CLINDANIEL ZACHARY S & AMBRE L	200 HITCHING POST RD
S31	MN/A	MN/A
S32	TRAN MICHAEL D & MY HUONG T NGUYEN	230 E OVILLA RD
S33	VO TONY & MINDY TRAN	400 S CENTRAL ST
S34	JORDAN DONNIE	E OVILLA RD
S35	CASEY ALCANTAR LLC	MESTER RD
S36	THREE STAR TRUCKING PARTS	227 E 3RD ST
S37	WHITE BILLY T	207 WATSON ST
S38	WHITE BILLY T	205 WATSON ST
S39	THREE STAR TRUCK PARTS INC	INTERSTATE 35
S40	GARCIA MA C M	
S41	HATHCOCK BILLY	E OVILLA RD
S42	BAE JAE C & POK S	FM 983

ID	OWNER NAME	ADDRESS
E167	AUGUST HENRY BECK IV FAMILY 2012 TRUST	200 COTTONVIEW LN
E168	820 MARK IV LLC	FM 664

ID	OWNER NAME	ADDRESS
W151	ADAMS W O	203 COTTONVIEW LN
W152	AUGUST HENRY BECK IV FAMILY 2012 TRUST	200 COTTONVIEW LN
W153	MAGNETAR PROPERTIES LP	210 HITCHING POST RD
W154	ATCO PRODUCTS INC	514 FM 983
W155	LINDO APPAREL, INC	112 FRED LN

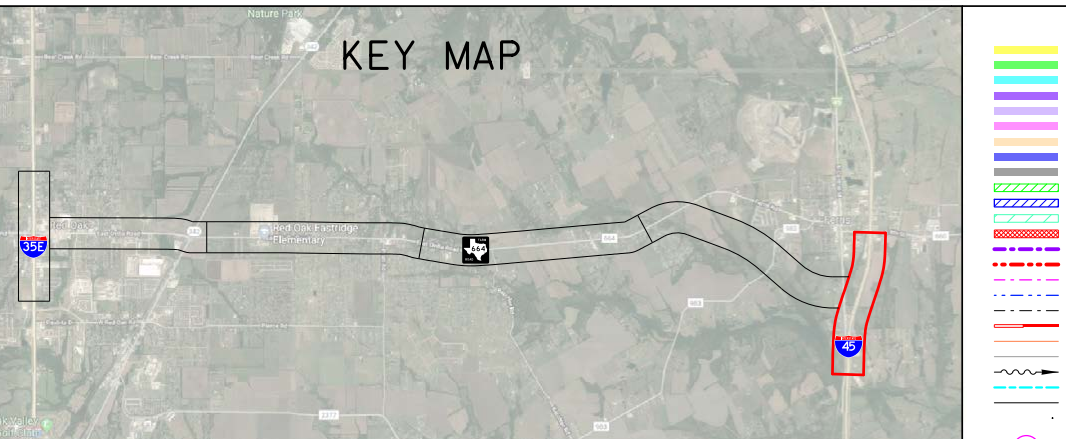
ID	OWNER NAME	ADDRESS
S42	BAE JAE C & POK S	FM 983



ID	OWNER NAME	ADDRESS
N43	FAIRBANKS PARTNERSHIP LTD	1610 E FM 664
N44	CRETNEY ROBERT P	885 E OVILLA RD
N45	FRICKE JANIE M	REESE DR
E168	820 MARK IV LLC	FM 664
W155	LINDO APPAREL, INC	E 8TH ST

ID	OWNER NAME	ADDRESS
N46	FERRIS TYPE A ECONOMIC DEVELOPMENT CORP	204 HITCHING POST RD
N47	BOARD OF TRUSTEES OF FERRIS ISD	983 E OVILLA RD
N48	FERRIS TYPE A ECONOMIC DEVELOPMENT CORP	HIGHWAY 342
N49	FERRIS MASONIC LODGE	WATERVIEW PKWY
N50	ARC JBFERTX001 LLC	113 RANCH RD

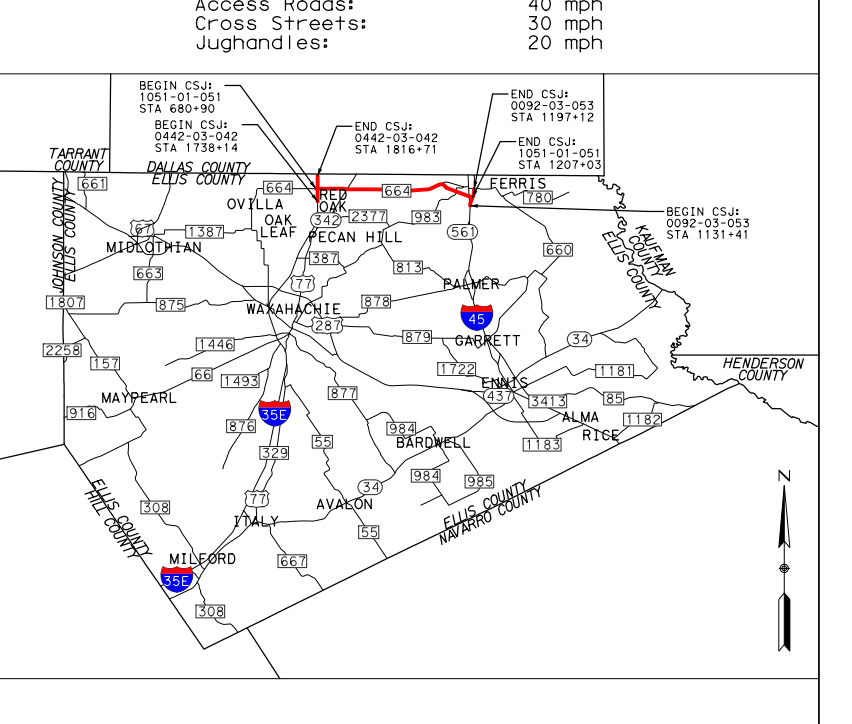
KEY MAP



LEGEND:
PROPOSED MAINLANES
PROPOSED FRONTAGE ROADS
PROPOSED RAMPS
PROPOSED SPUI RAMPS
PROPOSED CROSS STREETS / DRIVEWAYS
PROPOSED ACCESS ROADS
PROPOSED BRIDGE STRUCTURES
PROPOSED SIDEWALK
PROJECT BY OTHERS
DISPLACEMENT - RESIDENTIAL
DISPLACEMENT - COMMERCIAL
FLOODPLAIN
PAVEMENT REMOVAL
APPARENT EXISTING ROW
PROPOSED ROW
EXISTING DRAINAGE EASEMENT
PROPOSED DRAINAGE EASEMENT
PROPOSED CENTERLINE/BASELINE
PROPOSED RETAINING WALL
PROPOSED CULVERT
EXISTING CULVERT
FLOW DIRECTION
CITY/UNINCORPORATED LIMITS
PROPERTY LINES
CURVE NUMBER
XX PROPERTY OWNERSHIP LABELS

NOTES: (1–14 as above)

© 2018 Texas Department of Transportation
Dallas District Design Schematic
Mohamed K. Bur, P.E.
Dallas District Engineer
IH 35E at FM 664
From: Red Oak Rd in Red Oak
To: Tater Brown Rd in Red Oak
CSJ: 0442-03-042
Functional Class: Interstate
Length: 1.98 Miles
FM 664
From: IH 35E in Red Oak
To: IH 45 in Ferris
CSJ: 1051-01-051
Functional Class: Principal Arterial
Length: 9.18 Miles
IH 45 at FM 664
From: Bus IH45 Crossover in Ferris
To: E 8th Street in Ferris
CSJ: 0092-03-053
Functional Class: Interstate
Length: 1.23 Miles
Ellis County
Total Project Length: 12.39 Miles
IH 35E / IH 45 Mainlanes: 70 mph
General Ramps: 50 mph
SPUI Ramps: 40 mph
Frontage Roads: 40 mph
FM 664 40 mph
Access Roads: 40 mph
Cross Streets: 30 mph
Jughandles: 20 mph

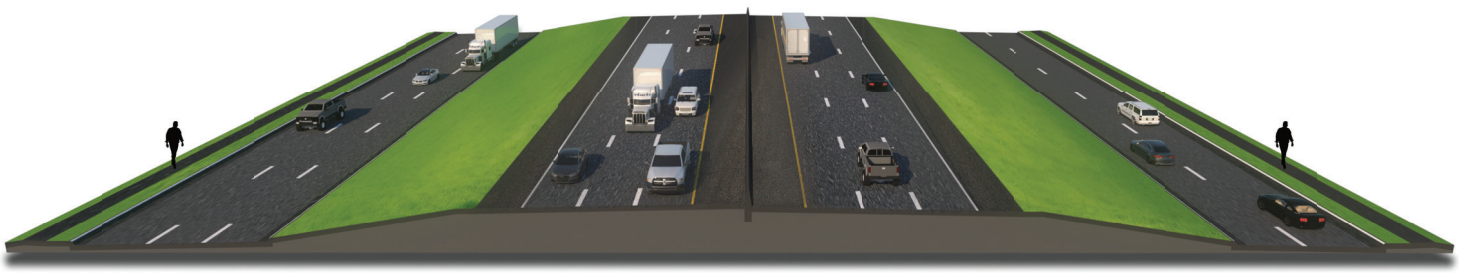


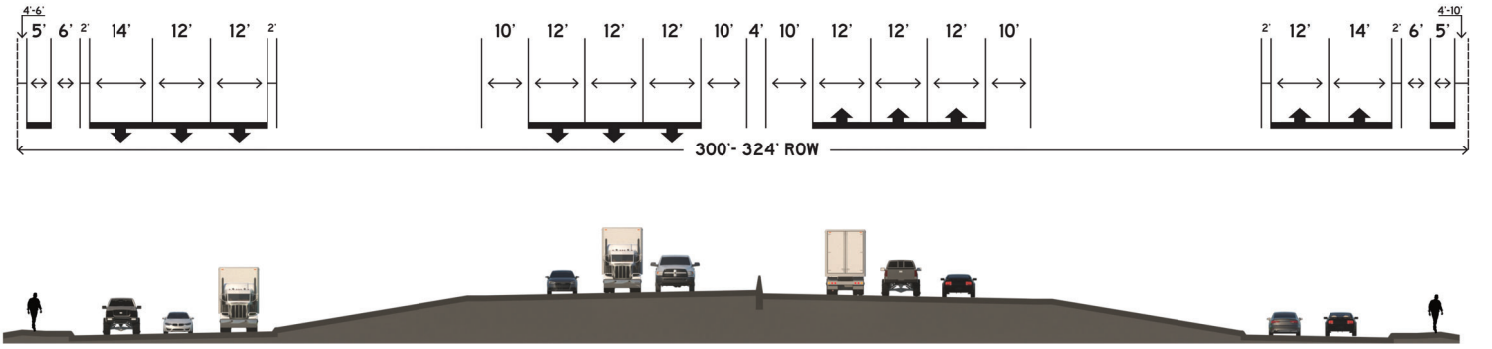
Scale: 1" = 100'
© 2018 by Texas Department of Transportation all rights reserved
NOVEMBER 2018
PRELIMINARY SUBJECT TO REVISIONS
SCHEMATIC PREPARED BY: M. SHANE WALTERS 100195 NAME P.E. NUMBER NOVEMBER 2018 DATE
NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES
ROLL 6 OF 6
HDR
Firm Registration No. F-754
17111 Preston Road, Suite 300
Dallas, Texas 75248-1229
972.960.4400

APPENDIX D: TYPICAL SECTIONS

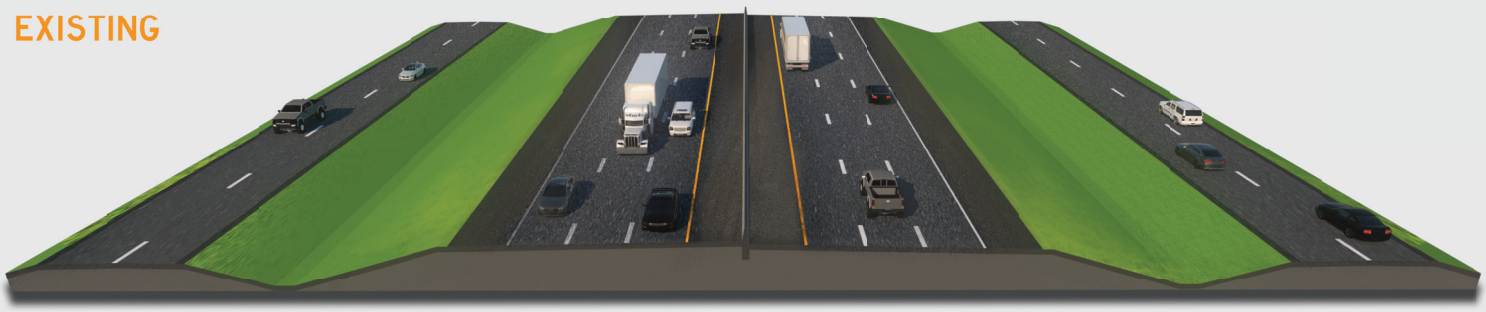
PROPOSED IMPROVEMENTS - TYPICAL SECTION

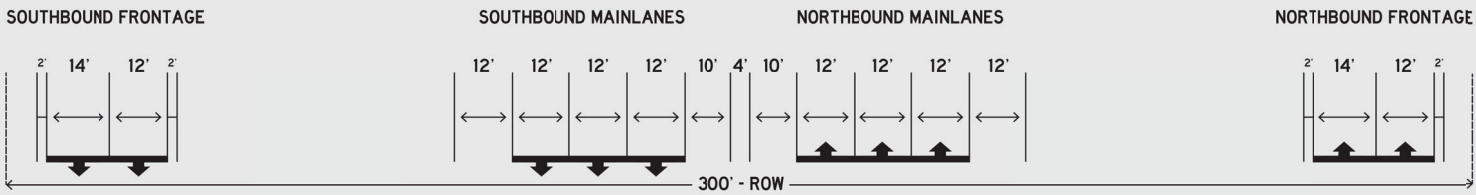
PROPOSED





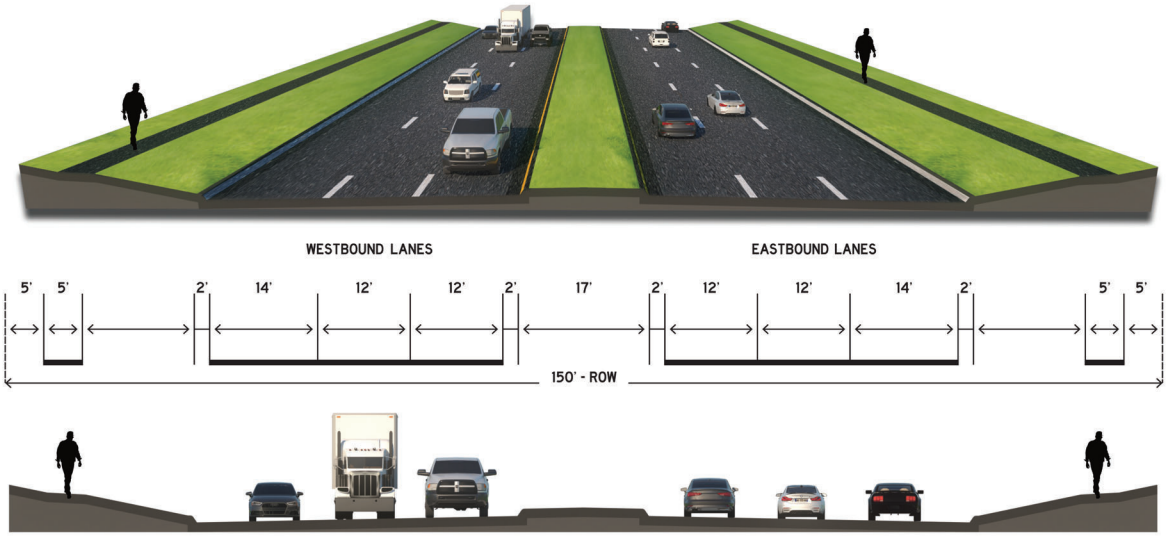
EXISTING



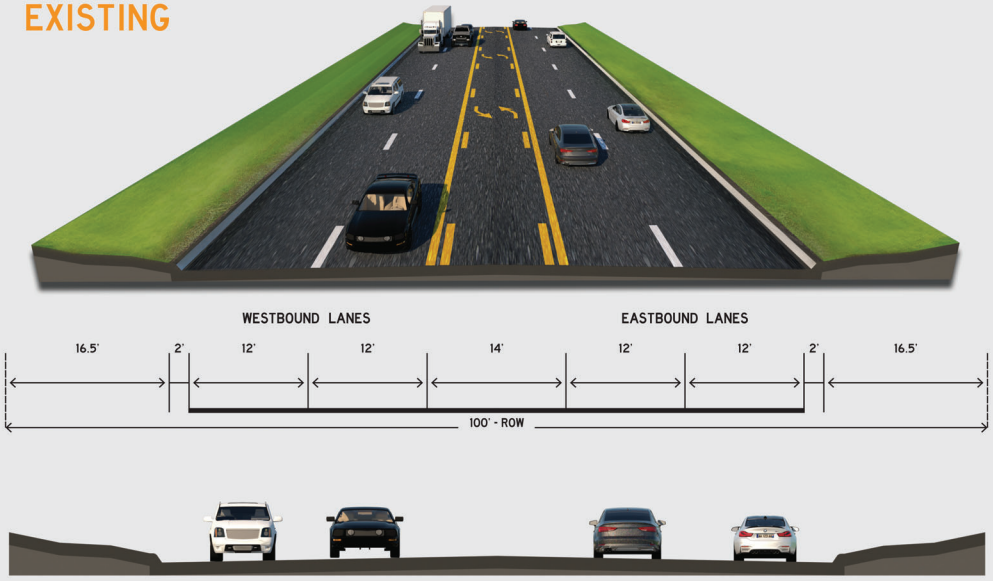


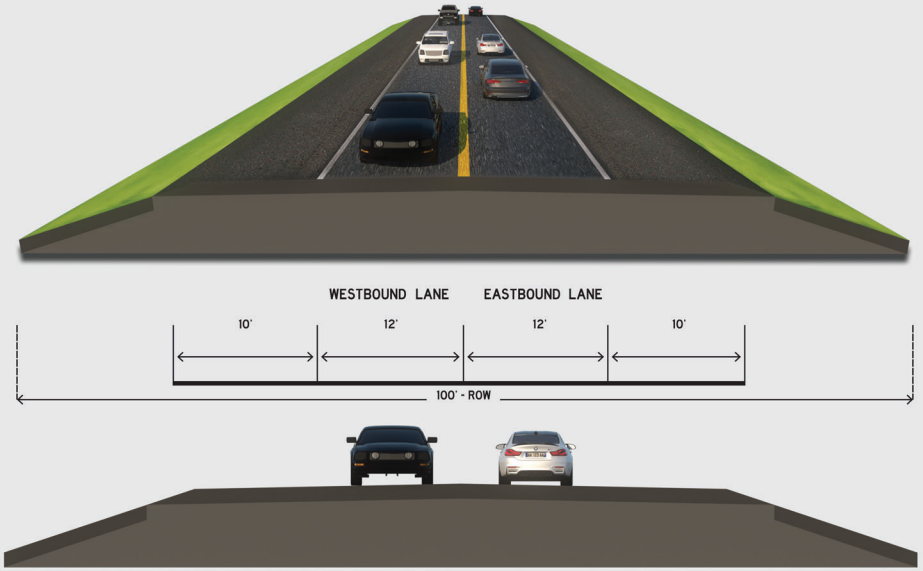
PROPOSED IMPROVEMENTS - TYPICAL SECTION

PROPOSED

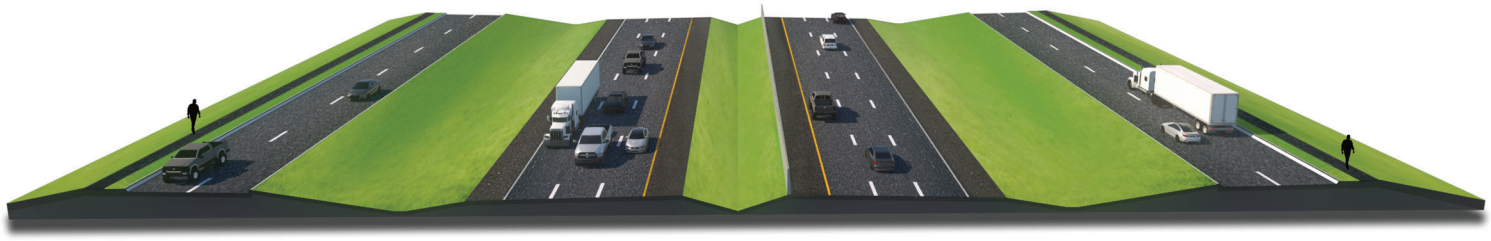


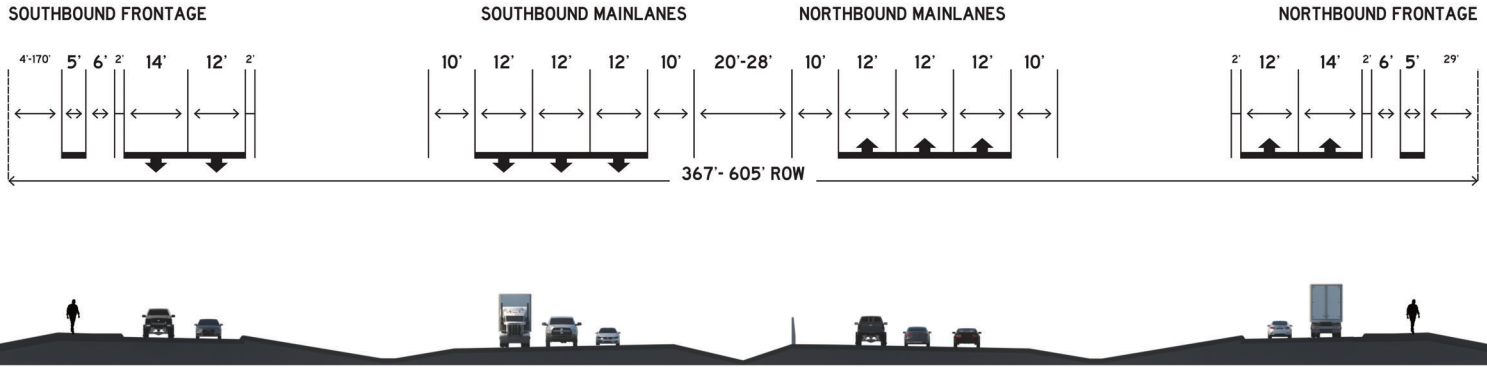
EXISTING



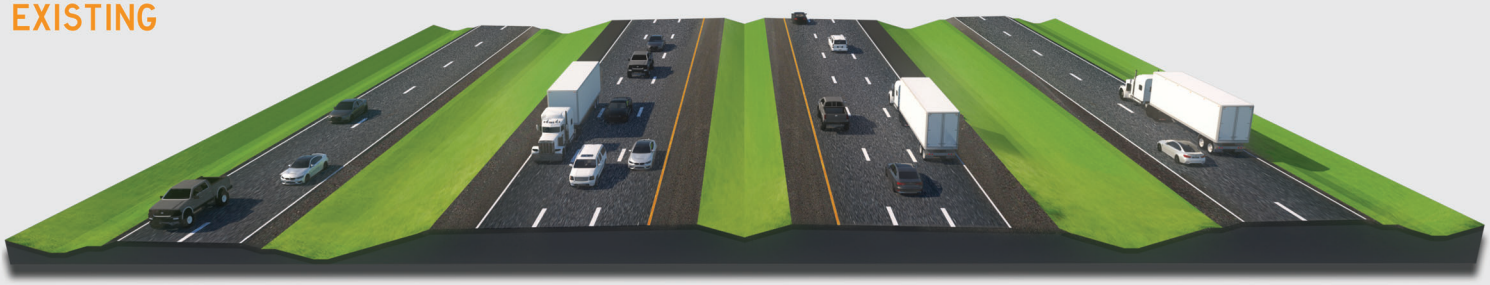


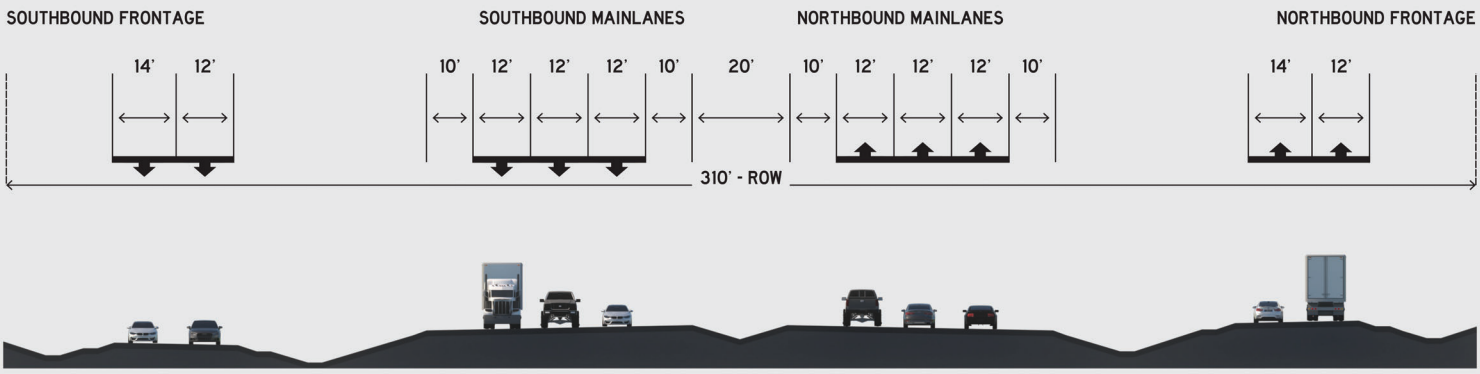
PROPOSED





EXISTING





APPENDIX E: PLAN AND PROGRAM EXCERPTS

2019-2022 STIP — **02/2019 Revision: Pending Approval**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	ELLIS	1051-01-051	2019	FM 664	E,ENG,R,ACQ	VARIOUS	$ 40,000,000

LIMITS FROM IH 35E
LIMITS TO WEST OF FERRIS ROAD
PROJECT DESCR RECONSTRUCT AND WIDEN 2/4 LANE RURAL ROADWAY TO 6 LANE DIVIDED URBAN
REMARKS P7 REVISE SCOPE; REVISE LIMITS; CHANGE TIP CODE FROM 13035 TO 13035.1
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN; R PHASE IN FY 2019 IS FOR $30,000,000 FOR ROW; R PHASE IN FY 2021 IS FOR $2,000,000 FOR UTILITIES; RELATED TO TIP 13035.2/CSJ 1051-03-001
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 02/2019
MPO PROJ NUM 13035.1
FUNDING CAT(S) SBPE,S102

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 10,000,000
ROW PURCH	$ 32,000,000
CONSTR	$ 182,391,982
CONST ENG	$ 5,814,359
CONTING	$ 2,332,777
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 232,539,118

COST OF APPROVED PHASES $ 40,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SBPE	$ 0	$ 10,000,000	$ 0	$ 0	$ 0	$ 10,000,000
S102	$ 24,000,000	$ 3,000,000	$ 0	$ 3,000,000	$ 0	$ 30,000,000
TOTAL	$ 24,000,000	$ 13,000,000	$ 0	$ 3,000,000	$ 0	$ 40,000,000

2019-2022 STIP — **07/2018 Revision: Not Approved 09/28/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	ELLIS	1051-01-051	2019	FM 664	E,ENG,R,ACQ	VARIOUS	$ 40,000,000

LIMITS FROM IH 35E
LIMITS TO IH 45
PROJECT DESCR WIDEN 2/4 LANE RURAL ROADWAY TO 6 LANE URBAN
REMARKS P7
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN; R PHASE IN FY 2019 IS FOR $30,000,000 FOR ROW; R PHASE IN FY 2021 IS FOR $2,000,000 FOR UTILITIES
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 07/2018
MPO PROJ NUM 13035
FUNDING CAT(S) S102,SBPE

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 10,000,000
ROW PURCH	$ 32,000,000
CONSTR	$ 182,391,982
CONST ENG	$ 9,046,642
CONTING	$ 3,629,600
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 237,068,224

COST OF APPROVED PHASES $ 40,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SBPE	$ 0	$ 10,000,000	$ 0	$ 0	$ 0	$ 10,000,000
S102	$ 24,000,000	$ 3,000,000	$ 0	$ 3,000,000	$ 0	$ 30,000,000
TOTAL	$ 24,000,000	$ 13,000,000	$ 0	$ 3,000,000	$ 0	$ 40,000,000

2019-2022 STIP — **07/2018 Revision: Approved 09/28/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	ELLIS	0172-12-902	2019	VA	E,ENG	ENNIS	$ 4,000,000

LIMITS FROM ON BUS 287/ENNIS AVE AT UP RAILROAD
LIMITS TO
PROJECT DESCR CONSTRUCT GRADE SEPARATION AT THE INTERSECTION OF BUS 287/ENNIS AVE AND THE UPRR LINE
REMARKS P7 LOCAL CONTRIBUTION BY CITY OF ENNIS; CHANGE CSJ FRO M 0000-18-087 TO 0172-12-902
PROJECT HISTORY 2017-2018 CMAQ/STBG PROJECT SELECTION/SUSTAINABLE DEVELOPMENT: PHASE 4; PRIOR CSJ 0000-18-087
PROJECT SPONSOR ENNIS
REVISION DATE 07/2018
MPO PROJ NUM 14028
FUNDING CAT(S) 3LC

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 4,000,000
ROW PURCH	$ 0
CONSTR	$ 17,000,000
CONST ENG	$ 595,000
CONTING	$ 255,000
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 21,850,000

COST OF APPROVED PHASES $ 4,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
3LC	$ 0	$ 0	$ 0	$ 0	$ 4,000,000	$ 4,000,000
TOTAL	$ 0	$ 0	$ 0	$ 0	$ 4,000,000	$ 4,000,000

2019-2022 STIP — **02/2019 Revision: Pending Approval**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	ELLIS	1051-01-051	2021	FM 664	R,UTL	VARIOUS	$ 2,000,000

LIMITS FROM IH 35E
LIMITS TO WEST OF FERRIS ROAD
PROJECT DESCR RECONSTRUCT AND WIDEN 2/4 LANE RURAL ROADWAY TO 6 LANE DIVIDED URBAN
REMARKS REVISE SCOPE; CHANGE TIP CODE FROM 13035 TO 13035.1 **P7** ; REVISE LIMITS
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN; R PHASE IN FY 2019 IS FOR $30,000,000 FOR ROW; R PHASE IN FY 2021 IS FOR $2,000,000 FOR UTILITIES; RELATED TO TIP 13035.2/CSJ 1051-03-001
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 02/2019
MPO PROJ NUM 13035.1
FUNDING CAT(S) S102

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 10,000,000
ROW PURCH	$ 32,000,000
CONSTR	$ 182,391,982
CONST ENG	$ 5,814,359
CONTING	$ 2,332,777
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 232,539,118

COST OF APPROVED PHASES $ 2,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
S102	$ 1,600,000	$ 200,000	$ 0	$ 200,000	$ 0	$ 2,000,000
TOTAL	$ 1,600,000	$ 200,000	$ 0	$ 200,000	$ 0	$ 2,000,000

2019-2022 STIP — **07/2018 Revision: Not Approved 09/28/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	ELLIS	1051-01-051	2021	FM 664	R,UTL	VARIOUS	$ 2,000,000

LIMITS FROM IH 35E
LIMITS TO IH 45
PROJECT DESCR WIDEN 2/4 LANE RURAL ROADWAY TO 6 LANE URBAN
REMARKS **P7**
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN; R PHASE IN FY 2019 IS FOR $30,000,000 FOR ROW; R PHASE IN FY 2021 IS FOR $2,000,000 FOR UTILITIES
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 07/2018
MPO PROJ NUM 13035
FUNDING CAT(S) S102

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 10,000,000
ROW PURCH	$ 32,000,000
CONSTR	$ 182,391,982
CONST ENG	$ 9,046,642
CONTING	$ 3,629,600
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 237,068,224

COST OF APPROVED PHASES $ 2,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
S102	$ 1,600,000	$ 200,000	$ 0	$ 200,000	$ 0	$ 2,000,000
TOTAL	$ 1,600,000	$ 200,000	$ 0	$ 200,000	$ 0	$ 2,000,000

2019-2022 STIP — **07/2018 Revision: Approved 09/28/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	ELLIS	0442-03-042	2021	IH 35E	E,ENG,R,ACQ	RED OAK	$ 7,500,000

LIMITS FROM AT FM 664
LIMITS TO
PROJECT DESCR RECONSTRUCT INTERCHANGE
REMARKS **P7**
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 07/2018
MPO PROJ NUM 13034
FUNDING CAT(S) S102,SBPE

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 1,500,000
ROW PURCH	$ 6,000,000
CONSTR	$ 29,246,463
CONST ENG	$ 1,340,283
CONTING	$ 854,466
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 38,941,212

COST OF APPROVED PHASES $ 7,500,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SBPE	$ 0	$ 1,500,000	$ 0	$ 0	$ 0	$ 1,500,000
S102	$ 5,400,000	$ 600,000	$ 0	$ 0	$ 0	$ 6,000,000
TOTAL	$ 5,400,000	$ 2,100,000	$ 0	$ 0	$ 0	$ 7,500,000

2019-2022 STIP — **02/2019 Revision: Pending Approval**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	ELLIS	1051-01-051	2021	FM 664	R,UTL	VARIOUS	$ 2,000,000

LIMITS FROM IH 35E
LIMITS TO WEST OF FERRIS ROAD
PROJECT DESCR RECONSTRUCT AND WIDEN 2/4 LANE RURAL ROADWAY TO 6 LANE DIVIDED URBAN
REMARKS REVISE SCOPE; CHANGE TIP CODE FROM 13035 TO 13035.1
P7 ; REVISE LIMITS
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 02/2019
MPO PROJ NUM 13035.1
FUNDING CAT(S) S102
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN; R PHASE IN FY 2019 IS FOR $30,000,000 FOR ROW; R PHASE IN FY 2021 IS FOR $2,000,000 FOR UTILITIES; RELATED TO TIP 13035.2/CSJ 1051-03-001

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 10,000,000
ROW PURCH	$ 32,000,000
CONSTR	$ 182,391,982
CONST ENG	$ 5,814,359
CONTING	$ 2,332,777
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 232,539,118

COST OF APPROVED PHASES $ 2,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
S102	$ 1,600,000	$ 200,000	$ 0	$ 200,000	$ 0	$ 2,000,000
TOTAL	$ 1,600,000	$ 200,000	$ 0	$ 200,000	$ 0	$ 2,000,000

2019-2022 STIP — **07/2018 Revision: Not Approved 09/28/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	ELLIS	1051-01-051	2021	FM 664	R,UTL	VARIOUS	$ 2,000,000

LIMITS FROM IH 35E
LIMITS TO IH 45
PROJECT DESCR WIDEN 2/4 LANE RURAL ROADWAY TO 6 LANE URBAN
REMARKS **P7**
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 07/2018
MPO PROJ NUM 13035
FUNDING CAT(S) S102
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN; R PHASE IN FY 2019 IS FOR $30,000,000 FOR ROW; R PHASE IN FY 2021 IS FOR $2,000,000 FOR UTILITIES

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 10,000,000
ROW PURCH	$ 32,000,000
CONSTR	$ 182,391,982
CONST ENG	$ 9,046,642
CONTING	$ 3,629,600
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 237,068,224

