Final
Environmental Assessment

IH 20 Frontage Road Project, Dallas District

Project limits: From Lawson Road to East of CR 138 (Wilson Road)

CSJ Numbers: 0095-14-027, 0095-13-038, 0495-01-071

Dallas and Kaufman Counties, Texas

April 2020

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 9, 2019, and executed by FHWA and TxDOT.

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List of Abbreviations and Acronyms

AADT	Annual Average Daily Traffic
ACM	Asbestos-Containing Materials
ACT	Antiquities Code of Texas
APE	Area of Potential Effects
AOI	Area of Influence
BMPs	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CGP	Construction General Permit
CMP	Congestion Management Process
CO	Carbon Monoxide
CR	County Road
CWA	Clean Water Act
EA	Environmental Assessment
EIS	Environmental Impact Statement
EJ	Environmental Justice
EMST	Ecological Mapping Systems of Texas
ENV-HMM	TxDOT ENV Division Hazardous Materials Management
EO	Executive Order
EPA	Environmental Protection Agency
EPIC	Environmental Permits, Issues, and Commitments
ESA	Endangered Species Act
ETC	Estimated Time of Completion
ETJ	Extraterritorial Jurisdiction
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
FTA	Federal Transit Administration
FWCA	Fish and Wildlife Coordination Act
HMIE	Hazardous Materials Impact Evaluation
HSM	Highway Safety Manual
IH	Interstate Highway
ISA	Initial Site Assessment
LCP	Lead-Containing Paint
LEP	Limited English Proficiency
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
MSAT	Mobile Source Air Toxics
MS4	Municipal Separate Storm Sewer System
MTP	Metropolitan Transportation Plan
MVMT	Million Vehicle Miles Traveled
NAAQS	National Ambient Air Quality Standards
NCTCOG	North Central Texas Council of Governments
NEPA	National Environmental Policy Act of 1969
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NOA	Notice of Availability
NOI	Notice of Intent
NOT	Notice of Termination
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTMWD	North Texas Municipal Water District
NWI	National Wetlands Inventory
NWP	Nationwide Permit
PCN	Pre-construction Notification

PM	Particulate Matter
PS&E	Plans, Specifications, and Estimates
PSL	Project Specific Locations
PST	Petroleum Storage Tank
ROW	Right-of-Way
RSA	Resource Study Area
SAL	State Antiquities Landmark
SGCN	Species of Greatest Conservation Need
SH	State Highway
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SP	Spur
SW3P	Storm Water Pollution Prevention Plan
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TCAP	Texas Conservation Action Plan
TDM	Transportation Demand Management
TERP	Texas Emissions Reduction Plan
THC	Texas Historical Commission
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TMDL	Total Maximum Daily Loads
TPDES	Texas Pollutant Discharge Elimination System
TP&P	Transportation Planning and Programming Division
TPWD	Texas Parks and Wildlife Department
TSM	Transportation System Management
TSSWCB	Texas State Soil and Water Conservation Board
TWDB	Texas Water Development Board
TxDOT	Texas Department of Transportation
US	United States Highway
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
VPD	Vehicles Per Day

1.0 INTRODUCTION

The Texas Department of Transportation (TxDOT) proposes various improvements to Interstate Highway (IH) 20 from Lawson Road in Dallas County to just east of County Road (CR) 138 (Wilson Road) in Kaufman County, Texas. The proposed improvements would include constructing continuous one-way frontage road lanes in each direction, reconfiguring the ramps from a "diamond" configuration to an "X" configuration at each interchange, and adding auxiliary lanes on the mainlanes. The project length is approximately 20.39 miles long. Appendix A shows the project location in relation to Dallas and Kaufman Counties and the cities of Dallas, Forney, and Terrell. Appendix B contains photographs of the project area.

The purpose of this environmental assessment (EA) is to study the potential environmental consequences of the proposed project and determine whether such consequences warrant preparation of an Environmental Impact Statement (EIS). Because the proposed project would be funded in part by the Federal Highway Administration (FHWA), this EA complies with FHWA's National Environmental Policy Act (NEPA) regulations as well as relevant TxDOT rules for environmental review of projects and guidance for conducting NEPA studies on behalf of FHWA. 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. Code (U.S.C.) 327 and a Memorandum of Understanding (MOU) dated December 9, 2019, and executed by FHWA and TxDOT.

A public hearing was held on November 21, 2019, to present the findings of this EA and the proposed design to the public, and to receive public comments. Written comments were solicited through the public notice and public hearing process. All comments received have been thoroughly considered by TxDOT.

Based on information contained in this EA and any comments submitted during the public hearing comment period, TxDOT has determined that environmental effects are not sufficiently substantial to warrant preparation of an EIS. TxDOT has determined that there are no significant adverse effects and will therefore prepare and sign a Finding of No Significant Impact (FONSI), which will be made available to the public.

2.0 PROJECT DESCRIPTION

2.1 Existing Facility

In Texas, IH 20 extends from Waskom in east Texas (20 miles west of Shreveport, Louisiana) to its confluence with IH 10 in west Texas. It traverses Dallas/Fort Worth, Abilene, and Midland/Odessa. The proposed project is located just east of Dallas.

Within the project limits, existing IH 20 has four to six, 12-foot wide mainlanes (two to three lanes in each direction) with 4 to 6-foot wide inside shoulders and 10-foot wide outside shoulders, separated by a 40 to 82-foot wide grassy median. There are no frontage roads, bike lanes, or sidewalks within most of the project limits, as the existing frontage road ends just east of Lawson Road. The existing right-of-way (ROW) in the project area varies from 375 to 550 feet in width and totals approximately 1,290 acres. **Appendix D** includes typical sections of the existing roadway.

2.2 Proposed Facility

The proposed improvements to IH 20 would add continuous one-way frontage roads in both the eastbound and westbound directions from Lawson Road to CR 138 (Wilson Road). The frontage roads would consist of a 12-foot wide inside lane, a 14-foot wide shared outside lane, a 4-foot wide inside shoulder and a 2-foot wide outside shoulder. A minimum 5-foot wide sidewalk would be included along the eastbound and westbound frontage roads behind the back of curb. Proposed auxiliary lanes on the mainlanes would be 12 feet wide. The proposed project would also include the reconstruction of the mainlanes to accommodate cross street improvements, and the construction, relocation, or modification of 43 ramps. The project proposes to replace, remove, or widen/extend 36 bridges and bridge class culverts. The project limits encompass the entire length of the project in which construction would take place and account for transitions into the existing IH 20 facility. The proposed project would require approximately 85.9 acres of additional ROW and approximately 3.8 acres of permanent easement (drainage easement). A schematic (plan view) of the proposed improvements is included in **Appendix C** and proposed typical sections are included in **Appendix D**.

A section of the proposed frontage roads between IH 20 and Spur (SP) 557 was previously cleared with a Categorical Exclusion in December 2013. This section of frontage roads included southbound SP 557 from Farm-to-Market Road (FM) 148 to IH 20 and along westbound IH 20 from FM 148 to SP 557. The section of frontage road along westbound IH 20 has already been constructed. The section of frontage road along eastbound SP 557 has not yet been constructed. The design of the southbound SP 557 frontage road schematic has been updated in the proposed IH 20 schematic to include minor modifications to the entrance ramp at the southbound SP 557 connection to IH 20 in order to include two through lanes on the southbound SP 557 connection to IH 20.

Federal regulations [23 Code of Federal Regulations (CFR) 771.111(f)(1)] require that federally funded transportation projects have logical termini. Simply stated, this means that a project must have rational beginning and ending points. Those points may not be created simply to avoid proper analysis of environmental impacts. The western limit of the proposed IH 20 project is Lawson Road. Existing frontage roads along IH 20 terminate approximately 0.8 mile east of Lawson Road at Lumley Road. The eastern limit of the proposed project is CR 138 (Wilson Road). This end point was chosen as a logical terminus because CR 138 is a major traffic generator.

Federal regulations [23 CFR 771.111(f)(2)] require that a project have independent utility and be a reasonable expenditure even if no other transportation improvements are made in the area. 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 project being built. As proposed, the IH 20 project addresses specific transportation needs identified within the project limits. Specifically, the proposed project would improve local access and circulation and traffic operation when compared to existing conditions. The mobility and connectivity benefits of the proposed IH 20 project stand-alone. Realization of these benefits is not dependent upon other projects/future actions; thus, the proposed project passes the test of independent utility. Further, because the project would stand alone and is not dependent upon other (future) improvements to properly function, it would not compel further expenditure of funds. For this reason, it cannot and does not irretrievably commit future federal funds.

Federal law [23 CFR 771.111(f)(3)] prohibits a project from restricting consideration of alternatives for other reasonably foreseeable transportation improvements. This means that a project must not dictate or restrict any future roadway alternatives. As proposed, the IH 20 project would in no way limit consideration of improvements, or alternatives for construction of such improvements, in adjoining sections of IH 20. For this reason, the proposed project does not foreclose consideration of alternatives for other reasonably foreseeable transportation improvements.

The estimated cost of the proposed IH 20 project is $680 million. The project would be financed with a combination of state and federal financing. The proposed project is included in the North Central Texas Council of Government's (NCTCOG) fiscally-constrained 2045 Metropolitan Transportation Plan (MTP) and the 2019–2022 Transportation Improvement Program (TIP), as amended A copy of the applicable pages from the MTP and TIP are included in **Appendix E**.

3.0 PURPOSE AND NEED

3.1 Need

The project is needed to address local policies and because design deficiencies along IH 20 between Lawson Road and CR 138 creates conflicts between local and regional traffic, resulting in congestion, reduced mobility, and safety issues along the corridor.

3.2 Supporting Facts and/or Data

Congestion and Mobility

IH 20 is the main highway connecting Longview, Tyler, Marshall, and Shreveport to the Dallas-Fort Worth metroplex. In the project area, IH 20 serves as a major freeway for both through-trips and commuters traveling to and from Dallas. The proposed project extends through part of Mesquite, Mesquite extraterritorial jurisdiction (ETJ), Forney ETJ, Talty and its ETJ, and Terrell and its ETJ, within Dallas and Kaufman counties.

According to the TxDOT Transportation Planning and Programming Division (TP&P) traffic projections from August 2018, the annual average daily traffic (AADT) along IH 20 within the project limits is anticipated to increase by approximately 40 percent between years 2025 and 2045. **Table 3-1** lists the traffic data for each segment of the IH 20 corridor.

Table 3-1: Annual Average Daily Traffic along IH 20

Limits	2025 AADT	2045 AADT	Percent Increase
Lawson Road to Spur 557	57,100	79,800	39.8%
Spur 557 to CR 138 (Wilson Road)	76,900	107,600	39.9%

According to the U.S. Census Bureau, the population of some jurisdictions within the project area grew significantly between 1990 and 2017. Kaufman County grew by roughly 120 percent and Talty grew by over 80 percent. Other jurisdictions grew at a more modest pace, including the population in Mesquite, Terrell, and Dallas County, which grew by 42 percent, 36.1 percent, and 37.7 percent, respectively, between 1990 and 2017. According to population projections from the Texas Water Development Board (TWDB), continued significant growth is anticipated in the project area. The population of Mesquite and Dallas County are expected to grow by 45.2 percent and 44.8 percent, respectively, between 2010 and 2015. The population of Talty and Kaufman County are projected to nearly double at 181.8 percent and 196.9 percent, respectively, and Terrell's population is projected to quadruple at 460 percent.

These projections indicate that cities that are closer to the Dallas area, such as Mesquite, will start to be built out and its population growth will start to slow down. Cities that are further from Dallas,

such as Terrell, are expected to experience higher growth rates. The infrastructure within the project area needs to be able to accommodate this projected population increase in order to maintain mobility for local and through travelers.

Design Deficiencies

The project limits of IH 20 was constructed as a rural interstate in the 1950's as part of the Interstate System, and roadway design standards have improved since its initial design and construction. Design deficiencies within the project limits include deficient ramp acceleration and deceleration lengths, limited incident management options, and lack of other modal options. The design of the supporting interchanges and street network is not capable of meeting the design year demands due to the lack of frontage roads and existing configuration of the entrance and exit ramps. Improvements to all interchanges in conjunction with the addition of one-way frontage roads, the relocation of the entrance and exit ramps, and the inclusion of bicycle and pedestrian accommodations would be needed to better serve the current and future development in the area by reducing congestion and improving safety and mobility.

Safety

Over the five-year period (2012–2016), 563 crashes were reported within the project limits. Of those, 492 occurred along the mainlanes; 35 occurred along the frontage roads; and 29 occurred on the ramps. The TxDOT five-year average crash rate for urban interstate facilities reported 122.21 crashes per 100 million vehicle miles traveled (100MVMT). The entire length of IH 20 within the project limits had a five-year average crash rate of 43.26 crashes per 100MVMT, which is 65 percent lower than the five-year statewide average crash rate. The five-year average crash rate for incapacitating injuries within the project limits is 4.24, which is below the statewide average rate of 6.81 for the same period. The five-year average fatality rate within the project limits was 1.85, which exceeds the statewide average rate of 1.42 for the same period.

As reported in the **Interstate Access Justification Report** (available for review at the TxDOT Dallas District office), in addition to examining historical crash data, it is now possible using the methods presented in the 2014 Supplement to the Highway Safety Manual (HSM) to predict future crashes for interstate highways and ramps. For this project, a comparative predictive HSM analysis was conducted to assess the potential safety benefits of the proposed freeway and ramp improvements compared to the current No Build condition. The results of the predictive crash analysis show the total crashes between the No Build and Build scenario is predicted to decrease by approximately 5 percent.

The current configuration of the IH 20 facility results in potential safety and incident management issues in the corridor. In order to access other parts of the project area between intersections for short trips (i.e., from Malloy Bridge Road to FM 741), local traffic must use the IH 20 mainlanes because there are no frontage roads. This results in mingling of local and through traffic that could create conflicts. In the case of a vehicle collision or stalled vehicle on the mainlanes, there is no

relief route for travelers to take. Currently, IH 20 travelers would have to wait until the incident is cleared or take local roads north or south to another east/west roadway (e.g., United States Highway (US) 80 or US 175), thus adding considerable time to their trip. Therefore, continuous frontage roads are needed throughout the project limits to reduce conflicts between local and through traffic, and to enhance incident management effectively.

Local Planning

The current configuration of cross street connections within the project area is inconsistent with local planning efforts. One objective listed in the Kaufman County Transportation Plan (August 2016) is to promote the design and implementation of continuous frontage roads along major highways, including IH 20, within the county. This will enhance and improve access to employment and activity destinations within Kaufman and neighboring counties.

3.3 Purpose

The purpose of the proposed project is to address local policies, improve mobility, accommodate future traffic demand, enhance access, and improve safety along IH 20 between Lawson Road and CR 138.

4.0 ALTERNATIVES

The alternatives identification and evaluation process conducted for the proposed project, described in **Section 4.3** (below), resulted in the narrowing of the field of alternatives down to two alternatives: the Build Alternative and the No Build Alternative. These two alternatives are evaluated in detail in **Section 5.0** of this EA.

4.1 Build Alternative

The Build Alternative, described in **Section 2.2**, satisfies the project purpose and need. The addition of frontage roads would improve mobility in the rapidly growing area between east Dallas and Terrell. Frontage roads would also improve safety by offering an alternative route to the frequent merging on IH 20. The proposed modifications in access are justified based on the travel demand needs within the project limits and would overall improve local access, circulation, and traffic operation when compared to existing conditions. Because the Build Alternative satisfies the project's purpose and need, it is the recommended alternative.

4.2 No Build Alternative

Under the No Build Alternative, the proposed improvements to IH 20 would not be constructed. The No Build Alternative would not require the conversion of approximately 85.9 acres from existing land uses to transportation use (ROW) nor would other project-related impacts occur. The No Build Alternative would not enhance mobility or improve safety within the corridor. Consequently, the anticipated benefits of the proposed project would not be realized and conditions in the IH 20 corridor would continue to deteriorate and pose safety and operational concerns. For this reason, the No Build Alternative does not meet the purpose and need for the proposed improvements (described in **Section 3.0**) and is not the recommended alternative.

Although the No Build Alternative fails to meet the project's purpose and need and is not the recommended alternative, it was carried forward (per the requirements of NEPA) as the baseline for comparison. The No Build Alternative is evaluated in this EA along with the Build Alternative.

4.3 Preliminary Alternatives Considered but Eliminated from Further Consideration

An alternatives analysis was performed to evaluate four preliminary alternatives, including a No Build Alternative and the Build Alternative. The following two alternatives were considered but eliminated from further consideration:

- Transportation System Management (TSM) - This alternative seeks to mitigate traffic congestion by identifying operational improvements. TSM improvements often improve traffic flow and safety by incorporating better-coordinated system management and operation.

- Transportation Demand Management (TDM) – this alternative focuses on reducing the number of vehicular demands and single occupancy vehicle trips on the roadway by offering alternatives to driving alone.

The preliminary alternatives were evaluated based on their ability to satisfy the project's purpose and need. The TSM Alternative and the TDM Alternative failed to satisfy the project purpose and need; thus, these alternatives were eliminated from further study.

5.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

In support of this EA, the following technical reports were prepared:

- Scope Development Tool
- Community Impacts Assessment Technical Report Form
- Archeological Survey Report
- Historic Resources Survey Report
- Water Resources Technical Report
- Biological Evaluation Form and Tier I Site Assessment Form
- Air Quality Technical Report
- Hazardous Materials Initial Site Assessment
- Traffic Noise Technical Report
- Indirect Impacts Technical Report
- Cumulative Impacts Technical Report
- Public Meeting Summary
- Public Hearing Summary

These technical reports and form are incorporated by reference in this EA. Copies of the technical reports are on file and available for review at the TxDOT-Dallas District, 4777 E. Hwy 80, Mesquite, TX, 75150-6643.

For purposes of environmental study, project-related effects are categorized as direct, indirect and cumulative. Direct effects are defined as those impacts which are caused by the action and occur at the same time and place. Indirect effects, while being reasonably foreseeable, are also caused by the action, but occur later in time or are farther removed in distance. Encroachment-alteration effects are a type of indirect impact, removed from the proposed project in both time and distance, and defined as those impacts that alter the behavior and function of the physical environment. Other indirect effects pertain primarily to induced growth. Cumulative effects result from the incremental impacts of an action when considered together with other past, present and reasonably foreseeable future actions regardless of who takes the other actions. This section (**Section 5.0**) addresses direct, indirect (encroachment-alteration and induced growth) and cumulative effects that would result from the proposed IH 20 project.

5.1 Right-Of-Way/Displacements

<u>Build Alternative:</u> The Build Alternative would require the acquisition of approximately 85.9 acres of new (additional) ROW, none of which has been previously acquired through early acquisition. The additional ROW would be necessary to accommodate the additional pavement width, side slope grading, existing terrain, cross drainage structures, utilities, and to maintain property access and improve the roadway geometrics and safety. The additional ROW would be acquired from 132 parcels.

The additional ROW would result in the displacement of four single-family residences, one commercial property (a vacant parcel slated for development as an auto-related business), and a community meeting center for the Heartland subdivision (see the **Project Resource Map** in **Appendix F**).

All ROW acquisition would be completed in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1979, as amended.

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

5.2 Land Use

The western-most portion of the proposed project is located in the city of Mesquite in Dallas County. Eastward, the project goes through the town of Talty and the city of Terrell in Kaufman County. The project terminates southeast of the city of Terrell. Land use immediately adjacent to IH 20 includes predominantly agricultural and scattered rural. Higher density suburban developments are also located adjacent to the roadway in Mesquite, Terrell, and the Heartland master-planned subdivision.

Build Alternative: Increased development along the IH 20 corridor can be anticipated as a result of the project and increased mobility and access. Commercial businesses are likely to locate along the new frontage roads. It is also possible that continued residential development could occur in the corridor as a result of the project. Land use on the acquired parcels would change from residential, open space, or commercial to transportation use.

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

5.3 Farmlands

The Farmland Protection Policy Act (FPPA) seeks to preserve the agricultural use of soils that are particularly productive. The Natural Resources Conservation Service (NRCS) implements the FPPA through regulations and by classifying soil series in terms of suitability for farming. According to NRCS, approximately 70.3 acres of areas classified as prime farmland are included within the proposed ROW and permanent drainage easements.

Build Alternative: In compliance with FPPA regulations, the portion of the proposed project area that is not already committed to urban land use (i.e., the 1,290 acres of existing ROW), was evaluated using the Farmland Conversion Impact Rating Form for Corridor Type Projects (NRCS-CPA-106) for the proposed 89.7 acres of new ROW/easements. The total corridor assessment of

impacts totaled 39 points, which is below the 60-point threshold that requires further consideration for protection of farmland. Based on the results of the farmland analysis and scoring, no further consideration for the protection of farmland is required by the FPPA regulations.

No Build Alternative: Under the No Build Alternative, no transportation-related impacts to prime farmland would occur. Undeveloped lands currently used for agriculture would likely continue to be used for crop production or pasture unless the property owner pursues urban site development.

5.4 Utility Relocation

Build Alternative: The proposed project would require the adjustment or relocation of underground and/or overhead utilities. At the current phase of project development, the locations of utilities potentially requiring adjustment or relocation have not yet been identified. Impacted utilities would be identified during the final design phase. At that time, coordination with utility owners and service providers would occur and relocation/adjustment plans would be developed. Utility relocations and adjustments would be accomplished with the minimal practical disruption in service to utility customers.

No Build Alternative: Under the No Build Alternative there would be no project-related impacts to utilities.

5.5 Bicycle and Pedestrian Facilities

Build Alternative: Currently, there are only pedestrian facilities (sidewalks) located within planned communities and neighborhoods in the towns along IH 20. The proposed project would add 5-foot wide sidewalks along eastbound and westbound frontage roads. Designated bike lanes do not currently exist in the project area. The proposed IH 20 frontage roads would include a 14-foot wide shared outside lane to accommodate bicyclists.

No Build Alternative: Under the No Build Alternative, there would be no project-related impacts and improvements to bicycle/pedestrian facilities would not occur.

5.6 Community Impacts

The proposed project is located within the cities of Mesquite, Talty, and Terrell, and their respective ETJs in Dallas and Kaufman counties, Texas as well as the master-planned subdivision of Heartland. The study area for the community assessment includes properties adjacent to the proposed project and neighborhoods in which the main ingress and egress is IH 20. Twenty-two community facilities were identified within the study area and consist of two cemeteries, four education facilities, two sports facilities, two parks, nine places of worship, a police department, a town hall, and a thrift store.

There are 36 predominately minority Census blocks within the study area. These populations are therefore considered environmental justice (EJ) populations. No Census blocks in the study area have a median income below the Department of Health and Human Services poverty level. Potential direct impacts to the EJ populations were analyzed to ensure these groups would not be adversely or disproportionately affected by the Build Alternative.

Socioeconomic and demographic information about the affected communities is found in the **Community Impact Assessment Technical Report Form**, available for review at the TxDOT Dallas District office.

Build Alternative: Potential displacements that would occur as a result of the proposed project consist of four residential, one commercial (future), and one other property (Heartland Hall). The commercial displacement is considered a future displacement as the business does not currently exist, but is planned. The planned business, however, would not offer a unique service in the area. The residential displacements would have an impact as comparable housing does not exist within the vicinity of the project area near the existing housing. The commercial and other displacement would not have an impact on the community as a whole. Proposed ROW acquisition would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Substantial impacts to the community are not anticipated as a result of the proposed displacements.

Existing residents and businesses adjacent to the project area are currently separated by IH 20; therefore, the proposed project would not create a new separation. While the proposed project is widening the separation created by the existing roadway, overall access and connectivity would be improved by allowing better access and faster travel times to/from communities along IH 20. The only exception would be for the neighborhoods and businesses north and south of IH 20 along Helms Trail. The proposed project would eliminate the Helms Trail overpass which would eliminate direct access from residential areas south of IH 20 to reach the rest of the town of Talty that is located north of IH 20. These travelers would need to travel farther west or east along FM 2932 or FM 1641 in order to reach these businesses. This would disrupt community cohesion in Talty.

The proposed project would overall improve access and mobility for users along IH 20 and for the surrounding communities. Currently, many travelers need to travel out of the way in order to access IH 20 since many cross streets do not have direct access to the interstate. The reconfiguration of ramps from a rural "diamond" pattern to an urban "X" pattern would provide more direct access because much of the traffic would no longer be required to travel through the intersections to reach their destinations. The urban "X" configuration also allows for longer weaving distances on the frontage roads, thereby increasing safety. The addition of sidewalks and the 14-foot wide shared outside lane of the frontage roads would allow pedestrians and bicyclists to travel along the corridor safely and access properties along the corridor where they currently are unable to. Some businesses and neighborhoods in the area that are currently accessed by two-way frontage roads

would be impacted as travelers would lose direct access to these areas and alternate routes would need to be taken. There would also be some businesses affected by the conversion of the ramp configuration; however, no businesses would lose access in a manner that would prevent them from continuing to operate. The proposed roadway would ultimately provide drivers, pedestrians, and cyclists a more efficient route to access cross streets and adjacent properties in the project area. Therefore, negative impacts to access and travel patterns for communities in the project area resulting from the implementation of the proposed project are not anticipated.

The proposed project would not disproportionately and adversely affect EJ populations. None of the six displacements would occur in predominately minority and/or low-income areas. While the proposed project could impact community cohesion in some areas along IH 20, the minority Census blocks would not be affected more than non-minority Census blocks. No disproportionately high and adverse impacts on minority populations are anticipated as a result of the proposed project and there are no low-income populations within the study area. The proposed roadway improvements would benefit the community as a whole, including EJ populations.

Information about project displacements, access/travel pattern modifications, and EJ populations is found in the **Community Impact Assessment Technical Report Form**, available for review at the TxDOT Dallas District office.

Executive Order (EO) 13166, "Improving Access to Services for Persons with Limited English Proficiency," requires federal agencies to examine the services they provide, identify any need for services to those with Limited English Proficiency (LEP), and develop and implement a system to provide those services so that LEP persons can have meaningful access to them. Based on data from the 2017 American Community Survey, block groups located within and adjacent to the project area have an LEP population ranging from approximately one to 30 percent. Spanish speakers make up the largest portion of the LEP population with 6.9 percent. Other LEP populations are Indo-European (0.7 percent), Asian and Pacific Islander (0.3%), and Other (0.3%). Within the proposed project limits, while most signs were in English, some signs were observed in Spanish.

To comply with EO 13166 and to ensure full and fair public participation for the proposed project, newspaper advertisements for the public meeting held in September 2017 and the public hearing held in November 2019 were published in both English and Spanish in The Dallas Morning News and Al Dia. Comment forms were also made available in English and Spanish, and a project team member was available at the public meeting and public hearing to accommodate the communication needs of individuals speaking Spanish. No requests for assistance in another language other than English were requested.

<u>No Build Alternative</u>: Under the No Build Alternative, there would be no IH 20 project-related impacts to communities and the displacements would not occur. The communities in the project

area would continue to have increased traffic which, in turn, would result in reduced mobility and safety in the project area. Additionally, no IH 20 project-related impacts to minority or low-income populations would occur under the No Build Alternative as the proposed project would not be constructed.

5.7 Visual/Aesthetic Impacts

IH 20 is an existing, well established interstate highway. The project is located within a growing suburban area east of Dallas. With little exception, vegetation in the existing ROW consists of maintained grass with little tree cover. Outside of the existing ROW is primarily pasture and riparian vegetation corridors. IH 20 is a dominant visual feature in the project area.

Build Alternative: The proposed project would follow the existing alignment of IH 20. The primary changes to the visual environment in the project corridor consist of the addition of the two lane frontage roads on each side of IH 20. Since the proposed project would be along an existing roadway corridor, the visual and aesthetic impacts would be negligible.

No Build Alternative: The No Build Alternative would not result in IH 20 project-related visual impacts along the corridor as the proposed improvements would not be constructed.

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 (ACT) 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. The evaluation of impacts to cultural resources has been conducted in accordance with the Programmatic Agreement among the FHWA, TxDOT, the SHPO and the Advisory Council on Historic Preservation Regarding the Implementation of Transportation Undertakings. Review and coordination of this project followed approved procedures for compliance with federal and state laws.

5.8.1 Archeology

An intensive pedestrian survey was conducted for the project in the moderate to high probability areas that have avoided significant ground disturbances identified within the Area of Potential Effects (APE). The purpose of the archeological survey was to ensure compliance with Section 106 of the NHPA, as amended, and the ACT. An inventory of archeological resources (as defined by Code of Federal Regulations, Title 36, Section 800.4 [36 CFR 800.4]) was conducted within the proposed

project area to identify and evaluate any identified resources for their eligibility for inclusion in the National Register of Historic Places (NRHP), as per Section 106 (36 CFR Part 800), or for designation as State Antiquities Landmarks (SAL) under the ACT and Texas Administrative Code, Title 13, Chapter 26 (13 TAC 26).

Build Alternative: The intensive archeological survey included shovel testing and backhoe trenching under Texas Antiquities Permit Number 8869. Fourteen high probability units were selected for survey within the 20.39-mile corridor. Due to significant flooding in portions of the APE, the survey effort was conducted on two separate occasions. The initial survey effort was conducted May 2–24, 2019, in which four new archeological sites were recorded: Sites 41KF183, 41KF184, 41KF185 and 41KF186. Additionally, five previously recorded sites were revisited and two isolated finds were recorded. None of these sites were recommended for further work within the APE and were also recommended not eligible for listing to the NRHP or as a SAL. The SHPO concurred with this determination on June 20, 2019 (see **Appendix G**). A follow-up survey was conducted July 25 and 26, 2019, resulting in negative shovel and backhoe trenching tests. Results of this survey effort were coordinated with the SHPO, who concurred with the findings on September 5, 2019 that the proposed project would have no effect on any eligible archeological sites and that no further archeological investigations are needed (see **Appendix G**). The **Archeological Background Study Report, Antiquities Permit Application for Archeology, THC Permit**, and **Archeological Survey Report** prepared for the proposed project are available at the TxDOT Dallas District office.

Coordination with federally recognized Native American tribes was initiated on January 6, 2017, with a 30-day review period ending on February 6, 2017. No response was received from the federally recognized Native American tribes. The coordination letter is included in **Appendix G**.

In the event that cultural resources are encountered during construction, 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: As construction of the proposed IH 20 project would not occur, there would be no project-related impacts on archeological resources associated with the No Build Alternative.

5.8.2 Historic Properties

In compliance with the Programmatic Agreement for Transportation Undertakings, as executed among FHWA, TxDOT, the State Historic Preservation Officer, and the Advisory Council on Historic Preservation, an historic resource survey was conducted for the proposed IH 20 project.

Build Alternative: Project historians surveyed the project APE in April 2019 and documented 30 properties with historic-age resources within the project area. Following evaluation of the properties, project historians recommend that none of the properties are eligible for listing in the

NRHP. The **Historic Project Coordination Request Form, Historic Research Design**, and **Historic Resources Survey Report** prepared for the proposed project are available at the TxDOT Dallas District office.

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 is no effect to historic, non-archeological properties in the APE. Individual project coordination with SHPO was not required (see **Appendix G** for the clearance memo dated June 10, 2019).

No Build Alternative: Because the proposed IH 20 improvements would not be constructed, the No Build Alternative would not result in project-related impacts to historic resources.

5.9 Protected Lands

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. Kings Creek Park is located adjacent to the project area on the south side of IH 20 east of SH 34. No ROW or easements would be required from Kings Creek Park; therefore, no impacts would occur. Kings Creek Park was also evaluated for traffic noise levels, and it was determined that noise impacts would not occur within the park's activity areas.

Section 6(f) of the Land and Water Conservation Fund Act requires that recreational facilities receiving U.S. Department of Interior funding from the Land and Water Conservation Fund Act as allocated by the 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.

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

5.10 Water Resources

Water resources occurring in the project area were researched by desktop review of web resources from the United States Geological Survey (USGS) National Hydrography Dataset (NHD) and 7.5-minute topographic data for the Seagoville, Forney South, Terrell South, and Elmo quadrangles, Texas Commission on Environmental Quality (TCEQ), TWDB, Federal Emergency Management Agency (FEMA), United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping, Texas State Soil and Water Conservation Board (TSSWCB), and aerial photography.

Desktop mapping of water resources was performed using Geographic Information System mapping, utilizing spatial data obtained from USGS, FEMA, TSSWCB, and USFWS.

5.10.1 Clean Water Act Section 404

Pursuant to Section 404 of the Clean Water Act (CWA), an investigation was conducted to identify potential jurisdictional waters of the U.S., including wetlands, within the project area. Field reconnaissance conducted on April 2–4, 2019 identified potentially jurisdictional waters of the U.S. that could be impacted by the proposed project. A total of 79 surface water features were found in the project area. They include 42 jurisdictional creeks/rivers (East Fork Trinity River and five of its tributaries, a tributary to South Mesquite Creek, Mustang Creek and two of its tributaries, Buffalo Creek, Big Brushy Creek and five of its tributaries, Little Brushy Creek and four of its tributaries, Terry Creek, Bachelor Creek and four of its tributaries, Kings Creek and four of its tributaries, Eagans Creek and three of its tributaries, a tributary to Anthony Branch, and four other unnamed creeks), six impoundments (four of which are potentially jurisdictional), and 31 wetlands (28 of which are potentially jurisdictional). Detailed information can be found in the **Water Resources Technical Report** prepared for the proposed project, available at the TxDOT Dallas District office.

Build Alternative: The proposed project would result in approximately 1.84 acres (3,973.86 linear feet) of permanent impacts to water features, of which 1.75 acres (3,906.36 linear feet) are likely jurisdictional waters of the U.S. The placement of temporary or permanent dredge or fill material into potentially jurisdictional waters of the U.S. would be authorized under Nationwide Permit (NWP) 14 and NWP 25, with a Pre-Construction Notification (PCN). **Table 5-1** identifies the 79 jurisdictional features and anticipated impacts at each. More details are provided in the **Water Resources Technical Report**.

No Build Alternative: Because the proposed IH 20 improvements would not be constructed, the No Build Alternative would not result in project-related impacts to wetlands and waters of the U.S.

Table 5-1: Project Surface Waters

Feature ID	Feature Name	Closest Station Number	Delineated Area (Acres/Linear Feet)	Existing Structure	Proposed Work or Structure	Potential Permanent Impacts (Acres/Linear Feet)	Potentially Jurisdictional	Permit	PCN Required
1	Unnamed Tributary to South Mesquite Creek	390+00	0.00 ac/ 15.93 lf	None	Roadway Fill	<0.01 ac/ 15.93 lf	Yes	NWP 14	No
2	Unnamed Tributary to East Fork Trinity River	415+00	0.09 ac/ 531.84 lf	Mainlane Bridge	Frontage Road Bridge	<0.01 ac/ 9.00 lf	Yes	NWP 25	No
3	Wetland	452+00	0.30 ac	None	Exit Ramp	0.12 ac	Yes	NWP 14	Yes
4	Wetland	455+00	0.12 ac	Mainlane Bridge	None	0 ac	Yes	None	No
5	Unnamed Tributary to East Fork Trinity River*	455+00	0.13 ac/ 137.69 lf	Mainlane Bridge	None	0 ac/ 0 lf	Yes	None	No
6	Wetland	457+00	0.09 ac	None	None	0 ac	Yes	None	No
7	Wetland	460+00	0.38 ac	None	None	0 ac	Yes	None	No
8	Wetland	467+00	0.03 ac	None	Frontage Road Side Slopes	<0.01 ac	Yes	NWP 14	Yes
9	Wetland	480+00	0.34 ac	None	Frontage Road Side Slopes	0.26 ac	Yes	NWP 14	Yes
10	Wetland	485+00	1.83 ac	None	Frontage Road Bridge	0.26 ac	Yes	NWP 14	Yes
11	Wetland	487+00	0.03 ac	None	None	0 ac	Yes	None	No
12	Impoundment	487+00	0.04 ac	None	None	0 ac	Yes	None	No
13	East Fork Trinity River	495+00	0.64 ac/ 788.56 lf	None	Frontage Road Bridge	<0.01 ac/ 36.00 lf	Yes	NWP 25	No
14	Wetland	505+00	0.42 ac	None	None	0 ac	Yes	None	No
15	Unnamed Tributary to East Fork Trinity River	517+00	0.55 ac/ 911.70 lf	Mainlane Bridge	Frontage Road Bridge	<0.01 ac/ 54.00 lf	Yes	NWP 25	No
16	Unnamed Tributary to East Fork Trinity River*	520+00	0.04 ac/ 744.23 lf	None	None	0 ac/ 0 lf	Yes	None	No
17	Impoundment	525+00	0.08 ac	None	Frontage Road	0.08 ac	Yes	NWP 14	No
18	Wetland	530+00	0.78 ac	None	None	0 ac	Yes	None	No

Feature ID	Feature Name	Closest Station Number	Delineated Area (Acres/Linear Feet)	Existing Structure	Proposed Work or Structure	Potential Permanent Impacts (Acres/Linear Feet)	Potentially Jurisdictional	Permit	PCN Required
19	Unnamed Tributary to East Fork Trinity River*	530+00	0.66 ac/ 751.69 lf	Mainlane Bridge	Frontage Road Bridge	<0.01 ac/ 9.00 lf	Yes	NWP 25	No
20	Unnamed Stream	570+00	0.22 ac/ 838.04 lf	Mainlane Culvert	Mainlane and Frontage Road Culvert	0.04 ac/ 506.82 lf	Yes	NWP 14	Yes
21	Wetland	578+00	0.01 ac**	None	None	0 ac	Yes	None	No
22	Unnamed Stream*	583+00	0.01 ac/ 195.80 lf	Exit Ramp Culvert	Frontage Road Culvert	0 ac 0 lf	Yes	None	No
23	Unnamed Tributary to Mustang Creek	634+00	0.01 ac/ 26.45 lf	None	Frontage Road	0.01 ac/ 24.72 lf	Yes	NWP 14	No
24	Unnamed Tributary to Mustang Creek*	651+00	0.08 ac/ 119.04 lf	None	Frontage Road Culvert	0.03 ac/ 41.89 lf	No	None	No
25	Mustang Creek	680+00	0.42 ac/ 1259.44 lf	Mainlane and Frontage Road Bridge	Frontage Road Bridge Extension	0.05 ac/ 94.86 lf	Yes	NWP 14 NWP 25	Yes
26	Impoundment	706+00	0.03 ac**	None	Frontage Road Tie-in	<0.01 ac	No	None	No
27	Wetland	685+00	0.01 ac	None	None	0 ac	Yes	None	No
28	Unnamed Stream	767+00	0.14 ac/ 579.93 lf	Mainlane Culvert	Frontage Road Culvert	0.04 ac/ 259.34 lf	Yes	NWP 14	No
29	Unnamed Stream*	770+00	0.02 ac/ 455.46 lf	None	Frontage Road	0.02 ac/ 445.46 lf	Yes	NWP 14	Yes
30	Wetland	810+00	0.36 ac	None	Frontage Road	0.15 ac	Yes	NWP 14	Yes
31	Buffalo Creek	814+00	0.14 ac/ 610.33 lf	Mainlane Culvert	Frontage Road Culvert & Side Slopes	0.01 ac 122.77 lf	Yes	NWP 14	Yes
32	Wetland	931+00	0.04 ac	None	Frontage Road Culvert	0.02 ac	Yes	NWP 14	Yes
33	Wetland	934+00	0.05 ac	None	Frontage Road Culvert	0.02 ac	Yes	NWP 14	Yes
34	Wetland	965+00	0.99 ac	Mainlane Bridge	Frontage Road Bridge	0.15 ac	Yes	NWP 14	Yes
35	Unnamed Tributary to Big Brushy Creek*	969+00	0.10 ac/ 739.78 lf	None	None	0 ac/ 0 lf	Yes	None	No
36	Unnamed Tributary to Big Brushy Creek	972+00	0.05 ac/ 231.59 lf	Mainlane Bridge	Frontage Road Bridge	0 ac/ 0 lf	Yes	None	No
37	Wetland	980+00	0.15 ac	None	Frontage Road Side Slopes	<0.01 ac	Yes	NWP 14	Yes

Feature ID	Feature Name	Closest Station Number	Delineated Area (Acres/Linear Feet)	Existing Structure	Proposed Work or Structure	Potential Permanent Impacts (Acres/Linear Feet)	Potentially Jurisdictional	Permit	PCN Required
38	Big Brushy Creek	984+00	0.16 ac/ 501.50 lf	Mainlane Bridge	Frontage Road Bridge	<0.01 ac/ 9.00 lf	Yes	NWP 25	No
39	Wetland	988+00	0.17 ac	Mainlane Bridge	Frontage Road Bridge	0.01 ac	Yes	NWP 25	Yes
40	Unnamed Tributary to Big Brushy Creek*	988+00	0.22 ac/ 377.76 lf	Mainlane Bridge	Frontage Road Bridge	0.01 ac 94.73 lf	Yes	NWP 25	No
41	Impoundment	988+00	0.08 ac	Mainlane Bridge	None	0 ac	Yes	None	No
42	Unnamed Tributary to Big Brushy Creek*	990+00	0.10 ac/ 504.74 lf	Mainlane Bridge	Frontage Road Bridge	0 ac/ 0 lf	Yes	None	No
43	Unnamed Tributary to Big Brushy Creek*	1006+00	0.08 ac/ 141.94 lf	None	Frontage Road and Frontage Road Culvert	0.06 ac/ 125.07 lf	Yes	NWP 14	No
44	Terry Creek	1030+00	0.27 ac/ 1030.28 lf	Mainlane Bridge	Frontage Road Bridge	0 ac/ 0 lf	Yes	None	No
45	Wetland	1044+00	0.04 ac	None	Frontage Road	0.02 ac	Yes	NWP 14	Yes
46	Wetland	1100+00	0.05 ac	None	Frontage Road Culvert	0.01 ac	No	None	No
47	Wetland	1101+00	0.01 ac	None	None	0 ac	No	None	No
48	Impoundment	1101+00	0.06 ac	None	None	0 ac	No	None	No
49	Unnamed Tributary to Little Brushy Creek	1104+00	0.01 ac/ 137.96 lf	Mainlane Culvert	Frontage Road Culvert	<0.01 ac/ 2.05 lf	Yes	NWP 14	No
50	Little Brushy Creek	1130+00	0.26 ac/ 1285.14 lf	Surface Road Bridge, Mainlane Bridge	Frontage Road Culvert & Bridge	0.26 ac/ 1,285.14 lf	Yes	NWP 14	Yes
51	Wetland	1130+00	0.02 ac	None	Frontage Road Culvert	0.01 ac	Yes	NWP 14	Yes
52	Unnamed Tributary to Little Brushy Creek*	1131+00	0.09 ac/ 311.71 lf	None	Frontage Road & Culvert	0.03 ac/ 185.60 lf	Yes	NWP 14	Yes
53	Wetland	1132+00	0.03 ac	None	None	0 ac	Yes	None	No
54	Unnamed Tributary to Little Brushy Creek	1159+00	0.04 ac/ 261.90 lf**	None	Frontage Road Culvert	<0.01 ac/ 28.40 lf	Yes	NWP 14	No
55	Wetland	1160+00	0.04 ac	None	Frontage Road Exit	0.04 ac	Yes	NWP 14	Yes

Feature ID	Feature Name	Closest Station Number	Delineated Area (Acres/Linear Feet)	Existing Structure	Proposed Work or Structure	Potential Permanent Impacts (Acres/Linear Feet)	Potentially Jurisdictional	Permit	PCN Required
56	Unnamed Tributary to Little Brushy Creek	1172+00	0.01 ac/ 77.37 lf**	None	Frontage Road Culvert	<0.01 ac/ 77.37 lf	Yes	NWP 14	No
57	Unnamed Tributary to Bachelor Creek	1200+00	0.01 ac/ 25.61 lf	None	Frontage Road	0.01 ac/ 25.61 lf	No	None	No
58	Unnamed Tributary to Bachelor Creek*	1210+00	0.10 ac/ 1041.26 lf	Local Road Culvert	Extend Culvert	<0.01 ac/ 72.90 lf	Yes	NWP 14	No
59	Unnamed Tributary to Bachelor Creek*	1222+00	0.15 ac/ 655.81 lf	Mainlane Culvert	Extend Culvert	0 ac/ 0 lf	Yes	None	No
60	Wetland	1223+00	0.10 ac	None	Frontage Road Culvert	0.03 ac	Yes	NWP 14	Yes
61	Bachelor Creek	1230+00	1.38 ac/ 1530.03 lf	Mainlane & Local Road Bridge	Frontage Road Bridge	0.03 ac/ 57.96 lf	Yes	NWP 14/ NWP 25	No
62	Wetland	1232+00	0.25 ac	Mainlane Bridge	None	0 ac	Yes	None	No
63	Unnamed Tributary to Bachelor Creek	1236+00	0.01 ac/ 39.91 lf	None	None	0 ac/ 0 lf	No	None	No
64	Unnamed Tributary to Kings Creek	815+00	0.24 ac/ 1350.20 lf	None	Frontage Road Culvert	0.02 ac/ 132.14 lf	Yes	NWP 14	Yes
65	Unnamed Tributary to Kings Creek	845+00	0.27 ac/ 987.03 lf	Mainlane Culvert	Frontage Road Culvert	0.05 ac/ 125.46 lf	Yes	NWP 14	Yes
66	Unnamed Tributary to Kings Creek	864+00	0.35 ac/ 363.62 lf	Mainlane Bridge	Frontage Road Bridge	<0.01 ac/ 18.00 lf	Yes	NWP 14/ NWP 25	No
67	Unnamed Tributary to Kings Creek*	866+00	0.01 ac/ 42.04 lf	None	None	0 ac/ 0 lf	Yes	None	No
68	Kings Creek	869+00	0.07 ac/ 453.42 lf	Mainlane Bridge	Frontage Road Bridge	0 ac/ 0 lf	Yes	None	No
69	Wetland	870+00	0.03 ac	None	None	0 ac	Yes	None	No
70	Impoundment	874+00	0.01 ac	None	None	0 ac	Yes	None	No
71	Unnamed Tributary to Eagans Creek*	875+00	0.09 ac/ 327.46 lf	None	Frontage Road Bridge	0 ac/ 0 lf	Yes	None	No
72	Eagans Creek	877+00	0.38 ac/ 1329.38 lf	Mainlane Bridge	Frontage Road & Bridge	<0.01 ac/ 46.97 lf	Yes	NWP 14	No
73	Wetland	878+00	0.01 ac	None	Frontage Road Bridge	0.01 ac	Yes	NWP 14	Yes
74	Wetland	885+00	0.01 ac	None	None	0 ac	Yes	None	No
75	Unnamed Tributary to Eagans Creek	898+00	0.15 ac/ 639.70 lf	Mainlane & Frontage Road Culvert	Frontage Road Culvert	0.02 ac/ 77.64 lf	Yes	NWP 14	No

Feature ID	Feature Name	Closest Station Number	Delineated Area (Acres/Linear Feet)	Existing Structure	Proposed Work or Structure	Potential Permanent Impacts (Acres/Linear Feet)	Potentially Jurisdictional	Permit	PCN Required
76	Unnamed Tributary to Eagans Creek	910+00	0.10 ac/ 436.37 lf	Mainlane Culvert	None	0 ac/ 0 lf	Yes	None	No
77	Wetland	910+00	0.04 ac	None	Frontage Road Culvert	0.02 ac	Yes	NWP 14	Yes
78	Wetland	955+00	0.23 ac	None	Frontage Road	0.03 ac	No	None	Yes
79	Unnamed Tributary to Anthony Branch	972+00	0.01 ac/ 3.16 lf	Mainlane Culvert	None	0 ac/ 0 lf	Yes	None	No
		TOTALS	14.63 ac/ 22,586.94 lf	–	–	1.84 ac 3,973.86 lf	–	–	–

*Not shown on the USGS topographic map

**Right-of-Entry not granted at parcel; area calculated from aerial images

5.10.2 Clean Water Act Section 401

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

Section 401 Water Quality Certification would be required for the proposed project. The Section 401 Certification requirements for NWP 14 and 25 would be met by implementing a Storm Water Pollution Prevention Plan (SW3P). The SW3P would include at least one BMP from the Tier I 401 Water Quality Certification Conditions for NWPs as published by the TCEQ. These BMPs would address each of the following categories:

- Category I Erosion Control would be addressed by using permanent seeding/sodding.
- Category II Post-Construction Total Suspended Solids Control would be addressed by installing vegetative filter strips.
- Category III Sedimentation Control would be addressed by installing silt fences.

Other approved methods would be substituted if necessary, using one of the BMPs from the identical category.

