Draft Environmental Assessment

Farm-to-Market (FM) 1461, Dallas District

From State Highway (SH) 289 to County Road (CR) 123

CSJ Numbers: 1973-01-015 and 1392-03-012

Collin County, Texas

June 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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Table of Contents

List of Tables

List of Acronyms

AADT	Annual Daily Traffic
ACS	American Community Survey
ADA	American with Disabilities Act
ADT	average daily traffic
AOI	Area of Influence
APE	Area of Potential Effect
ASTM	American Society for Testing and Materials
BMPs	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CGP	Construction General Permit
CIA	Community Impacts Assessment
CMP	Congestion Management Process
CO	Carbon Monoxide
CR	County Road
CWA	Clean Water Act
dB(a)	Decibel on the A-Weighted Scale
dB(a) Leq	Decibels of equivalent continuous sound level
EA	Environmental Assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FM	Farm-to-Market Road
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
HHS	U.S. Department of Health and Human Services
IPaC	Information for Planning and Consultation
ISA	Initial Site Assessment
LEP	Limited English Proficiency
MBC	multiple box culverts
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System

MSAT	Mobile Source Air Toxics
MTP	Metropolitan Transportation Plan
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NCTCOG	North Central Texas Council of Governments
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NOI	Notice of Intent
NRCS	Natural Resources Conservation Service
NWP	Nationwide Permit
PA	Programmatic Agreement
PCN	pre-construction notification
PEM	Palustrine Emergent Wetland
PM	Particulate Matter
PS&E	Plans, Specifications, and Estimates
PWC	Parks and Wildlife Code
RCP	reinforced concrete pipes
ROE	right of entry
ROW	Right-of-Way
SAL	State Antiquities Landmark
SBC	single box culvert
SGCN	Species of Greatest Conservation Need
SH	State Highway
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
STIP	Statewide Transportation Improvement Program
SWP3	Stormwater Pollution Prevention Plan
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TERP	Texas Emissions Reduction Plan
THC	Texas Historical Commission
TIP	Transportation Improvement Program
TPP	Transportation Planning and Programming

TPWD	Texas Parks and Wildlife Department
TxDOT	Texas Department of Transportation
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UTP	Unified Transportation Program

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1.0 Introduction

The Texas Department of Transportation (TxDOT), Dallas District, proposes to expand Farm-to-Market Road (FM) 1461 from State Highway (SH) 289 to County Road (CR) 123 in Collin County, Texas. See **Appendix A** for the Project Location Map. The purpose of the environmental assessment (EA) is to study the potential environmental consequences of the proposed project and to determine whether such consequences warrant preparing an environmental impact statement. This EA was prepared to comply with both the TxDOT environmental review rules and the National Environmental Policy Act (NEPA). The draft EA will be made available for public review, and TxDOT will consider any comments submitted during the comment period. After the comment period, TxDOT will evaluate all comments and results of the environmental analysis to determine if the proposed project would have any significant adverse effect. If TxDOT determines that there would be no significant adverse effects, it will prepare and sign a Finding of No Significant Impacts (FONSI), which will be made available to the public.

2.0 Project Description

2.1 Existing Facility

Within the proposed project limits, FM 1461 is a two-lane rural, undivided highway with open ditches located in the cities of Celina, McKinney, Prosper, and in unincorporated portions of Collin County, Texas. The existing roadway consists of two 10-foot mainlanes (one in each direction) with 3-foot shoulders from SH 289 to FM 2478 and no shoulders east of FM 2478 to CR 123. The existing typical right-of-way (ROW) width is approximately 90 feet. There are 14 water crossings along the length of the proposed project, four of them are floodplain crossings (Gentle Creek, Wilson Creek, Stover Creek, and Franklin Branch). The Stover Creek crossing includes a flood storage easement of National Resource Conservation Service (NRCS) Reservoir 2-A of the East Fork Watershed Above Levon. Bridges and drainage structures associated with these water crossings include two bridges at Wilson Creek and Stover Creek, two bridge class culverts[1] crossings at Gentle Creek and Franklin Branch, eight reinforced concrete pipes (RCP), one single box culvert (SBC), and three minor multiple box culverts (MBCs). No detention ponds are associated with the existing facility and no existing bicycle or pedestrian facilities are within the project limits. Photographs of the existing roadway can be found in **Appendix B**.

2.2 Proposed Facility

The proposed facility consists of expanding existing FM 1461 from a two-lane rural roadway to a four-lane (ultimate six-lane) urban highway from SH 289 to CR 123, a distance of approximately 7.10 miles. The existing rural, uncurbed roadway with

[1] Any culvert with a clear opening of more than 20-feet, measured along the center of the roadway between inside of end walls, is considered a bridge by FHWA, and is designated a bridge class culvert (TxDOT *Hydraulic Design Manual, July 2016)*.

continuous open ditches will be replaced with an urban facility with curb and gutter, and closed underground storm drain systems. Small intermittent ditches behind the sidewalk may still be necessary where it is impractical to lower the roadway profile sufficient to accept offsite runoff over the curb and directly into the curb inlets. The proposed expansion of FM 1461 would consist of constructing additional mainlanes, including one 12-foot-wide travel lane and one 14-foot-wide outside shared-use lane in each direction, a proposed median, and sidewalks located along the outside of both the eastbound and westbound lanes. The proposed median would accommodate a future, ultimate six-lane facility. Specific median openings and turn lanes are currently proposed at the following cross-streets (from west to east): Preston Hills, Twin Lakes Dr./Highland Meadows Dr., Falcon Rd., Coit Rd., Lilyana Ln., CR 84/Widing Creek, Pebble Creek Dr., Oak Bend Trail, Amberwood Ln./Wellspring Rd., Collin Green Dr., Meadow Green St./Mill Pond St., N. Custer Rd., FM 2478, Texas Trail, 4 Seasons Ln., CR 165, three unnamed roads, two private roads, and one commercial driveway. Final locations of median openings will be determined in the final design plans in coordination with local governments.

The proposed ROW width varies from 130 to 172 feet wide at SH 289 (Preston Rd.) with a typical ROW width of 139 feet. The proposed project would require the acquisition of approximately 58 acres of new (additional) ROW.

Bridges and drainage structures proposed at the 14 locations along the length of the proposed project include widening of the existing Wilson Creek bridge and construction of a new parallel bridge over Wilson Creek, new bridges over Stover Creek, extension of the bridge class MBCs at Gentle Creek, new bridge class MBCs at Franklin Branch, six minor MBCs, and six SBCs. two expanded bridges over Wilson Creek and Stover Creek, six SBCs, two MBCs at Gentile Creek and Franklin Branch (bridge class culverts), and six MBCs.

Bicycle and pedestrian facilities would be constructed as part of the proposed project. A 14-foot-wide shared-use outside lane with 1.5-foot-wide outside curb offset and 5- to 6-foot-wide American with Disabilities Act (ADA) compliant sidewalk in both directions would be included throughout the entire project limit.

The proposed project schematics are shown in **Appendix C** and typical sections can be found in **Appendix D**.

Federal regulations require that federally funded transportation projects have logical termini (23 Code of Federal Regulations [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. Logical termini for the proposed improvements to FM 1461 are from SH 289 (Preston Rd.) to CR 123. These limits were chosen based on significant residential development along the project limits and project objectives, which include east-west connectivity to major highways, SH 289, and US 75. SH 289 is a major traffic generator for FM 1461 for vehicles travelling east to residential developments along the project corridor. Existing FM 1461, south of CR 123, is a four-lane (two lanes each direction) divided facility and the proposed project

improvements north of CR 123 would tie into the expanded facility of FM 1461 (Lake Forest Drive) at the intersection CR 123.

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 provide congestion relief, increase mobility and provide a roadway that meets current design standards. The proposed improvements are a reasonable expenditure that does not require additional transportation improvements in the proposed project area. The addition of the proposed travel lanes and proposed median to accommodate future ultimate six-lane facility, as well as sidewalks, meets the project's need and would improve mobility in the project area independent of any other future roadway improvements. Since this project stands alone, it cannot and does not irretrievably commit federal funds.

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 construction of the proposed project does not rule out future options for the development of other reasonably foreseeable transportation improvements. Since the proposed project has independent utility and would not force a future expenditure of funds, no future alternatives would be dictated or restricted by the proposed project.

The estimated total cost for the proposed project is $103,903,229. Approximately 80% of the total cost would be federally funded and approximately 20% would be state funded.

CSJ 1973-01-015 is consistent with the North Central Texas Council of Governments' (NCTCOG's) 2045 Metropolitan Transportation Plan (MTP) and the financially constrained 2019-2022 Transportation Improvement Program (TIP), as amended; however CSJ 1392-03-012 is pending approval in the Statewide Transportation Improvement Program (STIP) as part of the May 2019 STIP revision submittal. TxDOT will not take final action on this environmental document until the proposed project is consistent with a current MTP and TIP. Copies of the MTP and TIP pages are included in **Appendix E**.

3.0 Purpose and Need

3.1 Need

The proposed project is needed because the existing FM 1461 within the project limits does not meet current design standards and inadequately performs to meet expected future traffic volumes, resulting in congestion and reduced mobility.

3.2 Supporting Facts and/or Data

As shown in **Table 1**, the cities of Celina, McKinney, and Prosper experienced substantial population growth from 2010 to 2017. The City of Prosper experienced the highest population growth in the project area with approximately 114% growth from 2010 to 2017. Of particular note, the City of Celina's population is projected to grow by approximately 654% from 2017 to 2045.

Table 1. Historical and Projected Population Growth

Total population	Estimate		Projections	Percent Change (2010-2017)	Percent Change (2017-2045)
	2010*	2017†	2040‡/2045§		
City of Celina	6,028	10,310	77,710	71%	654%
City of McKinney	131,117	169,710	227,522	29%	34%
City of Prosper	9,423	20,160	25,000	114%	24%
Collin County§	782,341	951,795	1,689,168	22%	77%
Dallas-Fort Worth MPA§	6,417,724	7,235,508	11,246,531	13%	55%

Sources: * US Census 2010; † American Community Survey 2013-2017; ‡ Texas Water Development Board 2018; § North Central Texas Council of Governments (NCTCOG) 2018.

Note: 2045 population projections were not available for the cities of Celina, Prosper, and McKinney.

From 2010 to 2017 employment in the Dallas-Fort Worth area increased by 70%, outpacing population growth (13%) in the same timeframe. Employment is projected to increase in the area and Collin County by 53% and 54%, respectively, from 2017 to 2045. (NCTCOG 2018).

The traffic demand along FM 1461 within the project limits has grown substantially over the years due to residential development in the project area. Traffic is expected to grow from 6,000 average daily traffic (ADT) in 2017 (TxDOT 2019a) to 14,800 ADT in 2046 (Transportation Planning and Programming [TPP] 2017); an increase of 146%. Additional travel lanes would help alleviate congestion. The TPP traffic data can be found in the *Traffic Noise Technical Report*.

TxDOT's online Congestion Map and TxDOT's online Future Congestion map show FM 1461 just south of CR 123 as being moderately congested. According to the 2016 Dallas District Traffic Map, the highest traffic volumes along FM 1461 within the proposed project limits occur west of FM 2478 where there are several existing residential subdivisions and other subdivisions under construction. Based on the annual ADT's presented in **Table 2**, it appears that approximately one-half of the motorists that enter FM 1461 from SH 289 use FM 1461 to reach residences in Celina and Prosper, and the other traffic uses FM 1461 to reach destinations in the City of McKinney and Collin County. The additional travel lane in each direction would help alleviate future congestion along this stretch of FM 1461.

Table 2. Traffic Volumes

Location along FM 1461 (from west to east)	Annual ADT
SH 289 and FM 1461 intersection	18,219
Just east of SH 289 and west of FM 2478	9,546
FM 2478 (N. Custer Rd.) and FM 1461 intersection	5,098
N. FM 2478 and FM 1461 intersection	2,457
Just east of N. FM 2478	4.970
Just north of CR 123	5,719

Source: 2016 TxDOT Dallas District Traffic Map, *http://ftp.dot.state.tx.us/pub/txdot-info/tpp/traffic_counts/2016/dal-base.pdf*.

Based on population growth and traffic projections for the proposed project corridor, the existing facility would not accommodate the additional ADT, resulting in congestion and reduced mobility.

Within the proposed project limits and in its current configuration, FM 1461 lacks continuous shoulders and divided continuous medians with turning lane openings. These design deficiencies do not meet the current design standards of a four-lane (ultimate six-lane) urban highway.

3.3 Purpose

The purpose of the proposed project is to accommodate expanding transportation demands resulting from population growth and economic development in the region; increase mobility and accessibility in the region; and to provide an east-west transportation facility to serve the communities in the project area.

4.0 Alternatives

This section discusses the following alternatives: 1) Build Alternative, 2) No-Build Alternative, and 3) Preliminary Alternatives Considered but Eliminated from Further Consideration.

4.1 Build Alternative

As currently proposed, the Build Alternative (see **Section 2.2**) would involve the expansion of FM 1461 from a two-lane rural roadway to a four-lane (ultimate six-lane) divided urban highway with turn lanes, and bike and pedestrian facilities. Approximately 58 acres of additional ROW would be required to implement the Build Alternative. The Build Alternative would meet the proposed project's purpose and need by increasing capacity to accommodate current and future projected traffic volumes; therefore, facilitating congestion management and improving mobility in the proposed project area. Additionally, based on design year traffic volumes and coordination with local officials, specific median openings and right- and left-turn lanes would be incorporated into the Build Alternative at select cross streets mentioned in **Section 2.2**, as well as private driveways. These proposed improvements would allow the roadway to meet current design standards.

The major design features of the proposed project include:

- The construction of an additional lane in each direction of FM 1461 with curb and gutter. The proposed design would include 14-foot-wide outside lanes designed as a shared-use lanes for vehicles and bicycles. The construction would also include 5- to 6-foot-wide sidewalks throughout the length of the project on both sides;
- Partial reconstruction of the intersection of FM 1461 and SH 289. The proposed design includes two dedicated turning lanes on FM 1461 to turn north and south on SH 289;
- Intersection reconstruction of FM 161 at Coit Rd. to accommodate the future expansion of Coit Rd.;
- The widening of the existing bridge over Wilson Creek to accommodate additional westbound lanes and a new parallel bridge over Wilson Creek to accommodate additional eastbound lanes;
- The construction of an intersection tie-in at FM 1461 and FM 2478;
- The existing bridge over Stover Creek would be removed and replaced with two parallel bridges to accommodate the ultimate six-lane facility ;
- Complete reconstruction of the intersection at FM 1461 and CR 166, which would tie into the future Laud Howell Parkway. The existing FM 1461 mainlanes that curve south at the intersection would be removed and replaced with an interim configuration to accommodate a signalized intersection with dedicated turning lanes to CR 166 to the north and dedicated turning lanes to FM 1461 (Lake Forest Dr.) to the south. The ultimate design for this intersection includes proposed signalized through lanes connecting FM 1461 to the proposed east-west Laud Howell Parkway;
- The existing bridge class culvert at Franklin Branch would be removed and replaced with four 10- by 8-foot MBCs to accommodate the ultimate six lane facility ; and
- The intersection of FM 1461 (Lake Forest Dr.) and CR 123 would be reconstructed to match the existing intersection and roadway configuration of the existing FM 1461 (Lake Forest Dr.) south of CR 123.

The proposed project is consistent with local and regional land use and transportation plans and policies in the area. It would improve mobility and reduce congestion in the proposed project area and facilitate reliable emergency response.

4.2 No-Build Alternative

Under the No-Build Alternative, the proposed improvements to FM 1461 would not be constructed and FM 1461 would retain its current configuration. The No-Build Alternative would not improve mobility, as anticipated increases in future traffic volumes would be expected to result in increased congestion. For this reason, the No-Build Alternative does not meet the need and purpose for the proposed improvements and is not the recommended alternative. However, the No-Build Alternative was carried forward for further analysis.

4.3 Preliminary Alternatives Considered but Eliminated from Further Consideration

No other alternatives were identified.

5.0 Affected Environment and Environmental Consequences

Several technical reports and other documentation were prepared in support of this EA. A list of these reports is presented below.

- Air Quality Technical Report
- Archeological Background Study
- Archeological Survey Report
- Biological Evaluation
- Community Impacts Assessment
- Hazardous Materials Initial Site Assessment
- Historic Project Coordination Request
- Historical Studies Survey Report
- Indirect and Cumulative Impacts Analysis
- Tier I Site Assessment
- Traffic Noise Technical Report
- Water Resources Technical Report

The technical reports and documents may be inspected and copied upon request at the TxDOT Dallas District Office, 4777 E. Highway 80, Mesquite, Texas 75150. The following sub-sections identify the environmental consequence of the Build and No-Build Alternative on each resource.

5.1 Right of Way/Displacements

Build Alternative: The Build Alternative would require the acquisition of approximately 58 acres of additional ROW and 0.52 acre of proposed drainage easements (see **Appendix C**). ROW and easement acquisition would be limited to those properties required for project construction. The proposed project would not result in any residential, commercial, or other displacements. All ROW acquisition would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

No-Build Alternative: Under the No-Build Alternative, no project-related ROW would be acquired.

5.2 Land Use

The proposed project is located partially in the city limits of Celina, McKinney, and Prosper, Texas, and in the unincorporated area of Collin County. Existing land use in the vicinity of the project corridor consists primarily of agricultural and residential development. Residential development is mostly located in the western portion of the project area, between SH 289 and FM 2478, and to the east of FM 1461 between CR 166 and CR 123.

A few planned residential developments are under construction or proposed in the vicinity of the project area. Lilyana subdivision is a 1,250-unit single family development under construction in the city limits Celina, north of FM 1461 between CR 83 and CR 84. Mustang Lakes is a 2,000-unit single family development under construction in the city limits Celina, north of FM 1461 between CR 84 and FM 2478. Highland Lakes is a 641-acre single family development under construction in the city limits McKinney, south of FM 1461, between FM 2478 and CR 166.

Build Alternative: All land uses that would be directly impacted by the proposed project would be permanently converted to transportation use. The proposed project would acquire approximately 58 acres of new ROW. Land use in the proposed ROW is mostly agricultural land. Land use changes associated with the proposed project would not conflict with local long-range planning policies, future land use plans, or planned development. **Table 3** summarizes the total acres of land use within the proposed ROW.

Table 3. Land Use within Proposed Project Area

Land Use Description	Acres	Percent*
Agriculture/Ranch	30.35	52.05
Commercial	0.51	0.88
Residential	19.80	34.34
Industrial	0.07	0.11
Public Use	0.24	0.42
Parks and Recreation	0.00	0.00
Improved Acreage	1.60	2.78
Existing Roadway	3.85	6.60
Vacant	1.58	2.75
Total	**58.00**	**100.00**

Source: NCTCOG 2015

* Due to rounding, total may not correspond with the sum.

No-Build Alternative: Under the No-Build Alternative, the additional ROW would not be obtained and there would be no FM 1461-related land use impacts.

5.3 Farmlands

Observations made during the site reconnaissance on December 3–5, 2018, revealed that active agricultural lands exist adjacent to the proposed project. The NRCS Web Soil Survey (NRCS 2019) was used to determine the soil types present within the proposed project area. Soils determined to be within the existing and proposed ROW, and proposed easements are listed in **Table 4**.

Table 4. Soil Types within Proposed Project Area

Soil Type	Farmland Classification
Austin silty clay, 1 to 3 percent slopes	Prime farmland, farmland of statewide importance
Austin silty clay, 3 to 5 percent slopes, eroded	Not prime farmland
Austin silty clay, 5 to 8 percent slopes, eroded	Not prime farmland
Eddy gravelly clay loam, 3 to 8 percent slopes, eroded	Not prime farmland
Houston black clay, 0 to 1 percent slopes	Prime farmland, all areas are prime farmland
Houston black clay, 1 to 3 percent slopes	Prime farmland, all areas are prime farmland
Houston black clay, 2 to 4 percent slopes, eroded	Not prime farmland
Stephen silty clay, 1 to 3 percent slopes	Not prime farmland

Source: Natural Resources Conservation Service 2019.

Build Alternative: In compliance with the Farmland Protection Policy Act (FPPA) of 1981, Farmland Conversion Impact Rating Form NRCS-CPA-106 was completed because the proposed project would convert farmland subject to FPPA to a non-agricultural, transportation use. The total site assessment score for the project was less than 60 points; therefore, the project area need not be given further consideration for protection, and no additional sites need to be evaluated. Refer to the supporting documentation for the *Biological Evaluation Form* for a copy of Form NRCS-CPA-106.

Farmland impacts would be limited to areas directly adjacent to the existing FM 1461 project corridor and would not result in the division or separation of existing agricultural land. Farmlands would continue to function as they do under existing conditions; therefore, encroachment-alteration effects stemming from farmland impacts are not anticipated as a result of the Build Alternative.

It is not possible to fully mitigate for the loss of agricultural acreage without bringing non-farmed land into production.

No-Build Alternative: Under the No-Build Alternative, the additional ROW/easement would not be obtained and there would be no FM 1461-related farmland impacts.

5.4 Utilities/Emergency Services

The existing utilities along the proposed project include television cables, fiber optic cables, electrical cables, telephone cables, storm sewer lines, water lines, and gas lines. The proposed project area is currently served by the cities of Celina, Prosper, and McKinney Fire Departments and Police Departments. Celina's fire and police stations are located along SH 289, north of FM 1461 and McKinney's Fire Station No. 9 is located on FM 1461 (Lake Forest Dr.). The closest hospital is located just south of the proposed project area on FM 1461 (Lake Forest Dr.) just north of W. University Dr. in McKinney.

Build Alternative: Implementation of the Build Alternative may require the relocation and adjustment of utilities such as water lines, sewer lines, gas lines, fiber optic, overhead electrical and telephone lines, and other subterranean and aerial utilities. The need for

relocation and adjustment of any utilities would be determined during the detailed design phase and coordinated with the affected utility provider to ensure that no substantial interruption of service would take place.

The Build Alternative would improve mobility in the proposed project area and is anticipated to improve emergency response times. Changes in access to area hospitals as a result of the proposed improvements is not anticipated. While the additional travel lanes would be expected to improve mobility and therefore emergency response times, the introduction of a raised median may have an effect on response times. The distance between median openings varies from approximately 150 feet to 1,375 feet. Where median openings are not available, emergency response vehicles would have to continue to the next available median opening and conduct a U-turn. Median openings along the length of the proposed project area are frequent, but depending on where an incident is located, the response time may be improved or slightly hindered. The cities of Celina, Prosper, and McKinney, as well as Collin County and associated emergency responders, have been and would continue to be kept abreast of the progress of the proposed design and involved in public involvement activities. In all likelihood, emergency responders would be required to study the proposed improvements and associated median openings, roadway realignments, and closures prior to project implementation.

During construction, project-related delays would be anticipated for emergency services; however, every reasonable effort would be made to minimize delays. Roadway closures are not anticipated; however, traffic patterns would be temporarily affected with alternating lane closures, temporary reductions in lane widths, and reduction in speed. During construction, temporary lane closures would be kept to a minimal length and time. Access would be maintained to adjacent properties during construction.

Required utility adjustments would occur prior to or during construction of the proposed project. Efforts would be made to minimize construction-related delays and to ensure emergency responders are aware of road conditions and lane closures. Given that both issues are limited to the construction phase and would be confined to the project area, encroachment-alteration effects are not applicable. The adjustments and relocation of any utilities would be managed so that no substantial interruptions would occur.

No-Build Alternative: Under the No-Build Alternative, there would be no project-related impacts to utilities. Emergency service response would continue to be hindered by congestion and unreliable travel times associated with congestion.

5.5 Bicycle and Pedestrian Facilities

In accordance with TxDOT's policy for bicycle and pedestrian accommodation and a federal policy statement on Bicycle and Pedestrian Accommodations Regulations and Recommendations by the U.S. Department of Transportation signed on March 11, 2010, the inclusion of bicycle and pedestrian facilities would be considered as part of the Build Alternative. Bicycle and pedestrian facilities would be constructed as part of the 7.10-mile-long proposed project (see Appendix C – Schematics and Appendix D – Typical

Sections). Bicycle traffic would be accommodated with 14-foot-wide outside shared-use lanes with 1.5-foot-wide outside curb offsets. Five to six-foot-wide ADA-compliant sidewalks would be included along the entire limits of the proposed project.

Build Alternative: There is the potential for the proposed project area to experience changes in the mode(s) of transportation utilized by area residents and traffic volumes. Residents travelling locally may opt to take advantage of the new bike and pedestrian facilities in lieu of driving their vehicle.

The addition of bicycle and pedestrian facilities is a positive benefit; therefore, mitigation is not warranted.

No-Build Alternative: Under the No-Build Alternative, bicycle and pedestrian facilities would not be constructed.

5.6 Community Impacts

A detailed discussion of community impacts can be found in the *Community Impacts Assessment (CIA) Technical Report* for the proposed project.

The community study area consists of Census block groups that encompass the proposed project area in the municipalities of Celina, Prosper, and McKinney and the unincorporated area of Collin County. Community facilities in the study area include schools, places of worship, healthcare and emergency services, a courthouse, town hall center, daycares, an assisted living center, and recreational facilities. Several cemeteries and historic landmarks are located in the community study area.

Build Alternative: The proposed improvements to FM 1461 would improve mobility, increase turn lane capacity at major intersections, and improve traffic safety. Additionally, bike/pedestrian facilities would be introduced along the proposed project, providing connectivity for these travel modes.

The addition of travel lanes and raised medians could increase the sense of separation between the north and south sides of the roadway; however, the proposed project would not create a new barrier between communities or restrict access to residential areas. The separation of the eastbound and westbound travel lanes by the medians would facilitate safer and more efficient access to residences, community facilities, and businesses along the corridor. Additionally, the proposed project would accommodate the growing traffic demand as a result of an increase in housing developments within the community. The proposed project would increase mobility throughout the community study area by providing an east-west urban highway for the growing community. The improved mobility could encourage residents from rural areas to travel to Prosper, Texas, to participate in local activities at the schools and recreational facilities. Travel to and from McKinney and Celina would also be improved. The proposed project would potentially increase the use and visibility of local services and facilities by improving mobility and accessibility along and through the FM 1461 corridor.

Access and travel patterns along FM 1461 within the project limits would be permanently impacted for many adjacent properties and motorists due to the introduction of raised medians. This would permanently change distance and time traveled for many residents/properties along FM 1461 within the project limits. The addition of medians would prevent motorist traveling on one side of the roadway from accessing certain properties on the opposite side of the roadway where there currently is no median. In most cases, motorists would have to continue past their destination then conduct a U-turn at the next available median opening and track back to their destination, which would result in an increased travel time of approximately 1 to 1.5 minutes. Properties along the east and west sides of FM 1461 that would be impacted by changes in travel patterns and access include 45 rural single-family residential driveways, one commercial business (Prosper Storage), and three religious facilities (Christian Chapel, Liberty Missionary Baptist Church, and Cross Road Christian Worship). The benefits of the proposed project would serve to offset any inconvenience from traveling additional distances, and all adjacent parcels would maintain access to FM 1461.

The addition of a travel lane in each direction would accommodate the anticipated increase in traffic due to population growth in the community study area. Dedicated turn lanes and median crossovers with left-turn bays would remove turning traffic from the mainlanes, alleviating congestion caused by through traffic having to slow behind turning traffic and increasing mobility overall. Additionally, dual-turn lanes planned at the FM 1461 intersections with SH 289, FM 2478, and CR 166 would increase turn lane capacity at these intersections. The medians would limit left turns in some areas, reducing points of conflict. Left turns onto and off of FM 1461 would be maintained at major intersections (SH 289, FM 2478, and CR 166) and at the entrance streets to residential communities.

Currently, no shared-use lanes or sidewalks are along FM 1464. The proposed project would include bike/pedestrian facilities along the length of FM 1461 within the project limits. The addition of alternative modes of transportation would improve the options for people to use local services and facilities along the corridor. This would also provide accessibility between residential areas for those unable to drive. The proposed roadway would ultimately provide motorists, pedestrians, and cyclists a more efficient and safer route to move within and through the proposed project area. Improved mobility and operational efficiency would improve community cohesion, and increased connectivity would offset any potential negative barrier effects.

The Build Alternative would not affect, separate, or isolate any distinct neighborhoods, ethnic groups, or other specific groups. No residential neighborhood would be separated or divided by the proposed project. Positive impacts to residential communities would include improved mobility and accessibility throughout the community study area and to surrounding communities. Negative impacts to residential areas associated with the proposed project could be attributed to traffic noise impacts, changes in aesthetics, and/or temporary construction impacts. Motorists travelling within or through the proposed project area may alter their existing routes to avoid construction areas, which could lead to a temporary increase in traffic volumes on side streets.

The proposed project improvements would not displace community facilities that would result in relocation of services. The proposed project would not affect the way residents in the community access community facilities and would not change or restrict use of local services and community facilities. Consequently, no indirect impacts to community facilities and services would be anticipated.

Overall, the proposed facility would increase mobility and improve operational efficiency along FM 1461 and within the community study area. The Build Alternative would not have adverse impacts on community cohesion, travel patterns, or access to community facilities within the project area.

The proposed improvements to FM 1461 do not conflict with local planning policies or goals for future development, would not delay or interfere with any other planned improvements, and are consistent with applicable laws. Therefore, no mitigation is warranted.

No-Build Alternative: The No-Build Alternative would not result in direct impacts to neighborhoods or community facilities. Under the No-Build Alternative, residential areas would not be subject to temporary construction noise impacts. However, the community would not experience the benefits of improved mobility and safety conditions resulting from the proposed project.

Under the No-Build Alternative, FM 1461 would not have medians, and businesses and residences along the project corridor would continue to have direct access to eastbound and westbound lanes on FM 1461. The No-Build Alternative would not improve safety, mobility, or enhance regional connectivity. And the No-Build Alternative would not provide accommodations for bicyclists and pedestrians in the project area.

5.6.1 Environmental Justice

A detailed discussion of Environmental Justice (EJ) considerations can be found in the *CIA Technical Report* for the proposed project.

Demographic data from the 2010 U.S. Census Bureau (US Census Bureau 2010) and median household income data from the 2012 to 2016 American Community Survey (ACS) five-year survey (US Census Bureau 2016a) was used to identify high-minority and low-income population areas. Data for minority populations is provided at the Census block level, and data for low-income populations is provided at the Census block group level. Minority persons include Black (or African American), Hispanic, American Indian, Alaska Native, Pacific Islander, and Asian-American persons (Council on Environmental Quality [CEQ] 1997). Census blocks with a minority population greater than 50% are considered high-minority areas. A low-income population is defined as a group of people and/or a community that, as a whole, live at or below the U.S. Department of Health and Human Services (HHS) poverty guidelines (Federal Highway Administration [FHWA] 2012). Poverty guidelines are categorized by the number of persons living in a household. The poverty guidelines for a family of four

people in 2019 (in the 48 contiguous states), as defined by HHS, is a total annual median household income of $25,750 (HHS 2019). Census block groups with a median household income that was below the 2019 HHS poverty level are considered low-income areas.

A total of 32 of the 309 populated Census blocks within the community study area have minority populations greater than 50%. Most of the high-minority Census blocks are located south of FM 1461 near Prosper and McKinney. One high-minority Census block (Block 2044 in Census Tract 303.05, Block Group 2) is adjacent to the project area and has a 60% minority population (total population of five persons). No low-income populations were identified in the project area.

Build Alternative: The Build Alternative would affect travel patterns in some areas; however, impacts to travel distances and changes in access would not be limited to the high minority Census blocks, and would not result in disproportionately high or adverse impacts to EJ populations. Improved safety and mobility would be a benefit to all residents in the area.

The proposed project would be consistent with Executive Order (EO) 12898 and FHWA Title VI Program. Disproportionately high and adverse impacts on any minority or low-income populations are not anticipated; therefore, mitigation measures for EJ populations were not considered.

No-Build Alternative: Under the No-Build Alternative, there would be no impact, adverse or beneficial, to EJ populations.

5.6.2 Limited English Proficiency

Executive Order 13166, *Improving Access to Services for Persons with LEP*, requires federal agencies to examine the services they provide, identify any need for services to those with LEP, and develop and implement a system to provide those services so that LEP persons can have meaningful access to them. A detailed discussion of the Limited English Proficiency (LEP) populations can be found in the *CIA Technical Report* for the proposed project.

All of the Census block groups in the community study area have LEP persons, ranging from 0.6% to 5.7%. According to the ACS 2012–2016 five-year estimates, a total of 3.0% (770 persons) of the total population within the community study area (total population of 25,440 persons) speaks English "less than very well," which is considered LEP. Of the 3.0% LEP population, approximately 59.4% of LEP persons speak Spanish; 18.1% speak other Indo-European languages; 16.8% speak Asian and Pacific Island languages; and 5.7% speak other languages (US Census Bureau 2016b).

During a site visit conducted on September 6, 2018, no indicators of LEP populations, such as signage in languages other than English, were observed in the immediate vicinity of the project area.

Reasonable steps have been and would continue to be taken to ensure LEP persons have meaningful access to the programs, services, and information TxDOT provides. Persons who have special communication or accommodation needs, or need an interpreter, have been, and would continue to be encouraged to contact the TxDOT Dallas District Public Information Office for assistance. Therefore, the requirements of EO 13166 have been satisfied.

A Spanish interpreter was available at the April 2018 public meeting and will be available at the public hearing planned for the proposed project. Notices for public involvement efforts were published in English but indicated that special accommodations would be made upon request. No requests were received for translation services prior to the public meeting.

TxDOT will make any reasonable effort to provide special accommodations, as necessary, at the public hearing prior to releasing the final EA.

5.7 Visual/Aesthetic Impacts

Aerial imagery and field visits were used to assess visual and aesthetics impacts within the project area. Section 136 of the Federal Aid Highway Act of 1970 (Public Law 91-605) requires consideration of aesthetic values in the highway planning process. FM 1461 is an existing undivided two-lane rural roadway with no bicycle/pedestrian facilities and no overhead lighting within the project limits. Vegetation in the ROW consists primarily of maintained grasses with minimal tree cover. Aesthetic enhancement of the existing roadway is minimal. The roadway is a dominant visual feature in the proposed project area.

Build Alternative: The proposed project is not anticipated to impact existing landscaping or other aesthetic features. Landscaping would not be included as a part of the proposed project. The proposed project entails improvements/widening of an existing visual element (FM 1461) rather than introducing a new visual element into the environment; therefore, visual encroachment alteration effects are not anticipated.

The proposed project is not anticipated to adversely affect aesthetics; therefore, mitigation is not warranted.

No-Build Alternative: Under the No-Build Alternative, the proposed improvements would not be constructed; therefore, there would be no FM 1461 project-related visual impacts along the existing corridor.

5.8 Cultural Resources

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

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

5.8.1 Archeology

The purpose of the archeological investigation is to conduct an inventory or determine the presence/absence of archeological resources (36 CFR 800.4) and to evaluate identified resources for their eligibility for inclusion on the National Register of Historic Places (NRHP), as per Section 106 (36 CFR 800) of the NHPA of 1966, as amended, or as a designated State Antiquities Landmark (SAL) under the Antiquities Code of Texas (13 Texas Administrative Code [TAC] 26.12).

Cultural resources records and background literature review of the project area determined that the majority of the project area had not been previously surveyed for cultural resources. Three cultural resources investigations have been conducted within 300 feet of the FM 1461 corridor. In 2015, an area survey at the intersection of FM 1461 and FM 2478 on behalf of the City of McKinney and TxDOT resulted in the discovery and recording of historic farmstead, 41COL256. No additional cultural resources were encountered during the previous investigations.

In April 2019, an intensive non-collection pedestrian cultural resources survey of the project area of potential effect (APE) was conducted. Surface and subsurface investigations within the APE discovered no archeological materials, including no trace of previously recorded historical farmstead 41COL256 at the FM 1461/FM 2478 intersection. However, just outside the APE at the western terminus of the project, archeologists noted two concrete historic-era features (i.e., steps for a former house and a storm shelter). The APE consists of areas previously impacted by residential subdivision construction, surface and subsurface utilities, and the construction and maintenance of FM 1461, or agricultural fields and pastures. Subsurface investigations involved the excavation of 67 shovel tests throughout the APE, all of which were negative for cultural materials.

Based on the above data, the surveyed parts of the APE where right of entry (ROE) was granted, including near site 41COL256, contain no archeological historic properties eligible for the NRHP or sites warranting SAL designation. The two historic-age features at the western terminus of the project are not within the APE and were not recorded as an archeological site; should the proposed roadway design change and shift to encompass those features, then additional survey in that area with formal site recording would be necessary. Furthermore, there is likely little to no potential for the surveyed parts of the APE to contain previously unidentified archeological historic properties or sites except at Wilson Creek, Stover Creek, and Franklin Branch; backhoe trench excavations are recommended at these drainages once ROE for mechanical

excavations has been obtained to adequately assess those areas for the presence of deep cultural deposits.

TxDOT archeologists recommend that the parts of the APE that have been surveyed for cultural resources (except for the three creek crossings), including the 41COL256 site area, contain no archeological historic properties eligible for the NRHP or sites warranting SAL designation, and additional investigations are not necessary except as noted. THC concurred with the TxDOT archeologists' recommendations on April 11, 2019. The Section 106 consultation letter and concurrence from THC are provided in **Appendix G.**

Build Alternative: It is not anticipated that the proposed project would result in direct impacts to known archeological resources. In the unlikely event that cultural resources are discovered during construction of the proposed project, TxDOT would immediately initiate cultural resource discovery procedures. All work in the vicinity of the discovery would cease until a specialist from TxDOT and/or the THC could arrive on site and assess the discovery's significance and the need, if any, for additional investigation.

No-Build Alternative: Under the No-Build Alternative, construction of the proposed FM 1461 project would not occur; therefore, there would be no FM 1461 project-related impacts on archeological resources.

5.8.2 Historic Properties

TxDOT's architectural historians consulted the THC's online Atlas database, as well as the TxDOT Historic Districts and Properties Map, and Historic Bridges Map to locate previously evaluated historic resources, previously designated historic properties, and previously designated historic districts; none are located within the project APE or 1,300-foot study area. The APE extends 150 feet in each direction from the proposed ROW and encompasses the area in which direct and indirect effects could result from the project. The memo of internal coordination between TxDOT, Texas State Historic Preservation Officer, Advisory Council on Historic Preservation, and Federal Highway Administration is provided in **Appendix G**.

Build Alternative: TxDOT architectural historians performed a reconnaissance level survey of properties on March 27 and 28, 2019 within the APE and documented each property within or bisected by the APE that contained structures dating to 1977 or earlier. Nine historic-age resources were found and are recommended not eligible for listing in the NHRP. Since the project area contains no historic properties eligible for listing in the NRHP, no adverse impacts to any such structures would occur from the proposed project.

No-Build Alternative: Under the No-Build Alternative, construction of the proposed FM 1461 project would not occur; therefore, there would be no FM 1461 project-related impacts on historic properties.

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

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

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

Parks and Wildlife Code (PWC), Title 3, Chapter 26, Sections 26.001-26.004 (3 PWC 26.001-26.004), commonly referred to as Chapter 26, applies whenever TxDOT proposes to use or take any public land designated and used as a park, recreation area, scientific area, wildlife refuge, or historic site. There are no Chapter 26 resources in the proposed project area.

No-Build Alternative: No Section 4(f), Section 6(f), and PWC Chapter 26 properties are present in the project area; therefore, no impacts as a result of No-Build Alternative are anticipated.

5.10 Water Resources

The project area is in the Trinity River Basin, as detailed in the *Water Resources Technical Report*. Surface drainage in the project area generally flows to the southeast, eventually flowing into Wilson Creek, which flows northwest to southeast through the east central portion of the project area. Gentle Creek, Stover Creek, and Franklin Branch are three other named drainages that flow across the proposed project; all three eventually connect to Wilson Creek to the southeast of the proposed project. Wilson Creek, and four smaller tributaries flow through the project area and later confluence near the southeast of the proposed project area. Two emergent wetlands, nine ephemeral streams, four intermittent streams, and one perineal stream were identified. Except for one wetland, all other features identified are anticipated to be considered jurisdictional by the U.S. Army Corps of Engineers (USACE). **Table 5** lists the Waters of the U.S. in the proposed project area, amount of impacts to the water bodies that would result from implementation of the proposed project, and the applicable USACE permit.

According to the information presented in **Table 5**, impacts to Waters of the U.S. within the proposed project limits would result from the widening of the roadway, which include one culvert extension and culvert replacements. See the *Water Resources Technical Report* for detailed information and figures.

Table 5. Potential Impacts to Jurisdictional Waters of the U.S. Mapped within the Project Area

Crossing No.	Water Body	Average OHWM Width (feet)	Existing Structure	Proposed Structure	Permanent Fill		Temporary Fill		NWP	PCN (Y/N)
					Open waters (linear feet)	Wetlands (acres)	Open waters (linear feet)	Wetlands (acres)		
Crossing 1 (SA001)	Unnamed tributary of Gentle Creek	4.0	RCP	5'x4' SBC	41.0	-	47.0	-	14	No
Crossing 2 (SA002)	Unnamed tributary of Gentle Creek	3.0	RCP	3'x2' SBC	77.2	-	89.2	-	14	No
Crossing 3 (SA003)	Unnamed tributary of Gentle Creek	4.0	SBC	2 - 6'x4' MBC	17.4	-	57.4	-	14	No
Crossing 4 (SA004)	Gentle Creek	6.2	MBC	2 - 10'x6' culvert extension	22.1	-	22.1	-	14	No
Crossing 5 (SA005)	Wilson Creek	25.0	RCP	7'x3' SBC	120.6	-	141.6	-	14	No
Crossing 6 (SA006)	Unnamed tributary of Wilson Creek	15.0	MBC	2 - 9'x7' MBC	136.9	-	161.9	-	14	No
Crossing 7 (SA007)	Unnamed tributary of Wilson Creek	3.0	RCP	5'x4' SBC	48.7	0.11 (PEM 1)	48.7	-	14	Yes
Crossing 8 (SA008)	Unnamed tributary of Wilson Creek	4.0	MBC	2 - 8'x'4' MBC	71.9	-	87.9	-	14	No
Crossing 9 (SA009)	Stover Creek	20.0	RCP	2 - 6'x6' MBC	164.8	-	172.8	-	14	No
Crossing 10 (SA010)	Unnamed tributary of Stover Creek	5.8	RCP	2 - 4'x4' MBC	180.5	-	248.5	-	14	No
Crossing 11 (SA011)	Unnamed tributary of Stover Creek	6.7	MBC	2 - 8'x5' MBC	104.1	-	141.1	-	14	No

Crossing No.	Water Body	Average OHWM Width (feet)	Existing Structure	Proposed Structure	Permanent Fill		Temporary Fill		NWP	PCN (Y/N)
					Open waters (linear feet)	Wetlands (acres)	Open waters (linear feet)	Wetlands (acres)		
Crossing 12 (SA012)	Unnamed tributary of Franklin Branch	4.0	MBC	4 - 10x8' MBC	117.5	-	146.5	-	14	No
Crossing 13 (SA013)	Franklin Branch	9.2	RCP	3'x2' SBC	44.8	-	312.8	-	14	No
Crossing 14 (SA014)	Unnamed tributary of Franklin Branch	3.0	RCP	3'x2' SBC	0.0	-	77.4	-	14	No
PEM 2	Emergent Wetland	-	-	-	-	0.08	-	-	14	No
Total					**1,147.5**	**0.19**	**1,754.9**			

MBC = multiple box culverts
NWP = nationwide permit
OHWM = ordinary high water mark
PCN = pre-construction notification
PEM= palustrine Emergent wetland
RCP = reinforced concrete pipes
SBC = single box culvert

5.10.1 Clean Water Act Section 404

The placement of temporary or permanent dredge or fill material into potentially jurisdictional Waters of the U.S. would be authorized under a USACE Nationwide Permit (NWP) 14; however, a pre-construction notification (PCN) would be required because of the wetland impacts. The purpose of the proposed activity is to widen FM 1461 at 14 water crossings along the length of the project. The impacts of the proposed project to the water crossings are presented in **Table 5**. Appropriate measures would be taken to maintain normal downstream flows and minimize flooding. Temporary fills would consist of clean materials and be placed in a manner that would not be eroded by expected high flows. Temporary fills would be removed in their entirety and the affected area returned to preconstruction elevations and revegetated as appropriate. The activity would comply with all general and regional conditions applicable to NWP 14.

The activities at water crossings 1 to 14 have been identified as single and complete projects as defined in the NWPs because each crossing occurs at a separate and distant location and would therefore be permitted under the same NWP 14.

The proposed project would comply with U.S. Environmental Protection Agency's (EPA) Section 404(b)(1) Guidelines 40 CFR Part 230, allowing the discharge of dredged or fill material only if there is no practicable alternative that would have less adverse effects on the aquatic ecosystem. Since the proposed project would consist of expanding an existing facility, and there are no other practicable build alternatives, the discharge of dredged or fill material into Waters of the U.S. is permissible.