COST OF APPROVED PHASES $ 2,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
S102	$ 1,600,000	$ 200,000	$ 0	$ 200,000	$ 0	$ 2,000,000
TOTAL	$ 1,600,000	$ 200,000	$ 0	$ 200,000	$ 0	$ 2,000,000

2019-2022 STIP — **07/2018 Revision: Approved 09/28/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	ELLIS	0442-03-042	2021	IH 35E	E,ENG,R,ACQ	RED OAK	$ 7,500,000

LIMITS FROM AT FM 664
LIMITS TO
PROJECT DESCR RECONSTRUCT INTERCHANGE
REMARKS **P7**
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 07/2018
MPO PROJ NUM 13034
FUNDING CAT(S) S102,SBPE
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 1,500,000
ROW PURCH	$ 6,000,000
CONSTR	$ 29,246,463
CONST ENG	$ 1,340,283
CONTING	$ 854,466
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 38,941,212

COST OF APPROVED PHASES $ 7,500,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SBPE	$ 0	$ 1,500,000	$ 0	$ 0	$ 0	$ 1,500,000
S102	$ 5,400,000	$ 600,000	$ 0	$ 0	$ 0	$ 6,000,000
TOTAL	$ 5,400,000	$ 2,100,000	$ 0	$ 0	$ 0	$ 7,500,000

2019-2022 STIP — **07/2018 Revision: Not Approved 09/28/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	COLLIN	0047-06-163	2022	US 75	C	ALLEN	$ 10,000,000

LIMITS FROM BETHANY DRIVE
LIMITS TO SH 121
PROJECT DESCR REMOVE HOV LANES AND ADD PEAK HOUR TRAVEL LANES
REMARKS P7
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 07/2018
MPO PROJ NUM 30007
FUNDING CAT(S) 7
PROJECT HISTORY

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 500,000
ROW PURCH	$ 0
CONSTR	$ 10,000,000
CONST ENG	$ 249,700
CONTING	$ 10,453
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 10,760,153

COST OF APPROVED PHASES $ 10,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
7	$ 8,000,000	$ 2,000,000	$ 0	$ 0	$ 0	$ 10,000,000
TOTAL	$ 8,000,000	$ 2,000,000	$ 0	$ 0	$ 0	$ 10,000,000

2019-2022 STIP — **07/2018 Revision: Approved 09/28/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	ELLIS	1394-02-027	2022	FM 1387	E,ENG,R,ACQ	MIDLOTHIAN	$ 24,000,000

LIMITS FROM MIDLOTHIAN PARKWAY
LIMITS TO FM 664
PROJECT DESCR RECONSTRUCT AND WIDEN FROM 2 LANE UNDIVIDED RURAL TO 4 LANE URBAN DIVIDED (ULTIM ATE 6 LANE)
REMARKS P7
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 07/2018
MPO PROJ NUM 13020
FUNDING CAT(S) S102,SBPE
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 4,000,000
ROW PURCH	$ 20,000,000
CONSTR	$ 25,000,000
CONST ENG	$ 4,168,263
CONTING	$ 1,672,347
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 54,840,610

COST OF APPROVED PHASES $ 24,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SBPE	$ 0	$ 4,000,000	$ 0	$ 0	$ 0	$ 4,000,000
S102	$ 16,000,000	$ 2,000,000	$ 0	$ 2,000,000	$ 0	$ 20,000,000
TOTAL	$ 16,000,000	$ 6,000,000	$ 0	$ 2,000,000	$ 0	$ 24,000,000

2019-2022 STIP — **07/2018 Revision: Approved 09/28/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	ELLIS	0442-03-042	2022	IH 35E	C	RED OAK	$ 29,246,463

LIMITS FROM AT FM 664
LIMITS TO
PROJECT DESCR RECONSTRUCT INTERCHANGE
REMARKS P7
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 07/2018
MPO PROJ NUM 13034
FUNDING CAT(S) 4
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 1,500,000
ROW PURCH	$ 6,000,000
CONSTR	$ 29,246,463
CONST ENG	$ 1,340,283
CONTING	$ 854,466
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 38,941,212

COST OF APPROVED PHASES $ 29,246,463

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
4	$ 23,397,171	$ 5,849,292	$ 0	$ 0	$ 0	$ 29,246,463
TOTAL	$ 23,397,171	$ 5,849,292	$ 0	$ 0	$ 0	$ 29,246,463

2019-2022 STIP — **07/2018 Revision: Approved 09/28/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	ELLIS	0092-03-053	2019	IH 45	E,ENG,R,ACQ	FERRIS	$ 7,100,000

LIMITS FROM AT FM 664
LIMITS TO
PROJECT DESCR CONSTRUCT INTERCHANGE
REMARKS P7
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 07/2018
MPO PROJ NUM 13029
FUNDING CAT(S) S102,SBPE
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 2,000,000
ROW PURCH	$ 5,100,000
CONSTR	$ 40,419,966
CONST ENG	$ 1,822,785
CONTING	$ 1,162,074
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 50,504,825

COST OF APPROVED PHASES $ 7,100,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SBPE	$ 0	$ 2,000,000	$ 0	$ 0	$ 0	$ 2,000,000
S102	$ 4,080,000	$ 510,000	$ 0	$ 510,000	$ 0	$ 5,100,000
TOTAL	$ 4,080,000	$ 2,510,000	$ 0	$ 510,000	$ 0	$ 7,100,000

2019-2022 STIP — **07/2018 Revision: Approved 09/28/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	ELLIS	0048-04-094	2019	IH 35E	E,ENG,R,ACQ,UTL	WAXAHACHIE	$ 19,500,000

LIMITS FROM AT FM 387 (BUTCHER ROAD)
LIMITS TO
PROJECT DESCR CONSTRUCT GRADE SEPARATION AND RECONSTRUCT 4/6 LANE FRONTAGE ROADS
REMARKS P7
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 07/2018
MPO PROJ NUM 13042
FUNDING CAT(S) S102,SBPE
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 2,500,000
ROW PURCH	$ 17,000,000
CONSTR	$ 42,000,000
CONST ENG	$ 2,367,755
CONTING	$ 1,509,507
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 65,377,262

COST OF APPROVED PHASES $ 19,500,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SBPE	$ 0	$ 2,500,000	$ 0	$ 0	$ 0	$ 2,500,000
S102	$ 15,100,000	$ 1,900,000	$ 0	$ 0	$ 0	$ 17,000,000
TOTAL	$ 15,100,000	$ 4,400,000	$ 0	$ 0	$ 0	$ 19,500,000

2019-2022 STIP — **11/2018 Revision: Approved 12/19/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	KAUFMAN	2588-01-017	2019	FM 548	E,ENG	FORNEY	$ 3,300,000

LIMITS FROM N OF US 80
LIMITS TO S OF SH 205 (ROCKWALL C/L)
PROJECT DESCR WIDEN AND RECONSTRUCT 2 LANE RURAL TO 4 LANE URBAN DIVIDED (6 LANE ULTIMATE)
REMARKS REVISE LIMITS
P7
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 11/2018
MPO PROJ NUM 55111
FUNDING CAT(S) SBPE
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 3,300,000
ROW PURCH	$ 17,000,000
CONSTR	$ 84,650,269
CONST ENG	$ 3,318,257
CONTING	$ 1,331,317
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 109,599,843

COST OF APPROVED PHASES $ 3,300,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SBPE	$ 0	$ 3,300,000	$ 0	$ 0	$ 0	$ 3,300,000
TOTAL	$ 0	$ 3,300,000	$ 0	$ 0	$ 0	$ 3,300,000

2019-2022 STIP		11/2018 Revision: Approved 12/19/2018						
DISTRICT	**MPO**	**COUNTY**	**CSJ**	**TIP FY**	**HWY**	**PHASE**	**CITY**	**YOE COST**
DALLAS	NCTCOG	ELLIS	0092-03-053	2022	IH 45	C	FERRIS	$ 38,486,132

LIMITS FROM AT FM 664
LIMITS TO
PROJECT DESCR CONSTRUCT INTERCHANGE
REMARKS DECREASE CONSTRUCTION FUNDING IN FY2022 AND CHANGE P7 FUNDING SOURCES
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 11/2018
MPO PROJ NUM 13029
FUNDING CAT(S) 1,12

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 2,000,000
ROW PURCH	$ 5,100,000
CONSTR	$ 38,486,132
CONST ENG	$ 1,829,231
CONTING	$ 1,166,183
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 48,581,546

COST OF APPROVED PHASES $ 38,486,132

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
1	$ 3,588,906	$ 897,226	$ 0	$ 0	$ 0	$ 4,486,132
12	$ 27,200,000	$ 6,800,000	$ 0	$ 0	$ 0	$ 34,000,000
TOTAL	$ 30,788,906	$ 7,697,226	$ 0	$ 0	$ 0	$ 38,486,132

2019-2022 STIP		07/2018 Revision: Approved 09/28/2018						
DISTRICT	**MPO**	**COUNTY**	**CSJ**	**TIP FY**	**HWY**	**PHASE**	**CITY**	**YOE COST**
DALLAS	NCTCOG	ELLIS	0092-03-053	2022	IH 45	C	FERRIS	$ 40,419,966

LIMITS FROM AT FM 664
LIMITS TO
PROJECT DESCR CONSTRUCT INTERCHANGE
REMARKS P7
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 07/2018
MPO PROJ NUM 13029
FUNDING CAT(S) 4

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 2,000,000
ROW PURCH	$ 5,100,000
CONSTR	$ 40,419,966
CONST ENG	$ 1,822,785
CONTING	$ 1,162,074
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 50,504,825

COST OF APPROVED PHASES $ 40,419,966

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
4	$ 32,335,973	$ 8,083,993	$ 0	$ 0	$ 0	$ 40,419,966
TOTAL	$ 32,335,973	$ 8,083,993	$ 0	$ 0	$ 0	$ 40,419,966

2019-2022 STIP		07/2018 Revision: Approved 09/28/2018						
DISTRICT	**MPO**	**COUNTY**	**CSJ**	**TIP FY**	**HWY**	**PHASE**	**CITY**	**YOE COST**
DALLAS	NCTCOG	KAUFMAN	0095-03-080	2022	US 80	C	DALLAS	$ 133,000,000

LIMITS FROM LAWSON ROAD (DALLAS/KAUFMAN C/L)
LIMITS TO FM 460
PROJECT DESCR RECONSTRUCT AND WIDEN 4 TO 6 MAINLANES AND RECONSTRUCT 4 LANE DISCONTINUOUS FRON TAGE RDS TO 4 LANE CONTINUOUS FRONTAGE RDS
REMARKS P7
PROJECT HISTORY PART OF REGIONAL 10 YEAR PLAN
PROJECT SPONSOR TXDOT-DALLAS
REVISION DATE 07/2018
MPO PROJ NUM 53086
FUNDING CAT(S) 4

TOTAL PROJECT COST INFORMATION

PREL ENG	$ 7,000,000
ROW PURCH	$ 12,000,000
CONSTR	$ 133,000,000
CONST ENG	$ 5,563,981
CONTING	$ 232,911
INDIRECT	$ 0
BOND FIN	$ 0
PT CHG ORD	$ 0
TOTAL CST	$ 157,796,892

COST OF APPROVED PHASES $ 133,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
4	$ 106,400,000	$ 26,600,000	$ 0	$ 0	$ 0	$ 133,000,000
TOTAL	$ 106,400,000	$ 26,600,000	$ 0	$ 0	$ 0	$ 133,000,000

DISTRICT	COUNTY	CSJ	HWY	PHASE	CITY	PROJECT SPONSOR
DALLAS	ELLIS	1051-01-038	FM 664	E,R	VARIOUS	TXDOT-DALLAS
LIMITS FROM:	US 287 IN WAXAHACHIE					REV DATE: 07/2018
LIMITS TO:	FM 1387					MPO PROJECT ID: 83223
TIP DESCRIPTION:	WIDEN 2 LANE RURAL TO 6 LANE DIVIDED URBAN					MTP REFERENCE: RSA1-1.563.200
REMARKS:						
						Project History:

DALLAS	ELLIS	1051-01-051	FM 664	C	VARIOUS	TXDOT-DALLAS
LIMITS FROM:	IH 35E					REV DATE: 02/2019
LIMITS TO:	WEST OF FERRIS ROAD					MPO PROJECT ID: 13035.1
TIP DESCRIPTION:	RECONSTRUCT AND WIDEN 2/4 LANE RURAL ROADWAY TO 6 LANE DIVIDED URBAN					MTP REFERENCE: RSA1-2.710.300, RSA1-2.710.325
REMARKS:	REVISE SCOPE; CHANGE TIP CODE FROM 13035 TO 13035.1; REVISE LIMITS					
PENDING FHWA APPROVAL						**Project History:** PART OF REGIONAL 10 YEAR PLAN; RELATED TO TIP 13035.2/CSJ 1051-03-001

DALLAS	ELLIS	1051-01-052	FM 664	C	MIDLOTHIAN	TXDOT-DALLAS
LIMITS FROM:	FM 1387					REV DATE: 07/2018
LIMITS TO:	WESTMORELAND ROAD					MPO PROJECT ID: 13028
TIP DESCRIPTION:	RECONSTRUCT AND WIDEN 2 LANE RURAL TO 4 LANE DIVIDED URBAN ROADWAY (ULTIMATE 6 LANE)					MTP REFERENCE: RSA1-1.563.200, RSA1-2.710.225
REMARKS:						
						Project History: PART OF REGIONAL 10 YEAR PLAN

DALLAS	ELLIS	1051-03-001	FM 664	E,R	FERRIS	TXDOT-DALLAS
LIMITS FROM:	WEST OF FERRIS ROAD					REV DATE: 02/2019
LIMITS TO:	IH 45					MPO PROJECT ID: 13035.2
TIP DESCRIPTION:	CONSTRUCT 0 TO 6 LANE URBAN ROADWAY; REALIGN AT A NEW LOCATION					MTP REFERENCE: RSA1-2.710.325
REMARKS:	ADD PROJECT TO APPENDIX D OF THE 2019-2022 TIP/STIP					
PENDING FHWA APPROVAL						**Project History:** PART OF REGIONAL 10 YEAR PLAN; RELATED TO TIP 13035.1/CSJ 1051-01-051

DALLAS	ROCKWALL	1290-03-016	SH 276	E,R	ROCKWALL	TXDOT-DALLAS
LIMITS FROM:	FM 549					REV DATE: 07/2018
LIMITS TO:	FM 551					MPO PROJECT ID: 51255
TIP DESCRIPTION:	RECONSTRUCT AND WIDEN 2 LANE RURAL TO 4 LANE DIVIDED URBAN (ULTIMATE 6)					MTP REFERENCE: RSA1-2.375.250
REMARKS:						
						Project History:

DALLAS	ROCKWALL	1290-03-020	SH 276	E,R	ROCKWALL	TXDOT-DALLAS
LIMITS FROM:	FM 551					REV DATE: 07/2018
LIMITS TO:	FM 548					MPO PROJECT ID: 52524
TIP DESCRIPTION:	RECONSTRUCT AND WIDEN 2 LANE RURAL TO 4 LANE DIVIDED URBAN (ULTIMATE 6)					MTP REFERENCE: RSA1-2.375.275
REMARKS:						
						Project History:

DALLAS	ROCKWALL	1290-04-011	SH 276	E,R	ROCKWALL	TXDOT-DALLAS
LIMITS FROM:	FM 548					REV DATE: 07/2018
LIMITS TO:	WEST OF COUNTY ROAD 2472 (HUNT COUNTY LINE)					MPO PROJECT ID: 54035
TIP DESCRIPTION:	RECONSTRUCT AND WIDEN 2 LANE RURAL TO 4 LANE DIVIDED URBAN (ULTIMATE 6)					MTP REFERENCE: RSA1-2.375.300
REMARKS:						
						Project History:

DALLAS	COLLIN	1392-01-044	FM 1378	E,R	VARIOUS	TXDOT-DALLAS
LIMITS FROM:	FM 3286					REV DATE: 11/2018
LIMITS TO:						MPO PROJECT ID: 55248
TIP DESCRIPTION:	CONSTRUCT INTERSECTION IMPROVEMENTS					MTP REFERENCE: TSMO2-001
REMARKS:	ADD PROJECT TO APPENDIX D OF THE 2019-2022 TIP/STIP					
						Project History:

Mobility 2045
RSA Improvements Table

Revised February 5, 2019

RSA ID	Agency	County	Facility	From	To	2018*	2020*	2028	2037	2045	YOE Cost
2.205.625	TxDOT Dallas	Denton	SH 114	US 377	East Of US 377	2/2	2/2	N/A	N/A	N/A	
2.205.650	TxDOT Dallas	Denton	SH 114	East of US 377	SH 170	2/2	2/2	N/A	N/A	N/A	
2.325.500	TxDOT Dallas	Denton	SH 170 **	US 377	Roanoke Road	2/2	2/2	N/A	N/A	N/A	
2.325.550	TxDOT Dallas	Denton	SH 170 **	Roanoke Road	Jt Ottinger Road	2/2	N/A	N/A	N/A	N/A	
2.325.560	TxDOT Dallas	Denton	SH 170 **	Jt Ottinger Road	East Of Jt Ottinger Road	3/3	N/A	N/A	N/A	N/A	
2.325.575	TxDOT Dallas	Denton	SH 170 **	East Of Jt Ottinger Road	SH 114	2/2	N/A	N/A	N/A	N/A	
1.430.200	TxDOT Dallas	Denton	SL 288/ FM 2449	John Paine Road	Vintage Parkway	2	2	2	2/2	2/2	$5,898,590
1.523.110	TxDOT Dallas	Denton	US 377	North of E Northside Dr	S Washington Street	2	2	2	4	6	$20,678,165
1.523.120	TxDOT Dallas	Denton	US 377	S Washington Street	FM 428	2	2	2	4	6	$39,767,808
1.523.130	TxDOT Dallas	Denton	US 377	FM 428	US 380	2	2	2	4	6	$34,399,687
1.540.210	TxDOT Dallas	Denton	US 377	IH 35E	South of FM 1830 Country Club Road	2	2	6	6	6	$37,980,000
1.540.220	TxDOT Dallas	Denton	US 377	South of FM 1830	Crawford Road	2	2	2	6	6	$80,000,000
1.540.230	TxDOT Dallas	Denton	US 377	Crawford Road	Marshall Creek Road	2	2	4	4	4	$133,900,000
1.540.240	TxDOT Dallas	Denton	US 377	Marshall Creek Road	SH 114	4	4	4	4	4	$2,536,000
1.540.250	TxDOT Dallas	Denton	US 377	SH 114	North Of Byron Nelson Blvd	4	4	4	4	4	$1,040,000
1.540.260	TxDOT Dallas	Denton	US 377	North of Byron Nelson Blvd	Parish Lane	2	2	4	4	4	$12,050,000
2.225.300	TxDOT Dallas	Denton	US 380 University Drive	Bonnie Brae Street	Malone Street	6	6	6	6	6	$7,456,430
2.225.275	TxDOT Dallas	Denton	US 380	FM 156	IH 35	6	6	6	6	6	$45,700,000
2.225.425	TxDOT Dallas	Denton	US 380	East of Fish Trap Road	US 377	2/2	2/2	3/3	3/3	3/3	$3,340,000
2.225.440	TxDOT Dallas	Denton	US 380	US 377	Potter Shop Road	2/2	2/2	3/3	3/3	3/3	$760,000
2.225.445	TxDOT Dallas	Denton	US 380	Potter Shop Road	FM 720	4	4	6	6	6	$19,430,000
2.225.450	TxDOT Dallas	Denton	US 380	FM 720	FM 423	4	4	6	6	6	$96,280,000
2.225.475	TxDOT Dallas	Denton	US 380	FM 423	CR 26	4	4	3/3	3/3	3/3	$32,370,000
2.267.300	TxDOT Dallas	Denton	Valley Ridge Blvd	Mill Street	College Street	0	0	4	4	4	$17,770,000
1.430.225	TxDOT Dallas	Denton	Vintage Parkway	IH 35W	US 377	2	2	4	4	4	$11,344,400
2.787.250	TxDOT Dallas	Ellis	BU 287 BU 45	Paris Street	IH 45	2	2	4	4	4	$7,610,800
1.563.200	TxDOT Dallas	Ellis	FM 664 Ovilla Road	Ovilla Main Street	BU 287	2	2	4	4	6	$100,000,000
2.710.225	TxDOT Dallas	Ellis	FM 664 Ovilla Road	Westmoreland Road	Ovilla Main Street	2	2	4	4	6	$20,000,000
2.710.250	TxDOT Dallas	Ellis	FM 664	Westmoreland Road	IH 35E	2	2	6	6	6	$45,100,000
2.710.300	TxDOT Dallas	Ellis	FM 664	IH 35E	SH 342	4	4	6	6	6	$11,563,808
2.710.325	TxDOT Dallas	Ellis	FM 664	SH 342	IH 45	2	2	6	6	6	$55,436,192
1.840.750	TxDOT Dallas	Ellis	SH 34 Lake Bardwell Drive	SP 437 Clay Street	IH 35E	2	2	2	4	4	$141,087,000
1.840.650	TxDOT Dallas	Ellis	SH 34	FM 2451	Sunridge Drive	2	2	2	4	4	$18,452,600
1.840.655	TxDOT Dallas	Ellis	SH 34	Sunridge Drive	Sonoma Trail	2	2	2	4	4	$4,882,400
1.840.660	TxDOT Dallas	Ellis	SH 34	Sonoma Trail	IH 45	2	2	2	4	4	$2,656,600
1.840.700	TxDOT Dallas	Ellis	SH 34	FM 1181	Kaufman Street	2	2	4	4	4	$1,220,600
1.840.725	TxDOT Dallas	Ellis	SH 34	FM 1183	SP 437 Clay Street	2	2	2	4	4	$4,810,600
1.595.390	TxDOT Dallas	Ellis	SH 342	Loop 9	FM 664	2	2	2	4	4	$12,349,600
1.595.400	TxDOT Dallas	Ellis	SH 342	FM 664	US 77	2	2	2	4	4	$12,032,995
1.220.875	TxDOT Dallas	Ellis	US 287	SH 34	IH 45	2	2	N/A	N/A	N/A	
1.580.300	TxDOT Dallas	Ellis	US 77 Elm Street	Ferris Avenue	FM 66	2	2	4	4	4	$21,183,600
1.580.325	TxDOT Dallas	Ellis	US 77	FM 66	FM 877	2	2	4	4	4	$502,600
2.745.240	TxDOT Fort Worth	Hood	FM 4 FM 167 Fall Creek	FM 4 Acton Hwy	North Gate Road	2	2	2	4	4	$160,610
2.745.250	TxDOT Fort Worth	Hood	FM 4 FM 167 Fall Creek	North Gate Road	FM 167	2	2	2	4	4	$6,000,000
1.205.275	TxDOT Fort Worth	Hood	SH 144	Pear Orchard Road	North of US 67	2	2	2	2	4	$24,860,000
1.250.200	TxDOT Fort Worth	Hood	US 377 Bypass	North of SH 171	Old Granbury Road	0	0	2/2	2/2	2/2	$77,500,000
1.540.520	TxDOT Fort Worth	Hood	US 377 NB/US 377 SB	East of SH 144	FM 51	2/2	2/2	3/3	3/3	3/3	$13,900,000
1.540.455	TxDOT Fort Worth	Hood	US 377	BU 377	North of BU 377	2/2	2/2	4	4	4	$5,169,600
1.540.470	TxDOT Fort Worth	Hood	US 377	FM 167 S (Fall Creek Hwy)	FM 167 N (Temple Hall Hwy)	2/2	2/2	3/3	3/3	3/3	$53,800,000
1.540.480	TxDOT Fort Worth	Hood	US 377	FM 167 N (Temple Hall Hwy)	Mustang Trail	4	4	6	6	6	$12,161,541
1.540.490	TxDOT Fort Worth	Hood	US 377	Mustang Trail	Harbor Lakes Drive	2/2	2/2	3/3	3/3	3/3	$41,392,000
1.540.500	TxDOT Fort Worth	Hood	US 377	Harbor Lakes Drive	Old Cleburne Road	4	4	6	6	6	$2,465,777
1.540.510	TxDOT Fort Worth	Hood	US 377	Old Cleburne Road	East Of SH 144	2/2	2/2	3/3	3/3	3/3	$5,306,096
1.540.540	TxDOT Fort Worth	Hood	US 377	FM 51	BU 377	2/2	2/2	2/2	2/2	2/2	$43,107,000
1.540.550	TxDOT Fort Worth	Hood	US 377	BU 377	Holmes Dr.	1/2	1/2	1/2	2/2	2/2	$800,000
1.540.560	TxDOT Fort Worth	Hood	US 377	Holmes Dr.	Powell Cemetery Road	2	2	2	4	4	$40,680,000
1.540.575	TxDOT Fort Worth	Hood	US 377	Powell Cemetary Road	FM 2870	2	2	2	4	4	$10,850,000
1.540.600	TxDOT Fort Worth	Hood	US 377	FM 2870	West Of Campbell Road	2	2	2	4	4	$30,510,000
2.260.225	TxDOT Paris	Hunt	FM 1570	CR 2178	SH 34	2	2	4	4	4	$15,000,000
1.875.250	TxDOT Paris	Hunt	SH 24	CR 4511	SL 178 / Culver Street	4	4	4	4	4	$4,900,000
2.380.425	TxDOT Paris	Hunt	SH 276 Bypass	SH 276 Quinlan Parkway	SH 34	0	0	4	4	4	$12,050,000
1.840.400	TxDOT Paris	Hunt	SH 34	Traders Road	South of CR 3703	2	2	2	4	4	$1,500,000
2.370.825	TxDOT Paris	Hunt	SH 66	E County Line Rd	FM 2642	2	2	4	4	4	$20,534,800
2.370.850	TxDOT Paris	Hunt	SH 66	FM 2642	US 69	2	2	2	2	4	$93,808,623

* Attainment Years

**Stage facilities reported as 'N/A' indicate project is no longer classified as an arterial and will be reported in Freeway/Tollway Recommendations listing instead.

Note: '2/2' indicates facility operates as couplet.

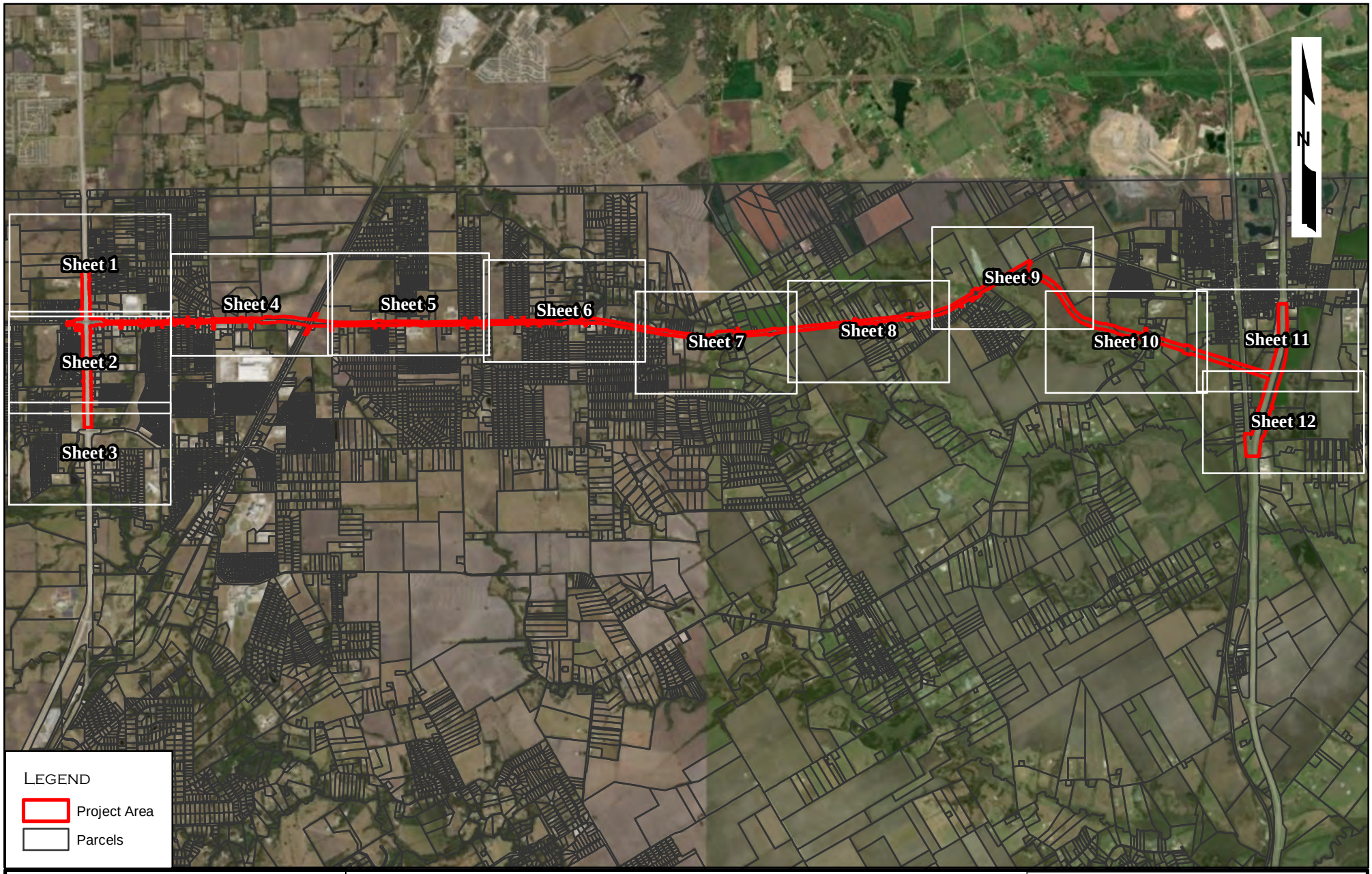
Mobility 2045
Interchange Summary Table

11/27/2018

INT ID	Agency	Facility	Connection	Yr Open	Description	YOE Cost
21.120.1	TxDOT Dallas	Dallas North Tollway	President George Bush Turnpike	2018	Improvements	included w/ FT - 21.10.3
21.2.1	TxDOT Dallas	Dallas North Tollway	US 380	2028	New Interchange	included w/ FT - 21.10.1
18.32.1	TxDOT Dallas	East Branch (SH 190)	US 80	2028	New Interchange	included w/ FT - 39.10.1
28.121.1	TxDOT Dallas	East Branch (SH 190)	President George Bush Turnpike (SH 190)	2028	Reconstruct	included w/ FT - 39.10.1
6.30.1	TxDOT Dallas	East Branch (SH 190)	IH 20	2028	New Interchange	included w/ FT - 39.10.1
30.38.1	TxDOT Dallas	IH 20	US 67	2028	Reconstruct	included w/ FT - 7.80.3
28.111.1	TxDOT Dallas	IH 30	Outer Loop/Floyd Road	2028	New Interchange	included w/ FT - 110.20.1
28.200.1	TxDOT Dallas	IH 30	Bayside Drive	2028	New Interchange	included w/ AO - 28.80.2
28.546.1	TxDOT Dallas	IH 30	Ben Payne/Rochelle Road	2028	New Interchange	included w/ FT - 28.60.3
28.548.1	TxDOT Dallas	IH 30	FM 3549 (FM 549)	2020	Reconstruct	included w/ FT - 28.60.3
28.549.1	TxDOT Dallas	IH 30	FM 551	2018	Reconstruct	included w/ FT - 28.60.3
28.550.1	TxDOT Dallas	IH 30	Erby Campbell Blvd.	2018	Grade Separation	included w/ FT - 28.60.3
28.550.2	TxDOT Dallas	IH 30	Dalrock Road	2028	Reconstruct	$2,000,000
28.553.1	TxDOT Dallas	IH 30	Blackland Road	2028	New Interchange	included w/ FT - 28.60.3
3.100.1	TxDOT Dallas	IH 35	State Loop 288	2037	Reconstruct	included w/ FT - 3.10.1
3.95.1	TxDOT Dallas	IH 35	US 77 (Denton County)	2028	Reconstruct	included w/ FT - 3.10.1
1.7.1	TxDOT Dallas	IH 35E	US 287	2028	Reconstruct	$8,400,000
3.5.1	TxDOT Dallas	IH 35E	IH 35W	2028	Reconstruct	included w/ FT - 3.20.3
7.11.1	TxDOT Dallas	IH 35E	SH 121	2028	Reconstruct	included w/ FT - 3.20.3
7.17.1	TxDOT Dallas	IH 35E	State Loop 12	2028	Reconstruct	included w/ FT - 7.50.1
7.28.1	TxDOT Dallas	IH 35E	IH 30	2018	Reconstruct	included w/ FT - 7.80.3
7.30.1	TxDOT Dallas	IH 35E	IH 20	2028	Reconstruct	included w/ FT - 7.80.3
7.38.1	TxDOT Dallas	IH 35E	US 67	2028	Reconstruct	included w/ FT - 7.80.3
7.503.1	TxDOT Dallas	IH 35E	FM 66	2028	Reconstruct	included w/ FT - 7.100.5
7.504.1	TxDOT Dallas	IH 35E	FM 1446	2028	Reconstruct	included w/ FT - 7.100.5
7.508.1	TxDOT Dallas	IH 35E	BU 287	2028	Reconstruct	$8,400,000
7.509.1	TxDOT Dallas	IH 35E	Lofland Drive	2028	Reconstruct	$8,400,000
7.510.1	TxDOT Dallas	IH 35E	Butcher Road	2028	Reconstruct	$8,400,000
7.512.1	TxDOT Dallas	IH 35E	Sterrett Road	2028	Reconstruct	$8,400,000
7.515.1	TxDOT Dallas	IH 35E	FM 664	2028	Reconstruct	$40,000,000
7.552.1	TxDOT Dallas	IH 35E	FM 407	2037	Reconstruct	included w/ FT - 3.20.3
7.576.1	TxDOT Dallas	IH 35E	Dickerson Pkwy.	2018	New Interchange	included w/ FT - 3.20.3
5.103.1	TxDOT Dallas	IH 35W	State Loop 288	2037	New Interchange	included w/ FT - 3.10.1
27.29.1	TxDOT Dallas	IH 45	S.M. Wright	2028	Reconstruct	included w/ FT - 26.20.1
27.554.1	TxDOT Dallas	IH 45	Fulgham Rd	2028	Improvements	included w/ AO - 27.30.2
27.560.1	TxDOT Dallas	IH 45	FM 664	2028	New Interchange	$50,000,000
131.577.1	TxDOT Dallas	IH 635	Skillman/Audelia Street	2023	Reconstruct	included w/ FT - 131.10.1
28.131.1	TxDOT Dallas	IH 635	IH 30	2028	Reconstruct	included w/ FT - 131.10.1
32.131.1	TxDOT Dallas	IH 635	US 80	2028	Improvements	included w/ FT - 131.10.1
7.130.1	TxDOT Dallas	IH 635	IH 35E	2037	Reconstruct	included w/ FT - 7.50.1
12.42.1	TxDOT Dallas	SH 114	Spur 482	2023	Reconstruct	$17,118,564

APPENDIX F: RESOURCE SPECIFIC MAPS

Exhibit 1: ROW Acquisition Map
Exhibit 2: Land Use Map
Exhibit 3: Minority Density Map
Exhibit 4: Median Household Income Map
Exhibit 5: Wetland Delineation Map
Exhibit 6: FEMA Floodplain Map
Exhibit 7: HAZMAT Map
Exhibit 8: Noise Receivers Map
Exhibit 9: 303(d) Map