The potential for project-related encroachment-alteration effects on water quality would be mitigated through temporary and permanent (post-construction) BMPs as described above. Water resources could receive an increased amount of sediment if storm water were released from the project area despite the use of BMPs. To minimize the potential for adverse impacts, BMPs would be regularly inspected and proactively maintained.

No Build Alternative: Because the proposed IH 20 improvements would not be constructed, the No Build Alternative would not result in project-related impacts to water quality.

5.10.3 Executive Order 11990 Wetlands

EO 11990 Protection of Wetlands (42 Federal Register 26961, May 24, 1977) provides the requirement “to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.”

Build Alternative: Based on the current design analysis, there are no practicable alternatives to construction in wetlands. The wetlands would incur permanent and

temporary impacts due to construction activities associated with bridges, culverts, and drainage improvements. Without these activities, water would not flow between the bridge columns or through the culverts appropriately and could result in negatively affecting the integrity of the proposed structure. As the project progresses through the Plans, Specifications, and Estimates (PS&E) stage, a more detailed drainage study would occur which may reduce the potential impacts to the wetlands.

The proposed action includes all practicable measures to minimize harm to wetlands. Impacts on wetlands would be minimized by keeping the construction footprint as small as possible while enabling construction that meets all requirements for the proposed project's implementation. The construction contractor would be required to avoid and minimize unnecessary impacts on wetlands during construction and BMPs would be implemented.

When taking economic, environmental, and other pertinent factors into consideration, impacts to the wetlands cannot be completely avoided based on the current design. However, impacts to the wetlands would be minimized to the greatest extent practicable and permitted through the appropriate Section 404 permit. Further information is provided in the **Water Resources Technical Report** available for review at the TxDOT Dallas District office.

No Build Alternative: Because the proposed IH 20 improvements would not be constructed, the No Build Alternative would not result in project-related impacts to wetlands.

5.10.4 Rivers and Harbors Act

The Rivers and Harbors Act of 1899 generally prohibits the construction of structures over or in navigable waters of the U.S. without Congressional approval, which has been delegated to the United States Coast Guard (USCG). The Rivers and Harbors Act of 1899 also prohibits excavation or fill within navigable waters of the U.S. without the approval of the United States Army Corps of Engineers (USACE). Based on a project scoping analysis, it was determined that neither the Build Alternative nor the No Build Alternative would have an impact on any Section 9/10 waters, as defined by the Rivers and Harbors Act of 1899.

5.10.5 Clean Water Act Section 303(d)

According to the 2018 Texas Integrated Report - Texas 303(d) List (Category 5) and the 2018 Index of All Impaired Water, the project crosses two impaired waterbodies – Segment 0819 (East Fork Trinity River) and Segment 0818C (Kings Creek). The impaired waterbodies are detailed in **Table 5-2**. Segment 0819 is impaired due to sulfate, and Segment 0818C is impaired due to bacteria.

Table 5-2: Impaired Assessment Units

Watershed	Segment Name	Segment Number	Assessment Unit Number
North Mesquite Creek - East Fork Trinity River	East Fork Trinity River	0819	0819_01
Cedar Creek Lake	Kings Creek	0818C	0818C_01

Build Alternative: To date, TCEQ has not required (through either a total maximum daily load (TMDL) or the review of projects under the MOU) additional control measures, beyond those already required by the Construction General Permit (CGP), to mitigate the potential impact of road construction on impaired waters. 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. As required by the CGP, the project and associated activities will be implemented, operated, and maintained using BMPs to control the discharge of pollutants from the project site.

No Build Alternative: Because the proposed IH 20 improvements would not be constructed, the No Build Alternative would not result in project-related impacts to impaired waterways.

5.10.6 Clean Water Act Section 402

Build Alternative: This project would include five or more acres of earth disturbance. TxDOT would comply with TCEQ's Texas Pollutant Discharge Elimination System (TPDES) CGP. A SW3P would be implemented, and a construction site notice would be posted at the construction site. A Notice of Intent (NOI) and a Notice of Termination (NOT) would be required. The proposed project is located partially within the boundaries of the City of Mesquite's Municipal Separate Storm Sewer System (MS4) Phase I permit. Compliance with applicable MS4 regulations would be required within Mesquite city limits. No MS4 permit is required within the cities of Talty and Terrell.

Since TPDES CGP authorization and compliance (and the associated documentation) occur outside of the environmental clearance process, compliance is ensured by the policies and procedures that govern the design and construction phases of the project. The TxDOT Project Development Process Manual and the PS&E Preparation Manual require a SW3P 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 or site notice) be completed, posted, and submitted to the TCEQ and the 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.

No Build Alternative: Under the No Build Alternative, there would be no earth disturbance and compliance with the TPDES CGP and coordination with the MS4 operator would not be required.

5.10.7 Floodplains

Build Alternative: As detailed in the **Water Resources Technical Report**, portions of the proposed project are located within a FEMA designated 100-year floodplain. The hydraulic design for this project would be in accordance with current FHWA and TxDOT design policies. The facility would permit the conveyance of the 100-year flood, inundation of the roadway being acceptable, without causing damage to the facility, stream, or other property. The proposed project would not increase the base flood elevation to a level that would violate applicable floodplain regulations and ordinances. Coordination with the local Floodplain Administrator would be required.

This project is subject to and will comply with federal EO 11988 on Floodplain Management. The department implements this EO on a programmatic basis through its Hydraulic Design Manual. Adherence to the TxDOT Hydraulic Design Manual ensures that this project will not result in a "significant encroachment" as defined by FHWA's rules implementing EO 11988 at 23 CFR 650-105(q).

Since the proposed project crosses floodplains, the following is provided:

1) Avoiding and minimizing floodplain crossings were considered during design of the Build Alternative. The proposed project must be located in floodplains because in order to avoid floodplains, a significant realignment of IH 20 would be required, resulting in much higher ROW and project costs, as well as potential residential and commercial displacements. Additionally, no longitudinal encroachments on the floodplain would occur.
2) The only alternative considered during the course of project development that would avoid encroachments on floodplains was the No Build Alternative, which does not satisfy the purpose and need for the proposed project.
3) The proposed project would conform to state and local floodplain protection standards.

No Build Alternative: Because the proposed IH 20 improvements would not be constructed, the No Build Alternative would not result in project-related impacts to floodplains.

5.10.8 Wild and Scenic Rivers

Based on a project scoping analysis, it was determined that neither the Build Alternative nor the No Build Alternative would have an impact on this resource category or subject matter. (NOTE: No designated Wild and Scenic Rivers are located within project area.)

5.10.9 Coastal Barrier Resources

Based on a project scoping analysis, it was determined that neither the Build Alternative nor the No Build Alternative would have an impact on this resource category or subject matter. (NOTE: Project area is not located in a coastal area.)

5.10.10 Coastal Zone Management

Based on a project scoping analysis, it was determined that neither the Build Alternative nor the No Build Alternative would have an impact on this resource category or subject matter. (NOTE: Project area is not located in a coastal area.)

5.10.11 Edwards Aquifer

Based on a project scoping analysis, it was determined that neither the Build Alternative nor the No Build Alternative would have an impact on this resource category or subject matter. (NOTE: Project area is not located within boundaries of any Edwards Aquifer zone.)

5.10.12 International Boundary and Water Commission

Based on a project scoping analysis, it was determined that neither the Build Alternative nor the No Build Alternative would have an impact on this resource category or subject matter. (NOTE: Project area is not located along the international boundary with Mexico.)

5.10.13 Drinking Water Systems

Build Alternative: The cities of Mesquite, Forney, Terrell, and the town of Talty are served by the North Texas Municipal Water District (NTMWD). The NTMWD relies on surface water sources from Lavon Lake and other local lakes for drinking water. The TWDB does not identify any water wells within the project area. 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.

No Build Alternative: Because the proposed IH 20 improvements would not be constructed, the No Build Alternative would not result in project-related impacts to the drinking water systems.

5.11 Biological Resources

For information regarding biological resources refer to the **Tier I Site Assessment** and **Biological Evaluation Form** available at the TxDOT Dallas District office.

5.11.1 Texas Parks and Wildlife Coordination

Coordination with TWPD for the project was triggered by the following:

- impacts to vegetation exceeding the thresholds outlined in the 2013 MOU (see **Section 5.11.2**);
- the presence of suitable habitat for several state listed species and species of greatest conservation need (SGCN) within the project area (see **Section 5.11.11**);
- adverse impacts to remnant vegetation (i.e., SGCN plant species listed in the Texas Conservation Action Plan [TCAP]; see **Section 5.11.11**);
- the project would require a Section 404 NWP with PCN (see **Section 5.10.1**); and,
- the project would include more than 200 linear feet of stream channel impacts at a single and complete crossing (see **Section 5.10.1**).

Early coordination with TPWD regarding potential effects to natural resources was conducted and coordination was completed on November 21, 2019. The coordination correspondence is included in **Appendix G**.

5.11.2 Impacts to Vegetation

The Tier I Site Assessment Form, prepared for this proposed project, describes 27 different vegetation communities that were mapped within the project area by TPWD's Ecological Mapping Systems of Texas (EMST). These are shown below on **Table 5-3**.

Table 5-3: Project Area Vegetation

Ecoregion	MOU Vegetation Type	Common Name	EMST Mapped Acreage	MOU Acreage	Field-Verified Acreage
Texas Blackland Prairies	Agriculture	Row Crops	25.22	25.66	35.10
		Barren	0.37		
		Grass Farm	0.07		
	Disturbed Prairie	Native Invasive: Deciduous Woodland	8.57	12.73	30.26
		Native Invasive: Mesquite Shrubland	3.99		
		Native Invasive: Juniper Shrubland	0.16		
	Post Oak Savanna	Post Oak Savanna: Post Oak Motte and Woodland	2.09	33.50	0.00
		Post Oak Savanna: Savanna Grassland	31.41		
	Riparian	Central Texas: Riparian Hardwood Forest	1.26	97.39	61.42
		Central Texas: Riparian Herbaceous Vegetation	1.11		
		Swamp	0.49		
		Pineywoods: Small Stream and Riparian Temporarily Flooded Hardwood Forest	1.84		
		Pineywoods: Bottomland Temporarily Flooded Hardwood Forest	0.13		
		Pineywoods: Bottomland Herbaceous Wetland	6.44		
		Pineywoods: Small Stream and Riparian Herbaceous Wetland	1.02		
		Pineywoods: Bottomland Deciduous Successional Shrubland	0.48		
		Marsh	0.64		
		Pineywoods: Small Stream and Riparian Deciduous Successional Shrubland	0.91		
		Central Texas: Riparian Deciduous Shrubland	0.36		
		Central Texas: Floodplain Hardwood Forest	51.47		
		Central Texas: Floodplain Herbaceous Vegetation	25.82		
		Central Texas: Floodplain Evergreen Shrubland	1.62		
		Central Texas: Floodplain Deciduous Shrubland	3.81		
	Tallgrass Prairie, Grassland	Blackland Prairie: Disturbance or Tame Grassland	238.87	238.87	9.86
	Urban	Urban High Intensity	472.26	980.96	1252.35
		Urban Low Intensity	508.70		
	Open Water	Open Water	0.00	0.00	0.30
		Totals	**1380.11**	**1380.11**	**1380.11**

EMST – Ecological Mapping Systems of Texas

As detailed in §2.206 of the 2013 MOU, coordination with the TPWD is required for projects based on certain triggers, including the disturbance of habitat in an area equal to or greater than the area of disturbance indicated in the Threshold Table Programmatic Agreement. Vegetation within the proposed project falls into seven MOU vegetation types: Agriculture; Disturbed Prairie; Post Oak Savanna; Riparian; Tallgrass Prairie, Grassland; Urban; and Open Water. The Threshold Table Programmatic Agreement sets a disturbance threshold of 10.0 acres for Agriculture; 3.0 acres for Disturbed Prairie; 2.0 acres for Post Oak Savanna; 0.1 acre for Riparian; and 2.0 acres for Tallgrass Prairie, Grassland. No thresholds have been established for Urban vegetation or Open Water.

Build Alternative: Vegetation impacts quantified in **Table 5-3** show that the proposed project would exceed the threshold for four MOU vegetation types: Agriculture, Disturbed Prairie, Riparian, and Tallgrass Prairie, Grassland. Early coordination with TPWD regarding effects to vegetation communities was conducted in accordance with provisions of the 2013 MOU and coordination was completed on November 21, 2019. The coordination correspondence is included in **Appendix G**.

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 landscaping and re-vegetation of disturbed areas.

No Build Alternative: If the No Build Alternative were implemented, the proposed project would not be constructed. No effects to vegetation related to the construction of the IH 20 improvements 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

Build Alternative: This project is subject to and will comply with federal 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. In compliance with EO 13112, a native and locally-adapted seed mix would be used in the landscaping and re-vegetation of disturbed areas.

No Build Alternative: If the No Build Alternative were implemented, the proposed project would not be constructed; thus, the provisions of EO 13112 would not be triggered.

5.11.4 Executive Memorandum on Environmentally and Economically Beneficial Landscaping

Build Alternative: This project is subject to and will comply with the federal Executive Memorandum on Environmentally and Economically Beneficial Landscaping, effective April 26, 1994. The department implements this Executive Memorandum on a programmatic basis through its Roadside Vegetation Management Manual and Landscape and Aesthetics Design Manual. With the exception of reseeding of disturbed areas, landscaping is not currently planned for the proposed project. A native and locally-adapted seed mix would be used.

No Build Alternative: If the No Build Alternative were implemented, the proposed project would not be constructed; thus, the provisions of the Executive Memorandum would not be triggered.

5.11.5 Impacts to Wildlife

Within the urban areas along IH 20 near Mesquite, south Forney, Talty, and Terrell, native vegetation/natural habitat is minimal and wildlife is limited to those species adapted to an urban environment. Within the rural areas along the corridor, native vegetation/natural habitat is present and consists generally of riparian areas, and tallgrass prairie, which is desirable habitat for a variety of wildlife. A perennial stream, the East Fork Trinity River, is also within the project corridor and is surrounded by riparian habitat and forested wetlands. The rural areas and the area surrounding the East Fork Trinity River provide suitable habitat for several state listed species and SGCN (see **Section 5.11.11**).

Build Alternative: The proposed project would result in vegetation clearing along the existing and proposed ROW and proposed drainage easements, including the riparian vegetation and forested wetlands around the East Fork Trinity River. This clearing activity would remove habitat for wildlife and would directly impact suitable habitat for state listed species. Adjacent areas are similar in vegetative composition and are in close proximity to the construction limits which allow wildlife to relocate to nearby parcels. Revegetation would occur within the disturbed areas and clearing of trees and shrubs would be avoided to the extent possible.

No Build Alternative: Under the No Build Alternative, the proposed IH 20 improvements would not be constructed; thus, there would be no project-related impacts to wildlife.

5.11.6 Migratory Bird Protection

The Migratory Bird Treaty Act (MBTA) of 1918 makes it unlawful to kill, capture, collect, possess, buy, sell, trade or transport any migratory bird, nest or egg in part or in whole, without a federal permit issued in accordance with the Act's policies and regulations. Migratory bird nests were observed during the March 2019 field investigations, mainly under the existing overpasses and bridges located throughout the project corridor. Suitable habitat for state listed birds and SGCN birds was also observed, although no specific individuals of any given species were observed during the March 2019 field investigations.

Build Alternative**:** This project will comply with applicable provisions of the 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 to: 1) use measures to prevent or discourage birds from building nests on man-made structures within portions of the project area planned for construction, and 2) schedule construction activities outside the typical nesting season. Migratory birds may arrive in the project area to breed during construction of the proposed project. Appropriate measures would be taken to avoid adverse impacts on migratory birds; thus, migratory birds protected under the MBTA would not be impacted by the Build Alternative. Specific BMPs implemented to protect state listed species and SGCN are outlined in **Section 8.0**.

No Build Alternative: Under the No Build Alternative, the proposed IH 20 improvements would not be constructed; thus, there would be no project-related impacts to migratory birds.

5.11.7 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) of 1958 requires that federal agencies obtain comments from USFWS and TPWD whenever a project involves impounding, diverting, or deepening a stream channel or other body of water.

Build Alternative**:** The proposed project would impact waters of the U.S., including wetlands, and a Section 404 permit would be required. The project would be covered by a NWP 14 and NWP 25 with PCN, with mitigation requirements.

No Build Alternative: The No Build Alternative would not impact any stream or water features; therefore, it would not be subject to regulation under the FWCA.

5.11.8 Bald and Golden Eagle Protection Act

Build Alternative: The project area does not contain potential habitat for Bald or Golden Eagles; therefore, no impacts to these species would occur.

No Build Alternative: Under the No Build Alternative, the proposed IH 20 improvements would not be constructed; thus, there would be no project-related impacts to Bald or Golden Eagles.

5.11.9 Magnuson-Stevens Fishery Conservation Management Act

Based on a project scoping analysis, it was determined that neither the Build Alternative nor the No Build Alternative would have an impact on this resource category or subject matter. (NOTE: Project is not located in a coastal area.)

5.11.10 Marine Mammal Protection Act

Based on a project scoping analysis, it was determined that neither the Build Alternative nor the No Build Alternative would have an impact on this resource category or subject matter. (NOTE: Project is not located in a coastal area.)

5.11.11 Threatened, Endangered, and Candidate Species

Federally Listed Species

The Endangered Species Act of 1973 (ESA) Section 7 requires federally listed threatened, endangered, or candidate species and the ecosystems upon which they rely to be conserved to the extent possible. A USFWS Official Species List, dated October 8, 2019 was generated for the project area to identify those federally listed species that may occur or have suitable habitat within the project corridor. The list identified five federally listed threatened, endangered, or candidate species that could potentially occur within the project corridor. These species include the Least Tern (*Sterna antillarum*), Whooping Crane (*Grus Americana*), Piping Plover (*Charadrius melodus*), Red Knot (*Calidris canutus rufa*), and Golden-cheeked Warbler (*Dendroica chrysoparia*). As detailed in the Biological Evaluation Form, desktop analysis and field investigations conducted in March 2019 indicate that suitable habitat for federally listed threatened, endangered, or candidate species does not occur in the project area.

Build Alternative: Because there is no suitable habitat for any federally listed threatened, endangered, or candidate species within the project area, a determination of “no effect” has been made for all federally listed species.

No Build Alternative: Under the No Build Alternative, the proposed IH 20 project would not occur; therefore, there would be no project-related effects on any federally listed threatened, endangered, or candidate species.

State-Listed Species

Desktop analysis and field investigations conducted in March 2019, indicate that suitable habitat for six threatened species exists within the project area. The species consist of: Wood Stork (*Mycteria americana*), Lousiana pigtoe (*Pleurobema ridellii*), Texas heelsplitter (*Potamilus amphichaenus*), Texas pigtoe (*Fusconaia askewi*), alligator snapping turtle (*Macrochelys temminckii*), and timber rattlesnake (*Crotalus horridus*).

Build Alternative: Six state-listed species may be impacted by the proposed project because suitable habitat for these species occurs within the project area. In accordance with the BMP Programmatic Agreement between TxDOT and TPWD, BMPs have been identified and will be implemented to avoid and minimize impacts to these species. The BMPs are further discussed in **Section 8.0.**

No Build Alternative: Under the No Build Alternative, the proposed IH 20 project would not occur; therefore, there would be no project-related impacts on any state-listed threatened or endangered species.

Species of Greatest Conservation Need

Those species included on TPWD's county list, but which have no federal or state regulatory status are classified as SGCN. Potentially suitable habitat for eight SGCN exists within the proposed project area: Henslow's Sparrow *(Ammodramus leucocephalus*), Western Burrowing Owl (Athene *cunicularia hypugaea*), plains spotted skunk (*Spilogale putorius interrupta*), southern crawfish frog (*Lithobates areolatus areolatus*), Texas garter snake (*Thamnophis sirtalis annectens*), plateau milkvine (*Matelea edwardsensis*), Texas milk vetch (*Astragalus reflexus*), and tree dodder (*Cuscuta exaltata*).

Build Alternative: Native animals or plants designated as a SGCN are generally those that are declining or rare and in need of attention to recover or to prevent the need to list under state or federal regulation. Lists of SGCN were developed through expert consultation and public feedback. Ranks are based on multiple criteria including range extent, known occurrences, abundance, and threats. It should be noted that none of these species is currently afforded regulatory protection.

In accordance with the BMP Programmatic Agreement between TxDOT and TPWD, BMPs have been identified and will be implemented to avoid and minimize impacts to these species. The BMPs are further discussed in **Section 8.0.**

No Build Alternative: Under the No Build Alternative, the proposed IH 20 project would not occur; therefore, there would be no project-related impacts on SGCN.

5.12 Air Quality

For information regarding air quality refer to the **Air Quality Technical Report** available at the TxDOT Dallas District office.

Build Alternative:

Transportation Conformity

This project is located in Dallas and Kaufman counties, part the Dallas-Fort Worth area that has been designated by the Environmental Protection Agency (EPA) as a serious nonattainment area for the 2008 ozone and marginal nonattainment for the 2015 ozone National Ambient Air Quality Standards (NAAQS); therefore, the transportation conformity rules apply. Conformity for older standards is satisfied by conformity to the more stringent 2008 and 2015 ozone NAAQS.

The proposed action is consistent with the NCTCOG's financially constrained 2045 Metropolitan Transportation Plan (MTP) and the 2019–2022 Transportation Improvement Program (TIP), as amended, which were initially found to conform to the TCEQ State Implementation Plan (SIP) by FHWA and Federal Transit Administration (FTA) on November 21, 2018 and September 28, 2018, respectively. Copies of the MTP and TIP pages are included in **Appendix E**. All projects in the TIP that are proposed for federal or state funds were initiated in a manner consistent with federal guidelines in Section 450, of Title 23 CFR and Section 613.200, Subpart B, of Title 49 CFR.

Hot-Spot Analysis

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

Traffic Air Quality Analysis

Traffic data for the estimated time of completion (ETC) year of 2031 and design year of 2045 is 63,132 vehicles per day (vpd) and 79,800 vpd, respectively for Section 1 (from Lawson Road to Spur 557). Traffic data for the ETC year of 2031 and design year of 2045 is 85,053 vpd and 107,600 vpd, respectively for Section 2 (from Spur 557 to CR 138). A prior TxDOT modeling study and previous analyses of similar projects demonstrated that it is unlikely that the CO standard would ever be exceeded as a result of any project with an AADT below 140,000 vpd. The AADT projections for the project do not exceed 140,000 vpd; therefore, a Traffic Air Quality Analysis was not required.

Mobile Source Air Toxics

A qualitative mobile source air toxics (MSAT) assessment has been conducted relative to the Build and No Build Alternative. As documented in the technical report, all project alternatives may result in increased exposure to MSAT emissions in certain locations although the concentrations and duration of exposure are uncertain. Because of this uncertainty, the health effects from these emissions cannot be estimated. 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.

Congestion Management Process

The proposed project is adding single-occupant vehicle capacity and is a project with FHWA/FTA involvement; therefore, a Congestion Management Process (CMP) analysis is required. The proposed project is within the Dallas-Fort Worth Transportation Management Area (TMA).

A CMP analysis was prepared in accordance to the TxDOT's Standards Operating Procedure for Complying with CMP Requirements and Standard Operating Procedures for Preparing Air Quality Statements. Committed congestion reduction strategies and operational improvements within the study boundary would consist of the addition of frontage roads, shared use lanes, and sidewalks. Individual projects are listed in **Table 5-4**.

Table 5-4: Congestion Mitigation Strategies

Street/Name	City	County	Project Type	Year of Implementation
Spur 557 From FM 148 to IH 20	Terrell	Kaufman	New Location Two Frontage Road Eastbound Only	2020

Construction Air Emissions

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

The potential impacts of particulate matter emissions will 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.

No Build Alternative: The No Build Alternative would result in gradually increasing vehicle miles travelled as traffic volumes increase and traffic congestion worsens within the existing roadway system over time. Actual and predicted trends in both criteria pollutant and MSAT emissions would be expected to continue in the future, regardless of the alternative chosen.

5.13 Hazardous Materials

In June 2019, a **Hazardous Materials Initial Site Assessment (ISA)** and **Hazardous Materials Project Impact Evaluation (HMIE)** was completed to summarize potential hazardous materials within and adjacent to the project corridor. The ISA included a site reconnaissance and environmental regulatory database search for the project area. The ISA was completed to identify sites or facilities that might pose a potential for hazardous materials impacts to the proposed project.

Build Alternative: Based on an evaluation of the sites identified in the environmental regulatory database search, five regulatory sites were determined to be a moderate risk to the project. No high risk sites were identified. The moderate environmental risk sites are shown on the **Project Resource Map** in **Appendix F**. Below is a summary of the moderate risk sites:

1. TA Travel Center, 1700 Wilson Rd., Terrell (HazMat ID 1). This is an active truck stop and gas station located at the southwest corner of CR 138 (Wilson Road) and IH 20. There are active underground petroleum storage tanks (PSTs) at this site and there have been three releases of fuel reported since 1998. Groundwater at the site has been impacted by diesel fuel. In October 2009 TCEQ issued an enforcement order for failure to prevent discharge of regulated substance into water, failure to provide corrosion protection to the underground storage tank (UST) system, failure to monitor USTs for releases, and failure to provide release detection on system piping, among others. No ROW acquisition is proposed from this property. Due to environmental records associated with this facility and location of the tank hold in relation to project improvements, this facility was considered to be a moderate environmental risk.

2. Valero, 1703 Highway 34 S, Terrell (HazMat ID 2). This is an active gas station located at the southeast corner of State Highway (SH) 34 and IH 20. Active underground PSTs are located on site. There have been two releases of fuel reported since 2003. Groundwater at the site has been impacted by diesel and gasoline. No ROW acquisition is proposed from this location; however, bridge pilings are to be sunk for the proposed SH 34 bridge over IH 20 approximately 450 feet northwest of this location. Based on the regulatory information and location of the tank hold in relation to the project improvements, this facility was considered to be a moderate environmental risk.
3. Formerly Shoes Country Stop (currently vacant lot), 1706 SH 34 S, Terrell (HazMat ID 3). The site is currently a vacant lot located at the southwest corner of SH 34 and IH 20. Five underground PSTs are reported as removed. Two underground PSTs are listed as temporarily out of service and empty since 2009. A gasoline release was reported in 1998. Groundwater was reported as being impacted. Monitoring continued through at least 2001. No apparent threats or impacts to receptors are reported. Historical aerial imagery shows that the structures and the pumps were removed from the facility by 2016; however, the tanks remain in place as well as the fuel lines and the tank hold is shown as intact in current aerial imagery. No ROW acquisition is proposed from this property. Due to regulatory information and proximity of this site in relation to the project improvements, this facility was considered to be a moderate environmental risk.
4. IH 20 Exxon, 311 E. Interstate 20, Terrell (HazMat ID 11). This facility is located at the northeast corner of IH 20 and SH 34. The facility is an active gas station utilizing five underground PSTs. The tank hold is approx. 25 feet northeast of the project area. No releases have been reported for the facility. The facility received several violations in 2011 related to failure to monitor the tanks and systems for releases, among others. The violations are reported as resolved in 2017. ROW acquisition is proposed from this property which may displace the pump island/canopy. Work activity adjacent to this facility would consist of frontage road improvements. Although there are no reported releases for the facility, the potential displacement of the pump island/canopy as well as the types of prior violations made this facility a moderate environmental risk.
5. Circle K Store, 1700 Highway 34 S, Terrell (HazMat ID 19). This facility is located at the southwest corner of IH 20 and SH 34. The facility is an active gas station utilizing three underground PSTs all installed in 1999. The tank hold is situated approx. 35 feet southwest of the project area. Two releases have been reported since 2004, one of which impacted groundwater with no apparent threats or impacts to receptors. In February 2019, the facility received two violations which were for failure to conduct an investigation of a suspected release and failure to monitor the tanks for releases. Although no ROW is proposed from this property, based on the prior releases,

possible current release, and proximity of the facility to project improvements, this site was considered a moderate environmental risk.

Further investigation was performed on the moderate risk sites in June 2019 by TxDOT ENV Division Hazardous Materials Management (ENV-HMM). ENV-HMM determined that since only minimal surficial work is being performed near the sites, their potential to impact the project is low. It was further stated that TxDOT ROW Division would remove any underground fuel tanks at the time of property acquisition and contaminant confirmation sampling would be performed.

The proposed project would also include the demolition of buildings and bridge structures. Asbestos-containing materials (ACM) and lead-containing paint (LCP) may be present in the structures. Asbestos and LCP inspections, notification, and removal, as applicable, would be addressed prior to demolition in accordance with regulatory requirements. Detailed information about the hazardous materials evaluation conducted for the project can be found in the **ISA** and **HMIE** available for review at the TxDOT Dallas District office.

No Build Alternative: As construction of the proposed IH 20 improvements would not occur, there would be no project-related hazardous material impacts associated with the No Build Alternative.

5.14 Traffic Noise

A traffic noise analysis was conducted for the proposed project in accordance with TxDOT's (FHWA approved) 2011 Guidelines for Analysis and Abatement of Highway Traffic Noise. Details on the traffic noise analysis can be found in the **Traffic Noise Technical Report** available for review at the TxDOT Dallas District office.

Build Alternative: Predicted traffic noise levels are included in the Traffic Noise Technical Report and receiver locations have been included in **Appendix F**. Based on the modeled noise analysis, there are 15 projected noise impacts within the corridor. Barrier analyses were conducted, and results indicated that a barrier would be feasible and reasonable for one of the impacted receivers that represents the Meadowview Townhomes complex on the north side of IH 20, east of FM 2578. The barrier would be 14 feet in height and 461 feet in length and would benefit 10 receivers, at a total cost of $116,172 or $11,617 per benefitted receiver. The final decision to construct the proposed noise barrier would not be made until completion of the project design, utility evaluation and polling of adjacent property owners.

A copy of this traffic noise analysis would be made available to local officials to ensure, to the maximum extent possible, future developments are planned, designed and programmed in a manner that would avoid traffic noise impacts. On the date of approval of this document (Date of Public Knowledge), TxDOT is no longer responsible for providing noise abatement for new development adjacent to the proposed project.

No Build Alternative: The proposed project would not be constructed under the No Build Alternative. Traffic noise levels at modelled receiver locations would be expected to increase due to the increase in traffic volumes that would occur over time.

5.15 Induced Growth

The Council on Environmental Quality (CEQ) defines indirect effects as those "caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect impacts 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 Section 1508.8).

Build Alternative: An analysis of indirect impacts was conducted that followed the processes outlined in TxDOT's Indirect Impacts Analysis Guidance. The Area of Influence (AOI) for the proposed project encompasses the entire Build Alternative and adjacent areas where development or accelerated rates of development could potentially occur. The AOI is approximately 20.6 square miles (13,185 acres) in Dallas and Kaufman counties and intersects three municipalities, Mesquite, Talty, and Terrell.

Results of the analysis indicates that the proposed project could induce growth in the AOI. This analysis included correspondence with local planning and engineering professionals, and elected officials within the AOI. Those individuals that responded did expect the proposed project to induce development in their jurisdictions, particularly commercial development near interchanges and along the proposed frontage roads. The addition of frontage roads and proposed ramp configurations would allow for access to planned development and increase the likelihood that development, particularly commercial development, would occur along the corridor. Induced growth impacts to vegetation/wildlife habitat and water resources could be experienced, however, these impacts could be minimized/mitigated using BMPs. Therefore, induced growth impacts to these resources are considered unsubstantial.

Encroachment-alteration effects may occur to vegetation/wildlife habitat and water resources, including floodplains, Section 303(d) impaired waters, and waters of the U.S. as a

result of the proposed project. The potential for project-related encroachment-alteration effects on waters of the U.S. and water quality could occur during construction, which has the highest likelihood of creating pollutants and sediment if storm water runoff enters surface water features prior to being treated. Build-up of sediment could also reduce the water storage capacity of the floodplain. Temporary (construction phase) and permanent (post-construction) BMPs, would minimize the potential for encroachment-alteration effects to vegetation/wildlife habitat and water resources.

The **Indirect Impacts Analysis Technical Report** provides a detailed discussion of the indirect effects analysis and is available for review at the TxDOT Dallas District office.

No Build Alternative: As construction of the proposed IH 20 improvements would not occur, there would be no project-induced growth under the No Build Alternative.

5.16 Cumulative Impacts

The CEQ defines cumulative impacts as those which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR §1508.7).

Build Alternative: An analysis of cumulative impacts, as presented in the **Cumulative Impacts Analysis Technical Report**, was conducted that followed the processes outlined in TxDOT's Cumulative Impacts Analysis Guidance. Cumulative impacts to ecological resources (vegetation/wildlife habitat, threatened, endangered, candidate, and SGCN species), and water resources (water quality, floodplains, and waters of the U.S.) were analyzed because the resources are in poor and/or declining health. Resource Study Areas (RSAs) were developed for these resources, which included a Water Resources RSA and nine separate Ecological Resources RSAs. The temporal context for the analysis was established from the year 1980 (estimated time of IH 20 construction) to the year 2045 (design year).

Ecological Resources

Foreseeable cumulative impacts to ecological resources may include the fragmentation or complete loss of natural vegetation, wildlife, or threatened and endangered species habitat resulting from development within the Ecological Resources RSAs. Habitat for five of the six state listed threatened species (Louisiana pigtoe, Texas pigtoe, Texas heelsplitter, alligator snapping turtle, and timber rattlesnake) and two SGCNs (Texas garter snake and tree dodder) are located within Ecological Resources RSA 5 (100-Year Floodplain), Ecological Resources RSA 6 (Riparian MOU), and Ecological Resources RSA 9 (Wooded areas within

Riparian MOU). Though there would be direct impacts to these habitats for the improvements to IH 20, minimal indirect or cumulative impacts are anticipated as these habitats would most likely be avoided from future development as previous trends depict such areas have been avoided since development of the project area started in the early 1980s. Habitats for two of the seven remaining species (Southern crawfish frog and plains spotted skunk) are located within Ecological Resources RSAs that have an overlap of Riparian MOU and one or more habitats and include two additional SGCNs; therefore, those species may relocate to riparian areas which are anticipated to have minimal development or cumulative impacts. These habitats that would be subject to minimal cumulative impacts represent 80,128.4 acres of the combined 360,979.3 acres of all Ecological Resources RSAs.

Three of the remaining five species (Henslow's Sparrow, Wood Stork, and Western Burrowing Owl) with potential habitat in the Ecological Resources RSAs are bird species which could relocate outside of the RSAs. The remaining two species are SGCN plant species (plateau milkvine and Texas milk vetch). These five species (Henslow's Sparrow, Wood Stork, Western Burrowing Owl, plateau milkvine and Texas milk vetch) would be subject to cumulative impacts and a total of 201,159.9 acres of potential habitat for these species is located within Ecological Resources RSAs 1, 2, 7, and 8.

Future impacts to ecological resources would be assessed and addressed for each individual project that might involve federal funds, including TxDOT projects. Other privately funded land development projects would not be expected to prepare publicly available environmental documentation. The only exception would be developments that were required to meet federal requirements such as Section 404 permitting through the USACE and adherence with the ESA. Such federal requirements would allow for regulation on threatened and endangered species for privately funded projects. Continued development in the project area is expected and will likely result in the conversion of vegetation, wildlife habitat, and potential threatened and endangered species habitat on undeveloped land to residential, commercial, and light industrial uses.

Water Resources

The potential for cumulative impacts to water resources may result from direct and indirect impacts on numerous parcels of land (consecutively or simultaneously) within the Water Resources RSA. Induced growth and development pressures may increase erosion and sedimentation in addition to increasing drainage needs related to commercial and residential development as well as additional transportation infrastructure and infrastructure improvements related to subsurface utilities (i.e., water distribution lines, wastewater collection lines, fire protection lines, electrical/fiber optic or cable utilities, natural gas utilities, etc.). Historic and recent aerial photographs illustrate that development

within the 100-year floodplain and areas adjacent to waterways has been avoided, for the most part, and streams follow historic courses. Site visits and aerial photographs depict large developments have incorporated detention basins and other water quality BMPs in design plans. Future development is anticipated to follow past and present trends and avoid major waterways and floodplains as additional coordination and/or mitigation with local, state, and federal agencies may be necessary.

Readily available planning resources depicts there is approximately 1,419.6 stream miles, 16,562.0 acres of water resources (wetlands, rivers, lakes/ponds, etc.), and 80,124.4 acres of the 100-year floodplain within the Water Resources RSA; therefore, future impacts to water resources is anticipated. Potential future impacts to water resources would be mitigated through water quality certifications implemented and regulated by the TCEQ. Impacts to jurisdictional waters would be documented, coordinated, and permitted through the USACE for both public and private entities, as necessary, and the USACE would require consideration of compensatory mitigation, as applicable. Construction within a floodplain would require coordination with the floodplain administrator and the appropriate floodplain mitigation would need to be installed. Although potential cumulative impacts to water resources is anticipated current local, state, and federal laws and regulations would require coordination, certification, and potential mitigation prior to any impacts; therefore, cumulative impacts to water resources would be minimal within the Water Resources RSA.

The **Cumulative Impacts Analysis Technical Report** provides a detailed discussion of the cumulative impacts analysis and is available for review at the TxDOT Dallas District office.

No Build Alternative: As construction of the proposed IH 20 improvements would not occur, there would be no cumulative impacts under the No Build Alternative.

5.17 Construction Phase Impacts

Construction-phase impacts are temporary (short-term; only occurring during actual construction) and potentially encompass a range of issues.

Construction Noise

Build Alternative: Noise associated with the construction of the proposed project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable. None of the receivers are expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities is not expected. Provisions 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 Pollution

Build Alternative: 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. 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.

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

Light Pollution

Build Alternative: 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. Construction during the night-time hours would follow any local policies and ordinances established for construction activities, such as light limitations.

Vibration Impacts

Build Alternative: Construction activities would be limited to the proposed project footprint. Vibration from construction equipment would be of short duration; however, excessive vibration from construction is not anticipated.

Temporary Lane, Road or Bridge Closures

Build Alternative: During the construction phase, traffic would follow the existing traffic patterns. Traffic control plans would be prepared and implemented in coordination with the cities and the counties. 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. Work on IH 20 would be phased in such a manner to allow the roadway to remain open during construction. Access to businesses and residences would be maintained at all times and no detours are anticipated. However, in the event that road closures or detours are required, county and local public safety officials would be notified of the proposed road closures or

detours. Detour timing and necessary rerouting of emergency vehicles would be coordinated with the proper local agencies. 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.

Construction-Phase Water Quality Impacts

Build Alternative: A NWP 14 and NWP 25 would be used for impacts to jurisdictional waters in the project area. During the construction phase, appropriate measures would be taken to maintain normal downstream flows to the maximum extent practicable. Construction activities would require compliance with the State of Texas Water Quality Certification Program. The 401 Certification requirements would be met by implementing BMPs from the TCEQ 401 Water Quality Certification Conditions for NWPs. Construction equipment, spoil material, supplies, forms, and buildings shall not be placed or stored in the floodway during construction activities. Any item that may be transported by flood flows shall not be stored within the floodway. Any work within jurisdictional areas would be coordinated with USACE and permitted, as necessary.

Construction-Phase Biological Impacts

Build Alternative: Temporary impacts to natural resources due to construction could result from the implementation of the proposed project. These include disturbances to wildlife and vegetative communities. Implementation of the Build Alternative would involve the removal of grasses, shrubs and trees during the construction phase, affecting the natural, erosion-inhibiting ground cover and resulting in the loss of habitat for both resident and migratory species. Disturbed areas would be restored, reseeded and re-contoured as necessary according to TxDOT specifications, making these effects largely temporary.

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

6.0 AGENCY COORDINATION

This section identifies all coordination with agencies outside TxDOT that are required to be conducted for the Build Alternative. The list below identifies the agencies requiring coordination and the status of efforts to coordinate the proposed project.

- SHPO (see Section 5.8): archeological and historic resource surveys were conducted and results coordinated with the THC and ENV. See **Appendix G** for the SHPO Clearance Memos for archeology dated June 20, 2019 and September 5, 2019, and the ENV Clearance Memo for historic, non-archeological properties dated June 10, 2019.
- Tribal Coordination: coordination with federally recognized Native American tribes was initiated on January 6, 2017, with a 30-day review period ending on February 6, 2017. No response was received from the federally recognized Native American tribes. The coordination letter is included in **Appendix G**.
- FEMA (see Section 5.10): the proposed project includes work within a FEMA designated 100-year floodplain; therefore, coordination with the local floodplain administrator would be required.
- TPWD (see Section 5.11): early coordination with TPWD regarding potential effects to natural resources was conducted and coordination was completed on November 21, 2019. The coordination correspondence is included in **Appendix G**.
- TCEQ: per the TxDOT-TCEQ MOU, TxDOT provided TCEQ with a Notice of Availability (NOA) to afford them the opportunity to review and comment on the project. TCEQ responded that they are in support of the project and that the EA addresses issues related to surface and groundwater quality. The response letter from TCEQ is included in **Appendix G**.

7.0 PUBLIC INVOLVEMENT

Stakeholder Meetings

Seven stakeholder workgroup meetings were held in association with the proposed project. One meeting was held at the Town of Talty on September 6, 2017. Three meetings were held via telephone on March 8, 11, and 14, 2019. Three additional meetings were held after the public hearing via telephone on January 27 and 28, 2020. The purpose of these meetings was to provide information on the proposed project, gather feedback on the schematic design, and discuss project updates with local cities and other stakeholders within the project corridor.

Public Meeting

A public meeting was held on September 12, 2017. The purpose of the public meeting was to discuss and receive public comments on the proposed project. Representatives from TxDOT and project consultants were available to answer questions about the proposed project improvements. The meeting was held from 6 p.m. to 8 p.m. in an open house format with no formal presentation at the Forney High School Cafeteria, located at 1800 College Avenue, Forney, Texas. Approximately 93 individuals attended the meeting. A total of 22 comments were submitted within the 15-day comment period which ended on September 27, 2017. The comments submitted were regarding design or engineering (ramp locations, drainage, driveways), property impacts, noise, access, and accommodations for future planned roadway projects. Several individuals expressed their support for the proposed project and requested that the project be accelerated.

Public Hearing

A public hearing was held on November 21, 2019. All required notices and procedures, as required by TxDOT's rules governing the Environmental Review of Transportation Projects and outlined in TxDOT's Public Involvement Handbook, were followed. The NOA of the Draft EA was published in both English and Spanish in various newspapers that serve the project area, and was also available online at www.txdot.gov and www.keepitmovingdallas.com. Approximately 79 members of the public were in attendance and 22 comments were received. The comments submitted were regarding design or engineering (medians, drainage, driveways), bicycle/pedestrian accommodations, noise, and access. The project team considered comments received during the public hearing. Public comment led to design modifications being made at specific locations. The **Documentation of Public Hearing** is available for review at the TxDOT Dallas District office.

Changes After the Public Hearing

As a result of comments received from the Public Hearing held on November 21, 2019, TxDOT made the following design modifications:

- Revision to proposed median opening location at FM 740, south of IH 20.
- Revision to proposed access control location along eastbound and westbound IH 20, west of FM 2578.
- Revision to proposed median opening location at High Country Lane, north of IH 20.
- Addition of a median island at Tanger Outlet entrance drive.
- Revision to proposed median opening location at SH 34, south of IH 20.
- Revision to CR 305/FM 148 intersection to accommodate six lanes.
- Accommodated driveways to properties E32, E34, E43, W46, W47, W106, and W121.

No additional ROW would be required to implement these proposed design changes. The design modifications can be seen on the updated schematic shown in **Appendix C**.

A notice of impending construction would be provided to owners of adjoining property and affected local governments and public officials. The notice may be provided via a sign or signs posted in the ROW, mailed notice, printed notice distributed by hand, or notice via website when the recipient has previously been informed of the relevant website address. This notice would be provided after the environmental decision (i.e. FONSI), but before earthmoving or other activities requiring the use of heavy equipment begin.

8.0 POST-ENVIRONMENTAL CLEARANCE ACTIVITIES AND DESIGN/CONSTRUCTION COMMITMENTS

8.1 Post-Environmental Clearance Activities

Activities to be completed after environmental clearance are listed and discussed as follows:

1. Noise: A traffic noise barrier is proposed to abate traffic noise. In accordance with TxDOT Guidelines for Analysis and Abatement of Roadway Traffic Noise, polling of adjacent property owners will take place to determine whether or not property owners desire the noise barrier. Additionally, a traffic noise workshop will be held to provide information on the proposed noise barrier to adjacent property owners. The traffic noise workshop would be held after the FONSI. Provisions will be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.
2. Utilities: Utility relocations would be required throughout the corridor. Utility agreements and notice to owners would be required for this project prior to construction.
3. Section 404: The proposed project would require a NWP 14 and a NWP 25 with a PCN. The PCN will be obtained before construction. The proposed project would comply with all general conditions of the NWP.
4. Section 401: The Section 401 Certification requirements for NWP 14 and 25 would be met by implementing a SW3P. The SW3P would include at least one BMP for erosion control, sediment control, and post-construction TSS control from the Tier 1 401 Water Quality Certification Conditions for NWPs as published by the TCEQ.
5. Section 402: Project contractor will comply with the CGP, SW3P, and complete the appropriate authorization documents.
6. Wetlands: Minimize impacts to wetlands during construction by keeping the construction footprint as small as possible while enabling construction that meets all requirements for the proposed project's implementation. BMPs would be implemented during construction.
7. Floodplains: Notification and coordination with the local floodplain administrator is required because the project is within the 100-year floodplain. This coordination will be completed prior to the start of construction.
8. Invasive Species: Preserve native vegetation to the extent practical. The contractor must adhere to Construction Specification Requirements Specs 162, 164, 192, 193, 506, 730, 751, & 752 in order to comply with requirements for invasive species, beneficial landscaping, and tree/brush removal commitments.

9. Migratory Birds: Before construction use measures to prevent or discourage birds from building nests on man-made structures within portions of the project area planned for construction and, schedule construction activities outside the typical nesting season to the extent practicable.
10. Threatened, Endangered, and Candidate Species: The proposed project would not affect any federally listed species and would not impact state-listed endangered species but may impact state-listed threatened species. The project may also impact SGCNs. To mitigate the potential impacts to state threatened species and SGCNs, the following BMPs will be implemented, per the 2013 MOU (2017 Revision):

    For the Henslow's Sparrow, Western Burrowing Owl, Wood Stork and all other migratory birds, the following Bird BMPs and MBTA guidelines, as present as a Special Note on the PS&E Environmental Permits, Issues, and Commitments (EPIC) sheet, would be implemented:
    - 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.
    - Do not disturb, destroy, or remove active nests, including ground nesting birds, during the nesting season;
    - Avoid removal of unoccupied, inactive nests, as practicable;
    - Prevent the establishment of active nests during the nesting season in TxDOT owned and operated facilities and structures proposed for replacement or repair;
    - Do not collect, capture, relocate, or transport birds, eggs, young, or active nests without a permit.
    - In the event that migratory birds are encountered on-site during project construction, TxDOT will take all appropriate actions to prevent the take of migratory birds, their active nests, eggs, or young by the use of proper phasing of the project or other appropriate actions to include:
        - No active migratory bird nests (nests containing eggs and/or young) will be removed or destroyed at any time of the year.
        - No colonial nests (swallows, for example) on or in structures will be removed until all nests in the colony become inactive.
        - Measures, to the extent practicable, will be used to prevent or discourage migratory birds from building nests within portions of the project area planned for construction.
        - Inactive nests will be removed from the project area to minimize the potential for reuse by migratory birds.
        - Construction or demolition activities will be scheduled outside the typical nesting season (February 15 to October 1), and will comply with

the previously listed prohibitive provisions of the MBTA, which apply year-round.

- The Migratory Bird Treaty Act of 1918 states that it is unlawful to kill, capture, collect, possess, buy, sell, trade, or transport any migratory bird, nest, young, feather, or egg in part or in whole, without a Federal permit issued in accordance within the Act's policies and regulations. 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.

For the Lousiana pigtoe, Texas heelsplitter, and Texas pigtoe, the following Freshwater Mussel BMPs would apply:

- When work is in the water; survey project footprints for state listed species where appropriate habitat exists.
- When work is in the water and mussels are discovered during surveys; relocate state listed and SGCN mussels under TPWD authorization and implement Water Quality BMPs.
- When work is adjacent to the water; Water Quality BMPs implemented as part of the SW3P for a CGP or any conditions of the 401 water quality certification for the project will be implemented. No TPWD Coordination required.