Build Alternative: **Table 5** lists the Waters of the U.S. in the proposed project area, amount of impacts to the water bodies that would result from implementation of the proposed project, and the applicable USACE permit. A PCN to the USACE is required if the fill within Waters of the U.S. exceeds 0.1 acre, exceeds 300 linear feet of permanent stream impacts, or if there is an impact to a special aquatic site, including wetlands. For the Build Alternative, permanent stream impacts do not exceed 300 linear feet; however, wetland impacts exceed 0.1 acre in Wetland 1 (PEM 1). Therefore, the project would be authorized under NWP 14 and a PCN would be required for the impacts to Wetland 1.

The potential for project-related encroachment-alteration effects on Waters of the U.S. would be mitigated through permanent (post-construction) best management practices (BMPs) as described in **Section 5.10.2**. To minimize the potential for adverse impacts, BMPs would be regularly inspected and proactively maintained.

No-Build Alternative: Under the No-Build Alternative, construction of the proposed FM 1461 project would not occur; therefore, there would be no FM 1461 project-related impacts on Waters of the U.S.

5.10.2 Clean Water Act Section 401

General Condition 25 of the NWP Program requires applicants using NWP 14 to comply with Section 401 of the Clean Water Act (CWA). Compliance with Section 401 requires the use of BMPs to manage water quality on construction sites. General Condition 12 also requires applicants using NWP 14 to use appropriate soil erosion and sedimentation controls.

Build Alternative: The Stormwater Pollution Prevention Plan (SWP3) would include at least one BMP from the 401 Water Quality Certification Conditions for NWPs as published by the Texas Commission on Environmental Quality (TCEQ). Examples of required BMPs include sedimentation and erosion control BMPs such as silt fencing, hay bales, inlet protection to adjacent wetlands, culverts with rip rap, and wood chip bags.

The potential for project-related encroachment-alteration effects on water quality would be mitigated through permanent (post-construction) BMPs. To minimize the potential for adverse impacts, BMPs would be regularly inspected and proactively maintained.

BMPs would be implemented to ensure that water quality impacts would not be significant; therefore, mitigation is not considered.

No-Build Alternative: Under the No-Build Alternative, construction of the proposed FM 1461 project would not occur; therefore, there would be no FM 1461 project-related impacts on water quality.

5.10.3 Executive Order 11990 Wetlands

Build Alternative: EO 11990 Protection of Wetlands (issued 1977) requires federal agencies to minimize the destruction or modification of wetlands. Coordination with the USACE would be required prior to impacting any wetlands. In accordance with EO 11990, no practicable alternatives were identified that would avoid impacts to wetlands. The Build Alternative would not substantially impact wetlands within the project area. It is anticipated that the proposed project would require a USACE NWP 14 with PCN for impacts to one wetland in the proposed project area and mitigation would be satisfied through the use of a mitigation bank or permittee-responsible mitigation to be finalized during the permitting process.

No-Build Alternative: Under the No-Build Alternative, construction of the proposed FM 1461 project would not occur; therefore, there would be no FM 1461 project-related impacts on wetlands.

5.10.4 Rivers and Harbors Act

No navigable waters regulated under Sections 9 and 10 of the Rivers and Harbors Act are present within the project area.

5.10.5 Clean Water Act Section 303(d)

Runoff from this project would not discharge either directly into or within five stream miles upstream of a stream that is listed as threatened/impaired on the 2014 CWA 303(d) list. One impaired water body segment of Wilson Creek, Segment 0821C, is included in the CWA 303(d) list of impaired waters and crosses the eastern portion of the project area. The impaired segment extends from West FM 455, east of the town of Celina, Texas, to Lake Lavon located approximately 13 miles southwest of the project area. This stream segment is listed due to bacteria levels. To date, the TCEQ has not identified (through either a total maximum daily load or the review of projects under the TCEQ Memorandum of Understanding [MOU]) a need to implement control measures beyond those required by the construction general permit (CGP) on road construction projects. Therefore, compliance with the project's CGP, along with coordination under the TCEQ MOU for certain transportation projects, collectively meets the need to address impaired waters during the environmental review process.

5.10.6 Clean Water Act Section 402

Since Texas Pollution Discharge Elimination System 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.

5.10.7 Floodplains

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map maps (48085C0120J, 48085C0140J, and 48085C0145J, effective 06/02/2009 and 48085C0260K, effective 06/07/2017) show approximately 2,662 linear feet of FM 1461 that cross the 100-year floodplain (Zone A), and the existing ROW contains approximately 3.35 acres of 100-year floodplain.

Build Alternative: Proposed ROW for the proposed project includes approximately 4.03 acres of 100-year floodplain. The remaining acreage within the proposed project area is defined as areas of minimal flood hazard (Zone X). The proposed Wilson Creek and Stover Creek bridge replacements and other stream crossings would be designed in accordance with TxDOT and federal requirements to avoid increasing the based flood elevation to a level that would result in adverse flood impacts. Coordination with the local floodplain administrator would be required to ensure compliance with applicable floodplain ordinances and regulations.

This project is subject to and would comply with EO 11988 on Floodplain Management. The department implements this EO on a programmatic basis through its Hydraulic Design Manual. Design of this project would be conducted in accordance with TxDOT'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 EO 11988 at 23 CFR 650.105(q).

No-Build Alternative: The No-Build alternative would not alter the existing level of roadway encroachments into floodplains.

5.10.8 Wild and Scenic Rivers

No wild and scenic rivers are located within the project area.

5.10.9 Coastal Barrier Resources

The project is not located within the Coast Barrier Resource System.

5.10.10 Coastal Zone Management

The proposed project is located in Collin County, which is outside of the Texas Coastal Management Program Boundary; therefore, a consistency determination would not be required.

5.10.11 Edwards Aquifer

The Project Area is not located within any contributing, recharge, or transition zones of the Edwards Aquifer (TCEQ 2016). Therefore, an Edwards Aquifer Protection Plan would not be required.

5.10.12 International Boundary and Water Commission

The project is located outside of the jurisdiction of the International Boundary and Water Commission; therefore, coordination would not be required.

5.10.13 Drinking Water Systems

In accordance with TxDOT's Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (Item 103, Disposal of Wells), any drinking water

wells would need to be properly removed and disposed of during construction of the project.

5.11 Biological Resources

5.11.1 Texas Parks and Wildlife Coordination

Early coordination with TPWD would be required per the September 2013 TxDOT - TPWD MOU for the Build Alternative. MOU triggers for coordination include:

- The project would require a nationwide permit with pre-construction notification issued by the United States Army Corps of Engineers.
- The project would impact at least 0.10 acre of riparian vegetation.
- The project would disturb habitat in an area equal to or greater than the area of disturbance indicated in the Threshold Table Programmatic Agreement.

Coordination with TPWD was initiated by TxDOT in May 2019. Coordination is ongoing and, when complete, all coordination documentation would be included in **Appendix G** of the Final EA.

5.11.2 Impacts to Vegetation

Build Alternative: According to the September 2013 MOU between TPWD and TxDOT, 2017 Revision, important remnant vegetation includes vegetation communities listed in the Texas Conservation Action Plan as suitable habitat and within the range of any Species of Greatest Conservation Need (SGCN). General habitat types listed for Blackland Prairies Ecoregion SGCN present within the proposed project footprint include unmaintained vegetation, fencerow vegetation, agricultural, and riparian vegetation. There were no known element occurrences of SGCN vegetation communities identified by the Texas Natural Diversity Database within 1.5 miles of the proposed project.

The proposed project would directly impact the following MOU habitat types: Agriculture (12.1 acres); Disturbed Prairie (30.5 acres); Riparian (1.6 acres); and Urban (99.1 acres). The vegetation impacted by the proposed project fits into the Texas Blackland Prairies Ecoregion described in the Threshold Programmatic Agreement (PA) under the 2013 MOU, 2017 Revision (MOU). The approximately 30.5 acres of impacts to the Disturbed Prairie MOU type exceed the 3-acre threshold described in the Threshold PA. The proposed project would impact approximately 1.6 acres of the Riparian MOU type, thereby exceeding the 0.1-acre threshold. Finally, the approximately 12.1 acres of impacts to the Agriculture MOU type exceed the 10-acre threshold. As stated in the Threshold PA, there is no threshold for impacts to areas classified as the Urban MOU type.

Potential impacts to vegetation would be confined to the existing and proposed ROW and easements; therefore, encroachment-alteration effects would not occur.

Impacts to vegetation would be avoided or minimized by limiting disturbance to only that which is necessary to construct the proposed project. The removal of native vegetation, particularly mature native trees and shrubs would be avoided to the greatest extent practicable. A native and locally adapted seed mix would be used in the re-vegetation of disturbed areas.

No-Build Alternative: Under the No-Build Alternative, the proposed project would not be constructed; therefore, no effects to vegetation related to the construction of the proposed project would occur. Existing land use and activities, including routine mowing, would continue to periodically affect vegetation communities.

5.11.3 Executive Order 13112 on Invasive Species

This project would be subject to and comply with EO 13112 on Invasive Species. The department implements this EO on a programmatic basis through its Roadside Vegetation Management Manual and Landscape and Aesthetics Design Manual.

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.

5.11.5 Impacts to Wildlife

The proposed road widening project is located in northwestern Collin County; the city of Celina is to the north, and the cities of Prosper, Frisco, and McKinney are to the south of the project area. Adjacent land is a mixture of undeveloped and developed land, mostly residential along the western half of the project limits and a mix of residential and agricultural along the eastern half of the project limits. Wildlife species expected to inhabit the proposed project area are likely adapted to both rural agricultural habitats as well as an urban, developed environment. Mammalian species that likely inhabit the area include the coyote (*Canis latrans*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), nine-banded armadillo (*Dasypus novemcinctus*), and eastern fox squirrel (*Sciurus niger*). Amphibian and reptilian species would also utilize available habitats. These species would include various snakes, turtles, lizards, and frogs native to north-central Texas. Examples would be the Texas rat snake (*Elaphe obsoleta lindheimeri*), western ribbon snake (*Thamnophis proximus proximus*), blotched water snake (*Nerodia erythrogaster transversa*), red-eared slider (*Trachemys scripta elegans*), snapping turtle (*Chelydra serpentina*), green anole (*Anolis carolinensis*), prairie lizard (*Sceloporus consobrinus*), and Blanchard's cricket frog (*Acris crepitans blanchardi*). Various wading bird species such as cattle egret (*Bubulcus ibis*), great blue heron (*Ardea herodias*), and green heron (*Butorides*

virescens) could utilize the aquatic habitats. The agricultural fields and pastures serve as foraging areas for resident and migratory species such as northern mockingbird (*Mimus polyglottos*), mourning dove (*Mimus polyglottos*), barn swallow (*Hirundo rustica*), blue jay (*Cyanocitta cristata*), and American robin (*Turdus migratorius*).

Build Alternative: The project is not anticipated to result in substantial wildlife impacts. The proposed project is the widening of an existing roadway and, therefore, is not newly bisecting continuous wildlife habitat. Some existing vegetated area would be permanently converted to pavement and other structures, resulting in loss of area used by wildlife. Many wildlife species likely avoid the existing road due to the adjacent development and high-speed traffic. Terrestrial wildlife species that do cross FM 1461 would have to travel a greater distance when crossing the widened roadway upon project completion, making them more vulnerable to vehicle collisions as well as more prolonged exposure to predators, people, domestic pets, etc. Wildlife that currently inhabit adjacent urban development and existing roadway structures (culverts, bridges, utility poles, etc.) would be temporarily impacted due to potential structural displacements/relocations and roadway structure reconstruction and relocation. Impacted wildlife would be expected to return to available habitat once construction of the proposed project is complete and the area has been revegetated.

No-Build Alternative: Under the No-Build Alternative, the proposed project would not be constructed; therefore, there would be no project-related impacts to wildlife.

5.11.6 Migratory Bird Protections

This project would comply with applicable provisions of the Migratory Bird Treaty Act (MBTA) 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
- conduct ROW clearing activities outside the typical nesting season.

5.11.7 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act of 1934 was enacted to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. This project may impact 15 potentially jurisdictional Waters of the U.S. including wetlands within the proposed project area. These impacts would be addressed and managed through the USACE 404 permitting process. Complying with the terms of a nationwide permit and following required processes satisfies Fish and Wildlife Coordination Act coordination requirements.

5.11.8 Bald and Golden Eagle Protection Act of 2007

The Bald and Golden Eagle Protection Act of 2007 prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald or golden eagles, including their parts, nests or eggs. No suitable habitat for these species is present in the project area; therefore, the proposed project would not impact Bald or Golden Eagles.

5.11.9 Magnuson-Stevens Fishery Conservation Management Act

The Magnuson-Stevens Fishery Conservation Management Act governs marine fisheries in U.S. Federal Waters. The proposed project does not occur within a coastal county and does not contain essential fish habitat, therefore, no impacts to tidally-influenced waters or essential fish habitat would occur. Coordination with the National Marine Fisheries Service is not required.

5.11.10 Marine Mammal Protection Act

All marine mammal species are protected under the Marine Mammal Protection Act. The proposed project does not occur within or near a coastal county and, therefore, does not have the potential to affect marine mammals. Coordination with the National Marine Fisheries Service is not required.

5.11.11 Threatened, Endangered, and Candidate Species

The Endangered Species Act affords protection for federally listed threatened and endangered species and, where designated, critical habitat for these species. The U.S. Fish and Wildlife Service (USFWS) maintain a list of federally threatened and endangered species potentially present for each Texas county. The Information for Planning and Consultation tool (IPaC) for the USFWS was accessed on September 7, 2018 and April 26, 2019 (as part of the *Biological Evaluation Form*). Based on the Official Species List and the site evaluation by qualified biologists, no federally listed species with the potential to occur or suitable habitat are present within the project area. In addition, no critical habitat is located within the proposed project area according to the Official Species List. Therefore, TxDOT has determined that the proposed project would have no effect on federally listed species.

State-listed threatened and endangered species are protected by state and local laws within Texas (Chapters 67 and 68 of the TPWD Code and 31 TAC 65.171–65.18). As discussed in the *Tier I Site Assessment Technical Report*, five state-threatened species and three SGCN have the potential to occur within the project area. The state-threatened species include: the Louisiana pigtoe (*Pleurobema riddellii*), Texas heelsplitter (*Potamilus amphichaenus*), Texas pigtoe (*Fusconaia askewi*), alligator snapping turtle (*Macrochelys temminckii*), and timber rattlesnake (*Crotalus horridus*). SGCN include the western burrowing owl (*Athene cunicularia hypugaea*), plains spotted skunk (*Spilogale putorius interrupta*), and Texas garter snake (*Thamnophis sirtalis annectens*). BMPs per the BMP Programmatic Agreement between TPWD and

TxDOT would be utilized to minimize or avoid impacts to these species. See the species impact table in the *Tier I Site Assessment Technical Report* and a list of BMPs to be utilized. No state-listed species were observed during the site visits.

Build Alternative: Potential suitable habitat for the western burrowing owl, plains spotted skunk, Louisiana pigtoe, Texas heelsplitter, Texas pigtoe, alligator snapping turtle, Texas garter snake, and timber rattlesnake is present in the proposed project area; therefore, it is possible that impacts to suitable habitat could result in direct impacts to these state-listed threatened species and SGCN. Due to the potential presence of state-listed threatened mussels, TxDOT would be responsible for conducting a presence/absence survey and relocation of the listed and SGCN mussel species. TxDOT would obtain appropriate TPWD permits. Mussel surveys/relocation would be completed approximately six months (or less) prior to the start of construction. It is not anticipated that the proposed project would result in the take of state-listed threatened species. Direct impacts to these species would be mitigated by implementing the TPWD-TxDOT MOU BMPs. BMPs are listed in **Section 8.0**. As stated above, the proposed project would have no effect on federally listed species.

No-Build Alternative: Under the No-Build Alternative, the proposed project would not be constructed; therefore, there would be no effects to federally listed threatened, endangered, or candidate species and no impacts to state listed threatened, endangered, or candidate species.

5.12 Air Quality

An *Air Quality Assessment Technical Report* was completed for the proposed project and is maintained in the project file at the TxDOT Dallas District Office.

The proposed project is located within an area that has been designated by the EPA as a moderate nonattainment area for the 2008 ozone National Ambient Air Quality Standards (NAAQS); therefore, transportation conformity rules apply. Effective August 3, 2018, the EPA designated Collin County as marginal nonattainment for the 2015 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 MTP and 2019-2022 Transportation Improvement Program (TIP) were initially found to conform to the TCEQ State Implementation Plan (SIP) by FHWA and the Federal Transit Administration on November 21, 2018 and September 28, 2018, respectively; however, the proposed project is not consistent with this conformity determination, because CSJ 1392-03-012 is pending approval in Statewide Transportation Improvement Program (STIP) as part of the May 2019 STIP revision submittal. TxDOT will not take final action on this environmental document until the proposed project is consistent with a currently conforming MTP and TIP. Copies of the MTP and TIP pages are included in **Appendix E**.

Because the proposed project would add capacity in a nonattainment area, TxDOT will submit a notice of availability for review of each draft EA to the TCEQ in accordance with TxDOT's MOU with TCEQ.

Build Alternative: A Carbon Monoxide (CO) Traffic Air Quality Analysis was not required for the proposed project because the average annual daily traffic does not exceed 140,000 vehicles per day. Traffic data for the design year 2046 has an average annual daily traffic (AADT) of 14,800 vehicles per day. A prior TxDOT modeling study and previous analyses of similar projects demonstrated that it is unlikely that the carbon monoxide (CO) standard would ever be exceeded as a result of any project with an AADT below 140,000. The AADT projections for the project do not exceed 140,000 vehicles per day; therefore, a CO Traffic Air Quality Analysis was not required.

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. The localized increases in MSAT concentrations would likely be most pronounced at the FM 1461 intersections with SH 289, Coit Road, and North Custer Road. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today. Further discussion of the qualitative MSAT analysis is provided in the *Air Quality Assessment Technical Report.*

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. The project was developed from the NCTCOG's CMP, which meets all requirements of 23 CFR 450.320 and 500.109, as applicable. The CMP was adopted by NCTCOG on January 2014.

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 facility implementation and project-specific elements.

Committed congestion reduction strategies and operational improvements within the study boundary will consist of roadway infrastructure improvements: access management improvements (turn lanes, close driveways), addition of new lanes, and intersection improvements; sustainable development improvements: bicycle and pedestrian facility improvements and pedestrianized streets; and system management and operations improvements: active traffic management (lane assignment changes/re-striping, turning movements and land use restrictions, and regional traffic control. Individual projects are listed in **Table 6**.

Table 6. Congestion Management Process Projects

Operational Improvements in the Travel Corridor		
Location	**Type**	**Implementation Date**
FM 2478 from US 380 to FM 1461	Intersection improvement, addition of lanes	2016
SH 289 from north of FM 1461/BS 289D to FM 455 in Celina	Addition of lanes	2011
FM 2478 from FM 1461 to north of FM 1461	Intersection improvement, reconstruction, addition	2016

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: https://www.tceq.texas.gov/airquality/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 will have any significant impact on air quality in the area. Air quality construction emissions reduction strategies are further discussed in **Section 5.17**.

No-Build Alternative: Due to federal fuel and vehicle control programs, air quality would be expected to improve regardless of the Build or No-Build Alternative.

5.13 Hazardous Materials

This section describes baseline conditions and potential environmental impacts or effects of hazardous materials on the Build and No-Build Alternatives of the proposed project. The information presented herein has been summarized primarily from the *Hazardous Materials Initial Site Assessment (ISA)* approved in December 2018. The term "hazardous materials" refers to a broad category of hazardous wastes, hazardous substances, and toxic chemicals that can negatively impact human health or the environment. Examples of potential hazardous materials sites include, but are not limited to, sites such as gasoline service stations, landfills, salvage yards, industrial sites, and other sites impacted by soil and/or groundwater contamination. A review of selected environmental regulatory databases was conducted to determine the potential for hazardous material issues within and near the proposed project area. The review of the environmental regulatory databases was performed in general accordance with the American Society for Testing and Materials (ASTM) Standard E1527-13 and TxDOT guidelines, which defines the environmental record sources to be reviewed and their minimum search distances.

The ISA report provides information pertaining to regulated facilities in the project vicinity within the ASTM standard search radius of the proposed project and identifies the potential hazardous materials concerns as they relate to project construction and/or ROW acquisition for those issues. This section summarizes the findings and conclusions of the ISA. The evaluation of the hazardous materials sites was based on the review of available information presented by the regulatory database report dated October 17, 2018, analysis of existing records maintained by the TCEQ and other agencies with jurisdiction or information, and observations made during field investigations conducted along the proposed project ROW. The location of the regulated sites was refined during the field investigations and only parcels located within and adjacent to the proposed project were included in the evaluation. Using this methodology, a focused evaluation of the current land use and regulatory status of the recorded sites was conducted for the project limits. In addition, each of the sites located within and adjacent to the proposed project was evaluated so that an understanding of potential issues that could be encountered during construction activities was identified. The FM 1461 *Hazardous Materials ISA Report* is maintained in the TxDOT Dallas District project files.

Build Alternative: The *Hazardous Materials ISA Report* details that there are no sites of concern, no issues, and no unresolved concerns identified within the project area. There was one SPILLS site identified as ID No, 29627, Regulated Entity No. RN103995882. This spill occurred in October 2003 when a transport truck spilled approximately 10 gallons of diesel and impacted a stormwater drain at the intersection of FM 1461 and CR 84. The Collin County Fire Marshal and Celina Fire Department responded to the spill and the incident was closed. This incident is no longer an environmental concern due to the amount of time that has passed, and the minor amount of fuel discharged.

Utility Adjustments/Relocation: At this time, utility adjustment requirements have not been determined. There is a potential for contamination to be encountered during utility

adjustments. Coordination with utility companies concerning this contamination would be addressed during the ROW stage of project development. It is anticipated that all utility adjustments or relocation would be completed prior to construction.

Storm Water Drainage Structures in Contamination: The proposed project does not require the installation of storm sewers.

Possible Asbestos-Containing Materials and Lead-Based Paint: The proposed project does not include the demolition and/or relocation of building structures; however, there are two bridges in the project limits that would be either replaced and/or renovated. The existing bridge over Wilson Creek would be widened to accommodate additional westbound lanes and the existing bridge over Stover Creek would be removed and replaced with a four-lane bridge structure. Further examination of paint-bearing structures for lead-based paint would be performed prior to bridge demolition and/or renovation. If lead-based paint is discovered, contingencies would be developed to address worker safety, material recycling, and proper management and disposal of any paint-related wastes, as necessary.

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

5.14 Traffic Noise

Build Alternative: A traffic noise analysis was conducted in accordance with TxDOT's Guidelines for Analysis and Abatement of Roadway Traffic Noise (TxDOT 2011). The proposed project would not result in traffic noise impacts. Refer to the FM 1461 *Traffic Noise Technical Report* for a detailed discussion of the traffic noise analysis. Sound from highway traffic is generated primarily from a vehicle's tires, engine, and exhaust. It is commonly measured in decibels and is expressed as "dB." The FHWA has established 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. A noise impact occurs when either the absolute or relative criterion is met.

- *Absolute criterion* is the predicted noise level at a receiver approaches, equals or exceeds the NAC. "Approach" is defined as one decibel on the A-weighted scale (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* is the predicted noise level substantially exceeds the existing noise level at a receiver even though the predicted noise level does not approach,

equal or exceed the NAC. “Substantially exceeds” is defined as more than 10 dB(A). For example: a noise impact would occur at a Category B residence if the existing level is 54 dB(A) and the predicted level is 65 dB(A).

When a traffic noise impact occurs, noise abatement measures must be considered. A noise abatement measure is any positive action taken to reduce the impact of traffic noise on an activity area. The FHWA traffic noise modelling software was used to calculate existing and predicted traffic noise levels. The model primarily considers the number, type and speed of vehicles; highway alignment and grade; cuts, fills and natural berms; surrounding terrain features; and the locations of activity areas likely to be impacted by the associated traffic noise. Existing and predicted traffic noise levels were modelled at receiver locations (**Table 7**) that represent the land use activity areas adjacent to the proposed project that might be impacted by traffic noise and potentially benefit from feasible and reasonable noise abatement.

Table 7: Traffic Noise Levels dB(A) Leq

Representative Receiver	NAC Category	FHWA NAC	Existing 2026	Predicted 2046	Change (+/-)	Noise Impact
R-01 - Residence	B	67	60	63	+3	No
R-02 - Residence	B	67	63	64	+1	No
R-03 - Residence	B	67	58	61	+3	No
R-04 - Residence	B	67	61	63	+2	No
R-05 - Residence	B	67	60	62	+2	No
R-06 - Place of Worship	C	67	59	60	+1	No
R-07 - Residence	B	67	46	50	+4	No
R-08 - Residence	B	67	63	64	+1	No
R-09 - Residence	B	67	58	61	+3	No
R-10 - Residence	B	67	60	60	+0	No
R-11 - Residence	B	67	60	62	+2	No
R-12 - Residence	B	67	58	61	+3	No
R-13 - Residence	B	67	55	57	+2	No
R-14 - Residence	B	67	57	60	+3	No
R-15 - Residence	B	67	60	63	+3	No
R-16 - Residence	B	67	62	64	+2	No
R-17 - Residence	B	67	61	62	+1	No
R-18 - Residence	B	67	56	57	+1	No
R-19 - Residence	B	67	57	58	+1	No
R-20 - Residence	B	67	53	53	+0	No
R-21 - Residence	B	67	53	54	+1	No
R-22 - Place of Worship	C	67	49	50	+1	No
R-23 - Residence	B	67	53	58	+5	No
R-24 - Residence	B	67	57	56	-1	No
R-25 - Place of Worship	C	67	55	55	+0	No

Representative Receiver	NAC Category	FHWA NAC	Existing 2026	Predicted 2046	Change (+/-)	Noise Impact
R-26 - Place of Worship	C	67	48	48	+0	No
R-27 - Residence	B	67	50	51	+1	No
R-28 - Residence	B	67	48	49	+1	No

Source: FM 1461 Study Team 2018; FHWA Traffic Noise Model v2.5.
dB(A) Leq = Decibels of equivalent continuous sound levels

As indicated in **Table 6**, the proposed project would not result in a traffic noise impact. However, to avoid noise impacts that may result from future development of properties adjacent to the project, local officials responsible for land use control programs must ensure, to the maximum extent possible, no new activities are planned or constructed along or within the following predicted (2046) noise impact contours (**Table 8**).

Table 8: Year 2046 Predicted Noise Impact Contours

Undeveloped Area	Land Use Category (NAC)	Impact Contour*	Distance from ROW
South of FM 1461, East of Coit Rd.	B and C	66 dB(A)	28 feet
	E	71 dB(A)	0 feet
North of FM 1461, East of FM 2478	B and C	66 dB(A)	13 feet
	E	71 dB(A)	0 feet

Source: FM 1461 Study Team 2018.
* 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 will be made 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. For more information about how traffic noise is evaluated for TxDOT projects, refer to ENV's *Environmental Handbook for Traffic Noise* and *Guidelines for Analysis and Abatement of Roadway Traffic Noise*, the latter of which has been approved by FHWA.

The analysis of traffic noise is by its nature an examination of encroachment-alteration indirect impacts. That is, traffic noise models predict the noise levels that would be perceived by people located away from newly-constructed transportation facilities. No attempt has been made to describe noise levels that may exist directly within the transportation facility by motorists, as noise is generally accepted as a necessary element that accompanies the use of roadways. Because the proposed project would not result in traffic noise impacts, there are no encroachment-alteration effects.

No noise barriers or other mitigative measures were evaluated because the proposed project would not result in traffic noise impacts.

No-Build Alternative: Under the No-Build Alternative, traffic noise levels would be expected to increase with an associated increase in traffic volumes over time.

5.15 Induced Growth

As defined by the CEQ, indirect effects are "caused by an action and occur later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems" (40 CFR 1508.8). The *Indirect and Cumulative Impacts Technical Report* provides a detailed discussion of the indirect impacts analysis for the proposed project.

Build Alternative: The induced growth analysis was developed using TxDOT's January 2019 Guidance on Indirect Impacts Analysis (TxDOT 2019b). Results of the analysis indicate that approximately 5,295 acres of land within the proposed project's Area of Influence (AOI) would be subject to potential induced growth. According to the City of Celina Planning Department, improvements to the FM 1461 could influence the commercial development at the intersection along FM 1461 at SH 289 (Preston Road) and Coit Road, as well as commercial redevelopment at the intersection of Custer Road. Residential development would not likely be influenced by the proposed improvements. According to the City of McKinney Planning Department, proposed improvements may not necessarily induce further growth but could accelerate the rate of development in the area. While minimal planning activity is currently occurring along the FM 1461 corridor to the east of FM 2478, development is starting to move towards the project corridor. The city anticipates that future development in the induced growth areas would be mostly residential development with commercial development on FM 1461 near the intersections of Custer Road and Lake Forest Drive.

Based on population and employment trends and discussions with local planning officials, growth is likely to occur in the induced growth areas. The proposed project is expected to induce growth at two specific locations and may generally increase the rate of the current development trend. Resources within the project area were evaluated for how they would be influenced by growth within the AOI.

Vegetation and Wildlife Habitat: Vegetation types within the areas subject to induced growth consist primarily of grassland/herbaceous (2,107 acres), cultivated crops (1,351 acres), pasture/hay (891 acres), and deciduous forest (568 acres). Development activities could remove some of the areas of wildlife habitat in the areas subject to induced growth. Conversely, development would likely create habitat for common species in the region that are adapted to maintained/landscaped conditions.

The limited areas of wildlife habitat that may be converted to developed conditions are likely of low or marginal quality due to previous disturbances, agricultural production, livestock grazing, or are somewhat isolated on the landscape. Development would not be expected to displace a large number of individuals that may inhabit these areas.

Threatened/Endangered Species: The areas subject to induced growth within the AOI may contain potential habitat for federally listed endangered species, state-listed threatened

species, and SGCN. Because of the extensive acreage of active agricultural land in the AOI, development activities that convert existing undeveloped land to urban or other uses would not substantially impact critical habitat for listed sensitive species.

Waters of the U.S., including Wetlands: Approximately 87.5 acres of wetlands occur within the areas subject to induced growth. These resources could be impacted by potential growth; however, the impacts to Waters of the U.S., including wetlands are not considered substantial.

Floodplains: Approximately 274 acres of floodplain occur within the areas subject to induced growth. The total areas of potential impacts to floodplains is not considered substantial.

Communities: A potential benefit of future growth may be a change in property values, potentially translating to an increase in tax revenue. Additional community facilities may be constructed as development continues.

The proposed FM 1461 improvements could influence future land use within the AOI; however, new and planned residential developments are more likely to influence changes in land use patterns and induce growth within the AOI, rather than construction of the proposed project improvements. The proposed project would support future development in the AOI; however, the proposed project would not be a primary factor in land use decisions in the area. The proposed project is not anticipated to result in induced growth.

All development (public or private) must comply with FEMA flood control regulations and local floodplain administration; the Endangered Species Act; the CWA, including Section 401 Water Quality Certification requirements and Section 404 permits for projects impacting waters of the U.S; and, other regulations requiring mitigation if there are effects on species habitat.

No-Build Alternative: Under the No-Build Alternative, no indirect impacts would occur.

5.16 Cumulative Impacts

The CEQ defines cumulative effects as the "incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions regardless of the agency (federal or non-federal) or person that undertakes such an action." These types of impacts "can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7). FHWA states that the "cumulative effects of an action may be undetectable when viewed in the individual context of direct and even [indirect] impacts, but nonetheless can add to other disturbances and eventually lead to a measurable environmental change" (FHWA 1992).

This cumulative impact analysis was developed using TxDOT's January 2019 Cumulative Impacts Analysis Guidelines (TxDOT 2019c). The proposed project was evaluated using TxDOT's Risk Assessment for Cumulative Impacts questionnaire (TxDOT 2014), which

serves as an initial step to evaluate whether a proposed project could have cumulative impacts and would warrant further analysis.

Build Alternative: Based on the results of the Risk Assessment for Cumulative Impacts, the proposed project would not result in substantial direct, indirect, or induced impacts to any resources. Implementing BMPs would help ensure that the proposed project would not substantially impact natural, human, and physical resources in the project area. Because the proposed project would not have substantial direct or indirect impacts on any resource and no resources in the project area are in poor or declining health, no further assessment for cumulative effects is required.

No-Build Alternative: Under the No-Build Alternative, no cumulative impacts would occur.

5.17 Construction Phase Impacts

Build Alternative: Depending on required traffic control and phasing, the construction phase of the proposed project, and associated construction impacts, is anticipated to be 36 months. During the construction phase of the proposed project, there is the potential for noise, dust, or light pollution; impacts associated with physical construction activity, temporary lane, road or bridge closures (including detours); and other traffic disruptions. These potential impacts are discussed as follows:

Construction Noise: There would be loud noise from heavy equipment during construction of the project. Noise associated with the construction is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns and would not be restricted to any specific location. Refer to the FM 1461 *Traffic Noise Technical Report* for a detailed discussion of construction noise.

Construction normally occurs during daylight hours when occasional loud noises are more tolerable. None of the businesses and residences along the project is expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities is not expected.

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.

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

Construction-related pollutants that are not contained onsite are expected to dissipate readily in the normal course of atmospheric mixing. Considering the temporary and transient nature of construction-related emissions, as well as the mitigation actions to be

utilized, it is not anticipated that emissions from construction of this project would have any substantial impact on air quality in the proposed project area.

The potential impacts of PM emissions would be minimized by using fugitive dust control measures contained in standard specifications, as appropriate. The 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: https://www.tceq.texas.gov/airquality/terp.

Light Pollution: Construction normally occurs during daylight hours; however, construction could occur during the night-time hours to minimize impacts to the traveling public during the daylight hours.

Due to the close proximity of businesses and residents to the project, if construction were to occur during the night-time hours, it would be of short duration and would not be conducted late in the evening.

Construction during the night-time hours would be of short duration and would follow any local policies and ordinances established for construction activities, such as light limitations.

Construction Activity Impacts: Construction activities would be limited to the proposed project footprint. Excessive vibration from construction equipment is not anticipated.

If there was excessive vibration from construction equipment, it would be of short duration.

Traffic control plans would be prepared and implemented in coordination with the cities and the county. Construction that would require cross street closures would be scheduled so only one crossing in an area is affected at one time. Where detours are required, clear and visible signage for an alternative route would be displayed. In residential areas, major activity would be limited to normal work hours whenever practicable, to avoid noise and related impacts to the local population.

Temporary Lane, Road or Bridge Closures (Including Detours) – Traffic control plans would be prepared and implemented in coordination with the cities and the county. Construction that would require cross street closures would be scheduled so only one crossing in an area is affected at one time. Where detours are required, clear and visible signage for an alternative route would be displayed.

Motorists would be inconvenienced during construction of the project due to lane and cross street closures; however, these closures would be of short duration and alternate routes would be provided.

Residents and businesses in the immediate construction area would be notified in advance of proposed construction activity using a variety of techniques, including signage,

electronic media, community newspapers, and other techniques. The proposed project would not restrict access to any existing public or community services, businesses, commercial areas, or employment centers.

No-Build Alternative: Under the No-Build Alternative, noise, dust, or light pollution impacts associated with physical construction activity, temporary lane, road closures or other traffic disruptions associated with construction would not occur.

6.0 Agency Coordination

Coordination with the THC has occurred under TxDOT's respective MOUs and Programmatic Agreement with these agencies/entities. Coordination with TPWD is ongoing. See **Appendix G** for the written coordination exchanges.

7.0 Public Involvement

A public meeting was held at Rhea's Mill Baptist Church at 5733 N. Custer Rd, McKinney, Texas 75071 on April 24, 2018. The meeting was held in an open house format from 6:00 p.m. to 8:00 p.m. to allow for questions and review of project exhibits. TxDOT and consultant personnel were available to answer questions during the open house. The total registered attendance at the public meeting was 95 persons, which consisted of one elected official and 94 members of the public. Ten project staff members from TxDOT, two City of McKinney employees, one City of Celina employee, one City of Prosper employee, and nine project consultants also attended. The meeting was held to share information about the project and seek input from area residents. There were 36 written comments received at the public meeting. Eleven additional written comments were received, 10 letters and one comment form, during the 10-day comment period that ended on Wednesday, May 9, 2018. Of these 84 comments, eight predominant issues were mentioned:

- ROW acquisition
- Property and business impacts
- Design issues/alternatives
- Traffic impacts
- Displacement
- Request pedestrian/bike paths as part of the proposed project
- Noise impacts
- Safety

The public meeting documentation may be inspected and copied upon request at the TxDOT Dallas District Office.

Once this Draft EA has been approved for circulation, a public hearing will be conducted to present the social, economic, and environmental impacts of the proposed project.

8.0 Post-Environmental Clearance Activities and Contractor Communications

8.1 Post-Environmental Clearance Activities

1. Section 404 of the CWA: For proposed impacts to Crossing 7, a NWP 14 with PCN would be submitted to and authorized by the USACE. For the Build Alternative, wetland impacts would exceed 0.1 acre in Wetland 1 (PEM 1). Therefore, the project would be authorized under NWP 14 and a PCN would be required for the impacts to Wetland 1. Final approval from the USACE must include 404 authorization in the form of a PCN or permit application, as well as the resultant verification letter or permit prior to construction activities at Crossing 7. Any proposed mitigation would be coordinated with the USACE and TxDOT.
2. Mussel Species Survey: Due to the potential presence of state-listed threatened mussels, TxDOT would be responsible for conducting a presence/absence survey and relocation of the listed and SGCN mussel species. Appropriate TPWD permits would be obtained by TxDOT. Mussel surveys/relocation would be completed approximately six months (or less) prior to the start of construction.
3. Cultural Resources Survey: ROE was not obtained for approximately 22 acres of proposed ROW within the APE. Cultural resources surveys would be conducted once ROE is obtained or the State acquires the property.

8.2 Contractor Communications

1. Invasive and alien vegetation would be controlled by following the guidance and provisions of EO 13112 on Invasive Species and the Executive Memorandum on Beneficial Landscape Practices. The proposed seed mixture (both grasses and forbs) would be in accordance with Item 164, Seeding for Erosion Control in TxDOT's Standard Specifications for the construction of Highways, Streets, and Bridges.
2. Proper maintenance and idling of construction equipment and water sprinkling during construction would be observed to control emissions of PM.
3. Good housekeeping measures, as well as grade management techniques, would be observed to help ensure that proper precautions are in place throughout construction of the proposed project.
4. No hazardous materials would be stored in the ROW.
5. A SWP3, construction site notice, and NOI would be required.
6. In addition to BMPs required for a TCEQ SWP3 and/or 401 water quality permit: (a) minimize the use of equipment in streams and riparian areas during construction. When possible, equipment access should be from banks, bridges, bridge decks, or barges. (b) When temporary stream crossings are unavoidable, remove stream crossings once they are no longer needed and stabilize banks and soils around the crossing.
7. The 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.

8. A Section 404 NWP with PCN (depending on impacts determined in final engineering plans) will be used to authorize the placement of fill in Waters of the U.S., including wetlands.
9. Once the appropriate USACE Section 404 Permitting has been determined, TxDOT will ensure compliance with Section 401 Water Quality Certification by acquiring necessary certification and applying required BMPs.
10. The following BMPs will be implemented for SGCN and state-threatened species, per the BMP Programmatic Agreement between TPWD and TxDOT:

    Western burrowing owl:

    a) Prior to construction, perform daytime surveys for nests including under bridges and in culverts to determine if they are active before removal. Nests that are active should not be disturbed.

    (b) Do not disturb, destroy, or remove active nests, including ground nesting birds, during the nesting season.

    (c) Avoid the removal of unoccupied, inactive nests, as practicable.

    (d) Prevent the establishment of active nests during the nesting season on TxDOT owned and operated facilities and structures proposed for replacement or repair.

    (e) Do not collect, capture, relocate, or transport birds, eggs, young or active nests without a permit.

    Plains spotted skunk: Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered, and to avoid unnecessary impacts to dens.

    Louisiana pigtoe, Texas heelsplitter, Texas pigtoe:

    (a) When work is in the water; survey project footprints for state listed species where appropriate habitat exits.

    (b) 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.

    (c) 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. (Note, SWPPP and 401 BMPs are not listed in this PA). No TPWD Coordination required.

Texas garter snake, timber rattlesnake:

(a) Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of 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.

(b) 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.

(c) Inform contractors that if reptiles are found on project site allow species to safely leave the project area.

(d) Avoid or minimize disturbing or removing downed trees, rotting stumps, and leaf litter where feasible.

(e) Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered.

Alligator snapping turtle: Unless absence of the species can be demonstrated, assume presence in suitable habitat and implement the following BMPs. Absence can only be demonstrated using TPWD-approved survey efforts (contact TPWD for minimum survey protocols for species and project site conditions).

(a) For projects within one mile of a known occupied location or observation of the species recorded from 1980 until the current year and suitable habitat is present, coordinate with TPWD.

(b) For new location roadway projects, coordinate with TPWD.

(c) For projects within existing right-of-way (ROW) when work is in water or will permanently impact a water feature and potential habitat exists for the target species complete the following:

- Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered.
- Minimize impacts to wetland, temporary and permanent open water features, including depressions, and riverine habitats.
- Maintain hydrologic regime and connections between wetlands and other aquatic features.
- Use barrier fencing to direct animal movements away from construction activities and areas of potential wildlife-vehicle collisions in construction areas directly adjacent, or that may directly impact, potential habitat for the target species.
- Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas where feasible. If hydromulching and/or hydroseeding are not feasible due to site conditions, using erosion blankets or mats that contain no netting, or only contain loosely woven natural fiber netting is preferred. Plastic netting should be avoided to the extent practicable.

- Project specific locations (PSLs) proposed within state-owned ROW should be located in uplands away from aquatic features.
- When work is directly adjacent to the water, minimize impacts to shoreline basking sites (e.g., downed trees, sand bars, exposed bedrock) and overwinter sites (e.g., brush and debris piles, crayfish burrows) where feasible.
- Avoid or minimize disturbing or removing downed trees, rotting stumps, and leaf litter, which may be refugia for terrestrial amphibians, where feasible.
- If gutters and curbs are part of the roadway design, where feasible install gutters that do not include the side box inlet and include sloped (i.e. mountable) curbs to allow small animals to leave roadway. If this modification to the entire curb system is not possible, install sections of sloped curb on either side of these storm water drain for several feet to allow small animals to leave the roadway. Priority areas for these design recommendations are those with nearby wetlands or other aquatic features.

(d) For projects that require acquisition of additional ROW and work within that new ROW is in water or will permanently impact a water feature, implement 1-9 above plus 10-12 below, where applicable:

- For sections of roadway adjacent to wetlands or other aquatic features, install wildlife barriers that prevent climbing. Barriers should terminate at culvert openings in order to funnel animals under the road. The barriers should be of the same length as the adjacent feature or 80 feet long in each direction, or whichever is the lesser of the two.
- For culvert extensions and culvert replacement/installation, incorporate measures to funnel animals toward culverts such as concrete wingwalls and barrier walls with overhangs.
- When riprap or other bank stabilization devices are necessary, their placement should not impede the movement of terrestrial or aquatic wildlife through the water feature. Where feasible, biotechnical streambank stabilization methods using live native vegetation, or a combination of vegetative and structural materials should be used.

11. 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.
12. If any species on the Collin County threatened and endangered species list is sighted in the proposed project area during construction, construction will cease, and the Area Engineer will be notified.

Provisions would be included 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.

9.0 Conclusion

Implementation of the proposed project would not result in a significant impact on the human or natural environment. Therefore, a finding of no significant impact is recommended.