0 2,750 5,500
Feet

FM 664 (From IH 35 East to IH 45)

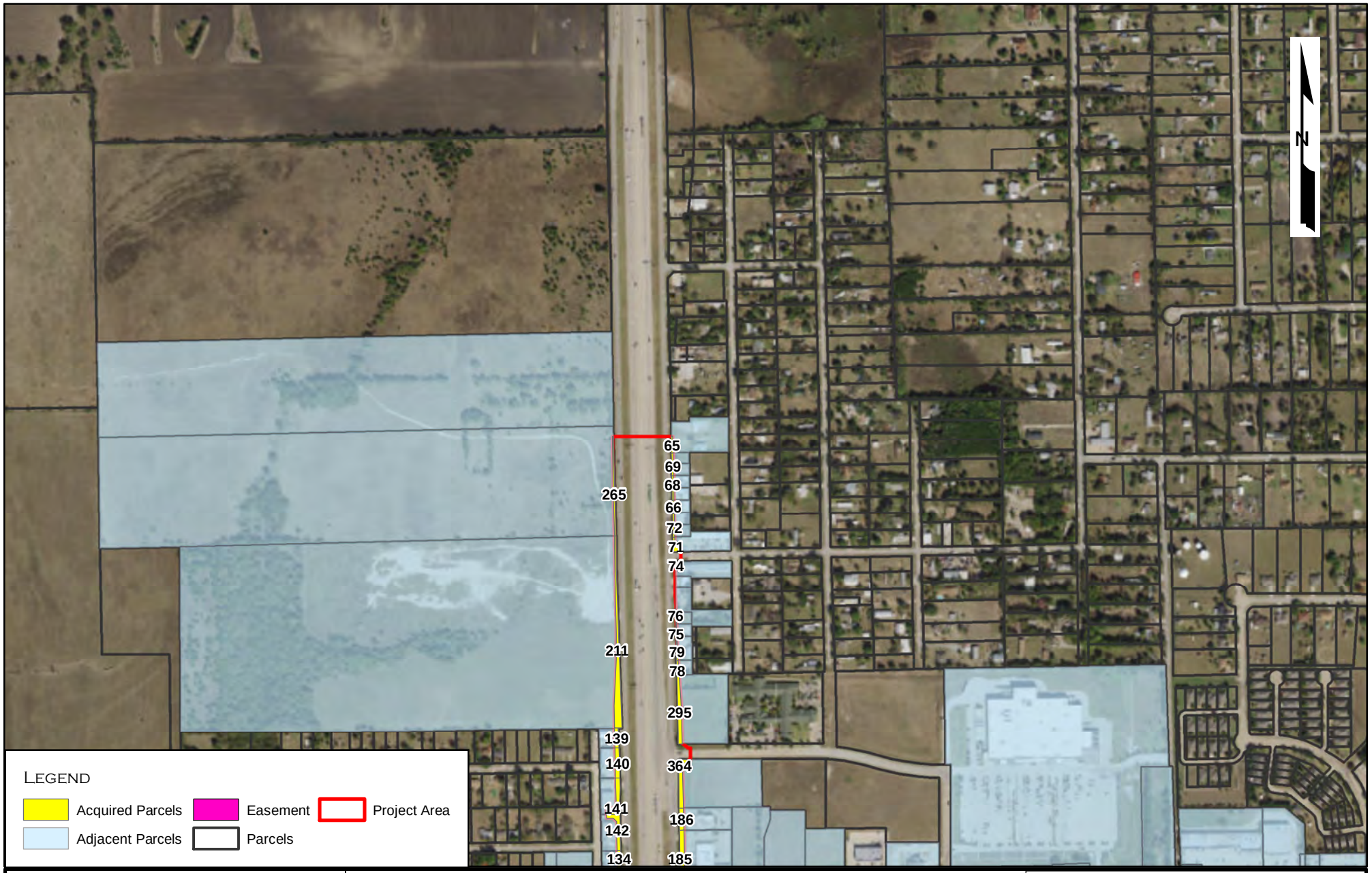
ROW Acquistion Map

Texas Department of Transportation

Appendix F Exhibit 1

ELLIS COUNTY, TEXAS

April 2019



0 325 650 Feet

FM 664 (From IH 35 East to IH 45)

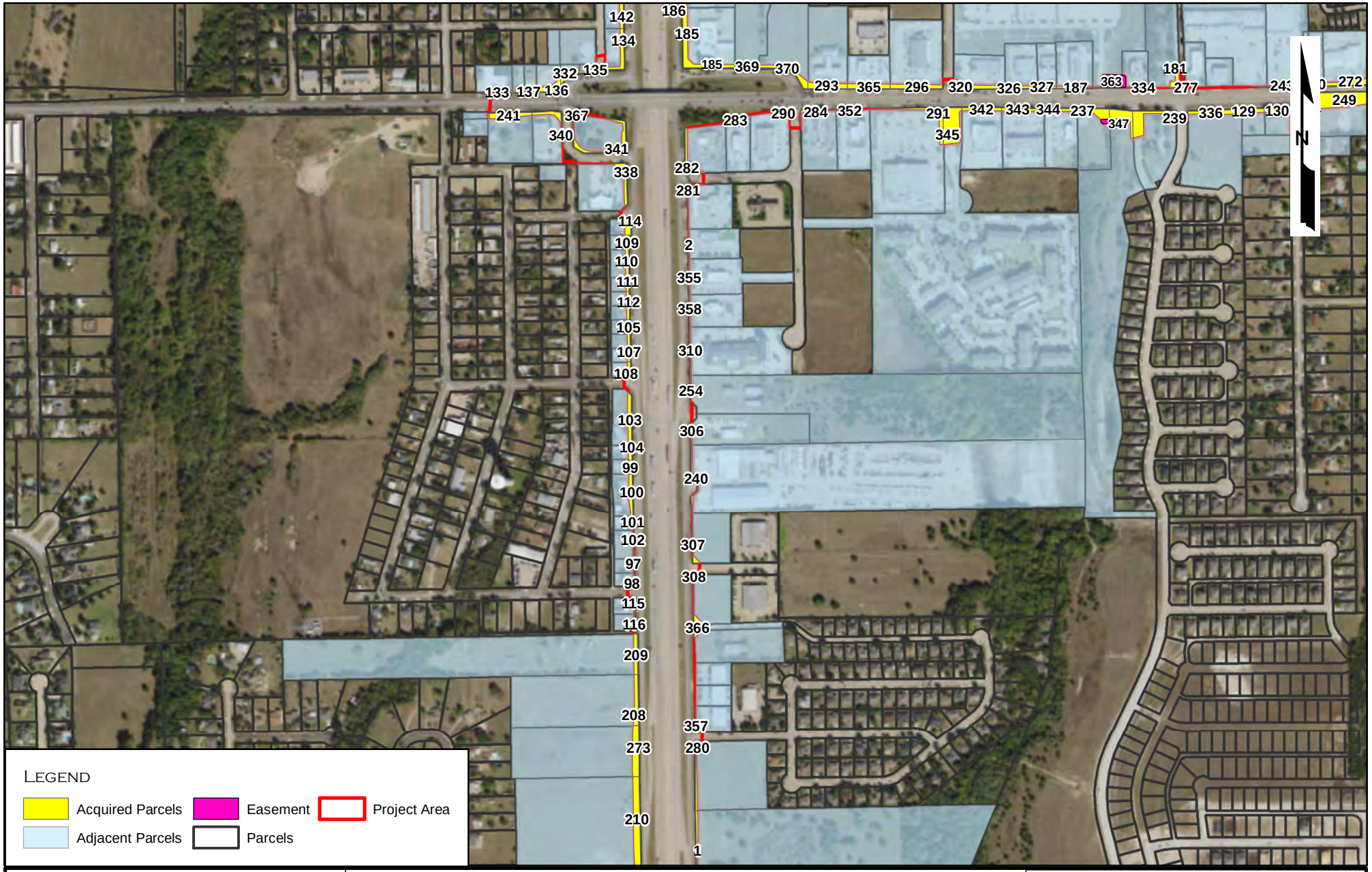
ROW Acquistion Map

Texas Department of Transportation

Appendix F Exhibit 1
Sheet 1

Ellis County, Texas

April 2019



0 325 650

Feet

FM 664 (From IH 35 East to IH 45)

ROW Acquistion Map

Texas Department of Transportation

Appendix F Exhibit 1
Sheet 2

Ellis County, Texas

April2019

0 325 650
Feet

FM 664 (From IH 35 East to IH 45)

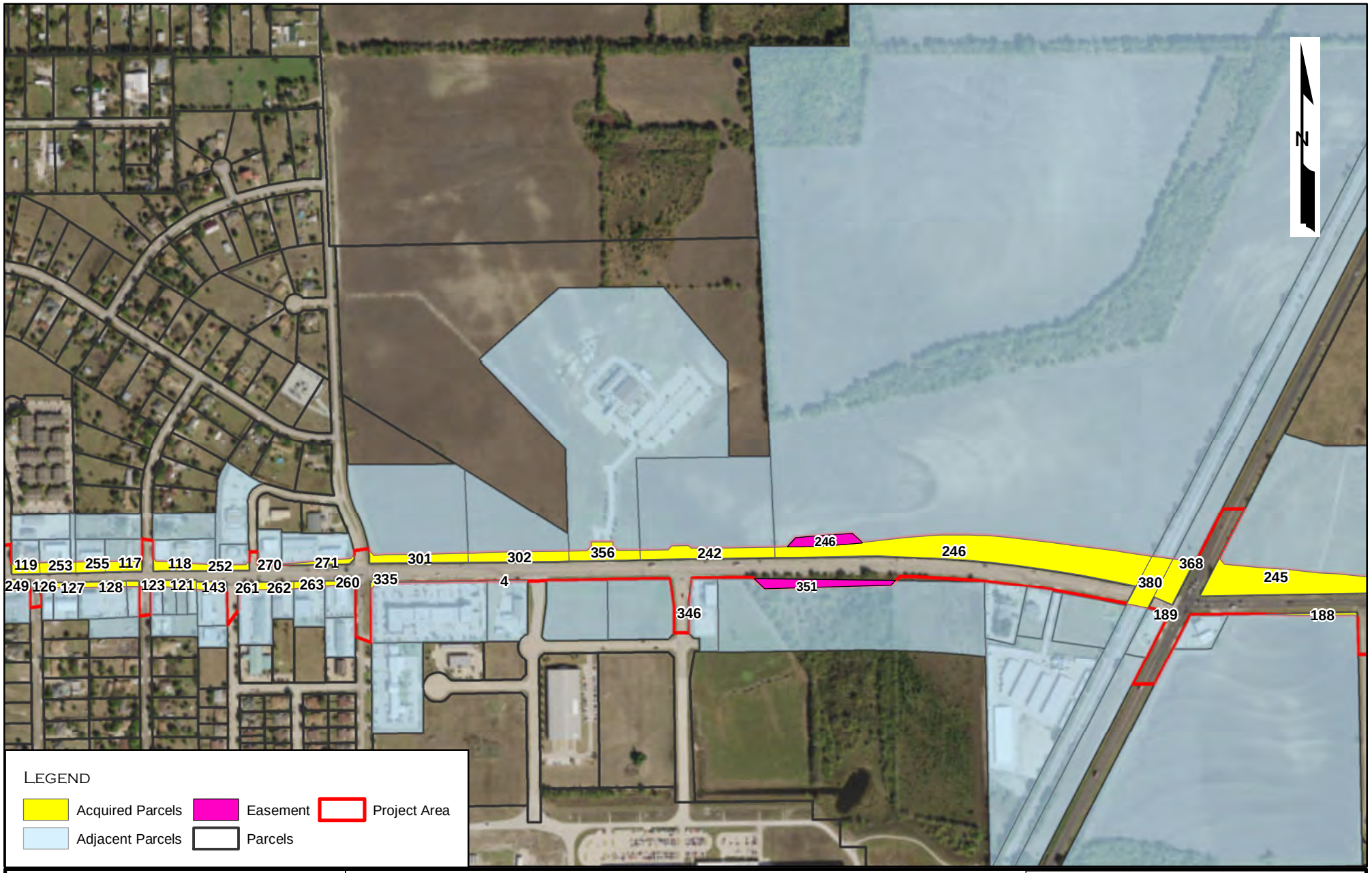
ROW Acquistion Map

Texas Department of Transportation

Appendix F Exhibit 1
Sheet 3

Ellis County, Texas

April 2019



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FM 664 (From IH 35 East to IH 45)

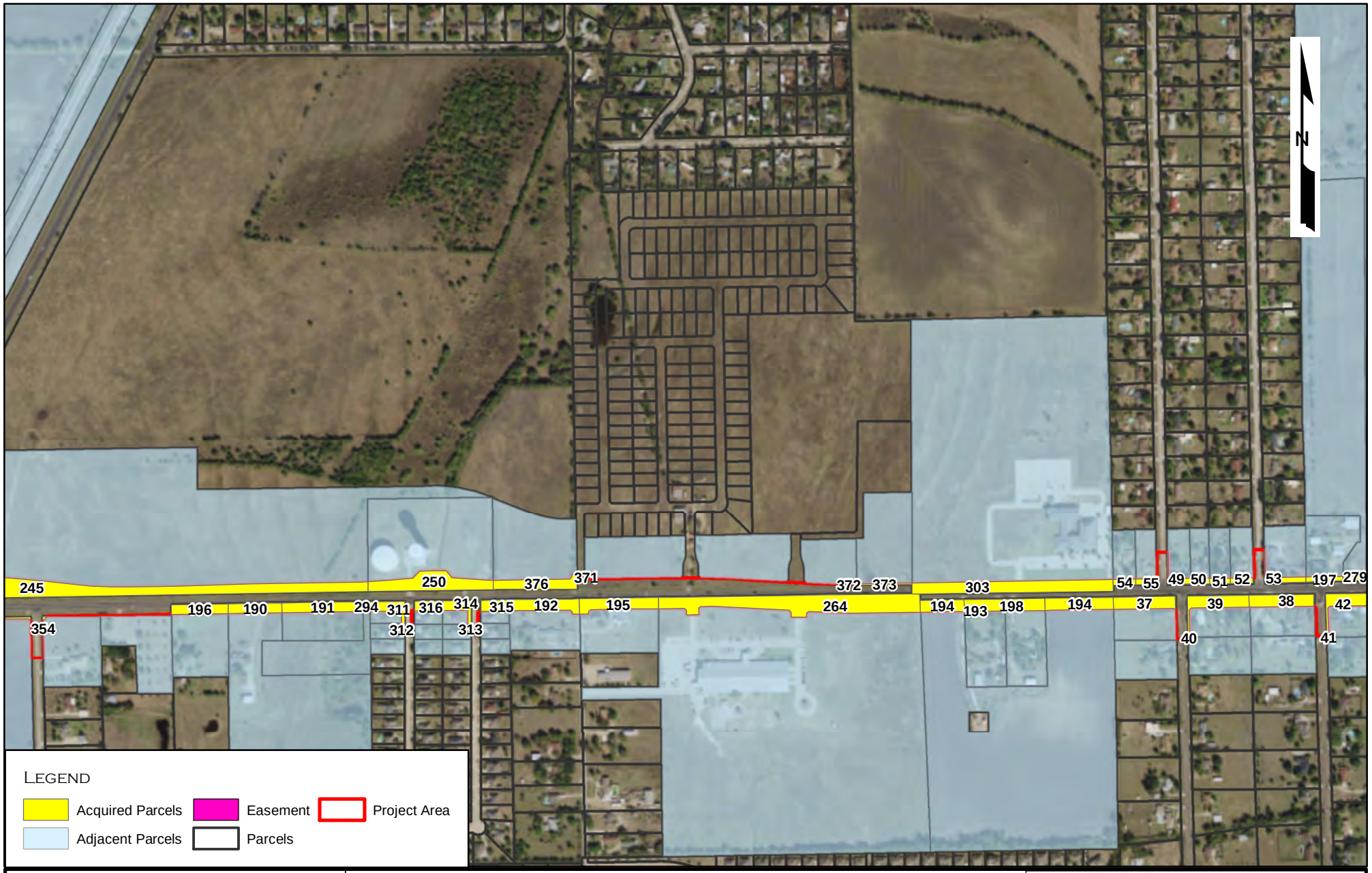
ROW Acquistion Map

Texas Department of Transportation

Appendix F Exhibit 1
Sheet 4

Ellis County, Texas

April 2019



0 325 650 Feet

FM 664 (From IH 35 East to IH 45)

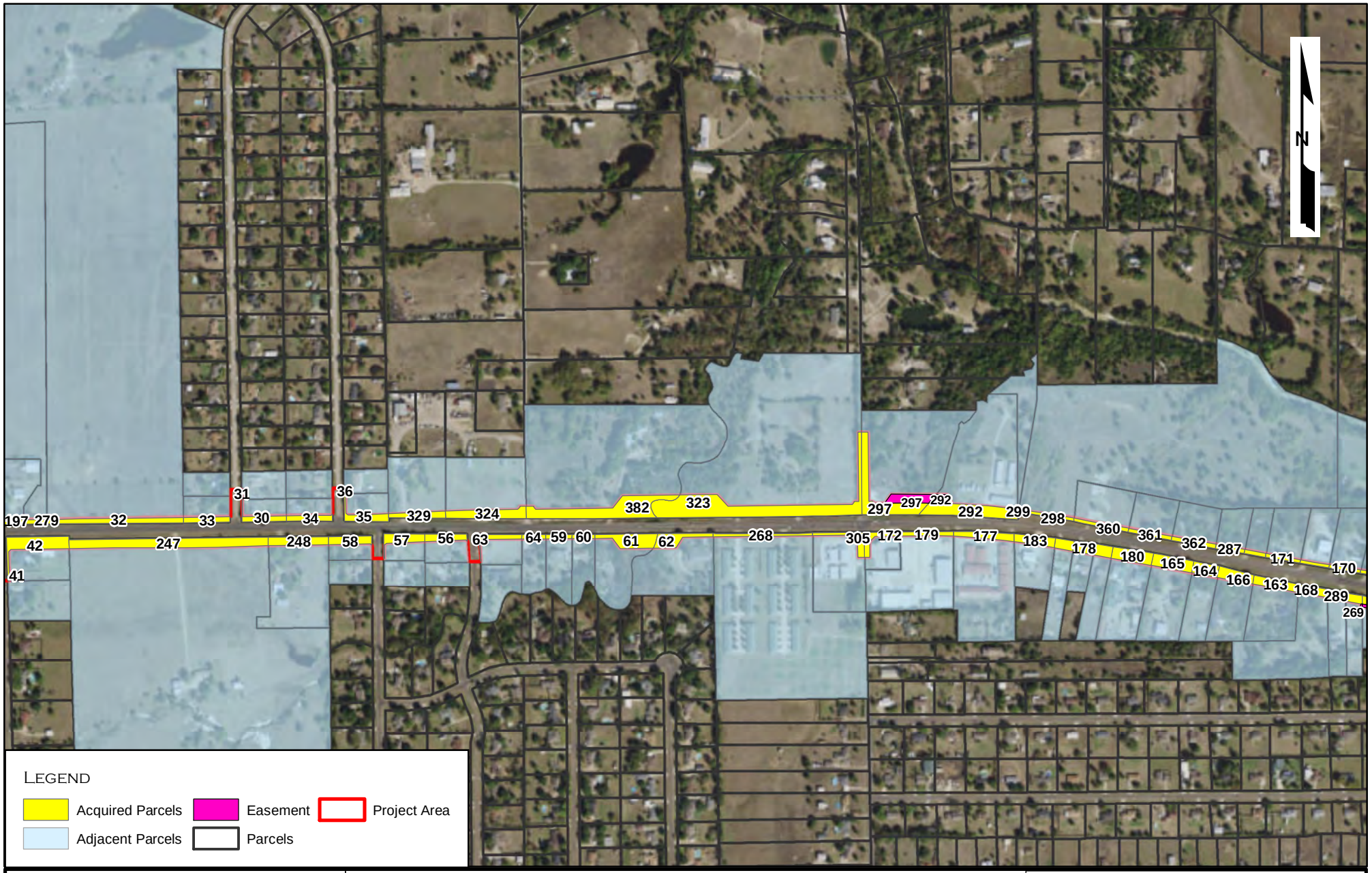
ROW Acquistion Map

Texas Department of Transportation

Appendix F Exhibit 1
Sheet 5

Ellis County, Texas

April 2019



0 325 650 Feet

FM 664 (From IH 35 East to IH 45)

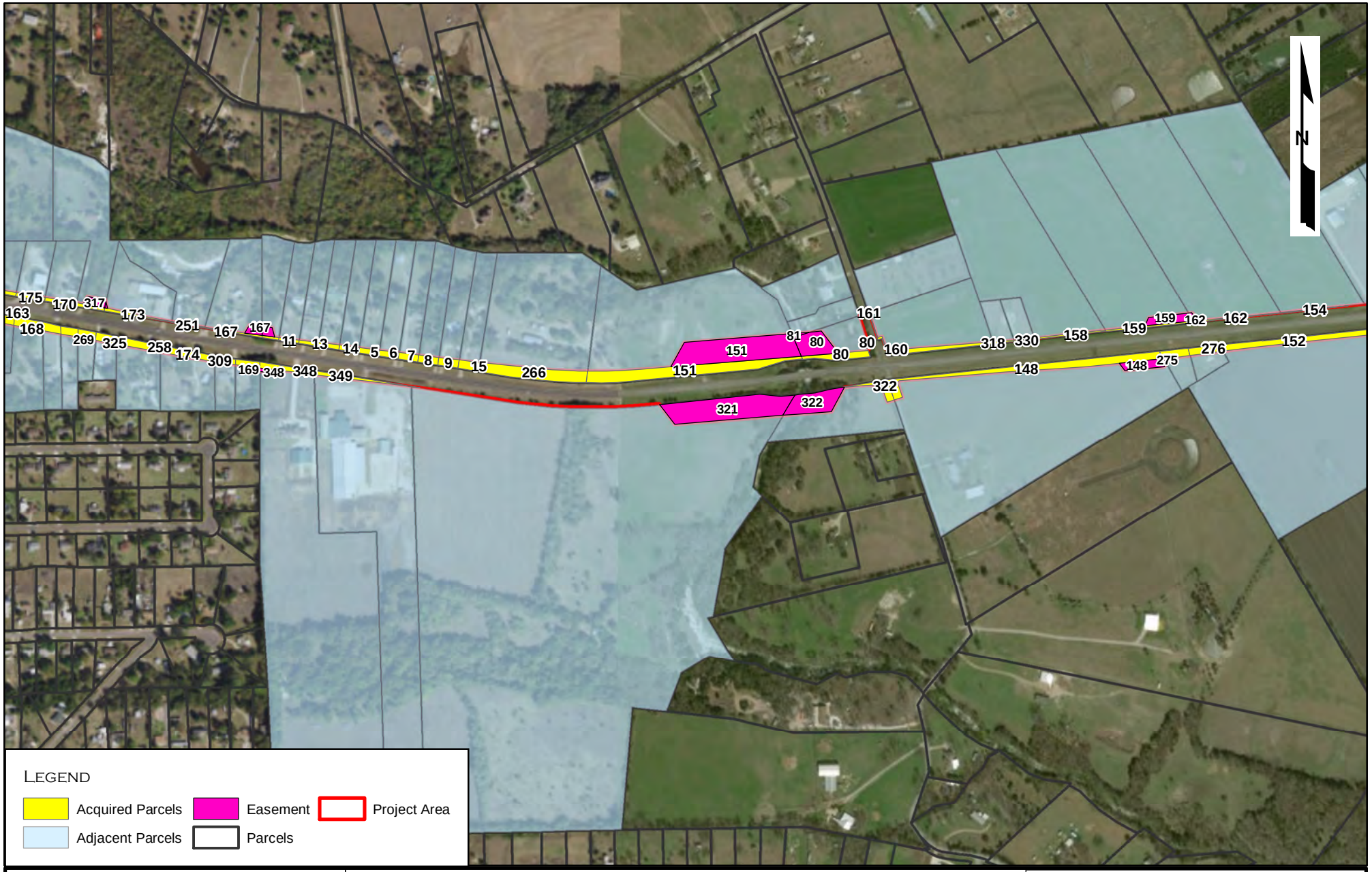
ROW Acquistion Map

Texas Department of Transportation

Appendix F Exhibit 1
Sheet 6

Ellis County, Texas

April 2019



0 325 650 Feet

FM 664 (From IH 35 East to IH 45)

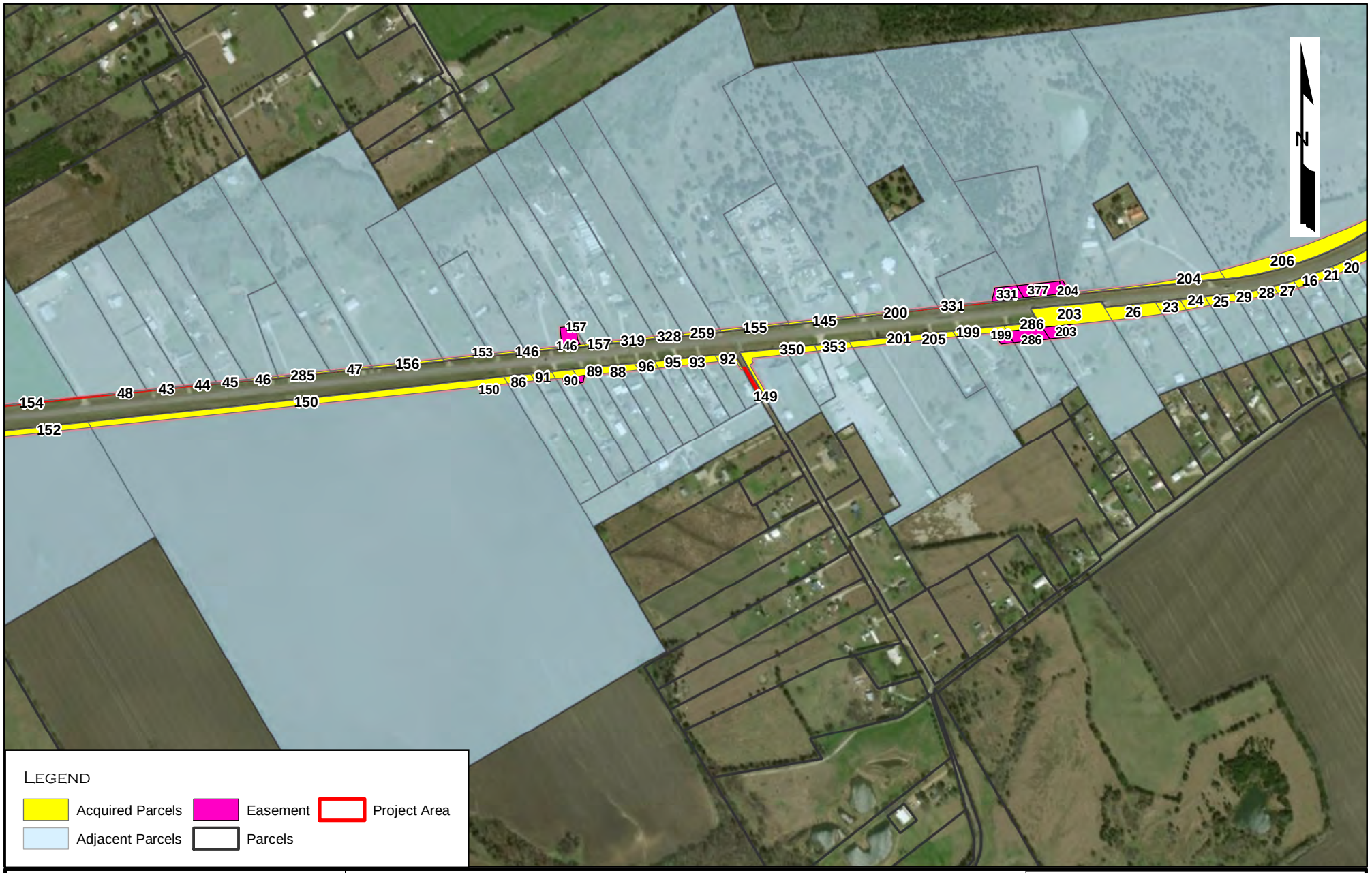
ROW Acquistion Map

Texas Department of Transportation

Appendix F Exhibit 1
Sheet 7

Ellis County, Texas

April 2019



0 325 650 Feet

FM 664 (From IH 35 East to IH 45)

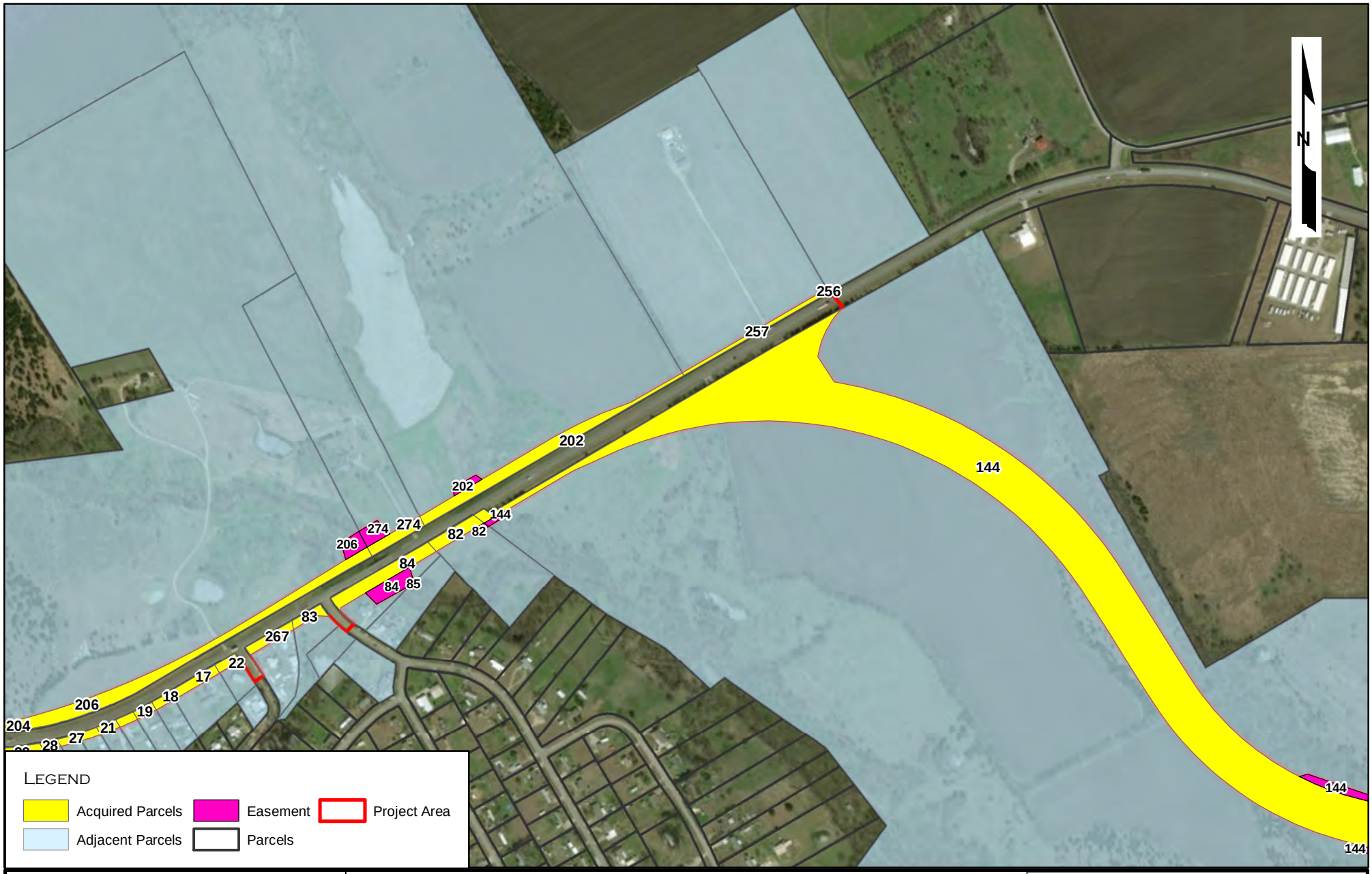
ROW Acquistion Map

Texas Department of Transportation

Appendix F Exhibit 1
Sheet 8

Ellis County, Texas

April 2019



0 325 650 Feet

FM 664 (From IH 35 East to IH 45)

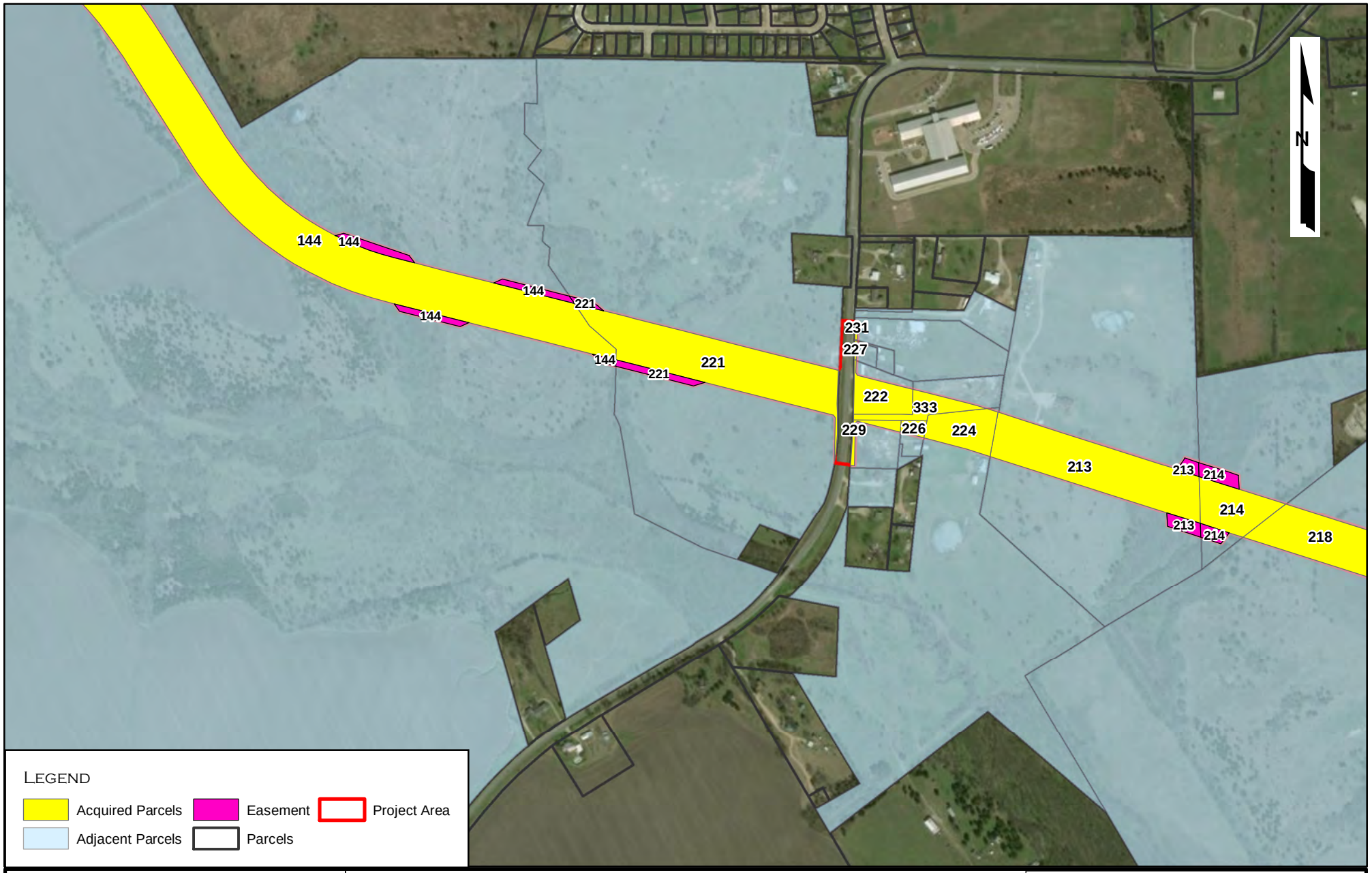
ROW Acquistion Map

Texas Department of Transportation

Appendix F Exhibit 1
Sheet 9

Ellis County, Texas

April 2019



0 325 650 Feet

FM 664 (From IH 35 East to IH 45)