For the alligator snapping turtle and southern crawfish frog, the following Aquatic Reptile and Amphibian BMPs would apply:

- Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered.
- Minimize impacts to wetland habitats, including isolated ephemeral pools; also minimize impacts to temporary and permanent open water features, including depressions, and riverine habitats.
- Minimize the use of equipment in streams and riparian areas during construction; when possible, equipment access should be from banks, bridge decks, or paved road surfaces.
- When temporary stream crossings are unavoidable, remove stream crossings once they are no longer needed and stabilize banks and soils around the crossings.
- 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 turtle.

- 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 control 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 aquatic reptiles, 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 the roadway. If this modification to the entire curb system is not possible, install sections of sloped curb on either side of the 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.
- 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 of 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.

For the plains spotted skunk, the following BMP would be implemented:

- 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.

For the Texas garter snake and timber rattlesnake, the following Terrestrial Reptile BMPs would apply:

- 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.
- For open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Visually inspect excavation areas for trapped wildlife prior to backfilling.
- Inform contractors that if reptiles are found on project site allow species to safely leave the project area.
- Avoid or minimize disturbing or removing downed trees, rotting stumps, and leaf litter where feasible.
- Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered.

For the Plateau milkvine, Texas milk vetch, and tree dodder, the following Vegetation BMPs would apply:

- In accordance with EO 13112 on Invasive Species, seeding and replanting with TxDOT-approved seed mixes containing native species would be done were possible. Soil disturbance would be minimized in the ROW in order to minimize invasive species establishment.
- Contractors will be advised of the potential occurrence of SGCN plant species, including plateau milkvine, Texas milk vetch, and tree dodder, in the project area and to avoid harming the species if encountered.

11. Detours: County and local public safety officials would be notified of any road closures or detours during construction. Detour timing and necessary rerouting of emergency vehicles would be coordinated with the proper local agencies during construction.
12. Air Quality: Implement fugitive dust control measures contained in standard specifications to minimize potential impacts of PM emissions during construction.
13. Hazardous Materials: Five sites were considered moderate environmental risks. Additional investigations on the five moderate risk sites was performed and it was determined that their potential to impact the project would be low. Any unanticipated hazardous materials encountered during construction would be handled according to the applicable federal, state and local regulations per TxDOT Standard Specification.
14. Hazardous Materials for Bridge Structures: Bridge structures being demolished or renovated will need to be assessed and mitigated for ACM and LCP, as needed, prior to the construction process according to Standard Specification Item 6.10 (and applicable Provisions), and the TxDOT guidance document: Guidance for Handling Asbestos in Construction Projects, dated January 26, 2007.

15. Public Involvement: Before construction, a notice of impending construction will be provided to owners of adjoining property and affected local governments and public officials.

8.2 Design/Construction Commitments

1. Archeological Resources: If unanticipated archaeological deposits are encountered during construction, work in the immediate area will cease, and TxDOT archaeological staff will be contacted to initiate post-review discovery procedures.
2. Wetlands: The construction contractor would be required to avoid and minimize unnecessary impacts on wetlands during construction.
3. Construction (TPDES): The contractor shall comply with the CGP and SW3P; complete, post and submit notice of intent and notice of termination to TCEQ and the MS4 operator; and inspect the project to ensure compliance with the CGP.
4. Drinking Water Systems: If any unknown wells are encountered during construction activities, they would need to be properly plugged in accordance with state statutes.
5. Hazardous Materials: The contractor would take appropriate measures to prevent, minimize, and control the spill of hazardous materials in the construction staging area. All construction materials used for the proposed project would be removed as soon as the work schedules permit. The contractor would initiate early regulatory agency coordination during project development.
6. Vegetation: The contractor would avoid and minimize disturbance of vegetation and soils. All disturbed areas would be revegetated, according to TxDOT specifications, as soon as it becomes practicable. In accordance with EO 13112 on Invasive Species, the Executive Memorandum on Beneficial Landscaping, and the 1999 FHWA guidance on invasive species, all revegetation would, to the extent practicable, use only native species. Furthermore, BMPs would be used to control and prevent the spread of invasive species.
7. Migratory Birds: The contractor would take all appropriate actions to prevent the take of migratory birds, their active nests, eggs or young by the use of proper phasing of the project or other appropriate actions. Refer to **Section 8.1** for applicable BMPs.
8. Air Quality: 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.
9. Threatened, Endangered, and Candidate Species: If any species on Dallas or Kaufman County threatened and endangered species list is sighted in the project area during construction, construction would stop and the contractor would notify the TxDOT Area Engineer. Refer to **Section 8.1** for applicable BMPs.

9.0 CONCLUSION

The Build Alternative, described in **Section 2.2**, satisfies the project purpose and need by addressing local policies, improving mobility and safety, and enhancing access within the corridor. Because the Build Alternative satisfies the project's purpose and need, it is the recommended alternative.

Implementation of the proposed project would not result in a significant impact on the human or natural environment. Therefore, a FONSI is recommended.

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11.0 APPENDICES

IH 20 Project

From Lawson Road to East of CR 138 (Wilson Road)

Dallas and Kaufman Counties, Texas

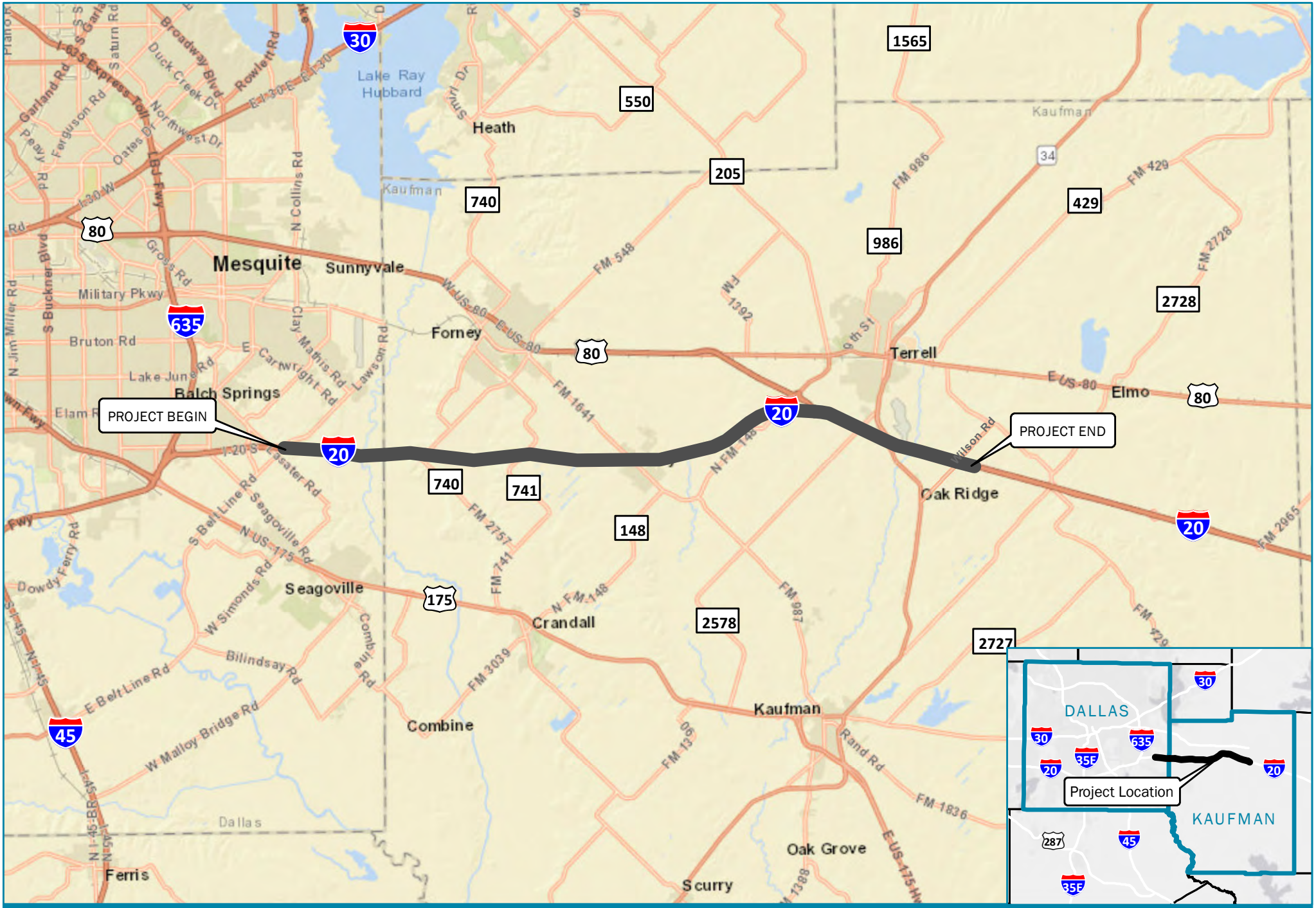
CSJs: 0095-14-027, 0095-13-038, 0495-01-071

Final Environmental Assessment

Appendix	Description	Number of Pages
A	Project Location Map	1
B	Project Photos	13
C	Schematics	30
D	Typical Sections	6
E	Plan and Program Excerpts	11
F	Resource-specific Maps	5
G	Resources Agency Coordination	29

APPENDIX A

PROJECT LOCATION MAP



Project Location Map

IH 20 from Lawson Road to East of County Road 138 (Wilson Road)
Dallas and Kaufman Counties | CSJs: 0095-14-027, 0095-13-038, 0495-01-071

Miles
0 1.5 3

NORTH

Basemap: ESRI Streets

APPENDIX B

PROJECT PHOTOS

Photograph 1: View of IH 20 at Lawson Road, facing east. Taken Feb 2019.

Photograph 2: View of Lawson Road and IH 20 eastbound. Taken Feb 2019.

Photograph 3: View of southeast corner of IH 20 EB and Lumley Road intersection, facing northeast. Taken Feb 2019.

Photograph 4: View of bridge at East Fork Trinity River, facing northeast. Taken Feb 2019.

Photograph 5: View of bridge at East Fork Trinity River, facing northwest. Taken Feb 2019.

Photograph 6: View of southeast corner of IH 20 eastbound frontage and FM 740 intersection, facing northeast. Taken Feb 2019.

Photograph 7: View of gated structure south of IH 20 on CR 256, facing west. Taken Feb 2019.

Photograph 8: View of residential structure south of IH 20 on CR 256, facing east. Taken Feb 2019.

Photograph 9: View of Map ID 8, S&Z Food Store (currently Shell/Subway) located at the northeast corner of the IH 20 westbound frontage and CR 211 (Helms Trail) intersection, facing east. This facility is considered to be a low environmental risk. Taken Feb 2019.

Photograph 10: View of Map ID 9, Tiger Mart 22 located at the southeast corner of the IH 20 eastbound frontage and FM 1641 intersection, facing northeast. This facility is considered to be a low environmental risk. Taken Feb 2019.

Photograph 11: View of northeast corner of IH 20 westbound frontage and FM 1641 intersection, facing southwest. Taken Feb 2019.

Photograph 12: View of IH 20 eastbound, facing east. Taken Feb 2019.

Photograph 13: View of northwest corner of IH 20 westbound frontage and CR 305 intersection, facing east. Taken Feb 2019.

Photograph 14: View of CR 305 north of IH 20 westbound frontage, facing southeast. Taken Feb 2019.

Photograph 15: View of northeast corner of IH 20 westbound frontage and FM 148 intersection, facing west. Taken Feb 2019.

Photograph 16: View of Map ID 5, Buc-ees located at the northeast corner of the IH 20 westbound frontage and FM 148 intersection, facing southwest. This facility is considered to be a low environmental risk. Taken Feb 2019.

Photograph 17: View of Map ID 19, Circle K located at the southwest corner of the IH 20 eastbound frontage and SH 34 intersection, facing northwest. This facility is considered to be a low environmental risk. Taken Feb 2019.

Photograph 18: View of Map ID 2, Valero Corner Store located at the southeast corner of the IH 20 eastbound frontage and SH 34 intersection, facing northeast. This facility is considered to be a low environmental risk. Taken Feb 2019.

Photograph 19: View of northwest corner of IH 20 westbound frontage and SH 34 intersection, facing west. Taken Feb 2019.

Photograph 20: View of Map ID 10, Grab N Go (currently Shell/Subway), and Map IDs 6 and 21, Quik Trip, both located at the northeast corner of the IH 20 eastbound frontage and SH 34 intersection, facing east. Both of these facilities are considered to be low environmental risks. Taken Feb 2019.

Photograph 21: View of southeast corner of IH 20 eastbound frontage and CR 138 intersection, facing east. Taken Feb 2019.

Photograph 22: View of Map ID 1, Travel CTS America (currently TA Travel Center) located at the southwest corner of the IH 20 eastbound frontage and CR 138 intersection, facing west. This facility is considered to be a low environmental risk. Taken Feb 2019.

Photograph 23: View of IH 20 eastbound at project terminus, facing west. Taken Feb 2019.

Photograph 24: A view of the former location of Map ID 3, Shoes Country Stop. This is an LPST site and two PSTs are still in place at the site. No ROW acquisition is proposed at this property. This facility is considered to be a low environmental risk.

Photograph 25: A view of Map ID 11, I 20 Exxon, located at the northwest corner of the IH 20 westbound frontage and SH 34 intersection This facility is considered to be a low environmental risk.

APPENDIX C

SCHEMATICS

Texas Department of Transportation

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Dallas District

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

IH 20

DESIGN SCHEMATIC

From: Lawson Road
To: East of Wilson Road (CR 138)

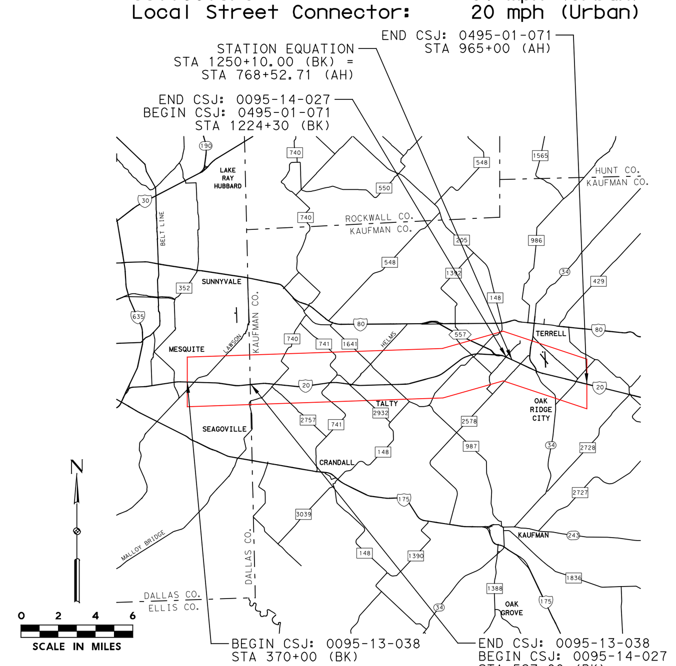
CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles

Functional Class

Mainlane = Interstate
Frontage Road = Major Collector

	Design Speed
Mainlanes:	70 mph
Ramps:	50 mph
Direct Connectors:	40-50 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 557 Frontage Road:	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connector:	20 mph (Urban)



Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'

MARCH 2020

PRELIMINARY
SUBJECT TO REVISIONS

SCHEMATIC PREPARED BY OR UNDER THE DIRECT SUPERVISION OF:

NAME	P.E. NUMBER
JASON A. RICHTER	114508
ALEXANDER S. KEMP	133019

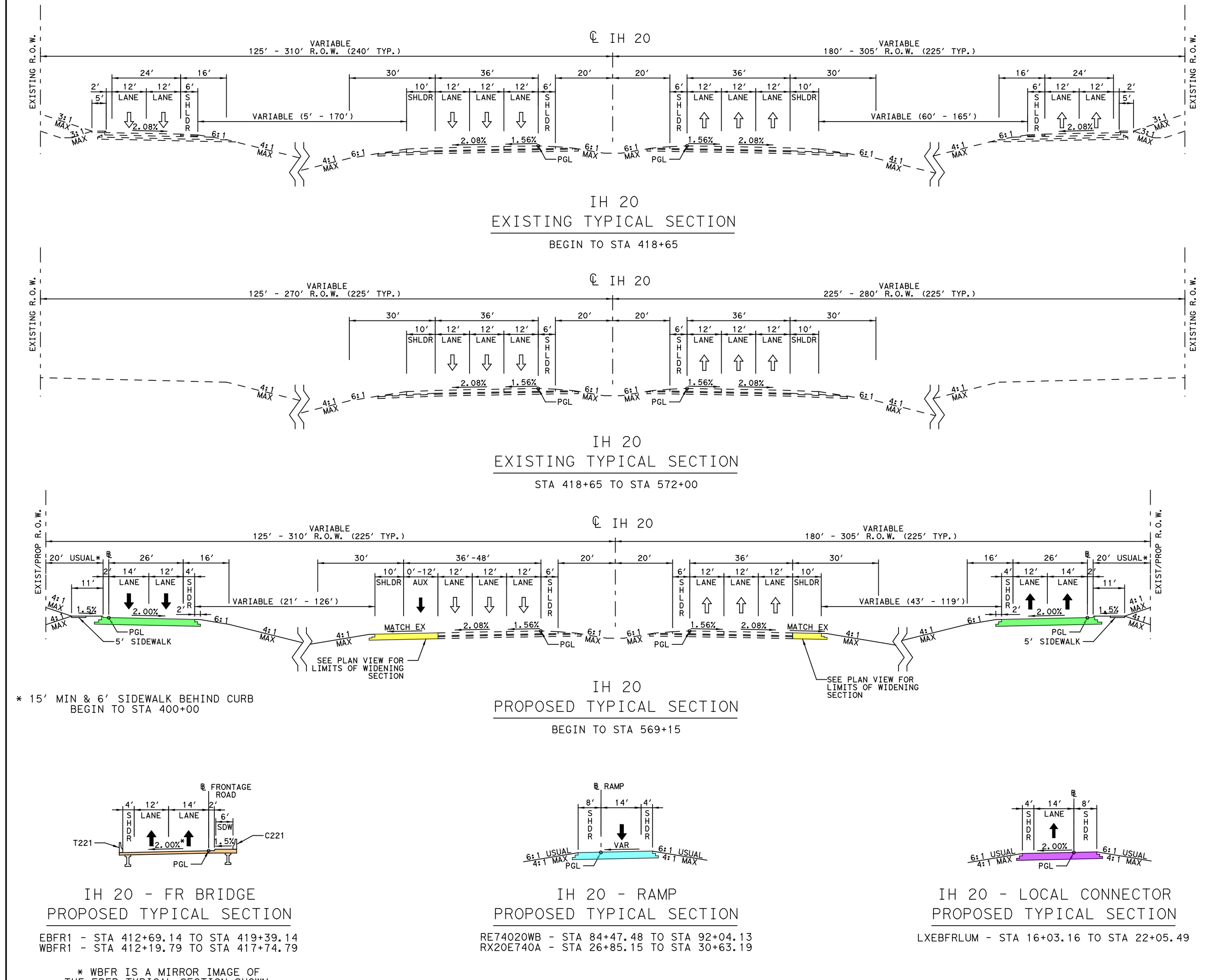
3/31/2020
DATE

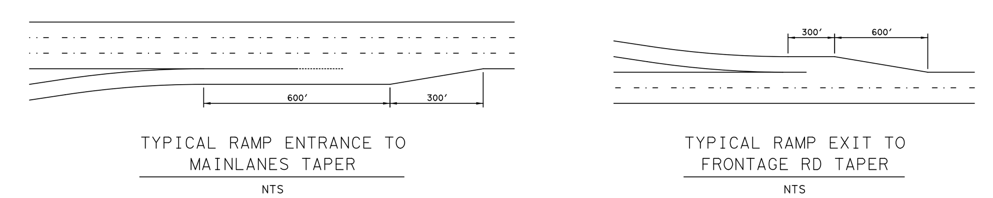
100% PRELIMINARY, SUBJECT TO CHANGE

NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

ROLL 1 OF 30

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





SUPERELEVATION DATA

CROSS SLOPE LT	STATION LT	CHAIN NAME	STATION RT	CROSS SLOPE RT
-2.08%	370+00.00	IH20	370+00.00	-2.08%
-2.08%	430+20.00		445+00.00	-2.08%
2.08%	432+70.00			
2.08%	445+00.00			

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
EBFR1	393+20.00	-2.08%	2.08%
	393+30.00	-2.00%	2.00%
	445+00.00	-2.00%	2.00%
WBFR1	386+75.00	2.08%	-2.08%
	386+85.00	2.00%	-2.00%
	389+90.00	2.00%	-2.00%
	392+00.00	-2.00%	2.00%
	401+00.00	-2.00%	2.00%
	403+10.00	2.00%	-2.00%
	445+00.00	2.00%	-2.00%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
RX20E740A	26+85.15	2.08%	-2.08%
	28+05.00	-2.00%	2.00%
	30+63.19	-2.00%	2.00%
RE74020WB	84+47.48	-2.08%	2.08%
	84+55.00	-2.00%	2.00%
	92+04.13	-2.00%	2.00%

CURVE DATA

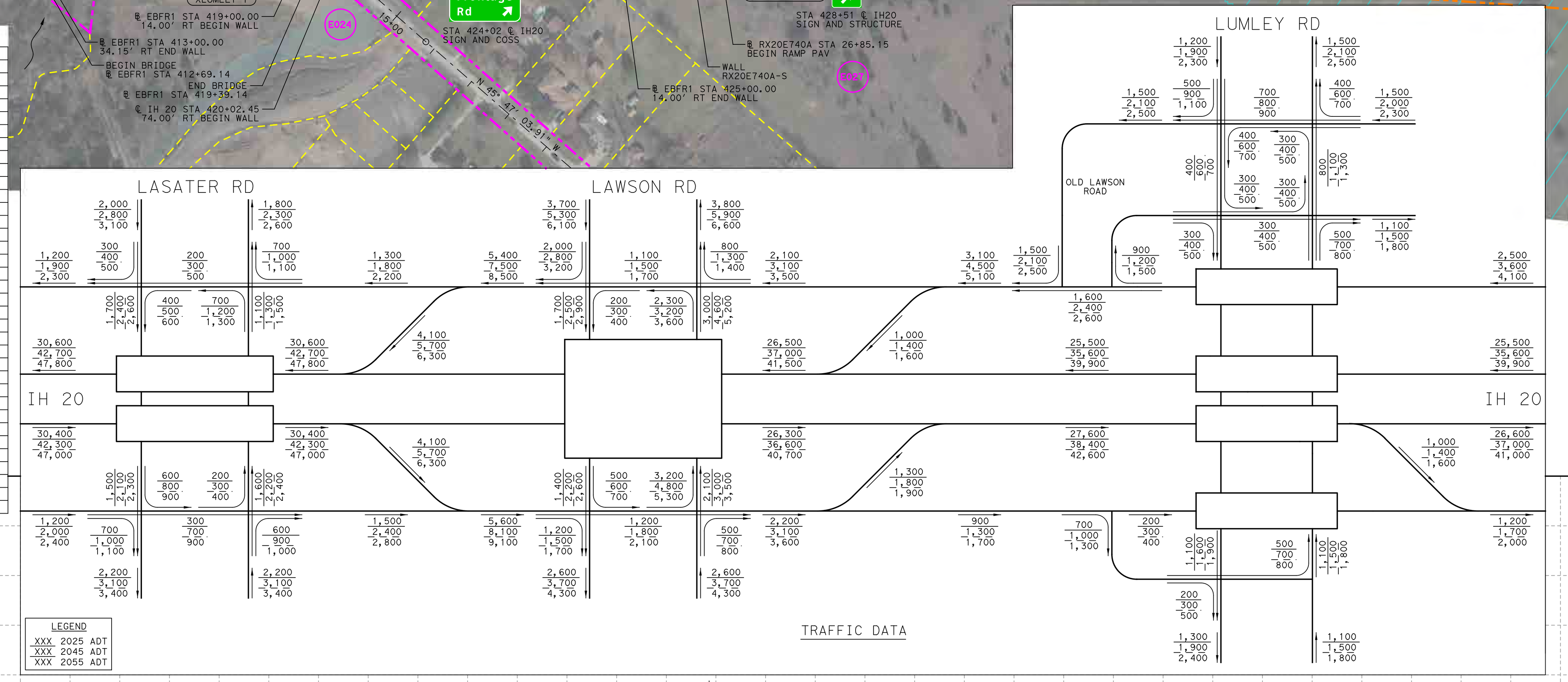
CURVE NO.	DELTA	DEGREE	TANGENT	LENGTH	RADIUS	BACK BEARING	AHEAD BEARING	PI STATION	PC STATION	PT STATION
IH20-4	6° 08' 22.13" RT	0° 30' 00.00"	614.54'	1,227.90'	11,459.16'	S 86° 49' 43.60" E	S 80° 41' 21.47" E	438+79.48	432+64.94	444+92.84
EBFR1-2	3° 29' 14.73" LT	1° 59' 59.47"	87.22'	174.38'	2,865.00'	S 83° 20' 28.86" E	S 86° 49' 43.60" E	355+77.81	354+90.59	356+64.98
EBFR1-3	5° 16' 49.15" RT	1° 59' 59.47"	132.11'	264.04'	2,865.00'	S 86° 49' 43.60" E	S 81° 32' 54.45" E	373+09.31	371+77.20	374+41.24
EBFR1-4	13° 44' 00.97" LT	1° 59' 59.47"	345.02'	686.73'	2,865.00'	S 81° 32' 54.45" E	N 84° 43' 04.58" E	380+60.87	377+15.85	384+02.58
EBFR1-5	8° 27' 11.82" RT	1° 59' 59.47"	211.73'	422.70'	2,865.00'	N 84° 43' 04.58" E	S 86° 49' 43.60" E	387+52.66	385+40.93	389+63.62
EBFR1-6	3° 10' 47.39" LT	1° 59' 59.47"	79.52'	159.00'	2,865.00'	S 86° 49' 43.60" E	N 89° 59' 29.01" E	397+99.31	397+19.79	398+78.79
EBFR1-7	3° 10' 47.39" RT	1° 59' 59.47"	79.52'	159.00'	2,865.00'	N 89° 59' 29.01" E	S 86° 49' 43.60" E	407+90.80	407+11.28	408+70.28
EBFR1-8	5° 00' 00.00" RT	2° 59' 59.20"	83.39'	166.68'	1,910.00'	S 86° 49' 43.60" E	S 81° 49' 43.60" E	424+41.69	423+58.30	425+24.97
EBFR1-9	5° 00' 00.00" LT	2° 59' 59.20"	83.39'	166.68'	1,910.00'	S 81° 49' 43.60" E	S 86° 49' 43.60" E	428+31.69	427+48.30	429+14.98
EBFR1-10	6° 08' 22.13" RT	0° 30' 28.59"	604.93'	1,208.70'	11,280.00'	S 86° 49' 43.60" E	S 80° 41' 21.47" E	438+62.56	432+57.63	444+66.33
WBFR1-1	3° 31' 03.50" LT	0° 59' 59.73"	175.95'	351.79'	5,730.00'	S 87° 06' 16.11" E	N 89° 22' 40.38" E	363+16.60	361+40.65	364+92.44
WBFR1-2	6° 44' 36.88" RT	0° 59' 59.73"	337.59'	674.41'	5,730.00'	N 89° 22' 40.38" E	S 83° 52' 42.74" E	375+08.20	371+70.60	378+45.01
WBFR1-3	2° 57' 00.86" LT	0° 59' 59.73"	147.56'	295.05'	5,730.00'	S 83° 52' 42.74" E	S 86° 49' 43.60" E	389+85.62	388+38.06	391+33.11
WBFR1-4	8° 20' 48.71" RT	2° 59' 59.20"	139.37'	278.25'	1,910.00'	S 86° 49' 43.60" E	S 78° 28' 54.89" E	403+26.40	401+87.02	404+65.27
WBFR1-5	8° 20' 48.71" LT	1° 59' 59.47"	209.06'	417.37'	2,865.00'	S 78° 28' 54.89" E	S 86° 49' 43.60" E	409+32.11	407+23.05	411+40.42
WBFR1-6	2° 14' 18.61" LT	1° 59' 59.47"	55.97'	111.93'	2,865.00'	S 86° 49' 43.60" E	S 89° 04' 02.21" E	421+07.78	420+51.80	421+63.74
WBFR1-7	8° 22' 40.74" RT	0° 30' 28.59"	826.17'	1,649.40'	11,280.00'	S 89° 04' 02.21" E	S 80° 41' 21.47" E	438+28.44	430+02.27	446+51.67
XLUMLEY-1	14° 15' 19.69" RT	3° 00' 00.00"	238.82'	475.18'	1,909.86'	N 45° 20' 04.61" W	N 31° 04' 44.92" W	19+22.77	16+83.94	21+59.12
XLUMLEY-2	12° 22' 40.01" LT	3° 45' 00.00"	165.68'	330.07'	1,527.89'	N 32° 13' 17.41" W	N 44° 35' 57.42" W	26+12.94	24+47.26	27+77.33
XLUMLEY-3	22° 35' 50.49" LT	14° 00' 00.00"	81.77'	161.41'	409.26'	N 44° 35' 57.42" W	N 67° 11' 47.91" W	29+64.90	28+83.13	30+44.54
RE74020WB-1	5° 00' 00.00" LT	1° 00' 18.68"	248.87'	497.42'	5,700.00'	S 86° 49' 43.60" E	N 88° 10' 16.40" E	81+48.87	79+00.00	83+97.42
RE74020WB-2	5° 00' 00.00" RT	5° 27' 24.27"	45.84'	91.63'	1,050.00'	N 88° 10' 16.40" E	S 86° 49' 43.60" E	95+71.29	95+25.45	96+17.08
RX20E740A-1	5° 00' 00.00" RT	1° 00' 18.68"	248.87'	497.42'	5,700.00'	S 86° 49' 43.60" E	S 81° 49' 43.60" E	22+48.87	20+00.00	24+97.42
RX20E740A-2	5° 00' 00.00" LT	5° 27' 24.27"	45.84'	91.63'	1,050.00'	S 81° 49' 43.60" E	S 86° 49' 43.60" E	32+92.66	32+46.82	33+38.45
LXEBFRLUM-1	36° 18' 04.74" LT	17° 06' 11.58"	109.82'	212.25'	335.00'	S 50° 31' 20.82" E	S 86° 49' 25.56" E	17+09.82	16+00.00	18+12.25

PROPERTY OWNERSHIP DATA

ID	NAME	STREET ADDRESS
E001	DALLAS CITY OF	13818 S BELTLINE RD
E002	BURKLOW ROY	13800 LASATER RD
E003	BURKLOW ROY	500 LAWSON RD
E004	BURKLOW ROY	500 LAWSON RD
E005	BURKLOW ROY	500 LAWSON RD
E006	BURKLOW ROY	500 LAWSON RD
E007	BURKLOW ROY	500 LAWSON RD
E008	BURKLOW ROY	500 LAWSON RD
E009	BURKLOW ROY	500 LAWSON RD
E010	BURKLOW ROY	500 LAWSON RD
E011	BURKLOW ROY	500 LAWSON RD
E012	BURKLOW ROY	500 LAWSON RD
E013	BURKLOW ROY	500 LAWSON RD
E014	BURKLOW ROY	500 LAWSON RD
E015	BURKLOW ROY	500 LAWSON RD
E016	BURKLOW ROY	500 LAWSON RD
E017	BURKLOW ROY ET AL	14600 IH 20
E018	DEASON ROBERT J	3501 MCKENZIE RD
E019	BACK JONATHAN R	3511 MCKENZIE RD
E020	MESQUITE CITY OF	4600 E LAWSON RD
E021	JERGER MRS ERNEST L	4600 LAWSON RD
E022	CSN FAMILY LP	5800 SHANNON RD
E023	BASS CAROLYN LUCAS	5800 SHANNON RD
E024	HAGAN HILL HOMEOWNERS ASSOC INC	50 HAGAN HILL PKWY
E025	FLURD CORPORATION	1551 IH 20
E026	PERTHUIS ADOLPH &	6050 LUMLEY RD
E027	FLURD CORPORATION	1401 IH 20

PROPERTY OWNERSHIP DATA

ID	NAME	STREET ADDRESS
W001	INGRAM WADE T TR ET AL	4800 LASATER RD
W002	TYNES JENENE M &	992 GREENWOOD DR
W003	TYNES JENENE M &	991 GREENWOOD DR
W004	TYNES JENENE M &	108 WOODHILL DR
W005	STEALEY GRETCHEN B	112 WOODHILL DR
W006	TYNES JENENE M &	113 REDWOOD DR
W007	TYNES JENENE M &	117 REDWOOD DR
W008	MEDINA CONCEPCION	123 REDWOOD DR
W009	VALDEZ JOHN J & SAN JUANA	127 REDWOOD DR
W010	CISNEROS ARLENE &	130 REDWOOD DR
W011	CHIK ERIC K	134 REDWOOD DR
W012	GLORIA JOSE ALFREDO II &	138 REDWOOD DR
W013	RAY LINDA G	202 REDWOOD DR
W014	CANTRELL ROY	201 WOODGROVE DR
W015	BROWNING SHARRON G M	205 WOODGROVE DR
W016	RODRIGUEZ ARMANDO JR	208 WOODGROVE DR
W017	TYNES JENENE M &	9930 AUTUMN WOOD DR
W018	TYNES JENENE M &	9929 AUTUMN WOOD DR
W019	TYNES JENENE M &	9928 AUTUMN WOOD DR
W020	TYNES JENENE M &	9999 AUTUMN WOOD DR
W021	TYNES JENENE M &	9999 AUTUMN WOOD DR
W022	TYNES JENENE M &	9999 AUTUMN WOOD DR
W023	TYNES JENENE M &	9999 RIPPLEWOOD DR
W024	TYNES JENENE M &	9999 RIPPLEWOOD DR
W025	TYNES JENENE M &	9999 RIPPLEWOOD DR
W026	TYNES JENENE M &	9999 RIPPLEWOOD DR
W027	TYNES JENENE M &	9999 RIPPLEWOOD DR
W028	MESQUITE CITY OF	4300 LAWSON RD
W029	AYERSDICARO BETH M &	651 OLD LAWSON RD
W030	AYERS RONALD D &	4550 OLD LAWSON RD
W031	TURNER DALE R &	5757 LUMLEY RD
W032	POTTER CEMETETY	5841 LUMLEY RD
W033	MESQUITE CITY OF	5500 LUMLEY RD
W034	MESQUITE CITY OF	15515 IH 20
W035	FLURD CORPORATION	1400 IH 20



LEGEND

- FLOODPLAIN
- PAVEMENT REMOVAL
- PAVEMENT REMOVAL BY OTHERS
- MAINLANES
- FRONTAGE ROADS
- RAMPS
- BRIDGES
- CROSS STREETS/LOCAL ROADS
- LOCAL STREET CONNECTOR
- TRANSITIONS
- SIDEWALKS
- BY OTHERS
- PROPOSED RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY BY OTHERS
- CONTROL OF ACCESS
- PROPOSED DRAINAGE EASEMENT
- EXISTING RIGHT-OF-WAY
- PROPERTY LINES
- RETAINING WALLS

NOTES

1. EXISTING FEATURES WERE NOT FIELD SURVEYED. SCHEMATICS ARE BASED UPON AERIAL SURVEYS PROVIDED IN AUGUST 2016 AND RECORD PLANS.
2. PROPERTY LINES ARE SHOWN FOR REFERENCE ONLY.
3. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM DALLAS AND KAUFMAN COUNTY APPRAISAL DISTRICTS (JULY 2017).
4. ADA RAMPS, SIDEWALKS, AND DRIVEWAY LOCATIONS ARE PRELIMINARY AND SUBJECT TO CHANGE. FINAL LOCATIONS TO BE DETERMINED DURING THE FINAL DESIGN PHASE OF THE PROJECT.
5. ACCESS DENIAL LIMITS ARE DETERMINED PER TXDOT ACCESS MANAGEMENT MANUAL.
6. DIMENSIONS ARE TO EDGE OF PAVEMENT OR NOMINAL FACE OF CURB, RAIL, BARRIER, OR WALL (UNLESS NOTED OTHERWISE).
7. SUPERELEVATION AXIS OF ROTATION IS ABOUT THE PGL.
8. EXISTING PAVEMENT AND BRIDGES LOCATED WITHIN LIMITS OF PROPOSED RECONSTRUCTION WILL BE REMOVED (UNLESS NOTED OTHERWISE).
9. CURBS ON FRONTAGE ROADS AND CROSS STREETS ARE TYPE II (UNLESS NOTED OTHERWISE).
10. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE MAPS 48113C0530K, 48113C0535K, 48257C0150D, 48257C0155D, 48257C0175D, 48257C0200D, 48257C0185D, AND 48257C0225D.
11. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.
12. BRIDGE APPROACH SLAB LIMITS WILL BE DEVELOPED AT THE PS&E PHASE.

Texas Department of Transportation
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Dallas District
Mohamed K. Bur, P.E.
Dallas District Engineer
IH 20
DESIGN SCHEMATIC
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To: East of Wilson Road (CR 138)
CSJ: 0095-13-038
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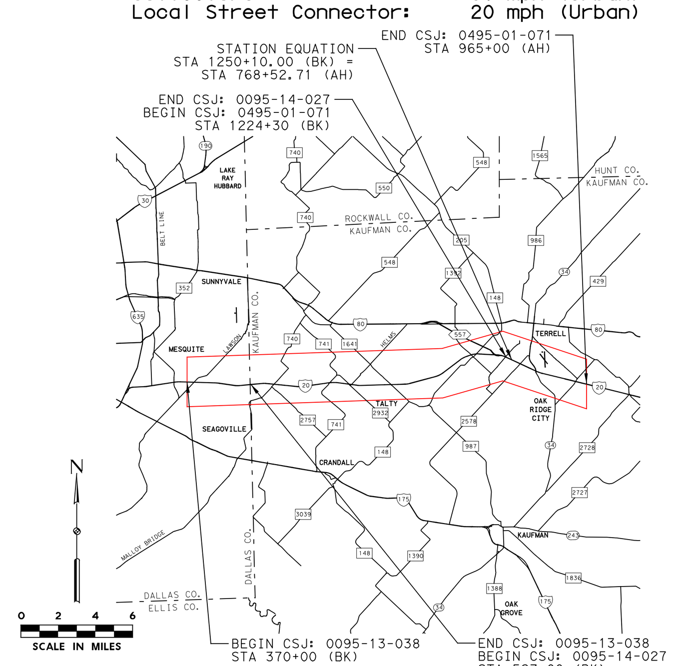
MARCH 2020
PRELIMINARY SUBJECT TO REVISIONS
JASON A. RICHTER 114508
ALEXANDER S. KEMP 133019
3/31/2020
100% PRELIMINARY, SUBJECT TO CHANGE
NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES
ROLL 1 OF 30
HDR Firm Registration No. F-754
17111 Preston Road, Suite 300
Dallas, Texas 75248
972.960.4400



Texas Department of Transportation

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Dallas District

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

IH 20

DESIGN SCHEMATIC

From: Lawson Road
To: East of Wilson Road (CR 138)

CSJ: 0095-13-038
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Dallas and Kaufman Counties
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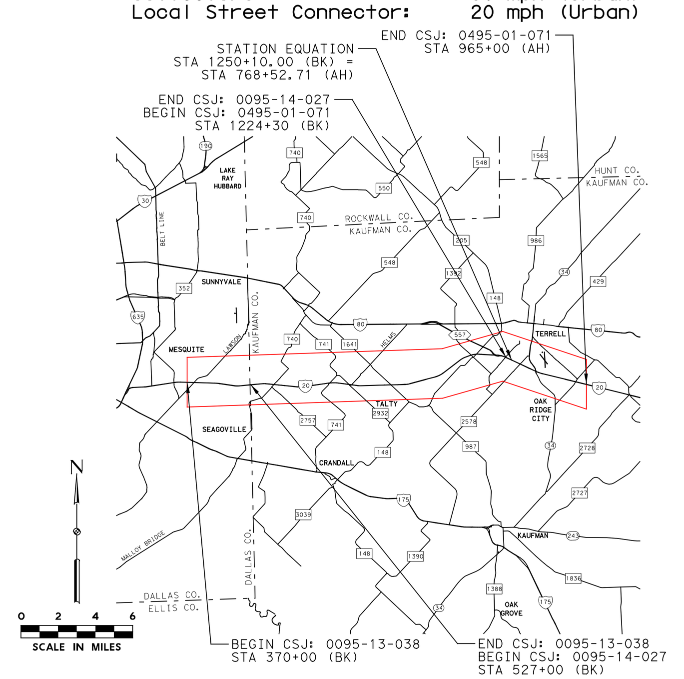
SPUR 557 Frontage Road:	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connector:	20 mph (Urban)



Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'

MARCH 2020

PRELIMINARY
SUBJECT TO REVISIONS

SCHEMATIC PREPARED BY OR UNDER THE DIRECT SUPERVISION OF:

JASON A. RICHTER — 114508
NAME — P.E. NUMBER

ALEXANDER S. KEMP — 133019
NAME — P.E. NUMBER

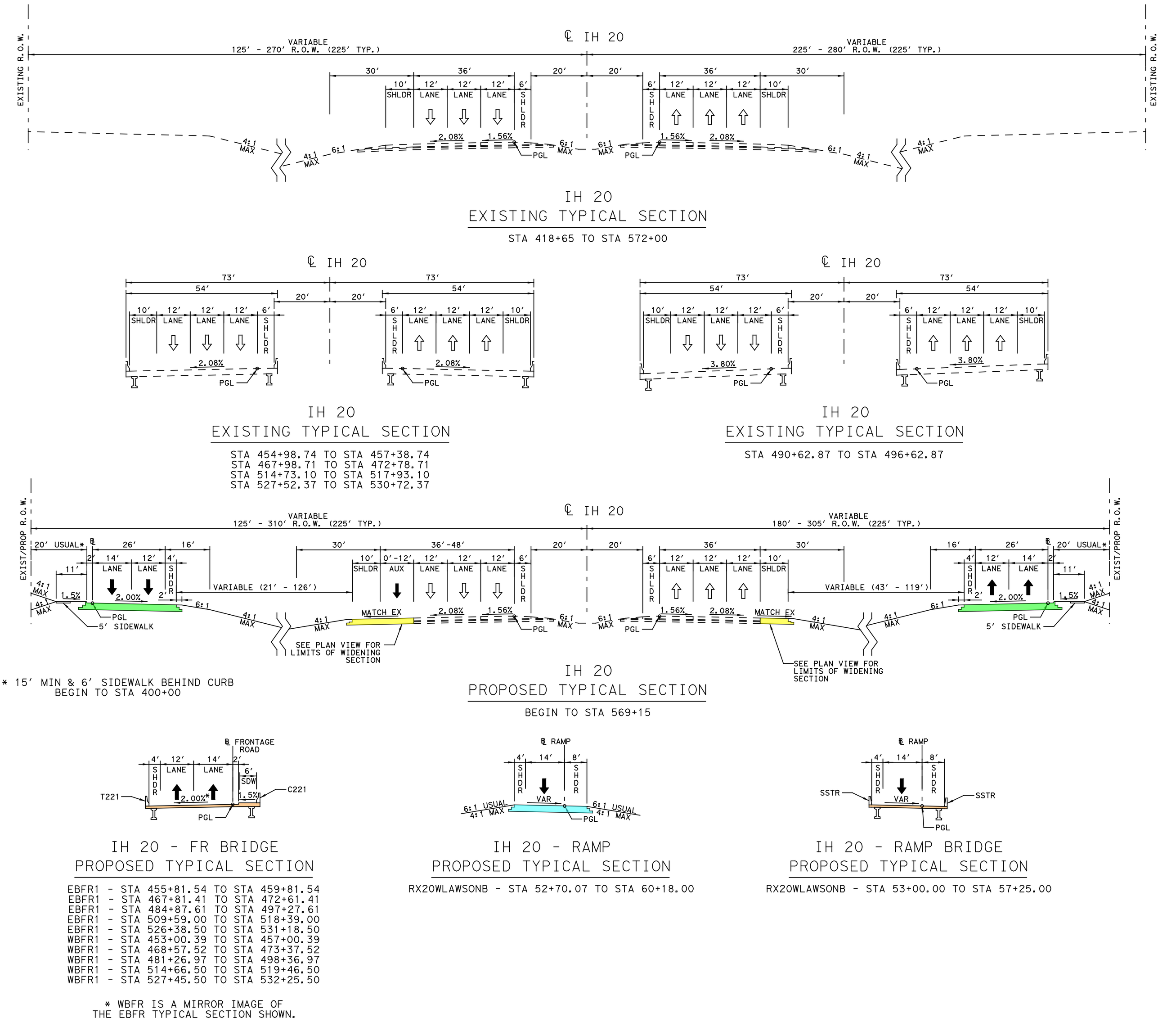
3/31/2020
DATE

100%
PRELIMINARY, SUBJECT TO CHANGE

NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

ROLL 2 OF 30

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



CURVE DATA

CURVE NO.	DELTA	DEGREE	TANGENT	LENGTH	RADIUS	BACK BEARING	AHEAD BEARING	PI STATION	PC STATION	PT STATION
IH20-5	12° 45′ 41.87" LT	1° 00′ 00.00"	640.73′	1,276.16′	5,729.58′	S 80° 41′ 21.47" E	N 86° 32′ 56.66" E	490+38.77	483+98.04	496+74.20
EBFR1-11	12° 45′ 41.87" LT	0° 59′ 59.73"	640.78′	1,276.26′	5,730.00′	S 80° 41′ 21.47" E	N 86° 32′ 56.66" E	488+92.30	482+51.52	495+27.78
WBFR1-7	8° 22′ 40.74" RT	0° 30′ 28.59"	826.17′	1,649.40′	11,280.00′	S 89° 04′ 02.21" E	S 80° 41′ 21.47" E	438+28.44	430+02.27	446+51.67
WBFR1-8	12° 45′ 41.87" LT	0° 35′ 59.84"	1,067.97′	2,127.10′	9,550.00′	S 80° 41′ 21.47" E	N 86° 32′ 56.66" E	492+61.37	481+93.41	503+20.50
RX20E740B-1	5° 00′ 00.00" RT	1° 00′ 18.68"	248.87′	497.42′	5,700.00′	N 86° 32′ 56.66" E	S 88° 27′ 03.34" E	36+48.87	34+00.00	38+97.42
RX20WLAWSONB-1	2° 50′ 00.00" RT	5° 27′ 24.27"	25.97′	51.92′	1,050.00′	S 80° 41′ 21.47" E	S 77° 51′ 21.47" E	49+25.97	49+00.00	49+51.92
RX20WLAWSONB-2	2° 50′ 00.00" LT	1° 00′ 18.68"	140.96′	281.87′	5,700.00′	S 77° 51′ 21.47" E	S 80° 41′ 21.47" E	67+87.14	66+46.18	69+28.05

SUPERELEVATION DATA

CROSS SLOPE LT	STATION LT	CHAIN NAME	STATION RT	CROSS SLOPE RT
2.08%	445+00.00	IH20	445+00.00	-2.08%
2.08%	446+25.00		481+05.00	-2.08%
-2.08%	448+45.00		484+80.00	3.80%
-2.08%	483+70.00		495+50.00	3.80%
-3.80%	484+80.00		499+25.00	-2.08%
-3.80%	496+33.00		535+00.00	-2.08%
-2.08%	497+58.00			
-2.08%	535+00.00			

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
EBFR1	445+00.00	-2.00%	2.00%
	535+00.00	-2.00%	2.00%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
WBFR1	445+00.00	2.00%	-2.00%
	535+00.00	2.00%	-2.00%

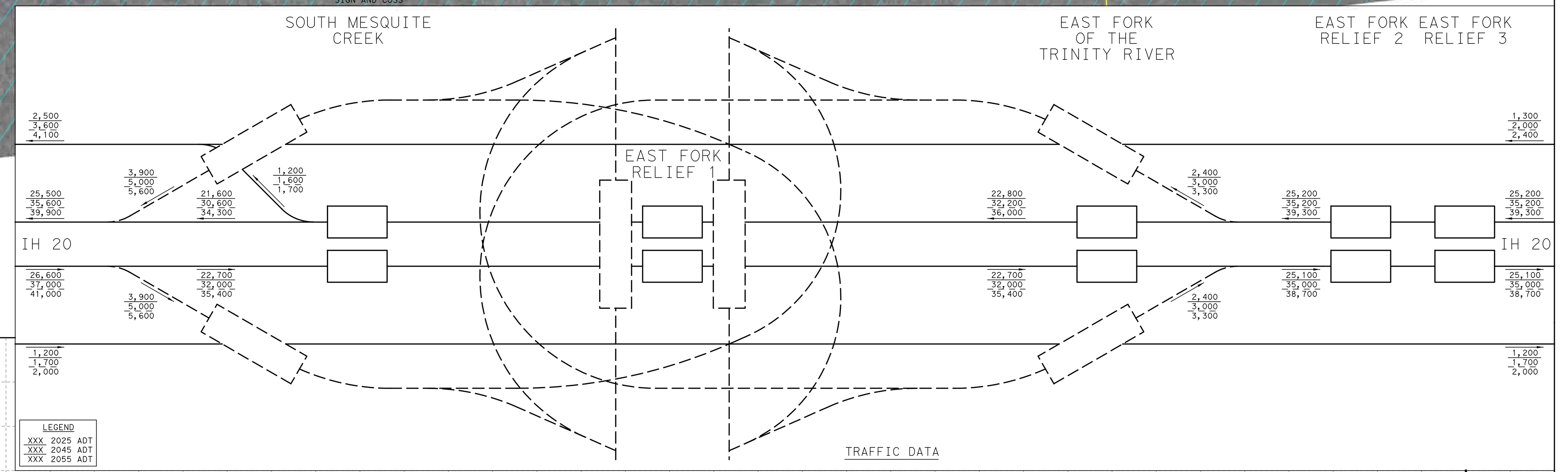
CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
RX20WLAWSONB	52+70.07	2.00%	-2.00%
	59+00.00	2.00%	-2.00%
	60+18.00	-2.08%	2.08%

PROPERTY OWNERSHIP DATA

ID	NAME	STREET ADDRESS
E027	FLURD CORPORATION	1401 IH 20
E028	8975 FARM TO MARKET RD PROP LLC	3000 LAWSON RD
E029	8975 FARM TO MARKET RD PROP LLC	IH 20

PROPERTY OWNERSHIP DATA

ID	NAME	STREET ADDRESS
W035	FLURD CORPORATION	1400 IH 20
W036	MESQUITE CITY OF	1150 IH 20
W037	BARREL RANCH LLC	2000 LAWSON RD
W038	BARREL RANCH LLC	CO RD 200
W039	BARREL RANCH LLC	IH 20



LEGEND

- FLOODPLAIN
- PAVEMENT REMOVAL
- PAVEMENT REMOVAL BY OTHERS
- MAINLANES
- FRONTAGE ROADS
- RAMPS
- BRIDGES
- CROSS STREETS/LOCAL ROADS
- LOCAL STREET CONNECTOR
- TRANSITIONS
- SIDEWALKS
- BY OTHERS
- PROPOSED RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY BY OTHERS
- CONTROL OF ACCESS
- PROPOSED DRAINAGE EASEMENT
- EXISTING RIGHT-OF-WAY
- PROPERTY LINES
- RETAINING WALLS

NOTES

1. EXISTING FEATURES WERE NOT FIELD SURVEYED. SCHEMATICS ARE BASED UPON AERIAL SURVEYS PROVIDED IN AUGUST 2016 AND RECORD PLANS.
2. PROPERTY LINES ARE SHOWN FOR REFERENCE ONLY.
3. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM DALLAS AND KAUFMAN COUNTY APPRAISAL DISTRICTS (JULY 2017).
4. ADA RAMPS, SIDEWALKS, AND DRIVEWAY LOCATIONS ARE PRELIMINARY AND SUBJECT TO CHANGE. FINAL LOCATIONS TO BE DETERMINED DURING THE FINAL DESIGN PHASE OF THE PROJECT.
5. ACCESS DENIAL LIMITS ARE DETERMINED PER TXDOT ACCESS MANAGEMENT MANUAL.
6. DIMENSIONS ARE TO EDGE OF PAVEMENT OR NOMINAL FACE OF CURB, RAIL, BARRIER, OR WALL (UNLESS NOTED OTHERWISE).
7. SUPERELEVATION AXIS OF ROTATION IS ABOUT THE PGL.
8. EXISTING PAVEMENT AND BRIDGES LOCATED WITHIN LIMITS OF PROPOSED RECONSTRUCTION WILL BE REMOVED (UNLESS NOTED OTHERWISE).
9. CURBS ON FRONTAGE ROADS AND CROSS STREETS ARE TYPE II (UNLESS NOTED OTHERWISE).
10. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE MAPS 48113C0530K, 48113C0535K, 48257C0150D, 48257C0155D, 48257C0175D, 48257C0200D, 48257C0185D, AND 48257C0225D.
11. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.
12. BRIDGE APPROACH SLAB LIMITS WILL BE DEVELOPED AT THE PS&E PHASE.