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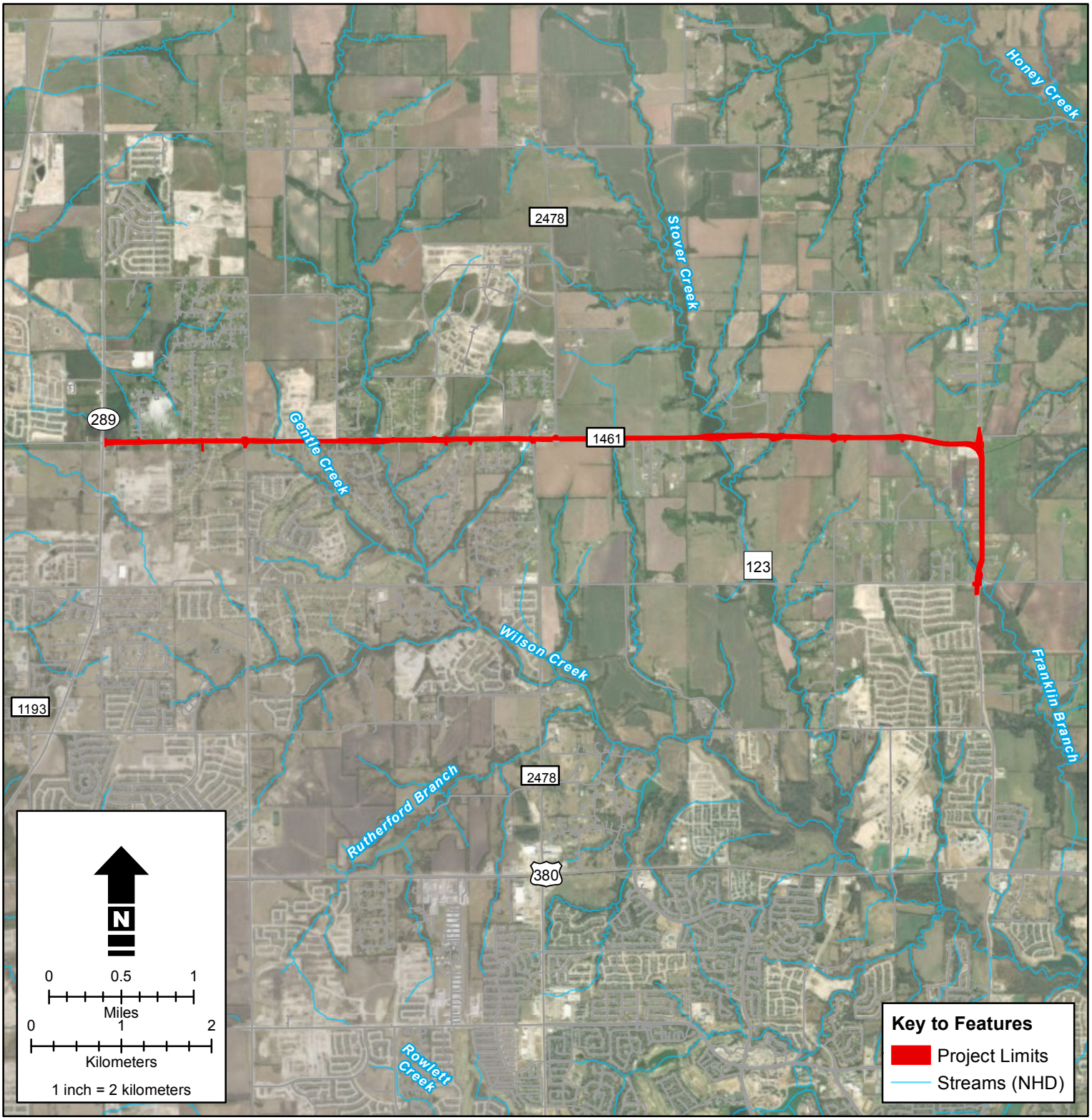
11.0 Appendices

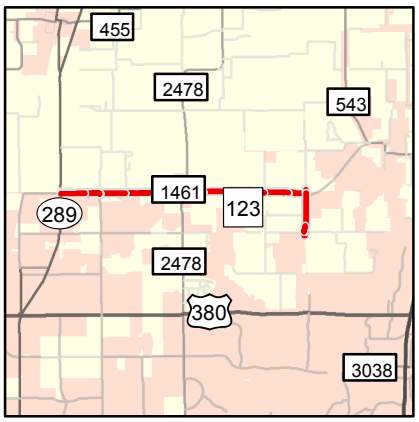
Appendix A – Project Location Map



Project Location Map

FM 1461 from SH 289 to CR 123
CSJ's: 1392-03-012, 1973-01-015

Source: TX Orthoimagery Program. 10/28/2015



Appendix B – Project Photos

Appendix B – Project Photos.

FM 1461, From SH 289 to CR 123. CSJs: 1973-01-015 and 1392-03-012

Photograph 1. Project area overview at the intersection of SH 289(Preston Road) and FM 1461, facing east.

Photograph 2. Project area overview near the western end of the project, facing east.

Appendix B – Project Photos.

FM 1461, From SH 289 to CR 123. CSJs: 1973-01-015 and 1392-03-012

Photograph 3. Project area overview between Preston Hills Circle and Twin Lakes Drive, facing north.

Photograph 4. Project area overview, facing east.

Appendix B – Project Photos.

FM 1461, From SH 289 to CR 123. CSJs: 1973-01-015 and 1392-03-012

Photograph 5. Project area overview at County Road 83, facing east.

Photograph 6. Project area overview at Pebble Creek Drive, facing west.

Appendix B – Project Photos.

FM 1461, From SH 289 to CR 123. CSJs: 1973-01-015 and 1392-03-012

Photograph 7. Project area overview at Oak Bend Trail, facing east.

Photograph 8. Project area overview at the junction of FM 2478 and FM 1461, facing east.

Appendix B – Project Photos.

FM 1461, From SH 289 to CR 123. CSJs: 1973-01-015 and 1392-03-012

Photograph 9. Project area overview of the bridge crossing Stover Creek, facing east.

Photograph 10. Project area overview between Stover Creek and CR 165, facing east on northern side of FM 1461.

Appendix B – Project Photos.

FM 1461, From SH 289 to CR 123. CSJs: 1973-01-015 and 1392-03-012

Photograph 11. Bridge class culvert over Franklin Branch Creek, facing northeast.

Photograph 12. Corrugated metal culvert just west of Franklin Branch Road, facing east.

Appendix B – Project Photos.

FM 1461, From SH 289 to CR 123. CSJs: 1973-01-015 and 1392-03-012

Photograph 13. Culvert crossing under FM 1461 approximately south of the intersection of FM 1461 and CR 163, facings southeast.

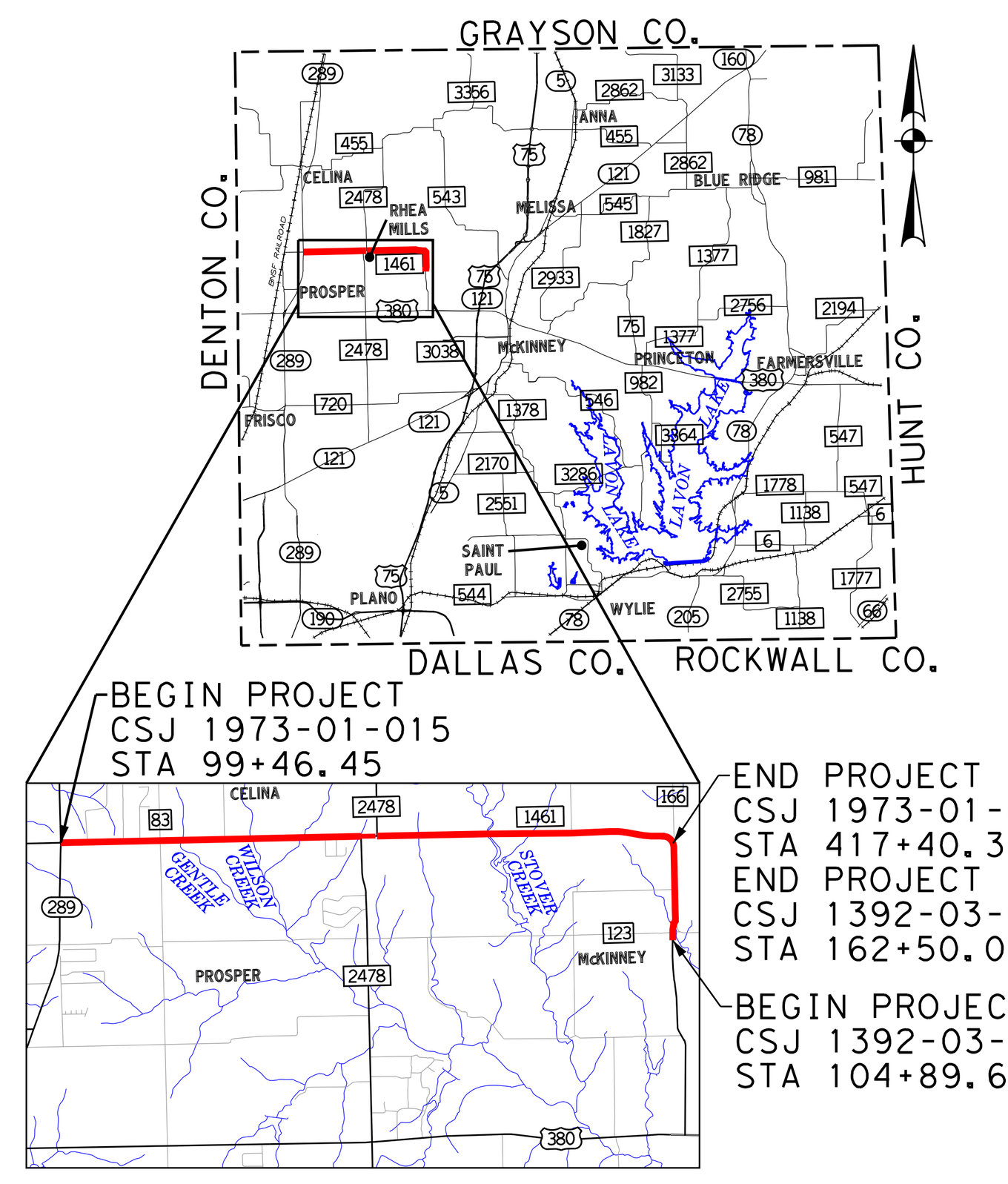
Photograph 14. Project area overview at the intersection of FM 1461 and CR 123, facing north.

Appendix C – Schematics

Texas Department of Transportation

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
TBPE REGISTRATION NO. 264

TEXAS DEPARTMENT OF TRANSPORTATION
DALLAS DISTRICT
DESIGN SCHEMATIC
MOHAMED K. BUR, P.E., DISTRICT ENGINEER
COLLIN COUNTY
FM 1461
CSJ:1973-01-015 FM 1461 (FRONTIER PKWY)
FROM SH 289 (PRESTON RD) TO CO RD 166
LENGTH 6.02 MILES (31,793.90 FT)
CSJ:1392-03-012 FM 1461 (LAKE FOREST DR)
FROM CO RD 123 TO CO RD 166
LENGTH 1.09 MILES (5,760.40 FT)
PROJECT LENGTH = 7.10 MILES (37,554.30 FT.)
FUNCTIONAL CLASS: URBAN COLLECTOR
DESIGN SPEED: 45 MPH



LOCATION MAP
(N.T.S.)

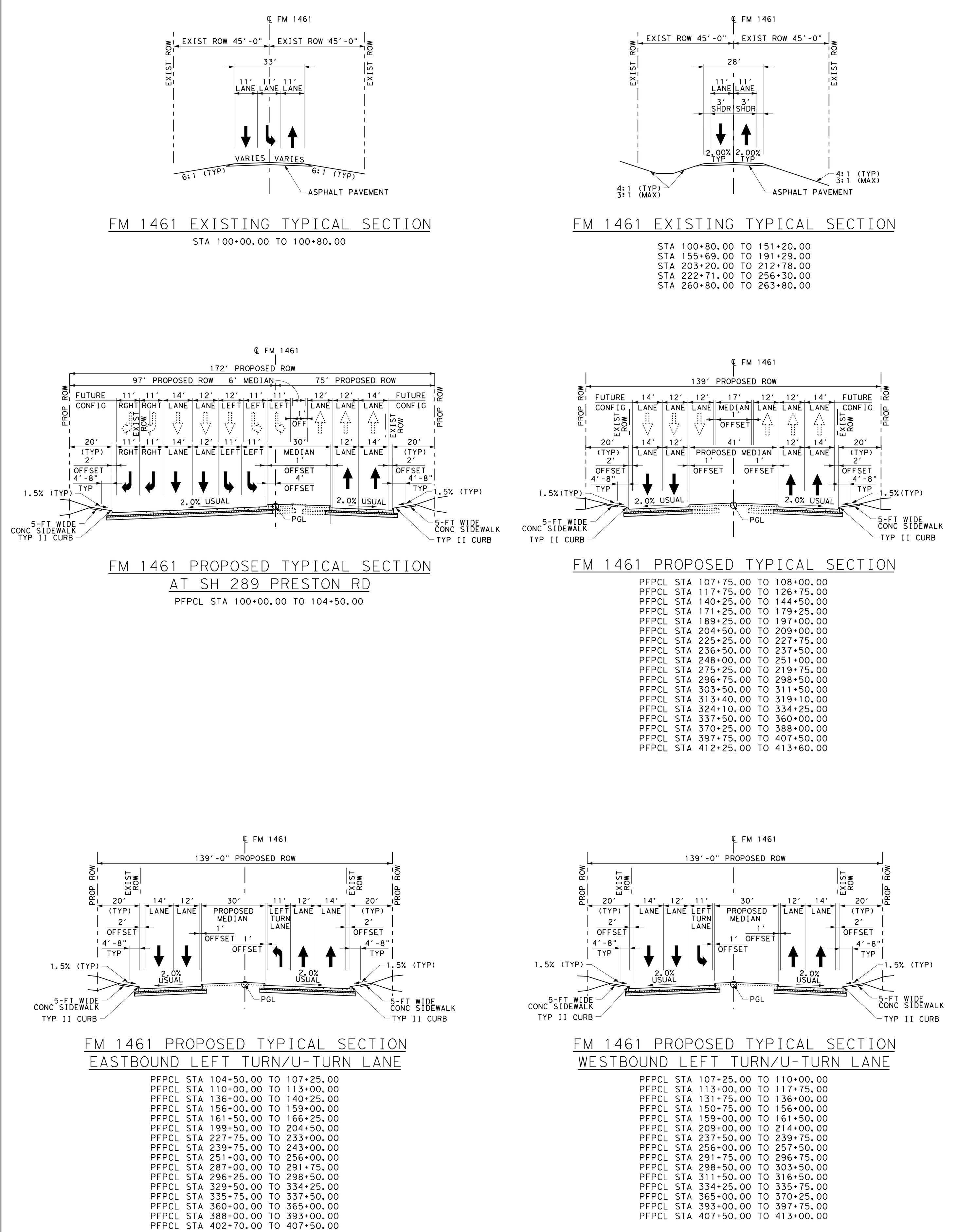
APPROVED SCHEMATIC JUNE 29, 2018

THESE DOCUMENTS ARE FOR REVIEW AND NOT INTENDED FOR BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

NAME	P.E. NO.	DATE
AARON TAINTER	105733	6/29/2018

ROLL 1 OF 12

TABLE OF CONTENTS



FM 1461 EXISTING TYPICAL SECTION

FM 1461 EXISTING TYPICAL SECTION

FM 1461 PROPOSED TYPICAL SECTION AT SH 289 PRESTON RD

FM 1461 PROPOSED TYPICAL SECTION

FM 1461 PROPOSED TYPICAL SECTION EASTBOUND LEFT TURN/U-TURN LANE

FM 1461 PROPOSED TYPICAL SECTION WESTBOUND LEFT TURN/U-TURN LANE

NOTES

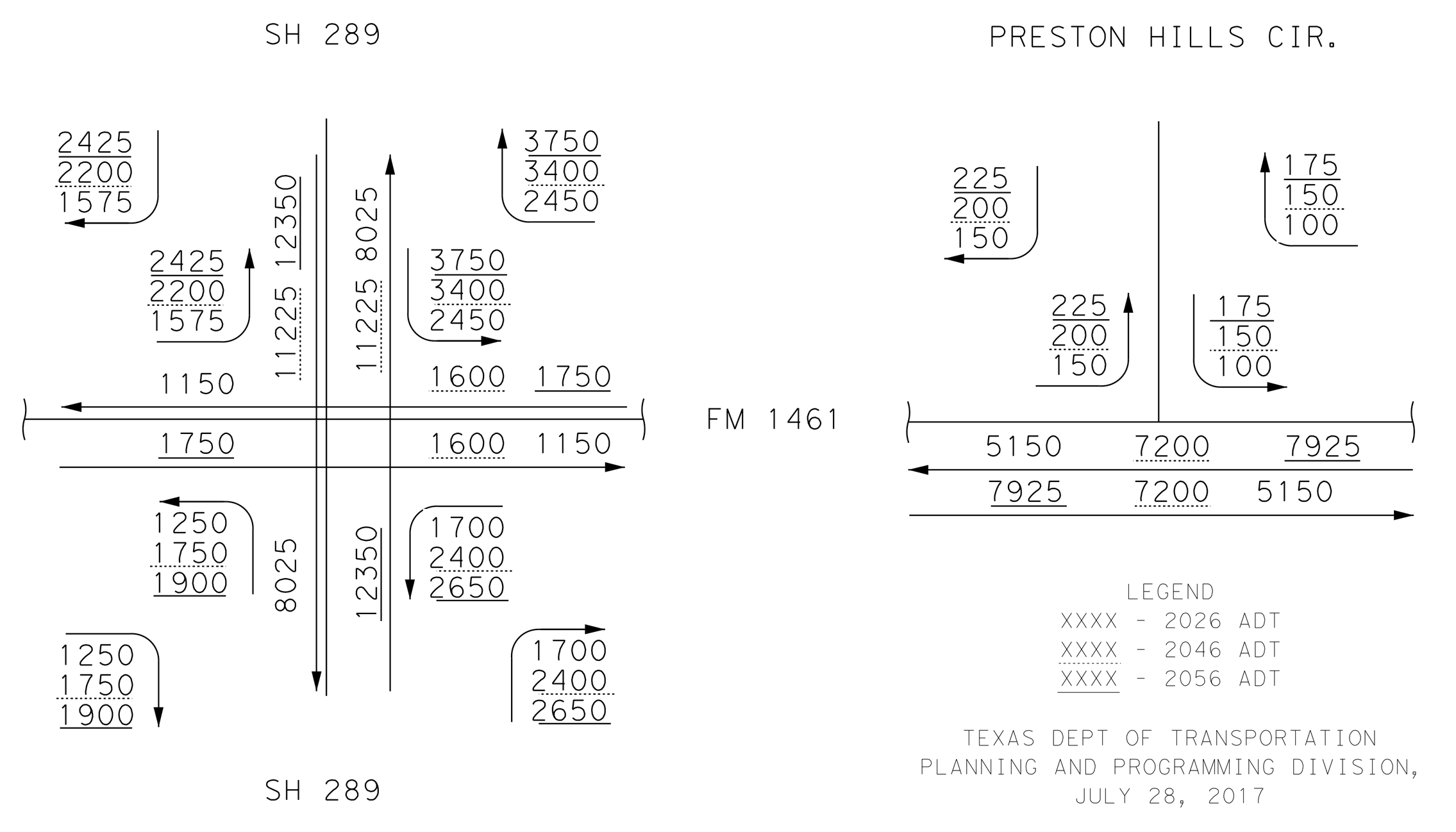
1. EXISTING FEATURES WERE NOT FIELD SURVEYED. SCHEMATICS ARE BASED ON SURVEY INFORMATION DATED JANUARY 2017 AND RECORD PLANS. UPDATED IMAGES RECEIVED FEBRUARY 2018.
2. FINAL LOCATION OF MEDIAN OPENINGS WILL BE DETERMINED IN THE PS&E DEVELOPMENT PHASE IN COORDINATION WITH THE LOCAL GOVERNMENTS.
3. SUPERELEVATION 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 NOTED OTHERWISE).
5. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE RATE MAPS 48085C0120J, 48085C0140J, AND 48085C0260J.
6. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM COLLIN COUNTY APPRAISAL DISTRICT MARCH 2018
7. EXISTING CULVERT LOCATIONS, SIZE, AND ELEVATIONS OBTAINED FROM RECORD DOCUMENTS.
8. ADA RAMPS AND SIDEWALKS ARE DIAGRAMMATIC ONLY AND WILL BE DESIGNED DURING PS&E. SIDEWALKS ARE SHOWN ON TYPICAL SECTIONS.
9. EXISTING DRIVEWAYS WILL REMAIN UNLESS IT IS DETERMINED IN COORDINATION WITH THE LOCAL GOVERNMENT THAT THE DRIVEWAY IS A SAFETY ISSUE AND/OR IS LOCATED WITHIN ACCESS DENIAL LIMITS SHOWN.
10. BUILDINGS ARE SHOWN AS POTENTIAL DISPLACEMENT IF THE PROPOSED ROW PHYSICALLY INTERSECTS THE EXISTING BUILDING STRUCTURE.
11. CURBS ARE TYPE II (8") UNLESS NOTED OTHERWISE.
12. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.

LEGEND

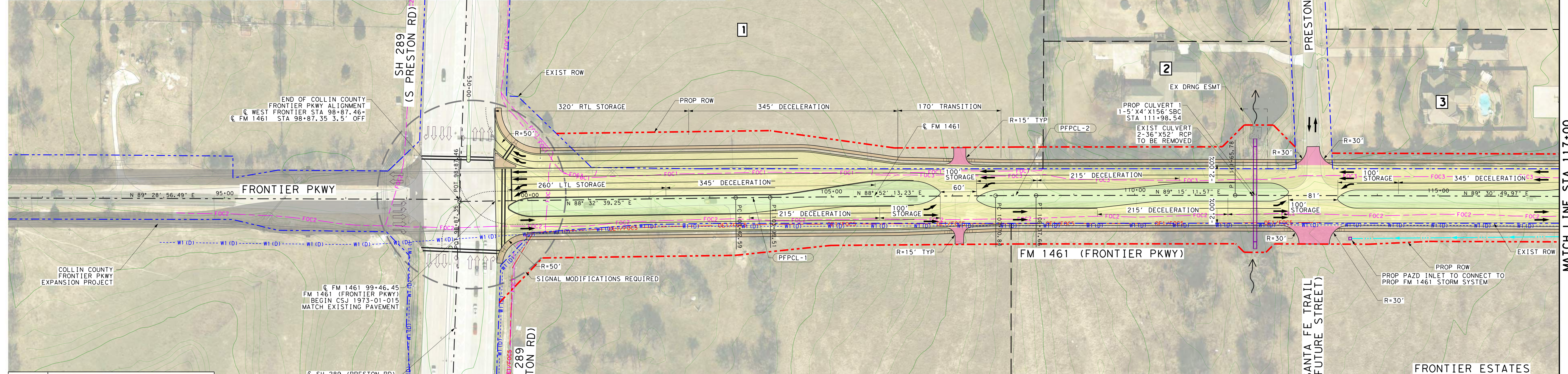
DIRECTION OF TRAFFIC
WATER FLOW LINE
PFPCL-1 CURVE NUMBER
PROPOSED CENTERLINE
EXISTING CENTERLINE
PROPOSED PAVING/SIDEWALK
PROPOSED BRIDGE DECK
PROPOSED PAVEMENT
PROPOSED CROSS STREET
PROPOSED SIDEWALK
PROPOSED DRIVEWAY
PROPOSED MEDIAN
CONSTRUCTION BY OTHERS
PROPOSED ROW
EXISTING ROW
ROW (OTHER PROJECTS)
LOT LINES
EXISTING EASEMENTS
PROPOSED CULVERT
DITCH FLOWLINE
FEMA 100 YEAR FLOODPLAIN
PAVEMENT REMOVAL
EROSION PROTECTION

FRONTIER PARKWAY SUPERELEVATION		
LEFT	STATION	SLOPE
MATCH EX ROAD	100+00	-2.00%
END NORMAL CROWN/BEGIN TRANSITION	261+30	-2.00%
END TRANSITION/BEGIN SUPER	262+60	-0.70%
END SUPER/BEGIN TRANSITION	265+00	-0.70%
END TRANSITION/BEGIN NORMAL CROWN	266+30	-2.00%
END NORMAL CROWN/BEGIN TRANSITION	417+00	-2.00%
END TRANSITION/BEGIN SUPER	417+50	-1.90%
RIGHT	STATION	SLOPE
MATCH EX ROAD	100+00	-2.00%
END NORMAL CROWN/BEGIN TRANSITION	259+00	-2.00%
END TRANSITION/BEGIN SUPER	262+60	0.70%
END SUPER/BEGIN TRANSITION	265+00	0.70%
END TRANSITION/BEGIN NORMAL CROWN	268+40	-2.00%
END NORMAL CROWN/BEGIN TRANSITION	412+00	-2.00%
END TRANSITION/BEGIN SUPER	417+50	1.90%

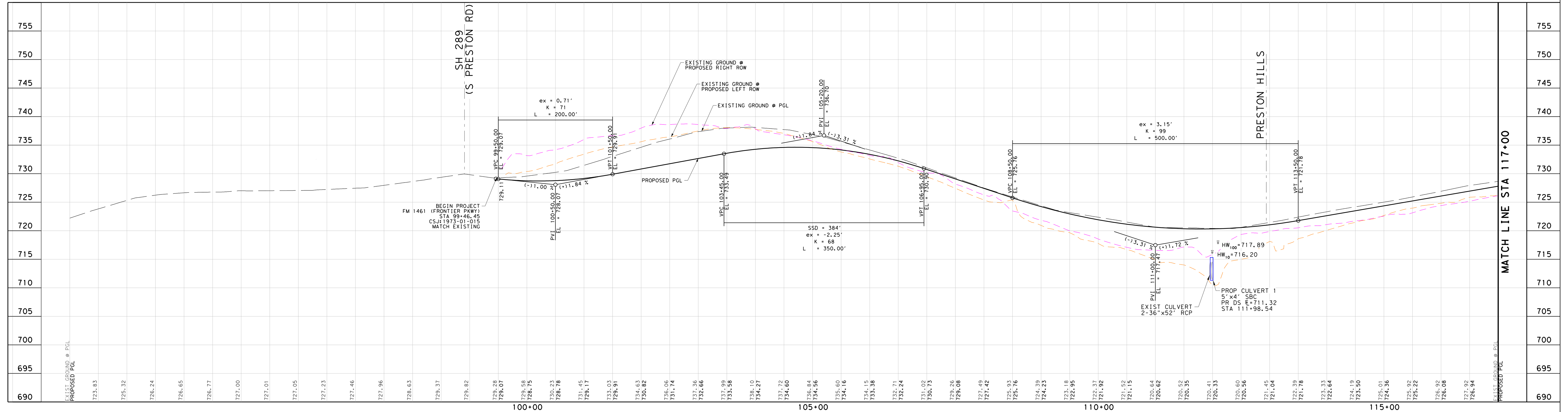
TRAFFIC DIAGRAMS



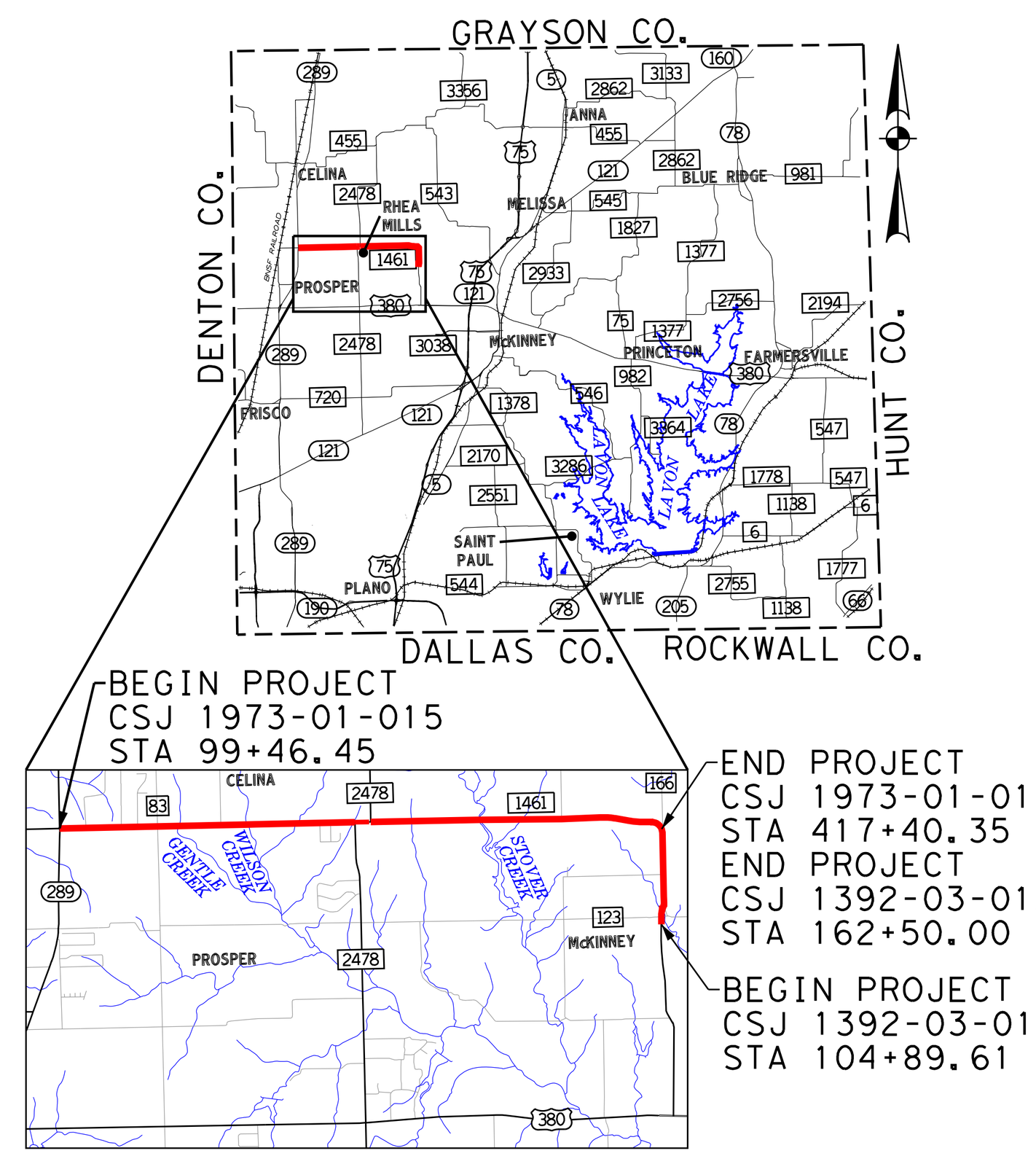
CURVE	PI STATION	DELTA	RADIUS	TANGENT	LENGTH	CHORD BEARING	CHORD LENGTH	PC STATION	PT STATION
PFPCL-1	103+71.04	0° 19′ 33.98" (RT)	10000.00	28.46	56.92	N 88° 42′ 26.24" E	56.92	103+42.58	103+99.50
PFPCL-2	108+04.24	0° 22′ 58.34" (RT)	10000.00	33.41	66.82	N 89° 03′ 42.40" E	66.82	107+70.83	108+37.65



PARCEL	OWNER'S NAME
1	BLUE STAR LAND
2	JOHNSON JANNA J & AARON W
3	HARGIS JAMES L
69	JERRELL W. JONES ETAL
70	MERITAGE HOMES OF TEXAS LLC



Texas Department of Transportation
BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
TBPE REGISTRATION NO. 264
TEXAS DEPARTMENT OF TRANSPORTATION
DALLAS DISTRICT
DESIGN SCHEMATIC
MOHAMED K. BUR, P.E., DISTRICT ENGINEER
COLLIN COUNTY
FM 1461
CSJ:1973-01-015 FM 1461 (FRONTIER PKWY)
FROM SH 289 (PRESTON RD) TO CO RD 166
LENGTH 6.02 MILES (31,793.90 FT)
CSJ:1392-03-012 FM 1461 (LAKE FOREST DR)
FROM CO RD 123 TO CO RD 166
LENGTH 1.09 MILES (5,760.40 FT)
PROJECT LENGTH = 7.10 MILES (37,554.30 FT.)
FUNCTIONAL CLASS: URBAN COLLECTOR
DESIGN SPEED: 45 MPH



LOCATION MAP
(N.T.S.)
APPROVED SCHEMATIC JUNE 29, 2018
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AARON TAINTER 105733 6/29/2018
NAME P.E. NO. DATE
ROLL 1 OF 12
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Texas Department of Transportation

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
TBPE REGISTRATION NO. 264

TEXAS DEPARTMENT OF TRANSPORTATION

DALLAS DISTRICT

DESIGN SCHEMATIC

MOHAMED K. BUR, P.E., DISTRICT ENGINEER

COLLIN COUNTY

FM 1461

CSJ:1973-01-015 FM 1461 (FRONTIER PKWY)

FROM SH 289 (PRESTON RD) TO CO RD 166

LENGTH 6.02 MILES (31,793.90 FT)

CSJ:1392-03-012 FM 1461 (LAKE FOREST DR)

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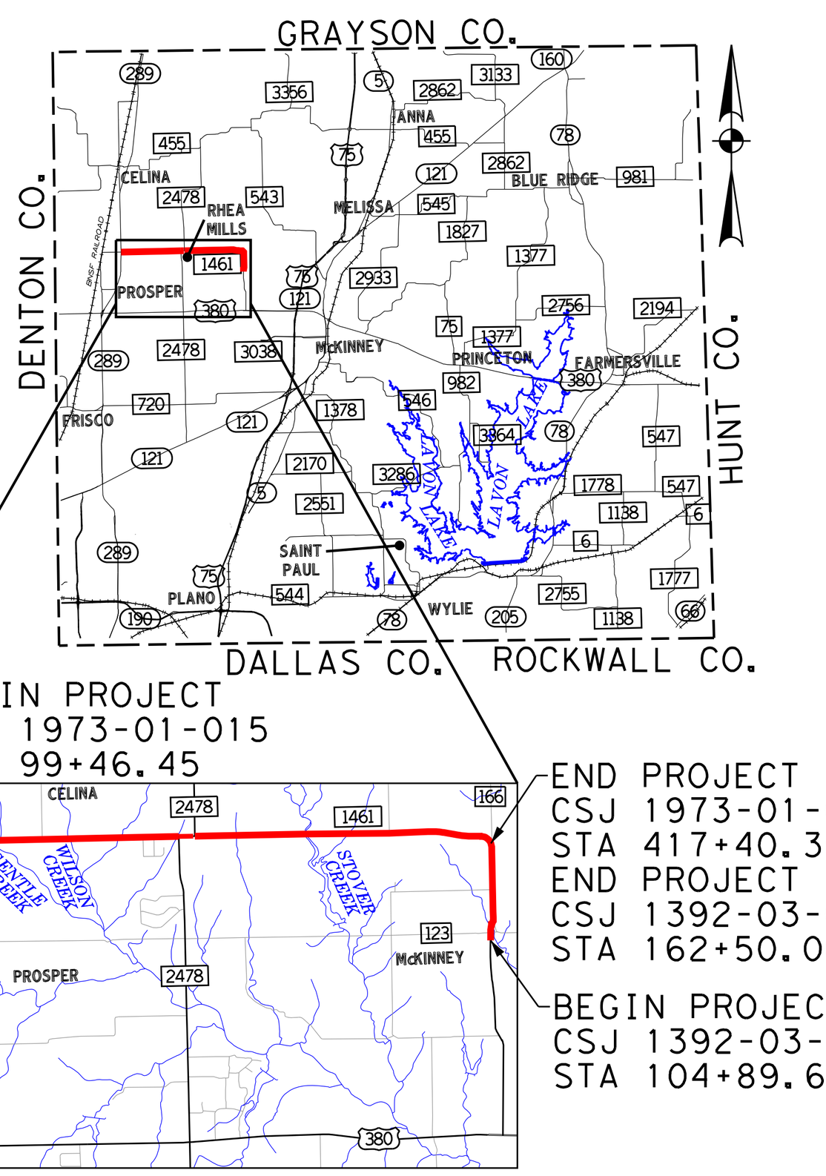

LOCATION MAP

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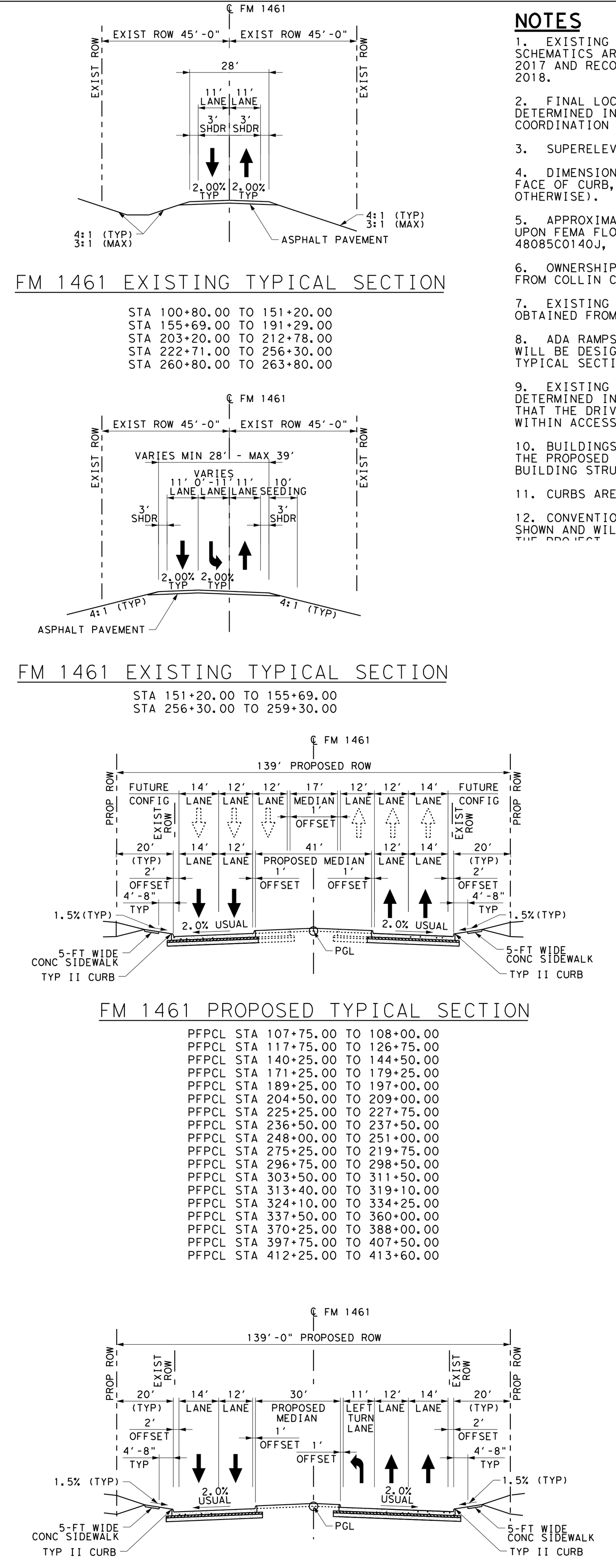
AARON TAINTER	105733	6/29/2018

ROLL 2 OF 12



FM 1461 EXISTING TYPICAL SECTION

FM 1461 EXISTING TYPICAL SECTION

FM 1461 PROPOSED TYPICAL SECTION

FM 1461 PROPOSED TYPICAL SECTION
EASTBOUND LEFT TURN/U-TURN LANE

NOTES

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2. 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 NOTED OTHERWISE).

5. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE RATE MAPS 48085C0120J, 48085C0140J, AND 48085C0260J.

6. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM COLLIN COUNTY APPRAISAL DISTRICT MARCH 2018

7. EXISTING CULVERT LOCATIONS, SIZE, AND ELEVATIONS OBTAINED FROM RECORD DOCUMENTS.

8. ADA RAMPS AND SIDEWALKS ARE DIAGRAMMATIC ONLY AND WILL BE DESIGNED DURING PS&E. SIDEWALKS ARE SHOWN ON TYPICAL SECTIONS.

9. EXISTING DRIVEWAYS WILL REMAIN UNLESS IT IS DETERMINED IN COORDINATION WITH THE LOCAL GOVERNMENT THAT THE DRIVEWAY IS A SAFETY ISSUE AND/OR IS LOCATED WITHIN ACCESS DENIAL LIMITS SHOWN.

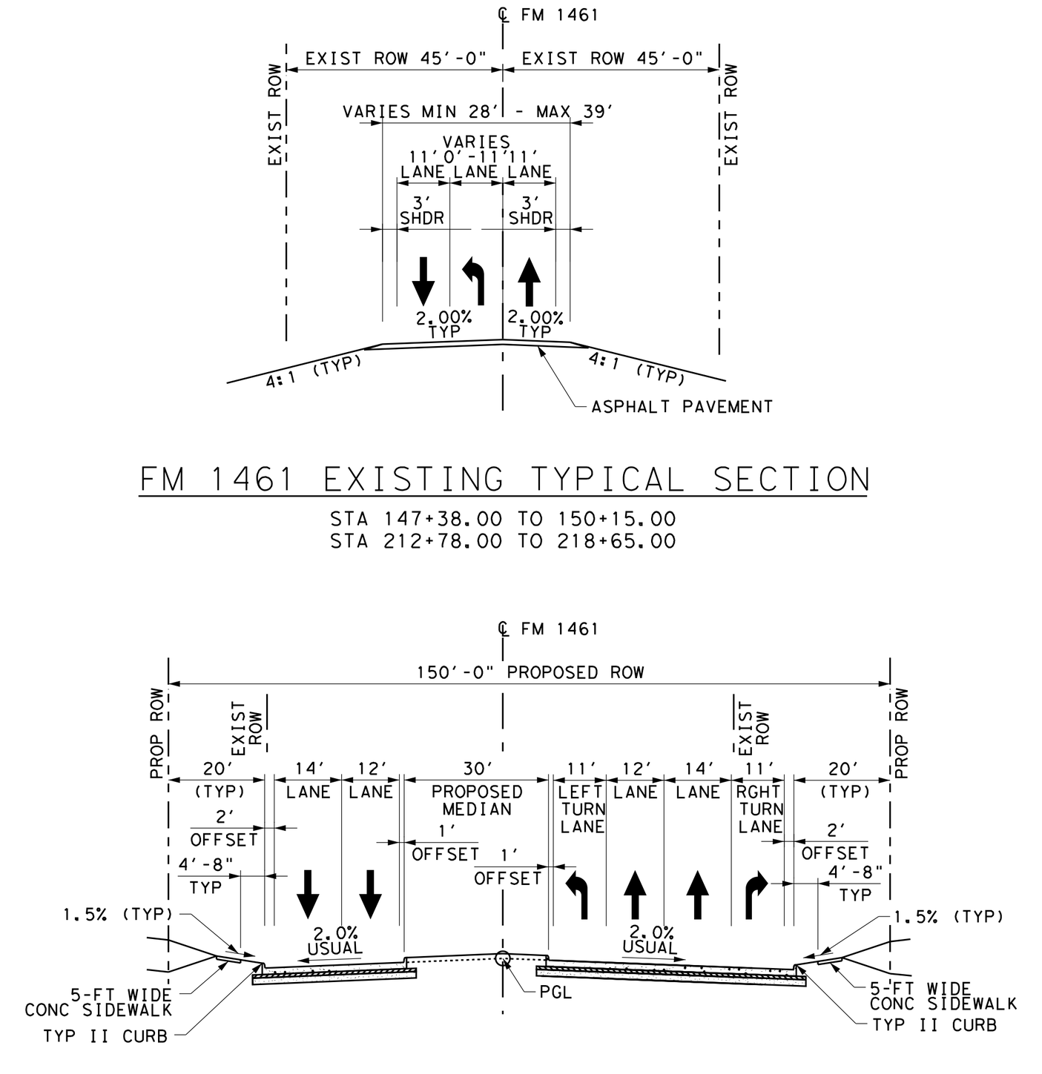
10. BUILDINGS ARE SHOWN AS POTENTIAL DISPLACEMENT IF THE PROPOSED ROW PHYSICALLY INTERSECTS THE EXISTING BUILDING STRUCTURE.

11. CURBS ARE TYPE II (8") UNLESS NOTED OTHERWISE.

12. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.