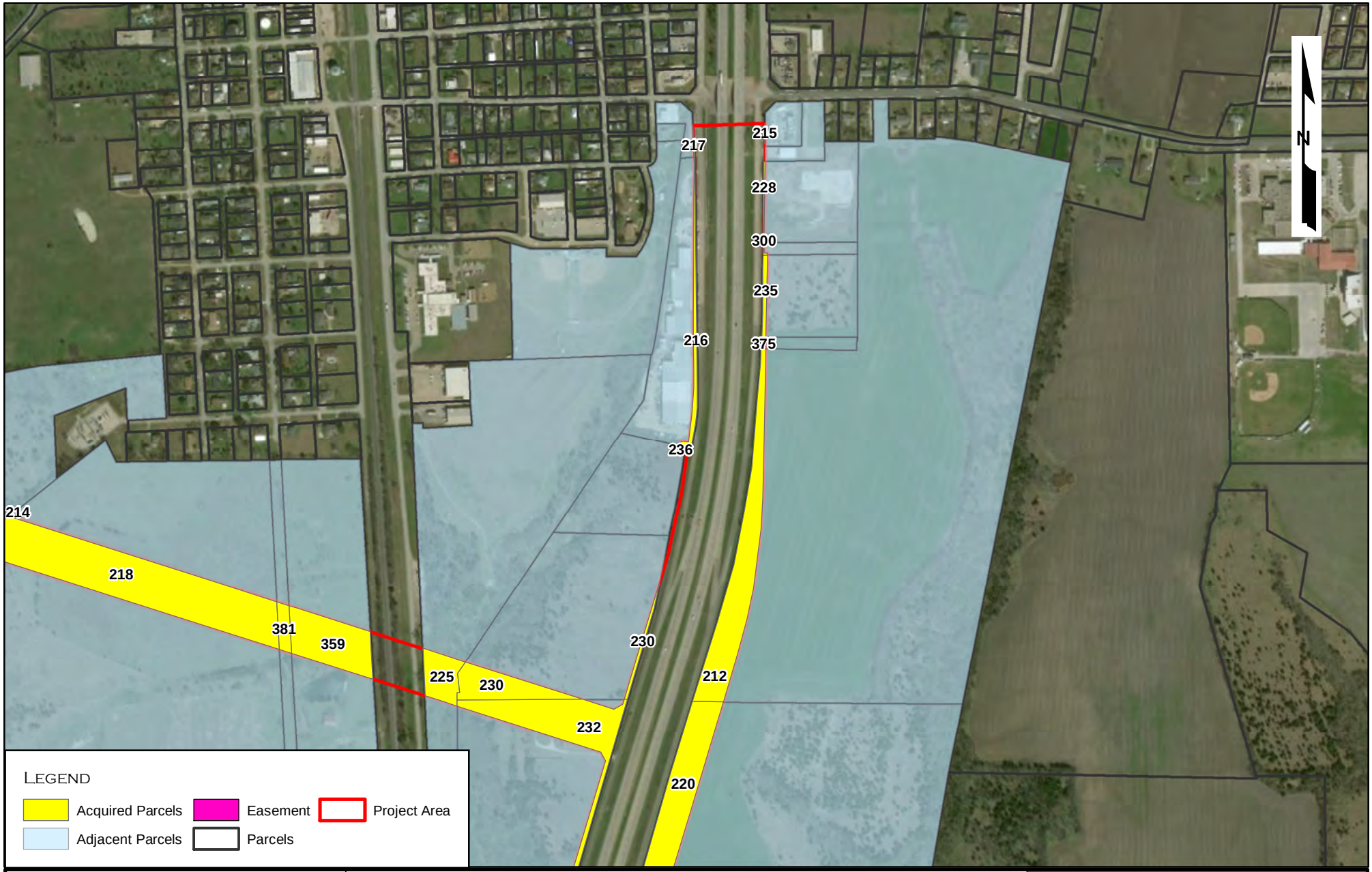
ROW Acquistion Map

Texas Department of Transportation

Appendix F Exhibit 1
Sheet 10

Ellis County, Texas

April 2019



0 325 650 Feet

FM 664 (From IH 35 East to IH 45)

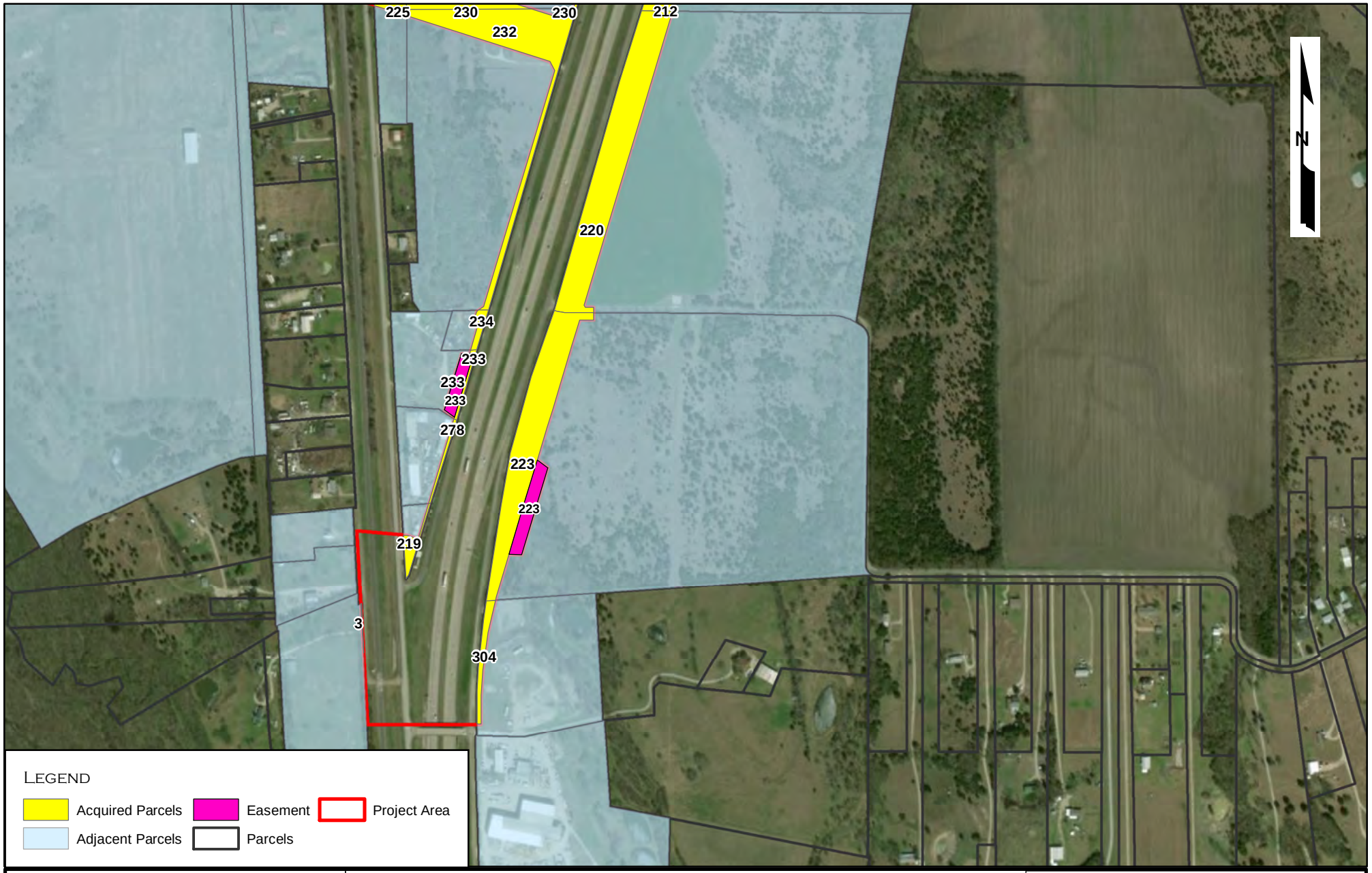
ROW Acquistion Map

Texas Department of Transportation

Appendix F Exhibit 1
Sheet 11

Ellis County, Texas

April 2019



0 325 650
Feet

FM 664 (From IH 35 East to IH 45)

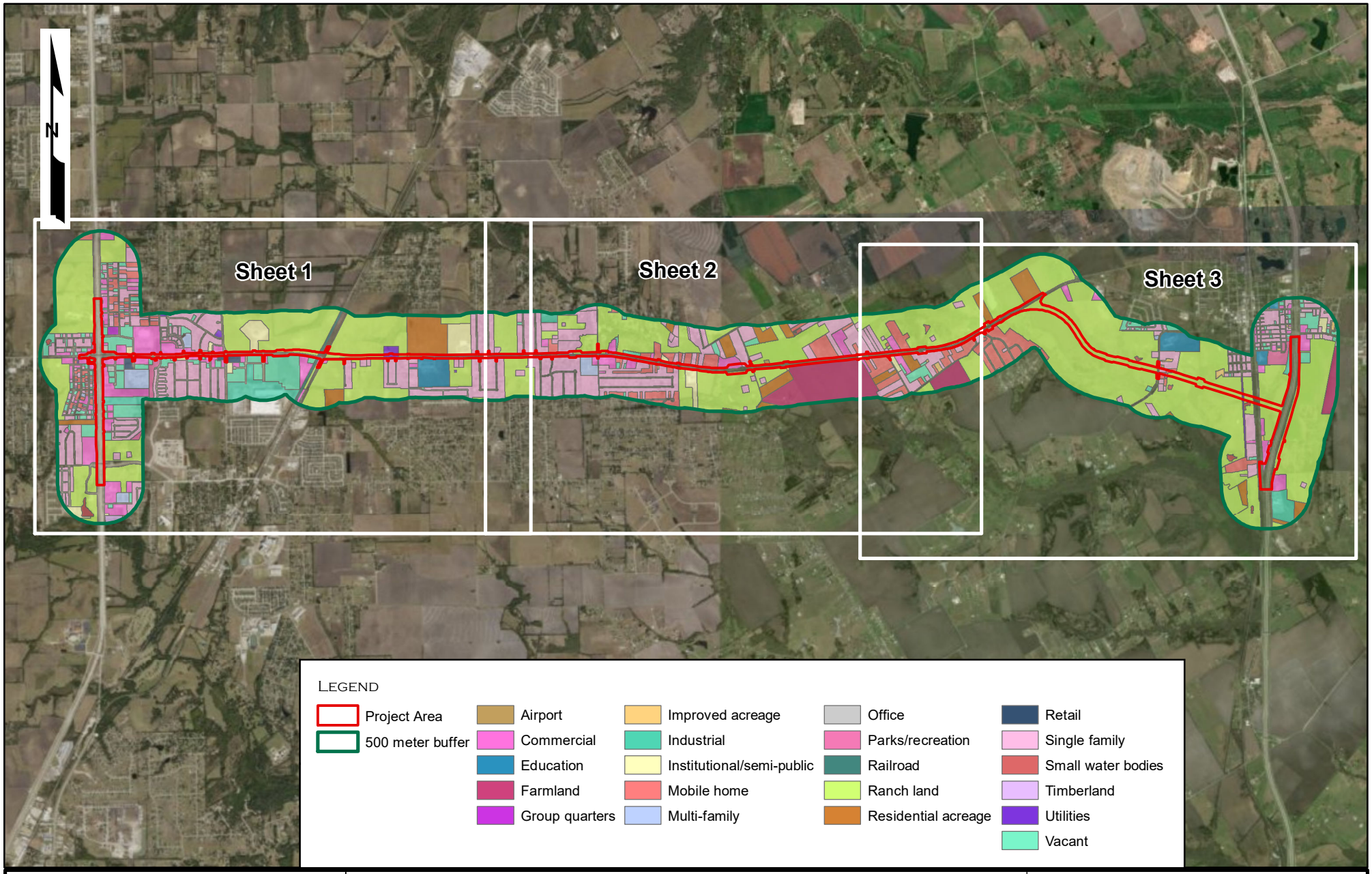
ROW Acquistion Map

Texas Department of Transportation

Appendix F Exhibit 1
Sheet 12

ELLIS COUNTY, TEXAS

April 2019



0 2,750 5,500 Feet

FM 664 (From IH 35 East to IH 45)

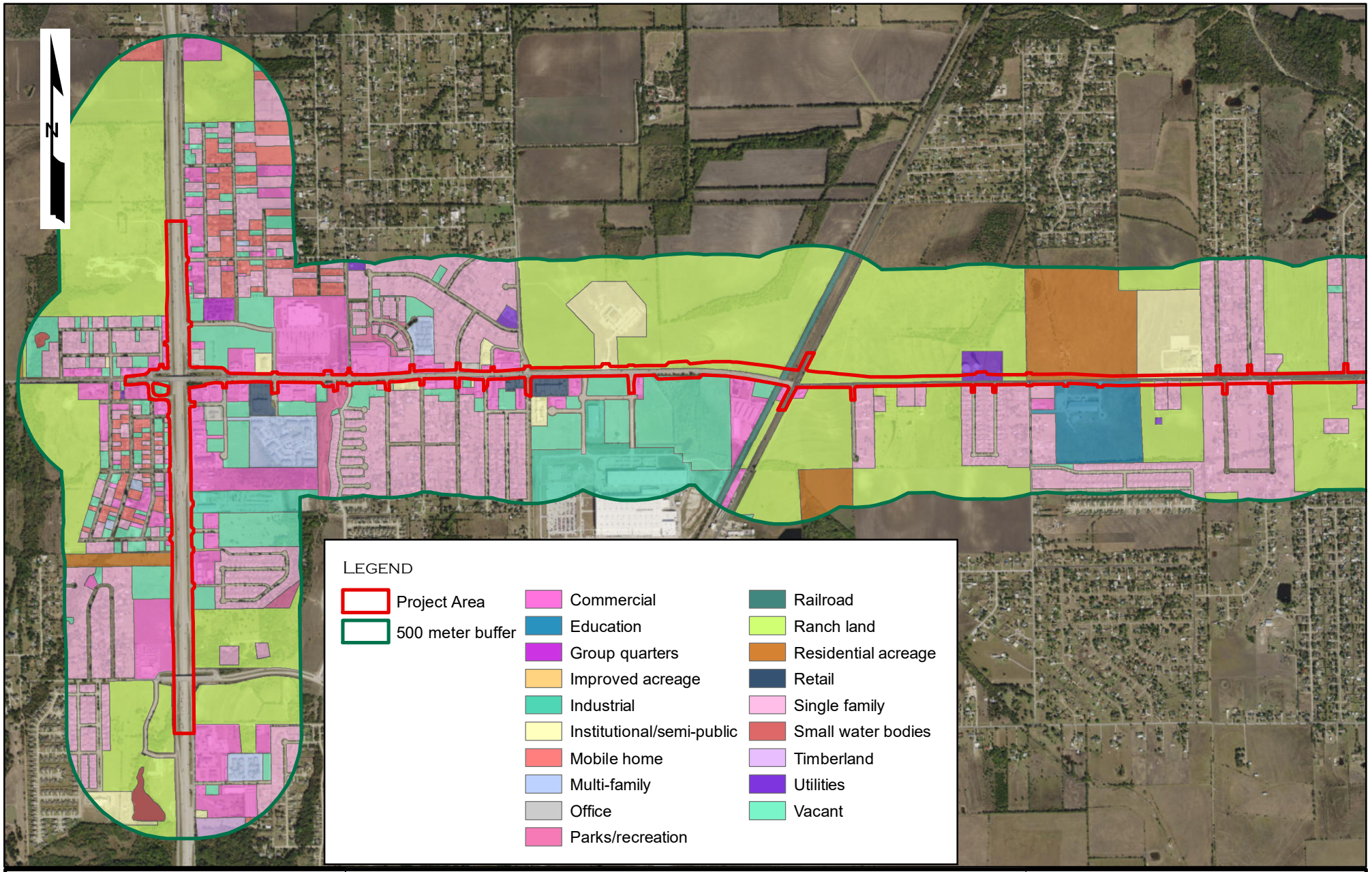
LAND USE OVERVIEW MAP-2015

Texas Department of Transportation

Appendix F Exhibit 2

ELLIS COUNTY, TEXAS

APRIL 2019



0 1,000 2,000 Feet

FM 664 (From IH 35 East to IH 45)

LAND USE MAP-2015

Texas Department of Transportation

Appendix F Exhibit 2
Sheet 1

ELLIS COUNTY, TEXAS

APRIL 2019

0 1,000 2,000 Feet

FM 664 (From IH 35 East to IH 45)

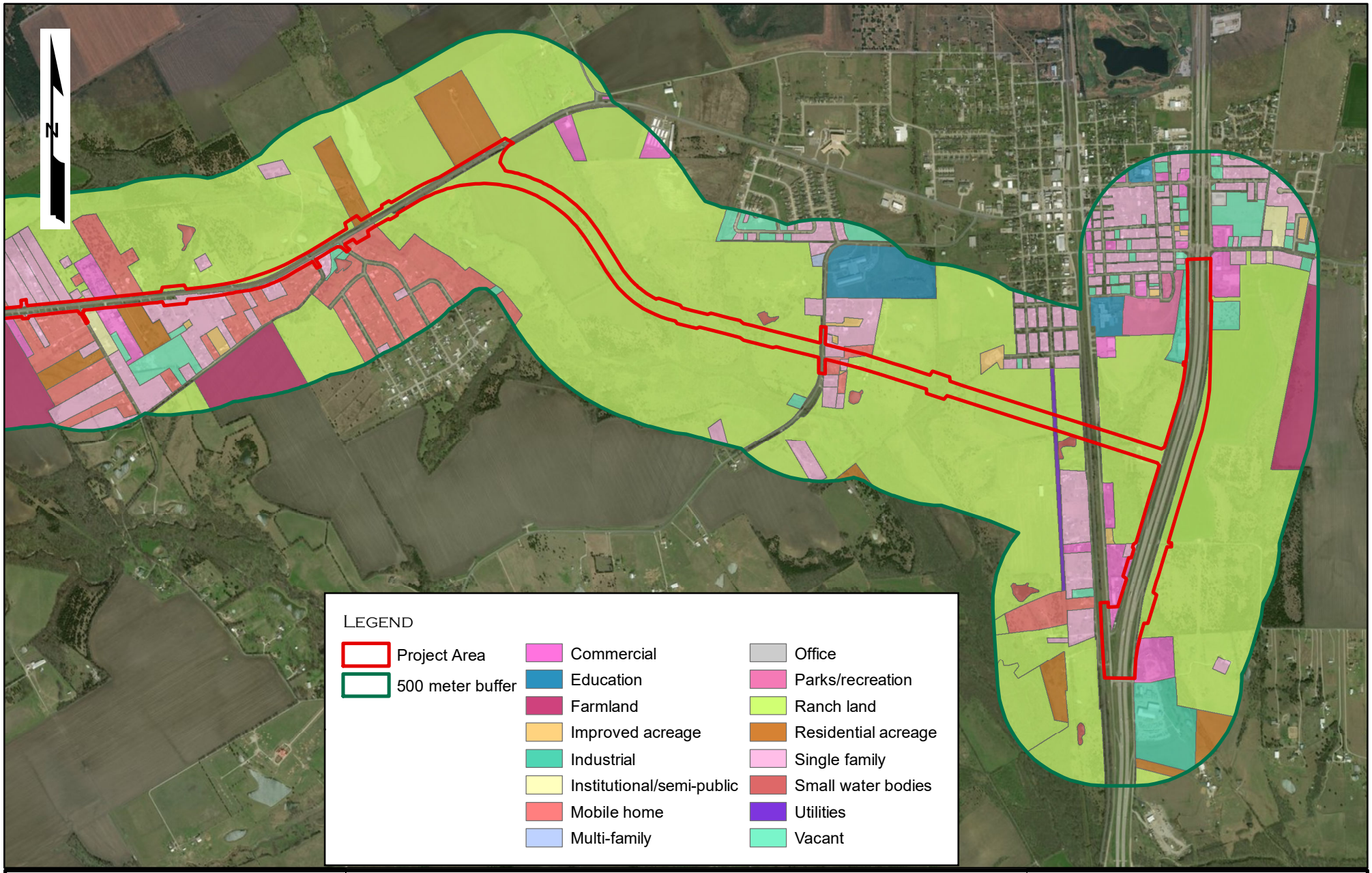
LAND USE MAP-2015

Texas Department of Transportation

Appendix F Exhibit 2
Sheet 2

ELLIS COUNTY, TEXAS

APRIL 2019



0 1,000 2,000 Feet

FM 664 (From IH 35 East to IH 45)

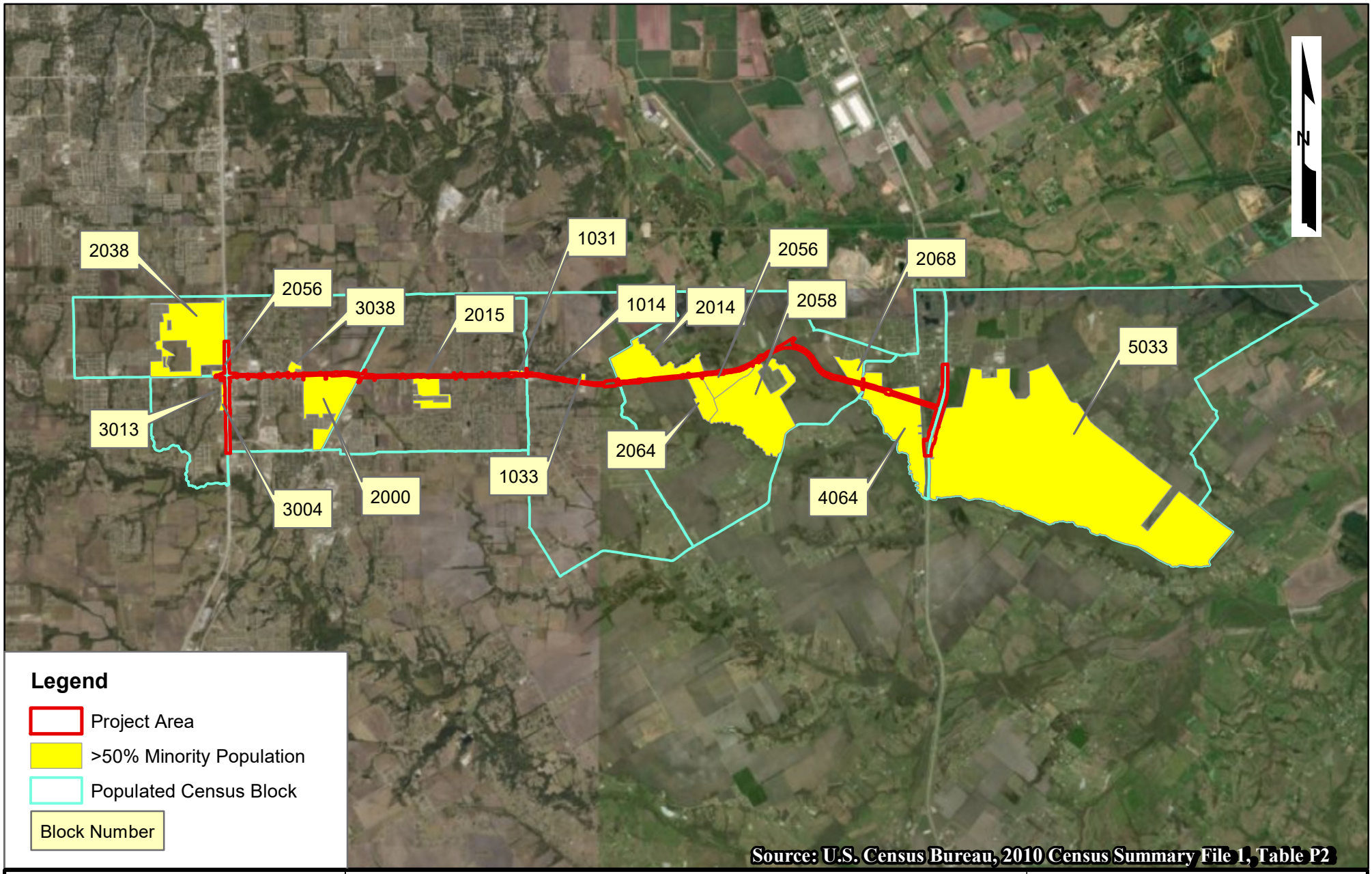
LAND USE MAP-2015

Texas Department of Transportation

Appendix F Exhibit 2
Sheet 3

ELLIS COUNTY, TEXAS

APRIL 2019



0 1.8 Miles

FM 664 (From IH 35 East to IH 45)

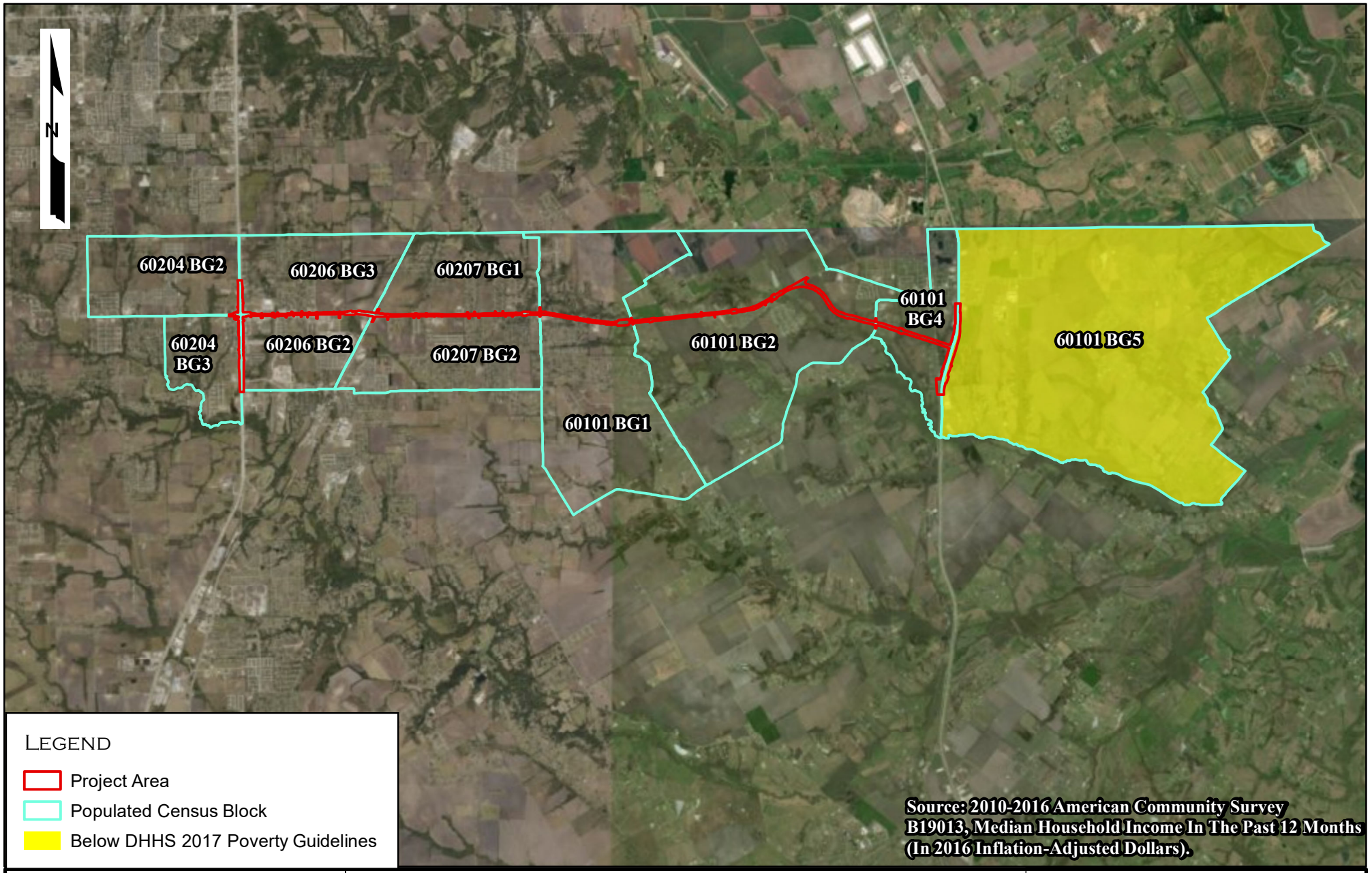
MINORITY DENSITY MAP

Texas Department of Transportation

Appendix F: Exhibit 3

Ellis County, Texas

April 2019



0 1.6 Miles

FM 664 (From IH 35 East to IH 45)

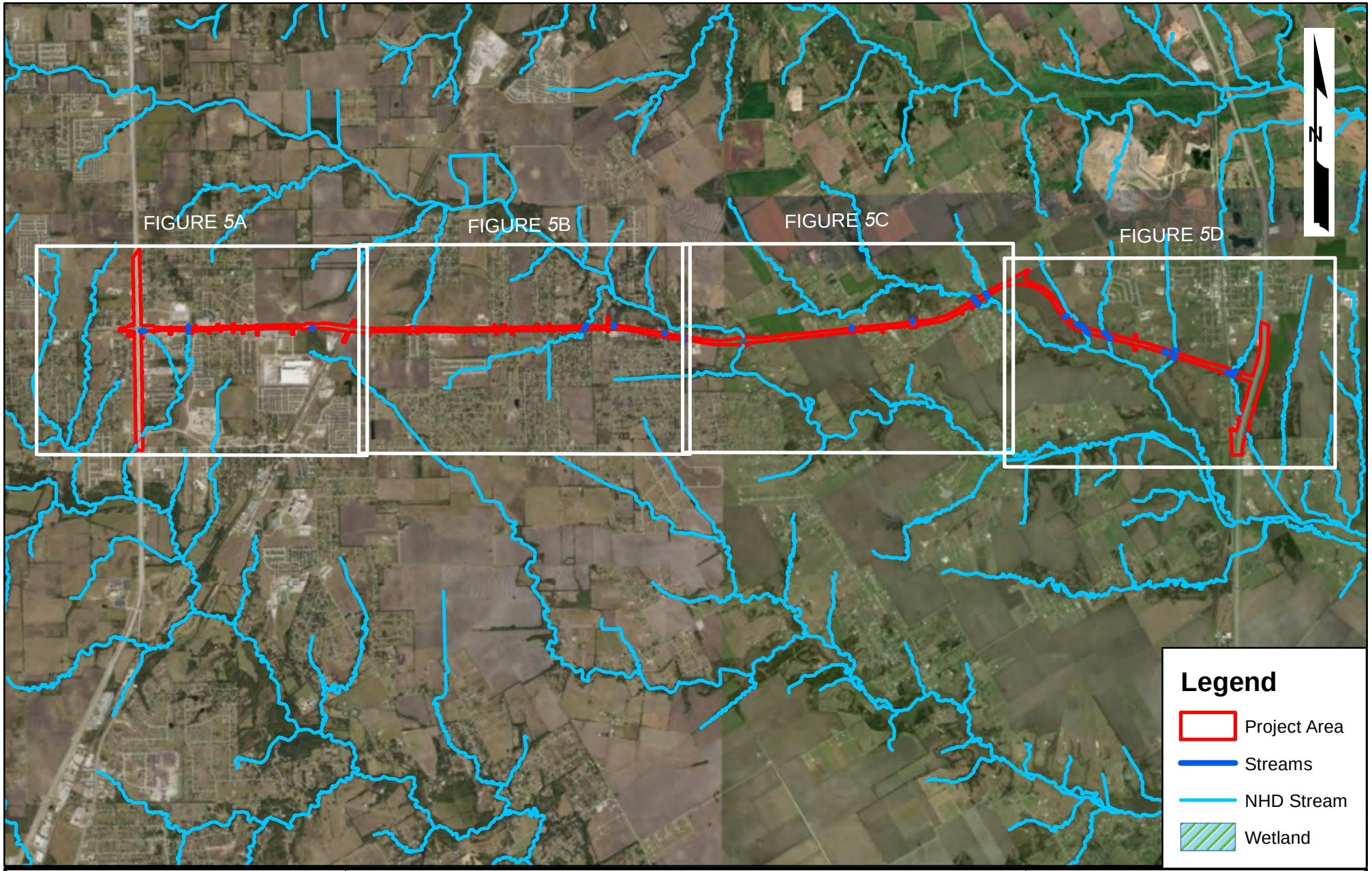
Median Household Income (2010-2016) Map

Texas Department of Transportation

Appendix F: Exhibit 4

Ellis County, Texas

April 2019



0 1 2 Miles

FM 664 (From IH 35 East to IH 45)

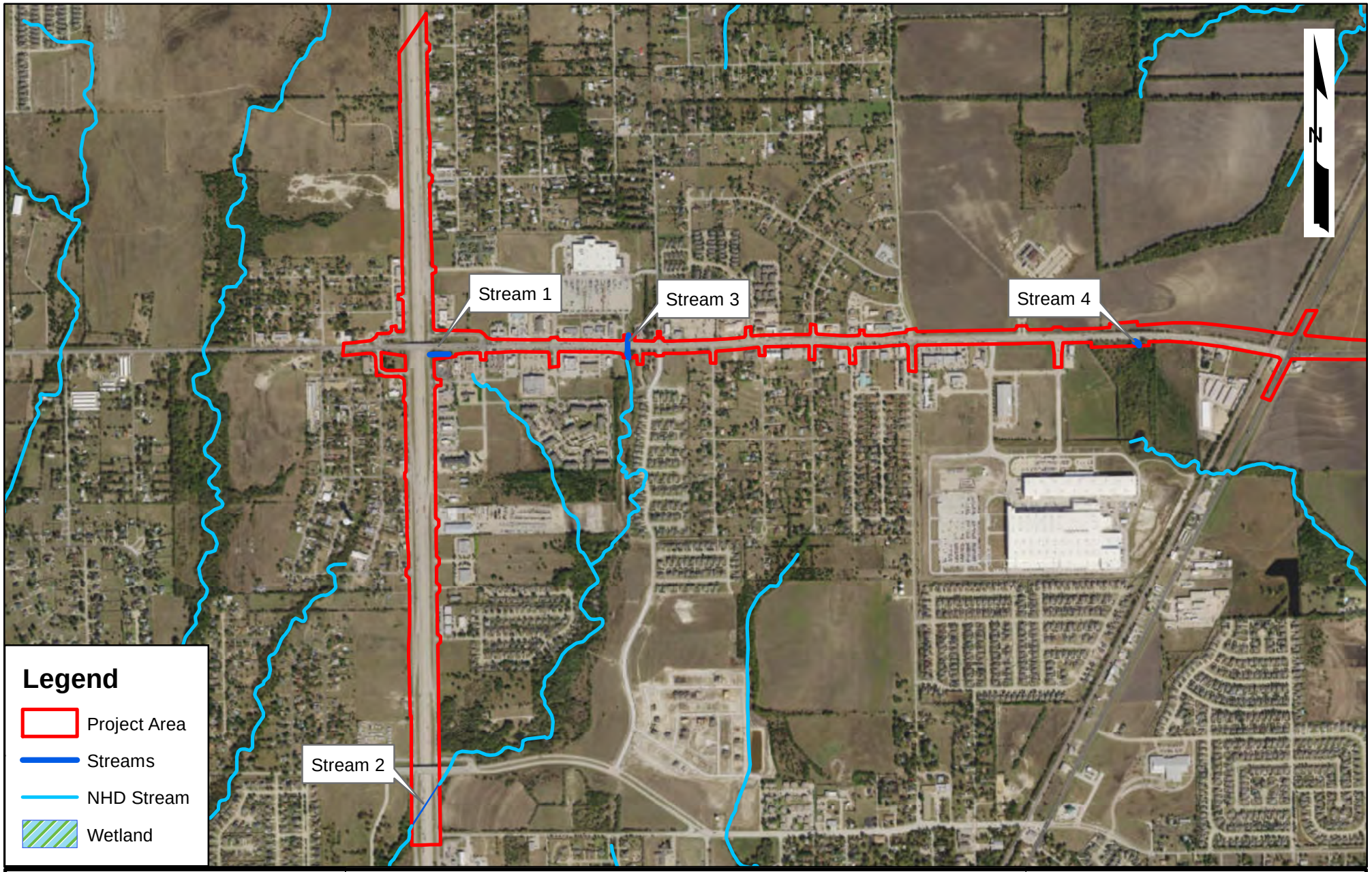
WETLAND DELINEATION OVERVIEW MAP

Texas Department of Transportation

APPENDIX F: EXHIBIT 5

ELLIS COUNTY, TEXAS

April 2019



0 1,000 2,000 Feet

FM 664 (From IH 35 East to IH 45)