Texas Department of Transportation
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Dallas District
Mohamed K. Bur, P.E.
Dallas District Engineer
IH 20
DESIGN SCHEMATIC
From: Lawson Road
To: East of Wilson Road (CR 138)
CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071
Dallas and Kaufman Counties
Project Length: 20.390 Miles
Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'
MARCH 2020
ROLL 2 OF 30
HDR
Firm Registration No. F-754
17111 Preston Road, Suite 300
Dallas, Texas 75248
972.960.4400

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Texas Department of Transportation

Dallas District

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

IH 20

DESIGN SCHEMATIC

From: Lawson Road
To: East of Wilson Road (CR 138)

CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles

Functional Class

Mainlane	= Interstate
Frontage Road	= Major Collector

	Design Speed
Mainlanes:	70 mph
Ramps:	50 mph
Direct Connectors:	40-50 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 557 Frontage Road:	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connector:	20 mph (Urban)

STATION EQUATION
STA 1250+10.00 (BK) = STA 768+52.71 (AH)

END CSJ: 0495-01-071
STA 965+00 (AH)

END CSJ: 0095-14-027
BEGIN CSJ: 0495-01-071
STA 1224+30 (BK)

BEGIN CSJ: 0095-13-038
STA 370+00 (BK)

END CSJ: 0095-13-038
BEGIN CSJ: 0095-14-027
STA 527+00 (BK)

SCALE IN MILES

Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'

MARCH 2020

PRELIMINARY
SUBJECT TO REVISIONS

SCHEMATIC PREPARED BY OR UNDER THE DIRECT SUPERVISION OF:

NAME	P.E. NUMBER
JASON A. RICHTER	114508
ALEXANDER S. KEMP	133019

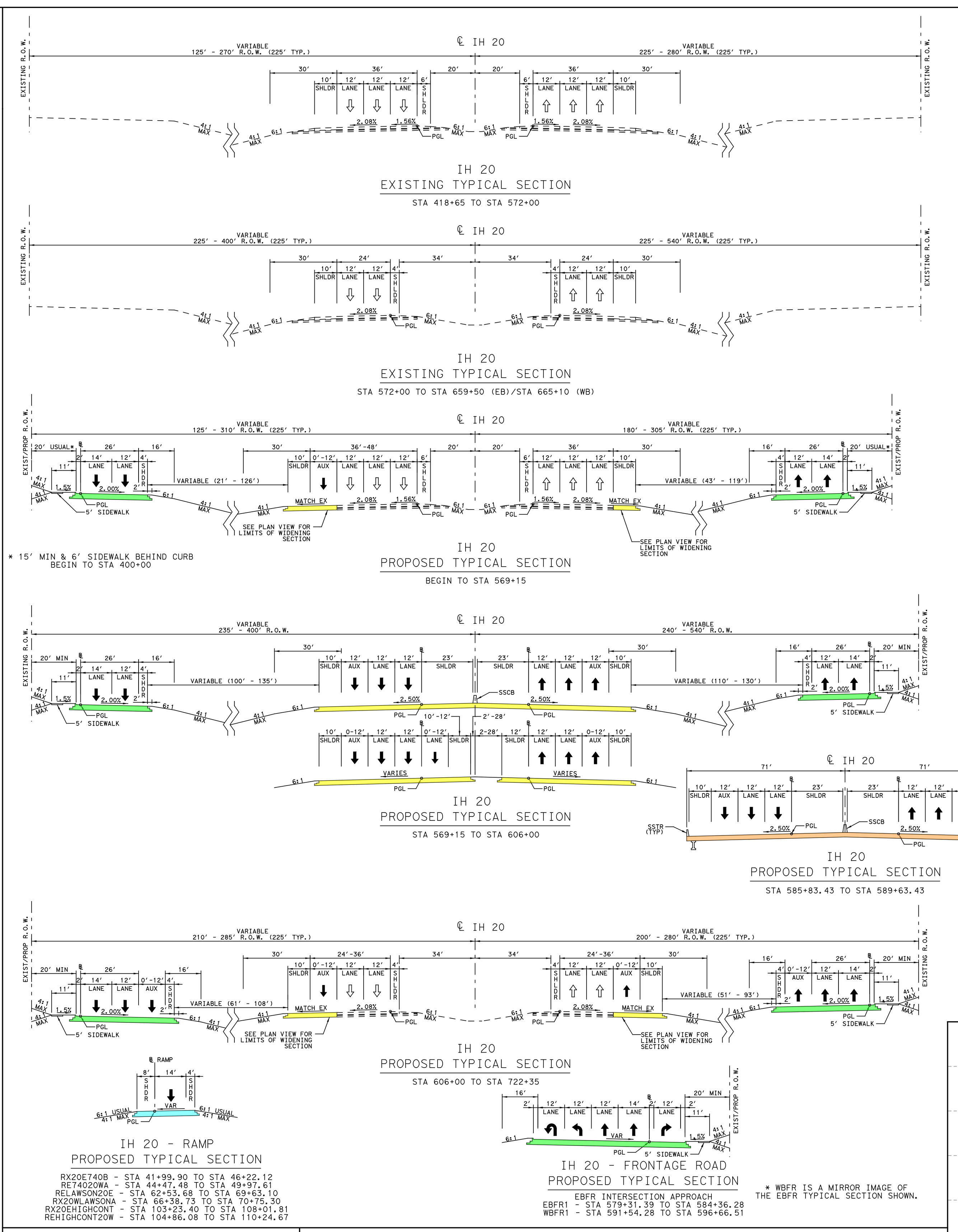
DATE: 3/31/2020

100%
PRELIMINARY, SUBJECT TO CHANGE

NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

ROLL 3 OF 30

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



LEGEND

- FLOODPLAIN
- PAVEMENT REMOVAL
- PAVEMENT REMOVAL BY OTHERS
- MAINLANES
- FRONTAGE ROADS
- RAMPS
- BRIDGES
- CROSS STREETS/LOCAL ROADS
- LOCAL STREET CONNECTOR
- TRANSITIONS
- SIDEWALKS
- BY OTHERS
- PROPOSED RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY BY OTHERS
- CONTROL OF ACCESS
- PROPOSED DRAINAGE EASEMENT
- EXISTING RIGHT-OF-WAY
- PROPERTY LINES
- RETAINING WALLS

NOTES

1. EXISTING FEATURES WERE NOT FIELD SURVEYED. SCHEMATICS ARE BASED UPON AERIAL SURVEYS PROVIDED IN AUGUST 2016 AND RECORD PLANS.
2. PROPERTY LINES ARE SHOWN FOR REFERENCE ONLY.
3. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM DALLAS AND KAUFMAN COUNTY APPRAISAL DISTRICTS (JULY 2017).
4. ADA RAMPS, SIDEWALKS, AND DRIVEWAY LOCATIONS ARE PRELIMINARY AND SUBJECT TO CHANGE. FINAL LOCATIONS TO BE DETERMINED DURING THE FINAL DESIGN PHASE OF THE PROJECT.
5. ACCESS DENIAL LIMITS ARE DETERMINED PER TXDOT ACCESS MANAGEMENT MANUAL.
6. DIMENSIONS ARE TO EDGE OF PAVEMENT OR NOMINAL FACE OF CURB, RAIL, BARRIER, OR WALL (UNLESS NOTED OTHERWISE).
7. SUPERELEVATION AXIS OF ROTATION IS ABOUT THE PGL.
8. EXISTING PAVEMENT AND BRIDGES LOCATED WITHIN LIMITS OF PROPOSED RECONSTRUCTION WILL BE REMOVED (UNLESS NOTED OTHERWISE).
9. CURBS ON FRONTAGE ROADS AND CROSS STREETS ARE TYPE II (UNLESS NOTED OTHERWISE).
10. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE MAPS 48113C0530K, 48113C0535K, 48257C0150D, 48257C0155D, 48257C0175D, 48257C0200D, 48257C0185D, AND 48257C0225D.
11. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.
12. BRIDGE APPROACH SLAB LIMITS WILL BE DEVELOPED AT THE PS&E PHASE.

Texas Department of Transportation
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Dallas District
Mohamed K. Bur, P.E.
Dallas District Engineer
IH 20
DESIGN SCHEMATIC
From: Lawson Road
To: East of Wilson Road (CR 138)
CSJ: 0095-13-038
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CSJ: 0495-01-071
Dallas and Kaufman Counties
Project Length: 20.390 Miles
Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'
MARCH 2020
PRELIMINARY SUBJECT TO REVISIONS
JASON A. RICHTER 114508
ALEXANDER S. KEMP 133019
3/31/2020
100% PRELIMINARY, SUBJECT TO CHANGE
NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES
ROLL 3 OF 30
HDR
Firm Registration No. F-754
17111 Preston Road, Suite 300
Dallas, Texas 75248
972.960.4400

Texas Department of Transportation

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

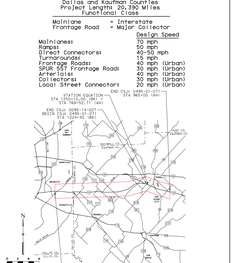
IH 20
DESIGN SCHEMATIC
From: Lawson Road
To: East of Wilson Road (CR 138)

CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles
Functional Class

Mainlane - Interstate
Frontage Road - Major Collector

	Design Speed
Mainlanes:	70 mph
Ramps:	50 mph
Direct Connectors:	50 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 357 Frontage Roads:	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connectors:	20 mph (Urban)



Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'
MARCH 2020

PRELIMINARY
SUBJECT TO REVISIONS
SCHEMATIC PREPARED UNDER THE DIRECT SUPERVISION OF:

JASON R. BOACHER — 1/31/20
NAME — P.E. NUMBER

ALEXANDER G. KEMP — 1/31/20
NAME — P.E. NUMBER

3/31/2020
DATE

NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

100% PRELIMINARY SUBJECT TO CHANGE

ROLL 4 OF 30

HDR
Firm Registration No. F-754
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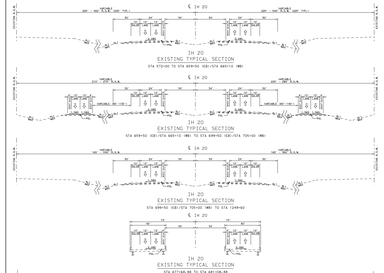
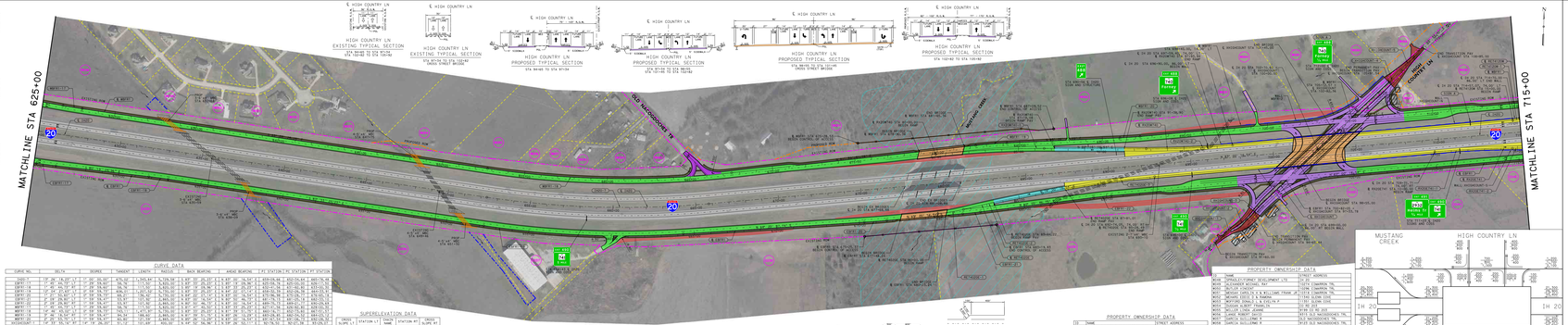
Dallas, Texas 75248
972.960.4400



LEGEND
- FLOODPLAIN
- PAVEMENT REMOVAL
- PAVEMENT REMOVAL BY OTHERS
- MAINLANES
- FRONTAGE ROADS
- RAMPS
- BRIDGES
- CROSS STREETS/LOCAL ROADS
- LOCAL STREET CONNECTOR
- TRANSITIONS
- SIDEWALKS
- CURB RAMPS
- PROPOSED RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY BY OTHERS
- CONTROL OF ACCESS
- PROPOSED DRAINAGE EASEMENT
- PROPOSED TEMP RIGHT-OF-WAY
- PROPERTY LINES
- RETAINING WALLS

NOTES
1. EXISTING FEATURES WERE NOT FIELD-VERIFIED EXCEPT FOR FIELD-VERIFICATION. AERIAL SURVEY PROVIDED IN AUGUST 2014 BY TEXAS DOT.
2. PROPERTY LINES ARE SHOWN FOR REFERENCE ONLY.
3. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM DALLAS AND KAUFMAN COUNTY TAX ROLLS AND TEXAS DOT RECORDS.
4. ADA RAMPS, SIDEWALKS, AND DRIVEWAYS ADJACENT TO THE PROJECT ARE SUBJECT TO CHANGE. FINAL LOCATIONS TO BE DETERMINED AT FINAL DESIGN PHASE OF THE PROJECT.
5. ACCESS DENIAL LENGTH ARE DETERMINED PER TEXAS DOT ACCESS MANAGEMENT.
6. DIMENSIONS ARE TO EDGE OF PAVEMENT OR BACK OF CURB UNLESS NOTED OTHERWISE.
7. WALL LOCATIONS NOTED PARALLEL TO THE MAINLANE ALIGNMENT AXIS OF ROTATION IS ABOUT THE MAIN.
8. EXISTING PAVEMENT AND BRIDGES LOCATED WITHIN THE PROPOSED RIGHT-OF-WAY BELONGING TO OTHERS WILL BE REMOVED UNLESS NOTED OTHERWISE.
9. CURBS ON FRONTAGE ROADS AND CROSS STREETS ARE TYPE II UNLESS NOTED OTHERWISE.
10. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE SHOWN ON THE PROJECT PLAN SHEETS WHERE INFORMATION IS AVAILABLE.
11. FLOODPLAIN LIMITS ARE BASED ON FEMA, 48397C0020G, 48397C0040G, 48397C0055G, 48397C0060G, 48397C0080G, AND 48397C0085G.
12. CONVENTIONAL DRAINAGE (SMALL) STUDY AND NET SHOWN AND WILL BE DEVELOPED AT THE PSE PHASE OF THE PROJECT.
13. PROJECT HYDRAULIC SUMMARY WILL BE DEVELOPED AT THE PSE PHASE.



CURVE DATA

CURVE NO.	DELTA	DEGREE	TANGENT	LENGTH	RADIUS	BACK BEARING	AHEAD BEARING	P.C. STATION	P.I. STATION	P.T. STATION
CURV1	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	S 89° 25' 26.0" E	S 74° 39' 56.6" E	620+00.00	643+87.50	644+17.50
CURV2	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	S 74° 39' 56.6" E	S 59° 54' 27.2" E	644+17.50	667+47.50	667+77.50
CURV3	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	S 59° 54' 27.2" E	S 45° 08' 57.8" E	667+77.50	691+07.50	691+37.50
CURV4	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	S 45° 08' 57.8" E	S 30° 23' 28.4" E	691+37.50	714+67.50	714+97.50
CURV5	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	S 30° 23' 28.4" E	S 15° 37' 59.0" E	714+97.50	738+27.50	738+57.50
CURV6	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	S 15° 37' 59.0" E	S 0° 52' 29.6" E	738+57.50	761+87.50	762+17.50
CURV7	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	S 0° 52' 29.6" E	S 13° 42' 30.2" W	762+17.50	785+47.50	785+77.50
CURV8	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	S 13° 42' 30.2" W	S 28° 27' 59.6" W	785+77.50	809+07.50	809+37.50
CURV9	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	S 28° 27' 59.6" W	S 43° 13' 29.0" W	809+37.50	832+67.50	832+97.50
CURV10	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	S 43° 13' 29.0" W	S 57° 58' 58.4" W	832+97.50	856+27.50	856+57.50
CURV11	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	S 57° 58' 58.4" W	S 72° 44' 27.8" W	856+57.50	879+87.50	879+17.50
CURV12	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	S 72° 44' 27.8" W	S 87° 29' 57.2" W	879+17.50	901+47.50	901+77.50
CURV13	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	S 87° 29' 57.2" W	N 102° 15' 26.6" W	901+77.50	924+07.50	924+37.50
CURV14	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 102° 15' 26.6" W	N 117° 00' 56.0" W	924+37.50	946+67.50	946+97.50
CURV15	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 117° 00' 56.0" W	N 131° 46' 25.4" W	946+97.50	969+27.50	969+57.50
CURV16	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 131° 46' 25.4" W	N 146° 31' 54.8" W	969+57.50	991+87.50	992+17.50
CURV17	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 146° 31' 54.8" W	N 161° 17' 24.2" W	992+17.50	1014+47.50	1014+77.50
CURV18	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 161° 17' 24.2" W	N 176° 02' 53.6" W	1014+77.50	1037+07.50	1037+37.50
CURV19	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 176° 02' 53.6" W	N 190° 48' 23.0" W	1037+37.50	1059+67.50	1059+97.50
CURV20	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 190° 48' 23.0" W	N 205° 33' 52.4" W	1059+97.50	1082+27.50	1082+57.50
CURV21	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 205° 33' 52.4" W	N 220° 19' 21.8" W	1082+57.50	1104+87.50	1105+17.50
CURV22	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 220° 19' 21.8" W	N 235° 04' 51.2" W	1105+17.50	1127+47.50	1127+77.50
CURV23	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 235° 04' 51.2" W	N 249° 50' 20.6" W	1127+77.50	1150+07.50	1150+37.50
CURV24	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 249° 50' 20.6" W	N 264° 35' 50.0" W	1150+37.50	1172+67.50	1172+97.50
CURV25	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 264° 35' 50.0" W	N 279° 21' 19.4" W	1172+97.50	1195+27.50	1195+57.50
CURV26	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 279° 21' 19.4" W	N 294° 06' 48.8" W	1195+57.50	1217+87.50	1218+17.50
CURV27	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 294° 06' 48.8" W	N 308° 52' 18.2" W	1218+17.50	1240+47.50	1240+77.50
CURV28	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 308° 52' 18.2" W	N 323° 37' 47.6" W	1240+77.50	1263+07.50	1263+37.50
CURV29	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 323° 37' 47.6" W	N 338° 23' 17.0" W	1263+37.50	1285+67.50	1285+97.50
CURV30	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 338° 23' 17.0" W	N 353° 08' 46.4" W	1285+97.50	1308+27.50	1308+57.50
CURV31	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 353° 08' 46.4" W	N 367° 54' 15.8" W	1308+57.50	1330+87.50	1331+17.50
CURV32	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 367° 54' 15.8" W	N 382° 39' 45.2" W	1331+17.50	1353+47.50	1353+77.50
CURV33	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 382° 39' 45.2" W	N 397° 25' 14.6" W	1353+77.50	1376+07.50	1376+37.50
CURV34	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 397° 25' 14.6" W	N 412° 10' 44.0" W	1376+37.50	1398+67.50	1398+97.50
CURV35	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 412° 10' 44.0" W	N 426° 56' 13.4" W	1398+97.50	1421+27.50	1421+57.50
CURV36	14° 46' 29.4"	14° 29' 39.0"	1,175.00'	2,324.00'	395.00'	N 426° 56' 13.4" W	N 441° 41' 42.8" W	1421+57.50	1443+87.50	1444+17.50

SUPERELEVATION DATA

CROSS SLOPE	STATION	NAME	STATION	CROSS SLOPE
2.000	620+00.00		620+00.00	2.000
2.000	625+00.00	CURV1	643+87.50	2.000
2.000	632+00.00		644+17.50	2.000
2.000	637+00.00	CURV2	667+47.50	2.000
2.000	642+00.00		667+77.50	2.000
2.000	647+00.00	CURV3	691+07.50	2.000
2.000	652+00.00		691+37.50	2.000
2.000	657+00.00	CURV4	714+67.50	2.000
2.000	662+00.00		714+97.50	2.000
2.000	667+00.00	CURV5	738+27.50	2.000
2.000	672+00.00		738+57.50	2.000
2.000	677+00.00	CURV6	761+87.50	2.000
2.000	682+00.00		762+17.50	2.000
2.000	687+00.00	CURV7	785+47.50	2.000
2.000	692+00.00		785+77.50	2.000
2.000	697+00.00	CURV8	809+07.50	2.000
2.000	702+00.00		809+37.50	2.000
2.000	707+00.00	CURV9	832+67.50	2.000
2.000	712+00.00		832+97.50	2.000
2.000	717+00.00	CURV10	856+27.50	2.000
2.000	722+00.00		856+57.50	2.000
2.000	727+00.00	CURV11	879+87.50	2.000
2.000	732+00.00		879+17.50	2.000
2.000	737+00.00	CURV12	901+47.50	2.000
2.000	742+00.00		901+77.50	2.000
2.000	747+00.00	CURV13	924+07.50	2.000
2.000	752+00.00		924+37.50	2.000
2.000	757+00.00	CURV14	946+67.50	2.000
2.000	762+00.00		946+97.50	2.000
2.000	767+00.00	CURV15	969+27.50	2.000
2.000	772+00.00		969+57.50	2.000
2.000	777+00.00	CURV16	991+87.50	2.000
2.000	782+00.00		992+17.50	2.000
2.000	787+00.00	CURV17	1014+47.50	2.000
2.000	792+00.00		1014+77.50	2.000
2.000	797+00.00	CURV18	1037+07.50	2.000
2.000	802+00.00		1037+37.50	2.000
2.000	807+00.00	CURV19	1059+67.50	2.000
2.000	812+00.00		1059+97.50	2.000
2.000	817+00.00	CURV20	1082+27.50	2.000
2.000	822+00.00		1082+57.50	2.000
2.000	827+00.00	CURV21	1104+87.50	2.000
2.000	832+00.00		1105+17.50	2.000
2.000	837+00.00	CURV22	1127+47.50	2.000
2.000	842+00.00		1127+77.50	2.000
2.000	847+00.00	CURV23	1150+07.50	2.000
2.000	852+00.00		1150+37.50	2.000
2.000	857+00.00	CURV24	1172+67.50	2.000
2.000	862+00.00		1172+97.50	2.000
2.000	867+00.00	CURV25	1195+27.50	2.000
2.000	872+00.00		1195+57.50	2.000
2.000	877+00.00	CURV26	1217+87.50	2.000
2.000	882+00.00		1218+17.50	2.000
2.000	887+00.00	CURV27	1240+47.50	2.000
2.000	892+00.00		1240+77.50	2.000
2.000	897+00.00	CURV28	1263+07.50	2.000
2.000	902+00.00		1263+37.50	2.000
2.000	907+00.00	CURV29	1285+67.50	2.000
2.000	912+00.00		1285+97.50	2.000
2.000	917+00.00	CURV30	1308+27.50	2.000
2.000	922+00.00		1308+57.50	2.000
2.000	927+00.00	CURV31	1330+87.50	2.000
2.000	932+00.00		1331+17.50	2.000
2.000	937+00.00	CURV32	1353+47.50	2.000
2.000	942+00.00		1353+77.50	2.000
2.000	947+00.00	CURV33	1376+07.50	2.000
2.000	952+00.00		1376+37.50	2.000
2.000	957+00.00	CURV34	1398+67.50	2.000
2.000	962+00.00		1398+97.50	2.000
2.000	967+00.00	CURV35	1421+27.50	2.000
2.000	972+00.00		1421+57.50	2.000
2.000	977+00.00	CURV36	1443+87.50	2.000
2.000	982+00.00		1444+17.50	2.000
2.000	987+00.00			
2.000	992+00.00			
2.000	997+00.00			
2.000	1002+00.00			
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2.000	2397+00.00			
2.000	2402+00.00			
2.000

Texas Department of Transportation
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Dallas District

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

IH 20

DESIGN SCHEMATIC

From: Lawson Road
To: East of Wilson Road (CR 138)

CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles
Functional Class

Mainlane = Interstate
Frontage Road = Major Collector

	Design Speed
Mainlanes:	70 mph
Ramps:	50 mph
Direct Connectors:	40-50 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 557 Frontage Road:	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connector:	20 mph (Urban)

STATION EQUATION
STA 1250+10.00 (BK) = STA 768+52.71 (AH)

END CSJ: 0495-01-071
STA 965+00 (AH)

END CSJ: 0095-14-027
BEGIN CSJ: 0495-01-071
STA 1224+30 (BK)

BEGIN CSJ: 0095-13-038
STA 370+00 (BK)

END CSJ: 0095-13-038
BEGIN CSJ: 0095-14-027
STA 527+00 (BK)

SCALE IN MILES

Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'

MARCH 2020

PRELIMINARY
SUBJECT TO REVISIONS

SCHEMATIC PREPARED BY OR UNDER THE DIRECT SUPERVISION OF:

JASON A. RICHTER — 114508
NAME — P.E. NUMBER

ALEXANDER S. KEMP — 133019
NAME — P.E. NUMBER

3/31/2020
DATE

100%
PRELIMINARY,
SUBJECT TO CHANGE

NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

ROLL 5 OF 30

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

LEGEND

- FLOODPLAIN
- PAVEMENT REMOVAL
- PAVEMENT REMOVAL BY OTHERS
- MAINLANES
- FRONTAGE ROADS
- RAMPS
- BRIDGES
- CROSS STREETS/LOCAL ROADS
- LOCAL STREET CONNECTOR
- TRANSITIONS
- SIDEWALKS
- BY OTHERS
- PROPOSED RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY BY OTHERS
- CONTROL OF ACCESS
- PROPOSED DRAINAGE EASEMENT
- EXISTING RIGHT-OF-WAY
- PROPERTY LINES
- RETAINING WALLS

NOTES

1. EXISTING FEATURES WERE NOT FIELD SURVEYED. SCHEMATICS ARE BASED UPON AERIAL SURVEYS PROVIDED IN AUGUST 2016 AND RECORD PLANS.
2. PROPERTY LINES ARE SHOWN FOR REFERENCE ONLY.
3. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM DALLAS AND KAUFMAN COUNTY APPRAISAL DISTRICTS (JULY 2017).
4. ADA RAMPS, SIDEWALKS, AND DRIVEWAY LOCATIONS ARE PRELIMINARY AND SUBJECT TO CHANGE. FINAL LOCATIONS TO BE DETERMINED DURING THE FINAL DESIGN PHASE OF THE PROJECT.
5. ACCESS DENIAL LIMITS ARE DETERMINED PER TXDOT ACCESS MANAGEMENT MANUAL.
6. DIMENSIONS ARE TO EDGE OF PAVEMENT OR NOMINAL FACE OF CURB, RAIL, BARRIER, OR WALL (UNLESS NOTED OTHERWISE).
7. SUPERELEVATION AXIS OF ROTATION IS ABOUT THE PGL.
8. EXISTING PAVEMENT AND BRIDGES LOCATED WITHIN LIMITS OF PROPOSED RECONSTRUCTION WILL BE REMOVED (UNLESS NOTED OTHERWISE).
9. CURBS ON FRONTAGE ROADS AND CROSS STREETS ARE TYPE II (UNLESS NOTED OTHERWISE).
10. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE MAPS 48113C0530K, 48113C0535K, 48257C0150D, 48257C0155D, 48257C0175D, 48257C0200D, 48257C0185D, AND 48257C0225D.
11. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.
12. BRIDGE APPROACH SLAB LIMITS WILL BE DEVELOPED AT THE PS&E PHASE.

Texas Department of Transportation
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Dallas District
Mohamed K. Bur, P.E.
Dallas District Engineer
IH 20
DESIGN SCHEMATIC
From: Lawson Road
To: East of Wilson Road (CR 138)
CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071
Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'
MARCH 2020
ROLL 5 OF 30

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Texas Department of Transportation

Dallas District

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

IH 20

DESIGN SCHEMATIC

From: Lawson Road
To: East of Wilson Road (CR 138)

CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles

Functional Class

Mainlane	= Interstate
Frontage Road	= Major Collector

	Design Speed
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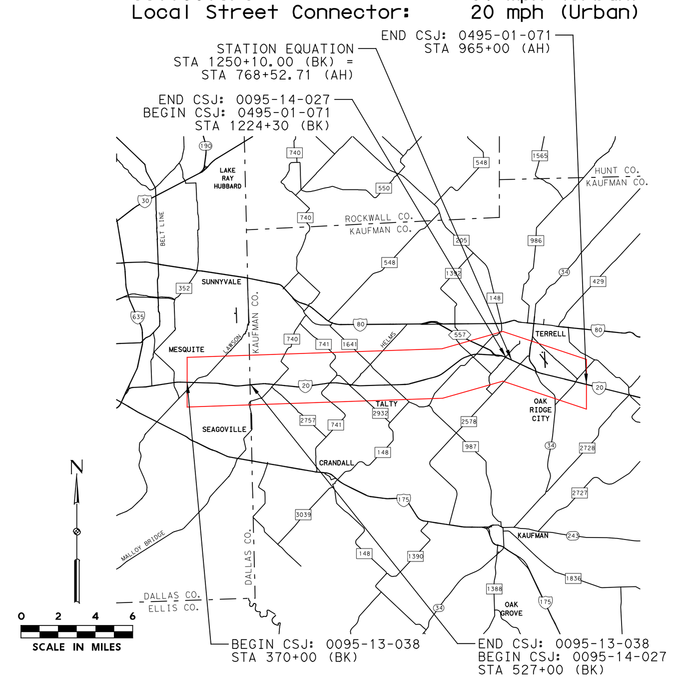
Ramps:	50 mph
Direct Connectors:	40-50 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 557 Frontage Road:	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connector:	20 mph (Urban)



Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'

MARCH 2020

PRELIMINARY
SUBJECT TO REVISIONS

SCHEMATIC PREPARED BY OR UNDER THE DIRECT SUPERVISION OF:

NAME	P.E. NUMBER
JASON A. RICHTER	114508
ALEXANDER S. KEMP	133019

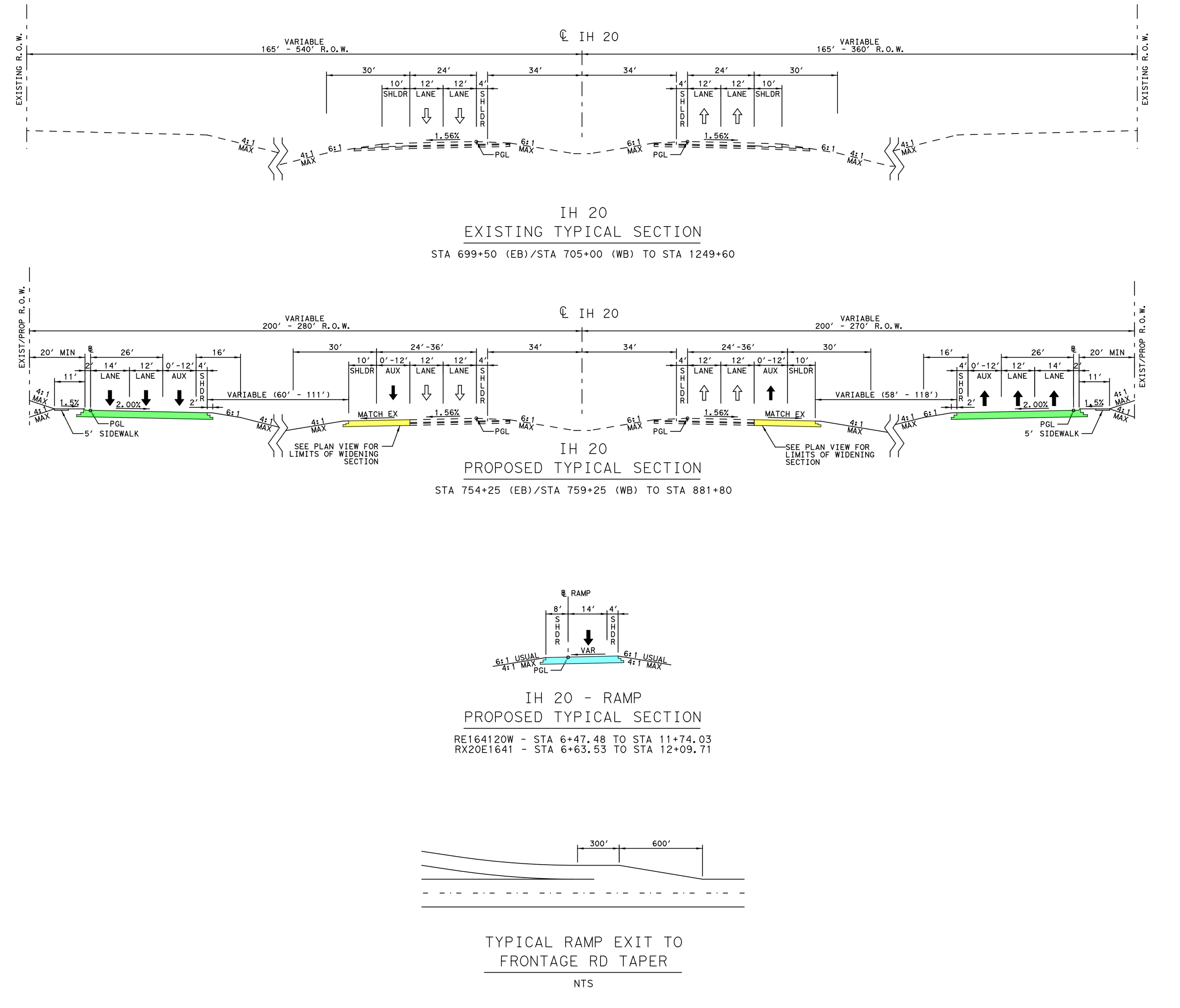
3/31/2020
DATE

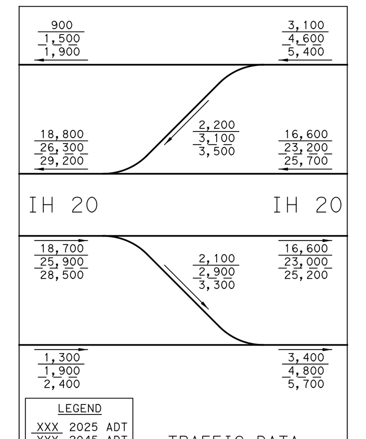
100%
PRELIMINARY, SUBJECT TO CHANGE

NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

ROLL 6 OF 30

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





TRAFFIC DATA

SUPERELEVATION DATA

CROSS SLOPE LT	STATION LT	CHAIN NAME	STATION RT	CROSS SLOPE RT
-1.56%	805+00.00	IH20	805+00.00	-1.56%
-1.56%	809+00.00		809+00.00	-1.56%
-3.80%	811+40.00		811+40.00	3.80%
-3.80%	819+55.00		819+55.00	3.80%
-1.56%	821+95.00		821+95.00	-1.56%
-1.56%	865+00.00		865+00.00	-1.56%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
RX20E1641	6+63.53	1.56%	-1.56%
	7+65.00	-2.00%	2.00%
	12+09.71	-2.00%	2.00%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
RE164120W	6+47.48	-1.56%	1.56%
	7+50.00	2.00%	-2.00%
	11+74.03	2.00%	-2.00%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
EBFR1	805+00.00	-2.00%	2.00%
	865+00.00	-2.00%	2.00%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
WBFR1	805+00.00	2.00%	-2.00%
	865+00.00	2.00%	-2.00%

CURVE DATA

CURVE NO.	DELTA	DEGREE	TANGENT	LENGTH	RADIUS	BACK BEARING	AHEAD BEARING	PI STATION	PC STATION	PT STATION
IH20-9	9° 43' 07.68" LT	1° 00' 00.00"	487.11'	971.88'	5,729.58'	S 80° 47' 39.45" E	N 89° 29' 12.87" E	815+45.49	810+58.38	820+30.26
EBFR1-27	9° 43' 07.68" LT	0° 59' 59.73"	487.14'	971.95'	5,730.00'	S 80° 47' 39.45" E	N 89° 29' 12.87" E	812+28.32	807+41.18	817+13.13
EBFR1-28	1° 02' 22.23" RT	0° 59' 59.73"	51.98'	103.96'	5,730.00'	N 89° 29' 12.87" E	S 89° 28' 24.89" E	865+52.96	865+00.97	866+04.93
WBFR1-26	2° 08' 13.70" RT	1° 59' 59.47"	53.44'	106.86'	2,865.00'	S 80° 47' 39.45" E	S 78° 39' 25.75" E	806+61.07	806+07.63	807+14.50
WBFR1-27	11° 51' 21.38" LT	0° 59' 59.73"	594.97'	1,185.68'	5,730.00'	S 78° 39' 25.75" E	N 89° 29' 12.87" E	817+02.45	811+07.49	822+93.17
RE164120W-1	5° 00' 00.00" LT	1° 00' 18.68"	248.87'	497.42'	5,700.00'	S 80° 47' 39.45" E	S 85° 47' 39.45" E	3+48.87	1+00.00	5+97.42
RE164120W-2	3° 53' 55.81" LT	0° 43' 30.95"	268.89'	537.58'	7,900.00'	S 85° 47' 39.45" E	S 89° 41' 35.26" E	10+66.31	7+97.42	13+34.99
RE164120W-3	6° 49' 51.71" RT	5° 27' 24.27"	62.67'	125.19'	1,050.00'	S 89° 41' 35.26" E	S 82° 51' 43.55" E	13+97.66	13+34.99	14+60.18
RX20E1641-2	11° 37' 26.96" LT	5° 27' 24.27"	106.88'	213.02'	1,050.00'	S 75° 47' 39.45" E	S 87° 25' 06.40" E	13+31.26	12+24.38	14+37.41

PROPERTY OWNERSHIP DATA

ID	NAME	STREET ADDRESS
E058	MC SPADDEN JOE E & KAREN	FM RD 2932
E059	CRAIG DONALD RAY & AUDREY ANN	12424 MUSTANG CIR
E060	SHERRELL STEVE	12400 MUSTANG CIR
E061	HURD DORIS	12382 MUSTANG CIR
E062	CASTILLO TEODORO & GOMEZ MARIA E	12356 MUSTANG CIR
E063	MAHER PROPERTIES ONE	IH 20

PROPERTY OWNERSHIP DATA

ID	NAME	STREET ADDRESS
W084	HELMS TRAIL PROPERTIES INC	10990 W IH 20
W085	MONROE DORIS D & MONROE JAMES B	IH 20
W086	WHALEY HELEN M	IH 20

LEGEND

- FLOODPLAIN
- PAVEMENT REMOVAL
- PAVEMENT REMOVAL BY OTHERS
- MAINLANES
- FRONTAGE ROADS
- RAMPS
- BRIDGES
- CROSS STREETS/LOCAL ROADS
- LOCAL STREET CONNECTOR
- TRANSITIONS
- SIDEWALKS
- BY OTHERS
- PROPOSED RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY BY OTHERS
- CONTROL OF ACCESS
- PROPOSED DRAINAGE EASEMENT
- EXISTING RIGHT-OF-WAY
- PROPERTY LINES
- RETAINING WALLS

NOTES

1. EXISTING FEATURES WERE NOT FIELD SURVEYED. SCHEMATICS ARE BASED UPON AERIAL SURVEYS PROVIDED IN AUGUST 2016 AND RECORD PLANS.
2. PROPERTY LINES ARE SHOWN FOR REFERENCE ONLY.
3. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM DALLAS AND KAUFMAN COUNTY APPRAISAL DISTRICTS (JULY 2017).
4. ADA RAMPS, SIDEWALKS, AND DRIVEWAY LOCATIONS ARE PRELIMINARY AND SUBJECT TO CHANGE. FINAL LOCATIONS TO BE DETERMINED DURING THE FINAL DESIGN PHASE OF THE PROJECT.
5. ACCESS DENIAL LIMITS ARE DETERMINED PER TXDOT ACCESS MANAGEMENT MANUAL.
6. DIMENSIONS ARE TO EDGE OF PAVEMENT OR NOMINAL FACE OF CURB, RAIL, BARRIER, OR WALL (UNLESS NOTED OTHERWISE).
7. SUPERELEVATION AXIS OF ROTATION IS ABOUT THE PGL.
8. EXISTING PAVEMENT AND BRIDGES LOCATED WITHIN LIMITS OF PROPOSED RECONSTRUCTION WILL BE REMOVED (UNLESS NOTED OTHERWISE).
9. CURBS ON FRONTAGE ROADS AND CROSS STREETS ARE TYPE II (UNLESS NOTED OTHERWISE).
10. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE MAPS 48113C0530K, 48113C0535K, 48257C0150D, 48257C0155D, 48257C0175D, 48257C0200D, 48257C0185D, AND 48257C0225D.
11. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.
12. BRIDGE APPROACH SLAB LIMITS WILL BE DEVELOPED AT THE PS&E PHASE.