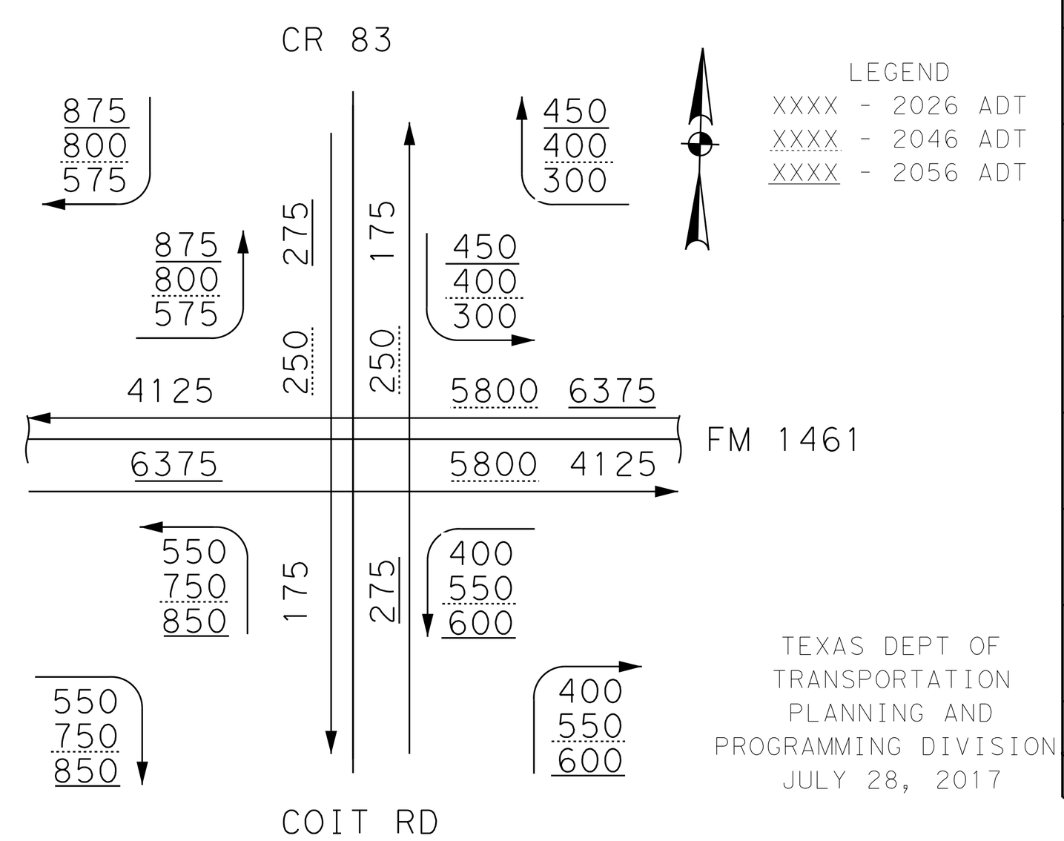
LEGEND

DIRECTION OF TRAFFIC
WATER FLOW LINE
CURVE NUMBER
PROPOSED CENTERLINE
EXISTING CENTERLINE
PROPOSED PAVING/SIDEWALK
PROPOSED BRIDGE DECK
PROPOSED PAVEMENT
PROPOSED CROSS STREET
PROPOSED SIDEWALK
PROPOSED DRIVEWAY
PROPOSED MEDIAN
CONSTRUCTION BY OTHERS
PROPOSED ROW
EXISTING ROW
ROW (OTHER PROJECTS)
LOT LINES
EXISTING EASEMENTS
PROPOSED CULVERT
DITCH FLOWLINE
FEMA 100 YEAR FLOODPLAIN
PAVEMENT REMOVAL
EROSION PROTECTION



FM 1461 EXISTING TYPICAL SECTION

FM 1461 PROPOSED TYPICAL SECTION
EASTBOUND LEFT TURN/U-TURN LANE
AND RIGHT TURN LANE



TRAFFIC DIAGRAMS

CURVE	PI STATION	DELTA	RADIUS	TANGENT	LENGTH	CHORD BEARING	CHORD LENGTH	PC STATION	PT STATION
PFPCL-3	120+30.89	1° 46′ 10.79" (LT)	2,000.00	30.89	61.77	N 88° 17′ 21.28" E	61.77	120+00.00	120+61.77
PFPCL-4	121+95.08	1° 54′ 30.88" (RT)	2,000.00	33.31	66.62	N 88° 21′ 31.32" E	66.62	121+61.77	122+28.39
PFPCL-5	153+78.24	4° 28′ 31.74" (RT)	2,000.00	78.15	156.22	S 87° 59′ 43.19" E	156.18	153+00.09	154+56.31

PARCEL	OWNER'S NAME
4	JAMES P. HUFFORD & WIFE, JOYCE A. HUFORD
5	MICHAEL R. MILLEN & MARIA E. MILLEN
6	BARRETT MELISSA A
7	MCMURTRE BILLY
8	DEAN A. BELVIS & WIFE, KELLY J. BELVIS
9	JEFFREY D. SCHMELING & WIFE, KAREN S. SCHMELING
10	BRAZOS ELECTRIC POWER COOPERATIVE, INC
11	FRONTIER RETAIL PARTNERS, LP
70	MERITAGE HOMES OF TEXAS LLC
71	FULTON KEVIN & EMILEE
72	FENLEY DONNA & DAVID L
73	FOLEY JOHN J III & SANDRA K
74	FERRARI ANTHONY LOUIS & COURTNEY
75	TRZCINSKI MICHAEL & DEBORAH
76	PAUL FARAZ & SARAH
77	CHRISTIAN CHAPEL
78	CHRISTIAN CHAPEL ASSEMBLY OF GOD CHURCH
79	VI RAAMA, LLC
80	R.L. WHITE LIVING TRUST
81	R.L. WHITE LIVING TRUST

FM 1461 PROPOSED TYPICAL SECTION
WESTBOUND LEFT TURN/U-TURN LANE

FM 1461 PROPOSED TYPICAL SECTION
WESTBOUND LEFT TURN/U-TURN LANE
AND RIGHT TURN LANE

Texas Department of Transportation

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
TBPE REGISTRATION NO. 264

TEXAS DEPARTMENT OF TRANSPORTATION

DALLAS DISTRICT

DESIGN SCHEMATIC

MOHAMED K. BUR, P.E., DISTRICT ENGINEER

COLLIN COUNTY

FM 1461

CSJ:1973-01-015 FM 1461 (FRONTIER PKWY)

FROM SH 289 (PRESTON RD) TO CO RD 166

LENGTH 6.02 MILES (31,793.90 FT)

CSJ:1392-03-012 FM 1461 (LAKE FOREST DR)

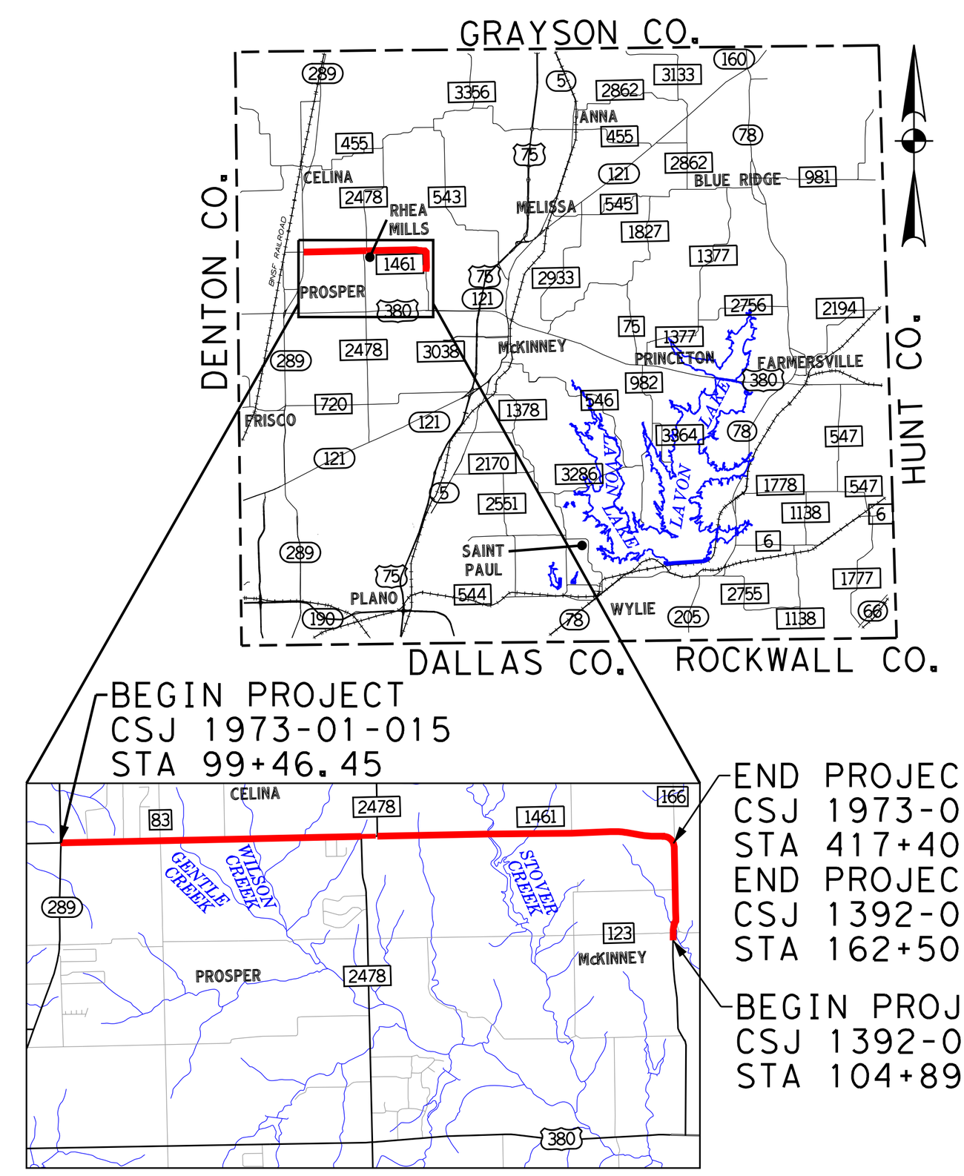
FROM CO RD 123 TO CO RD 166

LENGTH 1.09 MILES (5,760.40 FT)

PROJECT LENGTH = 7.10 MILES (37,554.30 FT.)

FUNCTIONAL CLASS: URBAN COLLECTOR

DESIGN SPEED: 45 MPH



LOCATION MAP

(N.T.S.)

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ROLL 2 OF 12

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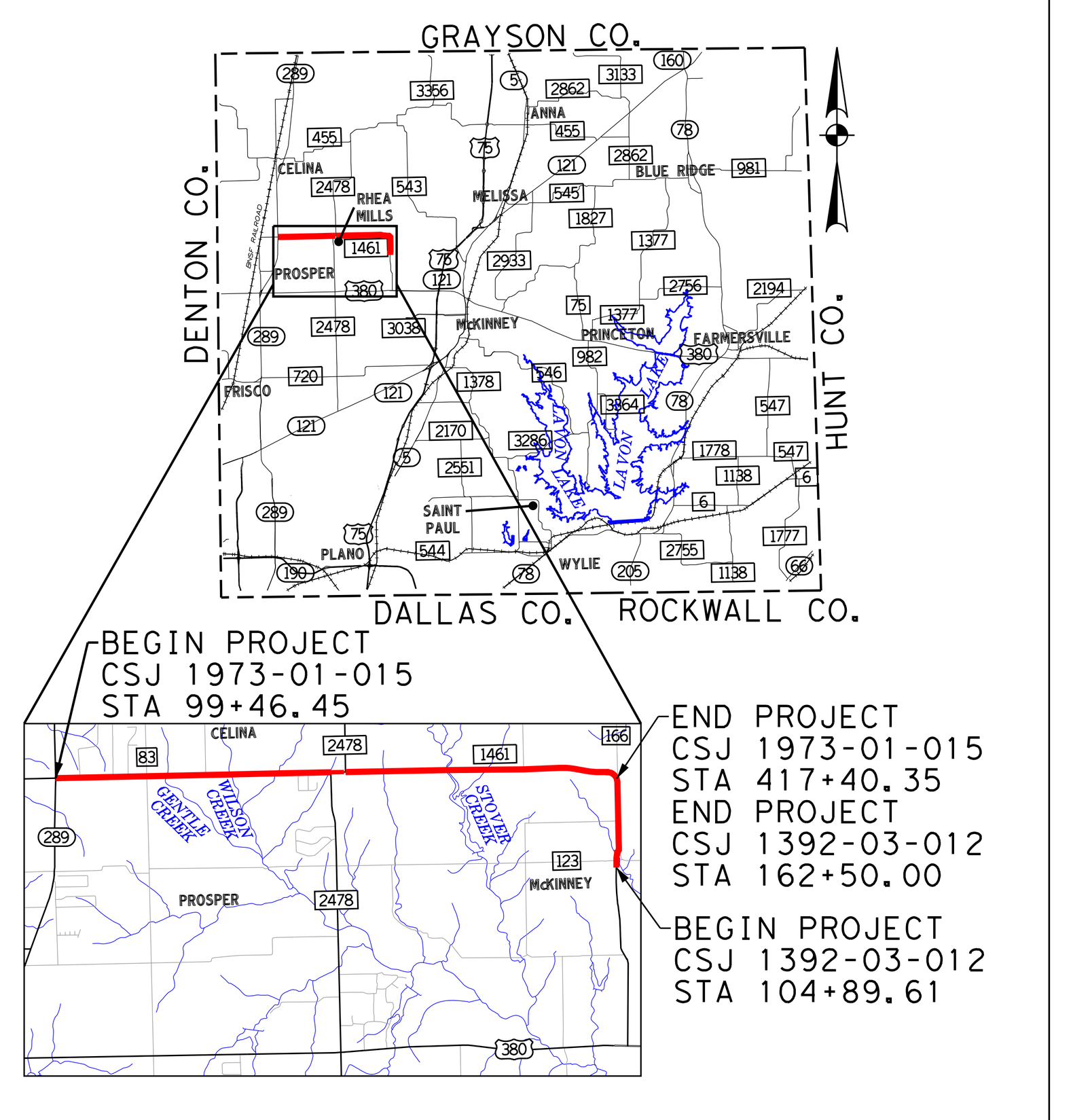

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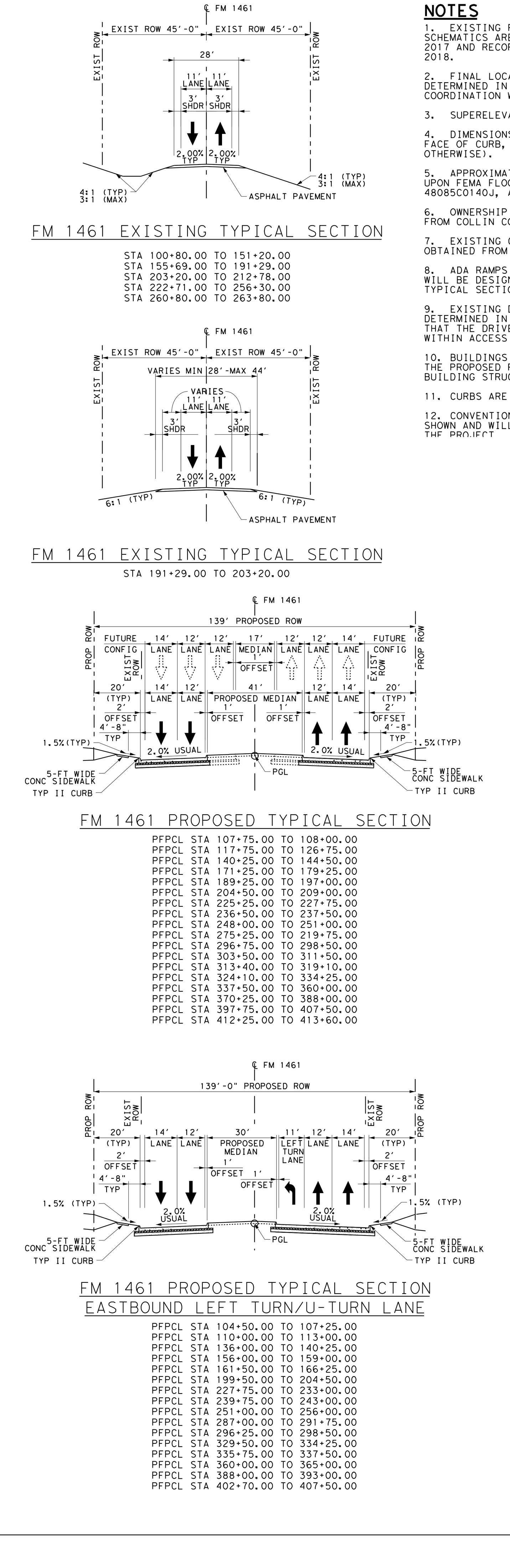
ROLL 3 OF 12



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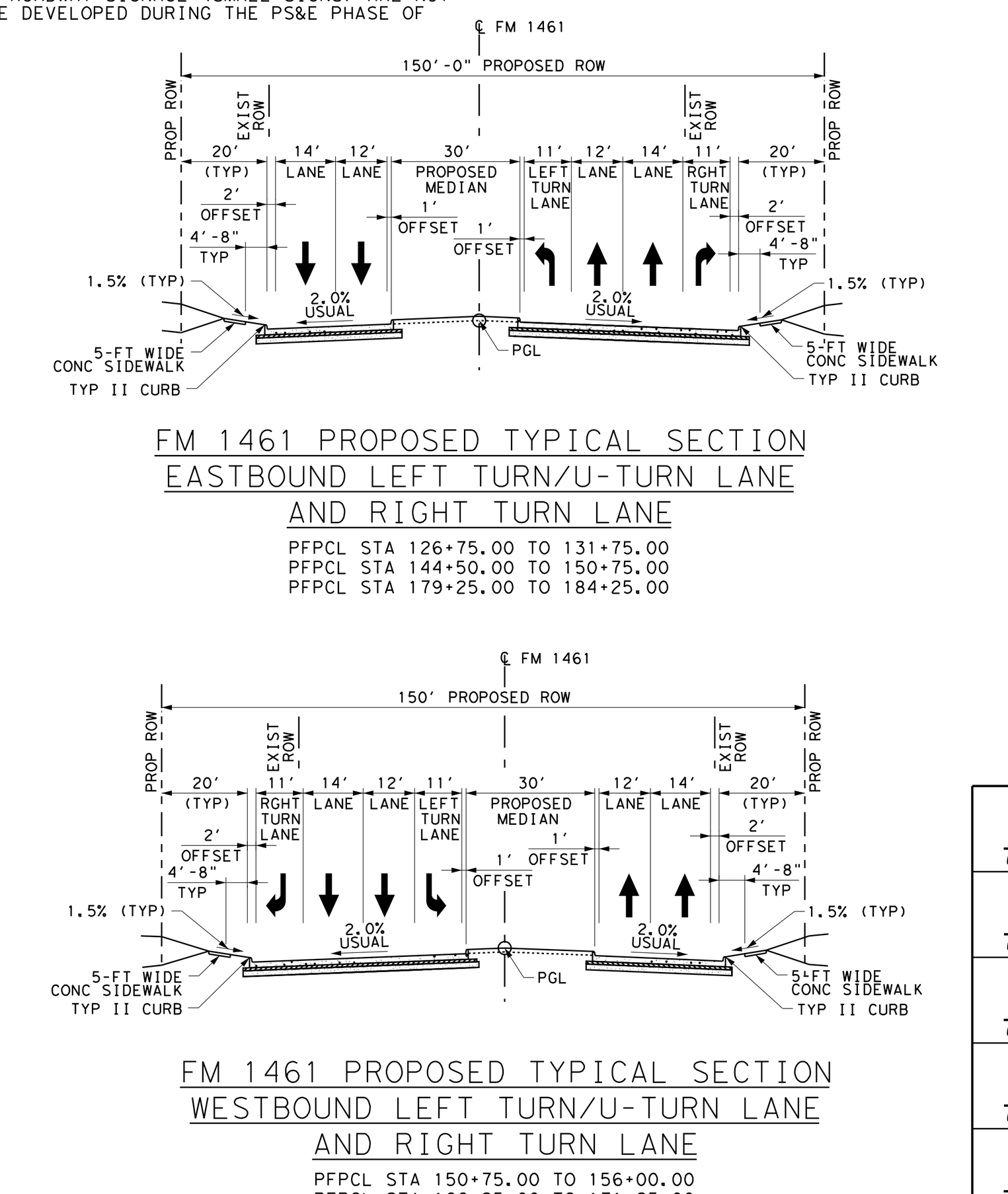
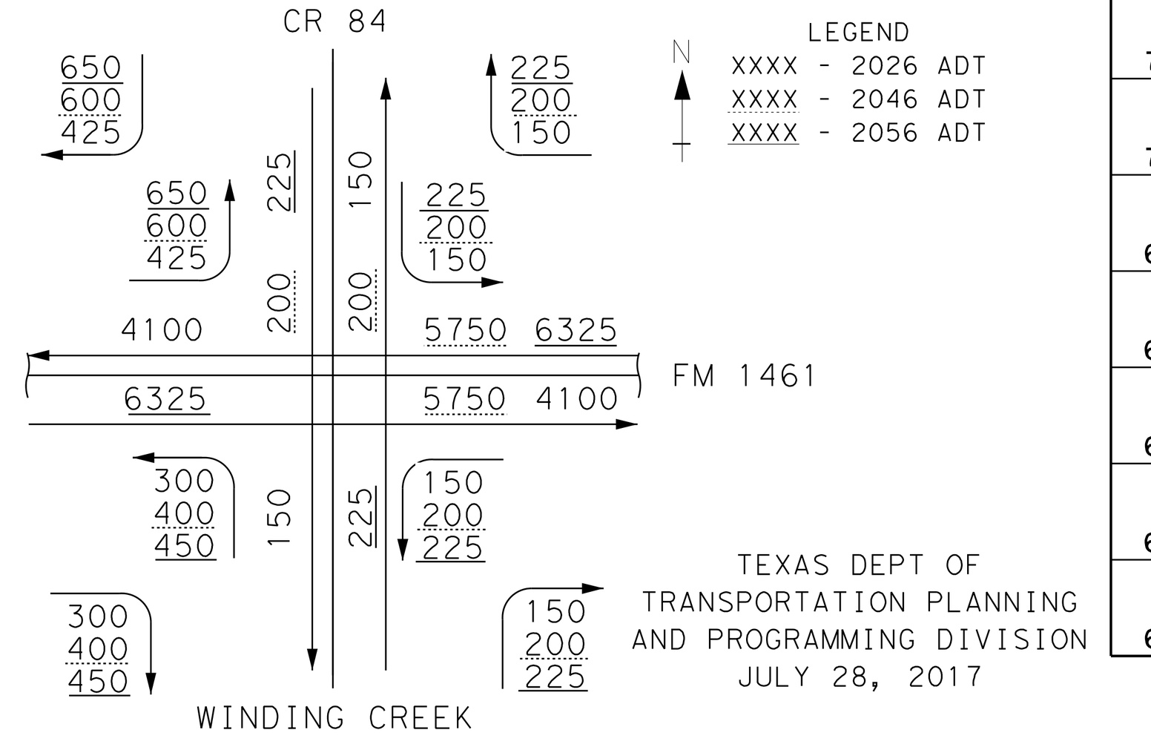
LEGEND

- DIRECTION OF TRAFFIC
- WATER FLOW LINE
- PFPCL-1 CURVE NUMBER
- PROPOSED CENTERLINE
- EXISTING CENTERLINE
- PROPOSED PAVING/SIDEWALK
- PROPOSED BRIDGE DECK
- PROPOSED PAVEMENT
- PROPOSED CROSS STREET
- PROPOSED SIDEWALK
- PROPOSED DRIVEWAY
- PROPOSED MEDIAN
- CONSTRUCTION BY OTHERS
- PROPOSED ROW
- EXISTING ROW
- ROW (OTHER PROJECTS)
- LOT LINES
- EXISTING EASEMENTS
- PROPOSED CULVERT
- DITCH FLOWLINE
- FEMA 100 YEAR FLOODPLAIN
- PAVEMENT REMOVAL
- EROSION PROTECTION



TRAFFIC DIAGRAM



TEXAS DEPT OF TRANSPORTATION PLANNING AND PROGRAMMING DIVISION
JULY 28, 2017

CURVE	PI STATION	DELTA	RADIUS	TANGENT	LENGTH	CHORD BEARING	CHORD LENGTH	PC STATION	PT STATION
PFPCL-6	156+34.17	4° 27′ 32.13" (LT)	2,000.00	77.86	155.65	S 87° 59′ 13.38" E	155.61	155+56.31	157+11.95
PFPCL-7	193+14.39	4° 26′ 33.00" (RT)	2,000.00	77.58	155.07	S 88° 29′ 22.36" E	155.03	192+36.82	193+91.89

PARCEL	OWNER'S NAME	PARCEL	OWNER'S NAME
11	FRONTIER RETAIL PARTNERS, LP	83	DA'HOOD TRUST
12	CELINA DEVELOPMENT, LLC	84	ROGERS MICHAEL D
13	WELLS SOUTH PHASE 1, LLC	85	GIVENS WILLIAM F
14-36	WELLS SOUTH PHASE 1, LLC	86	STIGLETS JAMES
37	HAWKINS MICHAEL J & CARA A	87	PETERS EDMOND L & JOYCE L
38	CARTER M JAY & DEBORAH L	88	LATIMER JAMES DAVID
39	KOOIMAN BRIAN B	89	CARTER CARY GRAYSON
81	R.L. WHITE LIVING TRUST	90	MALONE DANNY PAUL & STACIA
82	JIANMING HE and CYNTHIA ZHENG	91	ZUEHL SCOTT M

Texas Department of Transportation

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
TBPE REGISTRATION NO. 264

TEXAS DEPARTMENT OF TRANSPORTATION
DALLAS DISTRICT
DESIGN SCHEMATIC
MOHAMED K. BUR, P.E., DISTRICT ENGINEER
COLLIN COUNTY
FM 1461
CSJ:1973-01-015 FM 1461 (FRONTIER PKWY)
FROM SH 289 (PRESTON RD) TO CO RD 166
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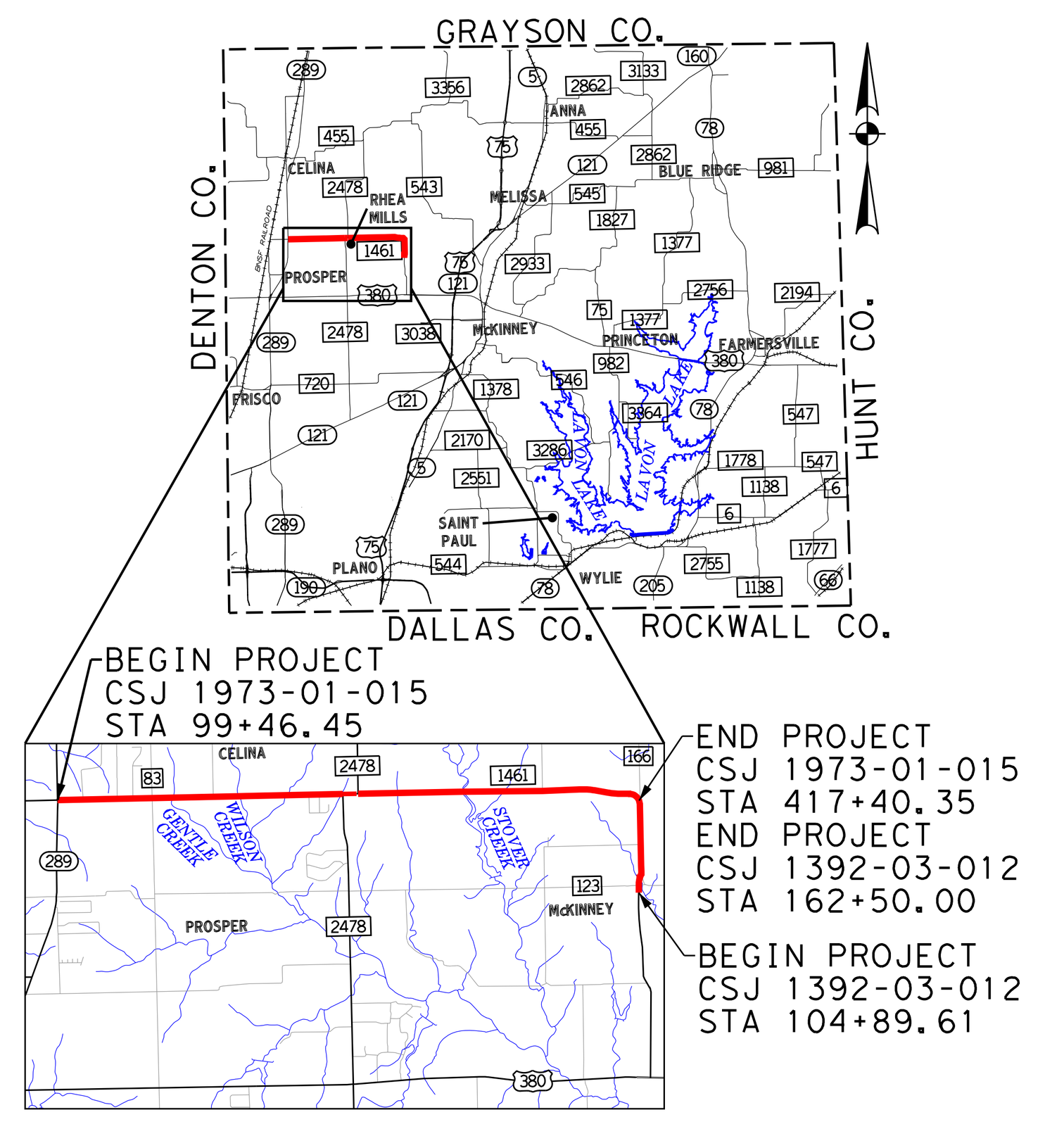

LOCATION MAP
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ROLL 3 OF 12

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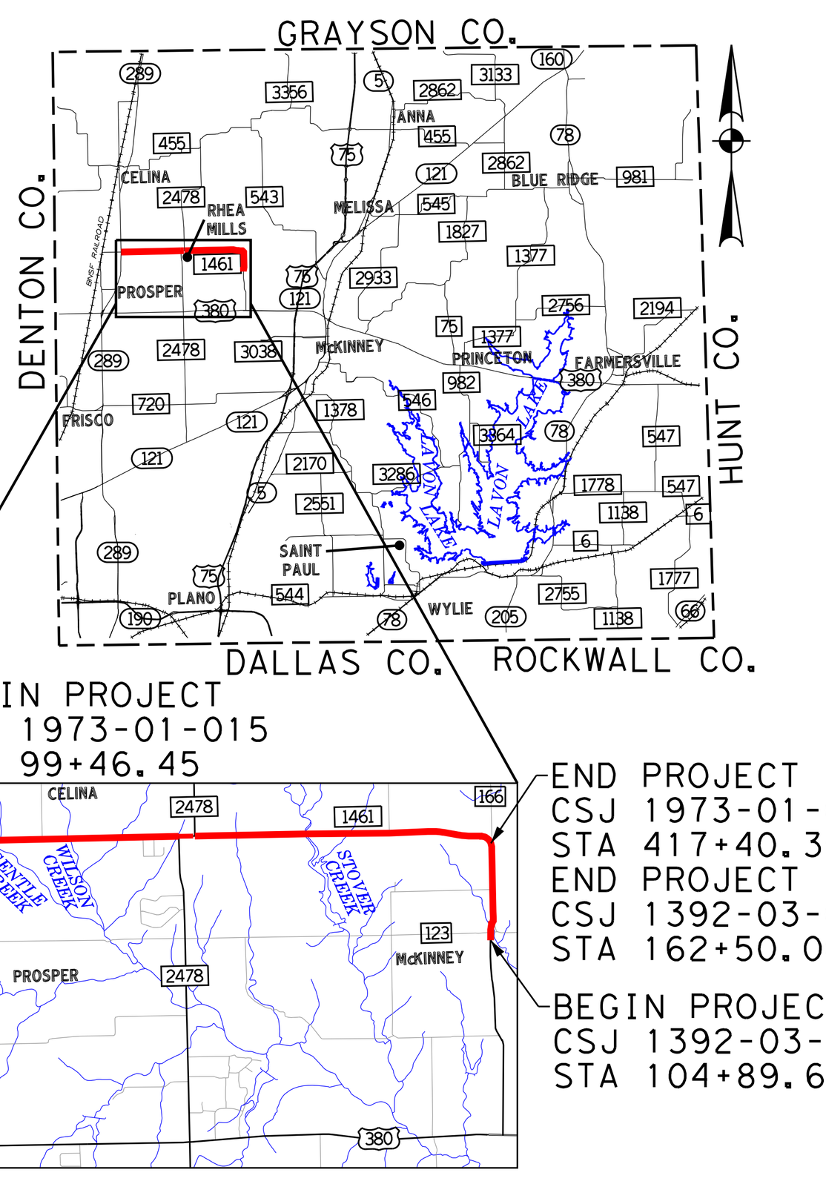

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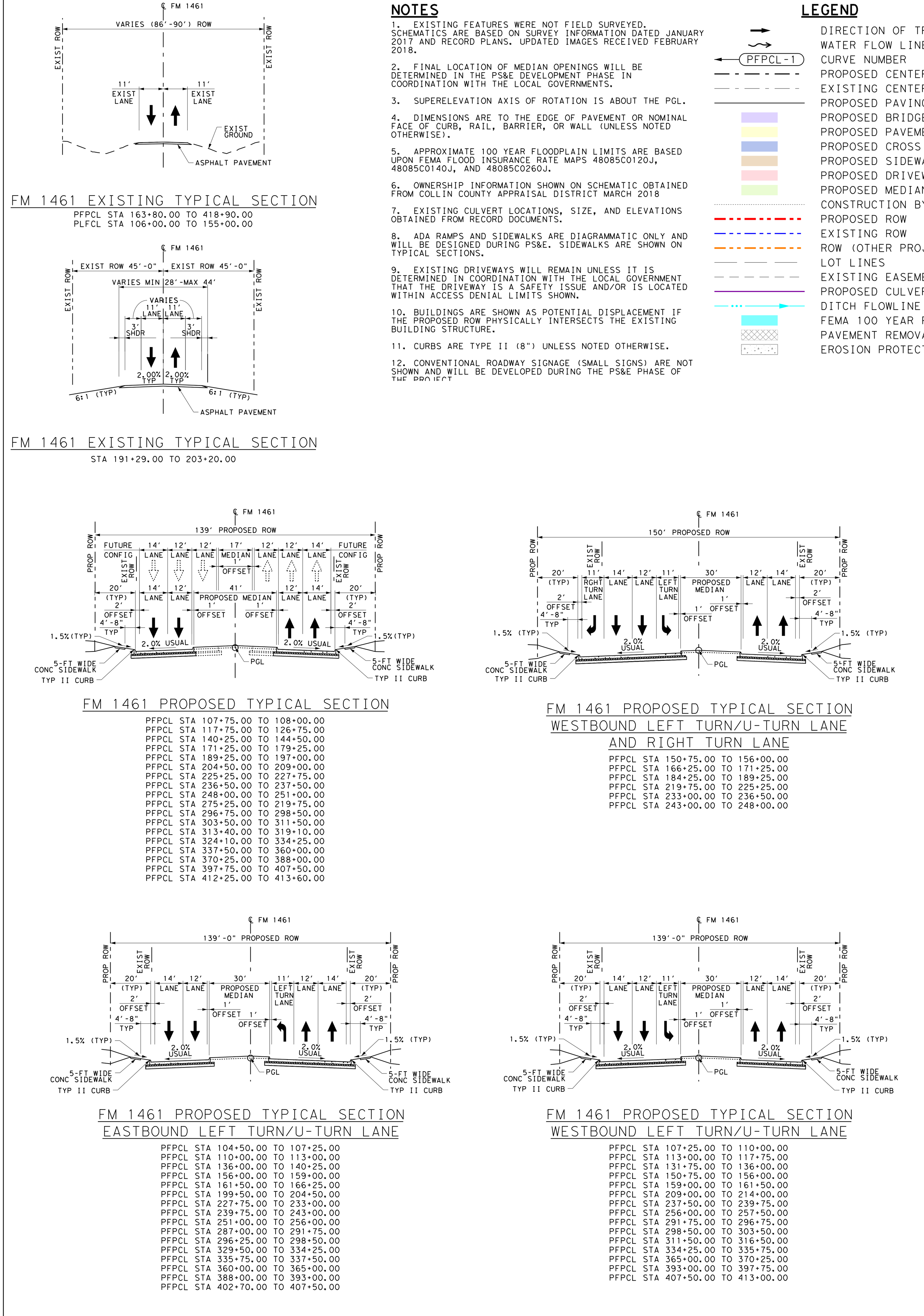

FM 1461 EXISTING TYPICAL SECTION

FM 1461 EXISTING TYPICAL SECTION

FM 1461 PROPOSED TYPICAL SECTION

FM 1461 PROPOSED TYPICAL SECTION WESTBOUND LEFT TURN/U-TURN LANE AND RIGHT TURN LANE

FM 1461 PROPOSED TYPICAL SECTION EASTBOUND LEFT TURN/U-TURN LANE

FM 1461 PROPOSED TYPICAL SECTION WESTBOUND LEFT TURN/U-TURN LANE

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LOT LINES
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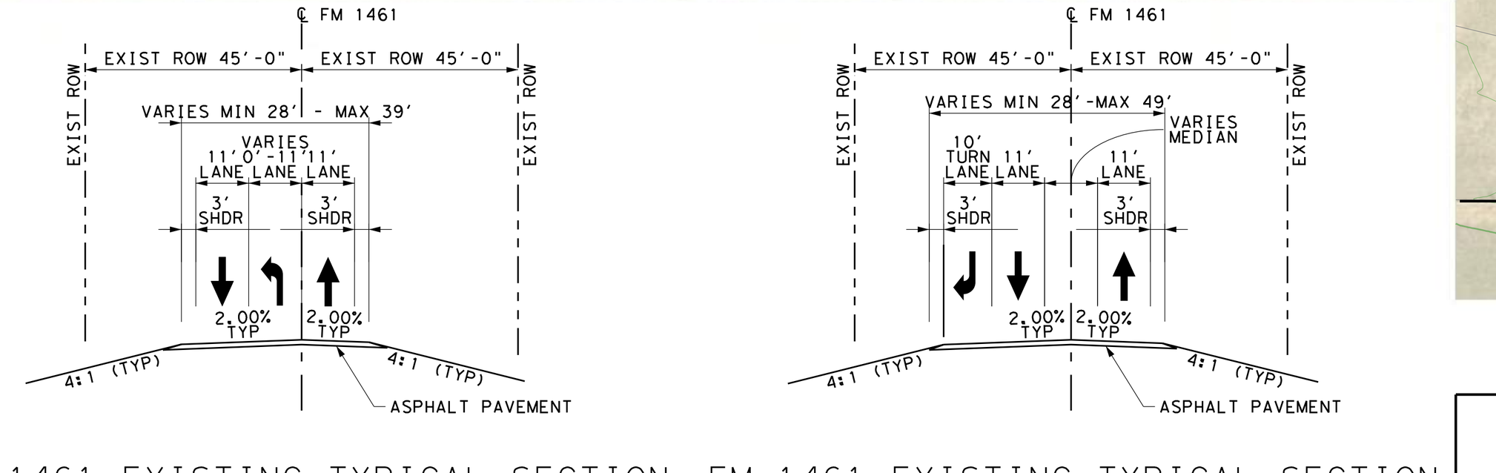
PROPOSED CULVERT
DITCH FLOWLINE
FEMA 100 YEAR FLOODPLAIN
PAVEMENT REMOVAL
EROSION PROTECTION

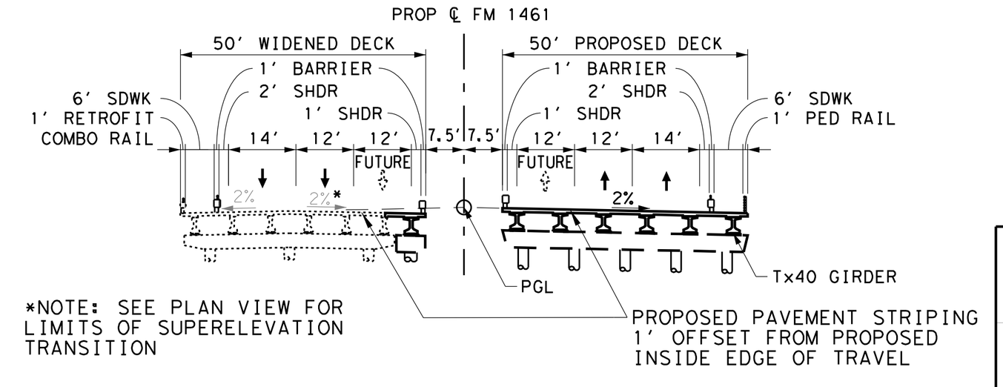
CURVE	PI STATION	DELTA	RADIUS	TANGENT	LENGTH	CHORD BEARING	CHORD LENGTH	PC STATION	PT STATION
PFPCL-8	195+69.46	4° 26′ 33.00" (LT)	2,000.00	77.58	155.07	S 88° 29′ 22.36" E	155.03	194+91.89	196+46.96
PFPCL-9	202+05.15	4° 26′ 33.00" (LT)	2,000.00	77.58	155.07	N 87° 04′ 04.64" E	155.03	201+27.57	202+82.65
PFPCL-10	204+60.22	4° 26′ 33.00" (RT)	2,000.00	77.58	155.07	N 87° 04′ 04.64" E	155.03	203+82.65	205+37.72
PFPCL-11	215+61.96	3° 51′ 07.52" (RT)	2,000.00	67.26	134.46	S 88° 47′ 05.10" E	134.44	214+94.70	216+29.16
PFPCL-12	217+91.01	3° 32′ 32.24" (LT)	2,000.00	61.84	123.65	S 88° 37′ 47.46" E	123.63	217+29.16	218+52.81
PFPCL-13	223+03.09	5° 44′ 25.96" (LT)	2,000.00	100.28	200.38	N 86° 43′ 43.43" E	200.30	222+02.81	224+03.19
PFPCL-14	226+04.80	5° 48′ 59.71" (RT)	2,000.00	101.61	203.04	N 86° 46′ 00.31" E	202.95	225+03.19	227+06.23

PARCEL	OWNER'S NAME	PARCEL	OWNER'S NAME	PARCEL	OWNER'S NAME
39	KOOIMAN BRIAN B	47	HJALBER JAN OLOF	94	PROSPER TWIN CREEK PARTNERSHIP
41	CITY OF CELINA	48	MUSTANG LAKES OWNERS ASSOCIATION INC	95	NIAZ ARSHAD
42	ROGERS LARRY B & AE C ROGERS	49	MUSTANG LAKES OWNERS ASSOCIATION INC	96	FURR PROPERTIES, LTD.
43	LUCADO DONNA RILEY	50	SUNSHINE DEVELOPMENT GROUP, LTD	97	FURR LIVING TRUST
44	TOKARCZYK JAMES	91	ZUEHL SCOTT M	98	FURR PROPERTIES, LTD.
45	TRICKEY SHANE P & GELAREH F	92	KIMBRIL DONALD R & SHIRLEY C	99	HAWKINS ANITA
46	GLAMETTA KRISTI W & CHRISTOPHER	93	PROSPER TWIN CREEK PARTNERSHIP	100	HONEA RICHARD



FM 1461 EXISTING TYPICAL SECTION

FM 1461 EXISTING TYPICAL SECTION



FM 1461 PROPOSED TYPICAL BRIDGE SECTION AT WILSON CREEK

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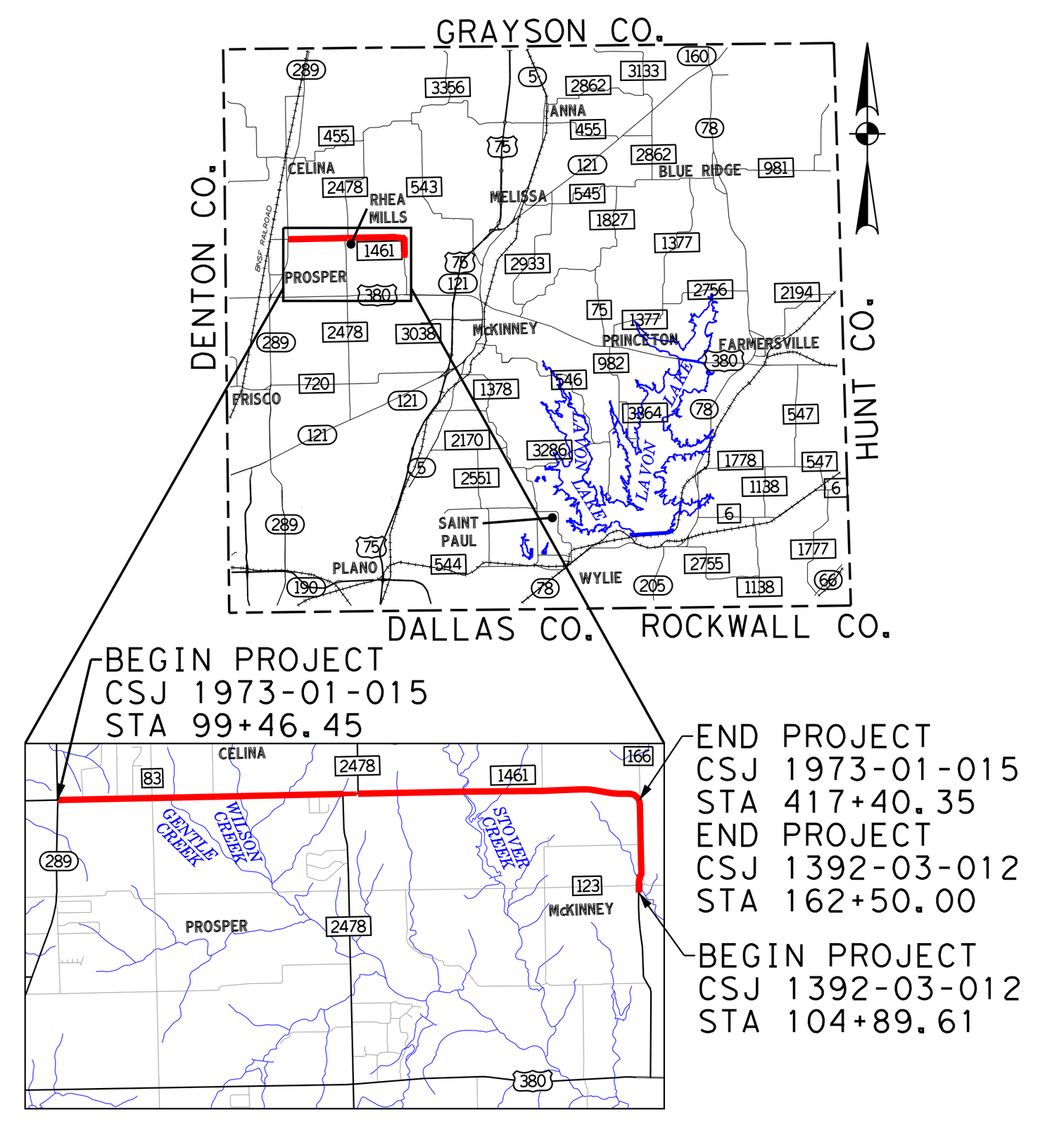
FROM SH 289 (PRESTON RD) TO CO RD 166
LENGTH 6.02 MILES (31,793.90 FT)
CSJ:1392-03-012 FM 1461 (LAKE FOREST DR)
FROM CO RD 123 TO CO RD 166
LENGTH 1.09 MILES (5,760.40 FT)
PROJECT LENGTH = 7.10 MILES (37,554.30 FT.)
FUNCTIONAL CLASS: URBAN COLLECTOR
DESIGN SPEED: 45 MPH



LOCATION MAP
(N.T.S.)