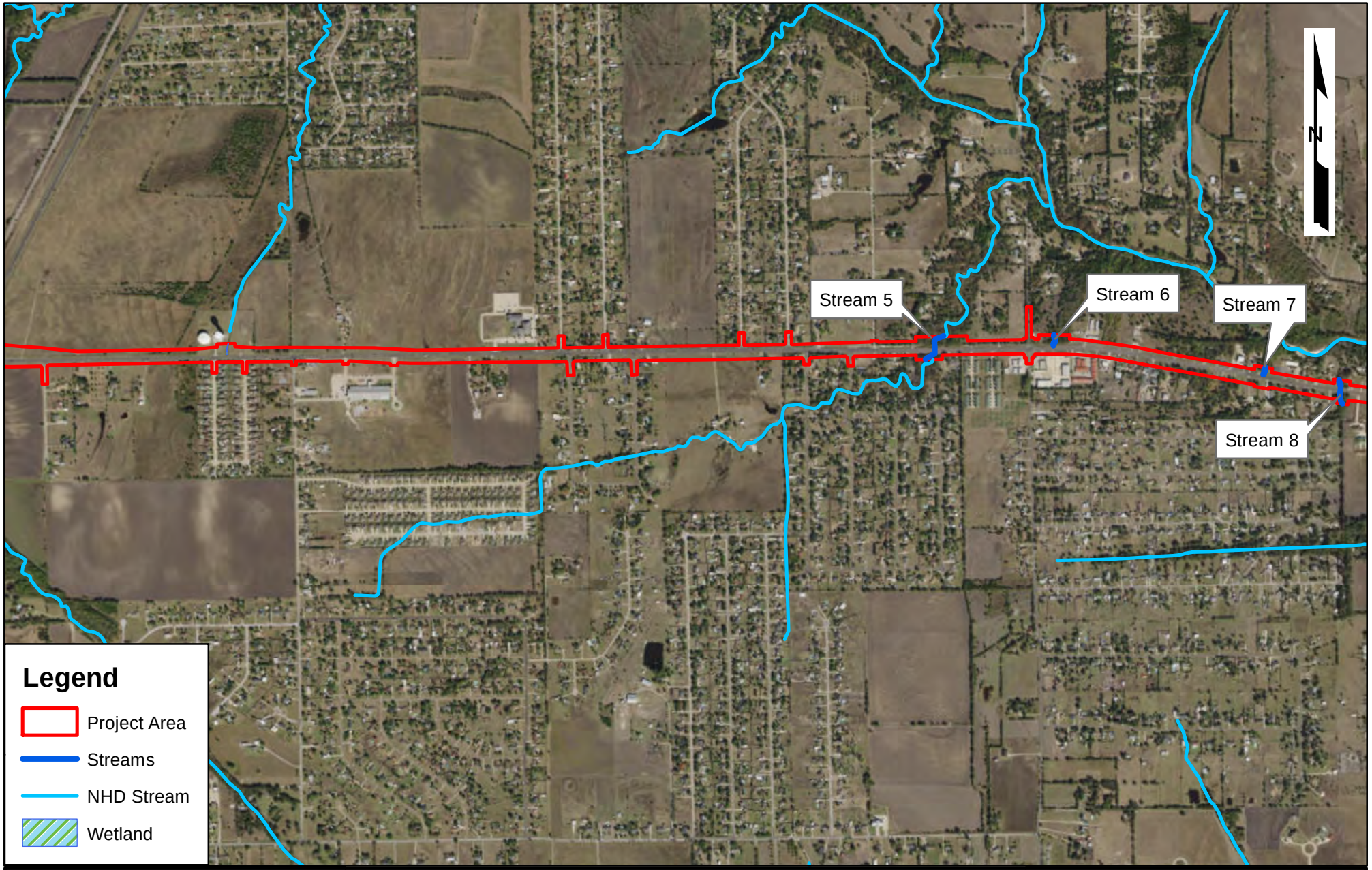
WETLAND DELINEATION MAP

Texas Department of Transportation

Appendix F Exhibit 5
Sheet 5A

ELLIS COUNTY, TEXAS

April 2019



FM 664 (From IH 35 East to IH 45)

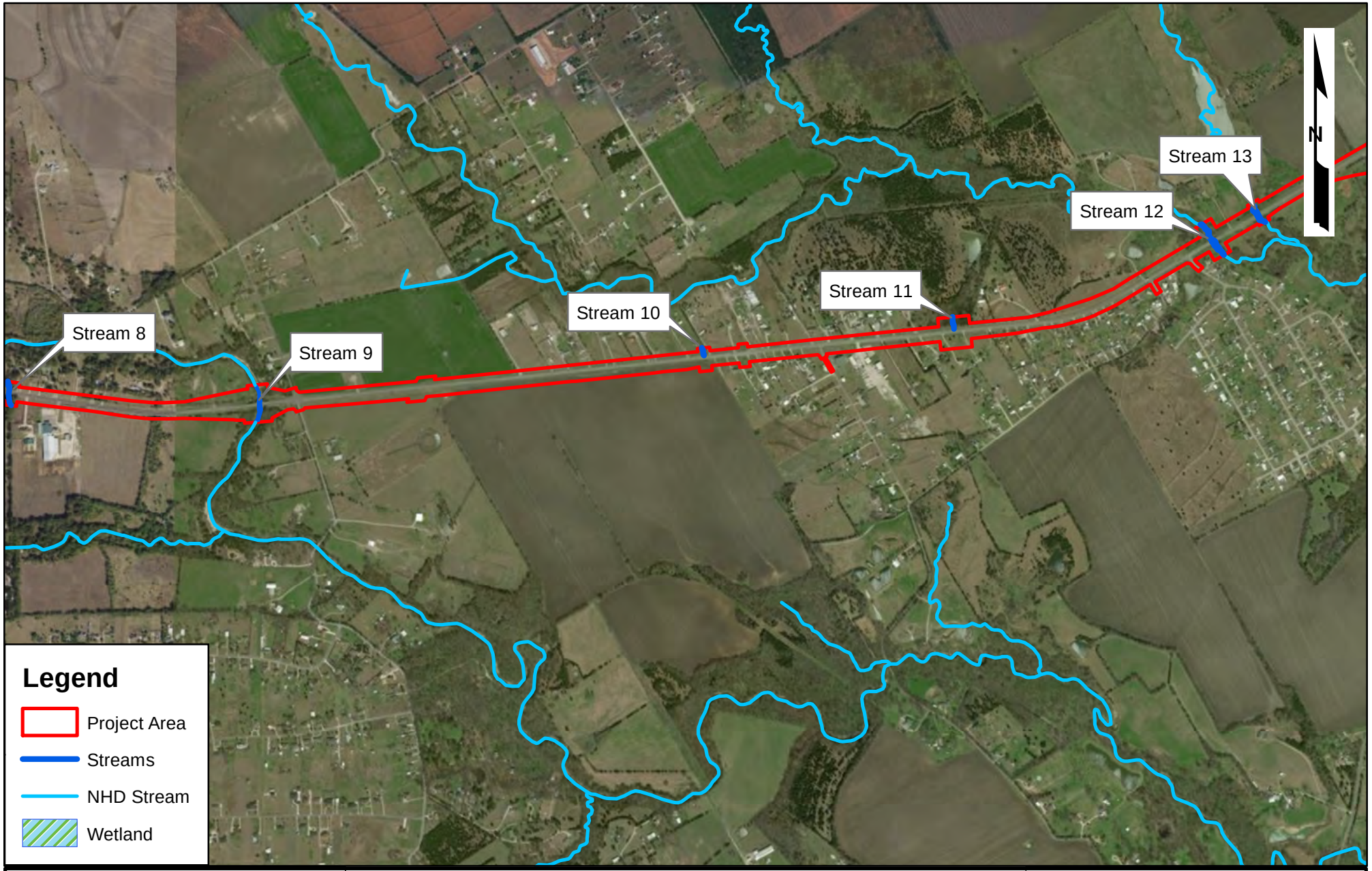
WETLAND DELINEATION MAP

Texas Department of Transportation

Appendix F: Exhibit 5
Sheet 5B

ELLIS COUNTY, TEXAS

April 2019



0 1,000 2,000 Feet

FM 664 (From IH 35 East to IH 45)

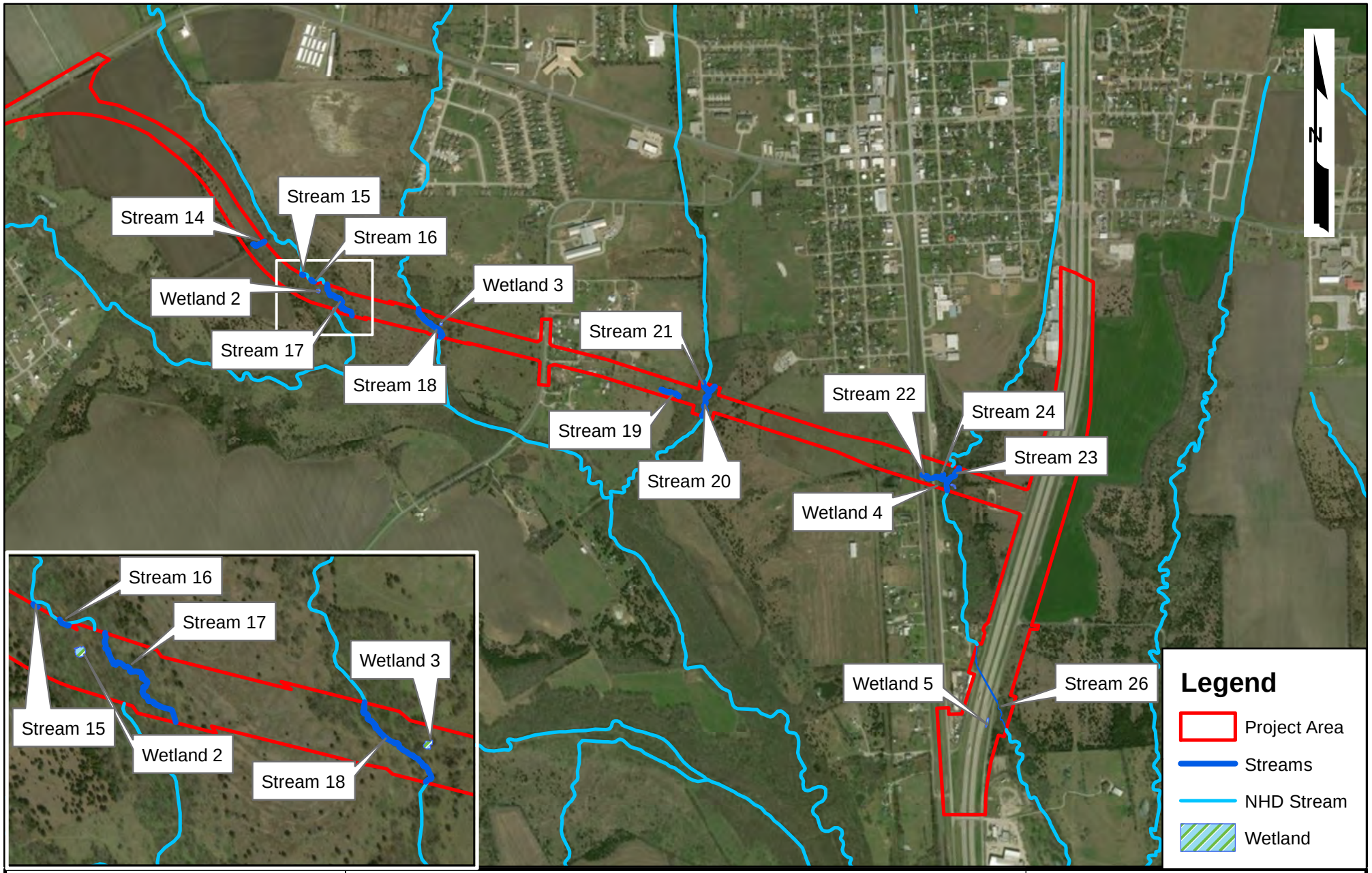
WETLAND DELINEATION MAP

Texas Department of Transportation

Appendix F: Exhibit 5
Sheet 5C

ELLIS COUNTY, TEXAS

April 2019



0 1,000 2,000 Feet

FM 664 (From IH 35 East to IH 45)

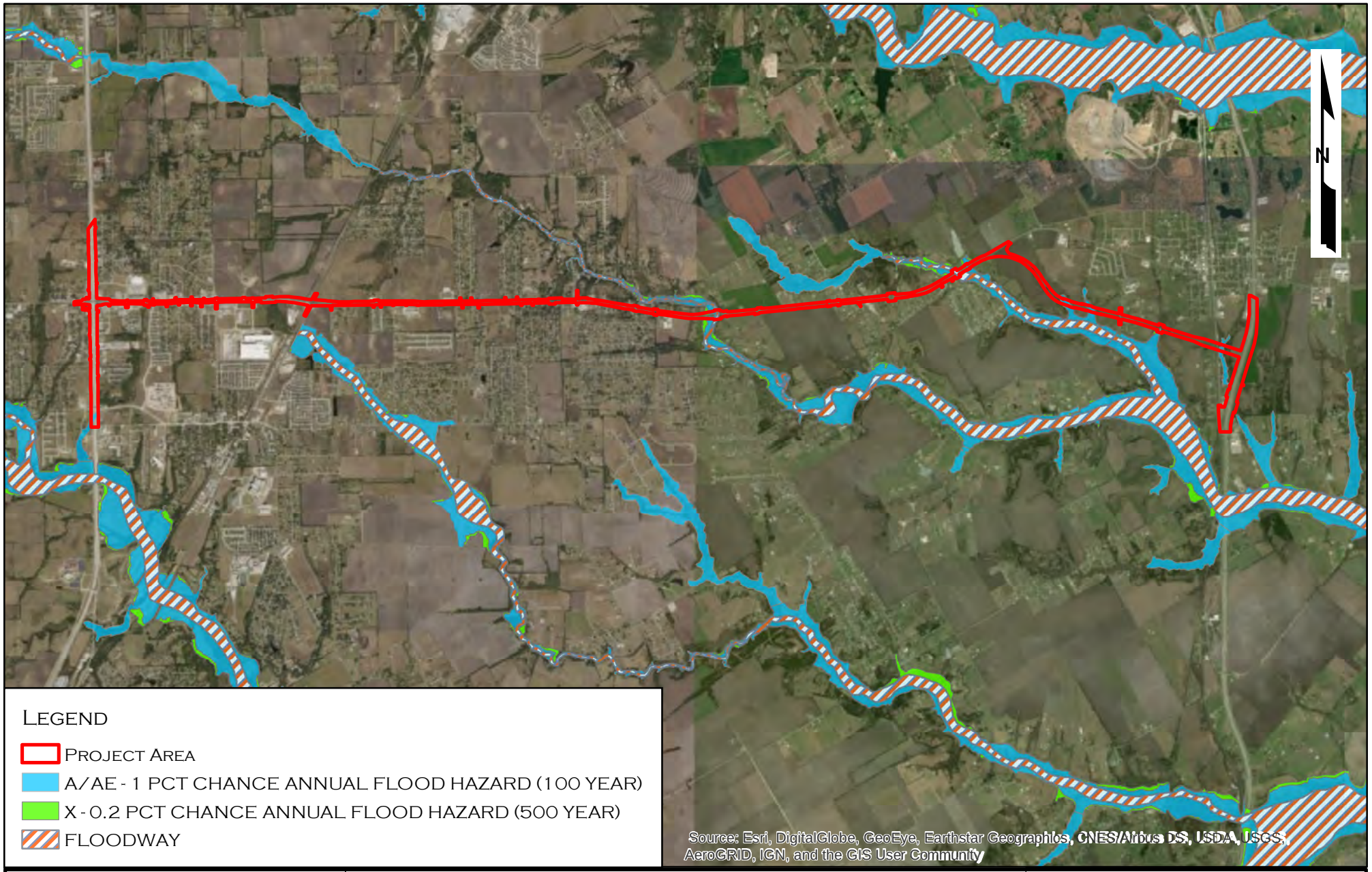
WETLAND DELINEATION MAP

Texas Department of Transportation

Appendix F: Exhibit 5
Sheet 5D

ELLIS COUNTY, TEXAS

April 2019



0 0.5 1 Miles

FM 664 (From IH 35 East To IH 45)

FEMA FLOODPLAIN MAP

Texas Department of Transportation

Appendix F Exhibit 6	ELLIS COUNTY, TEXAS	April 2019

0 0.5 1 Miles

FM 664 (From IH 35 East to IH 45)

HAZMAT MAP

Texas Department of Transportation

Appendix F Exhibit 7

Ellis County, Texas

April 2019

0 0.5 1 Miles

FM 664 (FROM IH 35E TO IH 45)

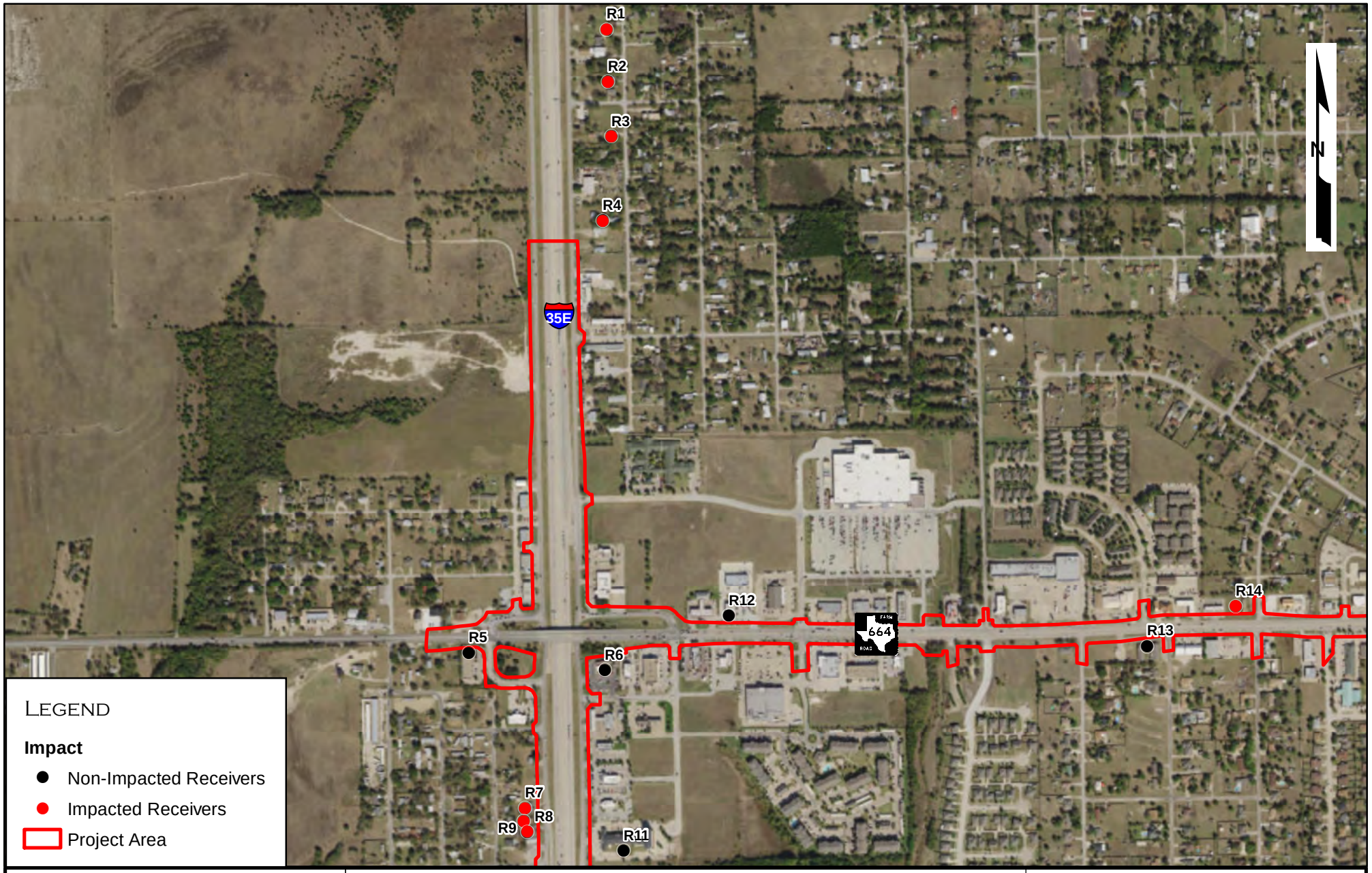
NOISE RECEIVERS OVERVIEW MAP

Texas Department of Transportation

APPENDIX F EXHIBIT 8

ELLIS COUNTY, TEXAS

APRIL 2019



0 400 800 Feet

FM 664 (FROM IH 35E TO IH 45)

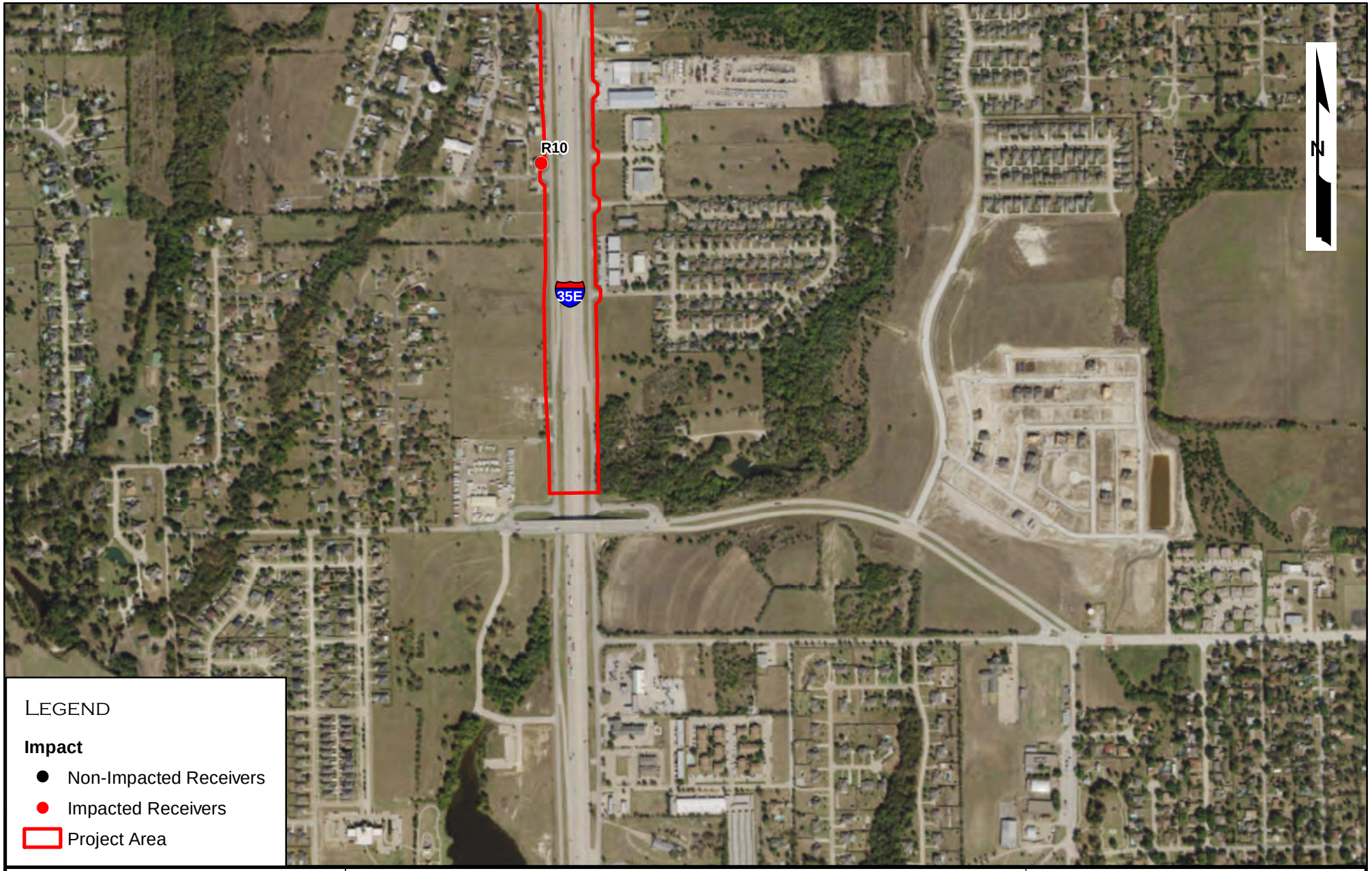
NOISE RECEIVERS MAP

Texas Department of Transportation

Appendix F Exhibit 8
Sheet 5A

ELLIS COUNTY, TEXAS

April 2019



FM 664 (FROM IH 35E TO IH 45)

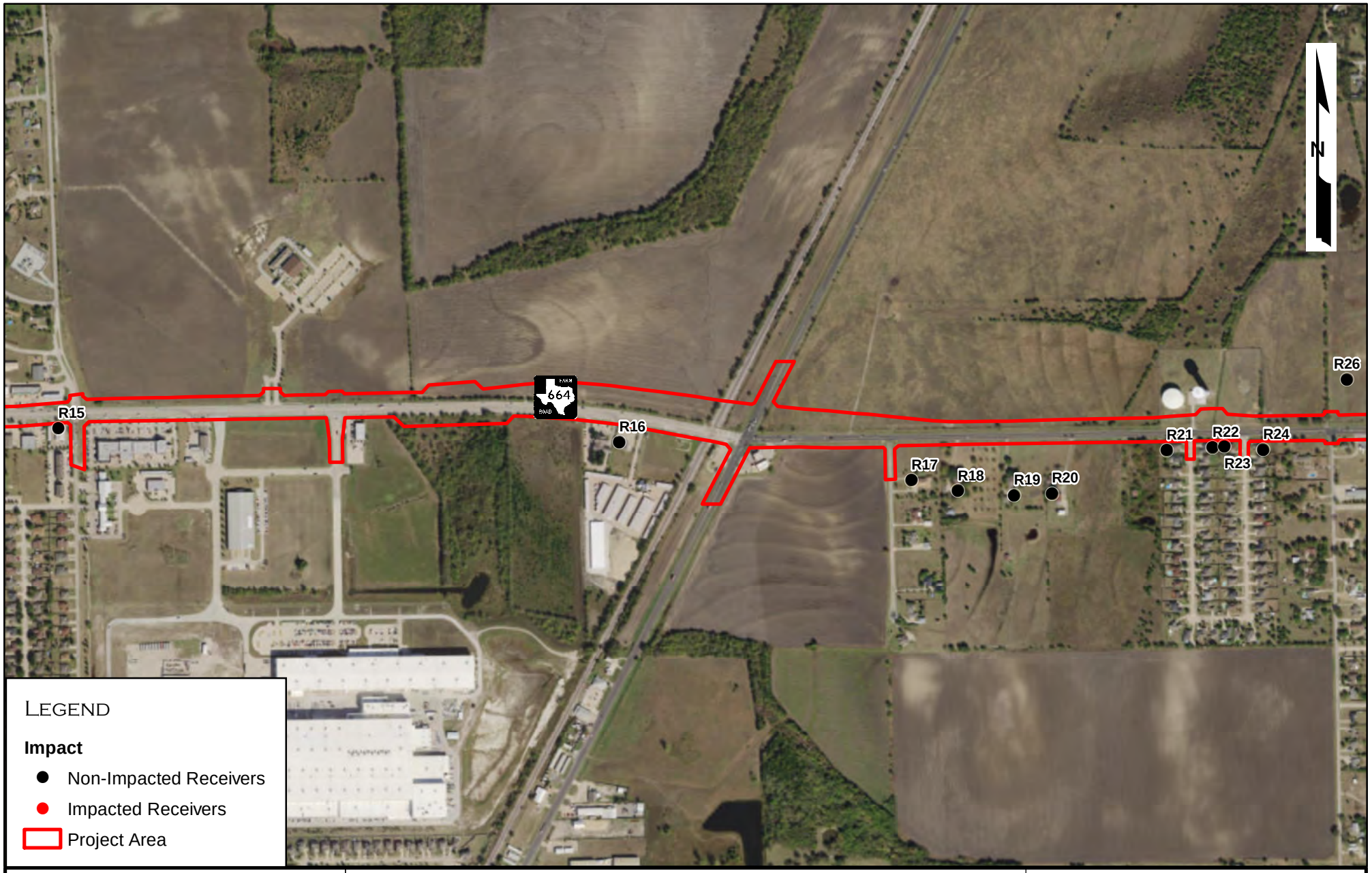
NOISE RECEIVERS MAP

Texas Department of Transportation

APPENDIX F EXHIBIT 8
SHEET 5B

ELLIS COUNTY, TEXAS

APRIL 2019



FM 664 (FROM IH 35E TO IH 45)

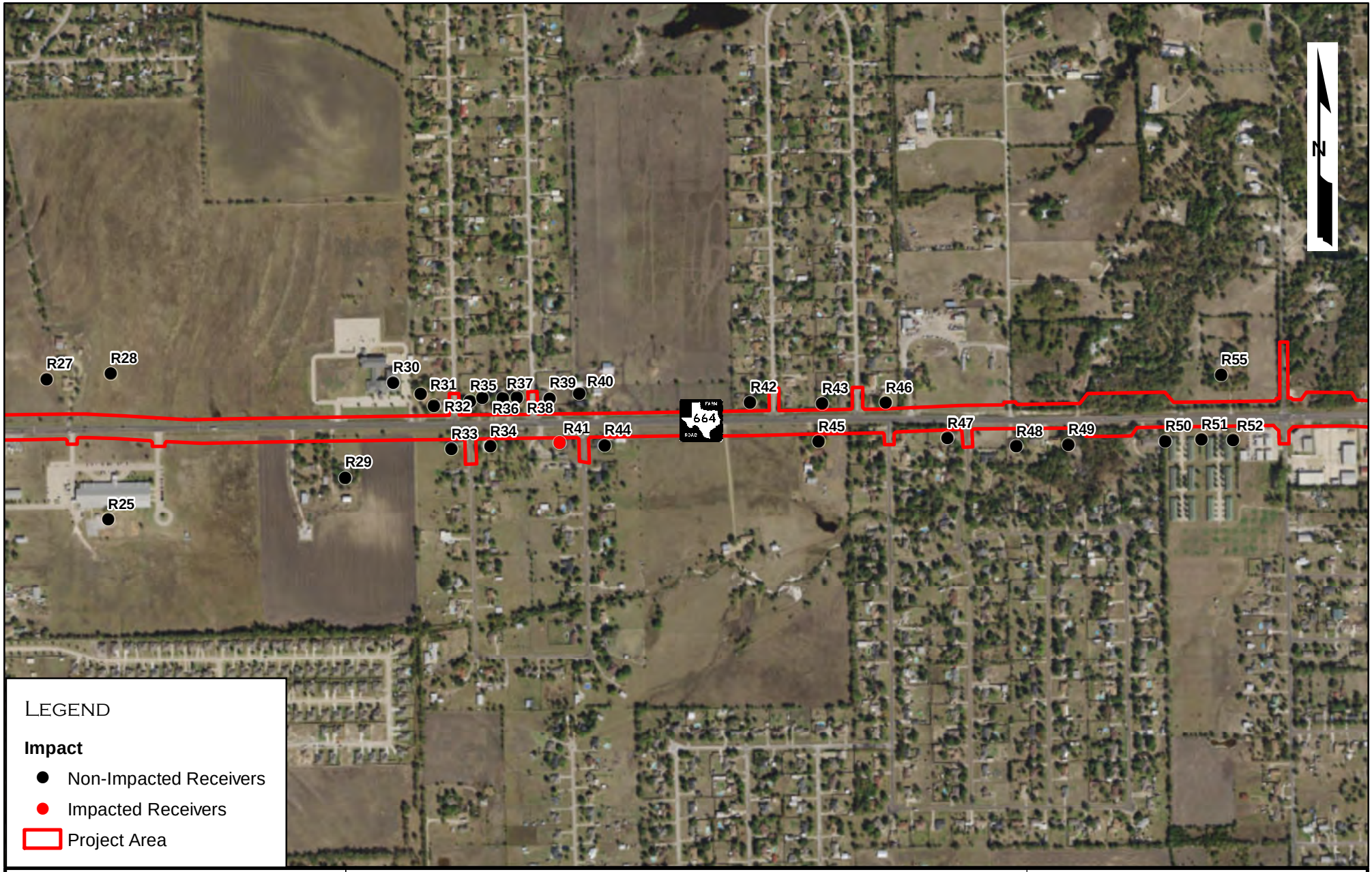
NOISE RECEIVERS MAP

Texas Department of Transportation

APPENDIX F EXHIBIT 8
SHEET 5C

ELLIS COUNTY, TEXAS

APRIL 2019



0 400 800 Feet

FM 664 (FROM IH 35E TO IH 45)

NOISE RECEIVERS MAP

Texas Department of Transportation

Appendix F Exhibit 8
Sheet 5D

ELLIS COUNTY, TEXAS

April 2019

0 400 800 Feet

FM 664 (FROM IH 35E TO IH 45)

NOISE RECEIVERS MAP

Texas Department of Transportation

Appendix F Exhibit 8
Sheet 5E

Ellis County, Texas

April 2019

FM 664 (FROM IH 35E TO IH 45)