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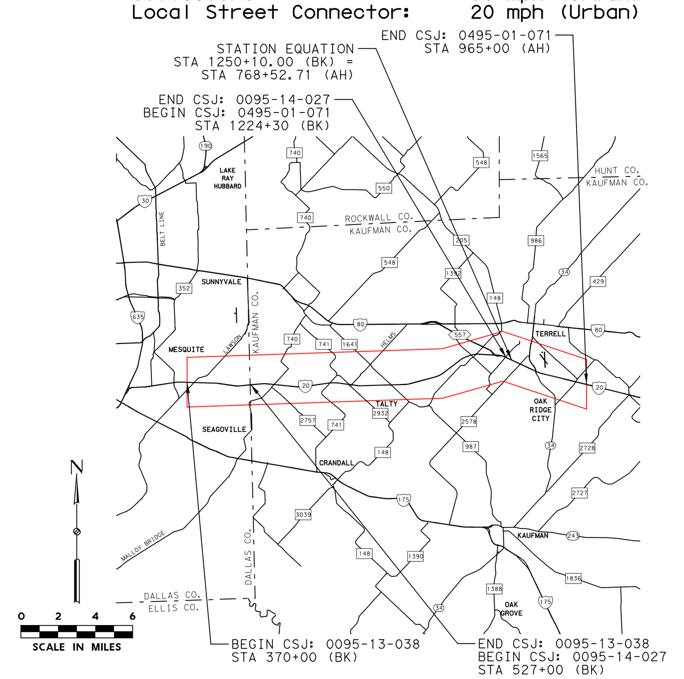
Texas Department of Transportation
Dallas District
Mohamed K. Bur, P.E.
Dallas District Engineer
IH 20
DESIGN SCHEMATIC
From: Lawson Road
To: East of Wilson Road (CR 138)
CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071
Dallas and Kaufman Counties
Project Length: 20.390 Miles
Functional Class
Mainlane = Interstate
Frontage Road = Major Collector
Design Speed
Mainlanes: 70 mph
Ramps: 50 mph
Direct Connectors: 40-50 mph
Turnarounds: 15 mph
Frontage Roads: 40 mph (Urban)
SPUR 557 Frontage Road: 30 mph (Urban)
Arterials: 40 mph (Urban)
Collectors: 30 mph (Urban)
Local Street Connector: 20 mph (Urban)



Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'
MARCH 2020
PRELIMINARY
SUBJECT TO REVISIONS
SCHEMATIC PREPARED BY OR UNDER THE DIRECT SUPERVISION OF:
JASON A. RICHTER 114508
ALEXANDER S. KEMP 133019
3/31/2020
100%
PRELIMINARY, SUBJECT TO CHANGE
NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES
ROLL 6 OF 30
HDR
Firm Registration No. F-754
17111 Preston Road, Suite 300
Dallas, Texas 75248
972.960.4400

Texas Department of Transportation

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

IH 20

DESIGN SCHEMATIC

From: Lawson Road
To: East of Wilson Road (CR 138)

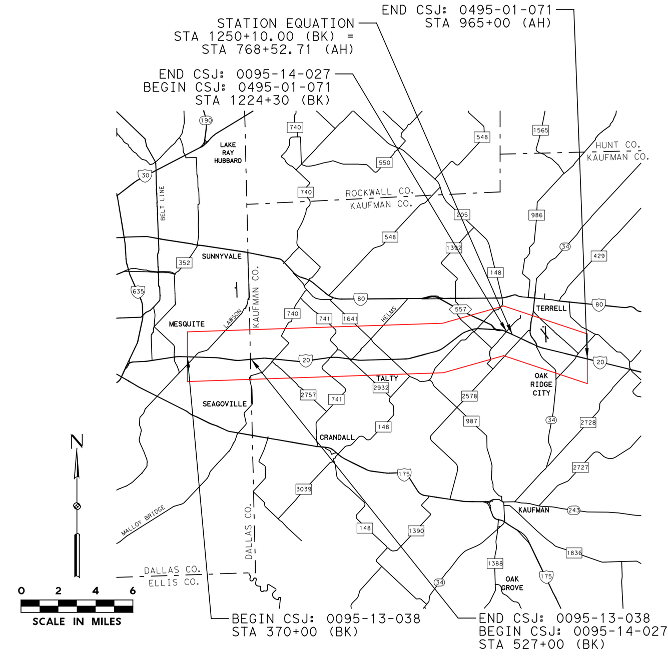
CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles

Functional Class

Mainlane = Interstate
Frontage Road = Major Collector

	Design Speed
Mainlanes:	70 mph
Ramps:	50 mph
Direct Connectors:	40-50 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 557 Frontage Road:	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connector:	20 mph (Urban)



Scale: Horizontal 1"=200'
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MARCH 2020

PRELIMINARY
SUBJECT TO REVISIONS

SCHEMATIC PREPARED BY OR UNDER THE DIRECT SUPERVISION OF:

NAME	P.E. NUMBER
JASON A. RICHTER	114508
ALEXANDER S. KEMP	133019

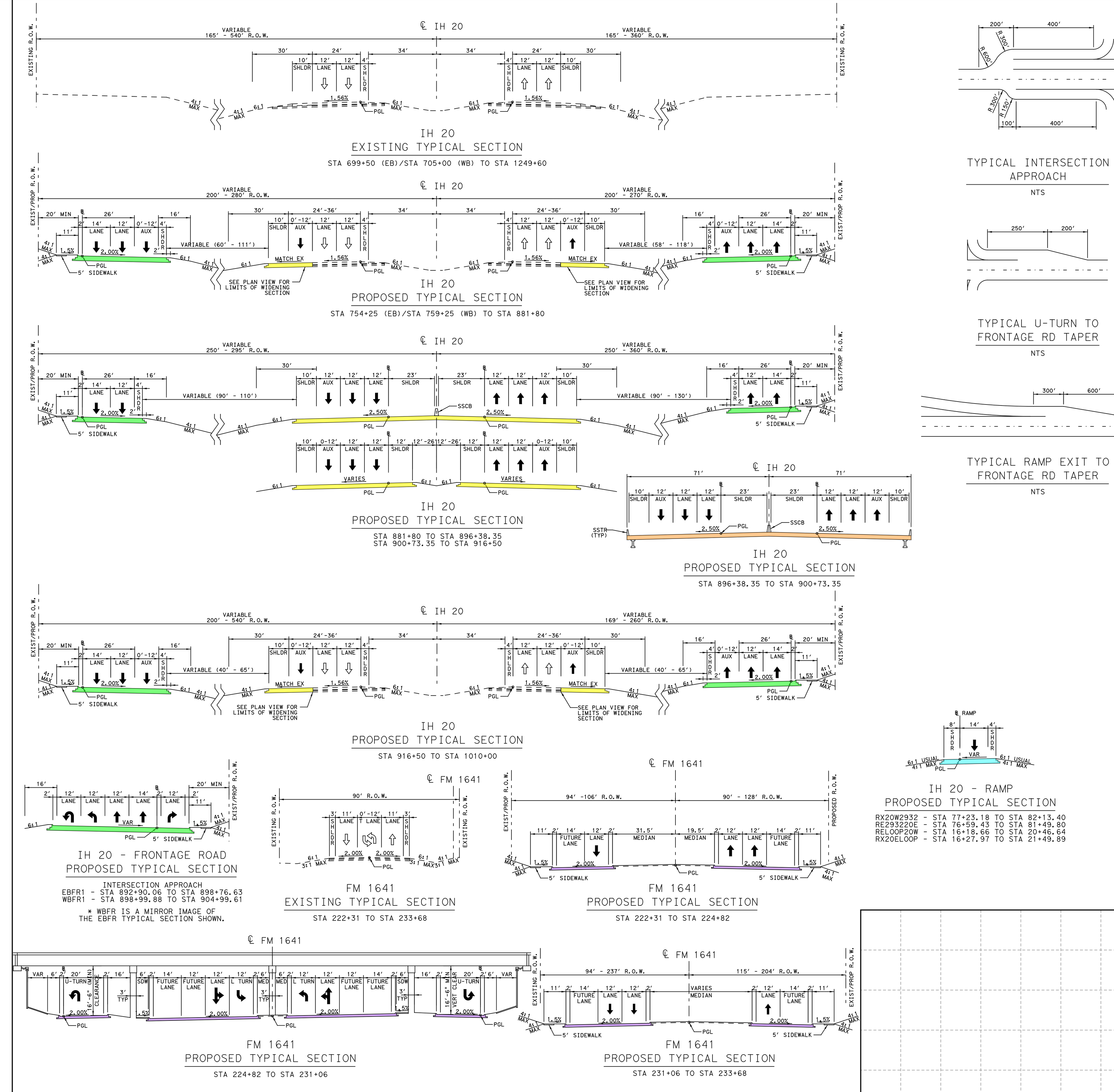
3/31/2020
DATE

100% PRELIMINARY, SUBJECT TO CHANGE

NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

ROLL 7 OF 30

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



LEGEND

- FLOODPLAIN
- PAVEMENT REMOVAL
- PAVEMENT REMOVAL BY OTHERS
- MAINLANES
- FRONTAGE ROADS
- RAMPS
- BRIDGES
- CROSS STREETS/LOCAL ROADS
- LOCAL STREET CONNECTOR
- TRANSITIONS
- SIDEWALKS
- BY OTHERS
- PROPOSED RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY BY OTHERS
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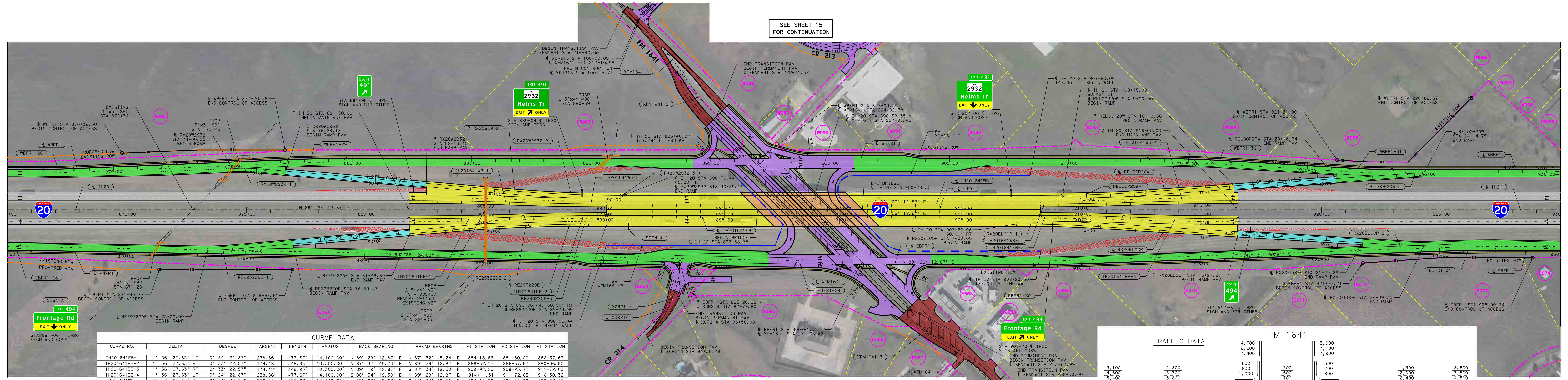
MATCHLINE STA 865+00

SEE SHEET 15 FOR CONTINUATION



MATCHLINE STA 930+00

CURVE DATA

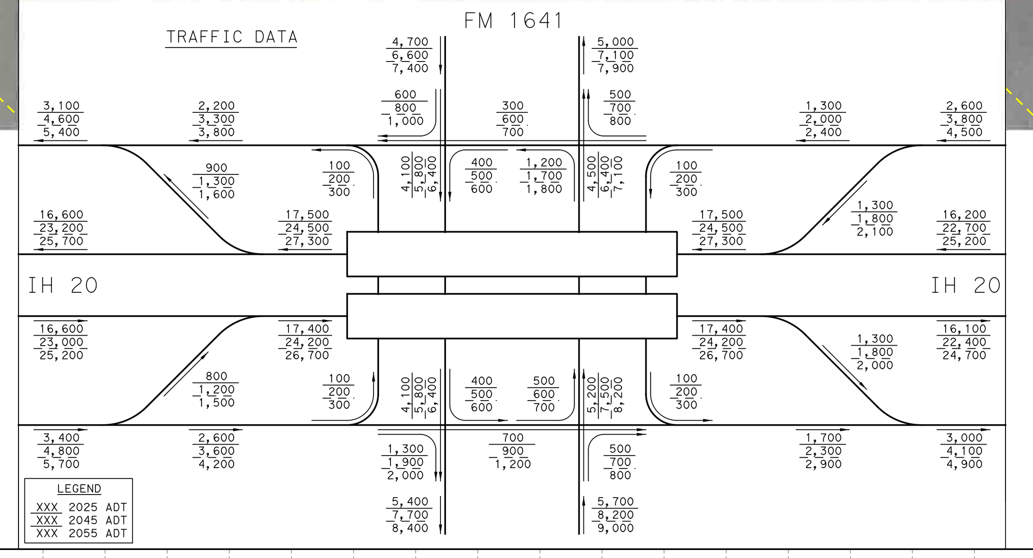
CURVE NO.	DELTA	DEGREE	TANGENT	LENGTH	RADIUS	BACK BEARING	AHEAD BEARING	PI STATION	PC STATION	PT STATION
IH201641EB-1	1° 56' 27.63" LT	0° 24' 22.87"	238.86'	477.67'	14,100.00'	N 89° 29' 12.87" E	N 87° 32' 45.24" E	884+18.86	881+80.00	886+57.67
IH201641EB-2	1° 56' 27.63" RT	0° 33' 22.57"	174.48'	348.93'	10,300.00'	N 87° 32' 45.24" E	N 89° 29' 12.87" E	888+32.15	886+57.67	890+06.60
IH201641EB-3	1° 56' 27.63" RT	0° 33' 22.57"	174.48'	348.93'	10,300.00'	N 89° 29' 12.87" E	S 88° 34' 19.50" E	909+98.20	908+23.72	911+72.65
IH201641EB-4	1° 56' 27.63" LT	0° 24' 22.87"	238.86'	477.67'	14,100.00'	S 88° 34' 19.50" E	N 89° 29' 12.87" E	914+11.51	911+72.65	916+50.32
IH201641WB-1	1° 56' 27.63" RT	0° 24' 22.87"	238.86'	477.67'	14,100.00'	N 89° 29' 12.87" E	S 88° 34' 19.50" E	884+18.86	881+80.00	886+57.67
IH201641WB-2	1° 56' 27.63" LT	0° 33' 22.57"	174.48'	348.93'	10,300.00'	S 88° 34' 19.50" E	N 89° 29' 12.87" E	888+32.15	886+57.67	890+06.60
IH201641WB-3	1° 56' 27.63" LT	0° 33' 22.57"	174.48'	348.93'	10,300.00'	N 89° 29' 12.87" E	N 87° 32' 45.24" E	909+98.20	908+23.72	911+72.65
IH201641WB-4	1° 56' 27.63" RT	0° 24' 22.87"	238.86'	477.67'	14,100.00'	N 87° 32' 45.24" E	N 89° 29' 12.87" E	914+11.51	911+72.65	916+50.32
EBFR1-28	1° 02' 22.23" RT	0° 59' 59.73"	51.98'	103.96'	5,730.00'	N 89° 29' 12.87" E	S 89° 28' 24.89" E	865+52.96	865+00.97	866+04.93
EBFR1-29	1° 02' 22.23" LT	0° 59' 59.73"	51.98'	103.96'	5,730.00'	S 89° 28' 24.89" E	N 89° 29' 12.87" E	898+60.22	898+08.24	899+12.20
EBFR1-30	1° 59' 11.96" LT	0° 59' 59.73"	99.35'	198.68'	5,730.00'	N 89° 29' 12.87" E	N 87° 30' 00.91" E	909+04.50	908+05.15	910+03.83
EBFR1-31	1° 59' 11.96" RT	0° 59' 59.73"	99.35'	198.68'	5,730.00'	N 87° 30' 00.91" E	N 89° 29' 12.87" E	926+35.26	925+35.91	927+34.59
WBFR1-28	2° 23' 04.23" LT	1° 59' 59.47"	59.63'	119.23'	2,865.00'	N 89° 29' 12.87" E	N 87° 06' 08.64" E	867+72.13	867+12.51	868+31.74
WBFR1-29	2° 23' 04.23" RT	0° 59' 59.73"	119.25'	238.47'	5,730.00'	N 87° 06' 08.64" E	N 89° 29' 12.87" E	878+53.70	877+34.45	879+72.92
WBFR1-30	3° 27' 35.64" RT	0° 59' 59.73"	173.06'	346.02'	5,730.00'	N 89° 29' 12.87" E	S 87° 03' 11.49" E	915+05.49	913+32.43	916+78.45
WBFR1-31	3° 27' 35.64" LT	1° 59' 59.47"	86.53'	173.01'	2,865.00'	S 87° 03' 11.49" E	N 89° 29' 12.87" E	922+67.61	921+81.08	923+54.09
XCR214-1	45° 43' 32.31" LT	16° 51' 06.12"	143.36'	271.34'	340.00'	N 45° 12' 45.19" E	N 0° 30' 47.12" W	96+51.43	95+08.07	97+79.41
XFM1641-1	11° 58' 38.10" RT	5° 00' 14.39"	120.11'	239.35'	1,145.00'	S 45° 54' 07.06" E	S 33° 55' 28.96" E	218+91.50	217+71.38	220+10.74
XFM1641-2	11° 32' 56.99" LT	5° 00' 14.39"	115.79'	230.80'	1,145.00'	S 33° 55' 28.96" E	S 45° 28' 25.95" E	221+26.53	220+10.74	222+41.54
XFM1641-3	8° 45' 00.00" LT	5° 00' 14.39"	87.60'	174.86'	1,145.00'	S 45° 28' 25.95" E	S 54° 13' 25.95" E	234+58.03	233+70.43	235+45.29
XFM1641-4	8° 45' 00.00" RT	5° 00' 14.39"	87.60'	174.86'	1,145.00'	S 54° 13' 25.95" E	S 45° 28' 25.95" E	236+32.89	235+45.29	237+20.15
RE293220E-1	6° 02' 22.23" LT	5° 27' 24.27"	55.39'	110.68'	1,050.00'	S 89° 28' 24.89" E	N 84° 29' 12.87" E	73+55.39	73+00.00	74+10.68
RE293220E-2	3° 12' 33.18" RT	1° 00' 18.68"	159.67'	319.26'	5,700.00'	N 84° 29' 12.87" E	N 87° 41' 46.05" E	84+94.59	83+34.92	86+54.18
RE293220E-3	1° 47' 26.82" RT	0° 33' 29.59"	160.41'	320.80'	10,264.00'	N 87° 41' 46.05" E	N 89° 29' 12.87" E	88+14.60	86+54.18	89+74.99
RELOOP20W-1	3° 29' 02.60" LT	1° 00' 18.68"	173.36'	346.61'	5,700.00'	N 88° 58' 15.48" E	N 85° 29' 12.87" E	10+73.36	9+00.00	12+46.61
RELOOP20W-2	4° 00' 00.00" RT	5° 27' 24.27"	36.67'	73.30'	1,050.00'	N 85° 29' 12.87" E	N 89° 29' 12.87" E	23+78.12	23+41.45	24+14.75
RX20ELOOP-1	3° 30' 00.00" RT	1° 00' 18.68"	174.15'	348.19'	5,700.00'	N 89° 29' 12.87" E	S 87° 00' 47.13" E	8+74.15	7+00.00	10+48.19
RX20ELOOP-2	5° 29' 11.96" LT	5° 27' 24.27"	50.31'	100.55'	1,050.00'	S 87° 00' 47.13" E	N 87° 30' 00.91" E	23+59.07	23+08.76	24+09.30
RX20W2932-1	7° 23' 04.23" RT	5° 27' 24.27"	67.76'	135.33'	1,050.00'	N 87° 06' 08.64" E	S 85° 30' 47.13" E	74+67.76	74+00.00	75+35.33
RX20W2932-2	4° 57' 49.32" LT	1° 00' 18.68"	247.06'	493.81'	5,700.00'	S 85° 30' 47.13" E	N 89° 31' 23.56" E	87+85.86	85+38.80	90+32.61
RX20W2932-3	0° 02' 10.68" LT	0° 33' 29.60"	3.25'	6.50'	10,264.00'	N 89° 31' 23.56" E	N 89° 29' 12.87" E	90+35.86	90+32.61	90+39.11

PROPERTY OWNERSHIP DATA

ID	NAME	STREET ADDRESS
E063	MAHER PROPERTIES ONE	IH 20
E064	MAHER PROPERTIES ONE	IH 20
E065	NEW LIFE FELLOWSHIP CHURCH	FM RD 1641
E066	CHAVEZ DANNY	FM RD 1641
E067	RODRIGUEZ RAUL & HERENDIDA	1443 W ALAMOSA DR
E068	TATCO PROPERTIES LLC	9520 FM RD 1641
E068A	ALMO INVESTMENT LTD	9680 FM RD 1641
E069	ALMO INVESTMENT LTD	FM RD 1641
E070	ALMO INVESTMENT LTD	FM RD 1641
E071	LAW GARY Z & JUDY	9197 CO RD 216
E072	MYERS DONNA MAE	CO RD 216
E073	CORONA ANSELMO	CO RD 216
E074	FUHRMAN SCOTT	9271 CO RD 216

PROPERTY OWNERSHIP DATA

ID	NAME	STREET ADDRESS
W086	WHALEY HELEN M	IH 20
W087	WHALEY HELEN M	IH 20
W088	GMC LLC	FM RD 1641
W089	ST MARTIN CATHOLIC CHURCH	9772 FM RD 1641
W090	ST MARTIN CATHOLIC CHURCH	9470 CO RD 213
W091	ROMAN CATHOLIC DIOCESE DALLAS	CO RD 213
W092	CROSSROADS BIBLE CHURCH	IH 20
W093	CROSSROADS BIBLE CHURCH	9664 CO RD 213
W094	STEPHENS PATRICIA ANN	CO RD 213
W095	THOMAS PHILIP & MYRA	CO RD 213
W096	JOHNSON CLYDE & PAULA	15248 DELANEY LN
W097	SHEPHERD PLACE HOMES INC	15260 DELANEY LN
W098	PAAUWE ENGELBERTUS J & ELIZABETH A	15272 DELANEY LN
W099	PAYTON ERIC D & LATOYA C PAYTON	15284 DELANEY LN



SUPERELEVATION DATA

CROSS SLOPE LT	STATION LT	CHAIN NAME	STATION RT	CROSS SLOPE RT
-1.56%	865+00.00	IH20	865+00.00	-1.56%
-1.56%	881+80.00		881+80.00	-1.56%
-2.50%	882+40.00		882+40.00	-2.50%
-2.50%	915+90.00		915+90.00	-2.50%
-1.56%	916+50.00		916+50.00	-1.56%
-1.56%	930+00.00		930+00.00	-1.56%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
RE293220E	76+59.43	-2.00%	2.00%
	80+45.00	-2.00%	2.00%
	81+49.80	1.60%	-1.60%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
RX20ELOOP	16+27.97	1.56%	-1.56%
	17+30.00	-2.00%	2.00%
	21+49.89	-2.00%	2.00%

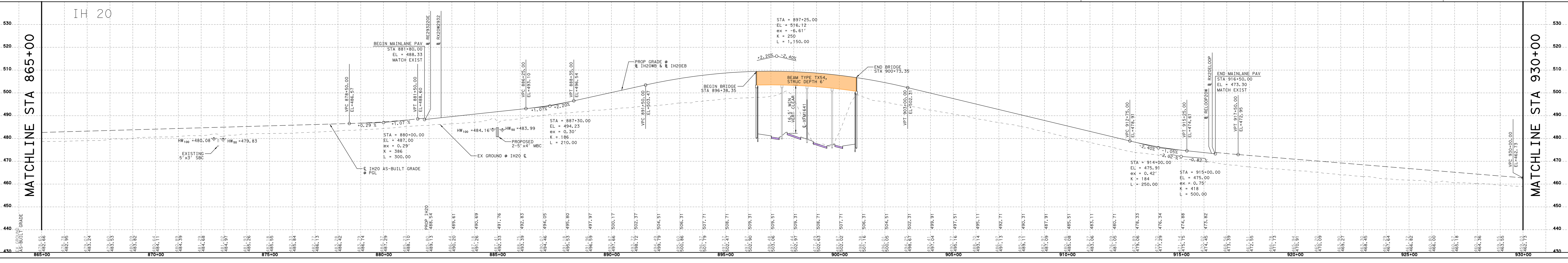
CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
RX20W2932	76+23.18	2.00%	-2.00%
	80+85.00	2.00%	-2.00%
	82+13.40	-2.50%	2.50%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
RELOOP20W	16+18.66	-1.82%	1.82%
	17+30.00	2.00%	-2.00%
	20+46.64	2.00%	-2.00%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
EBFR1	865+00.00	-2.00%	2.00%
	898+85.00	-2.00%	2.00%
	899+60.00	-1.00%	1.00%
	901+85.00	-1.00%	1.00%
	902+60.00	-2.00%	2.00%
	930+00.00	-2.00%	2.00%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
WBFR1	865+00.00	2.00%	-2.00%
	894+20.00	2.00%	-2.00%
	896+10.00	-0.67%	0.67%
	898+35.00	-0.28%	0.28%
	900+00.00	2.00%	-2.00%
	930+00.00	2.00%	-2.00%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
XFM1641	216+39.52	-2.00%	-2.00%
	219+60.00	-2.00%	-2.00%
	222+31.32	-2.00%	0.55%
	223+85.00	-2.00%	2.00%
	232+05.00	-2.00%	2.00%
	233+67.99	-2.00%	0.47%
	236+30.00	-2.00%	-2.00%
	238+48.65	-2.00%	-2.00%



Texas Department of Transportation
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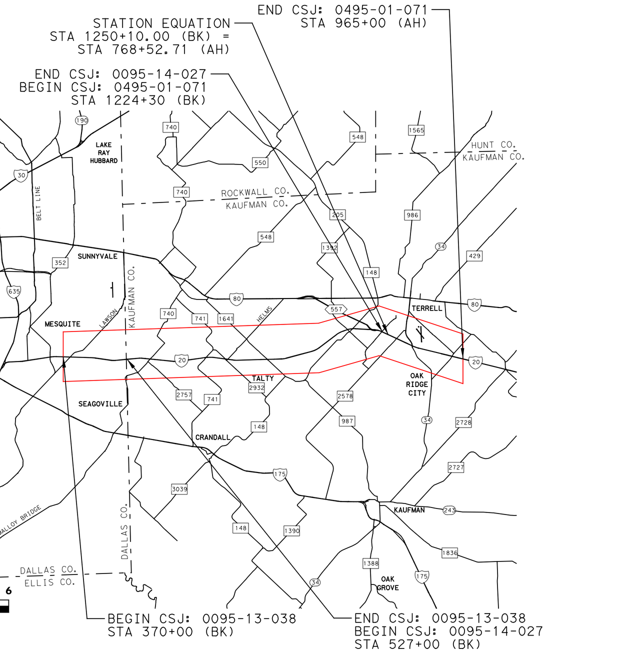
Dallas District
Mohamed K. Bur, P.E.
Dallas District Engineer
IH 20
DESIGN SCHEMATIC
From: Lawson Road
To: East of Wilson Road (CR 138)
CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071
Dallas and Kaufman Counties
Project Length: 20.390 Miles
Functional Class
Mainlane = Interstate
Frontage Road = Major Collector
Design Speed
Mainlanes: 70 mph
Ramps: 50 mph
Direct Connectors: 40-50 mph
Turnarounds: 15 mph
Frontage Roads: 40 mph (Urban)
SPUR 557 Frontage Road: 30 mph (Urban)
Arterials: 40 mph (Urban)
Collectors: 30 mph (Urban)
Local Street Connector: 20 mph (Urban)



Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'
MARCH 2020
PRELIMINARY SUBJECT TO REVISIONS
SCHEMATIC PREPARED BY OR UNDER THE DIRECT SUPERVISION OF:
JASON A. RICHTER 114508
ALEXANDER S. KEMP 133019
3/31/2020
100% PRELIMINARY, SUBJECT TO CHANGE
NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES
ROLL 7 OF 30
HDR
Firm Registration No. F-754
17111 Preston Road, Suite 300
Dallas, Texas 75248
972.960.4400

Texas Department of Transportation

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

IH 20

DESIGN SCHEMATIC

From: Lawson Road
To: East of Wilson Road (CR 138)

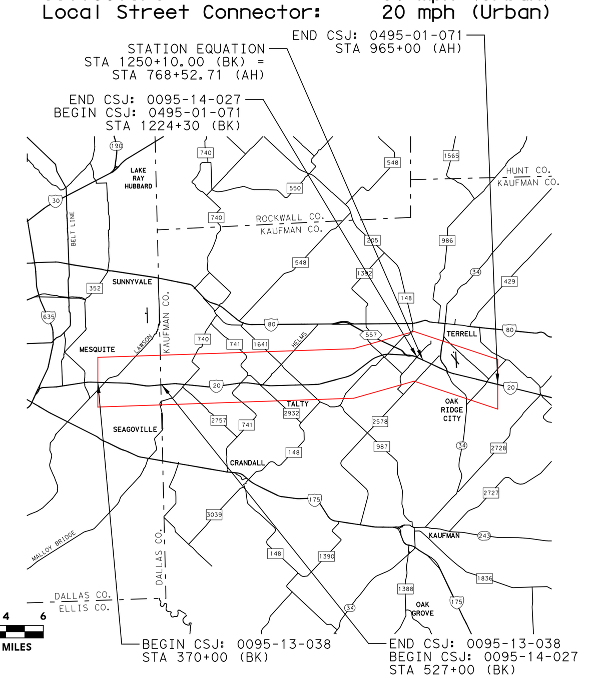
CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles

Functional Class

Mainlane = Interstate
Frontage Road = Major Collector

	Design Speed
Mainlanes:	70 mph
Ramps:	50 mph
Direct Connectors:	40-50 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 557 Frontage Road:	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connector:	20 mph (Urban)



Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'

MARCH 2020

PRELIMINARY
SUBJECT TO REVISIONS

SCHEMATIC PREPARED BY OR UNDER THE DIRECT SUPERVISION OF:

NAME	P.E. NUMBER
JASON A. RICHTER	114508
ALEXANDER S. KEMP	133019

3/31/2020
DATE

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ROLL 8 OF 30

HDR
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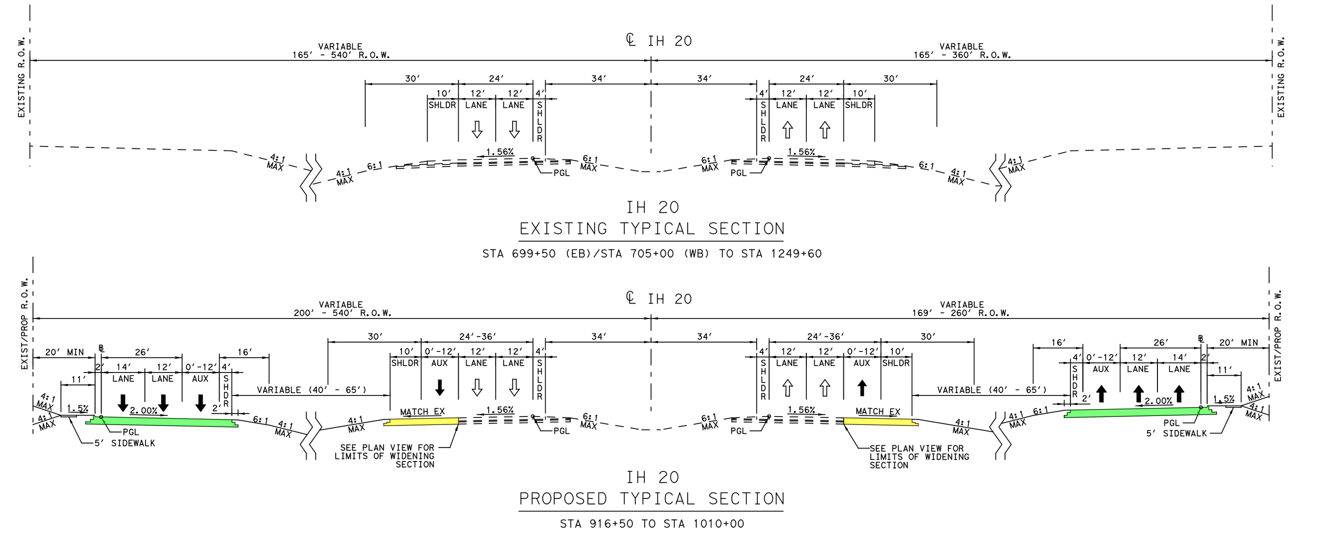
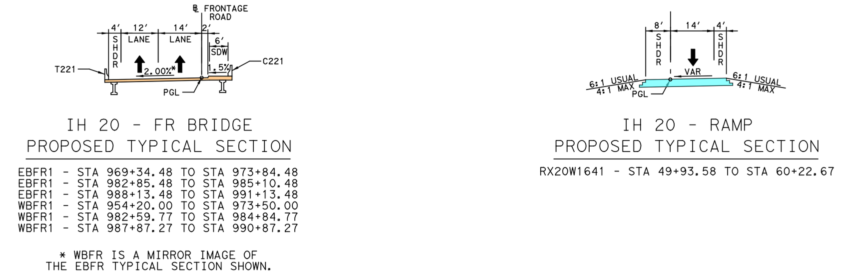


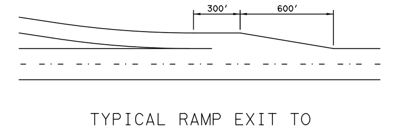
IH 20
EXISTING TYPICAL SECTION

IH 20
PROPOSED TYPICAL SECTION

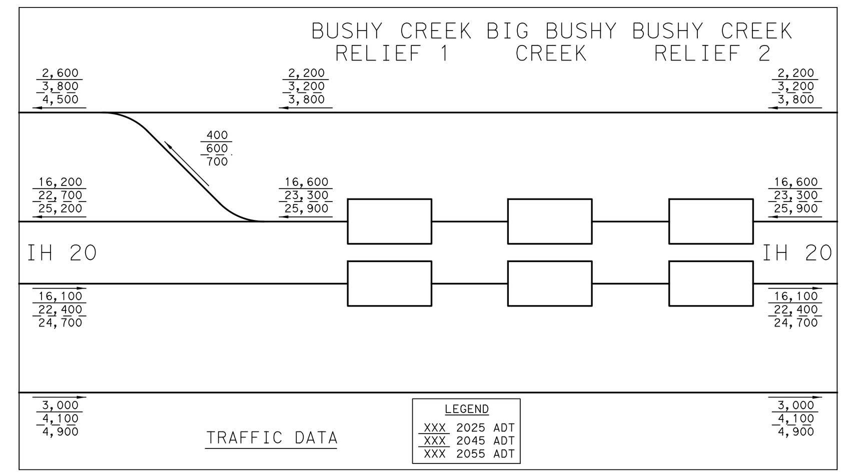


IH 20 - FR BRIDGE
PROPOSED TYPICAL SECTION

IH 20 - RAMP
PROPOSED TYPICAL SECTION



TYPICAL RAMP EXIT TO FRONTAGE RD TAPER

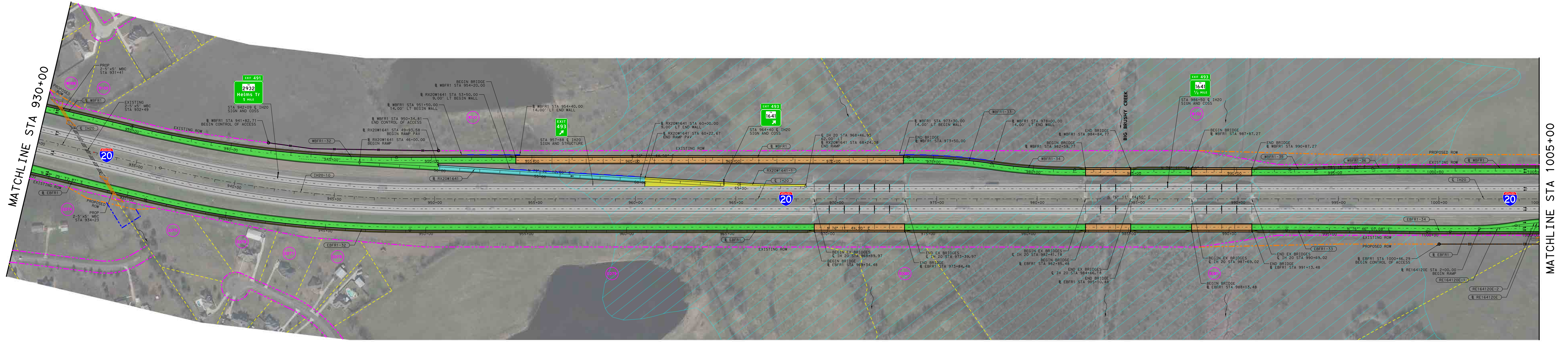


LEGEND

- FLOODPLAIN
- PAVEMENT REMOVAL
- PAVEMENT REMOVAL BY OTHERS
- MAINLANES
- FRONTAGE ROADS
- RAMPS
- BRIDGES
- CROSS STREETS/LOCAL ROADS
- LOCAL STREET CONNECTOR
- TRANSITIONS
- SIDEWALKS
- BY OTHERS
- PROPOSED RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY BY OTHERS
- CONTROL OF ACCESS
- PROPOSED DRAINAGE EASEMENT
- EXISTING RIGHT-OF-WAY
- PROPERTY LINES
- RETAINING WALLS

NOTES

1. EXISTING FEATURES WERE NOT FIELD SURVEYED. SCHEMATICS ARE BASED UPON AERIAL SURVEYS PROVIDED IN AUGUST 2016 AND RECORD PLANS.
2. PROPERTY LINES ARE SHOWN FOR REFERENCE ONLY.
3. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM DALLAS AND KAUFMAN COUNTY APPRAISAL DISTRICTS (JULY 2017).
4. ADA RAMPS, SIDEWALKS, AND DRIVEWAY LOCATIONS ARE PRELIMINARY AND SUBJECT TO CHANGE. FINAL LOCATIONS TO BE DETERMINED DURING THE FINAL DESIGN PHASE OF THE PROJECT.
5. ACCESS DENIAL LIMITS ARE DETERMINED PER TXDOT ACCESS MANAGEMENT MANUAL.
6. DIMENSIONS ARE TO EDGE OF PAVEMENT OR NOMINAL FACE OF CURB, RAIL, BARRIER, OR WALL (UNLESS NOTED OTHERWISE).
7. SUPERELEVATION AXIS OF ROTATION IS ABOUT THE PGL.
8. EXISTING PAVEMENT AND BRIDGES LOCATED WITHIN LIMITS OF PROPOSED RECONSTRUCTION WILL BE REMOVED (UNLESS NOTED OTHERWISE).
9. CURBS ON FRONTAGE ROADS AND CROSS STREETS ARE TYPE II (UNLESS NOTED OTHERWISE).
10. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE MAPS 48113C0530K, 48113C0535K, 48257C0150D, 48257C0155D, 48257C0175D, 48257C0200D, 48257C0185D, AND 48257C0225D.
11. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.
12. BRIDGE APPROACH SLAB LIMITS WILL BE DEVELOPED AT THE PS&E PHASE.



CURVE DATA

CURVE NO.	DELTA	DEGREE	TANGENT	LENGTH	RADIUS	BACK BEARING	AHEAD BEARING	PI STATION	PC STATION	PT STATION
IH20-10	13° 17' 28.37" LT	1° 00' 00.00"	667.56'	1,329.12'	5,729.58'	N 89° 29' 12.87" E	N 76° 11' 44.50" E	942+89.94	936+22.39	949+51.51
EBFR1-32	13° 17' 28.37" LT	0° 59' 59.73"	667.61'	1,329.22'	5,730.00'	N 89° 29' 12.87" E	N 76° 11' 44.50" E	942+59.66	935+92.06	949+21.28
EBFR1-33	0° 34' 22.58" RT	0° 29' 59.87"	57.30'	114.60'	11,460.00'	N 76° 11' 44.50" E	N 76° 46' 07.08" E	993+44.32	992+87.02	994+01.62
EBFR1-34	0° 34' 22.58" LT	0° 29' 59.87"	57.30'	114.60'	11,460.00'	N 76° 46' 07.08" E	N 76° 11' 44.50" E	1000+44.36	999+87.06	1001+01.65
WBFR1-32	13° 17' 28.37" LT	0° 59' 59.73"	667.61'	1,329.22'	5,730.00'	N 89° 29' 12.87" E	N 76° 11' 44.50" E	941+64.18	934+96.57	948+25.79
WBFR1-33	8° 17' 55.70" RT	1° 59' 59.47"	207.85'	414.97'	2,865.00'	N 76° 11' 44.50" E	N 84° 29' 40.21" E	975+83.72	973+75.87	977+90.84
WBFR1-34	8° 17' 55.70" LT	1° 59' 59.47"	207.85'	414.97'	2,865.00'	N 84° 29' 40.21" E	N 76° 11' 44.50" E	979+98.69	977+90.84	982+05.81
WBFR1-35	0° 58' 27.88" LT	0° 44' 59.80"	64.97'	129.93'	7,640.00'	N 76° 11' 44.50" E	N 75° 13' 16.62" E	993+42.14	992+77.18	994+07.11
WBFR1-36	0° 58' 27.88" RT	0° 44' 59.80"	64.97'	129.93'	7,640.00'	N 75° 13' 16.62" E	N 76° 11' 44.50" E	997+53.76	996+88.80	998+18.73
RE164120E-1	10° 00' 54.42" LT	5° 27' 24.27"	92.00'	183.54'	1,050.00'	N 76° 11' 44.50" E	N 66° 10' 50.08" E	2+92.00	2+00.00	3+83.54
RE164120E-2	10° 00' 54.42" RT	5° 27' 24.27"	92.00'	183.54'	1,050.00'	N 66° 10' 50.08" E	N 76° 11' 44.50" E	4+75.54	3+83.54	5+67.07
RX20W1641-1	3° 20' 28.10" LT	1° 00' 18.68"	166.24'	332.39'	5,700.00'	N 79° 32' 12.60" E	N 76° 11' 44.50" E	66+57.93	64+91.69	68+24.08

PROPERTY OWNERSHIP DATA

ID	NAME	STREET ADDRESS
E074	FUHRMAN SCOTT	9271 CO RD 216
E075	F & H BUILDERS LLC	9101 CLEAVER LN
E076	MC CRACKEN LEONARD C & GINA S	9050 CLEAVER LN
E077	BRAZILE MARY H ET AL	9004 CLEAVER LN
E078	SLUDER ROLAND D JR & KELLY A	8976 CLEAVER LN
E079	HAVEN ROBERT & JENNIFER	8700 CLEAVER LN
E080	HAVEN ROBERT & JENNIFER	IH 20
E081	AP DUPONT LIMITED PARTNERSHIP	IH 20

PROPERTY OWNERSHIP DATA

ID	NAME	STREET ADDRESS
W099	PAYTON ERIC D & LATOYA C PAYTON	15284 DELANEY LN
W100	NEXXUS HOMES INC	19000 BAILEY LN
W101	PAGE RALPH SR ESTATE	9445 CO RD 213A
W102	AP DUPONT LIMITED PARTNERSHIP	CO RD 305

SUPERELEVATION DATA

CROSS SLOPE LT	STATION LT	CHAIN NAME	STATION RT	CROSS SLOPE RT
-1.56%	930+00.00	IH20	930+00.00	-1.56%
-1.56%	934+60.00		934+60.00	-1.56%
-3.80%	937+00.00		937+00.00	3.80%
-3.80%	948+70.00		948+70.00	3.80%
-1.56%	951+10.00		951+10.00	-1.56%
-1.56%	1005+00.00		1005+00.00	-1.56%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
RX20W1641	49+93.58	2.00%	-2.00%
	59+20.00	2.00%	-2.00%
	60+22.67	-1.56%	1.56%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
EBFR1	930+00.00	-2.00%	2.00%
	1005+00.00	-2.00%	2.00%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
WBFR1	930+00.00	2.00%	-2.00%
	1005+00.00	2.00%	-2.00%

Texas Department of Transportation
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Dallas District Engineer
IH 20
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From: Lawson Road
To: East of Wilson Road (CR 138)
CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071
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Project Length: 20.390 Miles
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Frontage Road = Major Collector
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Mainlanes: 70 mph
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Turnarounds: 15 mph
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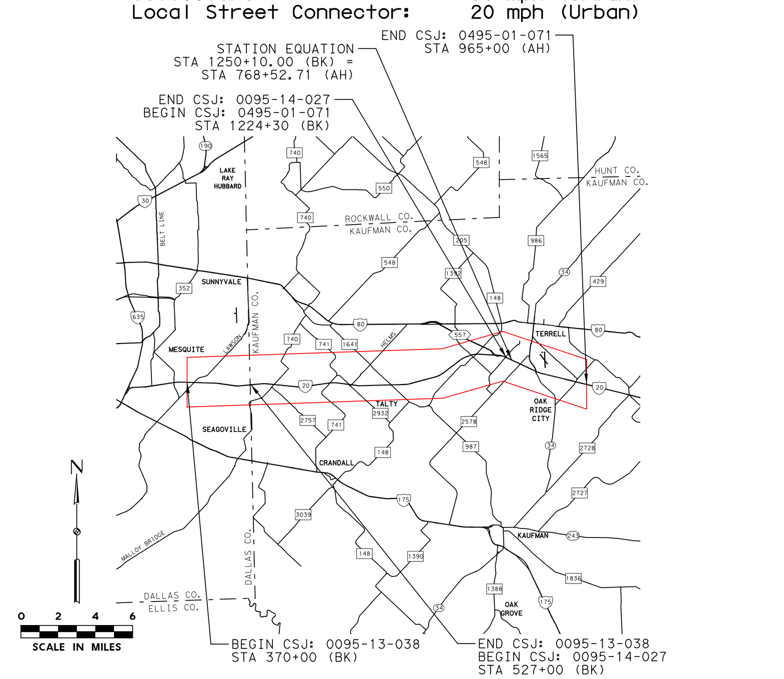
Arterials: 40 mph (Urban)
Collectors: 30 mph (Urban)
Local Street Connector: 20 mph (Urban)



Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'
MARCH 2020
PRELIMINARY
SUBJECT TO REVISIONS
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JASON A. RICHTER 114508
ALEXANDER S. KEMP 133019
3/31/2020
100% PRELIMINARY, SUBJECT TO CHANGE
NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES
ROLL 8 OF 30
HDR
Firm Registration No. F-754
17111 Preston Road, Suite 300
Dallas, Texas 75248
972.960.4400

Texas Department
of Transportation
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Dallas District
Mohamed K. Bur, P.E.
Dallas District Engineer

IH 20

DESIGN SCHEMATIC

From: Lawson Road
To: East of Wilson Road (CR 138)

CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles
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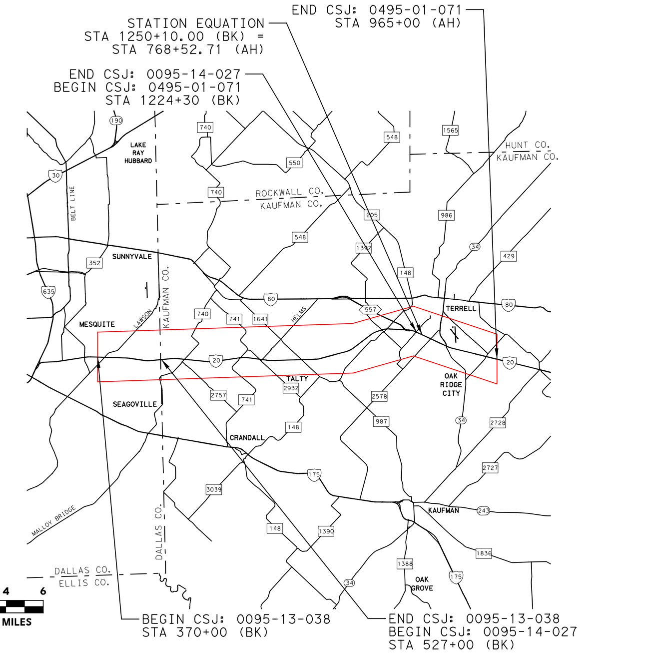
Mainlane = Interstate
Frontage Road = Major Collector

	Design Speed
Mainlanes:	70 mph
Ramps:	50 mph
Direct Connectors:	40-50 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 557 Frontage Road:	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connector:	20 mph (Urban)



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MARCH 2020

PRELIMINARY
SUBJECT TO REVISIONS

SCHEMATIC PREPARED BY OR UNDER THE DIRECT SUPERVISION OF:

NAME	P.E. NUMBER
JASON A. RICHTER	114508
ALEXANDER S. KEMP	133019

3/31/2020
DATE

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ROLL 9 OF 30

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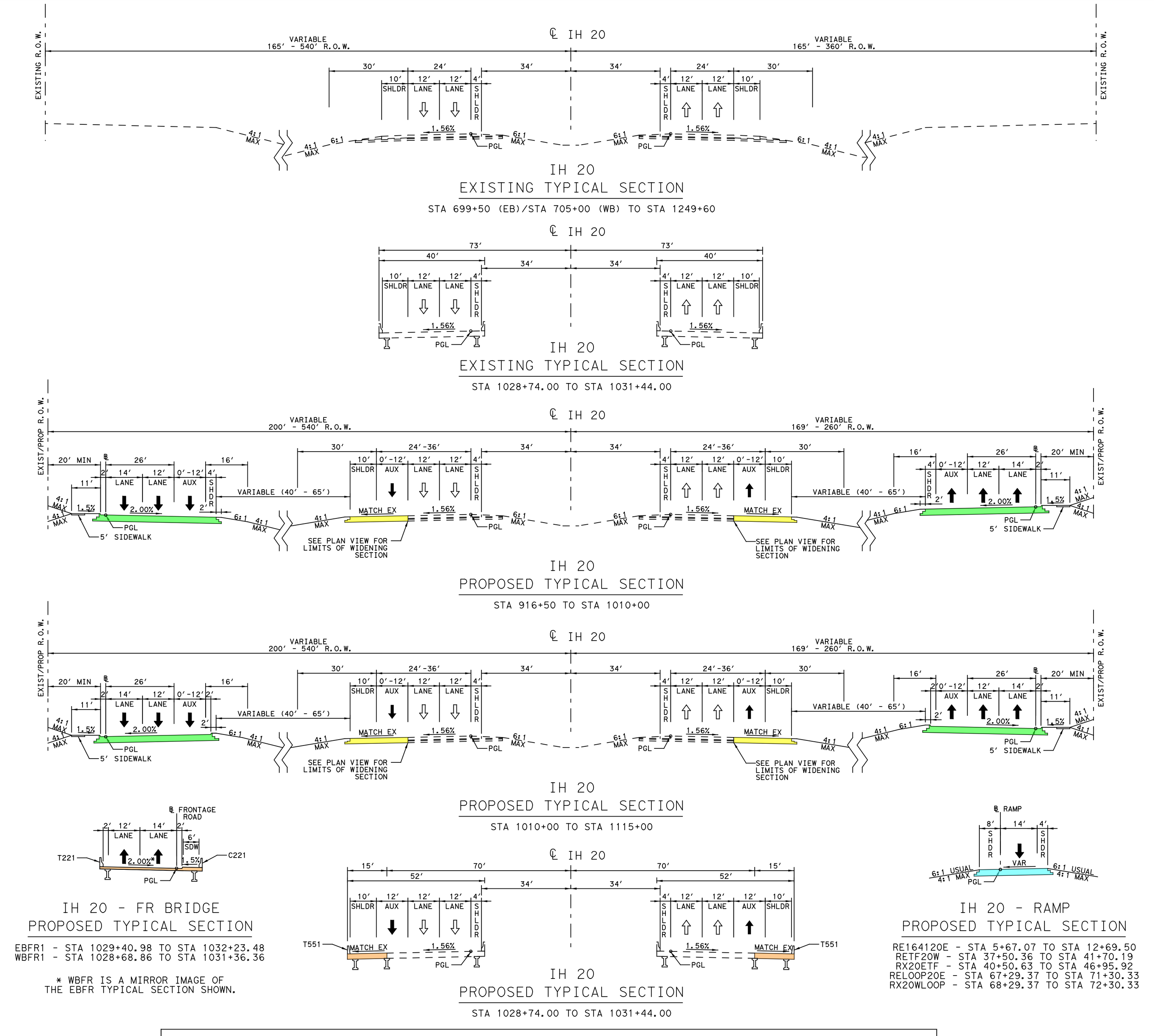

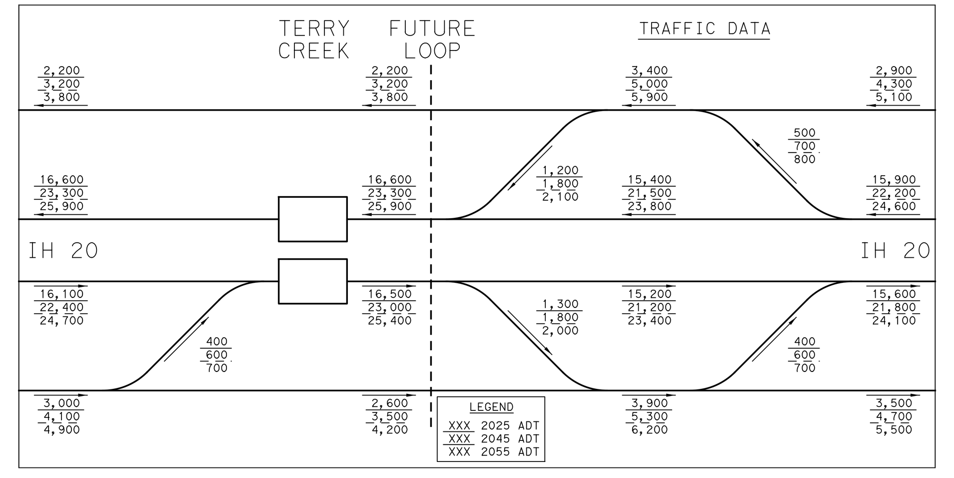

LEGEND

- FLOODPLAIN
- PAVEMENT REMOVAL
- PAVEMENT REMOVAL BY OTHERS
- MAINLANES
- FRONTAGE ROADS
- RAMPS
- BRIDGES
- CROSS STREETS/LOCAL ROADS
- LOCAL STREET CONNECTOR
- TRANSITIONS
- SIDEWALKS
- BY OTHERS
- PROPOSED RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY BY OTHERS
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- PROPOSED DRAINAGE EASEMENT
- EXISTING RIGHT-OF-WAY
- PROPERTY LINES
- RETAINING WALLS

NOTES

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7. SUPERELEVATION AXIS OF ROTATION IS ABOUT THE PGL.
8. EXISTING PAVEMENT AND BRIDGES LOCATED WITHIN LIMITS OF PROPOSED RECONSTRUCTION WILL BE REMOVED (UNLESS NOTED OTHERWISE).
9. CURBS ON FRONTAGE ROADS AND CROSS STREETS ARE TYPE II (UNLESS NOTED OTHERWISE).
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11. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.
12. BRIDGE APPROACH SLAB LIMITS WILL BE DEVELOPED AT THE PS&E PHASE.