APPROVED SCHEMATIC JUNE 29, 2018

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AARON TAINTER 105733 6/29/2018

ROLL 4 OF 12

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Texas Department of Transportation

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
TBPE REGISTRATION NO. 264

TEXAS DEPARTMENT OF TRANSPORTATION
DALLAS DISTRICT
DESIGN SCHEMATIC
MOHAMED K. BUR, P.E., DISTRICT ENGINEER
COLLIN COUNTY
FM 1461
CSJ:1973-01-015 FM 1461 (FRONTIER PKWY)
FROM SH 289 (PRESTON RD) TO CO RD 166
LENGTH 6.02 MILES (31,793.90 FT)
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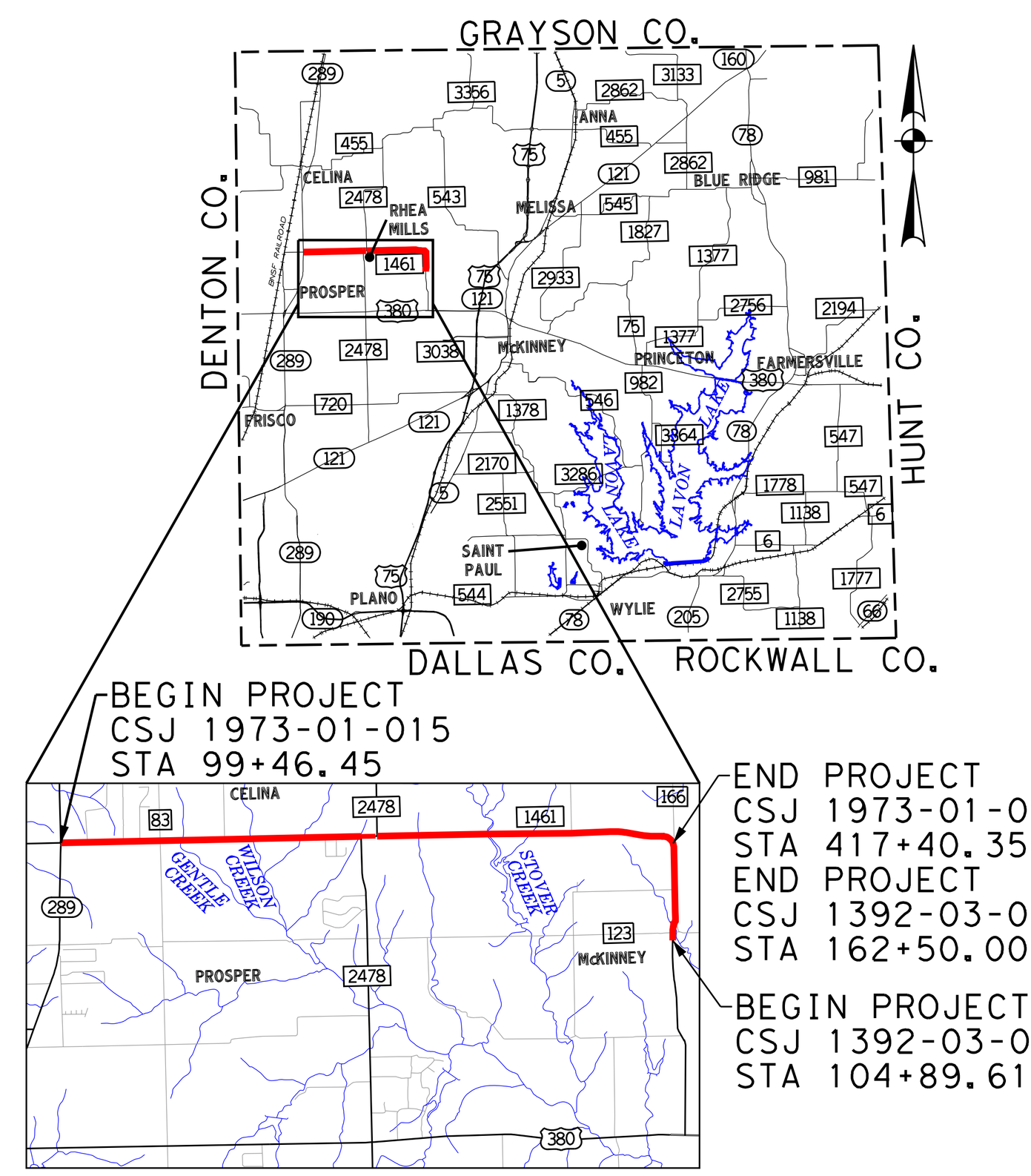

LOCATION MAP
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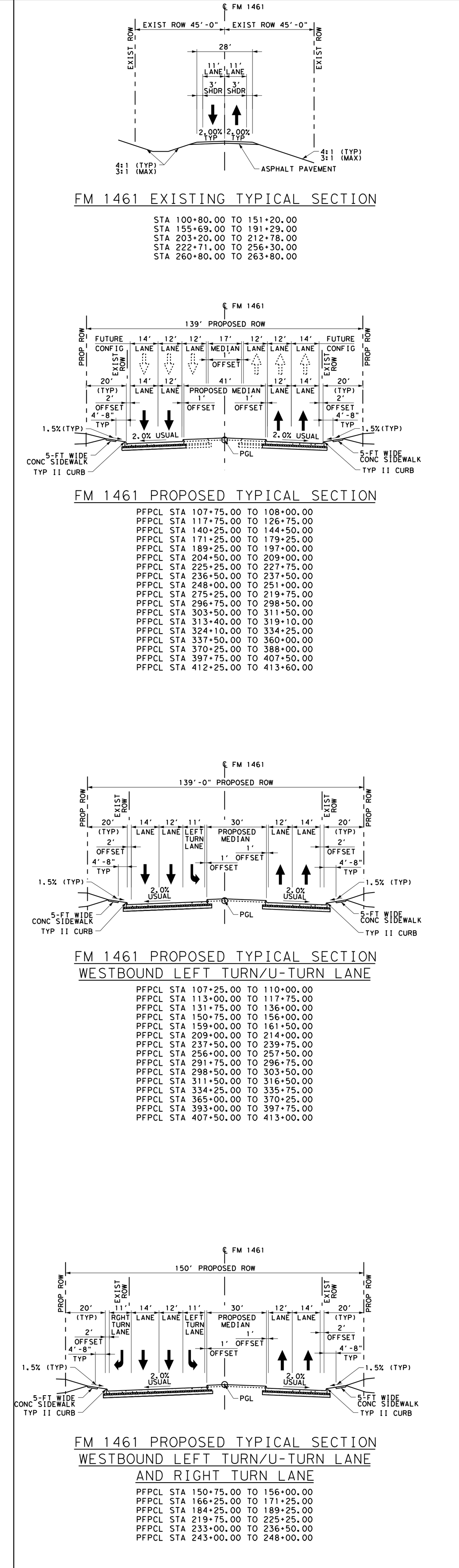
NAME | P.E. NO. | DATE

ROLL 5 OF 12



NOTES

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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 NOTED OTHERWISE).

5. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE RATE MAPS 48085C0120J, 48085C0140J, AND 48085C0260J.

6. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM COLLIN COUNTY APPRAISAL DISTRICT MARCH 2018

7. EXISTING CULVERT LOCATIONS, SIZE, AND ELEVATIONS OBTAINED FROM RECORD DOCUMENTS.

8. ADA RAMPS AND SIDEWALKS ARE DIAGRAMMATIC ONLY AND WILL BE DESIGNED DURING PS&E. SIDEWALKS ARE SHOWN ON TYPICAL SECTIONS.

9. EXISTING DRIVEWAYS WILL REMAIN UNLESS IT IS DETERMINED IN COORDINATION WITH THE LOCAL GOVERNMENT THAT THE DRIVEWAY IS A SAFETY ISSUE AND/OR IS LOCATED WITHIN ACCESS DENIAL LIMITS SHOWN.

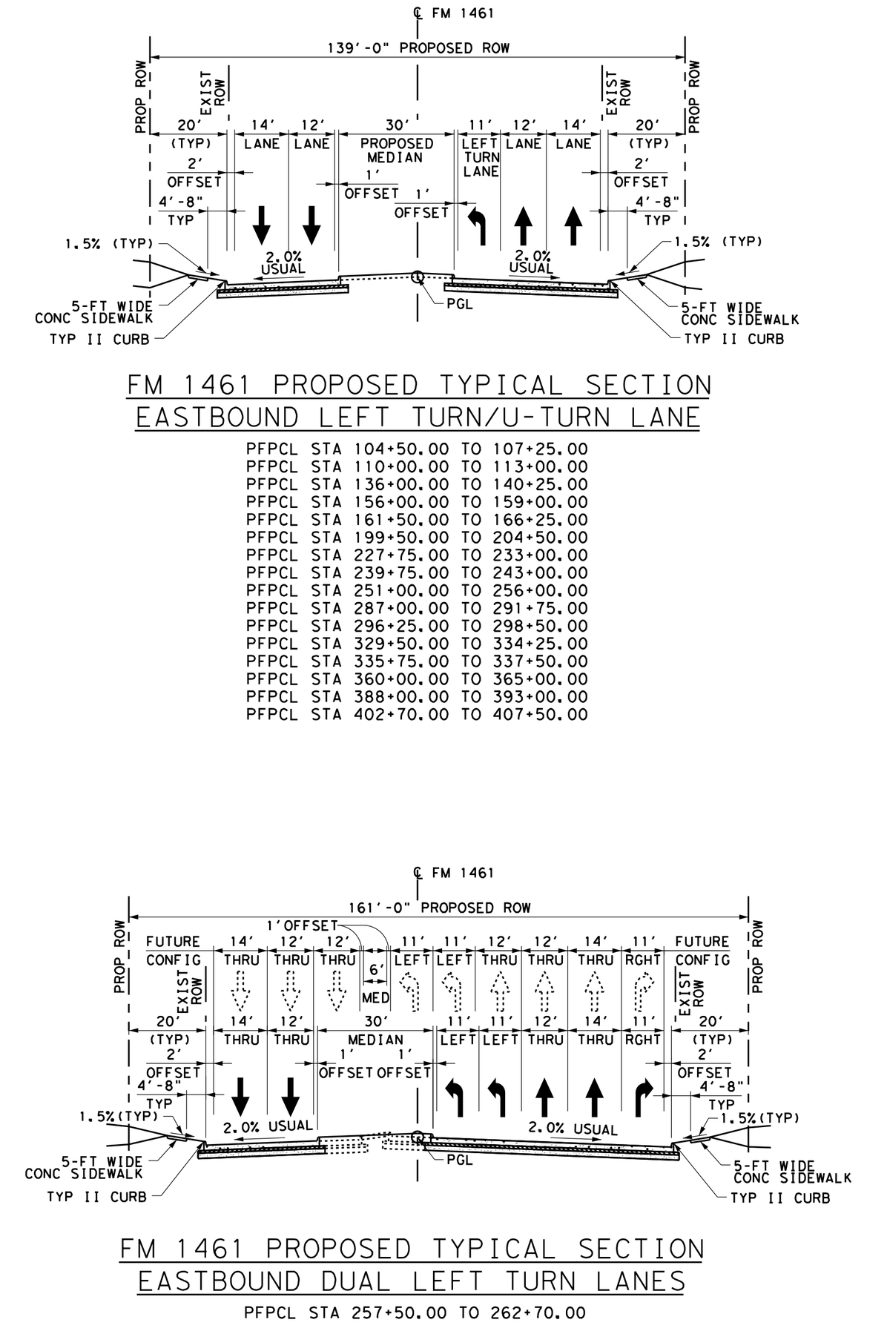
10. BUILDINGS ARE SHOWN AS POTENTIAL DISPLACEMENT IF THE PROPOSED ROW PHYSICALLY INTERSECTS THE EXISTING BUILDING STRUCTURE.

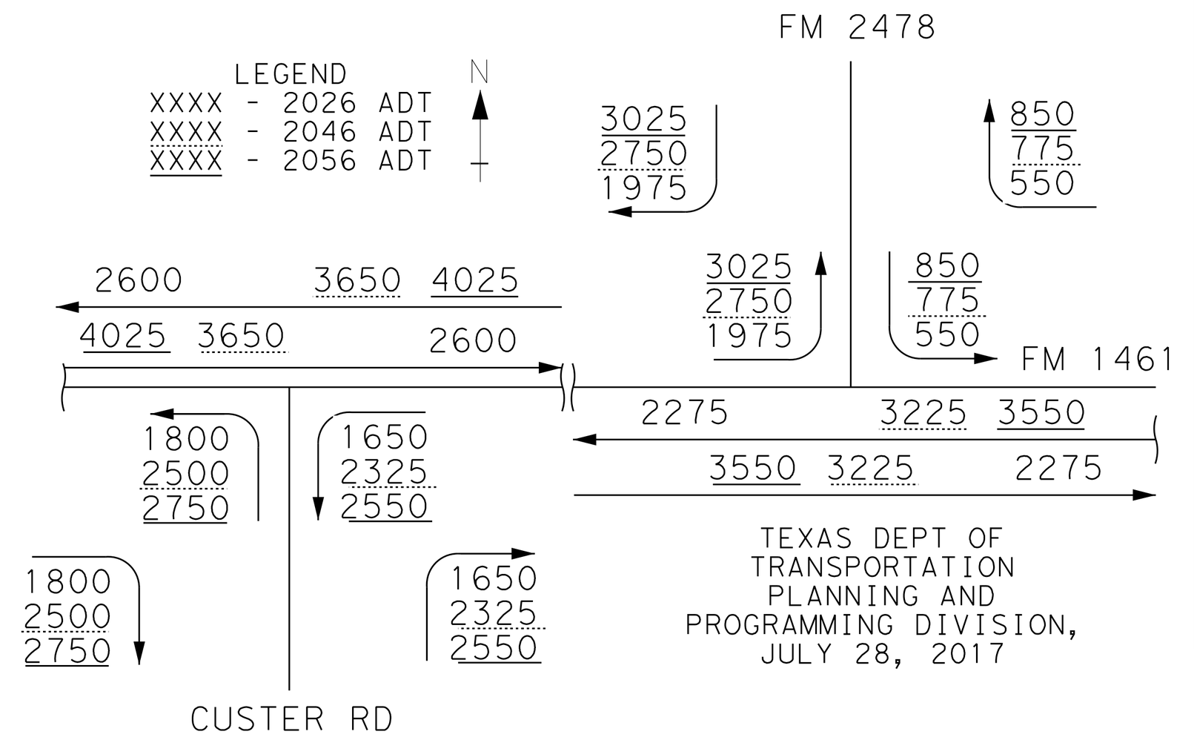
11. CURBS ARE TYPE II (8") UNLESS NOTED OTHERWISE.

12. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT

LEGEND

- DIRECTION OF TRAFFIC
- WATER FLOW LINE
- PFPCL-1 CURVE NUMBER
- PROPOSED CENTERLINE
- EXISTING CENTERLINE
- PROPOSED PAVING/SIDEWALK
- PROPOSED BRIDGE DECK
- PROPOSED PAVEMENT
- PROPOSED CROSS STREET
- PROPOSED SIDEWALK
- PROPOSED DRIVEWAY
- PROPOSED MEDIAN
- CONSTRUCTION BY OTHERS
- PROPOSED ROW
- EXISTING ROW
- ROW (OTHER PROJECTS)
- LOT LINES
- EXISTING EASEMENTS
- PROPOSED CULVERT
- DITCH FLOWLINE
- FEMA 100 YEAR FLOODPLAIN
- PAVEMENT REMOVAL
- EROSION PROTECTION

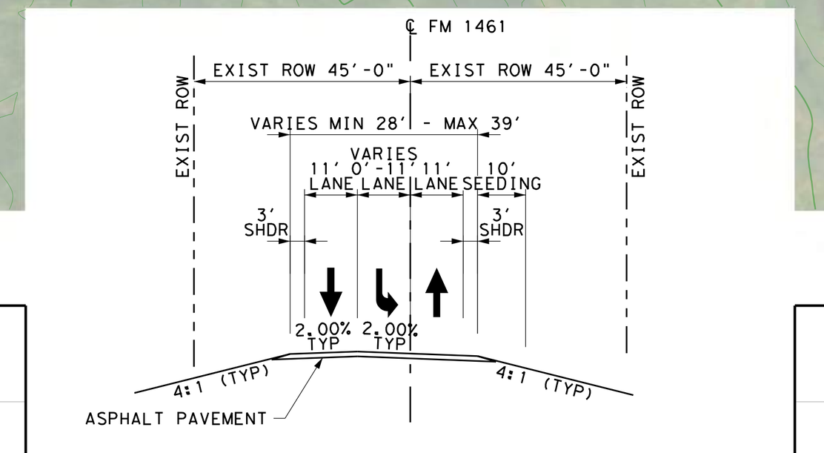




TRAFFIC DIAGRAMS

CURVE	PI STATION	DELTA	RADIUS	TANGENT	LENGTH	CHORD BEARING	CHORD LENGTH	PC STATION	PT STATION
PFPCL-15	246+39.17	3° 13′ 55.08" (LT)	2,000.00	56.42	112.82	N 88° 36′ 10.12" E	112.80	245+82.75	246+95.56
PFPCL-16	248+51.99	3° 13′ 55.08" (RT)	2,000.00	56.42	112.82	N 88° 36′ 10.12" E	112.80	247+95.56	249+08.38
PFPCL-17	256+64.61	3° 41′ 55.16" (RT)	2,000.00	64.58	129.11	S 87° 55′ 54.75" E	129.09	256+00.03	257+29.14
PFPCL-18	259+00.23	4° 04′ 15.86" (LT)	2,000.00	71.08	142.11	S 88° 07′ 05.10" E	142.08	258+29.14	259+71.25

PARCEL	OWNER'S NAME	PARCEL	OWNER'S NAME
50	SUNSHINE DEVELOPMENT GROUP, LTD	102	CAMPBELL MALCOLM
51	WILLIAM KLEBER and WYNELLE KLEBER	103	JOHNSON PHILLIP
52	YOUNG LEI KIM	104	ROBINSON BRIAN & TINA
53	THE NICID LIMITED PARTNERSHIP	105	DANA LEE LITCHFORD
54	LAUREL TEXAS INVESTMENTS, LP	106	NANCY CASHON
100	HONEA RICHARD	107	PROSPER SELF STORAGE
101	DUNN RODNEY W & CHARLA	108	HAGGARD RHEA MILLS, LLC

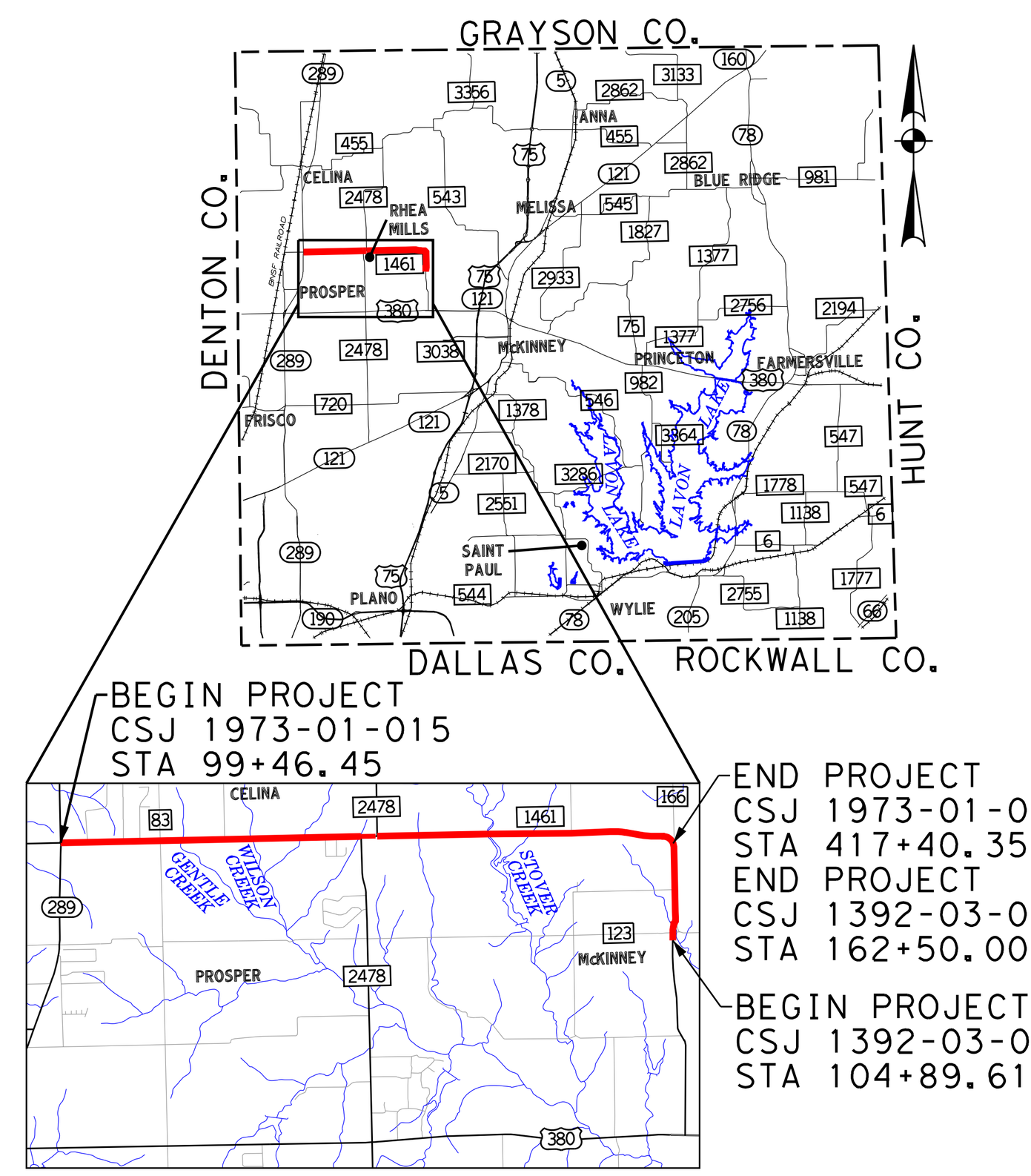


FM 1461 EXISTING TYPICAL SECTION

Texas Department of Transportation

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
TBPE REGISTRATION NO. 264

TEXAS DEPARTMENT OF TRANSPORTATION
DALLAS DISTRICT
DESIGN SCHEMATIC
MOHAMED K. BUR, P.E., DISTRICT ENGINEER
COLLIN COUNTY
FM 1461
CSJ:1973-01-015 FM 1461 (FRONTIER PKWY)
FROM SH 289 (PRESTON RD) TO CO RD 166
LENGTH 6.02 MILES (31,793.90 FT)
CSJ:1392-03-012 FM 1461 (LAKE FOREST DR)
FROM CO RD 123 TO CO RD 166
LENGTH 1.09 MILES (5,760.40 FT)
PROJECT LENGTH = 7.10 MILES (37,554.30 FT.)
FUNCTIONAL CLASS: URBAN COLLECTOR
DESIGN SPEED: 45 MPH



LOCATION MAP
(N.T.S.)

APPROVED SCHEMATIC JUNE 29, 2018

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AARON TAINTER | 105733 | 6/29/2018
NAME | P.E. NO. | DATE

ROLL 5 OF 12

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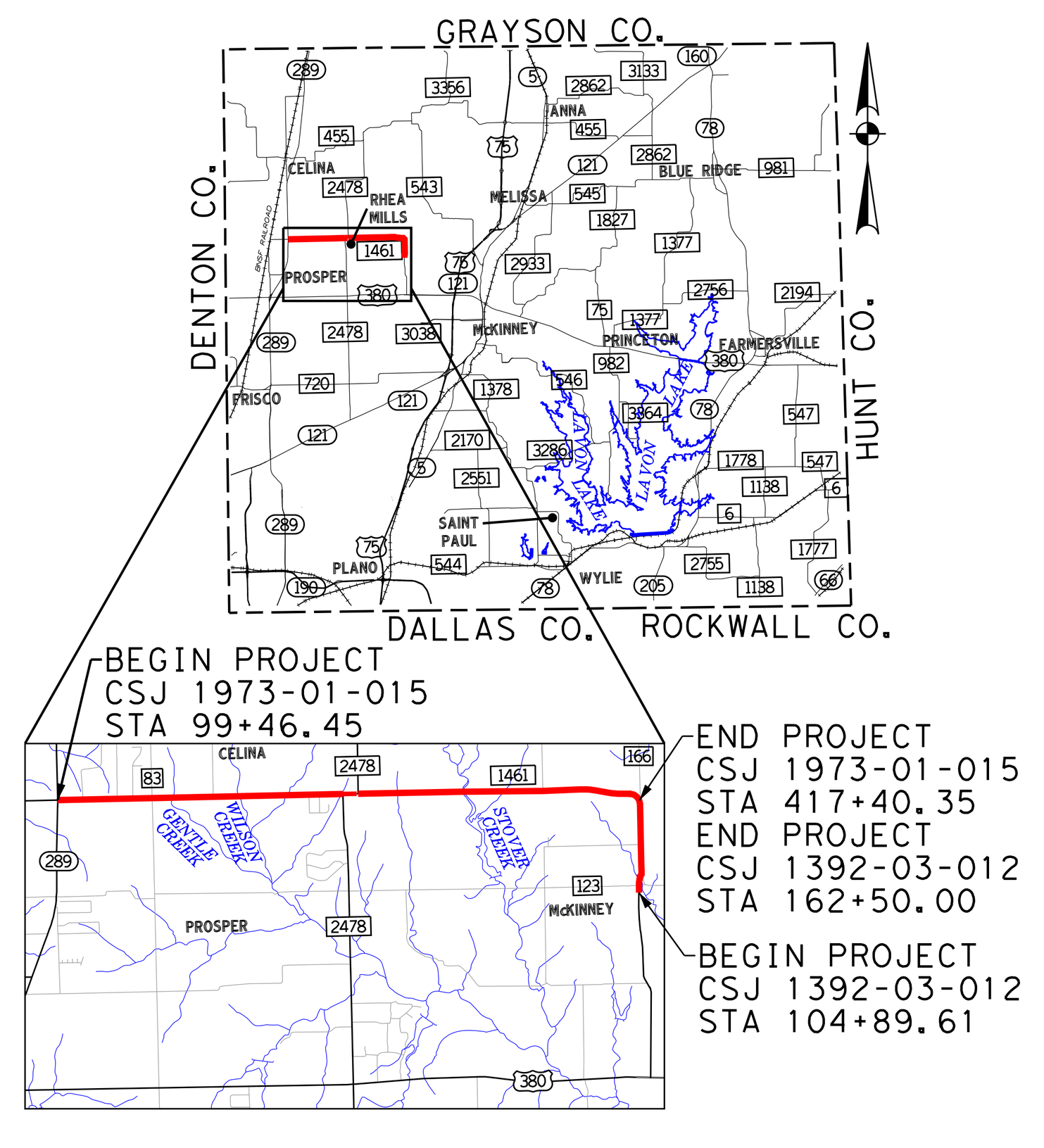

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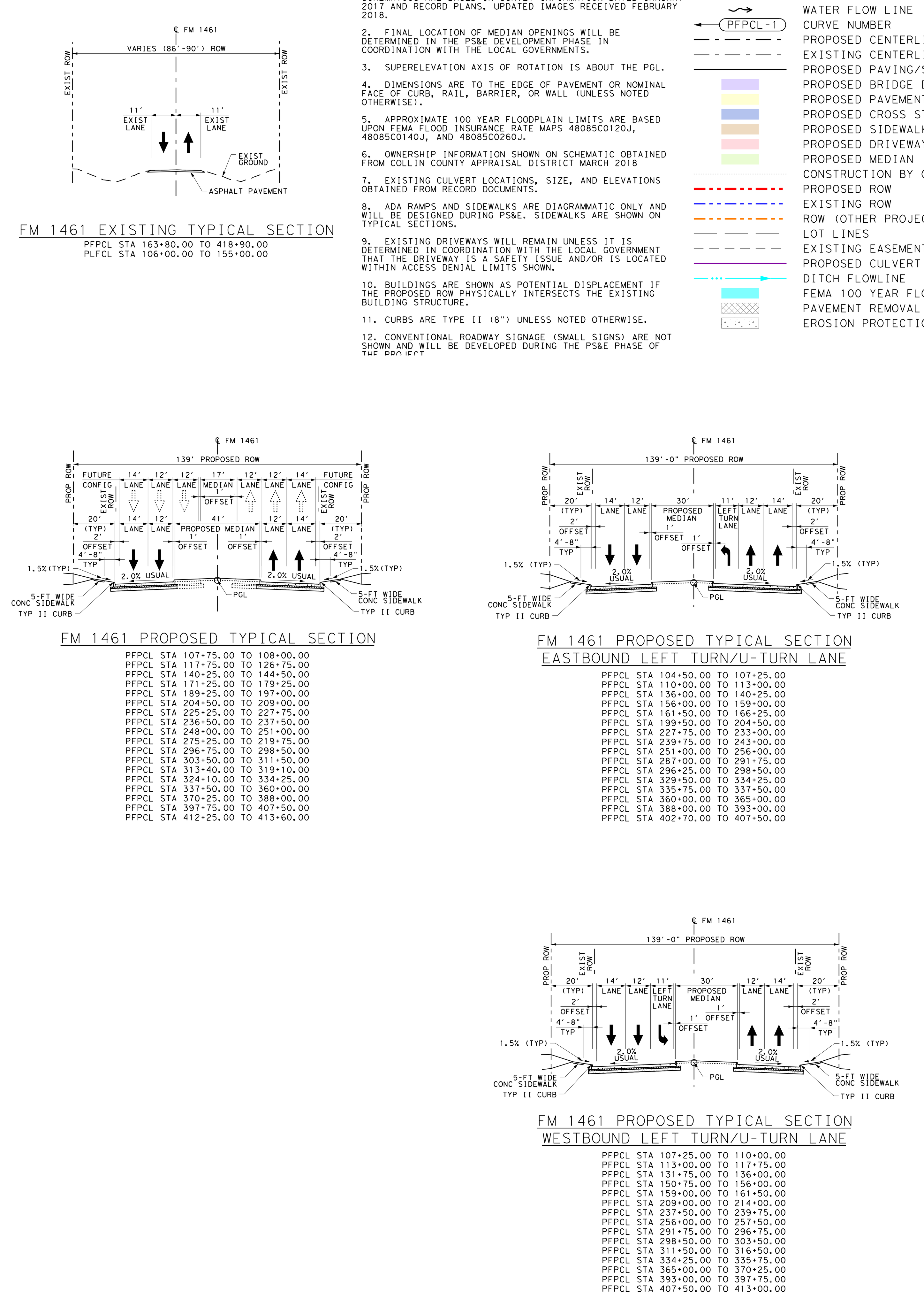
AARON TAINTER	105733	6/29/2018

ROLL 6 OF 12



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LEGEND

- DIRECTION OF TRAFFIC
- WATER FLOW LINE
- PFPCL-1 CURVE NUMBER
- PROPOSED CENTERLINE
- EXISTING CENTERLINE
- PROPOSED PAVING/SIDEWALK
- PROPOSED BRIDGE DECK
- PROPOSED PAVEMENT
- PROPOSED CROSS STREET
- PROPOSED SIDEWALK
- PROPOSED DRIVEWAY
- PROPOSED MEDIAN
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- PROPOSED ROW
- EXISTING ROW
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- LOT LINES
- EXISTING EASEMENTS
- PROPOSED CULVERT
- DITCH FLOWLINE
- FEMA 100 YEAR FLOODPLAIN
- PAVEMENT REMOVAL
- EROSION PROTECTION

CURVE	PI STATION	DELTA	RADIUS	TANGENT	LENGTH	CHORD BEARING	CHORD LENGTH	PC STATION	PT STATION
PFPCL-19	280+30.68	5° 54′ 14.03" (LT)	2,000.00	103.13	206.08	N 86° 53′ 39.95" E	205.99	279+27.55	281+33.63
PFPCL-20	283+34.78	5° 47′ 25.97" (RT)	2,000.00	101.15	202.13	N 86° 50′ 15.92" E	202.04	282+33.63	284+35.76

PARCEL	OWNER'S NAME	PARCEL	OWNER'S NAME
54	LAUREL TEXAS INVESTMENTS, LP	114	VAN LAWRENCE
55	CROW-BILLINGSLEY MCKINNEY 380, LTD.	115	JACQUELYN ANN HAMMON
56	CB-MERRELL ROAD, LIMITED	116	JAMES DE LA CRUZ AND PATRICIA DE LA CRUZ
57	SAMUEL E. LEWIS AND ELIZABETH J. LEWIS	117	KRISTINE SCHENDT-MYERS AND CHRIS MYERS
108	HAGGARD RHEA MILLS, LLC	118	RANDALL CHAPMAN, MARIA CHAPMAN AND STEPHEN A. WELLER
109	DAVID L. HALE AND WIFE PATTI A. HALE	119	RANDALL CHAPMAN AND WIFE MARIA CHAPMAN
110	MEGAN WALVOORD AND CLAYTON WALVOORD	120	RANDALL CHAPMAN AND WIFE MARIA CHAPMAN
111	EDWIN ALLEN WILLIAMS, JR.	121	M S FAMILY LIMITED PARTNERSHIP
112	DOUG F. BRUESS AND WIFE, JUDITH	122	JANE ANN MCCULLOUGH
113	MUHAMMAD UDDIN AND SPOUSE RAHIMA AFROZA	123	HARLAN D. STAUFFER and SUSAN L. STAUFFER

Texas Department of Transportation

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
TBPE REGISTRATION NO. 264

TEXAS DEPARTMENT OF TRANSPORTATION

DALLAS DISTRICT

DESIGN SCHEMATIC

MOHAMED K. BUR, P.E., DISTRICT ENGINEER

COLLIN COUNTY

FM 1461

CSJ:1973-01-015 FM 1461 (FRONTIER PKWY)

FROM SH 289 (PRESTON RD) TO CO RD 166

LENGTH 6.02 MILES (31,793.90 FT)

CSJ:1392-03-012 FM 1461 (LAKE FOREST DR)

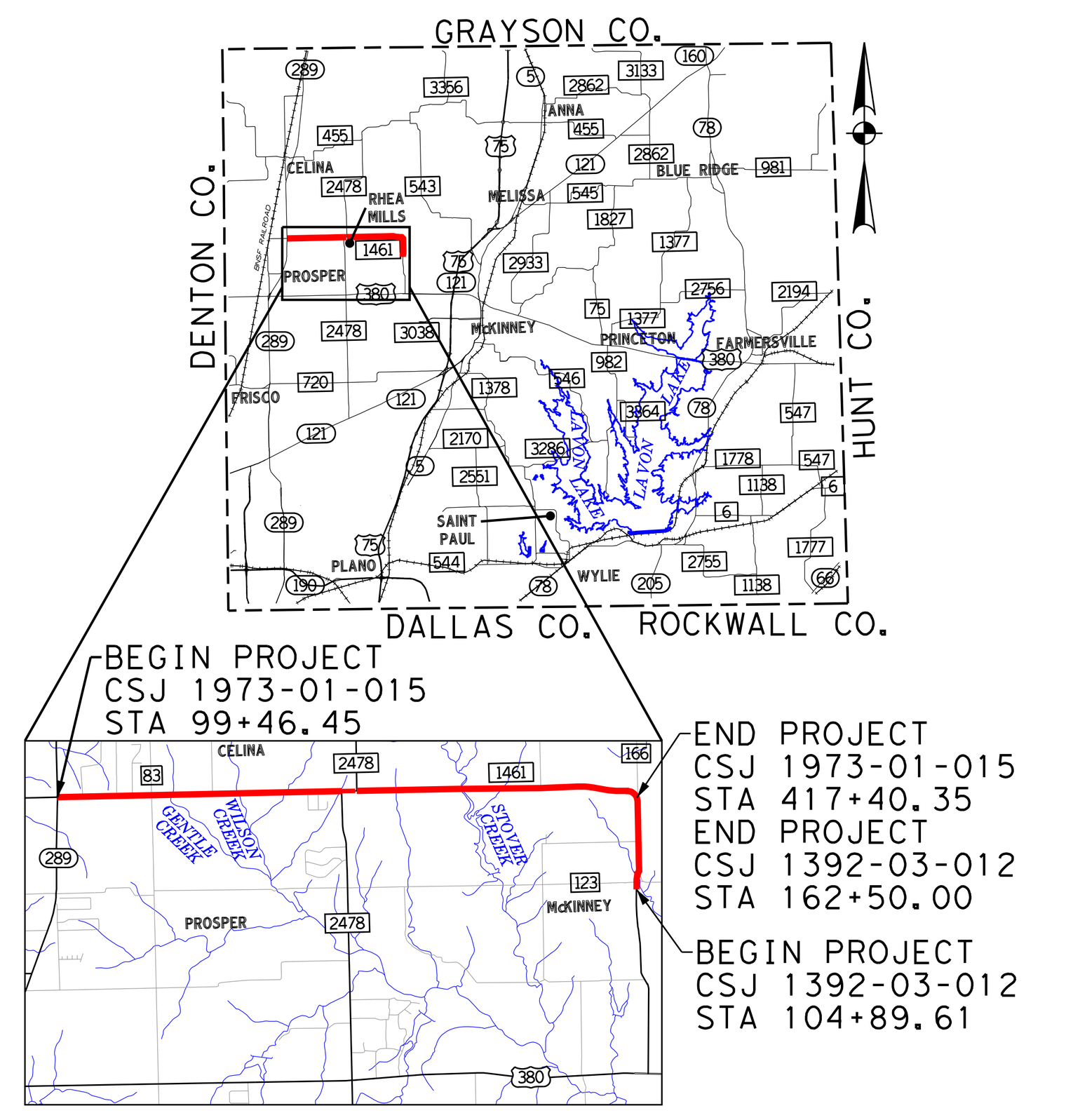
FROM CO RD 123 TO CO RD 166

LENGTH 1.09 MILES (5,760.40 FT)

PROJECT LENGTH = 7.10 MILES (37,554.30 FT.)

FUNCTIONAL CLASS: URBAN COLLECTOR

DESIGN SPEED: 45 MPH



LOCATION MAP

(N.T.S.)

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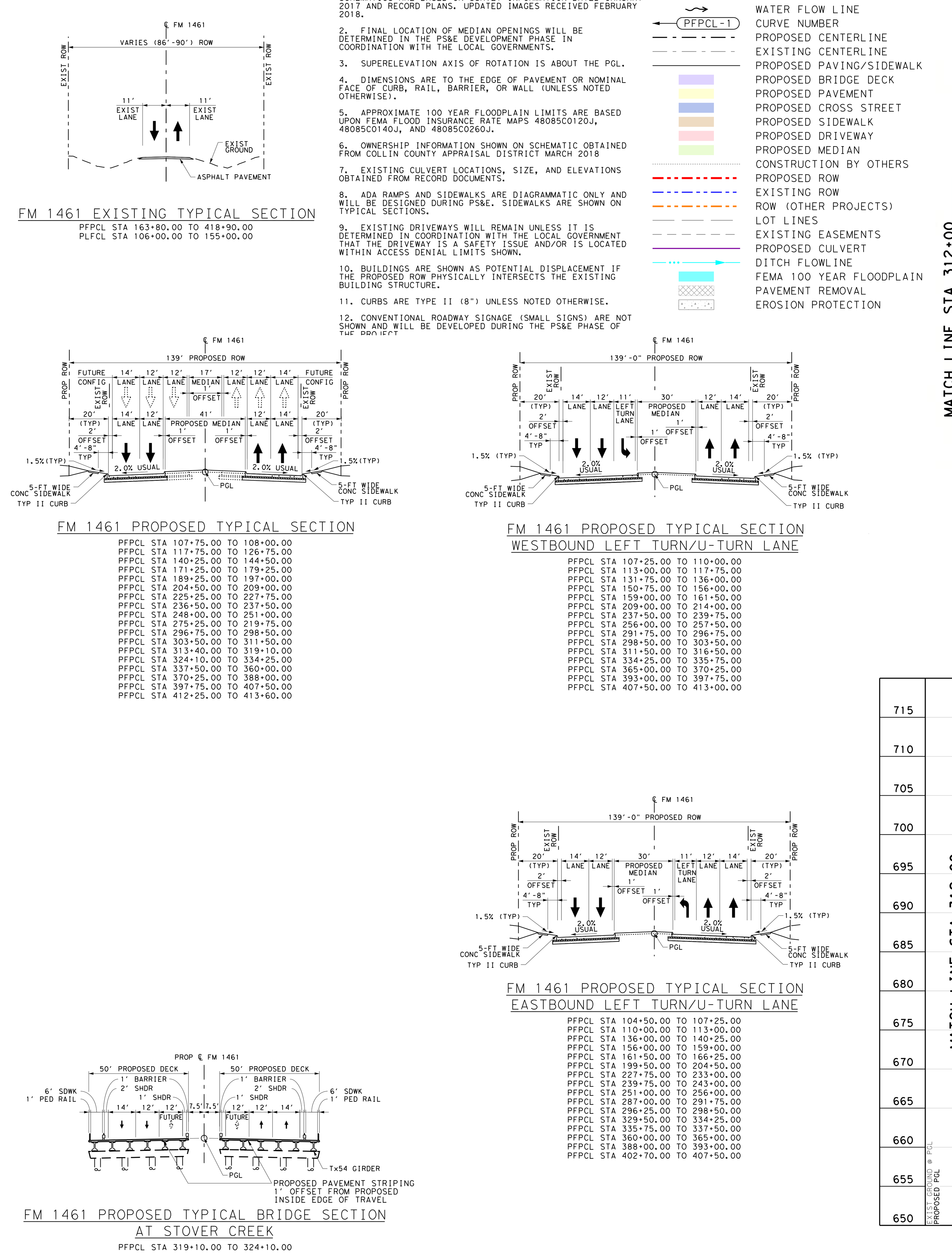
ROLL 7 OF 12



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LEGEND

DIRECTION OF TRAFFIC
WATER FLOW LINE
PFPCL-1 CURVE NUMBER
PROPOSED CENTERLINE
EXISTING CENTERLINE
PROPOSED PAVING/SIDEWALK
PROPOSED BRIDGE DECK
PROPOSED PAVEMENT
PROPOSED CROSS STREET
PROPOSED SIDEWALK
PROPOSED DRIVEWAY
PROPOSED MEDIAN
CONSTRUCTION BY OTHERS
PROPOSED ROW
EXISTING ROW
ROW (OTHER PROJECTS)
LOT LINES
EXISTING EASEMENTS
PROPOSED CULVERT
DITCH FLOWLINE
FEMA 100 YEAR FLOODPLAIN
PAVEMENT REMOVAL
EROSION PROTECTION

CURVE	PI STATION	DELTA	RADIUS	TANGENT	LENGTH	CHORD BEARING	CHORD LENGTH	PC STATION	PT STATION
PFPCL-21	338+91.57	3° 33′ 50.55" (RT)	2200.00	68.45	136.85	S 89° 40′ 05.82" E	136.83	338+23.12	339+59.97

PARCEL	OWNER'S NAME
57	SAMUEL E. LEWIS AND ELIZABETH J. LEWIS
58	FRANKLIN INVESTMENT COMPANY
59	M S FAMILY LIMITED PARTNERSHIP
123	HARLAN D. STAUFFER and SUSAN L. STAUFFER
124	RUDOLPH JONES AND WIFE MARJORIE JONES
125	RUDOLPH JONES AND WIFE MARJORIE JONES
126	RUDOLPH JONES AND WIFE MARJORIE JONES
127	JOHN S. MAHAR, JR. AND WIFE SONNIA MAHAR
128	JOHN S. MAHAR, JR.
129	JOHN S. MAHAR, JR.
130	HRC WCD PARTNERS, L.P.