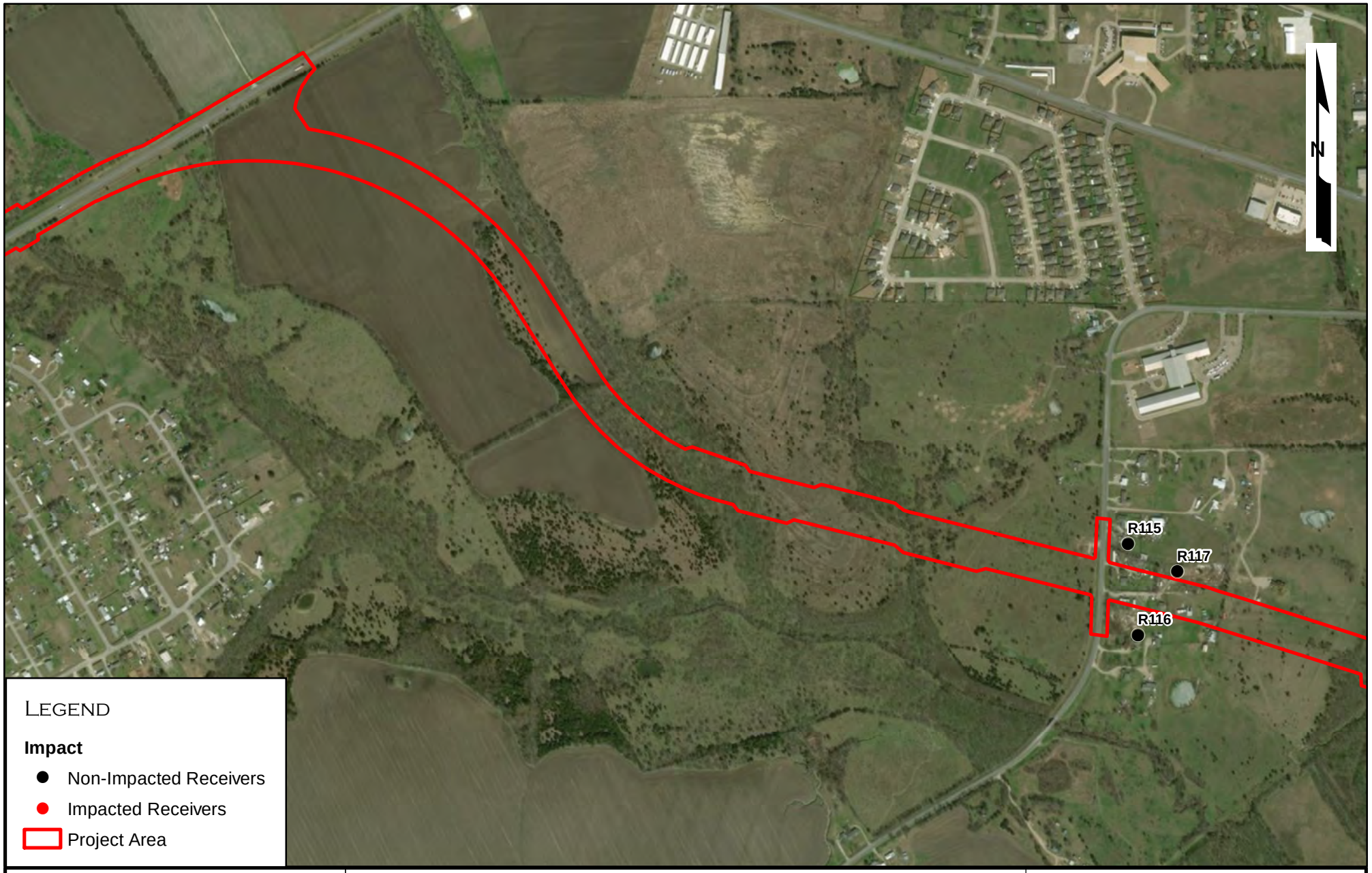
NOISE RECEIVERS MAP

Texas Department of Transportation

Appendix F Exhibit 8
Sheet 5F

ELLIS COUNTY, TEXAS

April 2019



0 400 800 Feet

FM 664 (FROM IH 35E TO IH 45)

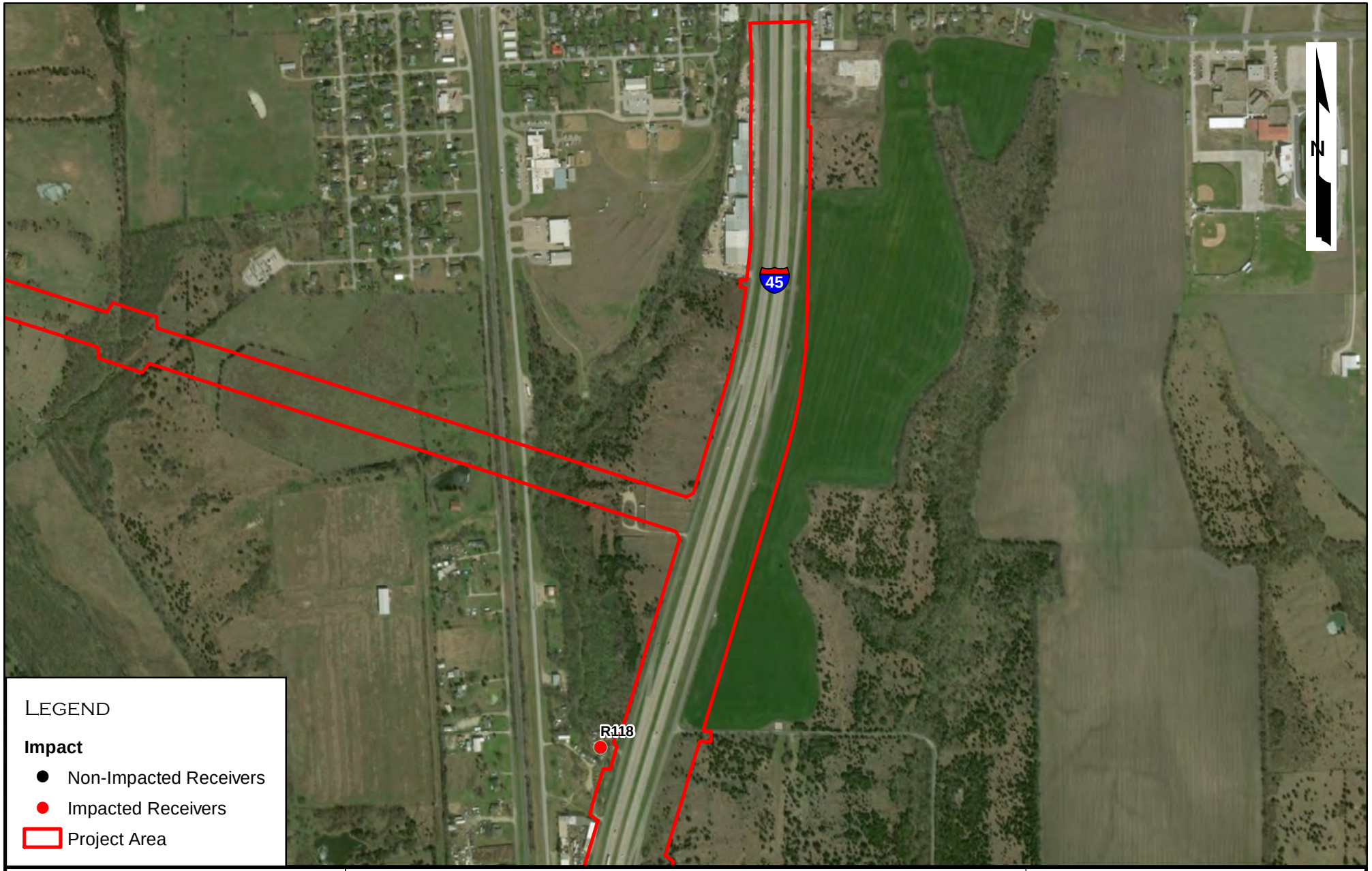
NOISE RECEIVERS MAP

Texas Department of Transportation

Appendix F Exhibit 8
Sheet 5G

ELLIS COUNTY, TEXAS

April 2019



FM 664 (FROM IH 35E TO IH 45)

NOISE RECEIVERS MAP

Texas Department of Transportation

APPENDIX F EXHIBIT 8
SHEET 5H

ELLIS COUNTY, TEXAS

APRIL 2019

FM 664 (FROM IH 35E TO IH 45)

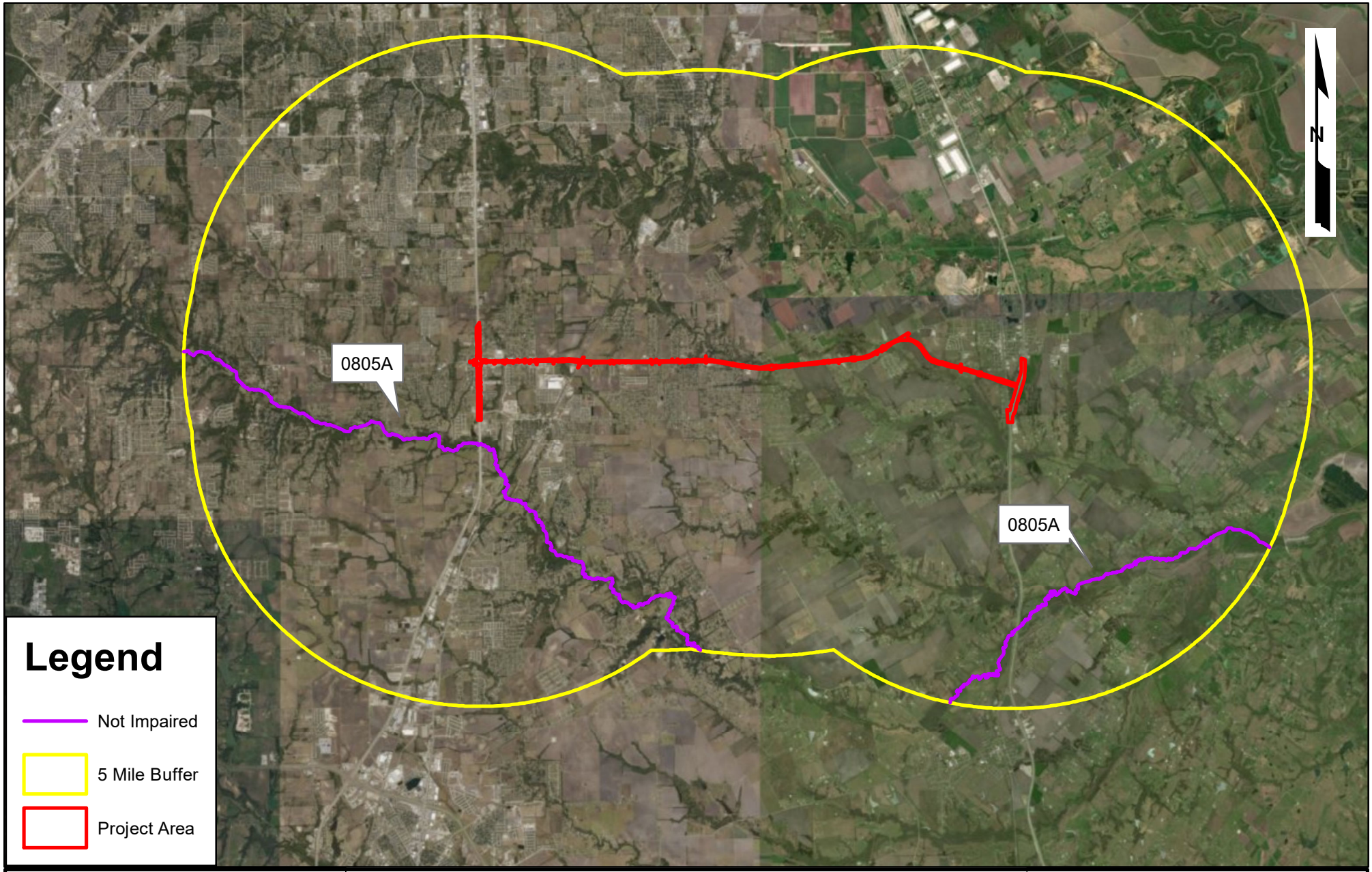
NOISE RECEIVERS MAP

Texas Department of Transportation

APPENDIX F EXHIBIT 8
SHEET 51

ELLIS COUNTY, TEXAS

APRIL 2019



0 2 4 Miles

FM 664 (FROM IH 35 EAST TO IH 45)
(CSJs: 1051-01-051, 0442-03-042, 0092-03-052)
TCEQ IMPAIRED WATERS

Texas Department of Transportation

APPENDIX F EXHIBIT 9

ELLIS COUNTY, TEXAS

APRIL 2019

APPENDIX G: RESOURCE AGENCY COORDINATION

Texas Department of Transportation

RECEIVED
APR 10 2019

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

April 10, 2019

Section 106/Antiquities Code of Texas: Consultation TAC Permit # 8817
Re: Review of the draft survey report: Farm-to-Market (FM) 664 from Interstate Highway (IH) 35E to IH 45 in Ellis County, Dallas District
CSJ: 1051-01-051

Pat Mercado-Allinger
Archeology Division Director/State Archeologist
Texas Historical Commission
P.O. Box 12276 Austin, Texas 78711

Dear Ms. Mercado-Allinger:

In accordance with the Programmatic Agreement (PA) among the Advisory Council on Historic Preservation, the Federal Highway Administration, the Texas State Historic Preservation Officer (SHPO), and the Texas Department of Transportation (TxDOT), and the Memorandum of Understanding (MOU) between TxDOT and the Texas Historical Commission (THC), we hereby initiate consultation under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas for the undertaking identified.

On March 21, 22, and 28, 2019, an intensive archeological survey was completed in order to inventory and evaluate archeological resources within the footprint of proposed Farm-to-Market Road (FM) 664 roadway improvements from Interstate Highway 35E to Interstate Highway 45 in Ellis County, Texas under Texas Antiquities Permit No. 8817. A draft copy of the survey report is attached. The survey was conducted in compliance with the Antiquities Code of Texas and Section 106 of the National Historic Preservation Act. Work consisted of a visual inspection and shovel testing of the Area of Potential Effect. Backhoe trenching was undertaken within the existing right-of-way (ROW) at Long Creek.

The area of potential effects (APE) comprises 187.4 acres of existing ROW, 164.5 acres of proposed ROW, and 7.9 acres of permanent easements for a total of 359.8 acres. The bulk of the 359.8- acre footprint was surveyed via visual examination and photography due to extensive previous disturbance, including previous bulldozing associated with the original roadway construction along FM 664, urban expansion, and Hybrid Potential Archeological Liability Map data indicating lack of archeological potential. Of the 164.5 acres of proposed ROW and permanent easements 83.9 acres were not pedestrian surveyed due to existing disturbances from residential/commercial activities, agricultural practices, cattle grazing and based on HPALM data, but were recorded through photography. Access was only allowed on 59.1 of the 164.5 acres, leaving 21.5 acres with no access at the time of this survey. A total of 338.3 acres were investigated (pedestrian surveyed and/or photographed only) during this survey.

On the 59.1 acres where access was allowed, 40 shovel test units were excavated where ROW was granted; survey was not conducted in areas that were physically inaccessible, previously developed, or in standing water. Soils were found to be shallow (generally extending to 40 centimeters below the surface); clay was encountered on the surface and subsurface in most of the shovel tests. All of the shovel tests were sterile and lacked any cultural material.

Four backhoe trenches were excavated on the west banks of a tributary of Long Branch Creek on the flood plain, first terrace, and second terrace. The backhoe trenches lacked cultural materials and showed no evidence of buried soils within the undertaking's area of potential effects. Access was not available to the west bank of Bear Creek; this area will require trenching once right-of-entry (ROE) is obtained. Backhoe trenching will not be advantageous in other areas along Bear Creek, Long Branch Creek, or the tributary to Long Branch Creek due to steep slopes and/or locations outside the current area of potential effects.

No archeological sites were recorded during the survey. Results of the survey show that a majority of the project corridor has been highly disturbed from modern residential and commercial development, bulldozing associated with the original roadway construction, installation and repair of buried utilities, and natural impacts such as erosion.

No further work is recommended in the 338.3 acres of the APE that were investigated and/or surveyed at this time. When access is available for the 21.5 remaining acres recommended for archeological survey, an additional survey, including backhoe trenching near Bear Creek, is warranted.

Based on this archeological survey, development and construction of the proposed improvements should have no effect on archeological historic properties. It is recommended that these activities can proceed without further archeological investigations of the 338.3 acres. 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.

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 23U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.

TxDOT requests your explicit concurrence that in partial fulfillment of the TAC Permit, all Section 106 requirements have been satisfied and that NRHP consultation is complete. We look forward to receipt of your comments on the draft document, so that we may complete our obligations under the Antiquities Code.

If you have any questions, please call Barbara Hickman at 512-416-2637 or e-mail barbara.hickman@txdot.gov.

Sincerely,

Barbara J Hickman

Barbara J Hickman, Staff Archeologist
Archeological Studies Program Environmental Affairs Division

Concurrence by: _____ Date: 4/10/19
For Mark Wolfe, State Historic Preservation Officer and Executive Director

Attachments

cc w/o attachments: Dallas District EC; BJH, ENV-ARCH; ENV-Scan; ECOS File

Texas Department of Transportation

Archeological Resources Intensive Survey Report

FM 664 from IH 35E to IH 45, Ellis County

CSJ: 1051-01-051

Cox|McLain Environmental Consulting
Principal Investigator: Melissa Green, MA, RPA

April 2019

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.

Leslie Mirise

From: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Sent: Wednesday, February 13, 2019 4:59 PM
To: Leslie Mirise
Cc: Christine Polito; Sandra Williams; Dan Perge; Mark Hull; John Maresh
Subject: RE: 1051-01-051, etc. FM 664 Widening Project - Request for Early Coordination

Leslie,

I apologize for the delay in responding. Thank you for the additional information that you provided during the coordination process.

I understand that contractors are responsible for environmental compliance associated with their selection of PSLs, but I encourage the District to consider this measure for future projects. If the District could alert and inform contractors through a BMP to place PSLs outside of environmentally sensitive areas, then we can help educate contractors about the value of these natural resources, as well as, further minimize any unintentional impacts to riparian corridors.

I appreciate the efforts of the District to submit ARRPs to the TPWD Kills and Spills Team prior to freshwater mussel surveys and relocations. I am here to assist the District so please let me know if you need any help with the ARRP or mitigation needs.

With that being said, thank you for submitting the following project for early coordination: FM 664 from IH 35E to west of Ferris Road (CSJ: 1051-01-051) in Ellis County. TPWD appreciates TxDOT's commitment to implement the practices listed in the Tier I Site Assessment form submitted on December 18, 2018. Based on a review of the documentation, the avoidance and mitigation efforts described, and provided that project plans do not change, TPWD considers coordination to be complete. However, please note it is the responsibility of the project proponent to comply with all federal, state, and local laws that protect plants, fish, and wildlife.

According to §2.204(g) of the 2013 TxDOT-TPWD MOU, TxDOT agreed to provide TXNDD reporting forms for observations of tracked SGCN (which includes federal- and state-listed species) occurrences within TxDOT project areas. Please keep this mind when completing project due diligence tasks. For TXNDD submission guidelines, please visit the following link: http://tpwd.texas.gov/huntwild/wild/wildlife_diversity/txndd/submit.phtml

Sincerely,

Suzanne Walsh
Transportation Conservation Coordinator
(512) 389-4579

From: Leslie Mirise <Leslie.Mirise@txdot.gov>
Sent: Friday, February 1, 2019 5:22 PM
To: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Sandra Williams <Sandra.Williams2@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Mark Hull <Mark.Hull@txdot.gov>; John Maresh <John.Maresh@txdot.gov>
Subject: RE: 1051-01-051, etc. FM 664 Widening Project - Request for Early Coordination

Suzanne,

Thank you for TPWD's recommendations for the FM 664 Widening Project. The District's responses are included below:

TPWD Recommendation #1: Project specific locations should be placed in upland areas outside of the floodplain/riparian corridor when possible.
TxDOT Response #1: TxDOT contract policy states that for all PSLs, signing of the contract certifies contractor and subcontractor compliance with all applicable laws, rules and regulations pertaining to the preservation of cultural resources, natural resources, and the environment as issued by the following or other agencies: …Texas Parks and Wildlife Department,… U.S. Army Corps of Engineers, …U.S. Environmental Protection Agency,… U.S. Fish and Wildlife Service. Meaning, the contractor is responsible for selection of PSL location(s) and required environmental compliance. Written approval must be granted for all PSLs in the TxDOT ROW not specifically addressed in the plans.

TPWD Recommendation #2: Crossings should be constructed in a manner that does not impede flow, over-widen the channel, or destabilize the banks. Vehicle crossings should be designed in a manner that allow for sediment transport and passage of aquatic dependent organisms and should not impound water. Crossings should be perpendicular to the stream. Creek crossings should be located in areas where vegetation removal or disturbance can be avoided or minimized. The crossovers should span the entire creek channel with the headwalls at or above the top of the bank in order to avoid destabilizing the bed and banks, so a free-span or natural bottom design is preferred. If culverts are used for road crossings, the crossings should be designed with the culvert(s) in the active channel area lower than those in the floodplain benches so that the flow in the channel is not overly spread out. The central/low-flow culvert(s) should be large enough to handle a 1.5 year flow without backing up water. The bottoms of these lower culverts should be set at least a foot below grade (i.e. recessed) to allow natural substrate to cover the culvert bottom and to allow for aquatic organism passage. These lower, recessed culverts should be installed in the thalweg or deepest part of the channel and be aligned with the low flow channel.
TxDOT Response #2: TxDOT crossings, including bridges and culverts, are designed to TxDOT hydraulics specifications.

TPWD Recommendation #3: TPWD recommends that the applicant coordinate with the TPWD Kills and Spills Team regarding planned mussel surveys. Since dredging and/or dewatering are planned as part of this project, TPWD recommends relocating potentially impacted native aquatic resources in conjunction with a Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters and an Aquatic Resource Relocation Plan (ARRP). ARRPs assist in the permitting process to ensure that aquatic organisms are being handled properly and protected from danger during dewatering and/or relocation activities. The ARRP should be completed and approved by TPWD 30 days prior to activity within project waters and/or resource relocation and submitted with an application for a no-cost Permit to Introduce Fish, Shellfish, or Aquatic Plants into Public Waters. ARRPs can be submitted to Adam Whisenant, TPWD Region 2 Kills and Spills Team Biologist at 903-566-8387 or adam.whisenant@tpwd.texas.gov.
TxDOT Response #3: No dredging or dewatering is planned as a part of this project. TxDOT commits to implementation of the Freshwater Mussel BMPs as stated in the Tier 1 Site Assessment. The second point of the Freshwater Mussel BMPs says state-listed and SGCN mussels would be relocated under TPWD authorization. TxDOT already follows the above recommendation per the BMP PA and submits an ARRP for approval by TPWD Kills and Spills prior to freshwater mussel survey/relocation.

Please let me know if you have any questions or require additional information.

Thank you,

Leslie Mirise
Environmental Specialist
Dallas District – Advance Planning
Texas Department of Transportation
4777 East Highway 80

Mesquite, Texas 75150
(214) 320-6162 office
(214) 320-4470 FAX

From: Suzanne Walsh [mailto:Suzanne.Walsh@tpwd.texas.gov]
Sent: Friday, February 01, 2019 4:55 PM
To: Leslie Mirise
Cc: Christine Polito; Sandra Williams; Dan Perge; Mark Hull
Subject: RE: 1051-01-051, etc. FM 664 Widening Project - Request for Early Coordination

Leslie,

Thank you for the additional information. Sorry for the delay in my response. I was out of town at a conference and returned to the office today. TPWD has the following recommendations for the proposed project:

- Project specific locations should be placed in upland areas outside of the floodplain/riparian corridor when possible.

- Crossings should be constructed in a manner that does not impede flow, over-widen the channel, or destabilize the banks. Vehicle crossings should be designed in a manner that allow for sediment transport and passage of aquatic dependent organisms and should not impound water. Crossings should be perpendicular to the stream. Creek crossings should be located in areas where vegetation removal or disturbance can be avoided or minimized. The crossovers should span the entire creek channel with the headwalls at or above the top of the bank in order to avoid destabilizing the bed and banks, so a free-span or natural bottom design is preferred. If culverts are used for road crossings, the crossings should be designed with the culvert(s) in the active channel area lower than those in the floodplain benches so that the flow in the channel is not overly spread out. The central/low-flow culvert(s) should be large enough to handle a 1.5 year flow without backing up water. The bottoms of these lower culverts should be set at least a foot below grade (i.e. recessed) to allow natural substrate to cover the culvert bottom and to allow for aquatic organism passage. These lower, recessed culverts should be installed in the thalweg or deepest part of the channel and be aligned with the low flow channel.

- TPWD recommends that the applicant coordinate with the TPWD Kills and Spills Team regarding planned mussel surveys. Since dredging and/or dewatering are planned as part of this project, TPWD recommends relocating potentially impacted native aquatic resources in conjunction with a Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters and an Aquatic Resource Relocation Plan (ARRP). ARRPs assist in the permitting process to ensure that aquatic organisms are being handled properly and protected from danger during dewatering and/or relocation activities. The ARRP should be completed and approved by TPWD 30 days prior to activity within project waters and/or resource relocation and submitted with an application for a no-cost Permit to Introduce Fish, Shellfish, or Aquatic Plants into Public Waters. ARRPs can be submitted to Adam Whisenant, TPWD Region 2 Kills and Spills Team Biologist at 903-566-8387 or adam.whisenant@tpwd.texas.gov.

Thanks,
Suzanne

From: Leslie Mirise <Leslie.Mirise@txdot.gov>
Sent: Monday, January 28, 2019 12:23 PM
To: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Sandra Williams <Sandra.Williams2@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Mark Hull <Mark.Hull@txdot.gov>
Subject: RE: 1051-01-051, etc. FM 664 Widening Project - Request for Early Coordination

Resent with a condensed attachment…

From: Leslie Mirise
Sent: Monday, January 28, 2019 12:14 PM
To: 'Suzanne Walsh'
Cc: Christine Polito; Sandra Williams; Dan Perge; Mark Hull
Subject: RE: 1051-01-051, etc. FM 664 Widening Project - Request for Early Coordination

Suzanne,

Thank you for your questions. The District's responses are included below.

TPWD question #1: Do you anticipate any dewatering needed for construction?
TxDOT response #1: Water diversions, coffer dams or temporary crossings are not anticipated for the project.

TPWD question #2: Can you provide information on proposed mitigation for wetland and stream impacts.
TxDOT Response #2: Any required compensatory mitigation for impacts to wetlands or waters of the U.S. would be coordinated with the USACE. It is anticipated that mitigation bank credits from a mitigation bank in the proposed project's watershed would be used to satisfy PCN requirements. Contrary to the anticipated Individual Permit stated in the Bio Eval Form and Tier 1 Site Assessment Form, the Water Resources Tech Report provides more up-to-date information. PCNs would be required for streams 17 and 18, as well as at each of the five wetlands impacted. The Water Resources Tech Report has been attached for your convenience. It is also available in ECOS in the Document/Water section.

Thank you,

Leslie Mirise
Environmental Specialist
Dallas District – Advance Planning
Texas Department of Transportation
4777 East Highway 80
Mesquite, Texas 75150
(214) 320-6162 office
(214) 320-4470 FAX

From: Suzanne Walsh [mailto:Suzanne.Walsh@tpwd.texas.gov]
Sent: Friday, January 25, 2019 3:08 PM
To: Leslie Mirise
Cc: Christine Polito; Sandra Williams; Dan Perge
Subject: RE: 1051-01-051, etc. FM 664 Widening Project - Request for Early Coordination

Hi Leslie,

Do you anticipate any dewatering needed for construction?
Can you provide information on proposed mitigation for wetland and stream impacts?

Thanks,
Suzanne

From: Suzanne Walsh
Sent: Friday, December 21, 2018 3:11 PM
To: Leslie Mirise <Leslie.Mirise@txdot.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Sandra Williams <Sandra.Williams2@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>
Subject: RE: 1051-01-051, etc. FM 664 Widening Project - Request for Early Coordination

Hi Leslie,

I have received your early coordination request for FM 664. I wanted to send you a note that I will be out of the office for the holidays and will return on January 7, 2018. I hope that you have a great holiday and enjoy time with your family

Thank you,
Suzanne

Suzanne Walsh, Ph.D.
Transportation Conservation Coordinator
Wildlife Division – Wildlife Habitat Assessment Program
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, TX 78744
Phone: (512) 389-4579

From: WHAB_TxDOT
Sent: Thursday, December 20, 2018 11:59 AM
To: Leslie Mirise <Leslie.Mirise@txdot.gov>; Christine Polito <Christine.Polito@txdot.gov>; Sandra Williams <Sandra.Williams2@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>
Cc: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Subject: RE: 1051-01-051, etc. FM 664 Widening Project - Request for Early Coordination

The TPWD Wildlife Habitat Assessment Program has received your request and has assigned it project ID # 41191. The Habitat Assessment Biologist who will complete your project review is copied on this email.

Thank you,

John Ney
Administrative Assistant
Texas Parks & Wildlife Department
Wildlife Diversity Program – Habitat Assessment Program
4200 Smith School Road
Austin, TX 78744
Office: (512) 389-4571

From: Leslie Mirise [mailto:Leslie.Mirise@txdot.gov]
Sent: Tuesday, December 18, 2018 5:11 PM
To: WHAB_TxDOT <WHAB_TxDOT@tpwd.texas.gov>
Cc: Sandra Williams <Sandra.Williams2@txdot.gov>; Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>
Subject: CSJ: 1051-01-051, etc. FM 664 Widening Project - Request for Early Coordination

Hello,

TxDOT requests early coordination for the FM 664 Widening Project in Ellis County, Texas. I have attached the following:

1. The Tier 1 Site Assessment Form, including BMPs to be implemented;
2. The Biological Evaluation Form, for the purpose of reviewing the analyses performed on federally listed species that share state-listing status;
3. Supporting Documents including but not limited to location map, species lists from TPWD and USFWS/IPaC, EMST documentation, and site photos;
4. The EMST and Observed Vegetation Excel spreadsheet; and
5. A separate NDD information file.

These documents, along with other project-related information, are also available in ECOS under the CSJ: 1051-01-051. The project's schematic can be sent to the assigned biologist in a separate email (or dropbox depending on file size). It is also available in ECOS under the CSJ in the Documents/Project section with the following filename:

1051-01-051 etc.-FM664 Schematic_7-12-2018_Approved.pdf

Please feel free to contact me with any questions or if you need any additional information.

Thank you,

Leslie Mirise
Environmental Specialist
Dallas District – Advance Planning
Texas Department of Transportation
4777 East Highway 80
Mesquite, Texas 75150
(214) 320-6162 office

(214) 320-4470 FAX

A Texas Department of Transportation (TxDOT) message

A Texas Department of Transportation (TxDOT) message

A Texas Department of Transportation (TxDOT) message

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

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

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request	4. Sheet 1 of _____
1. Name of Project **FM 664**	5. Federal Agency Involved **TxDOT**	
2. Type of Project **Transportation**	6. County and State **Ellis County, Texas**	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS	2. Person Completing Form
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐		4. Acres Irrigated | Average Farm Size
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: %	7. Amount of Farmland As Defined in FPPA Acres: %
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment _____ Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor				
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	34.4			
B. Total Acres Statewide And Local Important Farmland	30.6			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*				

PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	Maximum Points	Corridor A	Corridor B	Corridor C	Corridor D
1. Area in Nonurban Use	15	6			
2. Perimeter in Nonurban Use	10	4			
3. Percent Of Corridor Being Farmed	20	0			
4. Protection Provided By State And Local Government	20	0			
5. Size of Present Farm Unit Compared To Average	10	0	209 acres avg		
6. Creation Of Nonfarmable Farmland	25	0			
7. Availablility Of Farm Support Services	5	4			
8. On-Farm Investments	20	0			
9. Effects Of Conversion On Farm Support Services	25	0			
10. Compatibility With Existing Agricultural Use	10	3			
TOTAL CORRIDOR ASSESSMENT POINTS	160	17			
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland (From Part V)	100				
Total Corridor Assessment (From Part VI above or a local site assessment)	160				
TOTAL POINTS *(Total of above 2 lines)*	260				

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

5. Reason For Selection:

Signature of Person Completing this Part: John Williams | DATE 10/25/18

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

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

APPENDIX H: COMMENT AND RESPONSE MATRIX FROM PUBLIC MEETING

FM 664 Public Meeting Comments

Public Meeting Date: November 15th, 2018

Comment No	Commenter No.	First Name	Last Name	Comment	Category	Response
1	1	Romana T.	Aleman	My concern is if ditch will be covered at the corner of my lot (W66) when it rains lots of water already sits in my front yard what will be put in place to alleviate the water build up.	Drainage	An increase in flooding is not anticipated. A hydrology/drainage study has been performed and the proposed design does not increase the water surface elevation during storm events. Since this project will involve the addition of curbs and sidewalks, existing ditch drainage will be converted to underground storm pipes (trunk lines) throughout the project limits.
2				I would like a sound barrier wall along my property.	Noise	The noise analysis is in progress and will be conducted in accordance with state and federal guidelines. The result of the noise analysis will be available in the Environmental Assessment prepared for the project. If the noise analysis identifies noise impacts and finds noise walls to be feasible and reasonable, a noise workshop will be conducted for owners of property adjacent to the proposed noise barrier(s) location. In accordance with TxDOT's Guidelines for Analysis and Abatement of Highway Traffic Noise, the proposed noise barriers cannot be constructed without the approval, by simple majority vote, of the owners of property adjacent to the proposed barriers. The opportunity to vote, for or against the proposed noise barriers, is limited to owners of property adjacent to the proposed noise barriers because they would be most affected by the noise associated with highway traffic as well as the presence/appearance of the noise barriers. The final decision regarding the construction and design of the proposed noise barriers will be based on the outcome of the vote.
3	2	Dusty	Fletcher	There needs to be more crossovers/turnarounds between Eastridge Baptist Church and Pratt Road. People with hauling trailers and horse trailers live in this area. Trailers cannot safely make U-turns without causing traffic jams and accident. More consideration needs to be given to the people in the impacted areas.	Design (raised median)	There are currently 6 median openings between Eastridge Baptist Church and Pratt Rd (a one mile distance). The neighborhoods in this area consist of circulation roadways (Prairie View Ln/Prairie Creek Rd, Mabry Ln/Lorena Dr, Ridge Crest Dr/Crest Brook Dr) that intersect FM 664 at two locations. For this reason, one left turn was provided for each of these circulation roadways. This will adequately serve local traffic wishing to turn left on FM 664 without forcing a uturn.
4	3	Rocky & Shellee	Hansen	We are concerned about the raised median restricting left turn entry into our property, place of business. We propose that the access point be moved east to provide safe entry into the property for our customers. Our concern is that people will try to enter too far west creating a hazard.	Design (raised median)	Will evaluate shifting the median opening west 100'.
5	4	Claud	Mitchell	E31. Why can't you turn left on Sunflower LA on to Ovilla Rd	Design (raised median)	If a left turn were provided at Sunflower, it would be too close to the opening for Sierra Grande, resulting in a very large median opening. This could cause an unsafe condition where vehicles could turn left from both side streets without proper sight distance to each other. With the proposed design, left turn access from Sunflower would be reallocated to either Bluebonnet or Butterfly St, via Pansy St.
6				I believe there more houses south of Ovilla R than North of Ovilla Rd.	General comment	Comment noted
7	5	Melinda	Newmen	I'd like to see an updated copy of the plans online	General Information	All the drawings and supporting documents provided at the public meeting are available at the following link: http://www.keepitmovingdallas.com/public-hearings/2018/proposed-widening-of-fm-664-from-ih-35e-to-ih-45-public-meeting
8	6	Gopal	Rai	W76 has wrong address	Design	Will update parcel data to show correct address.
9				We support it's good for community	General Support	Comment noted
10	7	Penny	Story	Agenda 2/	General Support	Comment noted
11	8	April	Toms	From viewing diagrams and videos, it appears there need to be more cross-overs/turn-arounds towards the Pratt area. Residents would have to go a long way to make a u-turn based on proposed plan More U-turns needed!	Design (raised median)	'There are currently 6 median openings between Eastridge Baptist Church and Pratt Rd (a one mile distance). The neighborhoods in this area consist of circulation roadways (Prairie View Ln/Prairie Creek Rd, Mabry Ln/Lorena Dr, Ridge Crest Dr/Crest Brook Dr) that intersect FM 664 at two locations. For this reason, one left turn was provided for each of these circulation roadways. This will adequately serve local traffic wishing to turn left on FM 664 without forcing a uturn. Between Pratt and Batchler, there is one median opening every 2000'.
12	9	Daniel	Waterman	1. Living on 664 How will my mail be delivered (not allowing mail truck to stop on road)?	Design (shoulders)	'Mail trucks should be allowed to stop on the roadway for mail delivery, however in some cases they may need to utilize the property driveway. This will be determined and addressed during subsequent design phases, and with the postal service.
13				2. Septic issues if relevant	Utilities	Any utilities that are impacted by the proposed project will be mitigated during the utility relocation phase prior to roadway construction. If there is an impact to a septic system and no reasonable relocation alternative, then a parcel would be impacted.
14				3. I paid for a longer culvert pipe at the end of my driveway because of trailers, how do I make sure I got a larger opening to get into my driveway. Not standard residential size	Design (property access)	We would recommend coordination with the area office during the detailed design phase of the project.
15				4. One turn lane to go north on I35 from 664 going west will not work. It already backs up with people able to access service road from 2 places	Design (SPUI)	The new interchange will add another option for drivers turning right onto IH35E from WB FM664. The existing jug handle roadway will still facilitate right turn traffic in the proposed configuration. Traffic models show this intersection operates within acceptable LOS in the design year (2045) since the right turn on the SPUI will have green with the through lanes (Westbound).
16				5. Property on south side that looses the most property also has all houses, close to existing road. Even up the loss on both sides.	ROW Acquisitions	TxDOT offers relocation counseling and financial assistance to residences and businesses that are displaced by the acquisition of highway ROW in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (PL 91-646). If it is determined that a portion of your property is needed for project construction, a letter will be mailed to you. The letter serves as the TxDOT ROW Division's (the appraiser's) initial contact with you basically notifying you of (1) TxDOT's interest in acquiring your property, (2) TxDOT's obligation to secure any necessary appraisals (to inspect your property and to determine an initial fair market value), and (3) to provide you any other useful information regarding the acquisition process. This is your opportunity to inform the appraiser (and/or point out) any relevant, unusual, or hidden features of the property that the appraiser could overlook. In addition, you should also advise the appraiser if any of these conditions exist such as: (1) Other persons who have ownership or interest in the property; (2) Tenants on the property; (3) Items of real or personal property that belongs to someone else located on your property; or (4) The presence of hazardous material, underground storage or utilities. For additional information regarding any right of way publications, please visit the following website at http://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/publications/row.html.