PROPERTY OWNERSHIP DATA

ID	NAME	STREET ADDRESS
W102	AP DUPONT LIMITED PARTNERSHIP	CO RD 305
W103	AP DUPONT LIMITED PARTNERSHIP	IH 20
W104	AP TERRELL LIMITED PARTNERSHIP	IH 20

ID	NAME	STREET ADDRESS
E081	AP DUPONT LIMITED PARTNERSHIP	IH 20
E082	AP DUPONT LIMITED PARTNERSHIP	FM RD 148
E083	JUNGJOHANN MILOWE E	FM RD 148
E084	BATES JAMES E & KATHY	9625 N FM RD 148
E085	TERRELL 1132 LLC	FM RD 148

CURVE DATA

CURVE NO.	DELTA	DEGREE	TANGENT	LENGTH	RADIUS	BACK BEARING	AHEAD BEARING	PI STATION	PC STATION	PT STATION
IH20-11	21° 52' 11.56" LT	1° 00' 00.00"	1,106.97'	2,186.99'	5,729.58'	N 76° 11' 44.50" E	N 54° 19' 32.94" E	1030+69.50	1019+62.53	1041+49.52
EBFR1-35	1° 25' 33.12" LT	0° 59' 59.73"	71.30'	142.60'	5,730.00'	N 76° 11' 44.50" E	N 74° 46' 11.38" E	1016+37.00	1015+65.70	1017+08.29
EBFR1-36	20° 26' 38.44" LT	0° 59' 59.73"	1,033.26'	2,044.55'	5,730.00'	N 74° 46' 11.38" E	N 54° 19' 32.94" E	1032+88.29	1022+55.03	1042+99.58
WBFR1-37	21° 52' 11.56" LT	0° 59' 59.73"	1,107.05'	2,187.15'	5,730.00'	N 76° 11' 44.50" E	N 54° 19' 32.94" E	1029+91.60	1018+84.56	1040+71.71
RE164120E-2	10° 00' 54.42" RT	5° 27' 24.27"	92.00'	183.54'	1,050.00'	N 66° 10' 50.08" E	N 76° 11' 44.50" E	4+75.54	3+83.54	5+67.07
RE164120E-3	4° 30' 14.63" LT	0° 43' 30.95"	310.67'	621.03'	7,900.00'	N 76° 11' 44.50" E	N 71° 41' 29.87" E	10+77.75	7+67.07	13+88.10
RE164120E-4	4° 30' 14.63" RT	1° 00' 18.68"	224.16'	448.08'	5,700.00'	N 71° 41' 29.87" E	N 76° 11' 44.50" E	16+12.25	13+88.10	18+36.18
RELOOP20E-1	5° 00' 00.00" LT	5° 27' 24.27"	45.84'	91.63'	1,050.00'	N 54° 19' 32.94" E	N 49° 19' 32.94" E	65+45.84	65+00.00	65+91.63
RELOOP20E-2	5° 00' 00.00" RT	1° 00' 18.68"	248.87'	497.42'	5,700.00'	N 49° 19' 32.94" E	N 54° 19' 32.94" E	74+29.26	71+80.39	76+77.81
RETF20W-1	11° 56' 41.72" LT	1° 59' 59.47"	299.73'	597.29'	2,865.00'	N 63° 33' 54.99" E	N 51° 37' 13.27" E	34+99.73	32+00.00	37+97.29
RETF20W-2	2° 42' 19.68" RT	5° 27' 24.27"	24.79'	49.58'	1,050.00'	N 51° 37' 13.27" E	N 54° 19' 32.94" E	45+93.90	45+69.11	46+18.69
RX20ETF-1	6° 20' 43.58" LT	1° 59' 59.47"	158.81'	317.30'	2,865.00'	N 60° 40' 16.52" E	N 54° 19' 32.94" E	43+37.43	41+78.62	44+95.92
RX20ETF-2	7° 54' 49.89" RT	5° 27' 24.27"	72.63'	145.03'	1,050.00'	N 54° 19' 32.94" E	N 62° 14' 22.83" E	47+68.55	46+95.92	48+40.95
RX20ETF-3	7° 54' 49.89" LT	5° 27' 24.27"	72.63'	145.03'	1,050.00'	N 62° 14' 22.83" E	N 54° 19' 32.94" E	49+13.58	48+40.95	49+85.97
RX20WLOOP-1	5° 00' 00.00" RT	5° 27' 24.27"	45.84'	91.63'	1,050.00'	N 54° 19' 32.94" E	N 59° 19' 32.94" E	66+45.84	66+00.00	66+91.63
RX20WLOOP-2	5° 00' 00.00" LT	1° 00' 18.68"	248.87'	497.42'	5,700.00'	N 59° 19' 32.94" E	N 54° 19' 32.94" E	75+29.26	72+80.39	77+77.81

SUPERELEVATION DATA

CROSS SLOPE LT	STATION LT	CHAIN NAME	STATION RT	CROSS SLOPE RT
-1.56%	1005+00.00	IH20	1005+00.00	-1.56%
-1.56%	1019+35.00		1017+60.00	-1.56%
-3.80%	1020+60.00		1020+60.00	3.80%
-3.80%	1040+50.00		1040+50.00	3.80%
-1.56%	1041+75.00		1043+50.00	-1.56%
-1.56%	1080+00.00		1080+00.00	-1.56%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
EBFR1	1005+00.00	-2.00%	2.00%
	1008+00.00	-2.00%	2.00%
	1010+00.00	2.00%	-2.00%
	1080+00.00	2.00%	-2.00%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
WBFR1	1005+00.00	2.00%	-2.00%
	1008+00.00	2.00%	-2.00%
	1010+00.00	-2.00%	2.00%
	1080+00.00	-2.00%	2.00%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
RE164120E	5+67.07	-2.00%	2.00%
	11+65.00	-2.00%	2.00%
	12+69.50	1.56%	-1.56%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
RELOOP20E	67+29.37	2.00%	-2.00%
	71+10.00	2.00%	-2.00%
	71+30.33	1.56%	-1.56%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
RX20WLOOP	68+29.37	-2.00%	2.00%
	72+10.00	-2.00%	2.00%
	72+30.33	-1.56%	1.56%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
RX20ETF	40+50.63	-3.80%	3.80%
	44+50.00	-3.80%	3.80%
	46+15.00	2.00%	-2.00%
	46+95.92	2.00%	-2.00%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
RETF20W	37+50.36	-3.80%	3.80%
	38+05.00	-2.00%	2.00%
	41+70.19	-2.00%	2.00%

IH 20

Texas Department
of Transportation
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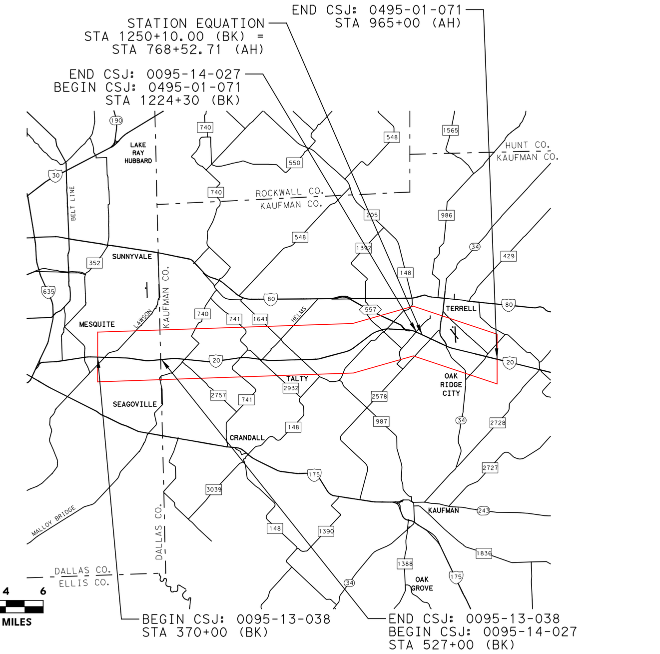
Dallas District
Mohamed K. Bur, P.E.
Dallas District Engineer
IH 20
DESIGN SCHEMATIC
From: Lawson Road
To: East of Wilson Road (CR 138)
CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071
Dallas and Kaufman Counties
Project Length: 20.390 Miles
Functional Class
Mainlane = Interstate
Frontage Road = Major Collector
Design Speed
Mainlanes: 70 mph
Ramps: 50 mph
Direct Connectors: 40-50 mph
Turnarounds: 15 mph
Frontage Roads: 40 mph (Urban)
SPUR 557 Frontage Road: 30 mph (Urban)
Arterials: 40 mph (Urban)
Collectors: 30 mph (Urban)
Local Street Connector: 20 mph (Urban)



Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'
MARCH 2020
PRELIMINARY
SUBJECT TO REVISIONS
SCHEMATIC PREPARED BY OR UNDER THE DIRECT SUPERVISION OF:
JASON A. RICHTER 114508
ALEXANDER S. KEMP 133019
3/31/2020
100%
PRELIMINARY, SUBJECT TO CHANGE
NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES
ROLL 9 OF 30
HDR
Firm Registration No. F-754
17111 Preston Road, Suite 300
Dallas, Texas 75248
972.960.4400

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Texas Department of Transportation

Dallas District

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

IH 20

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From: Lawson Road
To: East of Wilson Road (CR 138)

CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles

Functional Class

Functional Class	
Mainlane	= Interstate
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	Design Speed
Mainlanes:	70 mph
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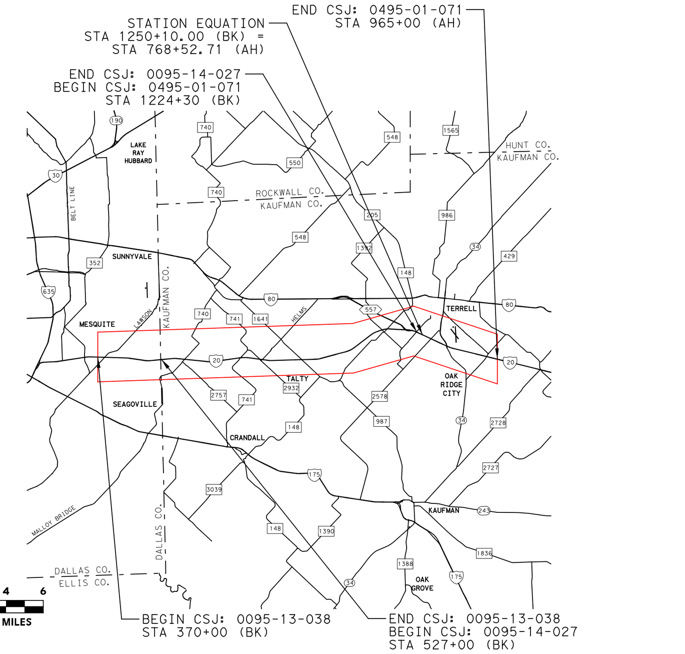

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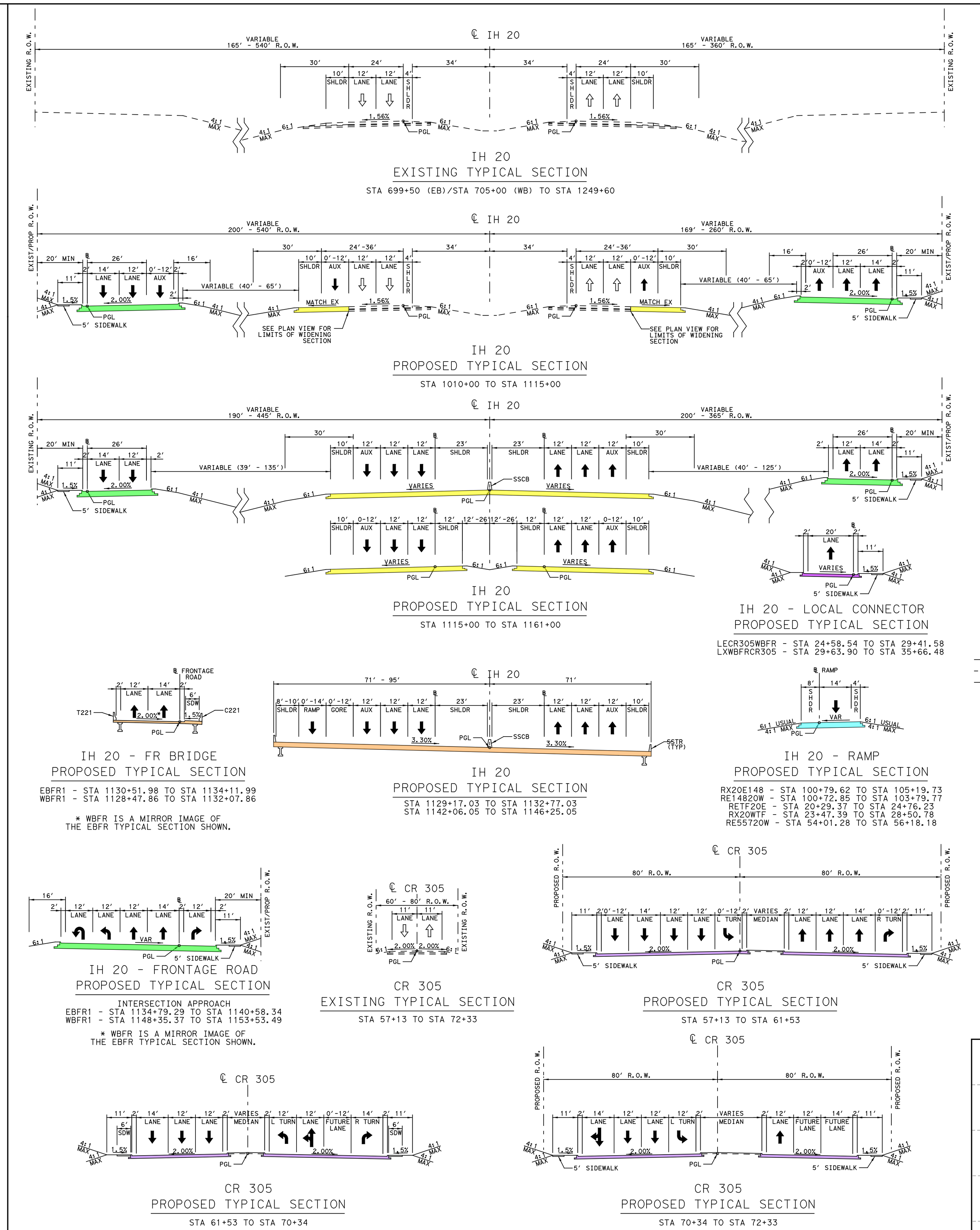

CR 305
PROPOSED TYPICAL SECTION
STA 61+53 TO STA 70+34

CR 305
PROPOSED TYPICAL SECTION
STA 70+34 TO STA 72+33

LEGEND

- FLOODPLAIN
- PAVEMENT REMOVAL
- PAVEMENT REMOVAL BY OTHERS
- MAINLANES
- FRONTAGE ROADS
- RAMPS
- BRIDGES
- CROSS STREETS/LOCAL ROADS
- LOCAL STREET CONNECTOR
- TRANSITIONS
- SIDEWALKS
- BY OTHERS
- PROPOSED RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY BY OTHERS
- CONTROL OF ACCESS
- PROPOSED DRAINAGE EASEMENT
- EXISTING RIGHT-OF-WAY
- PROPERTY LINES
- RETAINING WALLS

NOTES

1. EXISTING FEATURES WERE NOT FIELD SURVEYED. SCHEMATICS ARE BASED UPON AERIAL SURVEYS PROVIDED IN AUGUST 2016 AND RECORD PLANS.
2. PROPERTY LINES ARE SHOWN FOR REFERENCE ONLY.
3. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM DALLAS AND KAUFMAN COUNTY APPRAISAL DISTRICTS (JULY 2017).
4. ADA RAMPS, SIDEWALKS, AND DRIVEWAY LOCATIONS ARE PRELIMINARY AND SUBJECT TO CHANGE. FINAL LOCATIONS TO BE DETERMINED DURING THE FINAL DESIGN PHASE OF THE PROJECT.
5. ACCESS DENIAL LIMITS ARE DETERMINED PER TXDOT ACCESS MANAGEMENT MANUAL.
6. DIMENSIONS ARE TO EDGE OF PAVEMENT OR NOMINAL FACE OF CURB, RAIL, BARRIER, OR WALL (UNLESS NOTED OTHERWISE).
7. SUPERELEVATION AXIS OF ROTATION IS ABOUT THE PGL.
8. EXISTING PAVEMENT AND BRIDGES LOCATED WITHIN LIMITS OF PROPOSED RECONSTRUCTION WILL BE REMOVED (UNLESS NOTED OTHERWISE).
9. CURBS ON FRONTAGE ROADS AND CROSS STREETS ARE TYPE II (UNLESS NOTED OTHERWISE).
10. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE MAPS 48113C0530K, 48113C0535K, 48257C0150D, 48257C0155D, 48257C0175D, 48257C0200D, 48257C0185D, AND 48257C0225D.
11. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.
12. BRIDGE APPROACH SLAB LIMITS WILL BE DEVELOPED AT THE PS&E PHASE.

CURVE DATA

SUPERELEVATION DATA

PROPERTY OWNERSHIP DATA

Texas Department of Transportation
Dallas District
Mohamed K. Bur, P.E.
Dallas District Engineer
IH 20
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CSJ: 0495-01-071
Dallas and Kaufman Counties
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Scale: Horizontal 1"=200'
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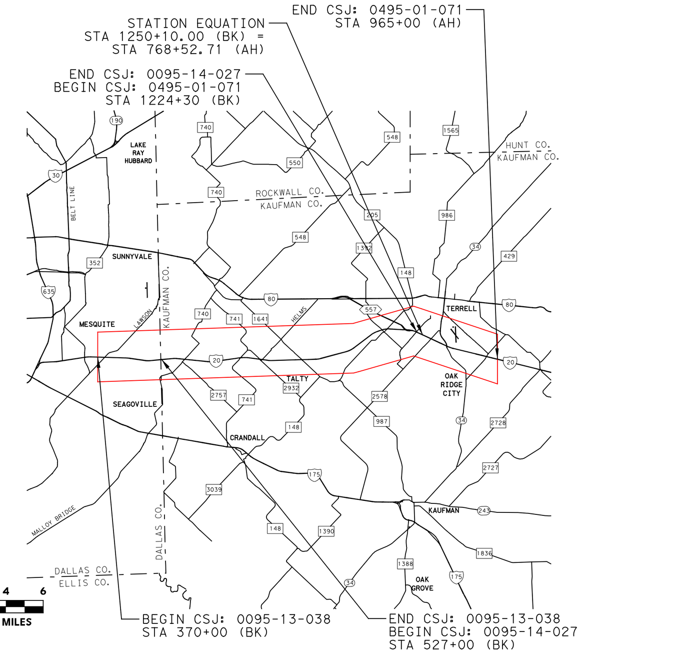
MARCH 2020
ROLL 10 OF 30



Texas Department of Transportation

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

IH 20
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From: Lawson Road
To: East of Wilson Road (CR 138)

CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles
Functional Class

Mainlane • Interstate
Frontage Road • Major Collector

	Design Speed
Mainlanes:	70 mph
Ramps:	50 mph
Direct Connectors:	50 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 557 Frontage Roads	35 mph (Urban)
Arterials:	40 mph (Urban)
Cross Streets:	40 mph (Urban)
Local Street Connectors	20 mph (Urban)

Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'
MARCH 2020

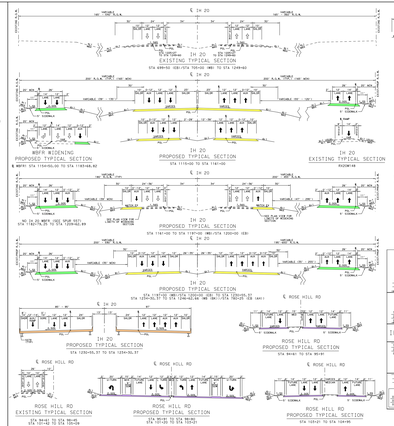
PRELIMINARY
SUBJECT TO REVISIONS
SCHEMATIC PRELIMINARY UNDER THE DIRECT SUPERVISION OF:
JASON R. BOACHER — LICENSE # 127 STATE OF TEXAS
ALEXANDER S. KEMP — LICENSE # 127 STATE OF TEXAS
3/31/2020
DATE

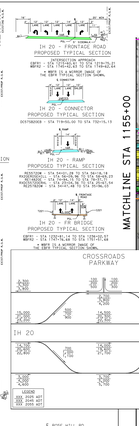
NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

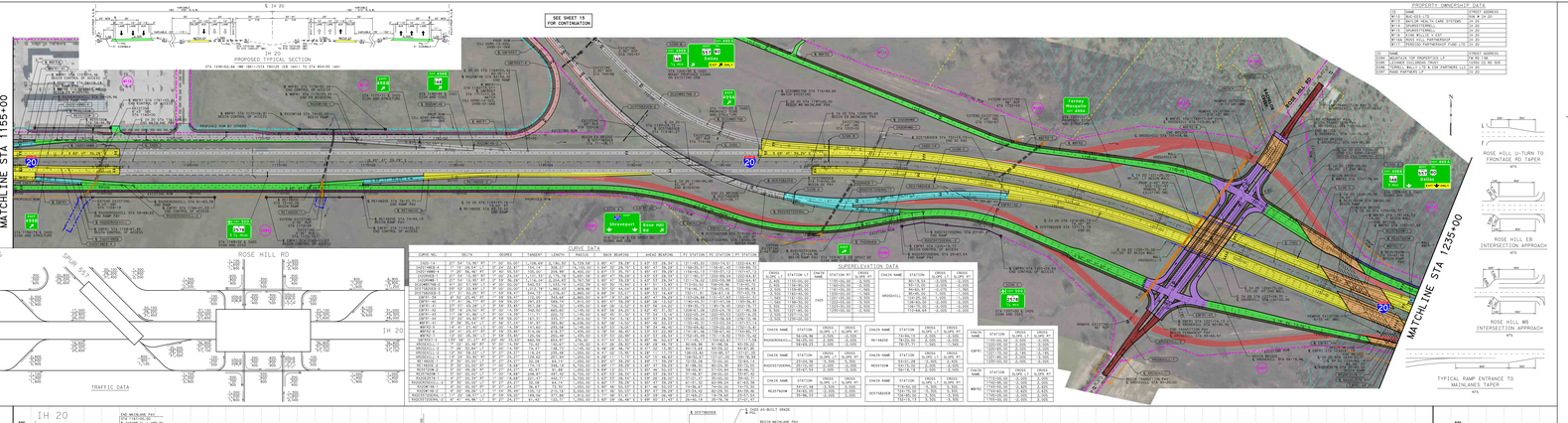
ROLL 11 OF 30

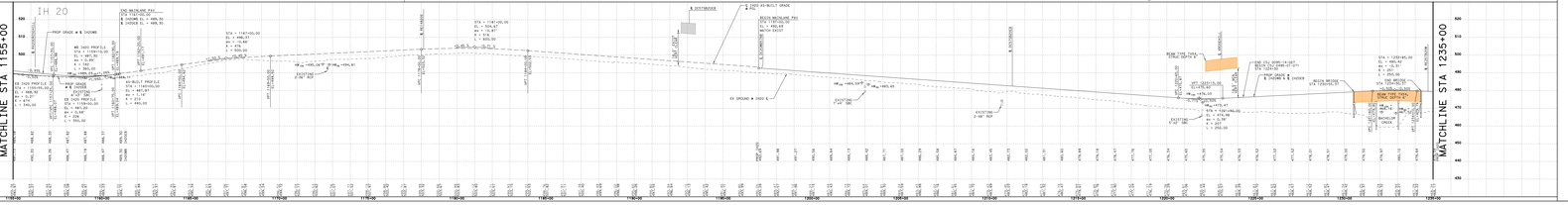
100% PRELIMINARY SUBJECT TO CHANGE

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









NOTES

1. EXISTING FEATURES WERE NOT FIELD VERIFIED. SURVEY DATA WAS PROVIDED BY AERIAL SURVEY PROVIDED IN AUGUST 2014 UNLESS NOTED OTHERWISE.
2. PROPERTY LINES ARE SHOWN FOR REFERENCE ONLY.
3. ORTHOPHOTO INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM DALLAS AND KAUFMAN COUNTY GIS DATA UNLESS NOTED OTHERWISE.
4. ADA RAMPS, SIDEWALKS, AND DRIVEWAYS ADJACENT TO THE PROJECT WILL BE REVISED TO CHANGE, FINAL LOCATIONS TO BE DETERMINED DURING THE FINAL DESIGN PHASE OF THE PROJECT.
5. ACCESS DOCKS LENGTH ARE DETERMINED PER TXDOT DESIGN STANDARDS.
6. DIMENSIONS ARE TO EDGE OF PAVEMENT OR BACK OF CURB UNLESS NOTED OTHERWISE.
7. WALL LOCATIONS ARE SHOWN FOR REFERENCE ONLY. ALIGNMENT AXIS OF ROTATION IS ABOUT THE PGL.
8. EXISTING PAVEMENT AND BRIDGES LOCATED WITHIN THE PROPOSED RIGHT OF WAY HAVE BEEN REMOVED UNLESS NOTED OTHERWISE.
9. CURBS ON FRONTAGE ROADS AND CROSS STREETS ARE TYPE II UNLESS NOTED OTHERWISE.
10. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE SHOWN ON THE PROJECT PLAN VIEWS. MAPS: 48113C0205K, 48113C0215K, 48113C0220K, 48113C0230K, 48113C0240K, 48257C0205G, 48257C0215G, AND 48257C0220G.
11. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE PROVIDED BY THE CONTRACTOR AS PER THE TMUTCD.
12. PROJECT APPROACH SLAB DETAILS WILL BE DEVELOPED AT THE PSE&E PHASE.

FLOODPLAIN
PAVEMENT REMOVAL
PAVEMENT REMOVAL BY OTHERS
WATERLINES
FRONTAGE ROADS
RAMPS
BRIDGES
CROSS STREETS/LOCAL ROADS
LOCAL STREET CONNECTOR
TRANSITIONS
SIDEWALKS
CURBS
PROPOSED RIGHT-OF-WAY
PROPOSED RIGHT-OF-WAY BY OTHERS
CONTROL OF ACCESS
PROPOSED DRAINAGE EASEMENT
PROPOSED RIGHT-OF-WAY
PROPERTY LINES
RETAINING WALLS

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Dallas District Engineer
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CSJ: 0095-14-027
CSJ: 0495-01-071
Dallas and Kaufman Counties
Project Length: 20.390 Miles
Functional Class
Mainlane • Interstate
Frontage Road • Major Collector
Mainlanes: 70 mph
Ramps: 50 mph
Direct Connectors: 50 mph
Turnarounds: 15 mph
Frontage Roads: 40 mph (Urban)
SPUR 557 Frontage Roads: 35 mph (Urban)
Arterials: 40 mph (Urban)
Cross Streets: 40 mph (Urban)
Local Street Connectors: 20 mph (Urban)
Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'
MARCH 2020
PRELIMINARY
SUBJECT TO REVISIONS
SCHEMATIC PRELIMINARY UNDER THE DIRECT SUPERVISION OF:
JASON R. BOACHER — LICENSE # 127 STATE OF TEXAS
ALEXANDER S. KEMP — LICENSE # 127 STATE OF TEXAS
3/31/2020
DATE
NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES
ROLL 11 OF 30
100% PRELIMINARY SUBJECT TO CHANGE
HDR
HDR Firm Registration No. F-754
17111 Preston Road, Suite 300
Dallas, Texas 75248
972.960.4400

Texas Department of Transportation

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

IH 20
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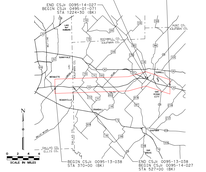

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MARCH 2020

PRELIMINARY
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JASON R. BOACHER — LICENSED P.E. NUMBER
ALEXANDER G. KEMP — LICENSED P.E. NUMBER
3/31/2020
DATE
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ROLL 12 OF 30

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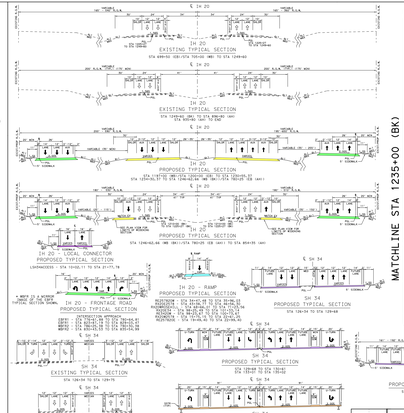
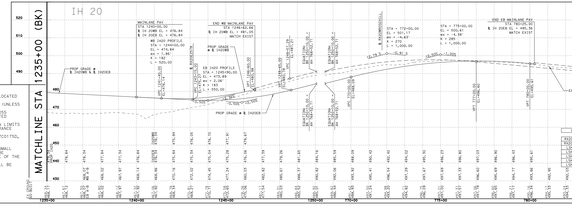
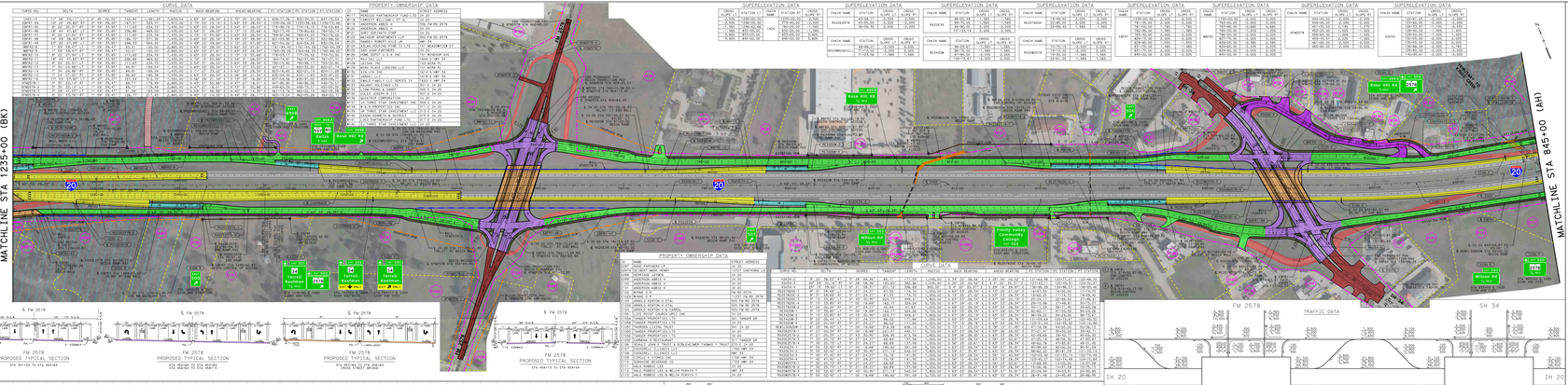




LEGEND
- FLOODPLAIN
- PAVEMENT REMOVAL
- PAVEMENT REMOVAL BY OTHERS
- MAINLANES
- FRONTAGE ROADS
- RAMPS
- BRIDGES
- CROSS STREETS/LOCAL ROADS
- LOCAL STREET CONNECTOR
- TRANSITIONS
- SIDEWALKS
- TRAILS
- PROPOSED RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY BY OTHERS
- CONTROL OF ACCESS
- PROPOSED DRAINAGE EASEMENT
- PROPOSED RIGHT-OF-WAY
- PROPERTY LINES
- RETAINING WALLS

NOTES
1. EXISTING FEATURES WERE NOT FIELD VERIFIED. BASED ON TNRIS DALLAS COUNTY AERIAL SURVEYS PROVIDED IN AUGUST 2014 AND KAUFMAN COUNTY.
2. PROPERTY LINES ARE SHOWN FOR REFERENCE ONLY.
3. OWNERSHIP INFORMATION WAS ON SCHEMATIC OBTAINED FROM DALLAS AND KAUFMAN COUNTY TAX ROLLS AND TNRIS DATA.
4. ADA RAMPS, SIDEWALKS, AND DRIVEWAYS, ADJACENT TO THE PROJECT WILL BE REPAIRED OR CHANGED, FINAL LOCATIONS TO BE DETERMINED DURING THE FINAL DESIGN PHASE OF THE PROJECT.
5. ACCESS DENIAL LIMITS ARE DETERMINED PER TXDOT ACCESS MANAGEMENT MANUAL DIMENSIONS ARE TO THE PROPERTY LINE OR RIGHT-OF-WAY, WHICHEVER IS GREATER. WALL LOCATIONS ARE SHOWN FOR REFERENCE ONLY.
6. ROTATION AXIS OF ROTATION IS ABOUT THE PGL.
8. EXISTING PAVEMENT AND BRIDGES LOCATED BEYOND THE PROPOSED RIGHT-OF-WAY RECONSTRUCTION WILL BE REMOVED UNLESS OTHERWISE NOTED.
9. CURBS ON FRONTAGE ROADS AND CROSS STREETS WITHIN THE PROJECT LIMITS ARE STANDARD.
10. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE SHOWN ON THE PLANS PER FEMA FIRM MAPS 48113C0355H, 48113C0365H, 48113C0370H, 48113C0380H, 48113C0390H, 48257C0205G, 48257C0215G, AND 48257C0220G.
11. CONDITIONAL FLOODWAY PROJECTS ARE STILL UNDER REVIEW AND WILL BE SHOWN ON THE FINAL DESIGN PLANS.
12. PROJECT APPROACH SLAB REPAIRS WILL BE DEVELOPED AT THE PSAR PHASE.



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MARCH 2020
PRELIMINARY
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JASON R. BOACHER — LICENSED P.E. NUMBER
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HDR
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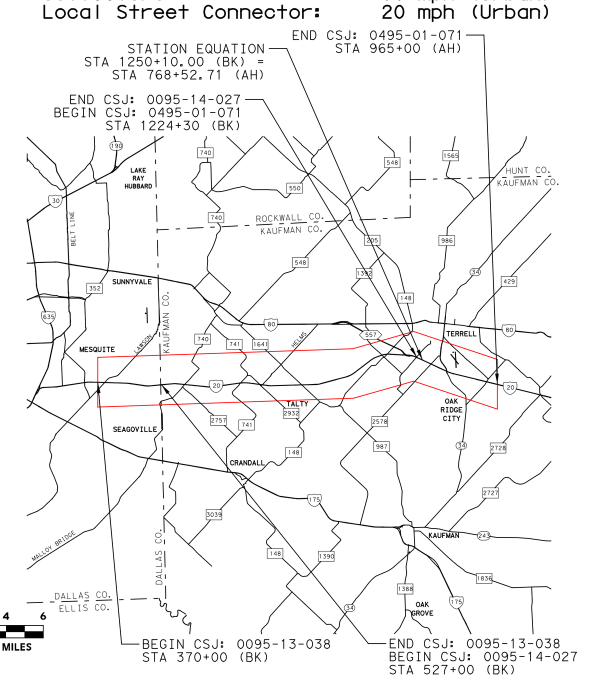

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JASON A. RICHTER	114508
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ROLL 13 OF 30

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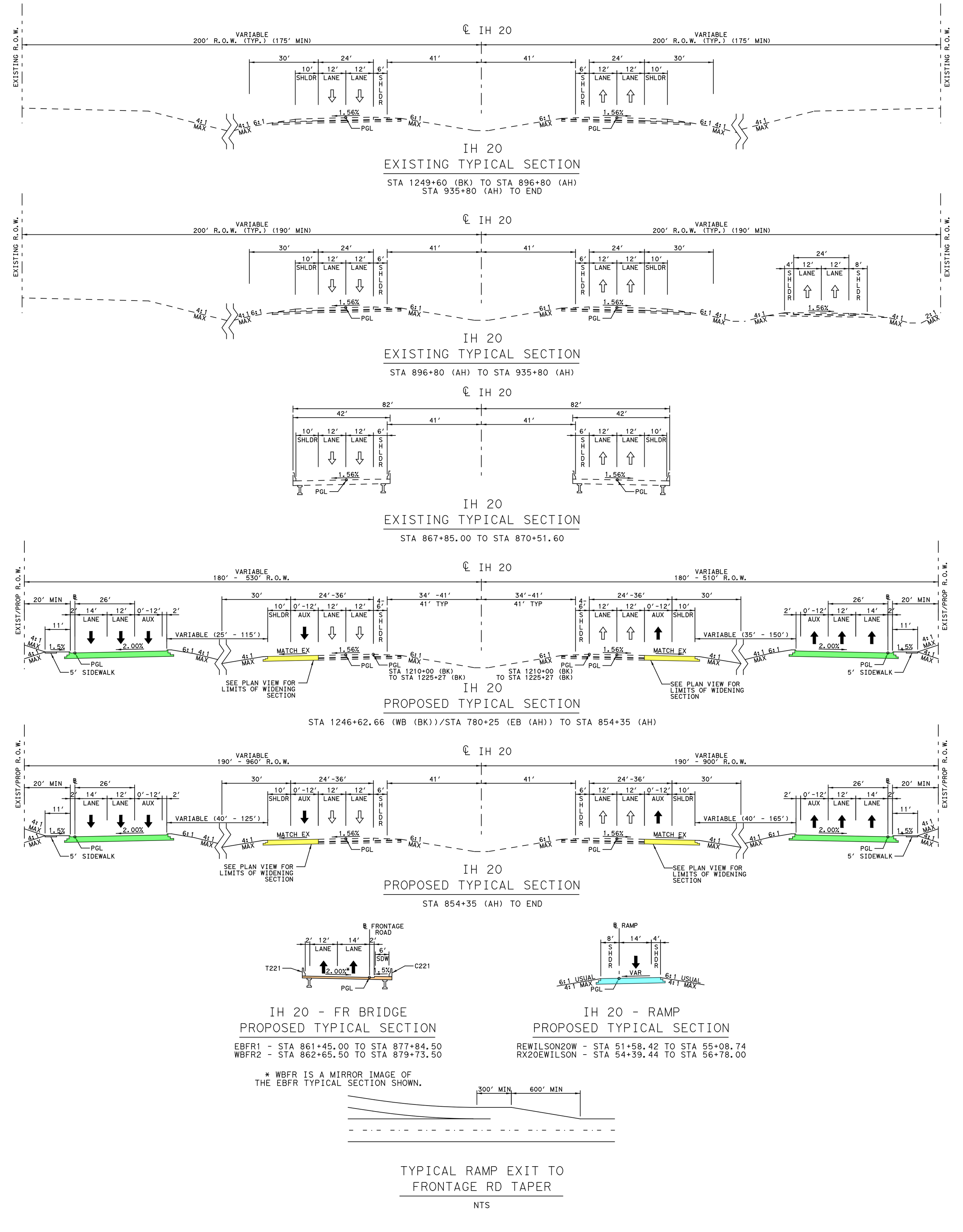

LEGEND

- FLOODPLAIN
- PAVEMENT REMOVAL
- PAVEMENT REMOVAL BY OTHERS
- MAINLANES
- FRONTAGE ROADS
- RAMPS
- BRIDGES
- CROSS STREETS/LOCAL ROADS
- LOCAL STREET CONNECTOR
- TRANSITIONS
- SIDEWALKS
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4. ADA RAMPS, SIDEWALKS, AND DRIVEWAY LOCATIONS ARE PRELIMINARY AND SUBJECT TO CHANGE. FINAL LOCATIONS TO BE DETERMINED DURING THE FINAL DESIGN PHASE OF THE PROJECT.
5. ACCESS DENIAL LIMITS ARE DETERMINED PER TXDOT ACCESS MANAGEMENT MANUAL.
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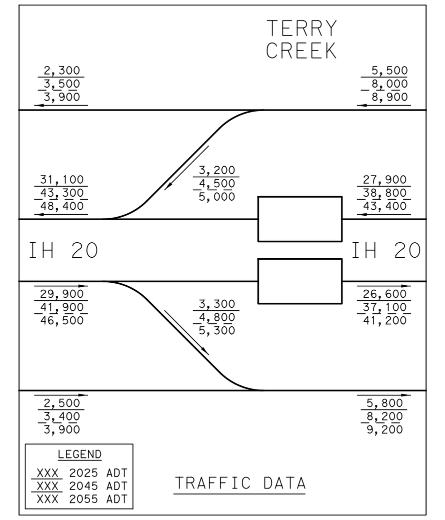
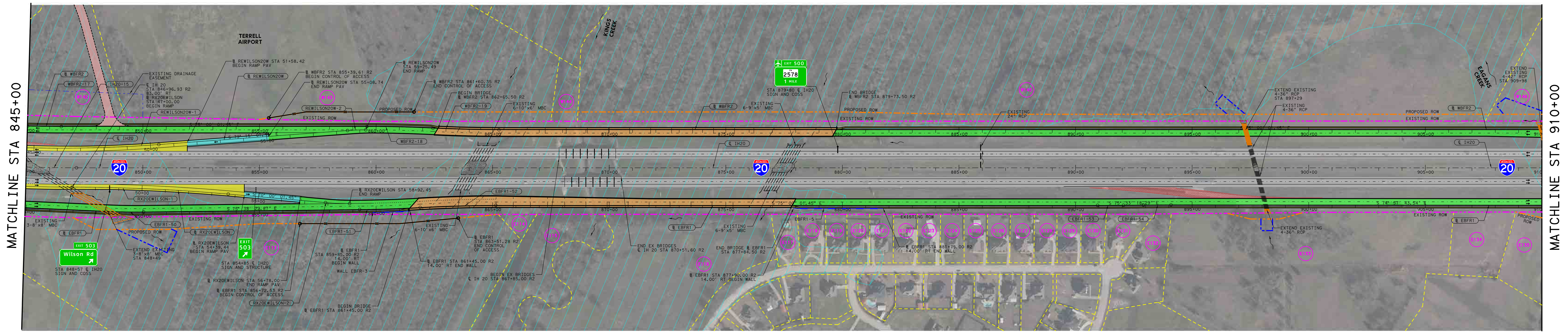
11. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.
12. BRIDGE APPROACH SLAB LIMITS WILL BE DEVELOPED AT THE PS&E PHASE.