Texas Department of Transportation

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DALLAS DISTRICT
DESIGN SCHEMATIC
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FM 1461
CSJ:1973-01-015 FM 1461 (FRONTIER PKWY)
FROM SH 289 (PRESTON RD) TO CO RD 166
LENGTH 6.02 MILES (31,793.90 FT)
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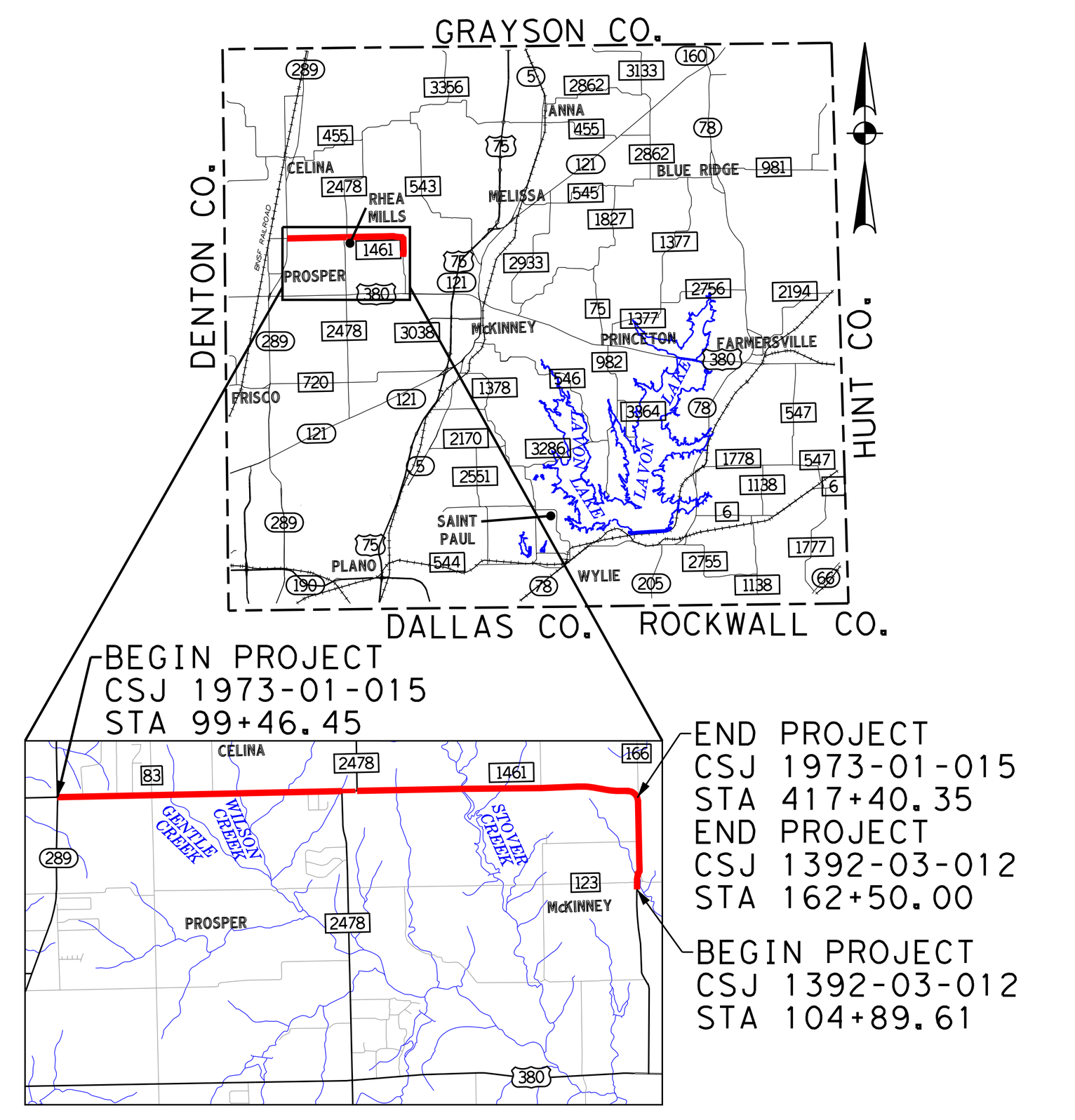
PROJECT LENGTH = 7.10 MILES (37,554.30 FT.)
FUNCTIONAL CLASS: URBAN COLLECTOR
DESIGN SPEED: 45 MPH



LOCATION MAP
(N.T.S.)
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ROLL 7 OF 12
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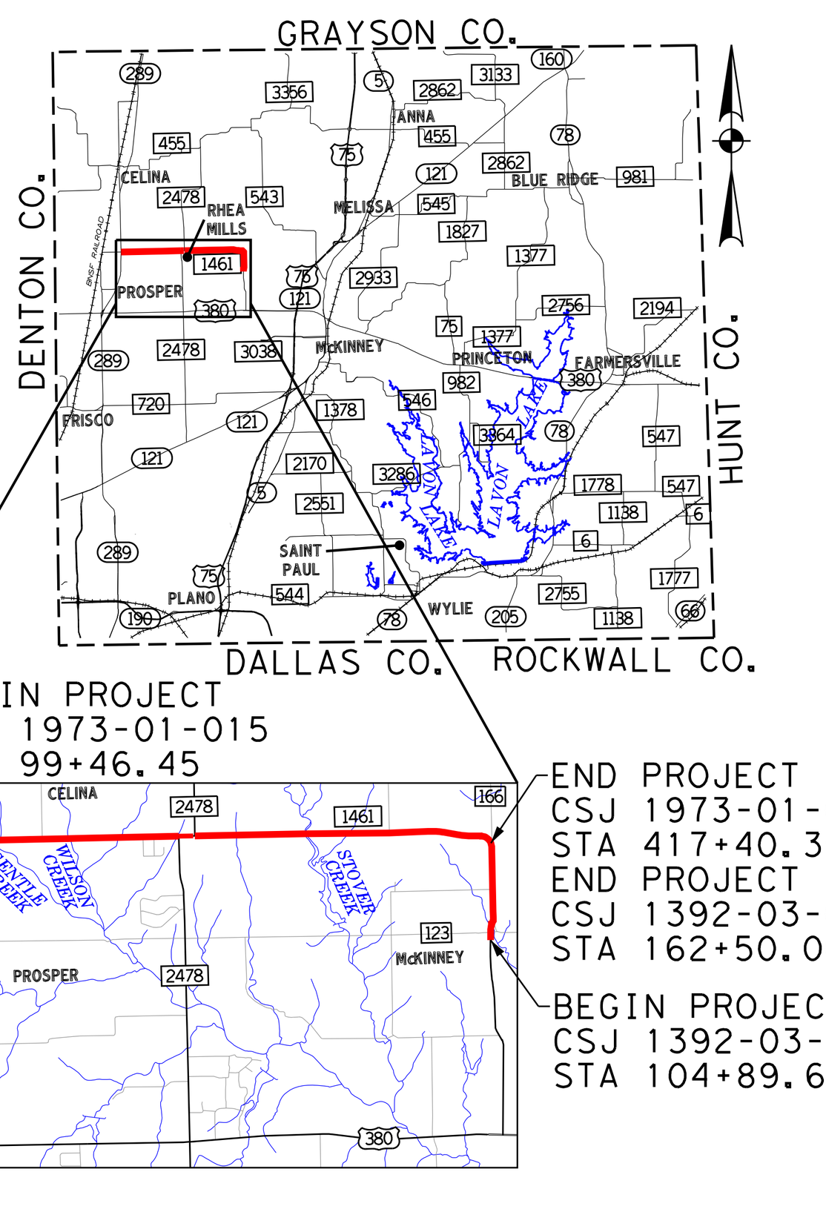

LOCATION MAP
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NAME — P.E. NO. — DATE

ROLL 8 OF 12

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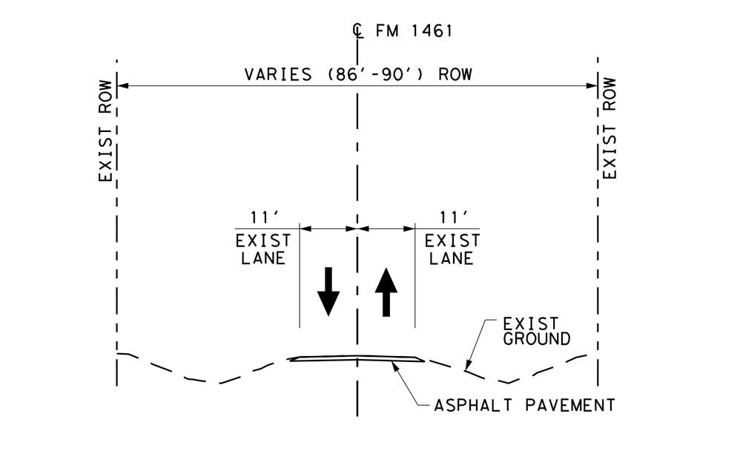
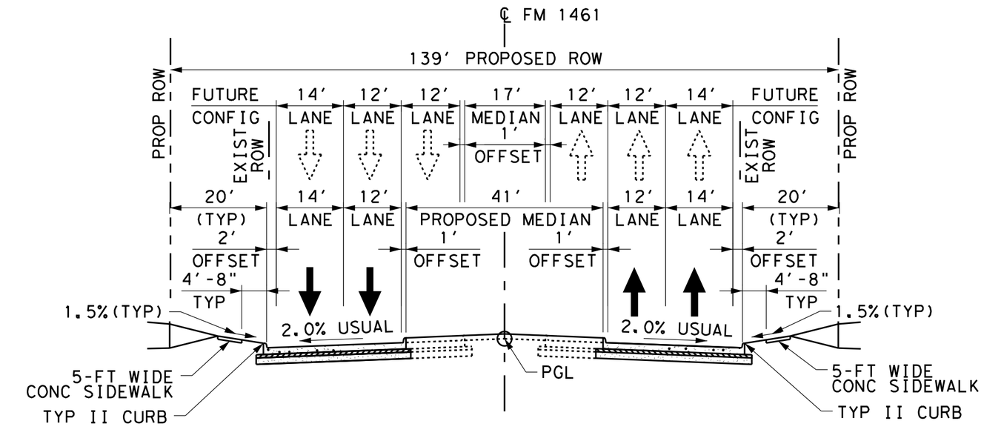
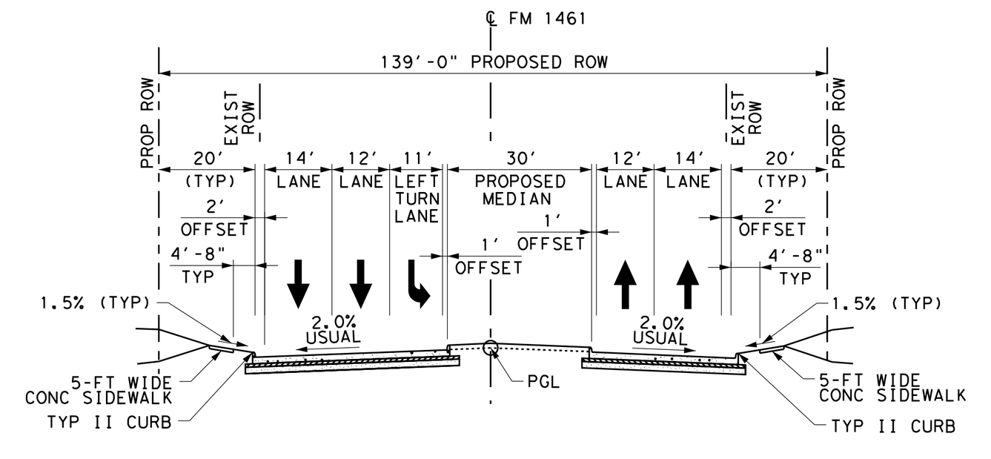


FM 1461 EXISTING TYPICAL SECTION
PFPCL STA 163+80.00 TO 418+90.00
PLFCL STA 106+00.00 TO 155+00.00



FM 1461 PROPOSED TYPICAL SECTION
PFPCL STA 107+75.00 TO 108+00.00
PFPCL STA 117+75.00 TO 126+75.00
PFPCL STA 140+25.00 TO 144+50.00
PFPCL STA 171+25.00 TO 179+25.00
PFPCL STA 189+25.00 TO 197+00.00
PFPCL STA 204+50.00 TO 209+00.00
PFPCL STA 225+25.00 TO 227+75.00
PFPCL STA 236+50.00 TO 237+50.00
PFPCL STA 248+00.00 TO 251+00.00
PFPCL STA 275+25.00 TO 219+75.00
PFPCL STA 296+75.00 TO 298+50.00
PFPCL STA 303+50.00 TO 311+50.00
PFPCL STA 313+40.00 TO 319+10.00
PFPCL STA 324+10.00 TO 334+25.00
PFPCL STA 337+50.00 TO 360+00.00
PFPCL STA 370+25.00 TO 388+00.00
PFPCL STA 397+75.00 TO 407+50.00
PFPCL STA 412+25.00 TO 413+60.00



FM 1461 PROPOSED TYPICAL SECTION
WESTBOUND LEFT TURN/U-TURN LANE
PFPCL STA 107+25.00 TO 110+00.00
PFPCL STA 113+00.00 TO 117+75.00
PFPCL STA 131+75.00 TO 136+00.00
PFPCL STA 150+75.00 TO 156+00.00
PFPCL STA 159+00.00 TO 161+50.00
PFPCL STA 209+00.00 TO 214+00.00
PFPCL STA 237+50.00 TO 239+75.00
PFPCL STA 256+00.00 TO 257+50.00
PFPCL STA 291+75.00 TO 296+75.00
PFPCL STA 298+50.00 TO 303+50.00
PFPCL STA 311+50.00 TO 316+50.00
PFPCL STA 334+25.00 TO 335+75.00
PFPCL STA 365+00.00 TO 370+25.00
PFPCL STA 393+00.00 TO 397+75.00
PFPCL STA 407+50.00 TO 413+00.00

NOTES

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2. 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 NOTED OTHERWISE).

5. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE RATE MAPS 48085C0120J, 48085C0140J, AND 48085C0260J.

6. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM COLLIN COUNTY APPRAISAL DISTRICT MARCH 2018

7. EXISTING CULVERT LOCATIONS, SIZE, AND ELEVATIONS OBTAINED FROM RECORD DOCUMENTS.

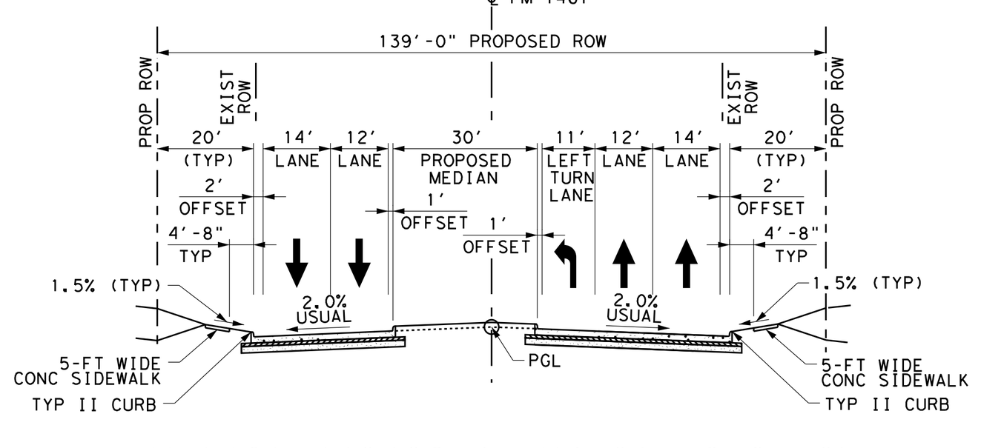
8. ADA RAMPS AND SIDEWALKS ARE DIAGRAMMATIC ONLY AND WILL BE DESIGNED DURING PS&E. SIDEWALKS ARE SHOWN ON TYPICAL SECTIONS.

9. EXISTING DRIVEWAYS WILL REMAIN UNLESS IT IS DETERMINED IN COORDINATION WITH THE LOCAL GOVERNMENT THAT THE DRIVEWAY IS A SAFETY ISSUE AND/OR IS LOCATED WITHIN ACCESS DENIAL LIMITS SHOWN.

10. BUILDINGS ARE SHOWN AS POTENTIAL DISPLACEMENT IF THE PROPOSED ROW PHYSICALLY INTERSECTS THE EXISTING BUILDING STRUCTURE.

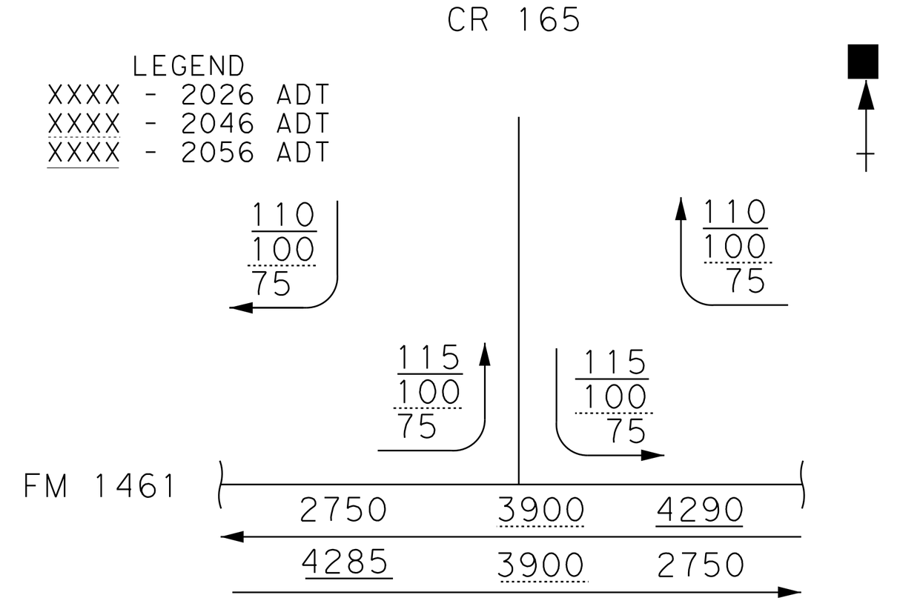
11. CURBS ARE TYPE II (8") UNLESS NOTED OTHERWISE.

12. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.



FM 1461 PROPOSED TYPICAL SECTION
EASTBOUND LEFT TURN/U-TURN LANE
PFPCL STA 104+50.00 TO 107+25.00
PFPCL STA 110+00.00 TO 113+00.00
PFPCL STA 136+00.00 TO 140+25.00
PFPCL STA 156+00.00 TO 159+00.00
PFPCL STA 161+50.00 TO 166+25.00
PFPCL STA 199+50.00 TO 204+50.00
PFPCL STA 227+75.00 TO 233+00.00
PFPCL STA 239+75.00 TO 243+00.00
PFPCL STA 251+00.00 TO 256+00.00
PFPCL STA 287+00.00 TO 291+75.00
PFPCL STA 296+25.00 TO 298+50.00
PFPCL STA 329+50.00 TO 334+25.00
PFPCL STA 335+75.00 TO 337+50.00
PFPCL STA 360+00.00 TO 365+00.00
PFPCL STA 388+00.00 TO 393+00.00
PFPCL STA 402+70.00 TO 407+50.00

TRAFFIC DIAGRAM

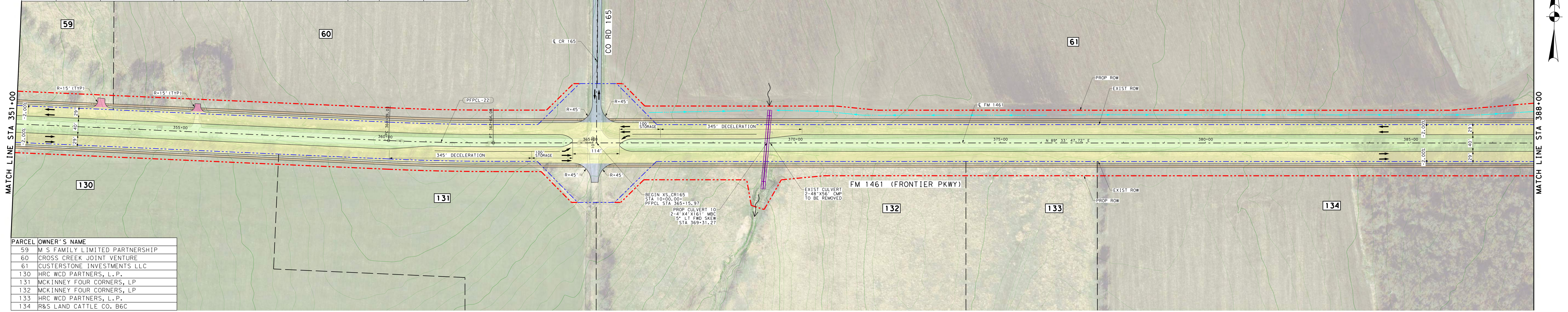


TEXAS DEPT OF TRANSPORTATION
PLANNING AND PROGRAMMING DIVISION,
JULY 28, 2017

LEGEND

(arrow)	DIRECTION OF TRAFFIC
(wavy arrow)	WATER FLOW LINE
PFPCL-1	CURVE NUMBER
	PROPOSED CENTERLINE
	EXISTING CENTERLINE
	PROPOSED PAVING/SIDEWALK
	PROPOSED BRIDGE DECK
	PROPOSED PAVEMENT
	PROPOSED CROSS STREET
	PROPOSED SIDEWALK
	PROPOSED DRIVEWAY
	PROPOSED MEDIAN
	CONSTRUCTION BY OTHERS
	PROPOSED ROW
	EXISTING ROW
	ROW (OTHER PROJECTS)
	LOT LINES
	EXISTING EASEMENTS
	PROPOSED CULVERT
	DITCH FLOWLINE
	FEMA 100 YEAR FLOODPLAIN
	PAVEMENT REMOVAL
	EROSION PROTECTION

CURVE	PI STATION	DELTA	RADIUS	TANGENT	LENGTH	CHORD BEARING	CHORD LENGTH	PC STATION	PT STATION
PFPCL-22	361+36.57	2° 33′ 01.73" (LT)	5729.58	127.55	255.05	S 89° 09′ 41.42" E	255.03	360+09.02	362+64.07



PARCEL	OWNER'S NAME
59	M S FAMILY LIMITED PARTNERSHIP
60	CROSS CREEK JOINT VENTURE
61	CUSTERSTONE INVESTMENTS LLC
130	HRC WCD PARTNERS, L.P.
131	MCKINNEY FOUR CORNERS, LP
132	MCKINNEY FOUR CORNERS, LP
133	HRC WCD PARTNERS, L.P.
134	R&S LAND CATTLE CO. B6C

Texas Department of Transportation

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
TBPE REGISTRATION NO. 264

TEXAS DEPARTMENT OF TRANSPORTATION
DALLAS DISTRICT
DESIGN SCHEMATIC
MOHAMED K. BUR, P.E., DISTRICT ENGINEER
COLLIN COUNTY
FM 1461
CSJ:1973-01-015 FM 1461 (FRONTIER PKWY)
FROM SH 289 (PRESTON RD) TO CO RD 166
LENGTH 6.02 MILES (31,793.90 FT)
CSJ:1392-03-012 FM 1461 (LAKE FOREST DR)
FROM CO RD 123 TO CO RD 166
LENGTH 1.09 MILES (5,760.40 FT)
PROJECT LENGTH = 7.10 MILES (37,554.30 FT.)
FUNCTIONAL CLASS: URBAN COLLECTOR
DESIGN SPEED: 45 MPH
LOCATION MAP
(N.T.S.)
APPROVED SCHEMATIC JUNE 29, 2018
THESE DOCUMENTS ARE FOR REVIEW AND NOT INTENDED FOR BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:
AARON TAINTER — 105733 — 6/29/2018
NAME — P.E. NO. — DATE
ROLL 8 OF 12
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Texas Department of Transportation

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TBPE REGISTRATION NO. 264

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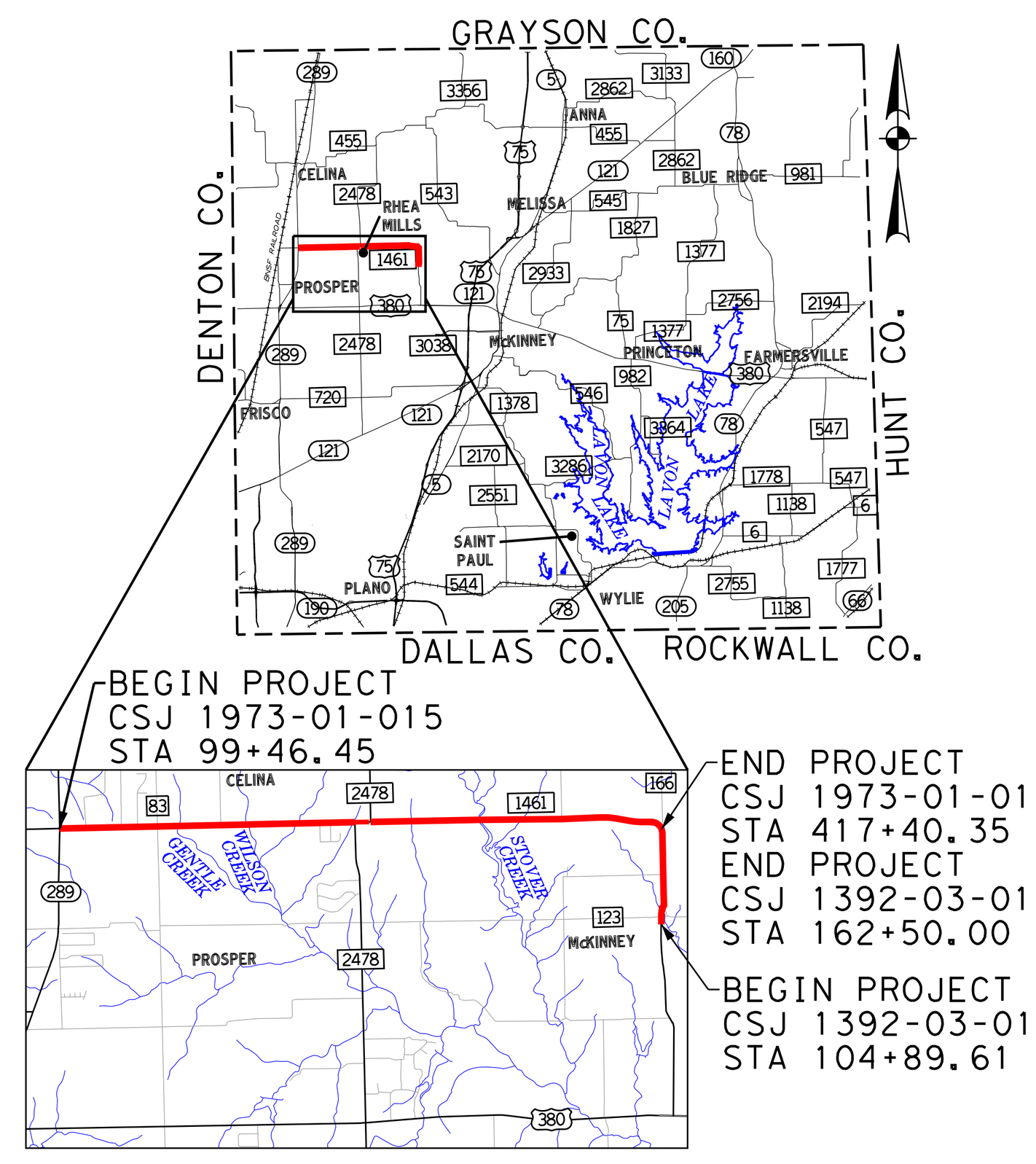

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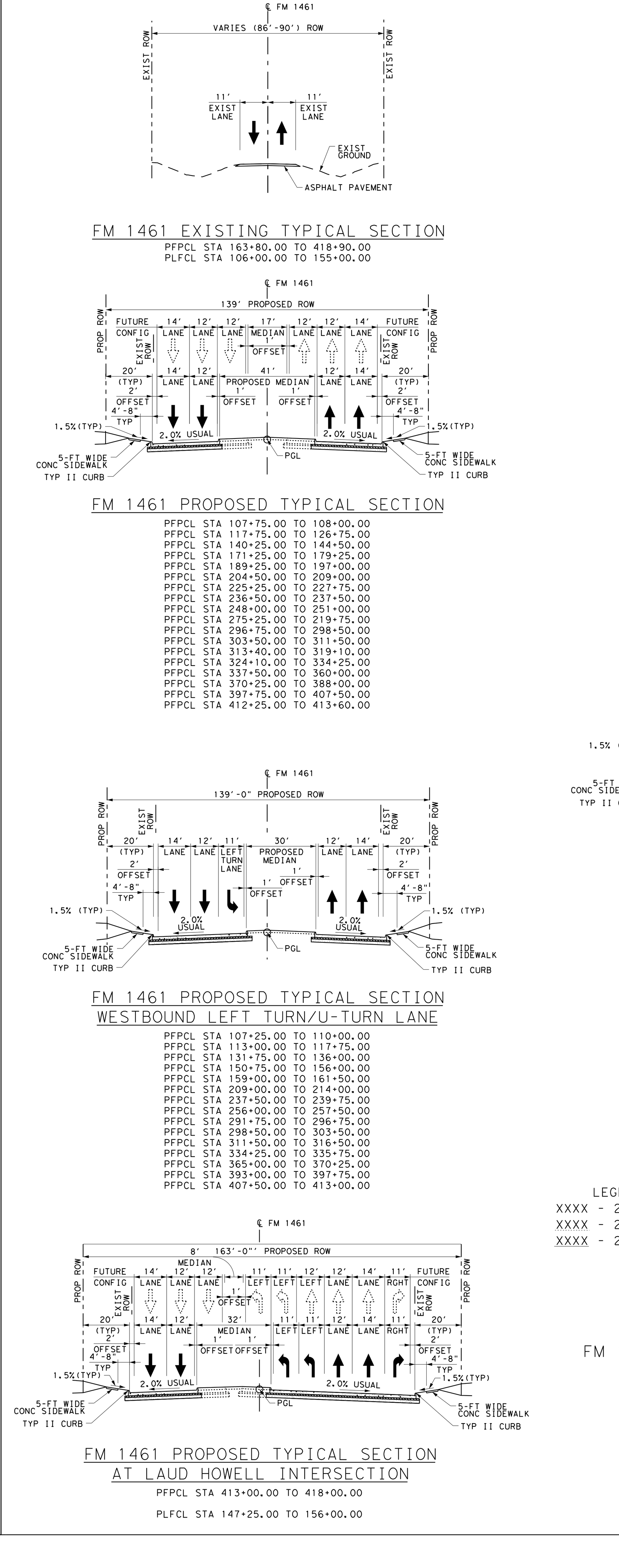
AARON TAINTER	105733	6/29/2018

ROLL 9 OF 12



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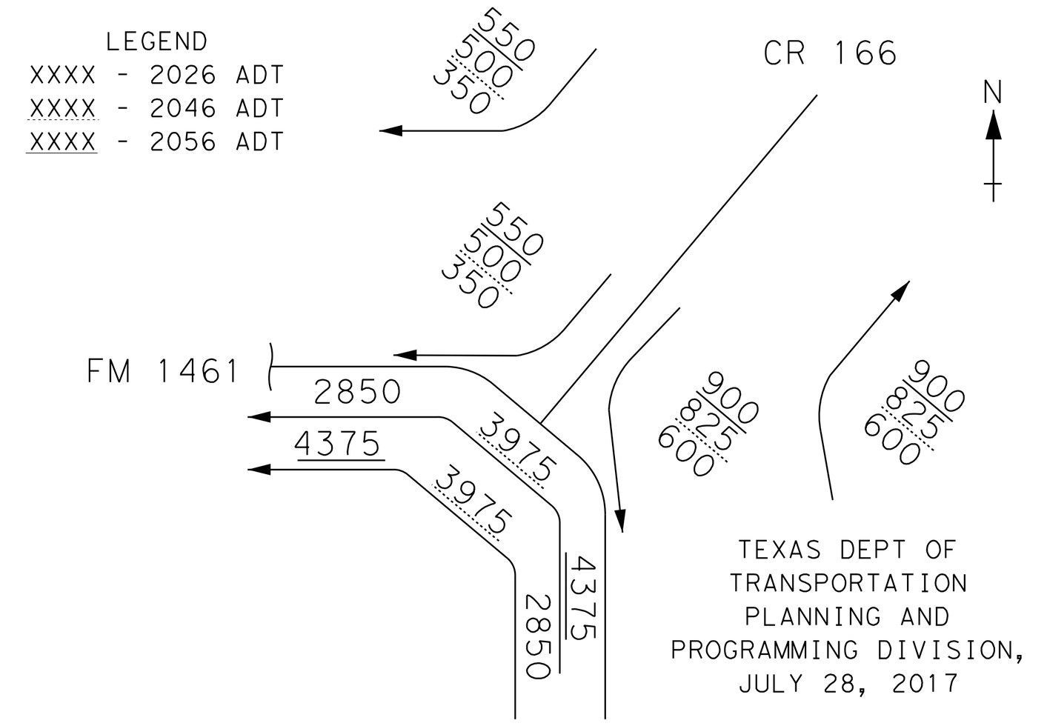
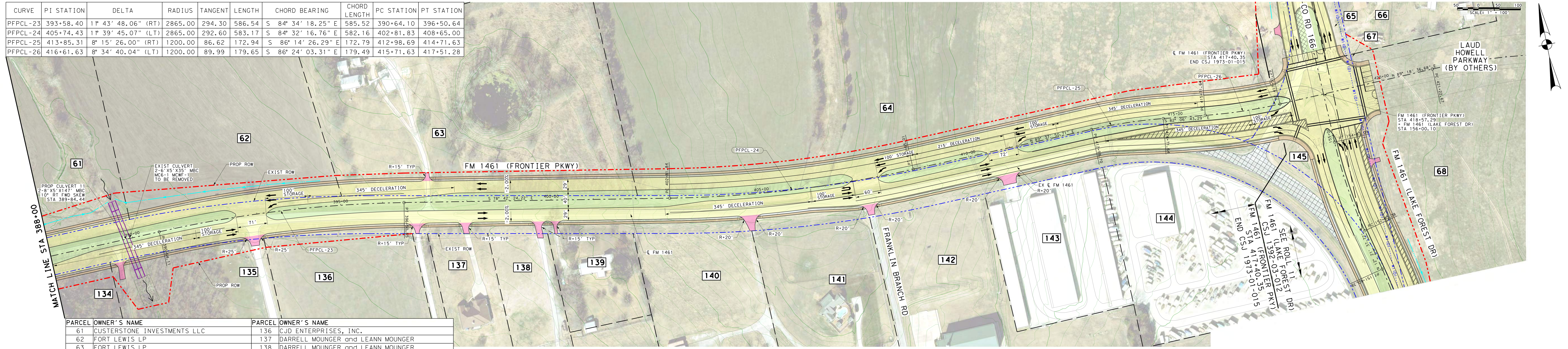
LEGEND

- DIRECTION OF TRAFFIC
- WATER FLOW LINE
- PFPCL-1 CURVE NUMBER
- PROPOSED CENTERLINE
- EXISTING CENTERLINE
- PROPOSED PAVING/SIDEWALK
- PROPOSED BRIDGE DECK
- PROPOSED PAVEMENT
- PROPOSED CROSS STREET
- PROPOSED SIDEWALK
- PROPOSED DRIVEWAY
- PROPOSED MEDIAN
- CONSTRUCTION BY OTHERS
- PROPOSED ROW
- EXISTING ROW
- ROW (OTHER PROJECTS)
- LOT LINES
- EXISTING EASEMENTS
- PROPOSED CULVERT
- DITCH FLOWLINE
- FEMA 100 YEAR FLOODPLAIN
- PAVEMENT REMOVAL
- EROSION PROTECTION

TRAFFIC DIAGRAM

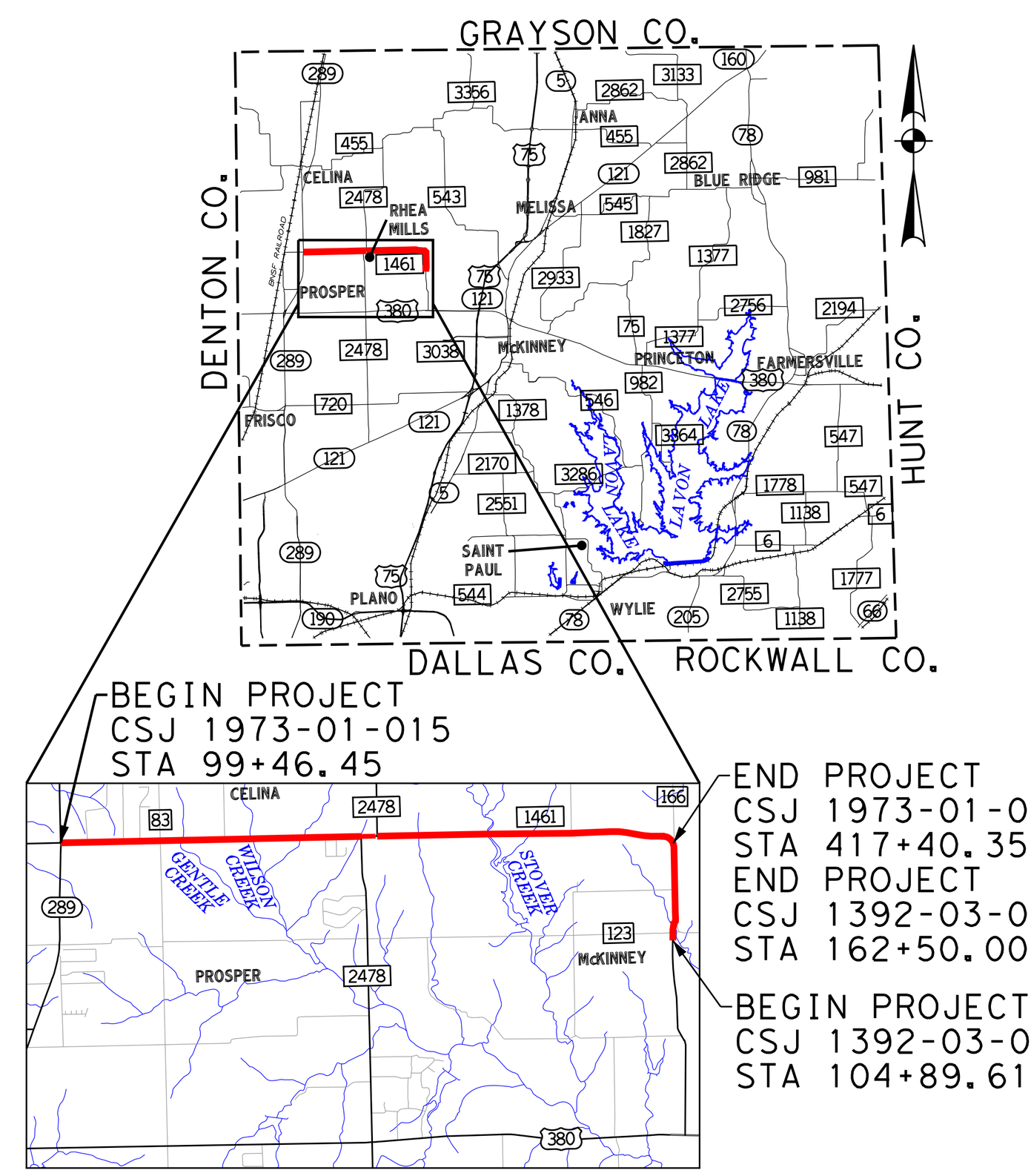


CURVE	PI STATION	DELTA	RADIUS	TANGENT	LENGTH	CHORD BEARING	CHORD LENGTH	PC STATION	PT STATION
PFPCL-23	393+58.40	11° 43′ 48.06" (RT)	2865.00	294.30	586.54	S 84° 34′ 18.25" E	585.52	390+64.10	396+50.64
PFPCL-24	405+74.43	11° 39′ 45.07" (LT)	2865.00	292.60	583.17	S 84° 32′ 16.76" E	582.16	402+81.83	408+65.00
PFPCL-25	413+85.31	8° 15′ 26.00" (RT)	1200.00	86.62	172.94	S 86° 14′ 26.29" E	172.79	412+98.69	414+71.63
PFPCL-26	416+61.63	8° 34′ 40.04" (LT)	1200.00	89.99	179.65	S 86° 24′ 03.31" E	179.49	415+71.63	417+51.28



PARCEL	OWNER'S NAME	PARCEL	OWNER'S NAME
61	CUSTERSTONE INVESTMENTS LLC	136	CJD ENTERPRISES, INC.
62	FORT LEWIS LP	137	DARRELL MOUNGER and LEANN MOUNGER
63	FORT LEWIS LP	138	DARRELL MOUNGER and LEANN MOUNGER
64	KEVIN KYU KIM and YOUNG SOOK KIM	139	SREENIVASA ANISETTY and PRATHIMA SAVARALA
65	COLLIN COUNTY	140	KATHRYN A. ACOSTA
66	JACK GEREN	141	5947 FL TRAIL, LLC
67	COLLIN COUNTY	142	LIBERTY MISSIONARY BAPTIST CHURCH
68	MCKINNEY RANCH, LTD.	143	LAKE FOREST VENTURE, LLC
134	R&S LAND CATTLE CO. B6C	144	LAKE FOREST VENTURE, LLC
135	CJD ENTERPRISES, INC.	145	COLLIN COUNTY

Texas Department of Transportation
BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
TBPE REGISTRATION NO. 264
TEXAS DEPARTMENT OF TRANSPORTATION
DALLAS DISTRICT
DESIGN SCHEMATIC
MOHAMED K. BUR, P.E., DISTRICT ENGINEER
COLLIN COUNTY
FM 1461
CSJ:1973-01-015 FM 1461 (FRONTIER PKWY)
FROM SH 289 (PRESTON RD) TO CO RD 166
LENGTH 6.02 MILES (31,793.90 FT)
CSJ:1392-03-012 FM 1461 (LAKE FOREST DR)
FROM CO RD 123 TO CO RD 166
LENGTH 1.09 MILES (5,760.40 FT)
PROJECT LENGTH = 7.10 MILES (37,554.30 FT.)
FUNCTIONAL CLASS: URBAN COLLECTOR
DESIGN SPEED: 45 MPH



LOCATION MAP
(N.T.S.)
APPROVED SCHEMATIC JUNE 29, 2018
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AARON TAINTER 105733 6/29/2018
NAME P.E. NO. DATE
ROLL 9 OF 12
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Texas Department of Transportation

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
TBPE REGISTRATION NO. 264

TEXAS DEPARTMENT OF TRANSPORTATION

DALLAS DISTRICT

DESIGN SCHEMATIC

MOHAMED K. BUR, P.E., DISTRICT ENGINEER

COLLIN COUNTY

FM 1461

CSJ:1973-01-015 FM 1461 (FRONTIER PKWY)

FROM SH 289 (PRESTON RD) TO CO RD 166

LENGTH 6.02 MILES (31,793.90 FT)