Comment No	Commenter No.	First Name	Last Name	Comment	Category	Response
17	10	Ginger	Vaugher	What about a turn in on Lorene	Design (property access)	Opening the median for a left to Lorene is not recommended as it would require closing the median opening at Ridge Crest Dr. Currently, there is a median opening at Mabry Ln. which will facilitate traffic to access Lorene Dr. via Mabry Ln.
18				and noise barriers for Mabry and Lorene	Noise	The noise analysis is in progress and will be conducted in accordance with state and federal guidelines. The result of the noise analysis will be available in the Environmental Assessment prepared for the project. If the noise analysis identifies noise impacts and finds noise walls to be feasible and reasonable, a noise workshop will be conducted for owners of property adjacent to the proposed noise barrier(s) location. In accordance with TxDOT's Guidelines for Analysis and Abatement of Highway Traffic Noise, the proposed noise barriers cannot be constructed without the approval, by simple majority vote, of the owners of property adjacent to the proposed barriers. The opportunity to vote, for or against the proposed noise barriers, is limited to owners of property adjacent to the proposed noise barriers because they would be most affected by the noise associated with highway traffic as well as the presence/appearance of the noise barriers. The final decision regarding the construction and design of the proposed noise barriers will be based on the outcome of the vote.
19	11	Brian	Finch	Was unable to attend 11/15 meeting. What is the estimated start year? Also, any estimate start year for FM 664 from Westmoreland to 287?	Project Schedule	Construction for the SPUI interchange (from Overlook to Ryan) is funded and will begin Summer of 2022, and last approximately 2 to 3 years. Construction for the remaining project is partially funded, and a begin construction date and duration is undetermined.
20	12	Amanda	NA	Hi, I am writing to you today as a concerned resident who lives in the neighborhood of Mabry ln. in Red Oak Tx. We have decided to make Red Oak our home town. We are aware Red Oak is growing and very rapid. (with much disappointment) Ovilla Rd is just a couple houses away from us, the widening and the way it's going to be done is very much a concern to us. We as several of our neighbors have young children and building a median on Lorene so there's not a way to turn left to or from does not make a bit of sense to me what so ever! And the solution to it is a U-turn down the road or to make my street Mabry a pass through is one of the most ridiculous things I have heard!! It amazes me the lack of concern for the people who actually live in this neighborhood. And the half thought out responses given as solutions!! This cannot be the best idea came up with. (Makes me sick!) So every morning I leave for work or to take my children to school I will have to sit behind others off a different street trying to turn left and having to wait for the 3 lanes to clear going into red oak west bound and the 3 lanes going east bound all at the same time because there will not be a middle lane to wait for traffic to let up. All of this just for me to make a right turn off of my street. WOW!!!!! My children like to play outside we don't have sidewalks in my neighborhood, so all we need is my street turning into a through street to traffic and jeopardize the children's lives with such traffic. How can anyone make sense of this plan!??! We love our town we love the small-town atmosphere, but this is very much a concern and leaves me wondering if anyone has taken into consideration the residents thoughts who live in this neighborhood. I am very disappointed thinking this is the best came up with, I am not for this plan. I am not employed by TXDOT or do business with nor can benefit by this project. I am a concerned resident!!	General Comment	The median openings from Mabry Ln to the Bear Creek bridge were spaced to provide as much cross access to the neighborhoods that straddle FM 664, while minimizing conflict points for vehicles turning left onto FM 664.
21	13	Debra	Wafford/Powers	Comment: The residents of Shaw Creek adjacent to the 664 widening project request a sound barrier between our homes and the highway. The one we have at present will not block sound from increased traffic.	Noise	The noise analysis is in progress and will be conducted in accordance with state and federal guidelines. The result of the noise analysis will be available in the Environmental Assessment prepared for the project. If the noise analysis identifies noise impacts and finds noise walls to be feasible and reasonable, a noise workshop will be conducted for owners of property adjacent to the proposed noise barrier(s) location. In accordance with TxDOT's Guidelines for Analysis and Abatement of Highway Traffic Noise, the proposed noise barriers cannot be constructed without the approval, by simple majority vote, of the owners of property adjacent to the proposed barriers. The opportunity to vote, for or against the proposed noise barriers, is limited to owners of property adjacent to the proposed noise barriers because they would be most affected by the noise associated with highway traffic as well as the presence/appearance of the noise barriers. The final decision regarding the construction and design of the proposed noise barriers will be based on the outcome of the vote.
22				The residents of Shaw Creek would request information about the wall between our houses and this highway. At present the wall provided by the subdivision would not be adequate to block sound at all. Is this wall in the plans or should we petition the TXDOT for the wall?	Noise	The noise analysis is in progress and will be conducted in accordance with state and federal guidelines. The result of the noise analysis will be available in the Environmental Assessment prepared for the project. If the noise analysis identifies noise impacts and finds noise walls to be feasible and reasonable, a noise workshop will be conducted for owners of property adjacent to the proposed noise barrier(s) location. In accordance with TxDOT's Guidelines for Analysis and Abatement of Highway Traffic Noise, the proposed noise barriers cannot be constructed without the approval, by simple majority vote, of the owners of property adjacent to the proposed barriers. The opportunity to vote, for or against the proposed noise barriers, is limited to owners of property adjacent to the proposed noise barriers because they would be most affected by the noise associated with highway traffic as well as the presence/appearance of the noise barriers. The final decision regarding the construction and design of the proposed noise barriers will be based on the outcome of the vote."
23	14	Barbara	Moore	We have 29.9 acres on the N.E corner of I-35 E and Red Oak Rd on the northbound service road. We have 2 driveway entrances to our property where there was nothing on the plans for our driveways, even though the driveway entrances on the next land had driveway entrances. This land is for sale (probably commercial) and we will need those driveways. NO CHIP SEAL!	Design (property access)	Driveways shown in the schematic are assumed to be in their final location. However, exact driveway locations will be evaluated during detailed PS&E design, and coordinated through the TxDOT Ellis County Area Office. Pavement design will be completed during PS&E design phase.
24				Also, off of Ovilla Rd (664), we actually live on Lorene. With the medians the way they are proposed, we will not be able to turn left onto Ovilla rd. We will have to make a right, go down a bit, and then make a U-turn, I think that is dangerous. The Trucking business at the next street entrance will have to do that too. Very impractical and DANGEROUS/even now, when we turn from Ovilla Rd.	Design (raised median)	The median openings from Mabry Ln to the Bear Creek bridge were spaced to provide as much cross access to the neighborhoods that straddle FM 664, while minimizing conflict points for vehicles turning left onto FM 664. The trucking business appears to have access to Narrow Lane, which has a median opening.
25				Into Mabry or into Lorene, it is too dark to see where to turn. There needs to be a provision for street lights.	Utilities (lighting)	Street lighting will be included on all signalized intersections. Continuous lighting is not anticipated, and would be requested by City representatives in coordination with TxDOT.
26				And what are you doing for Noise abatement?	Noise	The noise analysis is in progress and will be conducted in accordance with state and federal guidelines. The result of the noise analysis will be available in the Environmental Assessment prepared for the project. If the noise analysis identifies noise impacts and finds noise walls to be feasible and reasonable, a noise workshop will be conducted for owners of property adjacent to the proposed noise barrier(s) location. In accordance with TxDOT's Guidelines for Analysis and Abatement of Highway Traffic Noise, the proposed noise barriers cannot be constructed without the approval, by simple majority vote, of the owners of property adjacent to the proposed barriers. The opportunity to vote, for or against the proposed noise barriers, is limited to owners of property adjacent to the proposed noise barriers because they would be most affected by the noise associated with highway traffic as well as the presence/appearance of the noise barriers. The final decision regarding the construction and design of the proposed noise barriers will be based on the outcome of the vote.
27				Also, NO CHIP SEAL PLEASE.	Design	All proposed roadway surfaces will likely be concrete. Pavement design to be completed during PS&E design phase.
28	15	Craig	Jones II	Please consider providing an entrance/exit into the west parking lot of property W86 (Landmark Baptist Church). Doing so would make accessibility consistent with property W54 (Eastridge Baptist Church). I feel this would be safer than making a U-turn at marker 940 across three lanes of traffic. Thank you for your consideration.	Design (raised median)	At Eastridge Baptist church, there are not any closely spaced properties that impact median openings. Between Pratt Rd and Batchler Rd, there approximately 45 driveway access points. We will evaluate whether a median opening can be provided at this location.
29	16	Donna	Crouch	Please consider providing an entrance/exit into the west parking lot of property W86 (Landmark Baptist Church). Doing so would make accessibility consistent with property W54 (Eastridge Baptist Church). I feel this would be safer than making a U-turn at marker 940 across three lanes of traffic. Thank you for your consideration.	Design (raised median)	At Eastridge Baptist church, there are not any closely spaced properties that impact median openings. Between Pratt Rd and Batchler Rd, there approximately 45 driveway access points. We will evaluate whether a median opening can be provided at this location.

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30	17	Edith	McMillian	Please consider providing an entrance/exit into the west parking lot of property W86 (Landmark Baptist Church). Doing so would make accessibility consistent with property W54 (Eastridge Baptist Church). I feel this would be safer than making a U-turn at marker 940 across three lanes of traffic. Thank you for your consideration.	Design (raised median)	At Eastridge Baptist church, there are not any closely spaced properties that impact median openings. Between Pratt Rd and Batchler Rd, there approximately 45 driveway access points. We will evaluate whether a median opening can be provided at this location.
31	18	Eugene E.	Moore	1. As it is proposed, traffic from Lorene Dr. will not be able to turn left. Also, from trucking Co. an next st. (narrow LN?) Both will have to turn right, drive several hundred ft. and make a u-turn this is dangerous for cars, but especially for 18 wheelers.	Design (raised median)	The median openings from Mabry Ln to the Bear Creek bridge were spaced to provide as much cross access to the neighborhoods that straddle FM 664, while minimizing conflict points for vehicles turning left onto FM 664. The trucking business appears to have access to Narrow Lane, which has a median opening.
32				2. Please supply street lights. As it is now, we cannot see to turn in to oak street	Utilities (lighting)	Street lighting will be included on all signalized intersections. Continuous lighting is not anticipated, and would be requested by City representatives in coordination with TxDOT.
33				3. It is already noisy for those living within a few houses width of Ovilla rd. Please do something for noise abatement.	Noise	The noise analysis is in progress and will be conducted in accordance with state and federal guidelines. The result of the noise analysis will be available in the Environmental Assessment prepared for the project. If the noise analysis identifies noise impacts and finds noise walls to be feasible and reasonable, a noise workshop will be conducted for owners of property adjacent to the proposed noise barrier(s) location. In accordance with TxDOT's Guidelines for Analysis and Abatement of Highway Traffic Noise, the proposed noise barriers cannot be constructed without the approval, by simple majority vote, of the owners of property adjacent to the proposed barriers. The opportunity to vote, for or against the proposed noise barriers, is limited to owners of property adjacent to the proposed noise barriers because they would be most affected by the noise associated with highway traffic as well as the presence/appearance of the noise barriers. The final decision regarding the construction and design of the proposed noise barriers will be based on the outcome of the vote.
34				4. NO CHIP SEAL! It is louder and extra bad for those with hearing aids	Design	All proposed roadway surfaces will likely be concrete. Pavement design to be completed during PS&E design phase.
35				5. We also own land at corner of I-35E and Red Oak Rd. (NE corner) there are no provisions for our 2 driveway entrances off of the I-35 northbound service rd. Even though the next landowner north gets driveway entrances. We are selling the property to commercial buyer (probably) and they will also need those driveways.	Design (property access)	Driveway locations will be evaluated during detailed PS&E design, and coordinated through the TxDOT Ellis County Area Office. Pavement design to be completed during PS&E design phase.
36				But we like the proposed sidewalks.	General Support	Comment noted
37	19	Ilene	Beggs	I am a 74-year-old resident of Red Oak Texas. I do still drive my vehicle to and from Landmark Baptist Church 3 times a week. I would consider it a helpful and needed blessing if you would please consider providing an entrance/exit into the west parking lot of property W86 (Landmark Baptist Church). Doing so would make accessibility consistent with property W54 (Eastridge Baptist Church). I feel this would be safer than making a U-turn at marker 940 across three lanes of traffic. Thank you for your consideration.	Design (raised median)	At Eastridge Baptist church, there are not any closely spaced properties that impact median openings. Between Pratt Rd and Batchler Rd, there approximately 45 driveway access points. We will evaluate whether a median opening can be provided at this location.
38	20	Janet	Kocurek	Please consider providing an entrance/exit into the west parking lot of property W86 (Landmark Baptist Church). Doing so would make accessibility consistent with property W54 (Eastridge Baptist Church). I feel this would be safer than making a U-turn at marker 940 across three lanes of traffic. Thank you for your consideration.	Design (raised median)	At Eastridge Baptist church, there are not any closely spaced properties that impact median openings. Between Pratt Rd and Batchler Rd, there approximately 45 driveway access points. We will evaluate whether a median opening can be provided at this location.
39	21	Nick and Rhonda	Wells	We are Nick and Rhonda Wells, we have lived at 101 Mabry Ln for 35 yrs. Our main concern is noise, being on corner of Mabry and Ovilla Rd. Even now it is so noisy that we can't sit on our patio and talk. What we would like to know is if this road goes thru will there be some kind of wall to help reduce the noise.	Noise	The noise analysis is in progress and will be conducted in accordance with state and federal guidelines. The result of the noise analysis will be available in the Environmental Assessment prepared for the project. If the noise analysis identifies noise impacts and finds noise walls to be feasible and reasonable, a noise workshop will be conducted for owners of property adjacent to the proposed noise barrier(s) location. In accordance with TxDOT's Guidelines for Analysis and Abatement of Highway Traffic Noise, the proposed noise barriers cannot be constructed without the approval, by simple majority vote, of the owners of property adjacent to the proposed barriers. The opportunity to vote, for or against the proposed noise barriers, is limited to owners of property adjacent to the proposed noise barriers because they would be most affected by the noise associated with highway traffic as well as the presence/appearance of the noise barriers. The final decision regarding the construction and design of the proposed noise barriers will be based on the outcome of the vote.
40				Also in the 35 yrs. We have lived here we have seen multiple accidents. Most of the accidents have ended up with the cars in the bar ditch beside our house, but without the bar ditch and the road being so close to our house what is going to prevent an accident from coming thru our house or backyard. Is there going to be some kind of post or something beside our house to prevent a car from coming into our house.	Design/Safety	The existing conditions have various safety issues including no rigid barriers/curbs to protect errant vehicles, nor is there a physical separation between the two travel directions. Upgrading to an urban design will provide improvements to safety. For property W65, these improvements include raised curbs and raised medians which will discourage vehicles from leaving the roadway.
41	22	Pam and John	Hargrove	Thank you for allowing us to comment. We have three main concerns 1) safety median 2) noise and 3) street lights.	General Support	Comment noted
42				Our first concern is safety in the time we have lived here there has been 3 people killed, cars have run through our front yard three times (once they went through our yard and our neighbors destroying their front bedroom) one roll over in our front ditch, 1 motorcyclist crashed (don't know if he lived) one truck went off in the ditch on the other side of the street with the bed of his truck left in the air and numerous rear end crashes. We also had a care flight land with another crash which took off shingles from our roof (don't know if the victim lived). That was with 2 lanes now we will have to worry about 3 lanes of traffic. If we want to go west on Ovilla Road, because of the median we (and everyone in the subdivision behind us) will have to go to Pratt road and make a U-Turn, despite the numerous deaths and injuries at the intersection. The back up at the breaks in the median will be dangerous especially in the dark with school buses and people trying to go west on Ovilla.	Design/Safety	Raised medians and pedestrian refuge islands allow pedestrians to cross one direction of traffic at a time. This significantly reduces the complexity of the crossing. Business access is also improved by providing a safe means for pedestrians to cross. Raised medians also provide the following general improvements to safety: - Have been found to reduce motor vehicle crashes by 15 percent. - Decrease delays (>30 percent) for motorists. - Have resulted in increase in capacity (>30 percent) of roadways. - Have been shown to reduce vehicle speeds on the roadway. - Provide space for landscaping within the right-of-way. - Provide space to install additional roadway lighting, further improving the safety of the roadway. - Provide space to provide supplemental signage on multi-lane roadways. - Can be less expensive to build and maintain than paved medians.
43				The lighting is so bad on Ovilla road is so bad people slow to find their turn, which makes U-turns even more dangerous.	Utilities (Lighting)	Street lighting will be included on all signalized intersections. Continuous lighting is not anticipated, and would be handled by City representatives in coordination with TxDOT.
44				The noise level with 3 lanes will be terrible especially since our bedroom is in the front of the house	Noise	The noise analysis is in progress and will be conducted in accordance with state and federal guidelines. The result of the noise analysis will be available in the Environmental Assessment prepared for the project. If the noise analysis identifies noise impacts and finds noise walls to be feasible and reasonable, a noise workshop will be conducted for owners of property adjacent to the proposed noise barrier(s) location. In accordance with TxDOT's Guidelines for Analysis and Abatement of Highway Traffic Noise, the proposed noise barriers cannot be constructed without the approval, by simple majority vote, of the owners of property adjacent to the proposed barriers. The opportunity to vote, for or against the proposed noise barriers, is limited to owners of property adjacent to the proposed noise barriers because they would be most affected by the noise associated with highway traffic as well as the presence/appearance of the noise barriers. The final decision regarding the construction and design of the proposed noise barriers will be based on the outcome of the vote.

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45	23	Wendy and Dennis	McQusiton	I believe you need to take a second look at what this will do for those who live on Lorene and Mabry streets. If exiting Lorene, to go east towards Farris, one has to turn rt, go to the break in the median at Mabry and make a U-turn. This will be in addition to those coming out on Mabry attempting to get through 3 west bound lanes, past the east bound turn lane into Mabry and find an open land heading east. What a nightmare intersection this is going to become. And this is just for a car. I can't imagine how I'm going to get my excursion and 30' trailer across there so I can access I-45. What did your engineers suggest that I turn right and go to the next break in the median and make a U turn there? None of them have (obviously) ever towed anything if they think I can make a U-turn while towing a 30' trailer. Not to mention that U-turns aren't exactly the safest driving practice. After pointing out to your very young and very cute engineers that there was NO WAY that my Excursion, pulling a 301 trailer can make that U Turn, their next suggestion was that I go to Cole Rd. and make a U turn there because there will be four lanes on the southern side of Ovilla road.	Design (trailer accessibility)	The median openings from Mabry Ln to the Bear Creek bridge were spaced to provide as much cross access to the neighborhoods that straddle FM 664 as feasible, while minimizing conflict points for vehicles turning left onto FM 664. At least one median opening is being provided for each of the Mabry/Lorene and Ridge Crest/Crest Brook neighborhoods. The trucking business appears to have access to Narrow Lane, which has a median opening. For specific access to Eastbound FM 664 from Lorene with a large trailer, we would recommend going to the Mabry/Lorene intersection, turn left onto Mabry, then turn left onto FM 664.
46				During school pick up hours, that entire area is crazy with all of the cars sitting on the side of the road to pick up kids from school.	Design (Access)	The additional lanes will help separate school traffic from through traffic. Coordination meetings have been held with the school to best accommodate school drop off / pick up, including turn lanes, median opening and signalization. Retail, commercial and/or school parking lots are not intended to serve proposed through traffic movement.
47				Their next suggestion was that I drive through the parking lot that is going to be a retail section in front of the new homes that are being built across from the school so that I could utilize the stop light at Cole Rd. SERIOUSLY???? I doubt that the retailers intended their parking lot as a drive through.		Comment noted
48				Next suggestion from them was that I could drive through the school parking lot in order to go east, towards Ferris so that I could get onto 1-45. Again, I don't believe the school parking lot (which would NOT be accessible during the time when school lets out) was intended as a drive through.		Comment noted
49				Please tell me why I should have to do ANY of these ridiculous maneuvers in order to go east on Ovilla road from my home when towing my trailer?		The median openings from Mabry Ln to the Bear Creek bridge were spaced to provide as much cross access to the neighborhoods that straddle FM 664 as feasible, while minimizing conflict points for vehicles turning left onto FM 664. At least one median opening is being provided for each of the Mabry/Lorene and Ridge Crest/Crest Brook neighborhoods. The trucking business appears to have access to Narrow Lane, which has a median opening. For specific access to Eastbound FM 664 from Lorene with a large trailer, we would recommend going to the Mabry/Lorene intersection, turn left onto Mabry, then turn left onto FM 664.
50				And when did U Turns become such a highly rated suggestion for driving? U turns frequently are the cause of accidents.		Comment noted
51				Oh yes. They did have one last suggestion. Once loop 9 is finished, I could go north on whatever connecting road in Red Oak goes to loop 9 and take it to get to 1-45. Well, that certainly is the most efficient and economical way to get from my house to 1-45, isn't it. And if memory serves, Loop 9 is going to be a toll road, so I'll get the added privilege of paying a toll in order to go ENTIRELY out of my way, just to head East towards 1-45.		Comment noted
52				Additionally, this is going to force more traffic onto Mabry, instead of being equally divided between Lorene and Mabry as it is currently. Therefore, Mabry is going to suffer street deterioration far more quickly than Lorene.	Design	Local street condition can only be improved by the City. TxDOT only has capability to improve FM 664. While there may be a slight increase in traffic due to usage for left turns onto FM 664, this volume should not overload the roadway's functionality.
53				There are many children who play in and around the street on Mabry, with the traffic doubling on Mabry, that could prove to be an issue. Granted, the children shouldn't be in the street, but they are.	Design/Safety	Comment noted
54				Tempers are going to be short as the long line on Mabry to TRY to get across the break in the median to go east to 1-45 takes up precious commuting time.		It is not expected that this will be a long queue given the amount of residences along these two roadways, and the amount of traffic that will go towards I-45 as opposed to I-35E.
55				Then there's the issue of the short stretch of road that will be coming from the nursing homes (scheduled to be built behind Mabry) onto Mabry that is supposed to be used only by emergency personnel, but we all know that it will be used by regular traffic as well.		Future construction and access issues will need to be addressed by the Ellis County Area Office at the time of design clearance.
56				So, what I believe you have created, is a recipe for disaster at these two streets. We already have far more than our fair share of accidents in this area. I shudder to think how much worse it will be if this plan continues as currently laid out.		Comment noted
57				There MUST be a better solution for our two streets than what you have planned.		Comment noted
58	24	Jordan	William (City Manager)	The city of Ferris had discussed with 3rd party engineers that the connection of FM 664 to I-45 would consist of 664 passing over I-45. The city had made clear its intent to work with TxDOT to Construct the overpass as a breakout project and to look at the possibility of creating a branded gateway bridge. The current configuration shows I-45 to go over FM 664. This eliminates the breakout project option & the branded/gateway bridge. The city would like to discuss reversing the design to have FM664 pass over I-45.	Coordination request	An underpass option (IH45 under FM 664) would introduce multiple engineering challenges. The design would require IH45 to meet the 18.5' clearance requirement (for freight), and still vertically clear the Long Branch flow crossings (2 locations). This could cause FM 664 to tie in at a higher elevation, and make development at the four quadrants problematic due to grading.
59	25	Sydney	Walsh	Good afternoon, I see a public meeting was held recently for this project (https://www.txdot.gov/inside-txdot/get-involved/about/hearings-meetings/dallas/111518.html). What is the project's anticipated schedule?	Project Schedule	Construction for the SPUI interchange (from Overlook to Ryan) is funded and will begin Summer of 2022, and last approximately 2 to 3 years. Construction for the remaining project is partially funded, and a begin construction date and duration is undetermined.
60	26	Kay	Philips	Ms. Mahar, It was a pleasure to visit with you over the phone this morning! Thank you again for you time! 'Rockett provides water service along the proposed widening project on FM 664 west of 35E to I45. Rockett SUD would like to request a meeting to discuss the effects of the project as it pertains to the District's facilities. I look forward to meeting you and working with the folks at TxDOT. Regards,	Utilities (Water)	TxDOT will setup and meet with Rockett SUD.
61	27	Lonny	Doyle	I have a 2400 SF building behind my house that I use for my business, you have my shop mark as residential and I think it should be commercial.	Design	The property identified on the schematic as E74 is recorded as residential in the Ellis County Appraisal District's records. Additional information regarding displaced structures would be revised during the ROW acquisition process. TxDOT offers relocation counseling and financial assistance to residences and businesses that are displaced by the acquisition of highway ROW in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (PL 91-646). If it is determined that a portion of your property is needed for project construction, a letter will be mailed to you. The letter serves as the TxDOT ROW Division's (the appraiser's) initial contact with you basically notifying you of (1) TxDOT's interest in acquiring your property, (2) TxDOT's obligation to secure any necessary appraisals (to inspect your property and to determine an initial fair market value), and (3) to provide you any other useful information regarding the acquisition process. This is your opportunity to inform the appraiser (and/or point out) any relevant, unusual, or hidden features of the property that the appraiser could overlook. In addition, you should also advise the appraiser if any of these conditions exist such as: (1) Other persons who have ownership or interest in the property; (2) Tenants on the property; (3) Items of real or personal property that belongs to someone else located on your property; or (4) The presence of hazardous material, underground storage or utilities. For additional information regarding any right of way publications, please visit the following website at http://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/publications/row.html.

Comment No	Commenter No.	First Name	Last Name	Comment	Category	Response
62	28	Mark	Huonder	I represent the owner of 109 E. Ovilla Rd, Red Oak, TX 75414, a commercial retail building which is in the affected area of the widening of FM 664. After attending the public meeting on November 15, we have the following objections to the project: The introduction of the median in front of our building	General Comment	Comment noted
63				• Our property is a retail shopping building, and as such, the inclusion of a median is a major impediment to our businesses. The tenants in our building rely on passing traffic to freely turn into our center.	Design (raised median)	Traffic volumes along FM 664 are expected to increase to near 40,000 vehicles per day. Raised medians are being proposed to eliminate multiple vehicle crossing points that would cause a safety issue. Access is not precluded to any of the businesses, either by traversing the parking lot, or a turnaround
64				• A median that prevents left turns from west-bound traffic will force more through-traffic to transverse our parking lots, something that the asphalt and site elements were not set up to do.	Design (raised median)	Local business traffic is not expected to increase substantially, therefore existing pavement should be adequate for a low level of local access traffic.
65				• The median would also prevent left turn movements while exiting our property, which is not preferred. Obstacles and uncomfortable vehicular movements negatively affect the shopping experience and thus, the likelihood that shoppers revisit our center.	Design (raised median)	Left turn access is allowable either via S. Ryan Dr or a right turn to FM 664 followed by either a uturn at Hickory Creek Dr.
66				For the taking of the ROW along E. Ovilla Rd, If the extension of the ROW affects any part of the requirements set forth by the City (ie. landscaping requirements, setbacks, etc.), our property would be placed into a legal, non-conforming status. This status negatively affects the price of the property as it becomes harder to sell.	ROW acquisitions	TxDOT offers relocation counseling and financial assistance to residences and businesses that are displaced by the acquisition of highway ROW in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (PL 91-646). If it is determined that a portion of your property is needed for project construction, a letter will be mailed to you. The letter serves as the TxDOT ROW Division's (the appraiser's) initial contact with you basically notifying you of (1) TxDOT's interest in acquiring your property, (2) TxDOT's obligation to secure any necessary appraisals (to inspect your property and to determine an initial fair market value), and (3) to provide you any other useful information regarding the acquisition process. This is your opportunity to inform the appraiser (and/or point out) any relevant, unusual, or hidden features of the property that the appraiser could overlook. In addition, you should also advise the appraiser if any of these conditions exist such as: (1) Other persons who have ownership or interest in the property; (2) Tenants on the property; (3) Items of real or personal property that belongs to someone else located on your property; or (4) The presence of hazardous material, underground storage or utilities. For additional information regarding any right of way publications, please visit the following website at http://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/publications/row.html.
67				Thank you for your time and please reach out should you have any additional questions about our objections.	General Comment	Comment noted
68	29	Scott P.	Israelson	Our firm is preparing a traffic impact study for a proposed development in the vicinity of FM 664 & SH 342. When convenient, can you provide some details about the construction schedule at that intersection so that we may perform analysis of future conditions as appropriate? My contact information is below. Thank you much and have a good day.	Project Schedule	Construction for the SPUI interchange (from Overlook to Ryan) is funded and will begin Summer of 2022, and last approximately 2 to 3 years. Construction for the remaining project is partially funded, and a begin construction date and duration is undetermined.
69	30	Veronica	Tamez	I'd like to get the transcripts from the meeting on Nov. 15th. We are owners of 1201 Pratt and I'd like to know what was discussed or questions that were answered or asked.	General Information	A public meeting summary will be prepared. Once approved, this information will then be placed on file and available for inspection Monday through Friday between the hours of 8:00 a.m. and 5:00 p.m. at TxDOT Dallas District Office located at 4777 East Highway 80, Mesquite, Texas 75150.
70				Also, do you know yet what the approximation is of the amount of land you plan to take on our property?	ROW acquisitions	Approximately 0.63 acres of ROW and an additional 0.31 acres of easement is expected at this parcel. This is preliminary and subject to change.
71				Will there be curbs and sidewalks?	Pedestrian facilities	Sidewalks are proposed along the project and all sidewalks will be consistent with Federal guidelines.
72				Will the State buy out our section of land that they intend to take for the road widening? Will everyone on that stretch of road (at least 1 mile radius) be offered the same valuation? How will you value the properties? What is the amount of land that is subject to be taken on 1201 Pratt Rd, Red Oak, TX 75154? What are the land setbacks going to be?	ROW acquisitions	TxDOT offers relocation counseling and financial assistance to residences and businesses that are displaced by the acquisition of highway ROW in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (PL 91-646). If it is determined that a portion of your property is needed for project construction, a letter will be mailed to you. The letter serves as the TxDOT ROW Division's (the appraiser's) initial contact with you basically notifying you of (1) TxDOT's interest in acquiring your property, (2) TxDOT's obligation to secure any necessary appraisals (to inspect your property and to determine an initial fair market value), and (3) to provide you any other useful information regarding the acquisition process. This is your opportunity to inform the appraiser (and/or point out) any relevant, unusual, or hidden features of the property that the appraiser could overlook. In addition, you should also advise the appraiser if any of these conditions exist such as: (1) Other persons who have ownership or interest in the property; (2) Tenants on the property; (3) Items of real or personal property that belongs to someone else located on your property; or (4) The presence of hazardous material, underground storage or utilities. For additional information regarding any right of way publications, please visit the following website at http://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/publications/row.html.
73				If we have started the process of changing our land designation to agriculture, we need 5 acres, if you will "buy us out" this will reduce our land under 5 acres, therefore, this will make us not be compliant with the law/regulation. What steps will the State take to guarantee our right on this designation?	ROW acquisitions	The potential affects to an Agricultural Exemption would be handled by the TxDOT Right-of-Way (ROW) Department. TxDOT offers relocation counseling and financial assistance to residences and businesses that are displaced by the acquisition of highway ROW in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (PL 91-646). If it is determined that a portion of your property is needed for project construction, a letter will be mailed to you. The letter serves as the TxDOT ROW Division's (the appraiser's) initial contact with you basically notifying you of (1) TxDOT's interest in acquiring your property, (2) TxDOT's obligation to secure any necessary appraisals (to inspect your property and to determine an initial fair market value), and (3) to provide you any other useful information regarding the acquisition process. This is your opportunity to inform the appraiser (and/or point out) any relevant, unusual, or hidden features of the property that the appraiser could overlook. In addition, you should also advise the appraiser if any of these conditions exist such as: (1) Other persons who have ownership or interest in the property; (2) Tenants on the property; (3) Items of real or personal property that belongs to someone else located on your property; or (4) The presence of hazardous material, underground storage or utilities. For additional information regarding any right of way publications, please visit the following website at http://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/publications/row.html.
74				Will there be sidewalks installed?	Pedestrian facilities	Sidewalks are proposed along the project and all sidewalks will be consistent with Federal guidelines. TxDOT will provide where practical bicycle and sidewalk accommodations during new construction or reconstruction of a roadway per TxDOT Road Design Manual and the AASHTO Bike Guide.
75				Will there be an entrance made on Ovilla or Pratt Rd for my property? Will you block any entrance to my property on Ovilla Rd?	Design (property access)	No entrance is expected to be allowed to 1201 Pratt off of FM 664 due to the proximity of the drainage crossing and grading to the channel.
76				Will drainage be made, and if so where?	Drainage	An increase in flooding is not anticipated. A hydrology/drainage study has been performed and the proposed design does not increase the water surface elevation during storm events. Since this project will involve the addition of curbs and sidewalks, existing ditch drainage will be converted to underground storm pipes (trunk lines) throughout the project limits.
77				What are the utility lines (Electric, water, phone, sewer, etc) setbacks going to be from the road? If we are going to have utility line setbacks, I'm assuming this is an additional setback for the property we will have to take into consideration.	Utilities	All utilities will be evaluated when determining final design.
78				Will there be a fire hydrant installed, if so, where?	Utilities	All utilities will be evaluated when determining final design.
79				TXDOT and/or it's representatives shall provide Owners with any and all information including but not limited to tests, surveys, reports, environmental studies/surveys/tests/results, etc. to the property.	Environmental	A complete Environmental Assessment (EA) will be completed for the proposed project in accordance with Federal and State guidelines. The environmental documentation, maps showing the project location and design, tentative construction schedules, and other information regarding the project will be on file and available for inspection from Monday through Friday between the hours of 8:00 a.m. and 5:00 p.m. at the TxDOT Dallas District Office located at 4777 East Highway 80, Mesquite, TX 75150, 214-320-4480. Please know that once this information has been made available to the public, you may request copies in accordance with the Freedom of Information Act from the TxDOT Dallas District Office.
80				Owners will not be held liable/responsible for accidents, injury, death, damage, loss, delay, cost, expense, or inconvenience arising from permission for right of entry to TXDOT personnel, it's representatives, or any other persons. Thank you for your time	Liability	Comment noted