PROPERTY OWNERSHIP DATA

ID	NAME	STREET ADDRESS
W142	CJ THREE STAR INVESTMENT LLC	IH 20
W143	CITY OF TERRELL	IH 20
W144	ONCOR ELECTRIC DELIVERY COMPANY	IH 20
W145	TERRELL ECONOMIC DEVELOPMENT	IH 20
W146	TERRELL ECONOMIC DEVELOPMENT	IH 20

ID	NAME	STREET ADDRESS
E113	HALE ROBBIE LEE & WELCH PURVIS T	IH 20
E114	MC CRARY HOLDINGS I LLC	IH 20
E115	ONCOR ELECTRIC DELIVERY COMPANY	HWY 34
E116	PARK AREA	KINGS CREEK DR
E117	KINSWORTHY BRIAN & MOLLIE	411 KINGS CREEK DR
E118	WAMPLER WILLIAM M & JANNA	415 KINGS CREEK DR
E119	DITTA ROCHELL C	419 KINGS CREEK DR
E120	SNOWTON JOEL J & DIANA D	501 KINGS CREEK DR
E121	DYE CLAUDINE & ANNA M DYE & RAY DYE	505 KINGS CREEK DR
E122	HALL MICHAEL H & ROBIN J	509 KINGS CREEK DR
E123	KEENAN DONNELLE	513 KINGS CREEK DR
E124	JORDAN JONI	517 KINGS CREEK DR
E125	WALKER BARBARA	521 KINGS CREEK DR
E126	SAFADAGO GARY & MASEL L	525 KINGS CREEK DR
E127	CAMACHO MANUEL	529 KINGS CREEK DR
E128	ASHER BOBBY	533 KINGS CREEK DR
E129	STIVERS ALVIN JR & CLAUDIA A	537 KINGS CREEK DR
E130	GRANT TAURUS & COZZETTA	541 KINGS CREEK DR
E131	WILLIAMS TIMOTHY W & SUSAN L	601 KINGS CREEK DR
E132	BELEW BARBARA	605 KINGS CREEK DR
E133	NLA ASSETS LLC	IH 20
E134	CONAWAY & SONS LLC	IH 20
E135	HENDERSON CO JR COLLEGE	IH 20





CURVE DATA

CURVE NO.	DELTA	DEGREE	TANGENT	LENGTH	RADIUS	BACK BEARING	AHEAD BEARING	PI STATION	PC STATION	PT STATION
IH20-15	11° 06′ 33.11" LT	0° 45′ 00.00"	742.94′	1,481.23′	7,639.44′	S 63° 53′ 28.34" E	S 75° 00′ 01.45" E	839+77.26	832+34.31	847+15.54
EBFR1-50	3° 14′ 24.94" LT	1° 59′ 59.47"	81.03′	162.02′	2,865.00′	S 72° 23′ 57.93" E	S 75° 38′ 22.87" E	849+21.71	848+40.68	850+02.70
EBFR1-51	2° 36′ 10.02" LT	0° 59′ 59.73"	130.17′	260.30′	5,730.00′	S 75° 38′ 22.87" E	S 78° 14′ 32.90" E	860+59.04	859+28.87	861+89.17
EBFR1-52	3° 14′ 31.45" RT	0° 59′ 59.73"	162.16′	324.23′	5,730.00′	S 78° 14′ 32.90" E	S 75° 00′ 01.45" E	863+51.33	861+89.17	865+13.40
EBFR1-53	0° 33′ 16.84" LT	0° 29′ 59.87"	55.47′	110.94′	11,460.00′	S 75° 00′ 01.45" E	S 75° 33′ 18.29" E	891+50.00	890+94.53	892+05.47
EBFR1-54	0° 35′ 34.75" RT	0° 29′ 59.87"	59.30′	118.61′	11,460.00′	S 75° 33′ 18.29" E	S 74° 57′ 43.54" E	893+50.01	892+90.71	894+09.31
WBFR2-17	1° 26′ 42.18" LT	0° 59′ 59.73"	72.26′	144.52′	5,730.00′	S 73° 33′ 19.26" E	S 75° 00′ 01.45" E	845+77.81	845+05.55	846+50.07
WBFR2-18	2° 49′ 56.62" RT	0° 59′ 59.73"	141.66′	283.26′	5,730.00′	S 75° 00′ 01.45" E	S 72° 10′ 04.83" E	861+02.36	859+60.70	862+43.96
WBFR2-19	2° 49′ 56.62" LT	0° 59′ 59.73"	141.66′	283.26′	5,730.00′	S 72° 10′ 04.83" E	S 75° 00′ 01.45" E	863+85.62	862+43.96	865+27.22
REWILSON20W-1	6° 23′ 38.42" LT	1° 00′ 18.68"	318.38′	636.10′	5,700.00′	S 72° 51′ 23.03" E	S 79° 15′ 01.45" E	47+18.38	44+00.00	50+36.10
REWILSON20W-2	4° 15′ 00.00" RT	5° 27′ 24.27"	38.96′	77.89′	1,050.00′	S 79° 15′ 01.45" E	S 75° 00′ 01.45" E	58+86.56	58+47.60	59+25.49
RX20EWILSON-1	4° 51′ 37.67" RT	0° 43′ 30.95"	335.28′	670.17′	7,900.00′	S 74° 51′ 39.12" E	S 70° 00′ 01.45" E	50+35.28	47+00.00	53+70.17
RX20EWILSON-2	5° 38′ 21.43" LT	5° 27′ 24.27"	51.71′	103.35′	1,050.00′	S 70° 00′ 01.45" E	S 75° 38′ 22.87" E	58+40.82	57+89.11	58+92.45

SUPERELEVATION DATA

CROSS SLOPE LT	STATION LT	CHAIN NAME	STATION RT	CROSS SLOPE RT
-3.80%	845+00.00	IH20	845+00.00	3.80%
-3.80%	846+25.00		846+25.00	3.80%
-1.56%	847+50.00		849+25.00	-1.56%
-1.56%	910+00.00		910+00.00	-1.56%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
EBFR1	845+00.00	2.00%	-2.00%
	910+00.00	2.00%	-2.00%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
WBFR2	845+00.00	-2.00%	2.00%
	910+00.00	-2.00%	2.00%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
RX20EWILSON	54+39.44	1.56%	-1.56%
	54+55.00	2.00%	-2.00%
	56+78.00	2.00%	-2.00%

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
REWILSON20W	51+58.42	-1.56%	1.56%
	51+75.00	-2.00%	2.00%
	55+08.74	-2.00%	2.00%

Texas Department of Transportation
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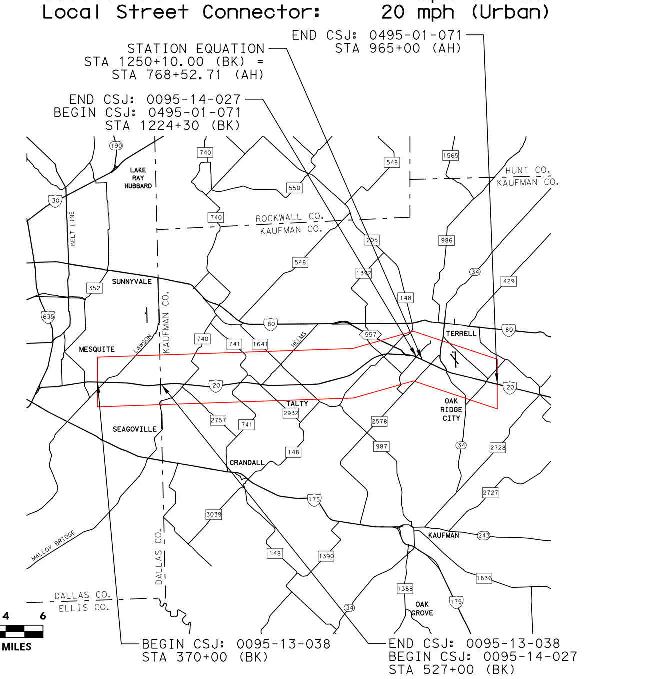
Dallas District
Mohamed K. Bur, P.E.
Dallas District Engineer
IH 20
DESIGN SCHEMATIC
From: Lawson Road
To: East of Wilson Road (CR 138)
CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071
Dallas and Kaufman Counties
Project Length: 20.390 Miles
Functional Class
Mainlane = Interstate
Frontage Road = Major Collector
Design Speed
Mainlanes: 70 mph
Ramps: 50 mph
Direct Connectors: 40-50 mph
Turnarounds: 15 mph
Frontage Roads: 40 mph (Urban)
SPUR 557 Frontage Road: 30 mph (Urban)
Arterials: 40 mph (Urban)
Collectors: 30 mph (Urban)
Local Street Connector: 20 mph (Urban)



Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'
MARCH 2020
PRELIMINARY
SUBJECT TO REVISIONS
SCHEMATIC PREPARED BY OR UNDER THE DIRECT SUPERVISION OF:
JASON A. RICHTER 114508
ALEXANDER S. KEMP 133019
3/31/2020
DATE
100%
PRELIMINARY, SUBJECT TO CHANGE
NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES
ROLL 13 OF 30
HDR
Firm Registration No. F-754
17111 Preston Road, Suite 300
Dallas, Texas 75248
972.960.4400

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Dallas District

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

IH 20

DESIGN SCHEMATIC

From: Lawson Road
To: East of Wilson Road (CR 138)

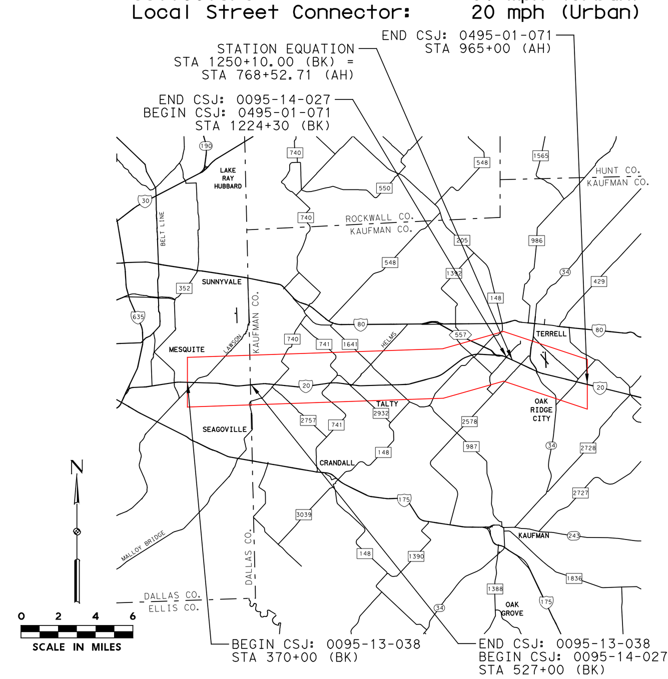
CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles

Functional Class

Mainlane	= Interstate
Frontage Road	= Major Collector

	Design Speed
Mainlanes:	70 mph
Ramps:	50 mph
Direct Connectors:	40-50 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 557 Frontage Road:	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connector:	20 mph (Urban)



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ROLL 14 OF 30

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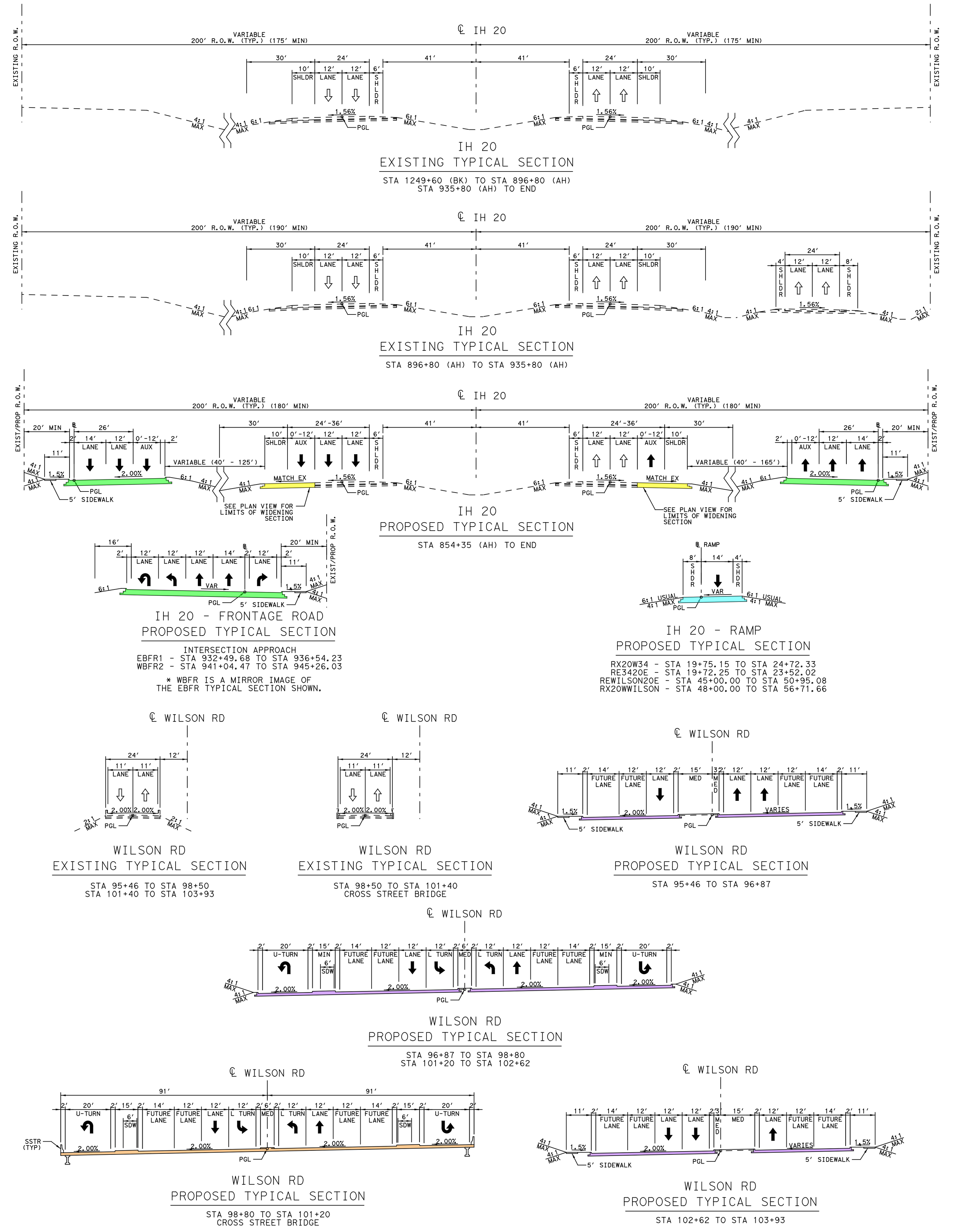

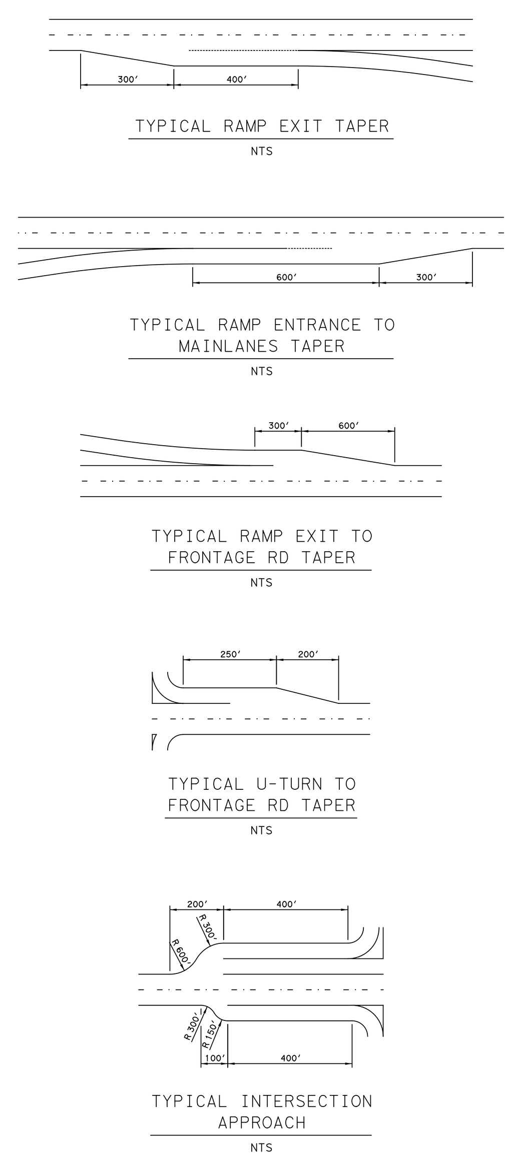

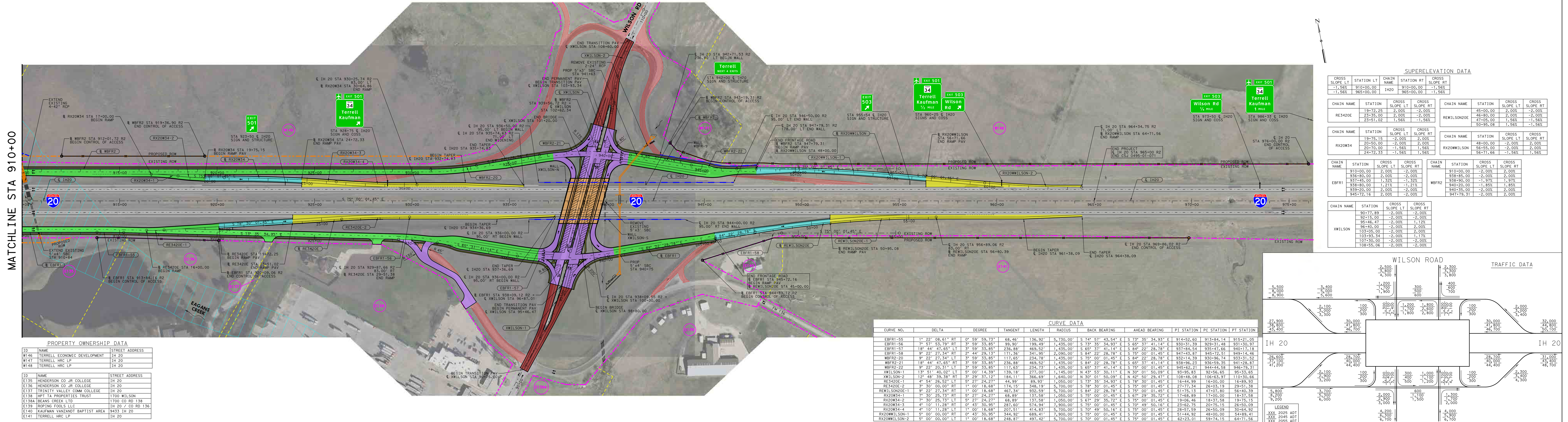

LEGEND

- FLOODPLAIN
- PAVEMENT REMOVAL
- PAVEMENT REMOVAL BY OTHERS
- MAINLANES
- FRONTAGE ROADS
- RAMPS
- BRIDGES
- CROSS STREETS/LOCAL ROADS
- LOCAL STREET CONNECTOR
- TRANSITIONS
- SIDEWALKS
- BY OTHERS
- PROPOSED RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY BY OTHERS
- CONTROL OF ACCESS
- PROPOSED DRAINAGE EASEMENT
- EXISTING RIGHT-OF-WAY
- PROPERTY LINES
- RETAINING WALLS

NOTES

1. EXISTING FEATURES WERE NOT FIELD SURVEYED. SCHEMATICS ARE BASED UPON AERIAL SURVEYS PROVIDED IN AUGUST 2016 AND RECORD PLANS.
2. PROPERTY LINES ARE SHOWN FOR REFERENCE ONLY.
3. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM DALLAS AND KAUFMAN COUNTY APPRAISAL DISTRICTS (JULY 2017).
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Scale: Horizontal 1"=200'
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ROLL 14 OF 30

Texas Department of Transportation

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Dallas District

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IH 20

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From: Lawson Road
To: East of Wilson Road (CR 138)

CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles

Functional Class

Mainlane = Interstate
Frontage Road = Major Collector

	Design Speed
Mainlanes:	70 mph
Ramps:	50 mph
Direct Connectors:	40-50 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
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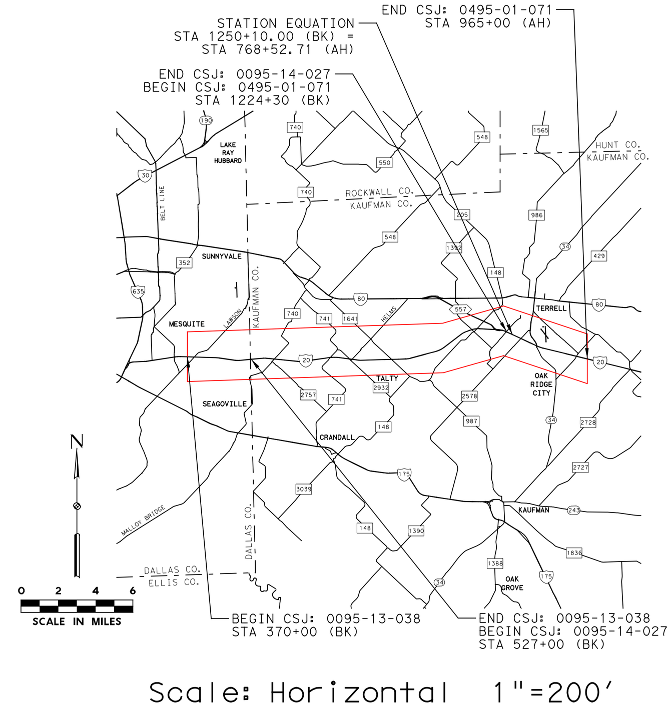

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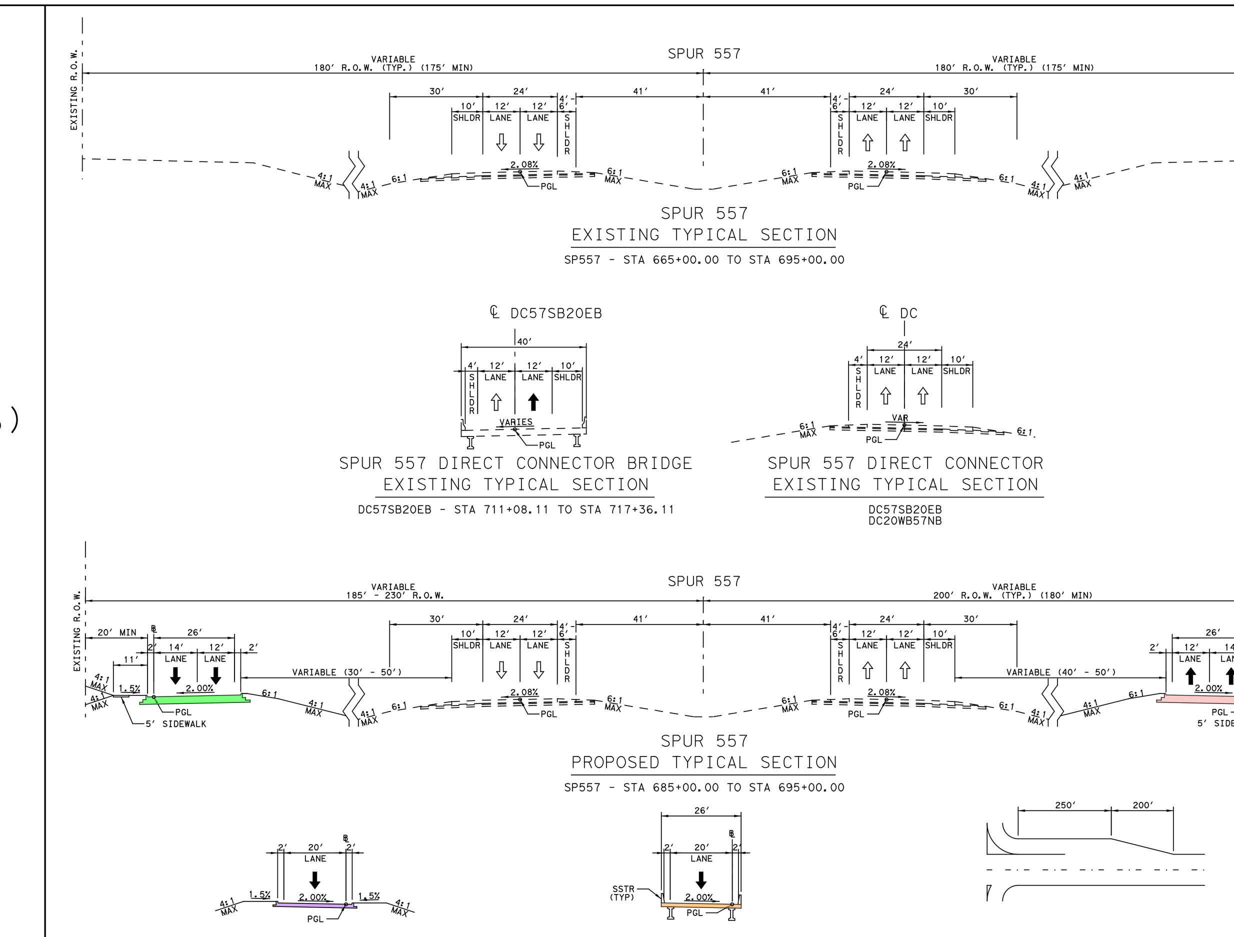

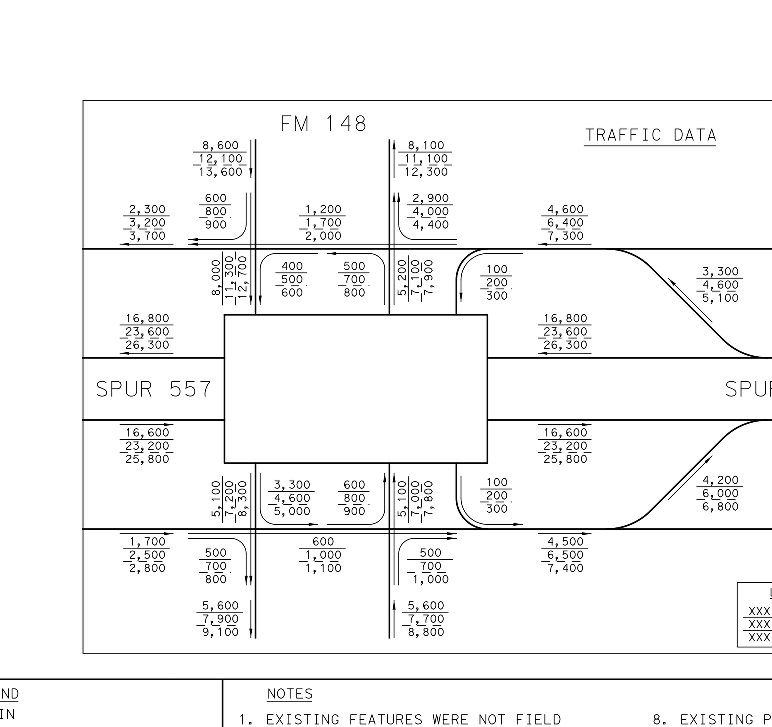

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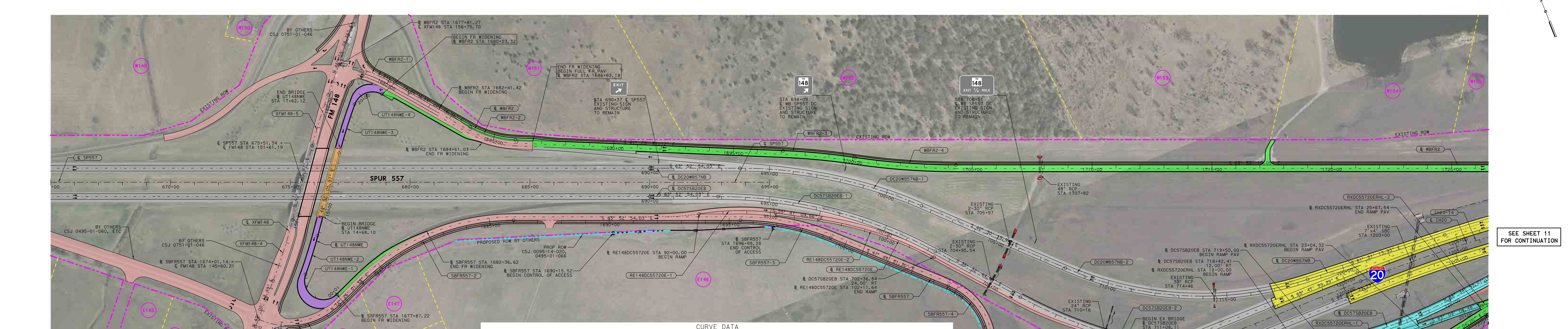


CURVE DATA

CURVE NO.	DELTA	DEGREE	TANGENT	LENGTH	RADIUS	BACK BEARING	AHEAD BEARING	PI STATION	PC STATION	PT STATION
IH20-14	21° 54' 10.95" RT	1° 00' 00.00"	1,108.69'	2,190.30'	5,729.58'	S 85° 47' 39.29" E	S 63° 53' 28.34" E	1211+83.20	1200+74.51	1222+64.81
DC20WB57NB-1	23° 22' 38.09" RT	3° 00' 00.00"	395.12'	779.24'	1,909.86'	S 63° 52' 54.03" E	S 40° 30' 15.94" E	697+71.46	693+76.34	701+55.58
DC20WB57NB-2	41° 20' 57.99" LT	4° 00' 00.00"	540.53'	1,033.74'	1,432.39'	S 40° 30' 15.94" E	S 81° 51' 13.93" E	713+50.50	708+09.96	718+43.70
DC57SB20EB-1	28° 20' 09.99" RT	3° 00' 00.00"	482.14'	944.54'	1,909.86'	S 63° 52' 54.03" E	S 35° 32' 44.04" E	697+67.56	692+85.42	702+29.96
DC57SB20EB-2	55° 52' 22.89" LT	3° 00' 00.00"	1,012.78'	1,862.43'	1,909.86'	S 35° 32' 44.04" E	N 88° 34' 53.07" E	716+46.17	706+33.40	724+95.83
SBFR557-1	69° 09' 57.91" LT	18° 50' 50.27"	209.58'	366.98'	304.00'	S 39° 24' 00.76" E	N 71° 26' 01.33" E	1676+09.58	1674+00.00	1677+66.98
SBFR557-2	44° 41' 04.63" RT	6° 21' 58.31"	369.89'	701.90'	900.00'	N 71° 26' 01.33" E	S 63° 52' 54.03" E	1682+68.18	1678+98.28	1686+00.19
SBFR557-3	22° 08' 02.73" RT	5° 43' 46.48"	195.59'	386.31'	1,000.00'	S 63° 52' 54.03" E	S 41° 44' 51.30" E	1697+42.58	1695+46.99	1699+33.30
SBFR557-4	135° 58' 01.27" RT	20° 45' 33.63"	682.56'	654.97'	276.00'	S 41° 44' 51.30" E	N 85° 46' 50.03" W	1711+45.17	1704+62.61	1711+17.58
WBFR2-1	10° 41' 01.35" RT	10° 11' 41.92"	52.55'	104.79'	562.00'	S 45° 03' 20.21" E	S 34° 22' 18.86" E	1679+52.55	1679+00.00	1680+04.79
WBFR2-2	27° 07' 32.26" LT	13° 42' 25.65"	100.84'	197.89'	418.00'	S 34° 22' 18.86" E	S 61° 29' 51.12" E	1684+91.91	1683+91.07	1685+88.97
WBFR2-3	6° 03' 02.15" RT	1° 59' 59.47"	151.42'	302.55'	2,865.00'	S 61° 29' 51.12" E	S 55° 26' 48.96" E	1698+58.51	1697+07.10	1700+09.65
WBFR2-4	8° 26' 30.09" LT	1° 59' 59.47"	211.44'	422.12'	2,865.00'	S 55° 26' 48.96" E	S 63° 53' 19.05" E	1702+21.09	1700+09.65	1704+31.77
XFM148-3	2° 51' 16.36" RT	2° 59' 59.20"	47.59'	95.16'	1,910.00'	N 44° 08' 57.13" E	N 47° 00' 13.49" E	144+79.34	144+31.75	145+26.91
XFM148-4	6° 08' 07.53" LT	2° 17' 30.59"	133.98'	267.71'	2,500.00'	N 47° 00' 13.49" E	N 40° 52' 05.97" E	148+65.12	147+31.14	149+98.85
XFM148-5	5° 07' 02.79" RT	2° 17' 30.59"	111.72'	223.29'	2,500.00'	N 40° 52' 05.97" E	N 45° 59' 08.76" E	154+30.39	153+18.67	155+41.96
RE148DC55720E-1	17° 29' 44.89" RT	5° 27' 24.27"	161.57'	320.63'	1,050.00'	S 73° 16' 54.55" E	S 55° 47' 09.66" E	93+61.57	92+00.00	95+20.63
RE148DC55720E-2	20° 14' 25.63" RT	3° 58' 43.94"	257.03'	508.70'	1,440.00'	S 55° 47' 09.66" E	S 35° 32' 44.04" E	99+59.97	97+02.94	102+11.64
RXDC55720ERHL-1	11° 20' 08.57" LT	2° 59' 59.20"	189.56'	377.88'	1,910.00'	S 71° 48' 57.91" E	S 83° 09' 06.48" E	21+69.21	19+79.65	23+57.54
RXDC55720ERHL-2	6° 41' 44.96" LT	5° 27' 24.27"	61.42'	122.71'	1,050.00'	S 83° 09' 06.48" E	S 89° 50' 51.43" E	26+40.19	25+78.76	27+01.47
UT148NWE-1	154° 39' 16.45" RT	71° 37' 11.01"	355.78'	215.94'	80.00'	S 71° 26' 01.33" W	N 46° 05' 17.78" E	13+55.78	10+00.00	12+15.94
UT148NWE-2	5° 13' 11.82" LT	3° 05' 07.42"	84.65'	169.18'	1,857.00'	N 46° 05' 17.78" E	N 40° 52' 05.97" E	13+00.59	12+15.94	13+85.12
UT148NWE-3	5° 08' 08.08" RT	2° 24' 15.68"	106.87'	213.59'	2,383.00'	N 40° 52' 05.97" E	N 46° 00' 14.05" E	18+48.64	17+41.77	19+55.37
UT148NWE-4	99° 37' 27.10" RT	71° 37' 11.01"	94.71'	139.10'	80.00'	N 46° 00' 14.05" E	S 34° 22' 18.86" E	20+50.07	19+55.37	20+94.47

SUPERELEVATION DATA

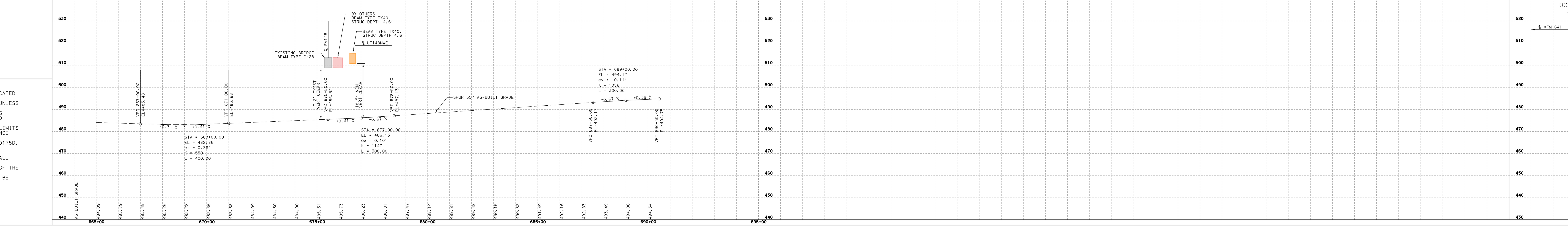
CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
WBFR2	1686+62.18	-2.00%	2.00%
	1727+00.00	-2.00%	2.00%

PROPERTY OWNERSHIP DATA

ID	NAME	STREET ADDRESS
E142	TERRELL 80/20 LTD	IH 20
E143	NOORANI ABDUL RASHID & DAR ENTERPRISES LLC	FM RD 148
E144	MANJI SULTANALI & FAIRSHARE ENTERPRISES LAND LLC	FM RD 148
E145	HALLE PROPERTIES LLC	FM RD 148
E146	TERRELL MARKET CENTER LTD	FM RD 148
E147	TERFIS LLC	FM RD 148
E148	BAYLOR HEALTH CARE SYSTEMS	IH 20

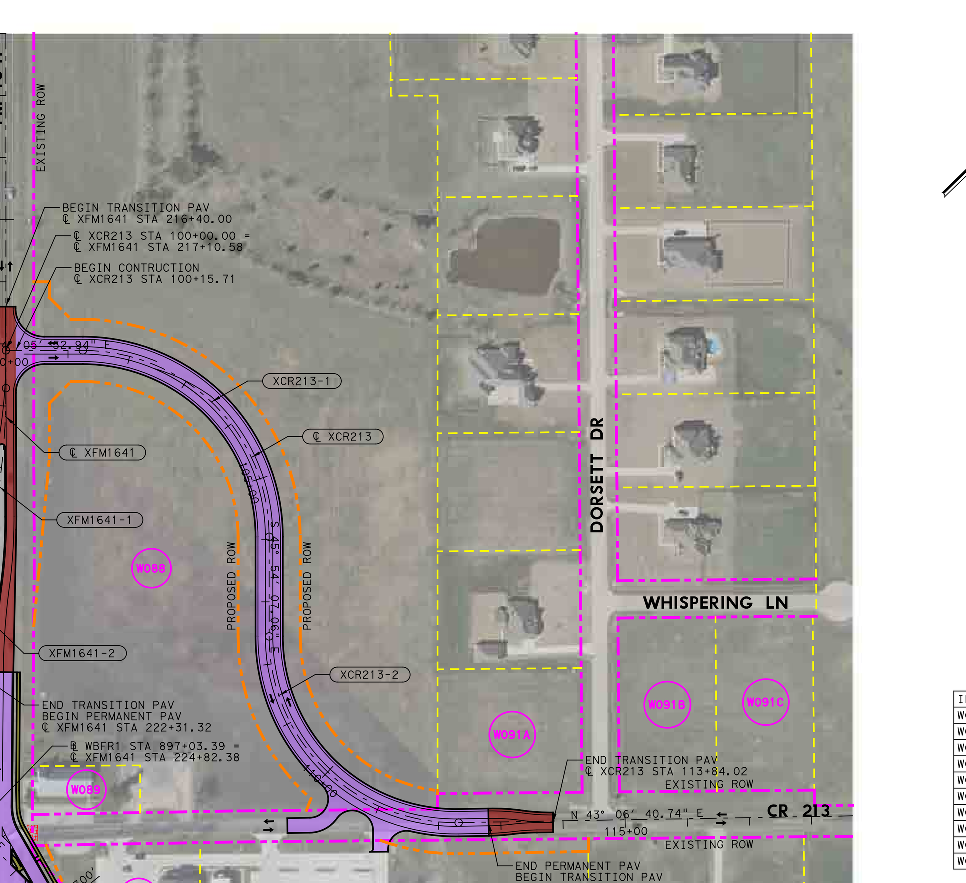
PROPERTY OWNERSHIP DATA

ID	NAME	STREET ADDRESS
W149	TERRELL ECONOMIC DEVELOPMENT	IH 20
W150	ALMO INVESTMENT LTD	1100 FM RD 148
W151	FULSON TERRELL PARTNERS LP	FM RD 148
W152	FULSON TERRELL PARTNERS LP	IH 20
W153	SPUR557TERRELL	IH 20
W154	SPUR557TERRELL	IH 20
W155	SPUR557TERRELL	IH 20



CURVE DATA

CURVE NO.	DELTA	DEGREE	TANGENT	LENGTH	RADIUS	BACK BEARING	AHEAD BEARING	PI STATION	PC STATION	PT STATION
XCR213-1	90° 00' 00.00" RT	19° 05' 54.94"	300.00'	471.24'	300.00'	N 44° 05' 52.94" E	S 45° 54' 07.06" E	104+23.79	101+23.79	105+95.02
XCR213-2	90° 59' 12.20" LT	19° 05' 54.94"	305.21'	476.41'	300.00'	S 45° 54' 07.06" E	N 43° 06' 40.74" E	110+60.73	107+55.52	112+31.92
XFM1641-1	11° 58' 38.10" RT	5° 00' 14.39"	120.11'	239.35'	1,145.00'	S 45° 54' 07.06" E	S 33° 55' 28.96" E	218+91.50	217+71.38	220+10.74
XFM1641-2	11° 32' 56.99" LT	5° 00' 14.39"	115.79'	230.80'	1,145.00'	S 33° 55' 28.96" E	S 45° 28' 25.95" E	221+26.53	220+10.74	222+41.54

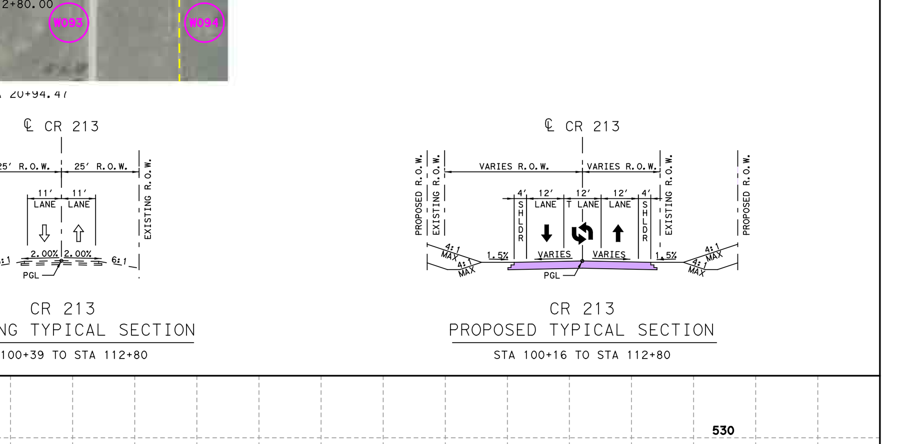


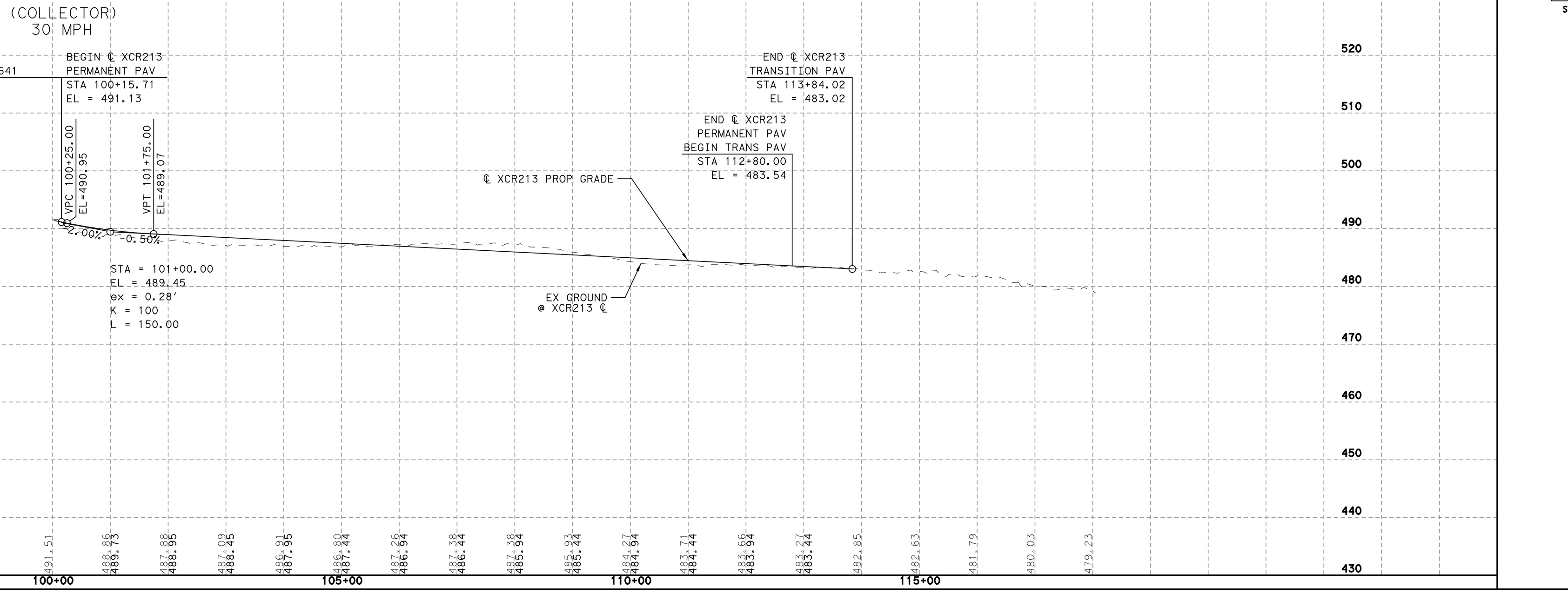
SUPERELEVATION DATA

CHAIN NAME	STATION	CROSS SLOPE LT	CROSS SLOPE RT
XCR213	100+15.71	0.00%	0.00%
	101+50.00	2.00%	-2.00%
	105+85.00	2.00%	-2.00%
	106+45.00	-2.00%	-2.00%
	107+05.00	-2.00%	-2.00%
	107+65.00	-2.00%	2.00%
	112+20.00	-2.00%	2.00%
	112+80.00	-2.00%	-2.00%
	113+84.04	-2.00%	-2.00%

PROPERTY OWNERSHIP DATA

ID	NAME	STREET ADDRESS
W087	WHALEY HELEN M	IH 20
W088	GMC LLC	FM RD 1641
W089	ST MARTIN CATHOLIC CHURCH	9772 FM RD 1641
W090	ST MARTIN CATHOLIC CHURCH	9470 CO RD 213
W091	ROMAN CATHOLIC DIOCESE DALLAS	CO RD 213
W091A	LANEY COREY R & CARLA F	10011 DORSETT DR
W091B	SHAW AARON P & CHARMAINE G	11000 WHISPERING LN
W091C	MORETT BRYAN C & CARLA	11022 WHISPERING LN
W093	CROSSROADS BIBLE CHURCH	9664 CO RD 213
W094	STEPHENS PATRICIA ANN	CO RD 213





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Dallas District
Mohamed K. Bur, P.E.
Dallas District Engineer
IH 20
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To: East of Wilson Road (CR 138)
CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071
Dallas and Kaufman Counties
Project Length: 20.390 Miles
Functional Class
Mainlane = Interstate
Frontage Road = Major Collector
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Ramps: 50 mph
Direct Connectors: 40-50 mph
Turnarounds: 15 mph
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SPUR 557 Frontage Road: 30 mph (Urban)
Arterials: 40 mph (Urban)
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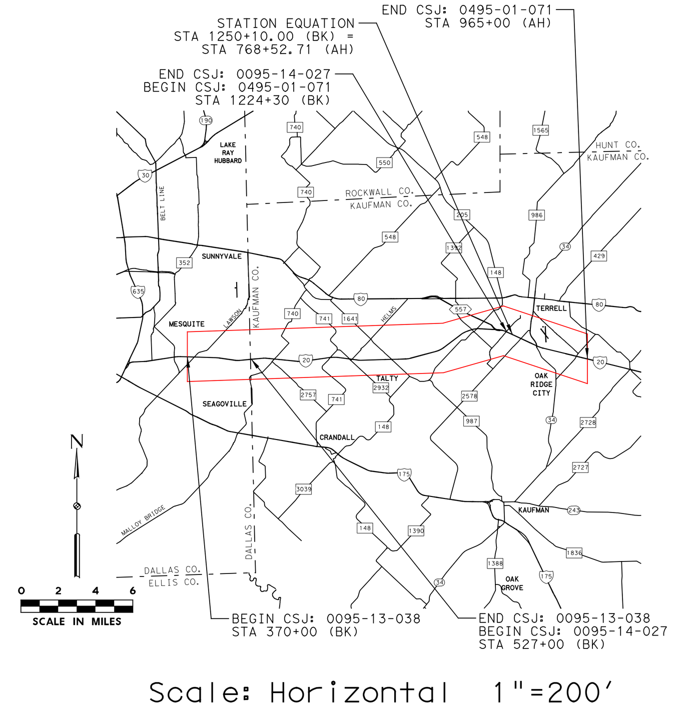

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JASON A. RICHTER 114508
ALEXANDER S. KEMP 133019
3/31/2020
100% PRELIMINARY, SUBJECT TO CHANGE
NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES
ROLL 15 OF 30
HDR
Firm Registration No. F-754
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972.960.4400

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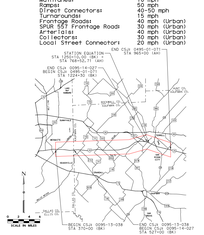

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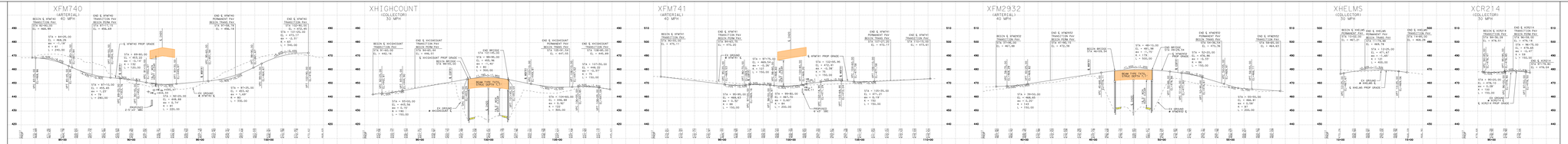

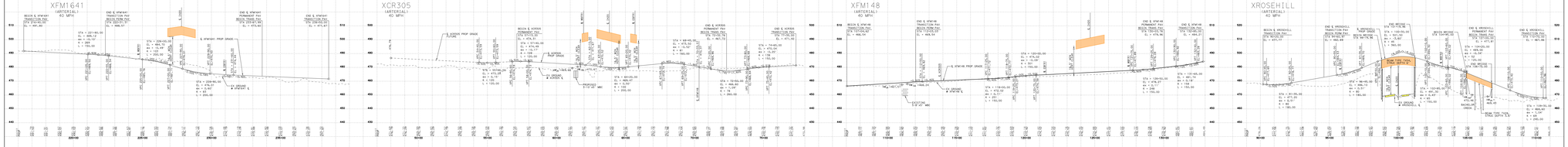

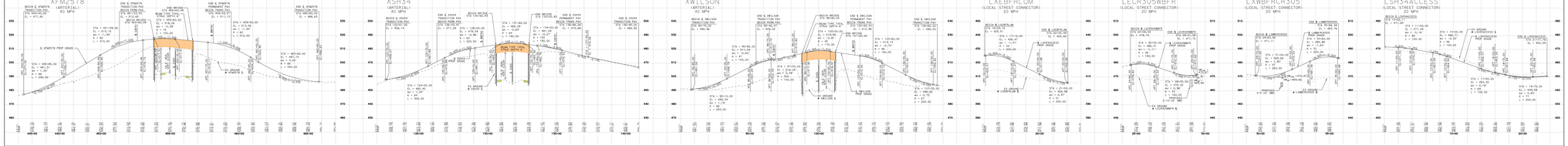

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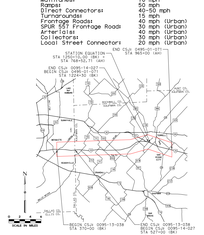