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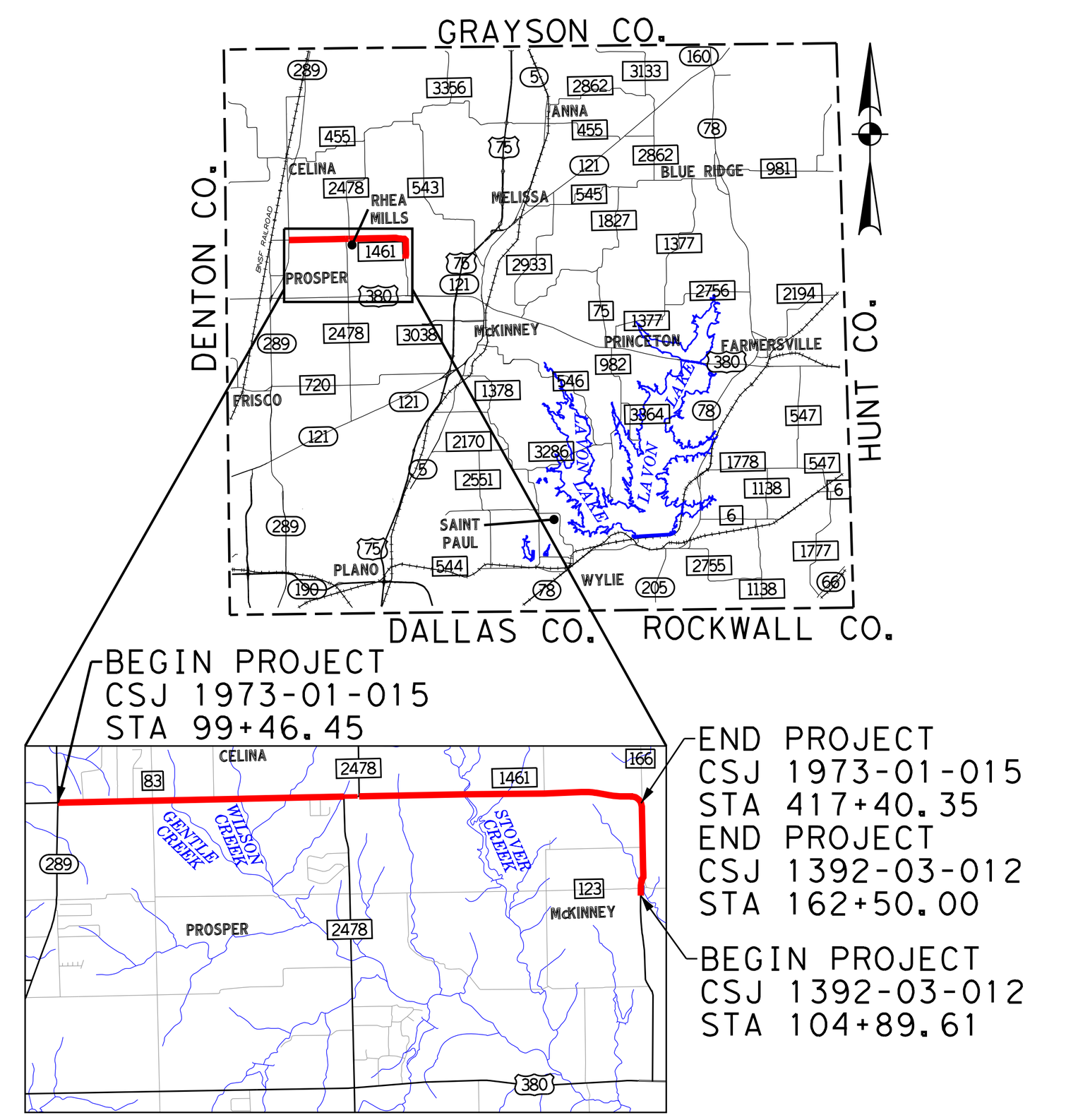

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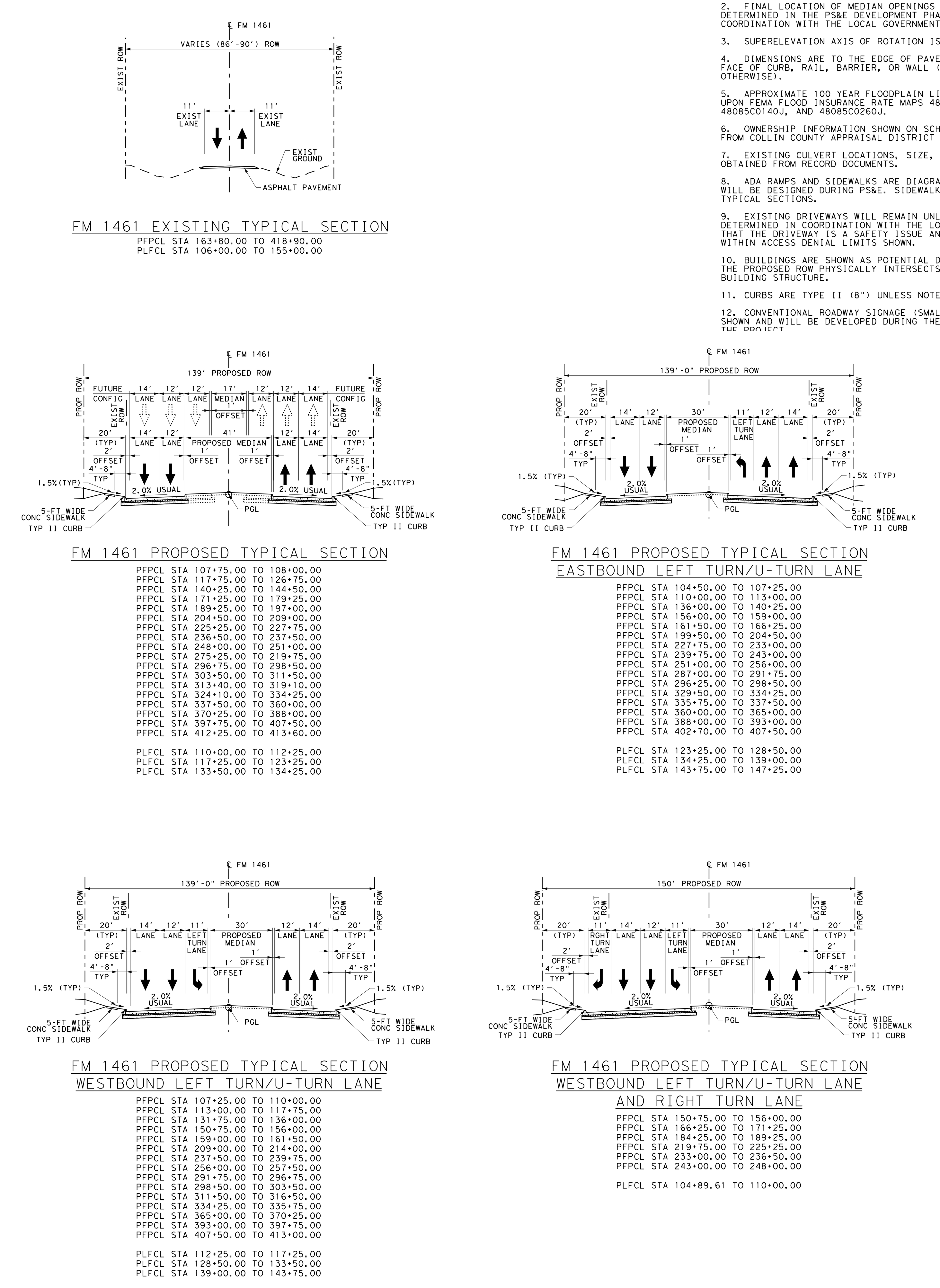
ROLL 10 OF 12



FM 1461 EXISTING TYPICAL SECTION

FM 1461 PROPOSED TYPICAL SECTION

FM 1461 PROPOSED TYPICAL SECTION
EASTBOUND LEFT TURN/U-TURN LANE

FM 1461 PROPOSED TYPICAL SECTION
WESTBOUND LEFT TURN/U-TURN LANE

FM 1461 PROPOSED TYPICAL SECTION
WESTBOUND LEFT TURN/U-TURN LANE
AND RIGHT TURN LANE

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LEGEND

- DIRECTION OF TRAFFIC
- WATER FLOW LINE
- PFPCL-1 CURVE NUMBER
- PROPOSED CENTERLINE
- EXISTING CENTERLINE
- PROPOSED PAVING/SIDEWALK
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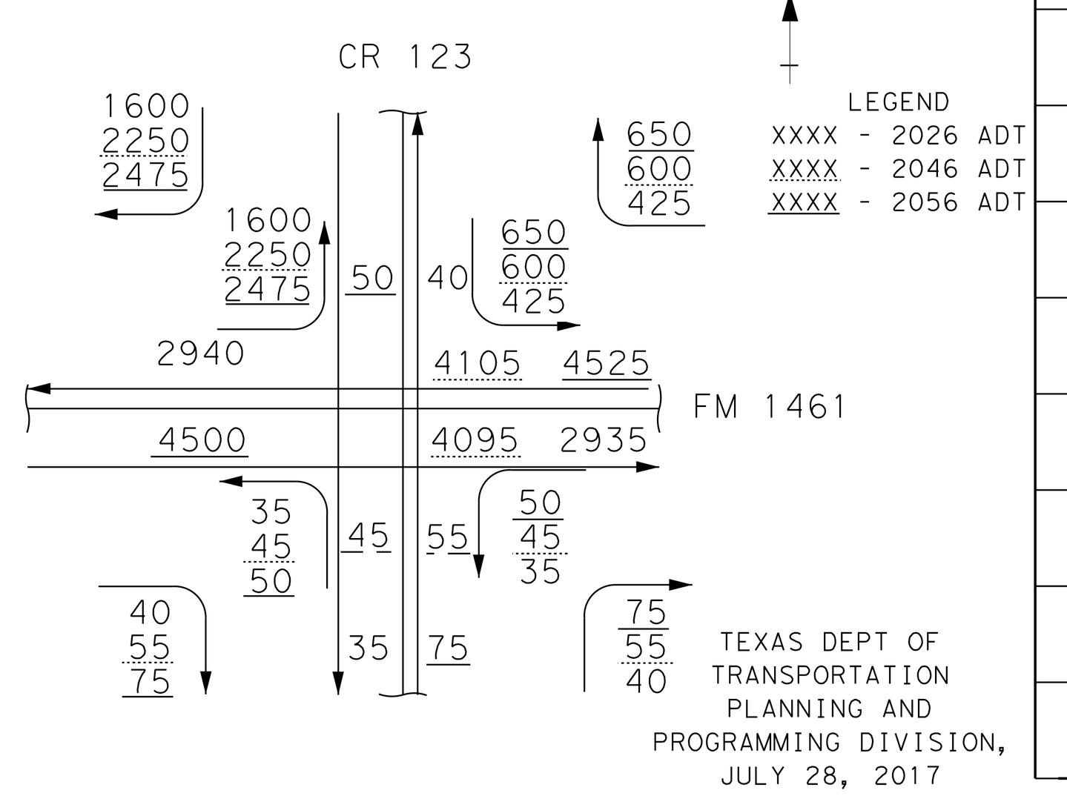
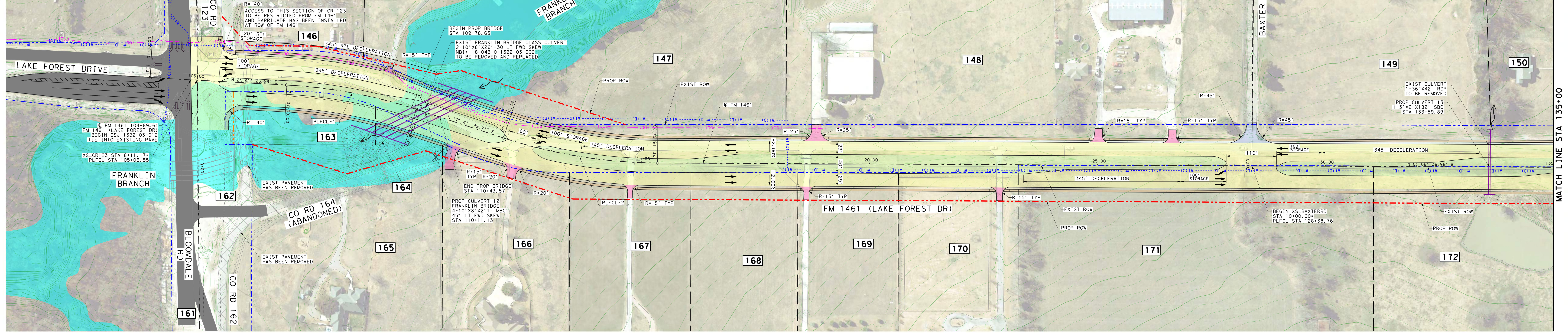
- LOT LINES
- EXISTING EASEMENTS
- PROPOSED CULVERT
- DITCH FLOWLINE
- FEMA 100 YEAR FLOODPLAIN
- PAVEMENT REMOVAL
- EROSION PROTECTION

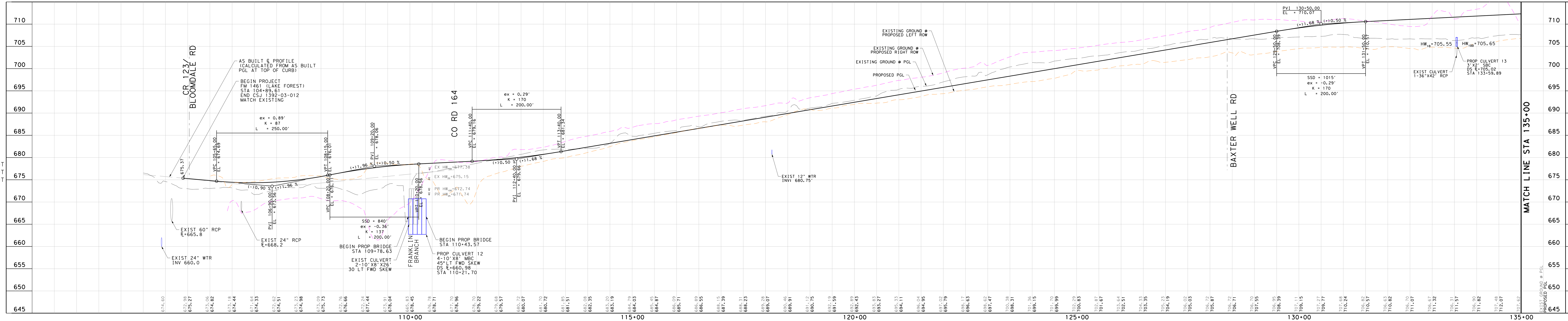
PARCEL	OWNER'S NAME
146	STAN CASE
147	RONALD GENE RYAN, YOLANDA MARIE RYAN
148	TEXAS BLUE SKY LAND MANAGEMENT, LLC
149	LEGACY TITLE HOLDING CORPORATION
150	AJC LE, LLC
161	CITY OF MCKINNEY
162	CITY OF MCKINNEY
163	CITY OF MCKINNEY
164	MCKINNEY ISD
165	PATMORE CHARLES
166	GALLOWAY KAYE
167	LUNA WAYNE & CONNIE
168	ASAVA ANAND & POONAM
169	ISABELL LORI B
170	CUEVA MARCO & FABIA
171	McKINNEY INDEPENDENT SCHOOL DISTRICT
172	McKINNEY INDEPENDENT SCHOOL DISTRICT

TRAFFIC DIAGRAM



CURVE	PI STATION	DELTA	RADIUS	TANGENT	LENGTH	CHORD BEARING	CHORD LENGTH	PC STATION	PT STATION
PLFCL-1	108+45.86	15° 06′ 23.49" (RT)	1,100.00	145.86	290.02	N 10° 14′ 38.03" E	289.19	107+00.00	109+90.02
PLFCL-2	113+64.49	17° 54′ 26.73" (LT)	1100.00	173.31	343.80	N 8° 50′ 36.41" E	342.40	111+91.18	115+34.98





Texas Department of Transportation

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TBPE REGISTRATION NO. 264

TEXAS DEPARTMENT OF TRANSPORTATION

DALLAS DISTRICT

DESIGN SCHEMATIC

MOHAMED K. BUR, P.E., DISTRICT ENGINEER

COLLIN COUNTY

FM 1461

CSJ:1973-01-015 FM 1461 (FRONTIER PKWY)

FROM SH 289 (PRESTON RD) TO CO RD 166

LENGTH 6.02 MILES (31,793.90 FT)

CSJ:1392-03-012 FM 1461 (LAKE FOREST DR)

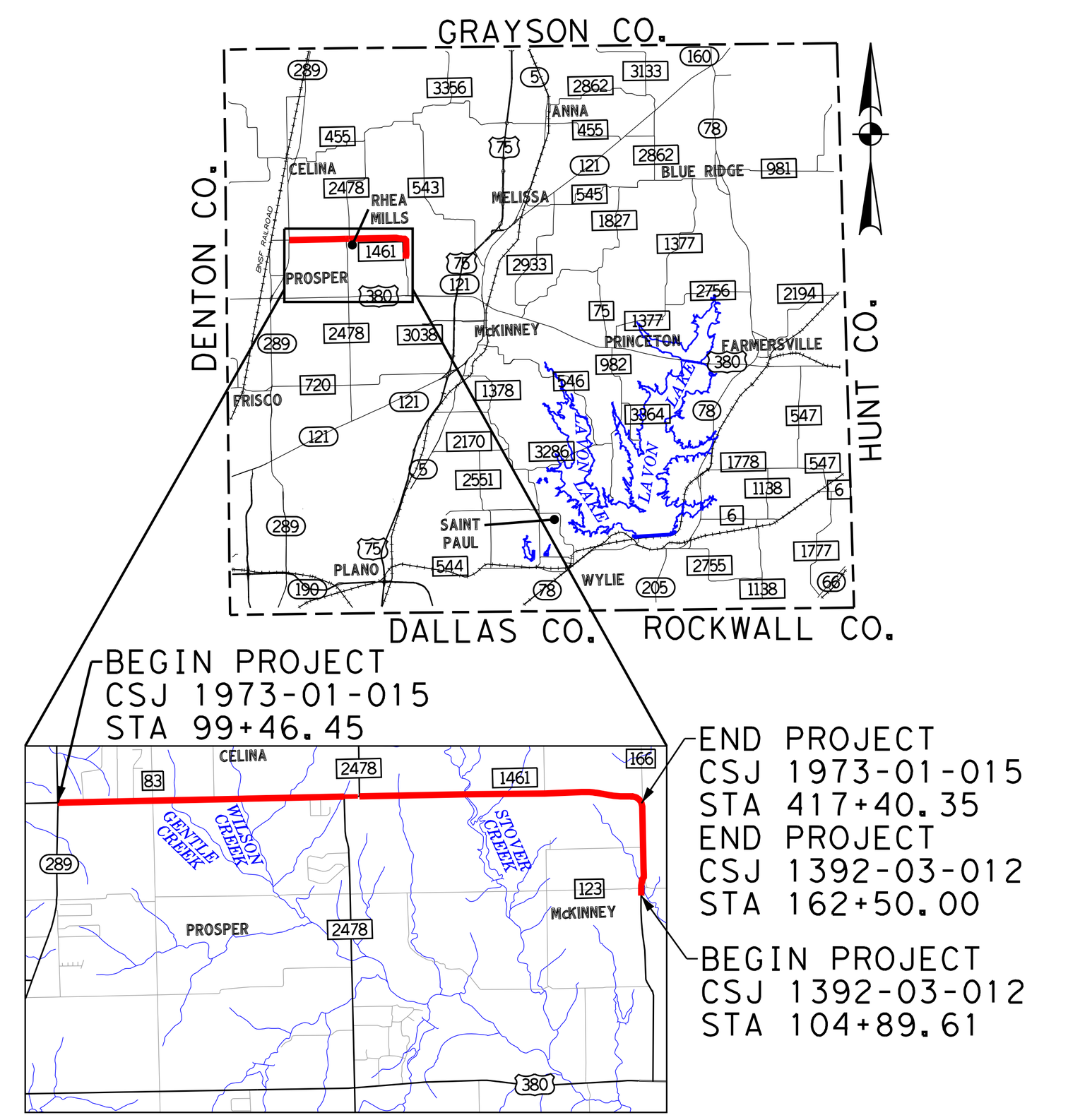
FROM CO RD 123 TO CO RD 166

LENGTH 1.09 MILES (5,760.40 FT)

PROJECT LENGTH = 7.10 MILES (37,554.30 FT.)

FUNCTIONAL CLASS: URBAN COLLECTOR

DESIGN SPEED: 45 MPH



LOCATION MAP

(N.T.S.)

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ROLL 10 OF 12

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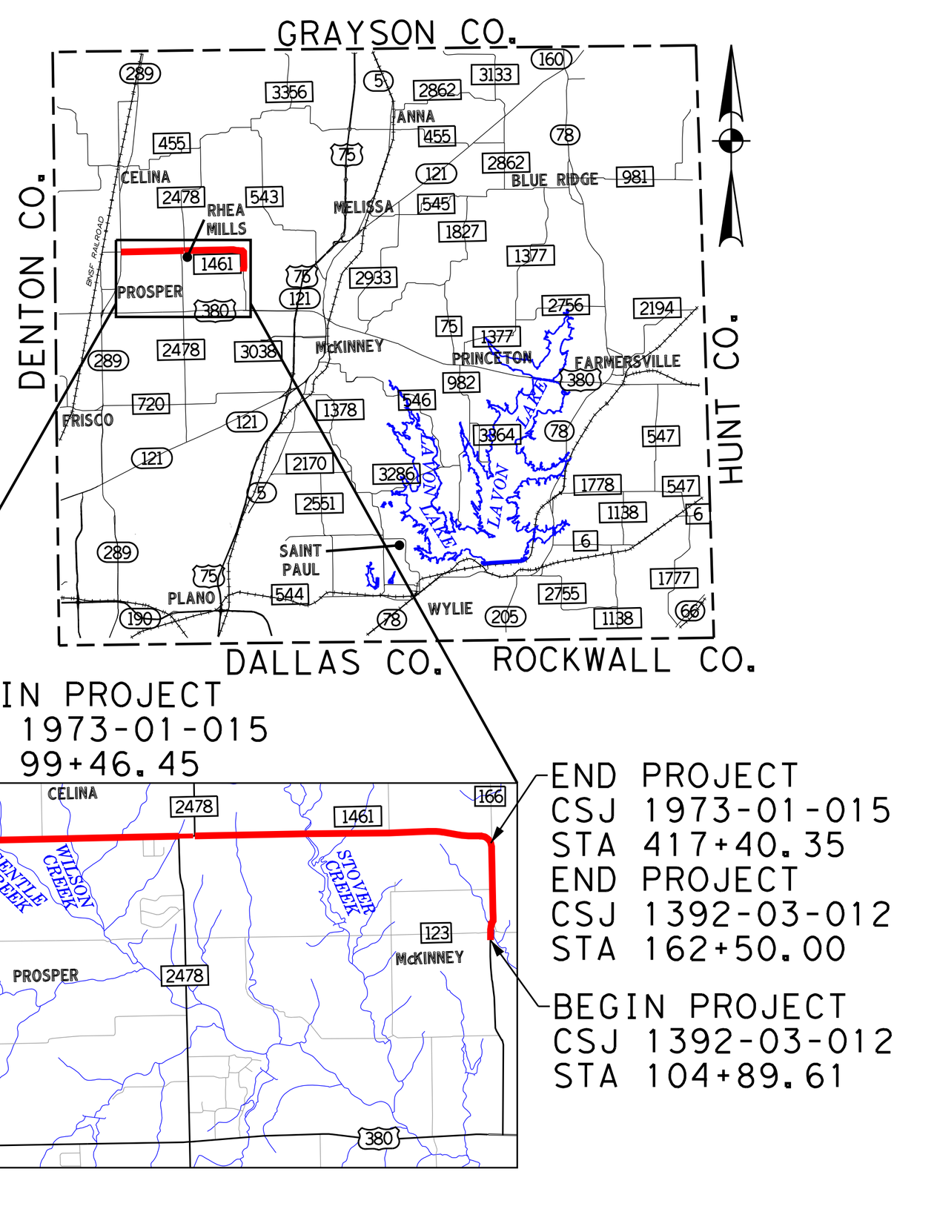

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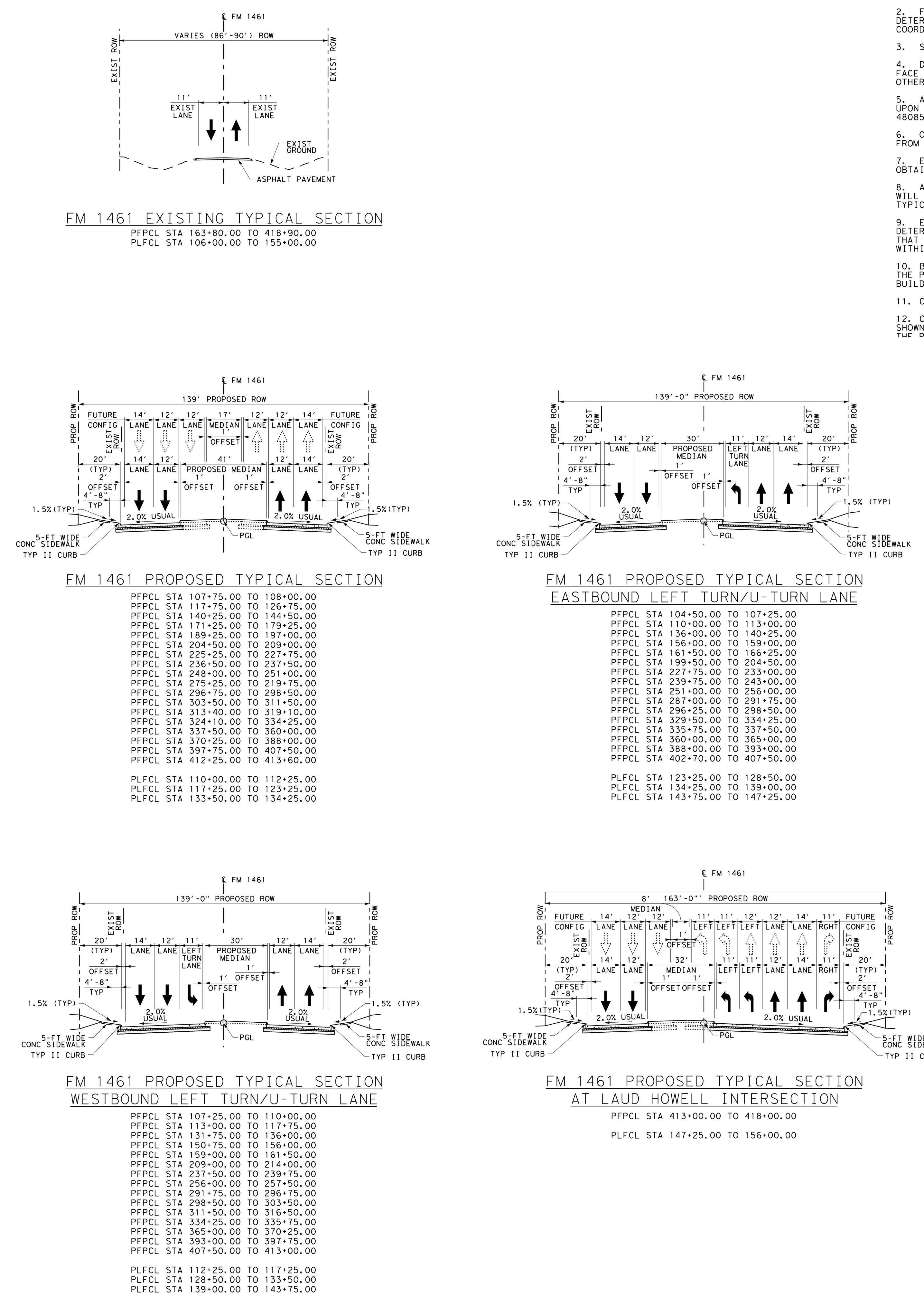


FM 1461 EXISTING TYPICAL SECTION

FM 1461 PROPOSED TYPICAL SECTION

FM 1461 PROPOSED TYPICAL SECTION
EASTBOUND LEFT TURN/U-TURN LANE

FM 1461 PROPOSED TYPICAL SECTION
WESTBOUND LEFT TURN/U-TURN LANE

FM 1461 PROPOSED TYPICAL SECTION
AT LAUD HOWELL INTERSECTION

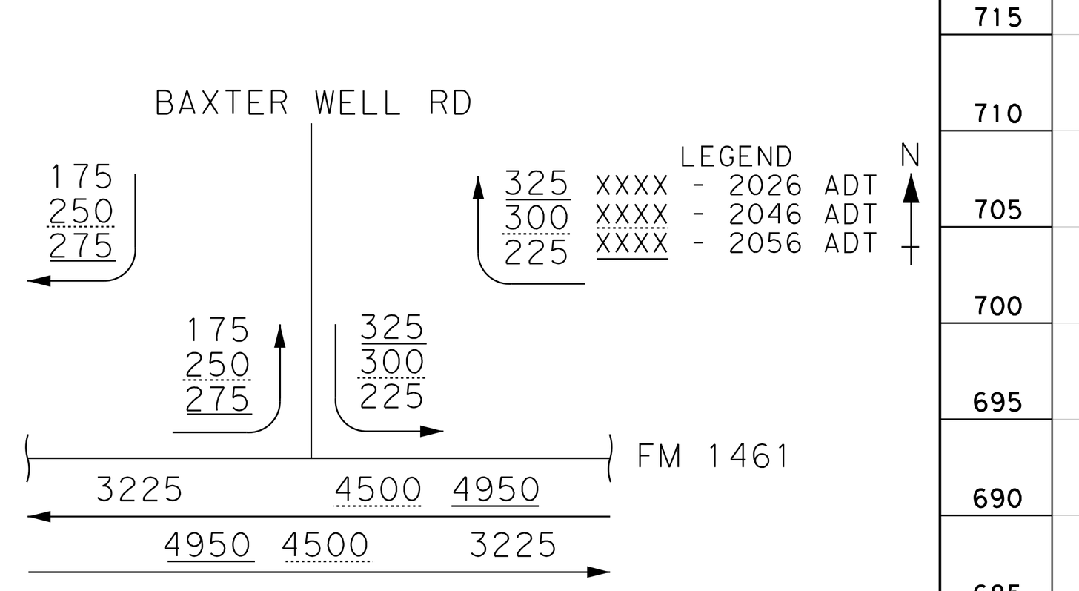
NOTES

1. EXISTING FEATURES WERE NOT FIELD SURVEYED. SCHEMATICS ARE BASED ON SURVEY INFORMATION DATED JANUARY 2017 AND RECORD PLANS. UPDATED IMAGES RECEIVED FEBRUARY 2018.
2. 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 NOTED OTHERWISE).
5. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE RATE MAPS 48085C0120J, 48085C0140J, AND 48085C0260J.
6. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM COLLIN COUNTY APPRAISAL DISTRICT MARCH 2018
7. EXISTING CULVERT LOCATIONS, SIZE, AND ELEVATIONS OBTAINED FROM RECORD DOCUMENTS.
8. ADA RAMPS AND SIDEWALKS ARE DIAGRAMMATIC ONLY AND WILL BE DESIGNED DURING PS&E. SIDEWALKS ARE SHOWN ON TYPICAL SECTIONS.
9. EXISTING DRIVEWAYS WILL REMAIN UNLESS IT IS DETERMINED IN COORDINATION WITH THE LOCAL GOVERNMENT THAT THE DRIVEWAY IS A SAFETY ISSUE AND/OR IS LOCATED WITHIN ACCESS DENIAL LIMITS SHOWN.
10. BUILDINGS ARE SHOWN AS POTENTIAL DISPLACEMENT IF THE PROPOSED ROW PHYSICALLY INTERSECTS THE EXISTING BUILDING STRUCTURE.
11. CURBS ARE TYPE II (8") UNLESS NOTED OTHERWISE.
12. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.

LEGEND

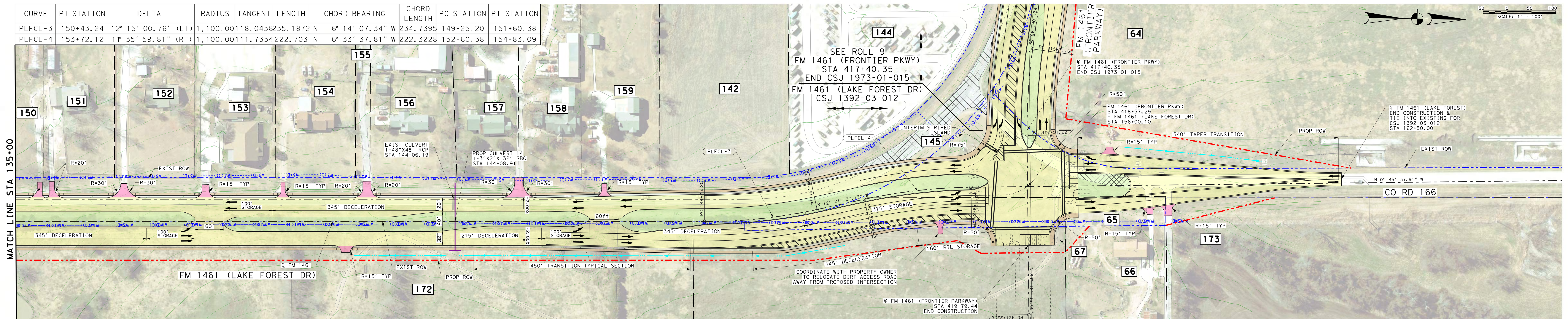
DIRECTION OF TRAFFIC
WATER FLOW LINE
PFPCL-1 CURVE NUMBER
PROPOSED CENTERLINE
EXISTING CENTERLINE
PROPOSED PAVING/SIDEWALK
PROPOSED BRIDGE DECK
PROPOSED PAVEMENT
PROPOSED CROSS STREET
PROPOSED SIDEWALK
PROPOSED DRIVEWAY
PROPOSED MEDIAN
CONSTRUCTION BY OTHERS
PROPOSED ROW
EXISTING ROW
ROW (OTHER PROJECTS)
LOT LINES
EXISTING EASEMENTS
PROPOSED CULVERT
DITCH FLOWLINE
FEMA 100 YEAR FLOODPLAIN
PAVEMENT REMOVAL
EROSION PROTECTION

TRAFFIC DIAGRAM

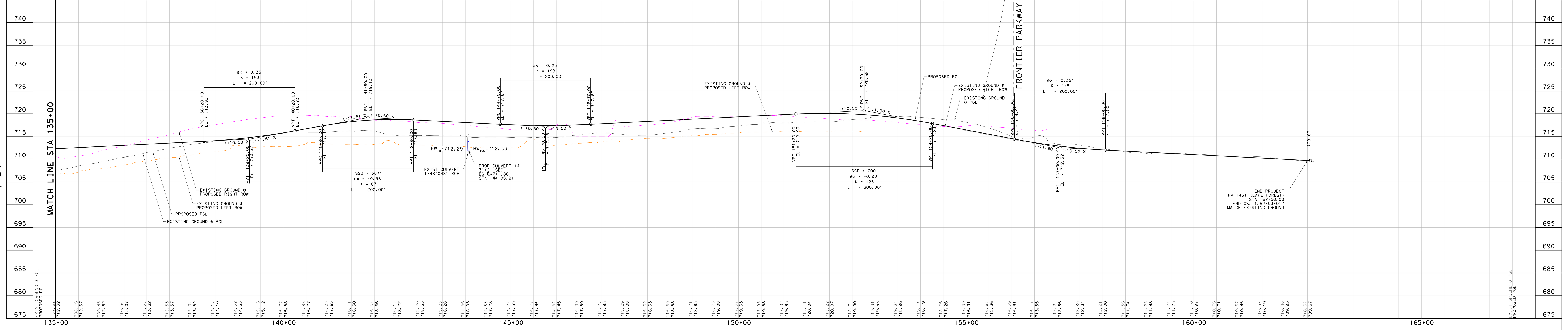


TEXAS DEPT OF TRANSPORTATION
PLANNING AND PROGRAMMING DIVISION,
JULY 28, 2017

CURVE	PI STATION	DELTA	RADIUS	TANGENT	LENGTH	CHORD BEARING	CHORD LENGTH	PC STATION	PT STATION
PLFCL-3	150+43.24	12° 15′ 00.76" (LT)	1,100.00	118.0436	235.1872	N 6° 14′ 07.34" W	234.7395	149+25.20	151+60.38
PLFCL-4	153+72.12	11° 35′ 59.81" (RT)	1,100.00	111.7334	222.703	N 6° 33′ 37.81" W	222.3228	152+60.38	154+83.09



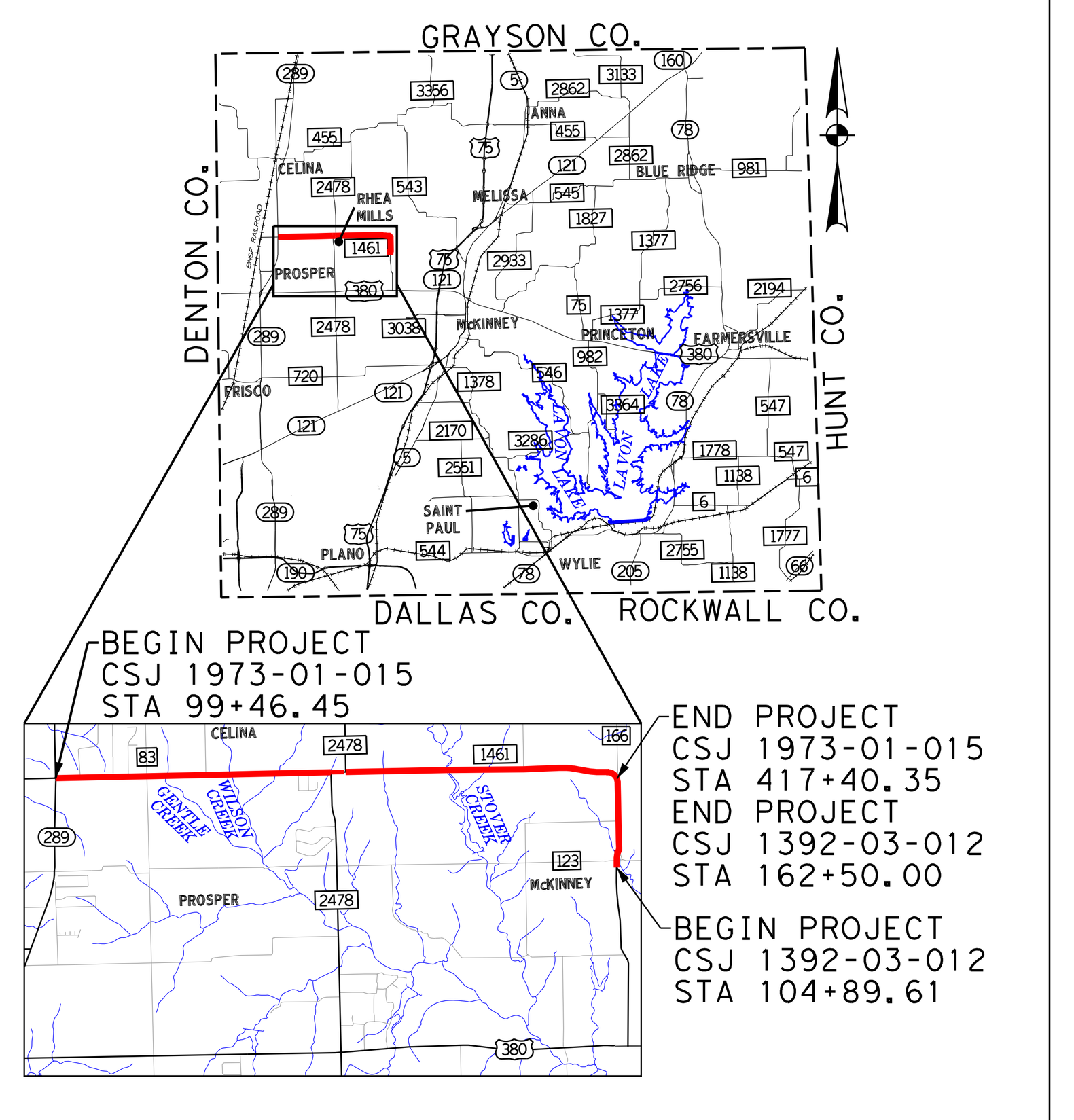
PARCEL	OWNER'S NAME	PARCEL	OWNER'S NAME	PARCEL	OWNER'S NAME
150	AJC LE, LLC	157	JAMES D. TOMLINSON	64	KEVIN KYU KIM and YOUNG SOOK KIM
151	SABRINA M. PARKER	158	FM 1461 TFDF TRUST	65	COLLIN COUNTY
152	DOUGLAS SCHEFFLER and KAYCE SHEFFLER	159	3847 FM1461, LLC	66	JACK GEREN
153	CROSS ROAD CHRISTIAN WORSHIP CENTER	142	LIBERTY MISSIONARY BAPTIST CHURCH	67	COLLIN COUNTY
154	SUZANNE E. INGRAM and BRANDON INGRAM	172	McKINNEY INDEPENDENT SCHOOL DISTRICT	68	MCKINNEY RANCH, LTD.
155	BRENDA J. GUNTER and GREGORY L. GUNTER	173	FISHER WANDA L ETAL	144	LAKE FOREST VENTURE, LLC
156	BRENDA J. GUNTER and GREGORY L. GUNTER			145	COLLIN COUNTY



Texas Department of Transportation

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
TBPE REGISTRATION NO. 264

TEXAS DEPARTMENT OF TRANSPORTATION
DALLAS DISTRICT
DESIGN SCHEMATIC
MOHAMED K. BUR, P.E., DISTRICT ENGINEER
COLLIN COUNTY
FM 1461
CSJ:1973-01-015 FM 1461 (FRONTIER PKWY)
FROM SH 289 (PRESTON RD) TO CO RD 166
LENGTH 6.02 MILES (31,793.90 FT)
CSJ:1392-03-012 FM 1461 (LAKE FOREST DR)
FROM CO RD 123 TO CO RD 166
LENGTH 1.09 MILES (5,760.40 FT)
PROJECT LENGTH = 7.10 MILES (37,554.30 FT.)
FUNCTIONAL CLASS: URBAN COLLECTOR
DESIGN SPEED: 45 MPH



LOCATION MAP
(N.T.S.)

APPROVED SCHEMATIC JUNE 29, 2018

THESE DOCUMENTS ARE FOR REVIEW AND NOT INTENDED FOR BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

AARON TAINTER 105733 6/29/2018
NAME P.E. NO. DATE

ROLL 11 OF 12

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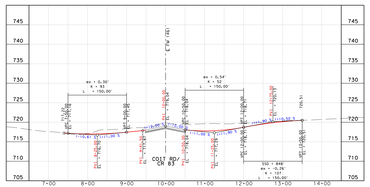
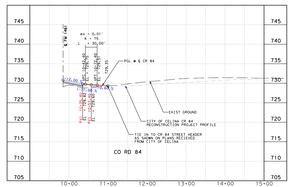
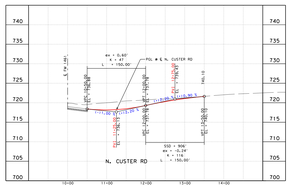
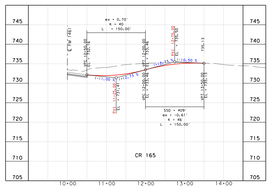
CROSS STREET PROFILES AND TYPICAL SECTIONS

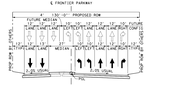
ALL CROSS STREET TIE-INS ARE DESIGNED FOR 30 MPH DESIGN SPEED



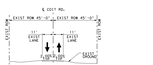




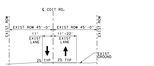




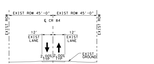
WEST FRONTIER PARKWAY
CONSTRUCTION PLANS TYPICAL SECTION



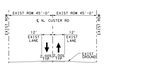
COIT RD. NORTH EXISTING TYPICAL SECTION
STA 10+05.00 TO 12+10.00



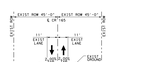
COIT RD. SOUTH EXISTING TYPICAL SECTION
STA 7+45.00 TO 9+80.00



CR 84 EXISTING TYPICAL SECTION

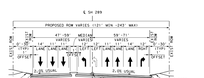


N. CUSTER RD EXISTING TYPICAL SECTION



CR 165 EXISTING TYPICAL SECTION

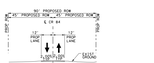
CR 123 EXISTING TYPICAL SECTION



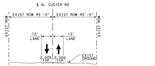
EXISTING SH 289 TYPICAL SECTION

COIT RD. NORTH PROPOSED TYPICAL SECTION
STA 10+50.00 TO 13+50.00

COIT RD. SOUTH PROPOSED TYPICAL SECTION
STA 7+45.00 TO 9+50.00



CR 84 PROPOSED TYPICAL SECTION



N. CUSTER RD PROPOSED TYPICAL SECTION

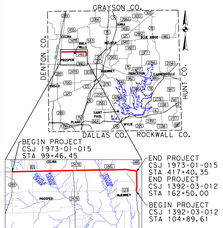
CR 165 PROPOSED TYPICAL SECTION

CR 123 PROPOSED TYPICAL SECTION

Texas Department of Transportation

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
TBPE REGISTRATION NO 984

TEXAS DEPARTMENT OF TRANSPORTATION
DALLAS DISTRICT
DESIGN SCHEMATIC
MOHAMED K. BUR, P.E., DISTRICT ENGINEER
COLLIN COUNTY
FM 1461
CSJ#:1973-01-015 FM 1461 (FRONTIER PKWY)
FROM SH 289 (PRESTON RD) TO CO RD 166
LENGTH 6.02 MILES (31,793.90 FT)
CSJ#:1392-03-012 FM 1461 (LAKE FOREST DR)
FROM CO RD 123 TO CO RD 166
LENGTH 1.09 MILES (5,760.40 FT)
PROJECT LENGTH = 7.10 MILES (37,554.30 FT.)
FUNCTIONAL CLASS: URBAN COLLECTOR
DESIGN SPEED: 45 MPH



LOCATION MAP
(N.T.S.)