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81	31	Toni	Sharp	Good morning. An O'Reilly store manager attended the meeting to get some tentative information. This project appears to be an exciting one. I actually recently traveled on one of these through Dallas. It was costly, but it saved about an hour. Our O'Reilly is located at 285 E Ovilla Road, in Red Oak. Are you able to please	Design	The plan view exhibits shown at the public meeting can be found on TxDOT's website, www.keepitmovingdallas.com, under Public Meeting FM 664 November 15th.
82				Did we find out what the plans are to allow customers into our parking lot during construction? Will there be direct access or will they have to go past the store and turn around?	Construction access	While temporary disruption of traffic for residents, businesses and travelers is anticipated, entrances and exits to residences and business will remain open throughout the construction phase.
83	32	Eric	Thompson (Fire Chief-ACM)	The installation of a raised center median along FM 664/Ovilla Road from E. Interstate Highway 35 to Methodist Street/Houston School Road will dramatically reduce the accessibility to residences and businesses located along this corridor for property owners, patrons, visitors, and emergency responders.	Design (raised median)	There are multiple documented publications and case studies that demonstrate the increase in safety and capacity of raised median facilities vs. flush median. Given the volume of traffic (40k ADT) that is anticipated along FM 664, and the density of business access points, a flush median facility will not be able to handle that volume. Further, this volume of traffic would not be conducive to traffic crossing the roadway since there aren't expected to be opening in traffic along this corridor. This would result in excessive queues from businesses, driver confusion and frustration, and an increased potential for accidents.
84				This reduction in accessibility is of critical concern for the protection, health and safety of the Red Oak community. This creates a negative impact on emergency response times and ability to reach 911 callers safely.	Emergency Response	There may be opportunities to provide additional median openings for emergency vehicles only through coordination with the TxDOT Area Office. This should be coordinated with the Area Office prior to construction.
85				• For example: the first responders for the City of Red Oak are located at 547 Methodist Street which is to the east of the core of the Red Oak businesses which are located along FM 664/Ovilla Road and between I-35E and Methodist Street. Should any first responder (FD, EMS, PD) receive a 9-1-1 call for a business located on the south side of FM 664/Ovilla Road in between I-35E and Methodist Street, if there is no break in the raised center median allowing cross access, then emergency apparatus must travel additional distance beyond the point of the 9-1-1 call, turn around on FM 664/Ovilla Road, and travel back to the point of the 9-1-1 call. As the Fire Chief and Emergency Management Coordinator. I cannot support your proposal of raised medians in this defined area, as this has negative Impacts to positive outcomes for public safety.	Design (raised median)	There may be opportunities to provide additional median openings for emergency vehicles only through coordination with the TxDOT Area Office. This should be coordinated with the Area Office prior to construction. Median openings are spaced no more than 1100', and in some cases less to provide the best possible crossover opportunity while still improving safety. Due to the heavy volume of future traffic, having an open access (no raised medians) could cause further delays in emergency response due to the volume of crossover traffic, and lack of capacity for higher traffic volumes. It would also be anticipated to see an increase in the number of pedestrian injuries and deaths attributed to the lack of refuge at pedestrian crossings (intersections).
86				• Fire Apparatus are 36' to 46' in length and require a larger turning radius than passenger vehicles. Turning radius curb to curb for our ladder truck is 40', and the radius wall to wall is 45'. This proposal would force our apparatus to preform u turns in intersections with 46' vehicles. This is not practical nor safe for the responders, or the other vehicles traveling the roadways. Raised medians increases the risk and exposure of our responders in the mentioned area.	Design (raised median)	Turnarounds for larger Fire Apparatus would need to begin turn from the 2nd or 3rd lane from the inside.
87				• This hazardous situation is completely avoidable by eliminating the requirements for a raised center median along the FM 664/Ovilla Road corridor between I-35E and Methodist Street.	Design (raised median)	There are multiple documented publications and case studies that demonstrate the increase in safety and capacity of raised median facilities vs. flush median. Given the volume of traffic (40k ADT) that is anticipated along FM 664, and the density of business access points, a flush median facility will not be able to handle that volume. Further, this volume of traffic would not be conducive to traffic crossing the roadway since there aren't expected to be opening in traffic along this corridor. This would result in excessive queues from businesses, driver confusion and frustration, and an increased potential for accidents.
88				In addition, removing the hooded left turn lane from FM 664/Ovilla Road on to N. Sharaf Drive for the stated purpose of preventing the left turn traffic onto N. Sharaf Drive from stacking back to the west and onto the I-35E/FM 664/Ovilla Road overpass is not a logical assumption.	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
89				The proposed removal of the eastbound left turn lane from the intersection of FM 664/Ovilla Road and N. Sharaf Avenue will create yet another hazardous situation for the Red Oak citizenry. The removal of the left turn lane will cause traffic to travel farther east to the intersection of FM 664/0villa Road and Ryan Drive. At this point, a noteworthy number of the vehicles will elect to make a "U-Turn" at this intersection to travel back to the west to now make a right turn onto N. Sharaf Drive. THIS IS NOT AN ACCEPTABLE SITUATION!	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
90				· It is most probable that any traffic traveling eastbound along FM 664/0villa Road that plan to travel northbound on I-35E would elect to take the northbound I-35E service road and enter onto I-35E from the service road. · This option is more convenient and certainly more logical than requiring the traffic to travel to the intersection of FM 664/0villa Road and N. Sharaf Avenue, make a left turn onto N. Sharaf Drive and then take another right turn onto the northbound I-35E service road. In addition, this option is significantly safer for our citizenry than the option of making a "U-turn" at FM 664/0villa Road and Ryan Drive.	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.

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91	33	Todd	Fuller (City Manager)	The City of Red Oak is firmly supportive of the expansion of FM664 in general; however we do have several serious concerns regarding the schematic design.	General Support	Comment noted
92				Generally speaking, we are not in favor of raised center medians for the area from I-35 to SH 342, or Houston School road. Although we understand that TxDOT procedures may necessitate raised center medians through the core of the City's already developed commercial area, we have concerns with this for several reasons	Design	There are multiple documented publications and case studies that demonstrate the increase in safety and capacity of raised median facilities vs. flush median. Given the volume of traffic (40k ADT) that is anticipated along FM 664, and the density of business access points, a flush median facility will not be able to handle that volume. Further, this volume of traffic would not be conducive to traffic crossing the roadway since there aren't expected to be opening in traffic along this corridor. This would result in excessive queues from businesses, driver confusion and frustration, and an increased potential for accidents.
93				• Since the installation of raised center medians along US Hwy 77 in Waxahachie, motorists have experienced unacceptable traffic gridlock.	Design (raised median)	One of the key differences between US 77 in Waxahachie and FM 664 is the number of through lanes. Currently, US 77 only shows two lanes southbound from IH35E. In addition, they are forcing a median opening with a storage bay from NB US 77 to the Hobby Lobby business center. This storage bay reduces the amount of storage on the SB side, and causes visible backups due to traffic on the through lanes in queue to turn left onto Northgate.
94				• Without the continuous center turn lane all traffic is forced to only a few intersections available to turn left.		There are multiple documented publications and case studies that demonstrate the increase in safety and capacity of raised median facilities vs. flush median. Given the volume of traffic (40k ADT) that is anticipated along FM 664, and the density of business access points, a flush median facility will not be able to handle that volume. Further, this volume of traffic would not be conducive to traffic crossing the roadway since there aren't expected to be opening in traffic along this corridor. This would result in excessive queues from businesses, driver confusion and frustration, and an increased potential for accidents.
95				• With the continuous center lane, traffic is allowed turn in multiple locations which allowed traffic to move more freely by reducing the amount of traffic in the main lanes of the roadway.		
96				• We have contacted representatives from the City of Waxahachie concerning their experiences with the raised center median. They are preparing accident reports and emergency response time reports for us; but in general they did feel that emergency response times were negatively impacted.		Any additional information will be reviewed and considered.
97				Please take into consideration the City's Transportation Plan for north south connections when establishing ROW needs and traffic signal designs. City Engineer Ben Hartman has provided further detailed comments in this regard.	Coordination request	Comment noted, please see documentation on comments received from Ben Hartman.
98				Prior to any complete taking of properties due to reduced building setback lines, please coordinate with the City of Red Oak as we may look into possible zoning regulations or amendments to help in this regard.	ROW acquisitions/Zoning	Comment noted. TxDOT will follow up with a coordination meeting with the City of Red Oak.
99				Our primary concern is the intersection of FM664 at Sharaf Drive (the jug- handle connections). Our preference would a signalized fully accessible median opening at this location; however, we believe that at the very least double hooded left turns for north and south access should be allowed. Perhaps eliminating one of the dedicated southbound turn lanes at the SPUI would provide adequate room for a left turn stacking lacking going towards the Chik-fil-a, Starbucks, Chipotle and Prosperity Bank. This double hooded design was shown in place during the development of these properties and only recently was this access removed.	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
100				• Removing the westbound Ovilla Road turn movement onto N. Sharaf Avenue will have **SEVERE** negative impact on sales at Chick-fil-A, Chipotle, Starbucks and Prosperity Bank. WB traffic will not have an acceptable way to access these businesses.	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
101				• Leaving a southbound median break at Sharaf will result in WB drivers making illegal NB left turns through the SB median break.	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
102				• Eliminating the NB turn movement at Sharaf will encourage WB Ovilla drivers to make U turns at Ryan Drive and this will be dangerous.	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
103				A detailed study of traffic movements is needed on N. Sharaf to determine how much of existing traffic on that section of Sharaf is heading for the NB 135 on ramp and how much is headed for the four businesses.	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
104				Is there an option to put a peak hour signalization at Sharaf /Ovilla to manage NB turn movements? There is approximately 680' from the centerline of I 35 to Sharaf. If NB stacking is provided to Sharaf, how many cars could it stack, 30 or more?	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
105				Can the intersection design be changed to have only one SB I 35 stacking between the top of the intersection and Sharaf? This will leave one lane open for NB Sharaf stacking. If not, can the entire section be widened to have both the two SB I 35 stacking lanes and one NB Sharaf stacking.	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
106				On the NB I 35 down ramp, autos will not be able to turn right on Reese Road which closes that opportunity for drivers to access the businesses.	Design (SPUI)	This will be for vehicles starting on EB FM 664. Vehicles travelling northbound will have the option to continue on the frontage road to access Reese Rd.

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107	34	Lee	McCleary (Economic Development Director)	The installation of a raised center median along FM 664/Ovilla Road from E. Interstate Highway 35 to Methodist Street/Houston School Road will dramatically reduce the cross-access accessibility of residences and businesses located along this corridor. This reduction in cross-access accessibility is of critical concern for the health and safety of the citizenry of Red Oak.	Design (raised median)	There are multiple documented publications and case studies that demonstrate the increase in safety and capacity of raised median facilities vs. flush median. Given the volume of traffic (40k ADT) that is anticipated along FM 664, and the density of business access points, a flush median facility will not be able to handle that volume. Further, this volume of traffic would not be conducive to traffic crossing the roadway since there aren't expected to be opening in traffic along this corridor. This would result in excessive queues from businesses, driver confusion and frustration, and an increased potential for accidents.
108				• **For example:** the first responders for the City of Red Oak are located at 547 Methodist Street which is located to the east of the core of the Red Oak businesses located along FM 664/Ovilla Road, and between l-35E and Methodist Street. **When seconds count!** Should *any first responder* receive a 9-1-1 call for a residence or business located on the south side of FM 664/Ovilla Road in-between l-35E and Methodist Street, if there is no break in the raised center median allowing cross-access, then the first responder must take extra time to travel an additional distance to the west and beyond the point of the 9-1-1 call, make a "U-turn" to turn around on FM 664/Ovilla Road, and travel back eastward to the point of the 9-1-1 call. This is not only an unnecessary expenditure of extra time this creates an *extremely dangerous* situation for *any* first responder. What is more, it becomes exponentially hazardous for a 40-foot-long fire engine!	Emergency Response	There may be opportunities to provide additional median openings for emergency vehicles only through coordination with the TxDOT Area Office. This should be coordinated with the Area Office prior to construction.
109				• This extremely hazardous situation is *completely avoidable* by eliminating the requirements for a raised center median along the FM 664/Ovilla Road corridor between l- 35E and Methodist Street.	Design	There are multiple documented publications and case studies that demonstrate the increase in safety and capacity of raised median facilities vs. flush median. Given the volume of traffic (40k ADT) that is anticipated along FM 664, and the density of business access points, a flush median facility will not be able to handle that volume. Further, this volume of traffic would not be conducive to traffic crossing the roadway since there aren't expected to be opening in traffic along this corridor. This would result in excessive queues from businesses, driver confusion and frustration, and an increased potential for accidents.
110				Prior to purchasing the property and constructing the improvements, TXDOT represented to the City of Red Oak and the developer of the Ovilla Corner II shopping center that the NB left turn movement at Sharaf Avenue would remain. Exhibits to this effect were provided by TXDOT to show that the NB left turn onto N. Sharaf Drive would remain. To this end, the existing left turn movement from EB FM 664 onto N. Sharaf Drive must remain in place. Therefore, TXDOT must install the hooded left turn lane from the eastbound side of FM 664/Ovilla Road on to N. Sharaf Drive to allow the left turn traffic onto N. Sharaf Drive from FM 664. The ~525-foot distance from the hooded left turn lane from the SPUI overpass at l-3SE/FM 664/Ovilla Road will prevent traffic from backing up onto the SPUI.	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr.
111				The proposed removal of the eastbound hooded left turn lane from the intersection of FM 664/Ovilla Road and N. Sharaf Avenue will create *yet another hazardous situation* for the Red Oak citizenry: the removal of the left turn lane will cause traffic to travel farther east to the intersection of FM 664/Ovilla Road and Ryan Drive. At this intersection, a noteworthy number of the vehicles wanting to enter into the commercial and retail businesses located at the northeast corner of l-35E and FM 664/Ovilla Road will elect to make a "U-Turn" at this intersection to travel back to the west to now make a right turn onto N. Sharaf Drive.	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
112				• ***For example:*** virtually the same Single Point Urban Interchange (SPUI) as the SPUI proposed for FM 664/Ovilla Road and l-35E is located at the intersection of Eldorado Parkway and US 75 in McKinney, Texas. The ~460 feet distance between the SPUI in McKinney and first intersection located to the east along Eldorado Parkway is 65 *feet closer* than the ~525 feet distance between the SPUI and the first intersection at N. Sharaf Drive. Therefore, traffic stacking onto the SPUI from the FM 664/N. Sharaf Drive intersection *is less of a factor* than the Eldorado Parkway intersection.	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
113				• The majority of the traffic traveling eastbound from the SPUI along FM 664/Ovilla Road that is planning to travel NB on l-35E would opt to take the northbound l-35E service road which directly connects to the SPUI and enter onto l-35E from the northbound service road.		The proposed design anticipates that EB FM 664 traffic wishing to access IH35E will go through the SPUI intersection to the NB frontage road. EB FM 664 traffic wishing to access local businesses along the I-35E NB frontage road would utilize S. Sharaf Ave. and Harris Ave.
114				• Traffic would opt to take this NB l-35E service road option as it is considerably more convenient and certainly more reasonable than assuming the same traffic would opt to travel the additional distance past the NB l-3SE access road (which directly connects to the SPUI) to the intersection of FM 664/Ovilla Road and N. Sharaf Avenue. At this intersection, the traffic must first make a left turn onto N. Sharaf Drive, and then the traffic must make a second (right) turn onto the northbound l-35E service road. This left-right-multiple-turn maneuver is not consistent with expediting and improving the flow of traffic.		For traffic travelling from EB FM 664 to NB I-35E, traffic could either take the left hand turn in the SPUI interchange, or utilize S. Sharaf Ave and Harris Ave to access the NB frontage road.
115				Removing the westbound Ovilla Road turn movement onto N. Sharaf Avenue will have **SEVERE** negative impact on sales at Chick fil A, Chipotle, Starbucks and Prosperity Bank. WB traffic will not have an acceptable way to access these businesses.	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
116				The proposed location for the NB 1-35 exit ramp along the east side of I-35E to the south of FM 664 will not allow traffic to turn right on Reese Drive which eliminates the opportunity for drivers to access the many retail businesses located at the NE quadrant of FM 664/Ovilla Road and I-35E.	Design (property access)	The most efficient maneuver for vehicles wanting to access the business park on the NE quadrant from EB FM 664 is to make a right onto S. Sharaf Ave, a right onto Harris Ave, a right onto the NB frontage road, and then right either into the business park or onto N. Sharaf Ave. This path would not require waiting at a signal, and none of these roadways are expected to carry a substantial amount of traffic, further reducing wait times at the turning locations. TxDOT has expressed approval for providing signage that will direct traffic along this path.

Comment No	Commenter No.	First Name	Last Name	Comment	Category	Response
117	35	Scott	Williams (Director of Public Works)	**664/I-35 Interchange and areas immediately east** Sharaf Ave and FM664 connections should necessitate the addition (continuation) of NB and SB turn lanes in both the EB and WB directions on 664.	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
118				When attempting to go NB on I-35, no onramp is available for 2 miles. Wouldn't this stack traffic on the NB I-35 access road during peak hours?	Design (Intersections)	A northbound entrance ramp to IH35E from FM 666 will be included with the Loop 9 frontage road project.
119				The removal of left turn lanes, opting for raised medians will limit turning access and create selective U-turns, where available, causing traffic stacking and unsafe conditions.	Design (Intersections)	Storage bays have been added for all intersections. While there will be some turnaround traffic, it is not expected to be a substantial volume that will overload the intersections.
120				What is the need for multiple turn lanes for westbound traffic to go south on I-35?	Design (Intersections)	Traffic models show that there is a large volume of traffic that will want to go south on IH35E from WB FM 664, warranting two dedicated lanes.
121				**664 and Crockett intersection.** Triumph is an aircraft manufacturer that uses Crockett as their main point of egress for all of their large trucks. They need to have a median access for vehicles to go westbound on FM664 to get to I-35. The aerial	Design (Intersections)	Will consider a median opening for sidestreet left turns only, no left from FM 664.
122				**664 and 342 intersection.** There shows to be a median on NB SH 342 as it intersects FM664. This median would interfere with traffic entering and exiting the Exxon gas station. The median should be shortened and the driveway for the Exxon	Design (Intersections)	Will consider shortening the median to allow left turns from SB SH 342 to the Exxon.
123				**664 and Methodist/Pratt/Batchler/Hill Intersections** The Thoroughfare Master Plan of Red Oak needs to be taken into consideration in relation to intersections on FM664. These intersections need to be designed for any future expansions or alignments that are outlined in	Design (Intersections)	The 2010 Red Oak Comprehensive Master Plan was used to ensure the proposed project accommodates future Red Oak expansion.
124				In addition to my comments, please know that I have also reviewed and completely concur with all other comments written by City staff.	General comment	Comment noted
125	36	Garland	Wolf (Chief of Police)	The installation of a raised center median along FM 664/Ovilla Road from E. Interstate Highway 35 to Methodist Street/Houston School Road will dramatically reduce the accessibility of residences and businesses located along this corridor. It is firmly believed by my staff that this will not prevent but simply displace accidents to intersections where illegal turns will be made. This reduction in accessibility is of critical concern for the health and safety of the citizenry of Red Oak.	Safety	There are multiple documented publications and case studies that demonstrate the increase in safety and capacity of raised median facilities vs. flush median. Given the volume of traffic (40k ADT) that is anticipated along FM 664, and the density of business access points, a flush median facility will not be able to handle that volume. Further, this volume of traffic would not be conducive to traffic crossing the roadway since there aren't expected to be opening in traffic along this corridor. This would result in excessive queues from businesses, driver confusion and frustration, and an increased potential for accidents.
126				• For example: the first responders for the City of Red Oak are located at 547 Methodist Street which is to the east of the core of the Red Oak businesses which are located along FM 664/Ovilla Road and between I-35E and Methodist Street. Should *any first responder* receive a 9-1-1 call for a business located on the south	Emergency Response	There may be opportunities to provide additional median openings for emergency vehicles only through coordination with the TxDOT Area Office. This should be coordinated with the Area Office prior to construction.
127				• This extremely hazardous situation is completely avoidable by eliminating the requirements for a raised center median along the FM 664/Ovilla Road corridor between I-35E and Methodist Street. It is not needed and will not in our opinion reduce accidents but simply displace them to the intersections where turning movements are required.	Safety	There are multiple documented publications and case studies that demonstrate the increase in safety and capacity of raised median facilities vs. flush median. Given the volume of traffic (40k ADT) that is anticipated along FM 664, and the density of business access points, a flush median facility will not be able to handle that volume. Further, this volume of traffic would not be conducive to traffic crossing the roadway since there aren't expected to be opening in traffic along this corridor. This would result in excessive queues from businesses, driver confusion and frustration, and an increased potential for accidents.
128				The proposed removal of the eastbound left turn lane from the intersection of FM 664/Ovilla Road and N. Sharaf Avenue will create yet another hazardous situation for the Red Oak citizenry. The removal of the left turn lane will cause traffic to travel farther east to the intersection of FM 664/Ovilla Road and Ryan Drive. At this point, a noteworthy number of the vehicles will elect to make a "U-Turn" at this intersection to travel back to the west to now make a right turn onto N. Sharaf Drive. Again, you are simply displacing the traffic and creating another set of movements that will increase the crash rate.	Safety	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
129				It is most probable that any traffic traveling eastbound along FM 664/Ovilla Road that plan to travel northbound on I-35E would elect to take the northbound I-35E service road and enter onto I-35E from the service road.	Safety	The proposed design anticipates that EB FM 664 traffic wishing to access IH35E will go through the SPUI intersection to the NB frontage road. EB FM 664 traffic wishing to access local businesses along the I-35E NB frontage road would utilize S. Sharaf Ave. and Harris Ave.
130				Removing the westbound Ovilla Road turn movement onto N. Sharaf Avenue will have severe and lasting negative impact on sales at Chick fil A, Chipotle, Starbucks and Prosperity Bank. WB traffic will not have an acceptable way to access these businesses. This is Inefficient in our opinion. This will increase traffic on the other surface streets causing citizens to try and negotiate additional intersections.	Design	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
131				Leaving a southbound median break at Sharaf will result in WB drivers making illegal NB left turns through the SB median break.	Design (raised median)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
132				Eliminating the NB turn movement at Sharaf will encourage WB Ovilla drivers to make U turns at Ryan Drive and this will be dangerous.	Design	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
133				A detailed study of traffic movements is needed on N. Sharaf to determine how much of existing traffic on that section of Sharaf is heading for the NB 135 on ramp and how much is headed for the four businesses.	Traffic	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
134				Is there an option to put a peak hour signalization at Sharaf/Ovilla to manage NB turn movements?	Traffic Signal	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
135				Can the intersection design be changed to have only one SB I 35 stacking between the top of the intersection and Sharaf? This will leave one lane open for NB Sharaf stacking. If not, can the entire section be widened to have both the two SB I 35 stacking lanes and one NB Sharaf stacking.	Design (Intersections)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
136				On the NB I 35 down ramp, autos will not be able to turn right on Reese Road which closes that opportunity for drivers to access the businesses	Design	This will be for vehicles starting on EB FM 664. Vehicles travelling northbound will have the option to continue on the frontage road to access Reese Rd.

Comment No	Commenter No.	First Name	Last Name	Comment	Category	Response
137	37	Ben	Hartman, PE (City Engineer)	**664/I-35 intersection and the areas directly adjacent to it** Why are there 2 dedicated left turn lanes headed west bound to head south on I-35? It seems that most of the west bound traffic would be headed North on I-35.	Design	Traffic models show that there is a large volume of traffic that will want to go south on IH35E from WB FM 664, warranting two dedicated lanes.
138				When trying to head Northbound on I-35, there is no on-ramp for what appears to be over 2 miles. The last counts I saw were in the range of 45,000 VPD on 664 at the I-35 intersection. My assumption is that a large majority of those vehicles would be headed north on I-35. The current plan shows all of those cars getting onto to the frontage and down to a signal-controlled intersection at the frontage road and Tater Brown Rd. This seems like it would have major back up during peak hours.	Traffic	A northbound entrance ramp to IH35E from FM 666 will be included with the Loop 9 frontage road project.
139				Removing the left Turn lane onto E Ovilla Ave. seems like it would cause an issue at the light at 664 and Ryan. I would foresee drivers trying to make U- turns at that light to head back west to get to all of the restaurants on E Ovilla Ave.	Design	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
140				It appears that there may be enough proposed ROW to have both WB left turn lanes as well as transition and storage for the EB left turn lane onto E Ovilla Ave as well as a narrow median, has this been considered?	Design	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
141				Since the bridge over I-35 will be controlled with traffic signals it doesn't seem like there would be any issue with traffic backing up out of the storage area of an EB left turn lane onto E Ovilla Ave.	Traffic Signal	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
142				Eliminating the left turn lane onto E Ovilla Ave will inhibit and negatively alter emergency vehicle response times.	Emergency Response	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
143				Sharaf Ave and the E Ovilla Ave connection are both minor collectors on our Master Thoroughfare Plan (65' ROW), again necessitating the addition of NB and SB turn lanes in both the EB and WB directions on 664.	Design	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
144				**664 and Crockett intersection.** Triumph Corporation is a manufacturer of large aircraft components and they use Crockett as their main point of egress for all of their large trucks. They need a median break to get vehicles WB on Ovilla to get to I-35. If you review the aerial of the Crockett street alignment, you will find that it seems irregular. The shape of that road was specifically designed to allow tandem trucks carrying airplane wings up to 75' long to make the turn out onto 664. This needs to be addressed in the design and layout of this intersection.	Design	Will consider a median opening for sidestreet left turns only, no left from FM 664.
145				**664 and 342 intersection.** Currently there is a median shown on 342 as it approaches the Northbound Light. This median prohibits people from turning southbound on 342 out of the Exxon Gas station. The Exxon driveway should be relocated to the southernmost point of the lot and the median can be shortened a few feet to allow people to make both north and southbound movements from the Exxon station.	Design (raised median)	Will consider shortening the median to allow left turns from SB SH 342 to the Exxon.
146				**664 and Methodist/Pratt/Batchler/Hill Intersections** The City of Red Oak adopted a Thoroughfare Master Plan that was completed by Freese and Nichols in 2011 and will likely go through an update prior to the letting of this project. Currently it does not appear that these improvements have been taken into account at these intersections. It would be best for all parties and citizens if these intersections get designed for these future roadway widenings and alignments. This will result in far less interruptions in service during construction as well as less permitting and coordination between entities in the future. City staff is available at any time to go over these intersections with design Engineers. (attached figures)	Coordination request	The 2010 Red Oak Comprehensive Master Plan was used to ensure the proposed project accommodates future Red Oak expansion.
147	38	Tom	DeCicco (Landlord for Chick fil A, Starbucks, Chipotle)	Prior to purchasing our property and constructing the improvements, TXDOT represented to the City of Red Oak and the developer of Ovilla Corner II shopping center that the NB turn movement at Sharaf Avenue would not be removed. Illustrated drawings were proved to show that the drive would stay.	Design	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
148				Removing the westbound Ovilla Road turn movement onto N. Sharaf Avenue will have **SEVERE** negative impact on sales at Chick fil A, Chipotle, Starbucks and Prosperity Bank. WB traffic will have no acceptable way to access these businesses.	Design	Comment noted
149				Leaving a southbound median break at Sharaf will result in WB drivers making illegal NB left turns through the SB median break.	Design	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
150				Eliminating the NB turn movement at Sharaf will encourage WB Ovilla drivers to make U turns at Ryan Drive and this will be dangerous.	Design	While some drivers may continue to Ryan Dr and make the u-turn, TxDOT will provide directional signing that will encourage traffic to utilize S. Sharaf Ave. to Harris Ave. to the NB frontage road. This will provide access to the business development on the northeast quadrant.
151				A detailed study of traffic movements is needed on N. Sharaf to determine how much of existing traffic on that section of Sharaf is heading for the NB I35 on ramp and how much is headed for the four businesses. With NB I 35 traffic diverted at the top of the SPIU it seems unlikely that there NB Sharaf would back up over 500' on to the SPIU.	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
152				Is there an option to put a peak hour signalization at Sharaf/Ovilla to manage NB turn movements?	Traffic	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
153				There is approximately 680' from the centerline of I 35 to Sharaf. If NB stacking is provided to Sharaf, how many cars could it stack, 30 or more?	Traffic	For an urban storage bay, there would be approximately 23' allocated length for each stacked vehicle. Scenarios have been run for this location utilizing up to a 550' storage bay.
154				Can the intersection design be changed to have only one SB I 35 stacking between the top of the intersection and Sharaf. This will leave one lane open for NB Sharaf stacking. If not, can the entire section be widened to have both the two SB I 35 stacking lanes and one NB Sharaf stacking.	Design (SPUI)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
155				On the NB I 35 down ramp, autos will not be able to turn right on Reese Road which closes that opportunity for drivers to access the businesses.	Design	This will be for vehicles starting on EB FM 664. Vehicles travelling northbound will have the option to continue on the frontage road to access Reese Rd.

Comment No	Commenter No.	First Name	Last Name	Comment	Category	Response
156	39	Jo Ann	Brewer (Prosperity Bank)	Prior to Prosperity Bank demolishing its previous bank building in 2017 and erecting a brand-new facility at the same location on the corner of I-35 Service Road, and Ovilla Road, TXDOT did not convey to Corporate or the Developers with the new bridge design that the NB turn at Sharaf Avenue would be removed.	Design	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
157				By removing this westbound turn onto N. Sharaf Avenue will be a huge negative impact for the convenience of our customers, our property value, and the overall accessibility of our business that is opened from 7:00a.m. to 7:00p.m. Monday through Friday, and until noon on Saturdays with heavy traffic throughout the		Comment noted
158				This will result in a safety issue for all drivers concerned being forced to make U-turns to access eastbound traffic to exit N. Sharaf Avenue.		Comment noted
159				It has been conveyed that TXDOT is worried about stacking of vehicles thus removing the NB turn onto N. Sharaf Ave. It is our opinion that there is more than can be done with the intersection design to eliminate some of the stacking, but certainly by having a traffic light in the middle of the intersection (bridge overpass), should illuminate most of that problem, as most of the backup traffic on Ovilla is eastbound, then going	Design (Intersections)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
160				On the NB I 35 down ramp, autos will not be able to turn right on Reese Road which closes that opportunity for drivers to access the businesses.	Design	This will be for vehicles starting on EB FM 664. Vehicles travelling northbound will have the option to continue on the frontage road to access Reese Rd.
161				N. Sharaf Ave. has strong successful franchises like Starbucks, Chick-fil-A, Chipotle, Dickeys that are huge draws to the community and choose the location due to traffic counts, etc. This will hurt their income by confusing those not living in the community to access the locations successfully especially those heading south bound on I-35		Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
162	40	Amelia	Wells	Please consider providing an entrance/exit into the west parking lot of property W86 (Landmark Baptist Church). Doing so would make accessibility consistent with property W54 (Eastridge Baptist Church). I feel this would be safer than making a U-turn at marker 940 across three lanes of traffic. Please keep this in consideration for the safety of our church family.	Design (raised median)	At Eastridge Baptist church, there are not any closely spaced properties that impact median openings. Between Pratt Rd and Batchler Rd, there approximately 45 driveway access points. We will evaluate whether a median opening can be provided at this location.
163	41	Casey	Hargrove	We have been approved by the city of Red Oak 510 residential lots named Oakmont Park. In addition to the lots, I will be constructing parks and soccer fields for the city. Our main entrance into the subdivision and the commercial development is not shown on 664's schematic. We are doing a traffic study to submit to TxDOT for our entrance, but there is also a need for a median opening with a left turn lane which is imperative for a orderly flow of traffic. It is my understanding that Todd Fuller, city manager of Red Oak will be requesting the entrance and median break on behalf of the city. Your consideration of granting this request would be greatly appreciated. (Attached plats)	Design (property access)	Driveways for proposed developments will need to be coordinated with the TxDOT Ellis County Area Office.
164	42	Clyde L.	Hargrove	I am the owner of 39 acres, being the northeast quadrant of FM 664 and Hwy 342. This property has been zoned commercial and is part of an approved preliminary plat called Oakmont Park. We have shown on the plat our Primary entrance into the commercial development and 510 residential lots. We are in the process of preforming a T.I.A. for TxDOT's approval of such entrance. We will also need a median break with a left turn lane. This median opening is not shown on your current schematic. The median opening is essential to orderly and safe flow of traffic to both residential and commercial components of Oakmont Park. We are certain that the city of Red Oak supports such an entrance and median opening, and we would appreciate your consideration in granting both. (Please see attached plats)	Design (property access)	Driveways for proposed developments will need to be coordinated with the TxDOT Ellis County Area Office.
165	43	Herold	Wells	Please consider providing an entrance/exit into the west parking lot of property W86 (Landmark Baptist Church). Doing so would make accessibility consistent with property W54 (Eastridge Baptist Church). I feel this would be safer than making a U-turn at marker 940 across three lanes of traffic. Thank you for your consideration.	Design (raised median)	At Eastridge Baptist church, there are not any closely spaced properties that impact median openings. Between Pratt Rd and Batchler Rd, there approximately 45 driveway access points. We will evaluate whether a median opening can be provided at this location.
166	44	Jeremy	Trojacek	I am writing in with concerns of taking the North Bound turn lane at Sharaf Ave and 664. As the owner of chick-fil-a there will definitely be negative business impact of customers not having access to our business. Chipotle, Starbucks, and Prosperity bank will also be drastically impacted.	Design (property accessibility)	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
167				I believe that a traffic count needs to be done specifically to the number of cars turning left onto Sharaf. The only counts that we have been given are number of cars crossing the bridge. I believe more specific information needs to be provided.	Traffic	Traffic modelling and further evaluation have shown that a left turn access from EB FM 664 to the East Ovilla Rd (jughandle) may be feasible. This left turn access will be shown on the schematic design, however it will not be signalized since that would negatively impact the efficiency and operation of the IH35E interchange and Ryan Dr. TxDOT is continuing to evaluate the left turn in conjunction with the City of Red Oak. The final design will be made available for review to interested parties once completed.
168				I am also concerned about emergency vehicles not being able to access our business in adequate time in case of emergency. I also believe that we need to take into consideration that this will be an inconvenience for all local customers as well as make it challenging for customers who would be traveling through on I-35.	Emergency Response	From the EMERGENCY STATION, responders will turn left onto FM 664, turn right onto N. Sharaf and have direct access to the NE quadrant business park.