APPROVED SCHEMATIC JUNE 29, 2018

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AARON TANTER	105733	6/29/2018
NAME	P.E. NO.	DATE

ROLL 12 OF 12

Texas Department of Transportation

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

TEXAS DEPARTMENT OF TRANSPORTATION
DALLAS DISTRICT
DESIGN SCHEMATIC
MOHAMED K. BUR, P.E., DISTRICT ENGINEER
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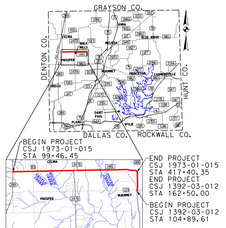

LOCATION MAP
(N.T.S.)

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NAME	P.E. NO.	DATE

ROLL 12 OF 12

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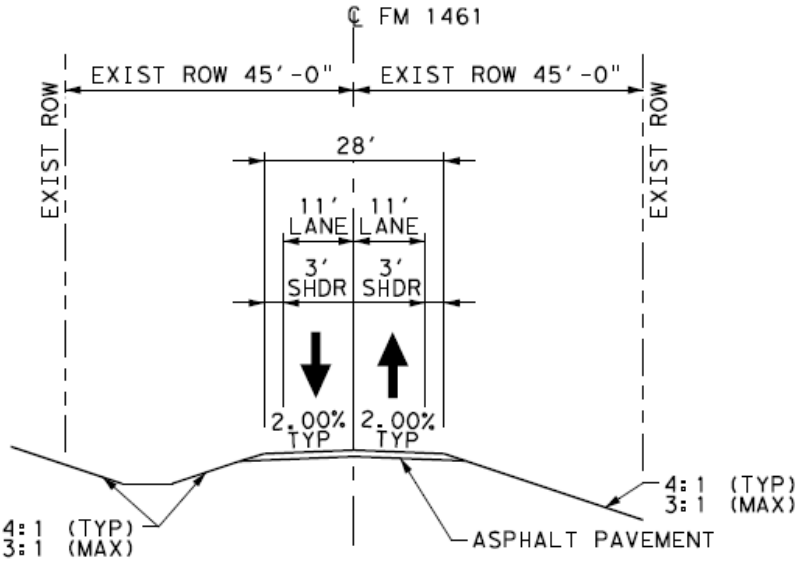
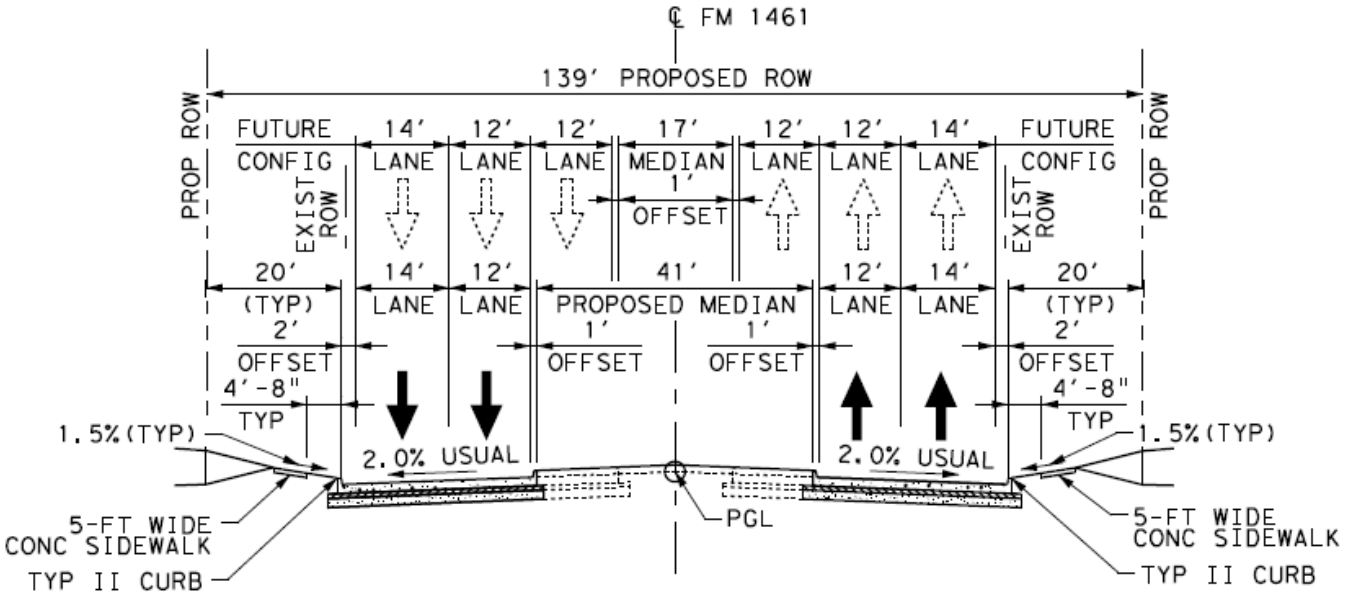
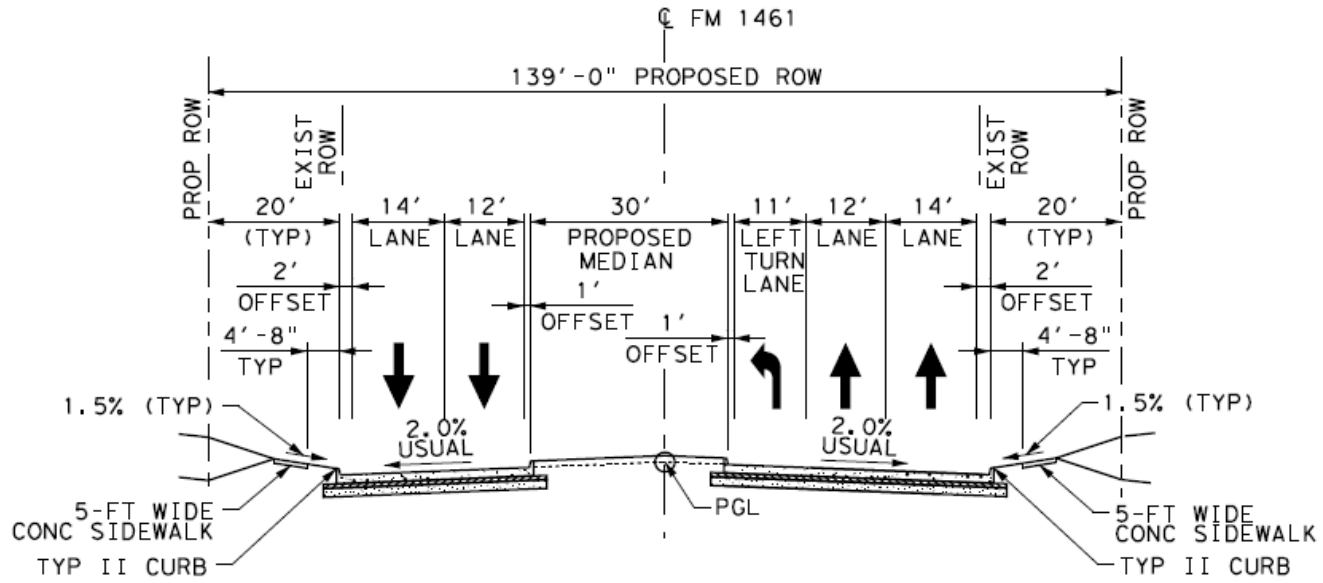


FM 1461 EXISTING TYPICAL SECTION

	For Report Purposes Only Not for construction, bidding, or permitting purposes	Appendix D - Typical Sections FM 1461 From SH 289 to CR 123 CSJs: 1973-01-015 and 1392-03-012 *Sheet 1 of 2*



FM 1461 PROPOSED TYPICAL SECTION



FM 1461 PROPOSED TYPICAL SECTION
EASTBOUND LEFT TURN/U-TURN LANE

	For Report Purposes Only Not for construction, bidding, or permitting purposes	Appendix D - Typical Sections FM 1461 From SH 289 to CR 123 CSJs: 1973-01-015 and 1392-03-012 *Sheet 2 of 2*

DISTRICT	COUNTY	CSJ	HWY	PHASE	CITY	PROJECT SPONSOR
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:

DALLAS ELLIS 1394-02-027 FM 1387 C MIDLOTHIAN TXDOT-DALLAS

LIMITS FROM: MIDLOTHIAN PARKWAY
REV DATE: 07/2018
LIMITS TO: FM 664
MPO PROJECT ID: 13020
TIP DESCRIPTION: RECONSTRUCT AND WIDEN FROM 2 LANE UNDIVIDED RURAL TO 4 LANE URBAN DIVIDED (ULTIMATE 6 LANE)
MTP REFERENCE: NRSA1-DAL-193
REMARKS:
Project History: PART OF REGIONAL 10 YEAR PLAN

DALLAS DENTON 1951-01-011 FM 1515 E,R DENTON DENTON CO

LIMITS FROM: BONNIE BRAE
REV DATE: 07/2018
LIMITS TO: MASCH BRANCH ROAD
MPO PROJECT ID: 55239
TIP DESCRIPTION: WIDEN 2 LANE RURAL SECTION TO 6 LANE DIVIDED URBAN
MTP REFERENCE: NRSA1-DAL-302
REMARKS:
Project History:

DALLAS COLLIN 1973-01-015 FM 1461 E,R VARIOUS TXDOT-DALLAS

LIMITS FROM: SH 289
REV DATE: 07/2018
LIMITS TO: WEST OF COUNTY ROAD 166
MPO PROJECT ID: 55237
TIP DESCRIPTION: WIDEN AND RECONSTRUCT 2 LANE RURAL TO 4 LANE URBAN (ULTIMATE 6 LANES)
MTP REFERENCE: NRSA1-DAL-301
REMARKS:
Project History:

DALLAS DENTON 2250-02-014 SL 288 C DENTON DENTON CO

LIMITS FROM: US 380 WEST OF DENTON
REV DATE: 05/2019
LIMITS TO: IH 35W SOUTH OF DENTON
MPO PROJECT ID: 53075
TIP DESCRIPTION: CONSTRUCT 0 TO 2 LANE FRONTAGE ROADS (ULTIMATE 4 LANES)
MTP REFERENCE: RSA1-1.430.150
REMARKS: REVISE SCOPE

PENDING FHWA APPROVAL

Project History: RELATED TO TIP 20175/CSJ 2250-02-013

DISTRICT	COUNTY	CSJ	HWY	PHASE	CITY	PROJECT SPONSOR	YOE COST
DALLAS	COLLIN	1392-03-012	FM 1461	E,R	VARIOUS	TXDOT-DALLAS	**$9,538,846**

LIMITS FROM: WEST OF COUNTY ROAD 166
LIMITS TO: CR 123
TIP DESCRIPTION: WIDEN AND RECONSTRUCT 2 LANE RURAL TO 4 LANE URBAN (ULTIMATE 6 LANES)
REMARKS: ADD PROJECT TO 2019-2022 TIP/STIP

REV DATE: 05/2019
MPO PROJECT ID: 55236
FUNDING CATEGORY: SBPE,S102
MTP REFERENCE: NRSA1-DAL-300

PENDING FHWA APPROVAL

Project History:

Total Project Cost Information:

Preliminary Engineering:	$750,000
Right Of Way:	$8,788,846
Construction:	$0
Construction Engineering:	$495,431
Contingencies:	$198,772
Indirects:	$0
Bond Financing:	$0
Total Project Cost:	**$10,233,049**

Cost of Approved Phases: **$9,538,846**

Authorized Funding by Category/Share:

	Federal	State	Regional	Local	Local Contribution	Funding By Category
SBPE:	$0	$750,000	$0	$0	$0	$750,000
S102:	$7,031,076	$878,885	$0	$878,885	$0	$8,788,846
Funding by Share:	$7,031,076	$1,628,885	$0	$878,885	$0	**$9,538,846**

DALLAS | COLLIN | 2056-01-042 | FM 2551 | R | MURPHY | TXDOT-DALLAS | **$2,750,000**

LIMITS FROM: FM 2514
LIMITS TO: FM 2170
TIP DESCRIPTION: RECONSTRUCT AND WIDEN 2 LANE RURAL TO 6 LANE URBAN DIVIDED
REMARKS: RTR 121-CC2

REV DATE: 07/2018
MPO PROJECT ID: 83209
FUNDING CATEGORY: 3RTR121,S102
MTP REFERENCE: NRSA1-DAL-110

Project History: R PHASE IN FY2017 IS $14.3 MILLION FOR ROW; R PHASE IN FY2019 IS $2.75 MILLION FOR UTILITIES; 10-YEAR PLAN PROJECT

Total Project Cost Information:

Preliminary Engineering:	$1,200,000
Right Of Way:	$17,050,000
Construction:	$44,570,571
Construction Engineering:	$2,139,055
Contingencies:	$858,209
Indirects:	$0
Bond Financing:	$0
Total Project Cost:	**$65,817,835**

Cost of Approved Phases: **$2,750,000**

Authorized Funding by Category/Share:

	Federal	State	Regional	Local	Local Contribution	Funding By Category
3RTR121:	$0	$0	$600,000	$150,000	$0	$750,000
S102:	$1,600,000	$200,000	$0	$200,000	$0	$2,000,000
Funding by Share:	$1,600,000	$200,000	$600,000	$350,000	$0	**$2,750,000**

DALLAS | DENTON | 2250-02-013 | SL 288 | E | DENTON | DENTON CO | **$1,532,590**

LIMITS FROM: IH 35 AT SL 288
LIMITS TO: US 380 WEST OF DENTON
TIP DESCRIPTION: CONSTRUCT 2 LANE RURAL ROADWAY ON NEW LOCATION WITH INTERCHANGE AT IH 35; NW QUADRANT & INTERCHANGE
REMARKS: LOCAL CONTRIBUTION PAID BY DENTON COUNTY

REV DATE: 07/2018
MPO PROJECT ID: 20175
FUNDING CATEGORY: 3LC
MTP REFERENCE: IN1-3.100.1, RSA1-2.190.250

Project History: RELATED TO TIP 53075/ CSJ 2250-02-014

Total Project Cost Information:

Preliminary Engineering:	$1,532,590
Right Of Way:	$1,000,000
Construction:	$15,435,720
Construction Engineering:	$705,412
Contingencies:	$1,278,078
Indirects:	$0
Bond Financing:	$0
Total Project Cost:	**$19,951,800**

Cost of Approved Phases: **$1,532,590**

Authorized Funding by Category/Share:

	Federal	State	Regional	Local	Local Contribution	Funding By Category
3LC:	$0	$0	$0	$0	$1,532,590	$1,532,590
Funding by Share:	$0	$0	$0	$0	$1,532,590	**$1,532,590**

MTP ID	District	TIP Code	Project Type	CSJ	Facility	From	To	Description	YOE Total Project Cost	FFCS
NRSA1-DAL- 264	TxDOT Dallas		New roadway		Outer Loop/FM 548 Connector	IH 30	FM 548	New 4 lane divided	$9,100,000	Major Collector
NRSA1-DAL- 265	TxDOT Dallas		Widening		FM 548	Outer Loop/FM 548 Connector	SH 276	Widen 2 to 4 lane divided	$8,400,000	Major Collector
NRSA1-DAL- 266	TxDOT Dallas		Widening		FM 548	SH 276	SH 205	Widen 2 to 4 lane divided	$27,000,000	Major Collector
NRSA1-DAL- 300	TxDOT Dallas	55236	Reconstruction	1392-03-012	FM 1461	West of County Road 166	CR 123	Widen and reconstruct 2 lane rural to 4 lane urban (ultimate 6 lanes)	$22,342,803	Major Collector
NRSA1-DAL- 301	TxDOT Dallas	55237	Widening	1973-01-015	FM 1461	SH 289	West of County Road 166	Widen and reconstruct 2 lane rural to 4 lane urban (ultimate 6 lanes)	$93,670,180	Minor Arterial
NRSA1-DAL- 302	TxDOT Dallas	55239	Widening	1951-01-011	FM 1515/Airport Road	Bonnie Brae	Masch Branch Road	Widen 2 lane rural section to 6 lane divided urban	$34,751,182	Minor/Major Collector
NRSA1-DAL- 304	TxDOT Dallas	14030	Reconstruct	0918-46-954	College Street	Mill Street	Railroad Street	Reconstruct from 2 to 2 lanes, add bicycle lanes, widen/expand sidewalks, and add on-street parking	$3,750,000	Major Collector
NRSA1-DAL- 305	TxDOT Dallas	14033	Reconstruct	0918-46-952	South Shady Shores Road	West Shady Shores Road	Swisher Road	Reconstruct Road from 2 to 2 lanes to elevate out of flood plain with drainage improvements	$19,110,000	Major Collector
NRSA1-DAL- 306	TxDOT Dallas	55238	Reconstruct and Widen	2845-01-020	FM 455	SH 5	East of Wildwood Trail	Reconstruct and widen 2 to 4 lane urban divided (ultimate 6 lanes)	$17,056,534	Minor Arterial
NRSA1-DAL- 307	TxDOT Dallas	14032	Widening	~~0918-45-999~~ 0918-47-246	East Bear Creek Road	Hampton Road	IH 35E	Reconstruct and widen from 2 lanes rural undivided to 4 lanes urban divided with bicycle/pedestrian accomodations and intersection improvements	$25,600,000	Minor Arterial
NRSA1-DAL- 308	TxDOT Dallas	20295.1	Addition of Lanes and Reconstruct	0918-46-286	VA	Fishtrap Rd (FM 1385 to Teel), Gee Rd (US 380 to Fishtrap)	Teel Parkway (US 380 to Fishtrap)	Widen and Reconstruct rural roadways as two-lane urban roadways, including a three-lane bridge over DOE Branch	$14,206,298	Major Collector
NRSA1-DAL- 309	TxDOT Dallas	14077	Addition of lanes	0918-24-910	Ferguson Pkwy	Elm Street	the Collin County Outer Loop	Construct 0/2 to 4 lane urban divided (6 lane ultimate), including new sidewalks and 0 to 6 lane bridge over Slayter Creek	$1,340,601	Major Collector

Path: N:\Projects\61000\61310 WA 5- Dallas FM 1461\MXD\NR\Report\61310 Fig X Project Resource and Land Use Map.mxd

Legend

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- Railroad

Sheet Index

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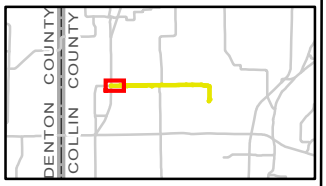

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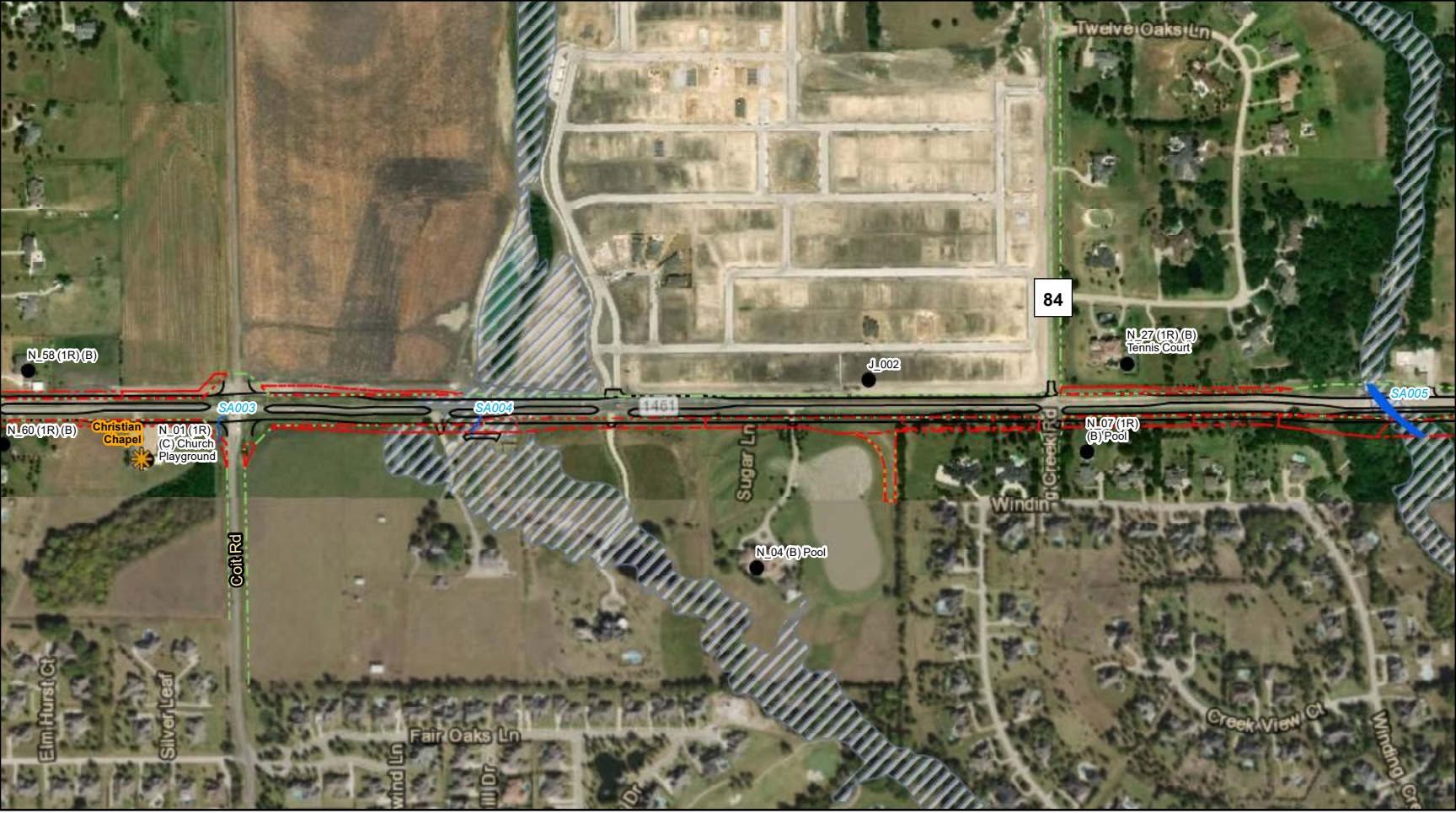
Texas Department of Transportation

PROJECT RESOURCE AND LAND USE MAP

Page 1 of 8

FM 1461
From SH 289 to CR 123

COLLIN COUNTY, TEXAS



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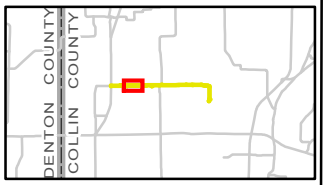

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PROJECT RESOURCE AND LAND USE MAP

Page 2 of 8

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COLLIN COUNTY, TEXAS

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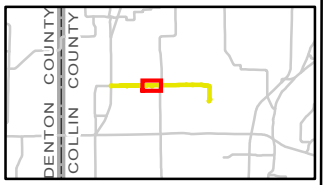

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PROJECT RESOURCE AND LAND USE MAP

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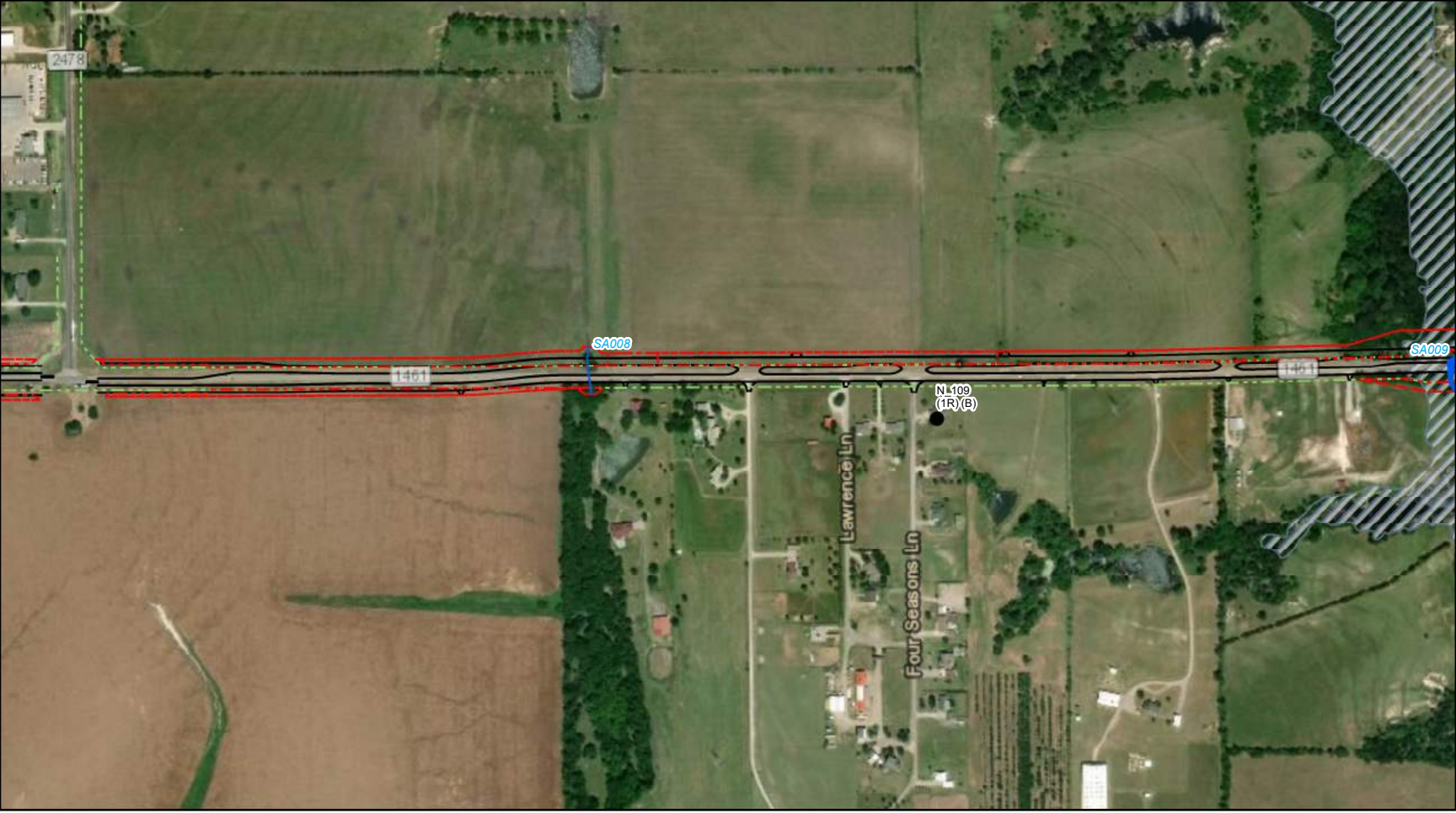

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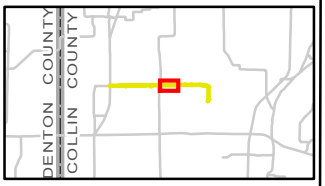

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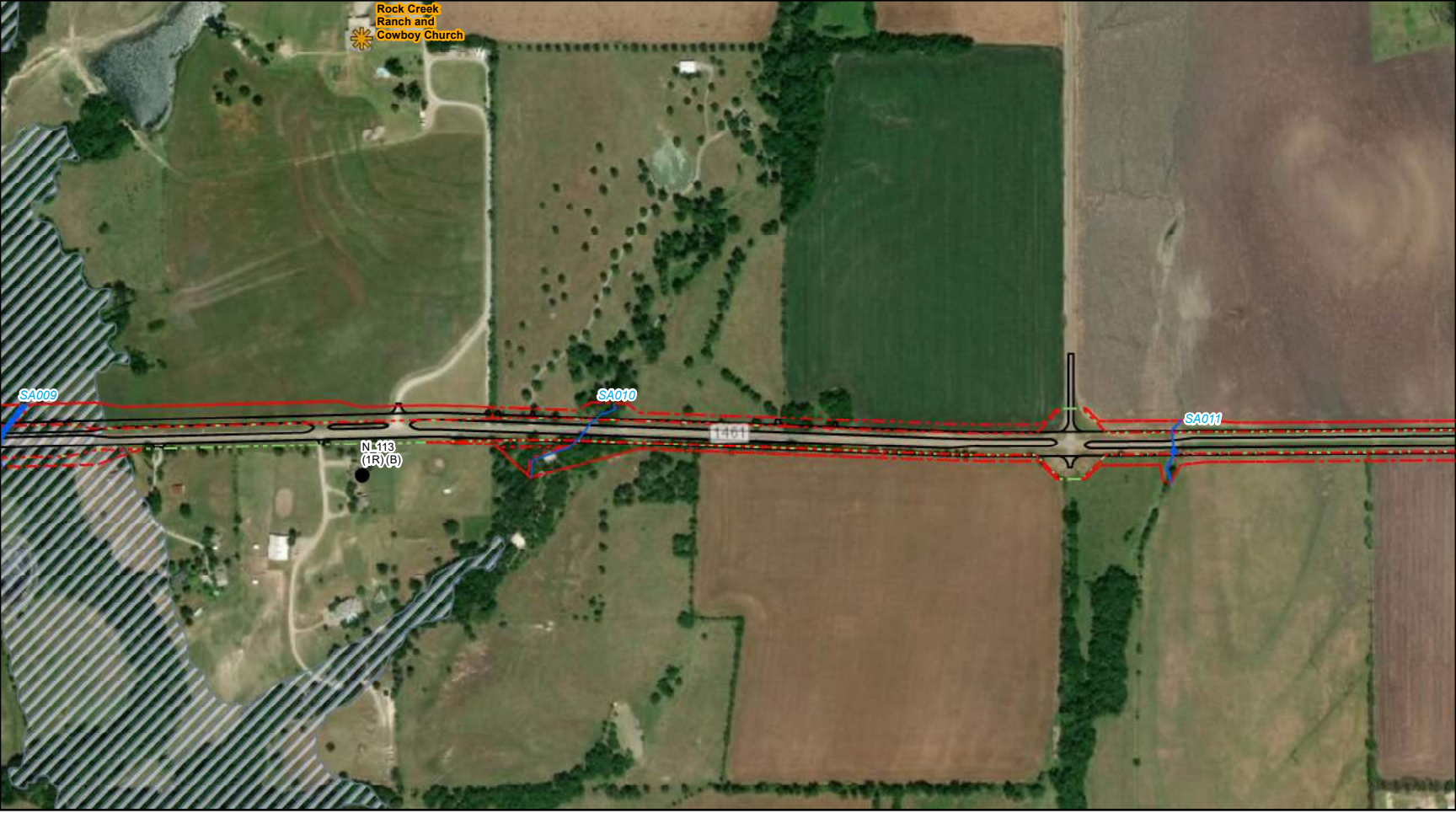

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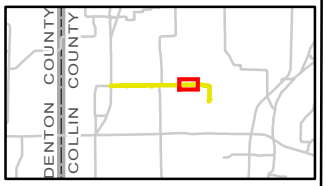

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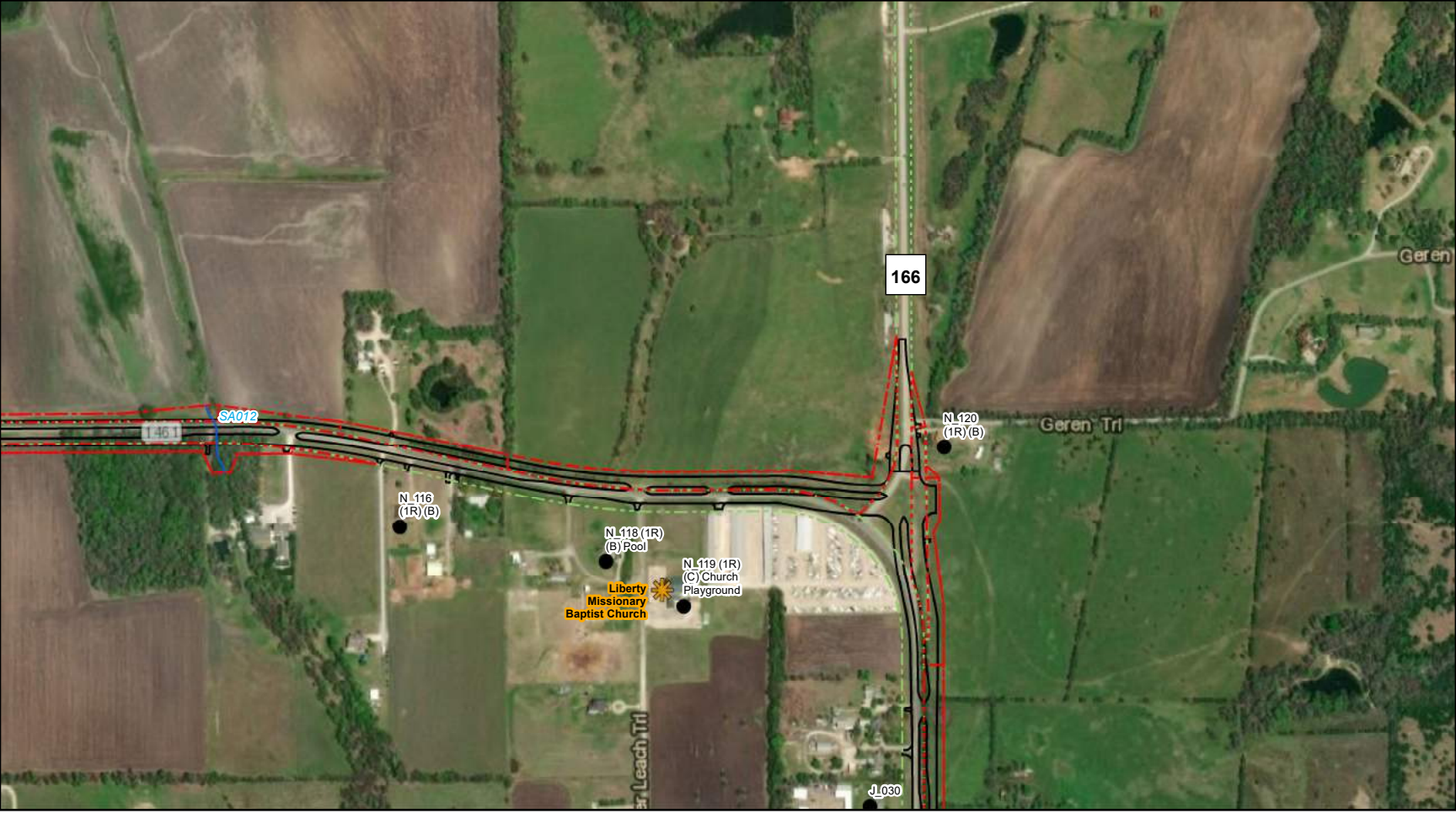

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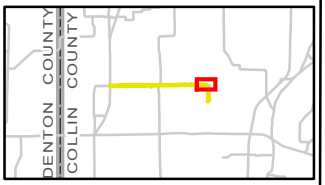

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Texas Department of Transportation

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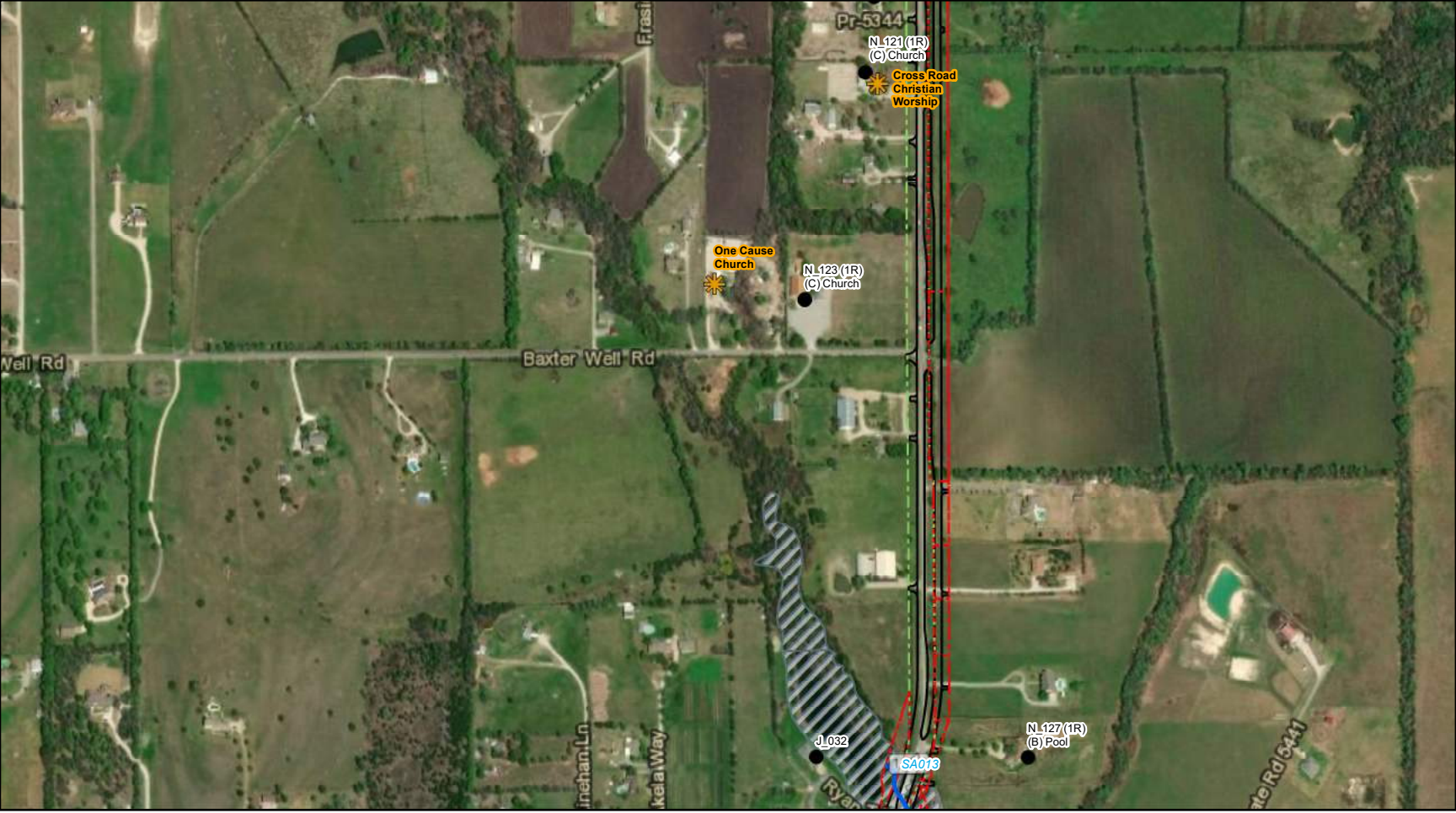

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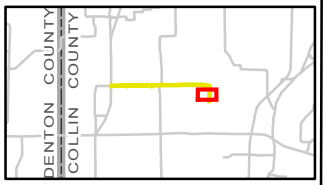

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Texas Department of Transportation

PROJECT RESOURCE AND LAND USE MAP

Page 7 of 8

FM 1461
From SH 289 to CR 123

COLLIN COUNTY, TEXAS

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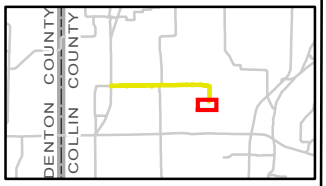

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Texas Department of Transportation

PROJECT RESOURCE AND LAND USE MAP

Page 8 of 8

FM 1461
From SH 289 to CR 123

COLLIN COUNTY, TEXAS

Texas Department of Transportation

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

April 11, 2019

Section 106/Antiquities Code of Texas: Consultation
TAC Permit # 8840
Re: Review of the draft report:
Archeological Resources Survey of FM 1461 from SH 289 from SH 289 to CR 123
Collin County, Dallas District
CSJ: 1392-03-012, 1973-01-015

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.

During April 2–4, 2019, at the request of the Texas Department of Transportation's (TxDOT) Dallas District, Hicks & Company conducted an intensive non-collection pedestrian cultural resources survey of Farm-to-Market (FM) Road 1461 from State Highway (SH) 289 to County Road (CR) 123 in Collin County, Texas. Improvements will be made to bridge structures within the project area that cross Wilson Creek, Stover Creek, and Franklin Branch. In summary, the area of potential effect (APE) is 37,488.1 feet long, 139 feet wide, and encompasses 147.28 acres. Following the right of entry process, access was granted to 44 parcels (40 percent); access was denied to six parcels (5.5 percent); and there was no response to the right of entry request for 60 parcels (54.5 percent). Right of entry was not obtained for approximately 22.5 acres of the APE.

It is the opinion of Hicks & Company that the surveyed parts of the APE where right of entry was granted, including near site 41COL256, contain no archeological historic properties eligible for the National Register of Historic Places (NRHP) or sites warranting SAL designation. The two historic-age features at the western terminus of the project are not within the APE and were not recorded as an archeological site; should the proposed roadway design change and shift to encompass those features, then additional survey in that area with formal site recording would be necessary. Furthermore, it is Hicks & Company's opinion that there is little to no potential for the surveyed parts of the APE to contain previously unidentified archeological historic properties or sites except at Wilson Creek, Stover Creek, and Franklin Branch; backhoe trench excavations are recommended at these drainages once right of entry for mechanical excavations has been obtained to adequately asses those areas for the presence of deep cultural deposits.

Given the above data, TxDOT recommends that the parts of the APE that have been surveyed for cultural resources (except for the three creek crossings), including the 41COL256 site area, contain no archeological historic properties eligible for the NRHP or sites warranting SAL designation, and additional investigations are not necessary except as noted. Finally, we recommend that for consistency, the remainder of the APE where right of entry was not obtained should be surveyed and augmented with judgmental shovel testing to account for historical resources when right of entry is available.

It is recommended that 22.5 acres of proposed new ROW still warrant survey. This survey should be conducted once ROE is obtained or the State acquires the property. Attached is a set of aerial maps depicting the location where ROE to private land was denied. 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.

TxDOT requests your explicit concurrence that the survey report is in partial fulfillment of the TAC Permit. 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: William A. Martin Date: 4/11/19
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

ABLE

ector, THC

Report for Archeological Survey

CSJs: 1392-03-012 and 1973-01-015, FM 1461 from SH 289 to CR 123, Collin County, Texas

REPORT ACCEPTABLE
by
for Mark Wolfe
Executive Director, THC
Date 4/11/19
Track#

TxDOT Dallas District

Brandon S. Young, Principal Investigator, Antiquities Permit No. 8840
Date: 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.

MEMO

May 13, 2019

TO: Administrative File
From: Rebekah Dobrasko

District: Dallas
County: Collin
CSJ#: 1392-03-012, 1973-01-015
Highway: FM 1461
Let Date: January 2024

Project Limits: From SH 289 to FM 123
Project Description: Stipulation IX, Appendix 6. Widen roadway. Approximately 58 acres of new ROW. No historic, non-archeological properties present.

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

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

Proposed Project:
The Texas Department of Transportation – Dallas District proposes to widen a 7.1-mile segment of FM 1461 in Collin County, between SH 289 and FM 123. The proposed project includes widening FM 1461 from two lanes to four lanes as well as construction of sidewalks on the outside of both the eastbound and westbound lanes. TxDOT proposes to acquire approximately 58 acres of new right-of-way (ROW) for this project.

Determination of Eligibility:
TxDOT historians reviewed the NRHP, the list of State Antiquities Landmarks (SAL), the list of Recorded Texas Historic Landmarks (RTHL) and TxDOT files and found no historically significant resources within the area of potential effect (APE). Per our Section 106 Programmatic Agreement, the APE for this project consists of 150 feet from the existing and proposed new ROW.

TxDOT conducted a reconnaissance survey of the project APE to identify historic-age (built prior to 1977) properties. As a result of that survey, TxDOT identified 9 historic-age resources. None of these identified properties have any significance to historic events, people, or in architecture or design. Therefore, TxDOT finds all 9 historic-age properties as **not eligible** for the NHRP.

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

Lead Reviewer DocuSigned by: Rebekah Dobrasko 0F414A49C0E44B3... for TxDOT 5/12/2019

Rebekah Dobrasko Date

Approved by DocuSigned by: Bruce Jensen 7EBA09BEBA8043B... for TxDOT 5/12/2019

Bruce Jensen Date