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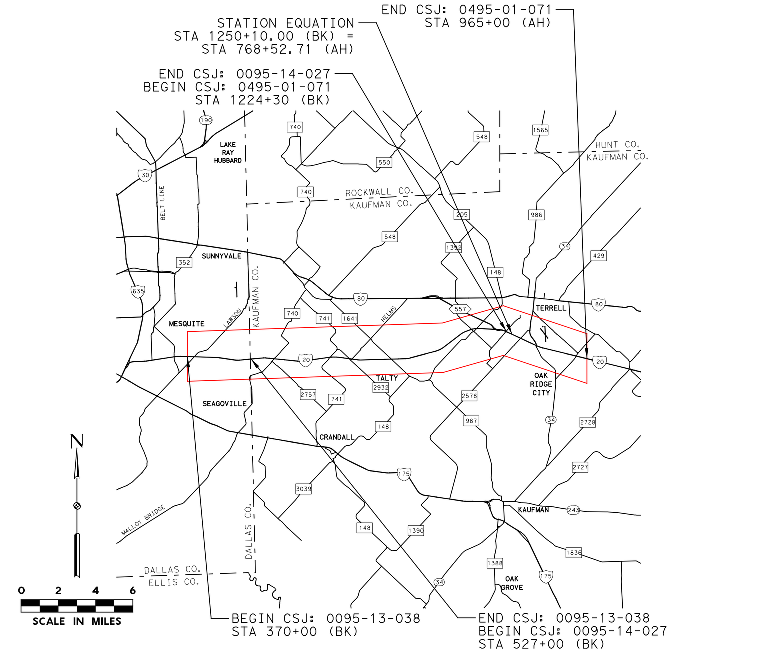

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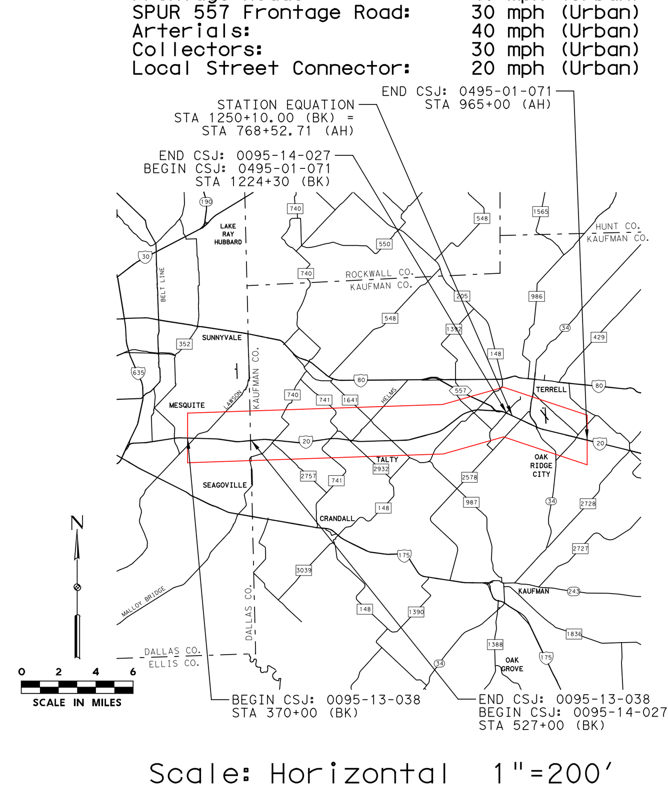

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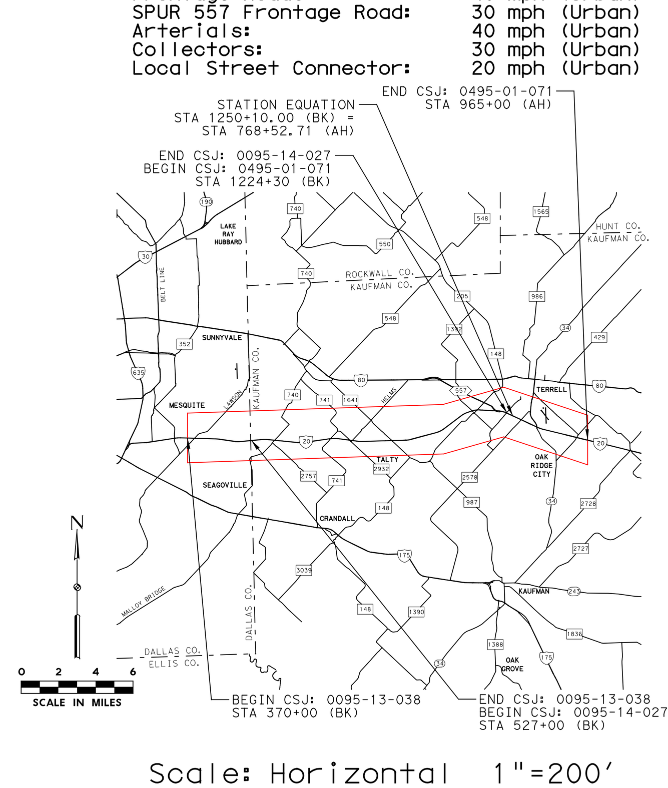

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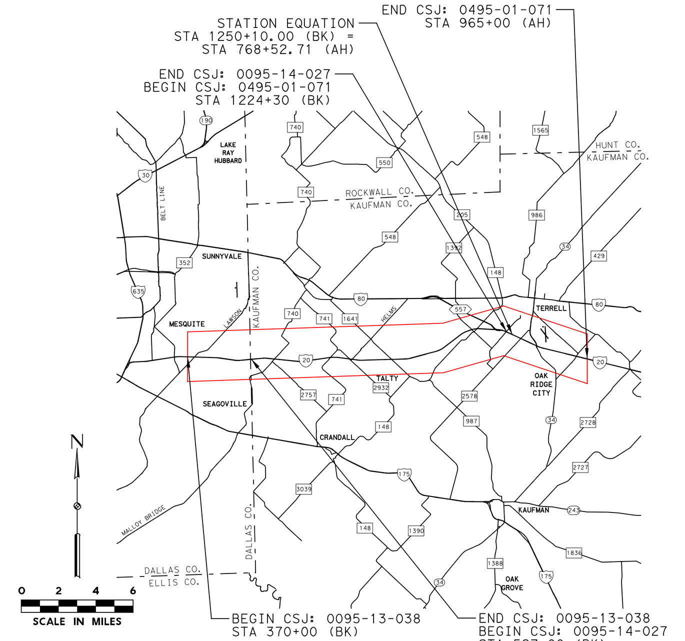

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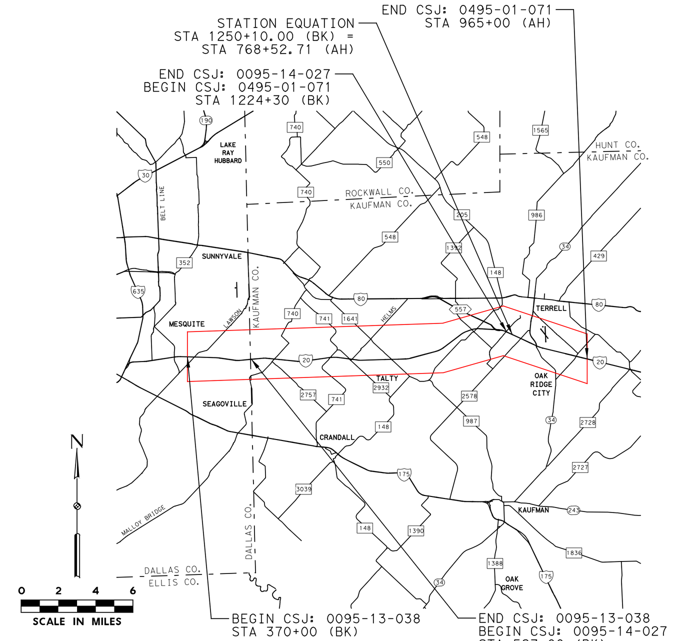

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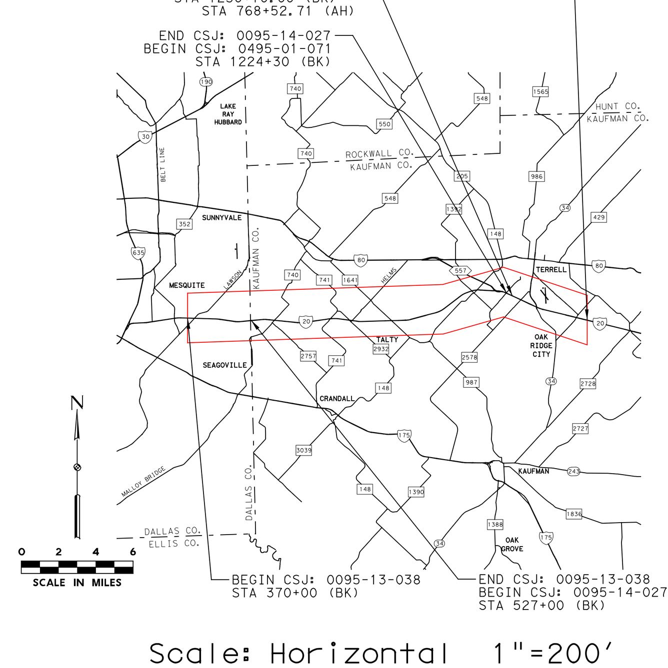

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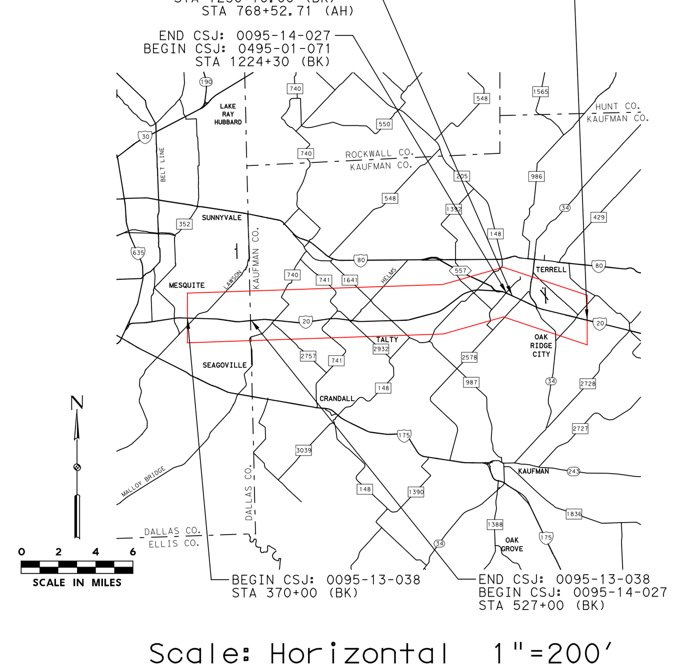

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Dallas District

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

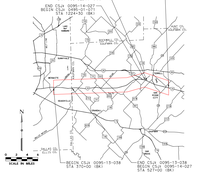
IH 20
DESIGN SCHEMATIC
From: Lawson Road
To: East of Wilson Road (CR 138)

CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles
Functional Class

Mainlane = Interstate
Frontage Road = Major Collector

	Design Speed
Mainlanes:	70 mph
Ramps:	50 mph
Frontage Connectors:	40 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 557 Frontage Roads:	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connectors:	20 mph (Urban)



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MARCH 2020

PRELIMINARY
SUBJECT TO REVISIONS
SCHEMATIC PREPARED UNDER
THE DIRECT SUPERVISION OF:

JASON R. BUCHER — 140108
NAME — P.E. NUMBER

ALEXANDER L. KEMP — 139313
NAME — P.E. NUMBER

3/31/2020
DATE

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ROLL 21 OF 30

HDR
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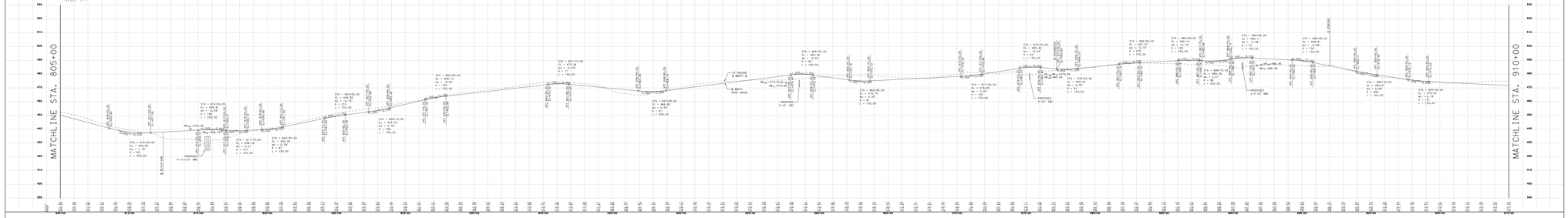

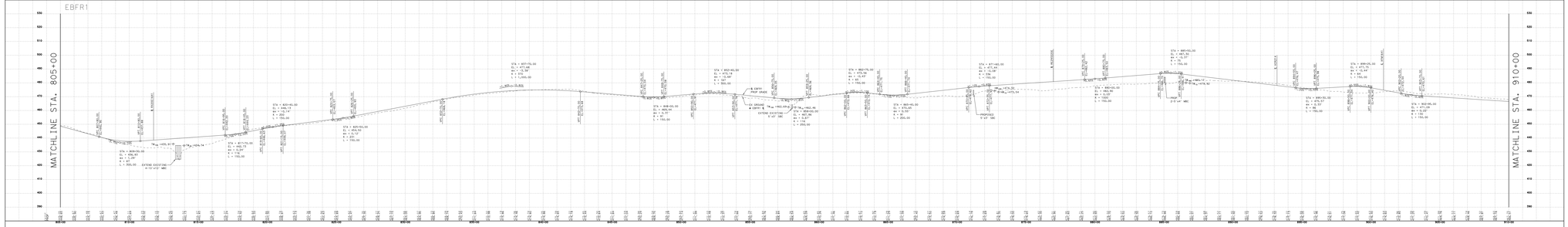

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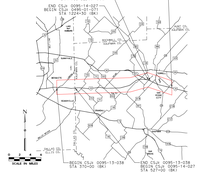

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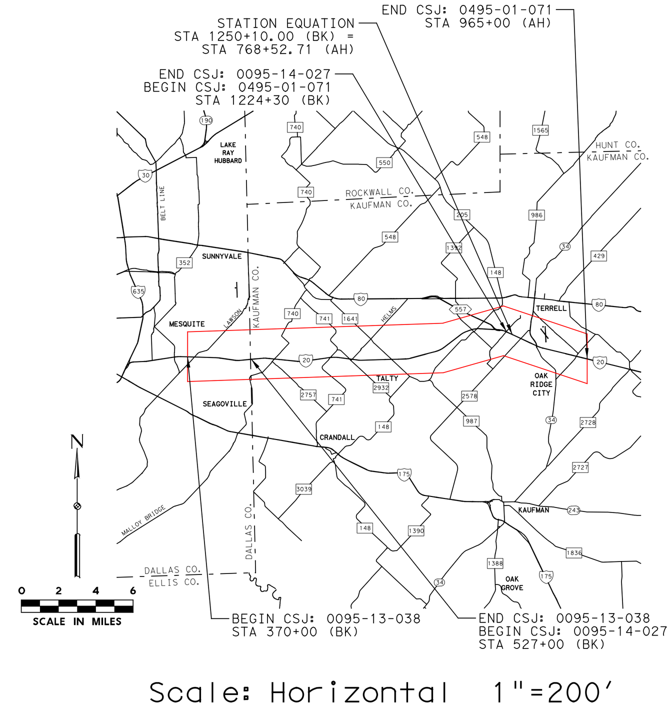

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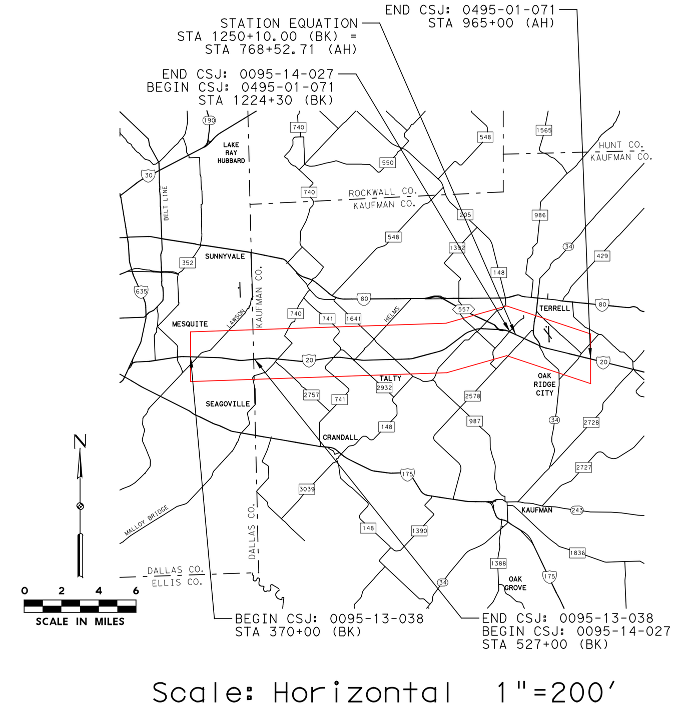

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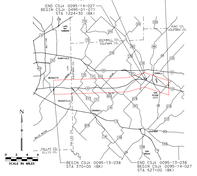

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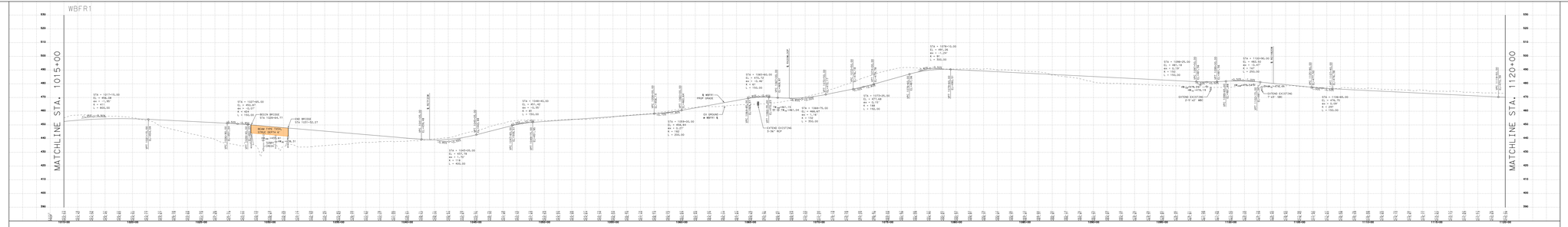

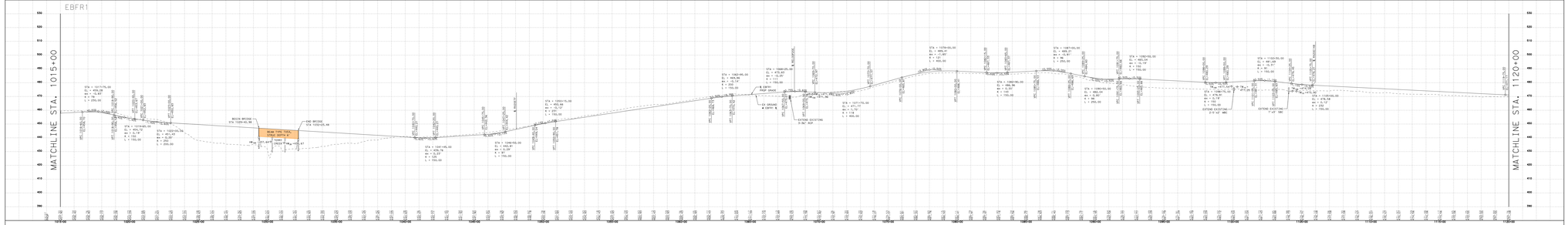

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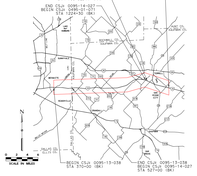

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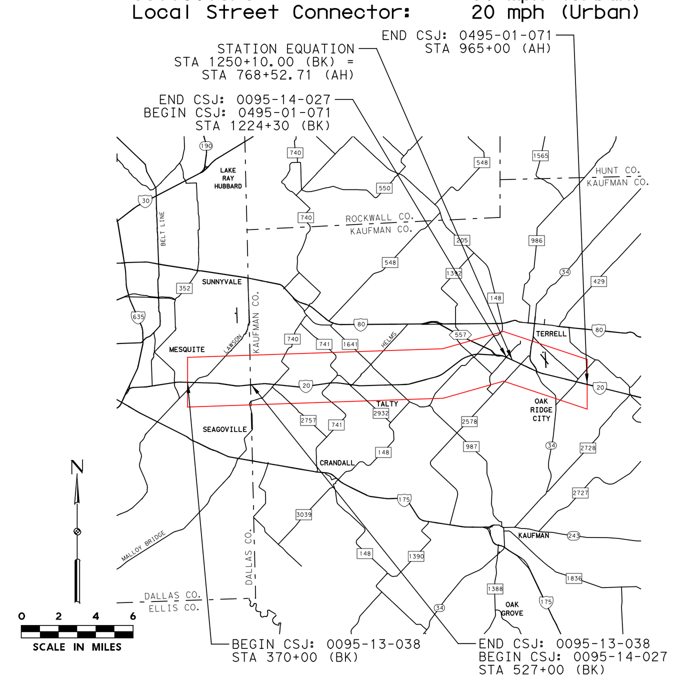

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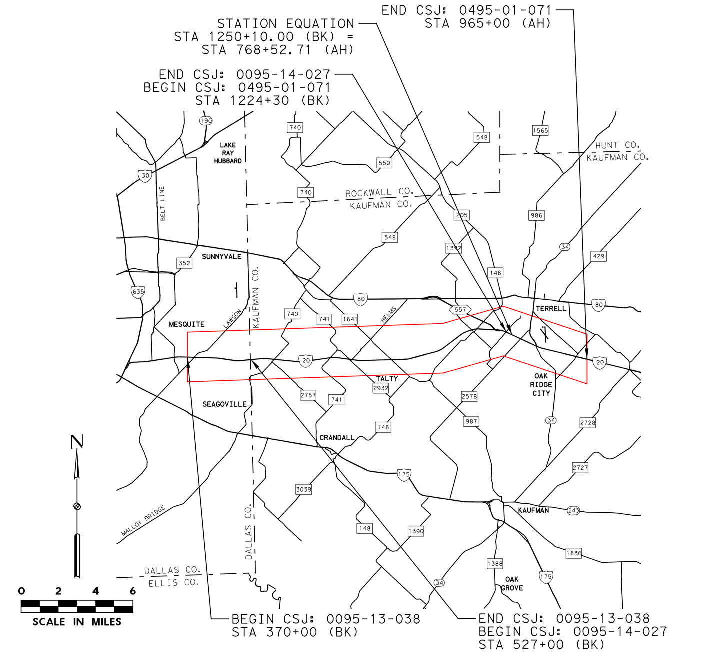

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EBFR1

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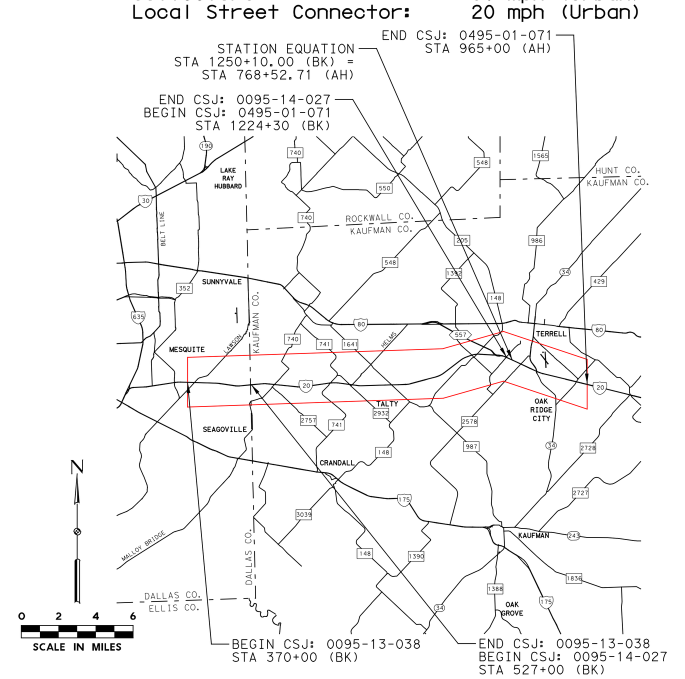

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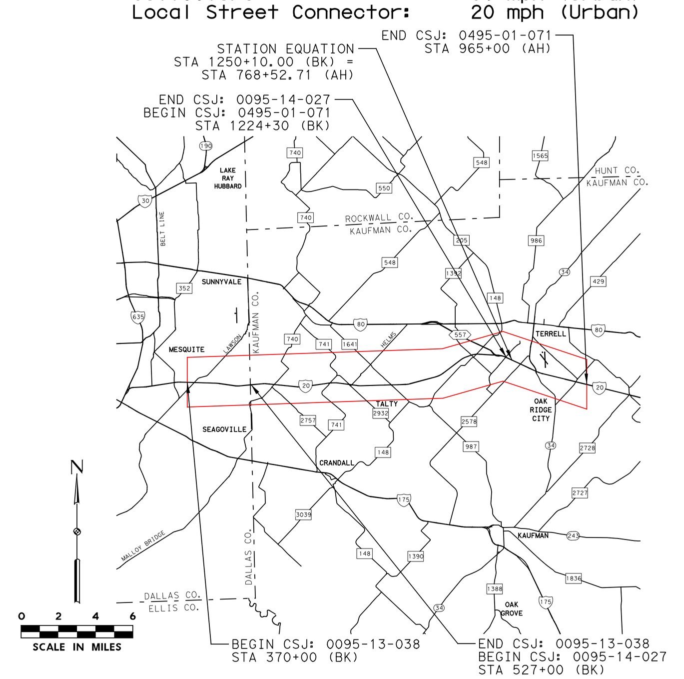

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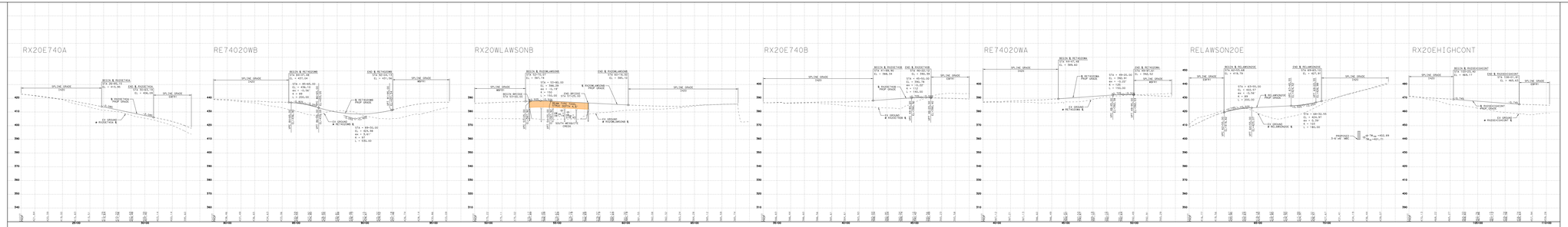

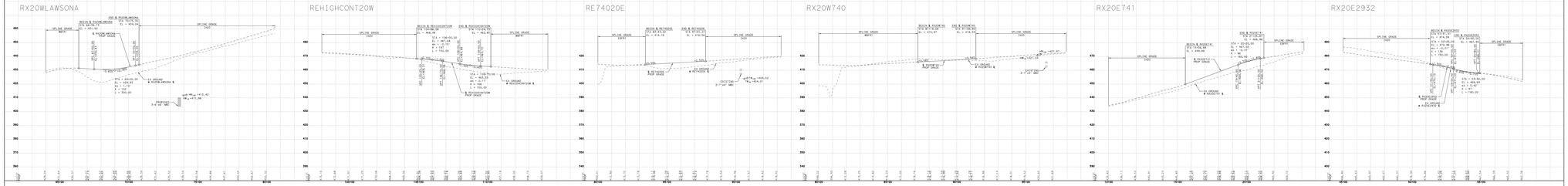

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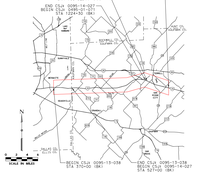
Collectors:	30 mph (Urban)
Local Street Connectors:	20 mph (Urban)



Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'

MARCH 2020

PRELIMINARY
SUBJECT TO REVISIONS
SCHEMATIC PREPARED UNDER THE DIRECT SUPERVISION OF:

JASON B. BUCHER — 140108
NAME — P.E. NUMBER

ALEXANDER S. KEMP — 139313
NAME — P.E. NUMBER

3/31/2020
DATE

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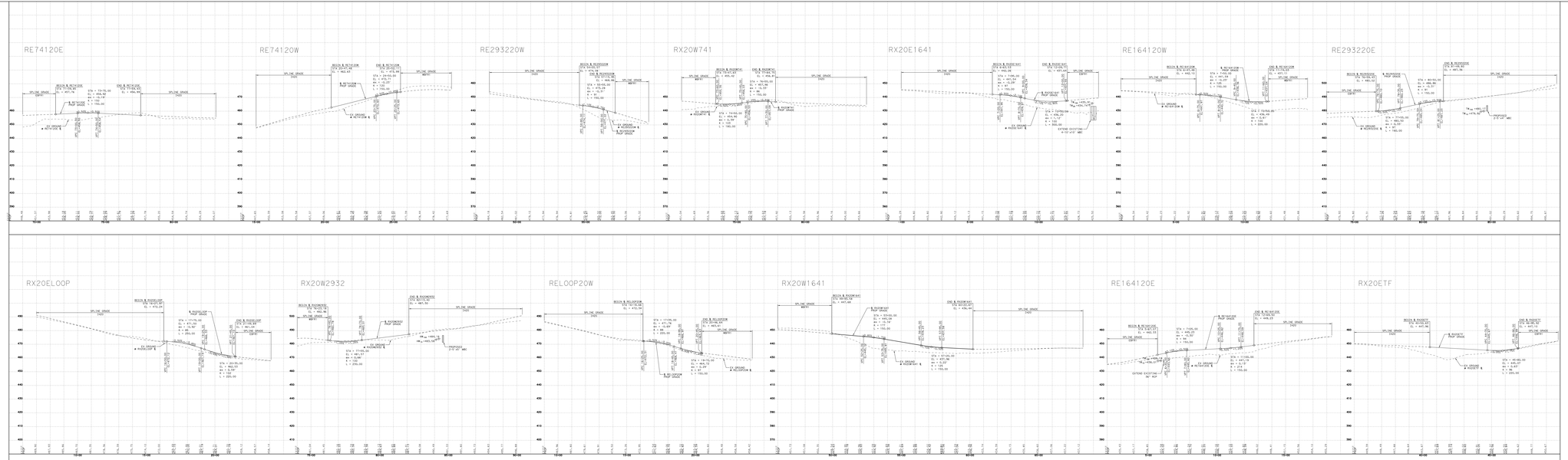
ROLL 28 OF 30

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



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Dallas District

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

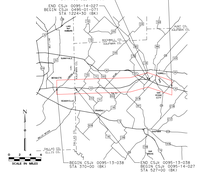
IH 20
DESIGN SCHEMATIC
From: Lawson Road
To: East of Wilson Road (CR 138)

CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles
Functional Class

Mainlane = Interstate
Frontage Road = Major Collector

	Design Speed
Mainlanes:	70 mph
Ramps:	50 mph
Ramp Connectors:	30 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 557 Frontage Roads:	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connectors:	20 mph (Urban)



Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'

MARCH 2020

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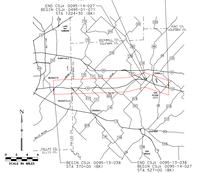
DESIGN SCHEMATIC
From: Lawson Road
To: East of Wilson Road (CR 138)

CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles
Functional Class

Mainlane = Interstate
Frontage Road = Major Collector

	Design Speed
Mainlanes:	70 mph
Ramps:	50 mph
Direct Connectors:	50 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 357 Frontage Roads	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connectors:	20 mph (Urban)



Scale: Horizontal 1"=200'
Scale: Vertical 1"=20'

MARCH 2020

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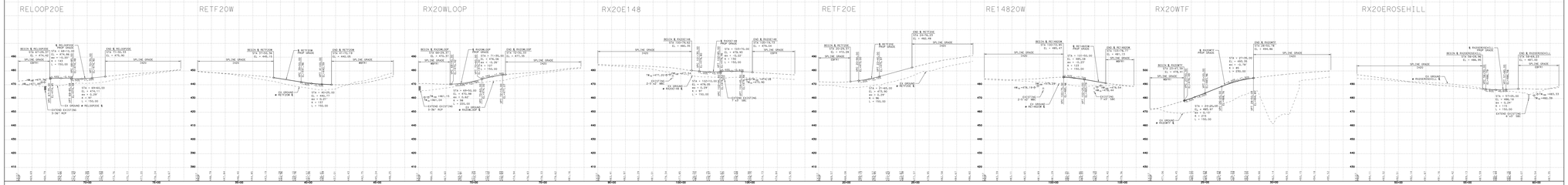

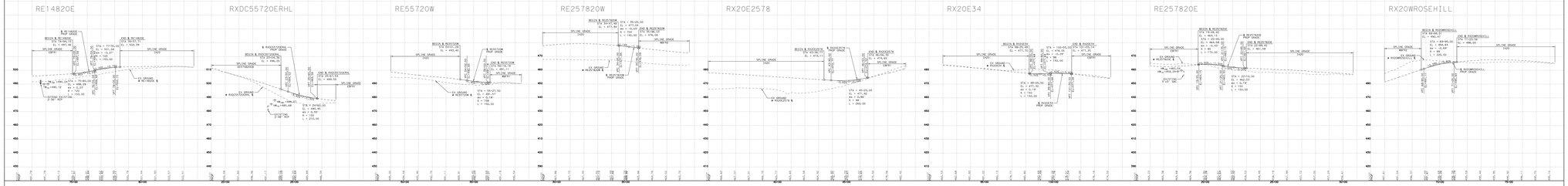

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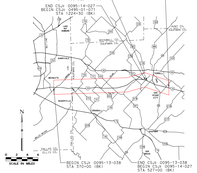
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles
Functional Class

Mainlane = Interstate
Frontage Road = Major Collector

	Design Speed
Mainlanes:	70 mph
Ramps:	50 mph
Direct Connectors:	50 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 357 Frontage Roads	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connectors:	20 mph (Urban)



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Scale: Vertical 1"=20'

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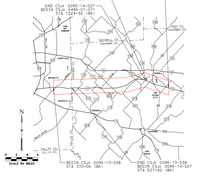
Ramps:	50 mph
Frontage Connectors:	30 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 557 Frontage Roads	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connectors:	20 mph (Urban)



Scale: Horizontal 1"=200'
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SUBJECT TO REVISIONS
SCHEMATIC PREPARED UNDER THE DIRECT SUPERVISION OF:

JASON R. BUCHER — 140108
NAME — P.E. NUMBER

ALEXANDER L. KEMP — 128313
NAME — P.E. NUMBER

3/31/2020
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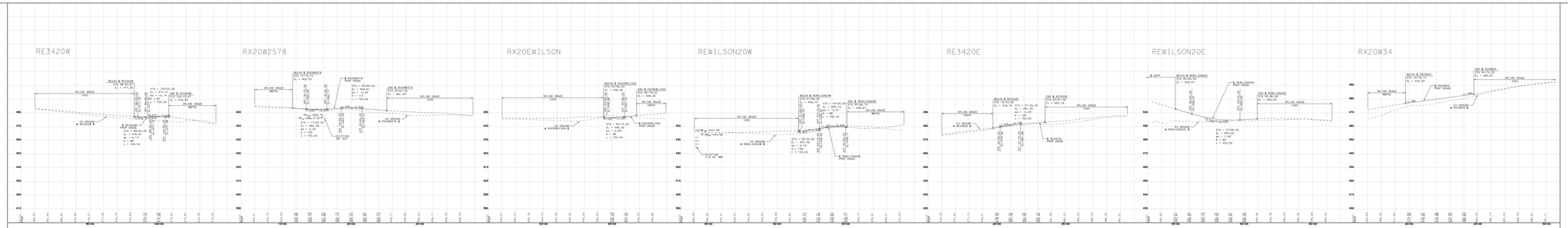

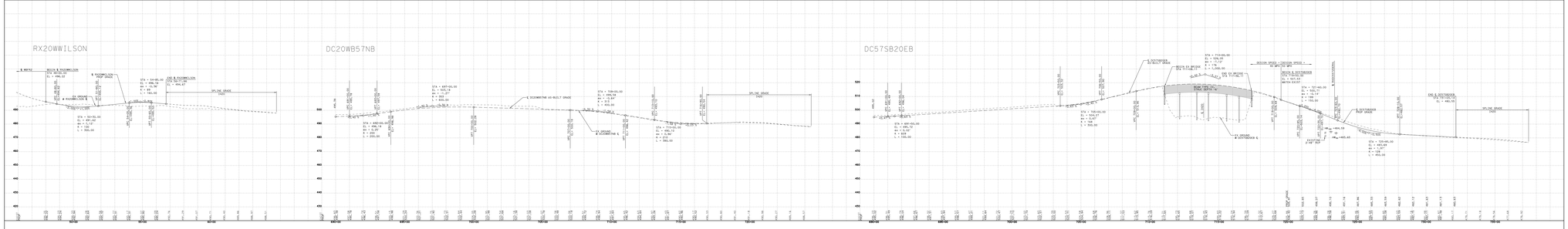

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Dallas District Engineer

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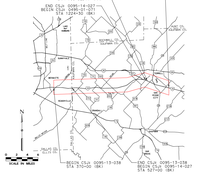
DESIGN SCHEMATIC
From: Lawson Road
To: East of Wilson Road (CR 138)

CSJ: 0095-13-038
CSJ: 0095-14-027
CSJ: 0495-01-071

Dallas and Kaufman Counties
Project Length: 20.390 Miles
Functional Class

Mainlane = Interstate
Frontage Road = Major Collector

	Design Speed
Mainlanes:	70 mph
Ramps:	50 mph
Frontage Connectors:	30 mph
Turnarounds:	15 mph
Frontage Roads:	40 mph (Urban)
SPUR 557 Frontage Roads	30 mph (Urban)
Arterials:	40 mph (Urban)
Collectors:	30 mph (Urban)
Local Street Connectors:	20 mph (Urban)



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Scale: Vertical 1"=20'

MARCH 2020

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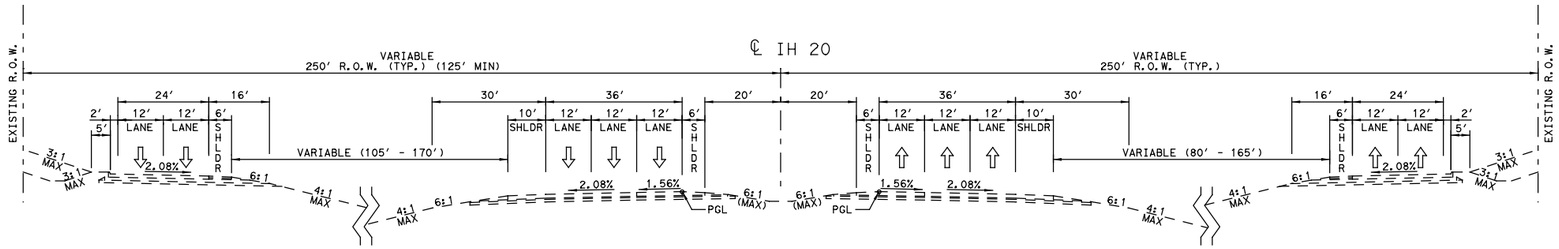
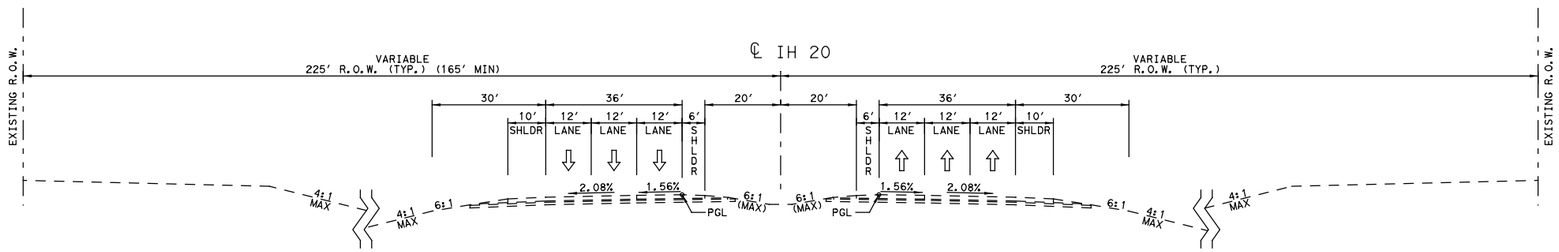
APPENDIX D

TYPICAL SECTIONS

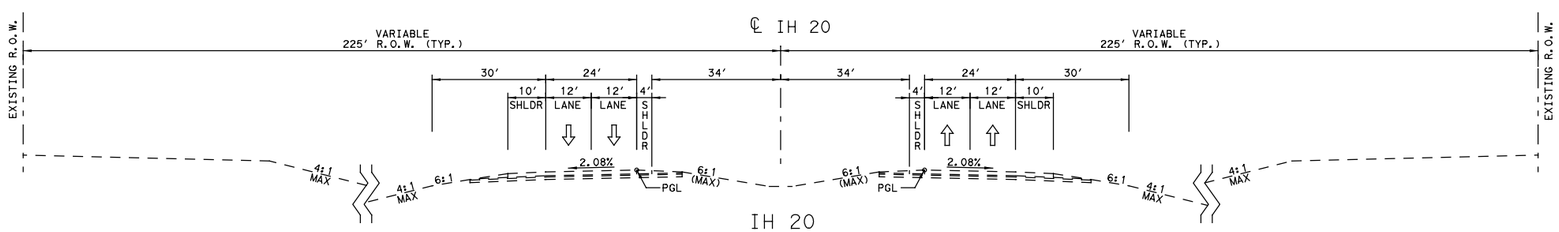
CONCEPTUAL



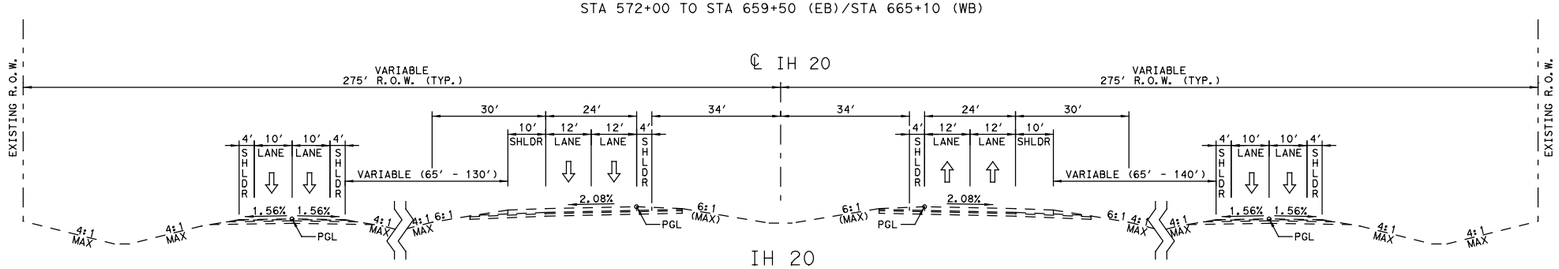
IH 20
EXISTING TYPICAL SECTION
BEGIN TO STA 418+65



IH 20
EXISTING TYPICAL SECTION
STA 418+65 TO STA 572+00



IH 20
EXISTING TYPICAL SECTION
STA 572+00 TO STA 659+50 (EB)/STA 665+10 (WB)



IH 20
EXISTING TYPICAL SECTION
STA 659+50 (EB)/STA 665+10 (WB) TO STA 699+50 (EB)/STA 705+00 (WB)

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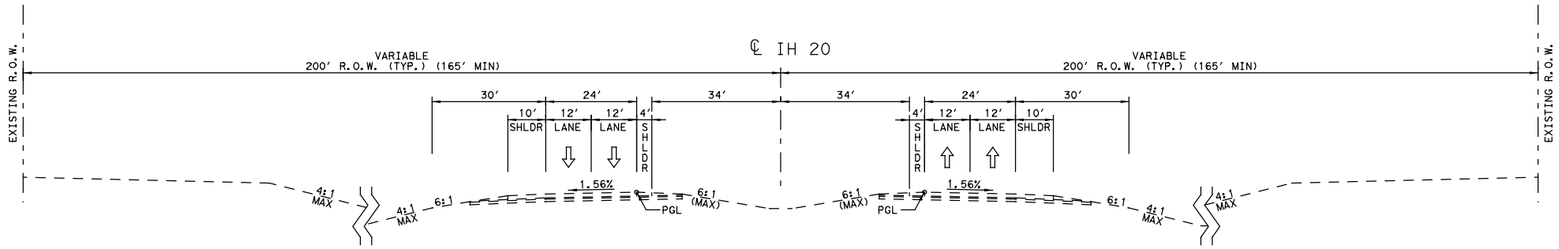
FIGURE 1-2
EXISTING TYPICAL SECTIONS

SHEET 1 OF 2

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 20
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	DALLAS	DAL & KAUF	
CONTROL	SECTION	JOB	
0095	14	027, ETC.	

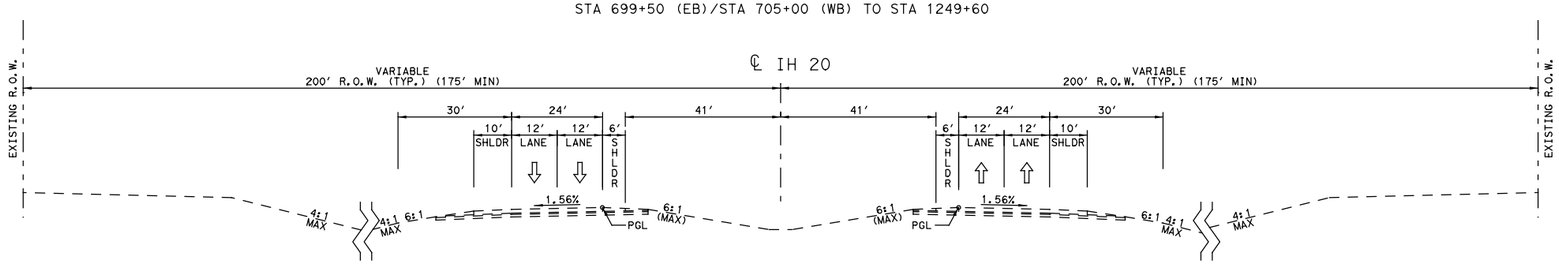
PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: AKEMP DATE: 4/19/2018 TIME: 11:19:35 AM PENTABLE: TXDOT.tbl
FILE: \ SCALE: 1:40

CONCEPTUAL



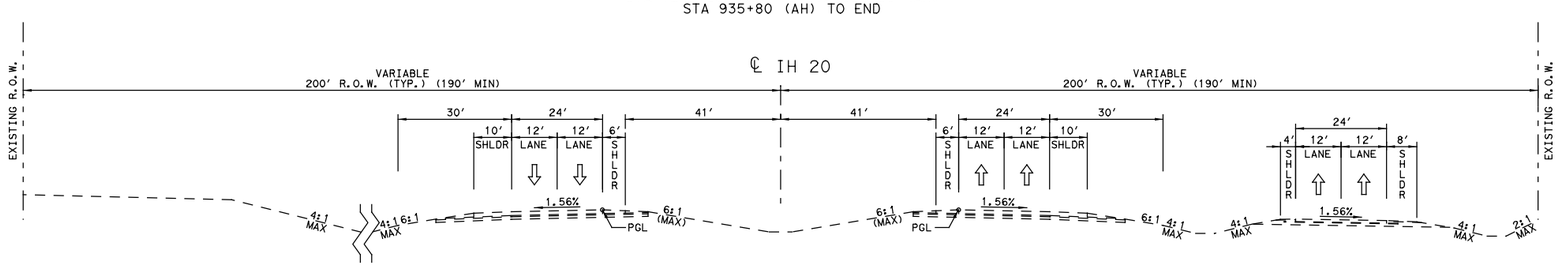
IH 20
EXISTING TYPICAL SECTION

STA 699+50 (EB)/STA 705+00 (WB) TO STA 1249+60



IH 20
EXISTING TYPICAL SECTION

STA 1249+60 (BK) TO STA 896+80 (AH)
STA 935+80 (AH) TO END



IH 20
EXISTING TYPICAL SECTION

STA 896+80 (AH) TO STA 935+80 (AH)

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: AKEWP DATE: 4/19/2018 TIME: 11:19:37 AM PENTABLE: TXDOT.tbl
FILE: \ SCALE: 1:40

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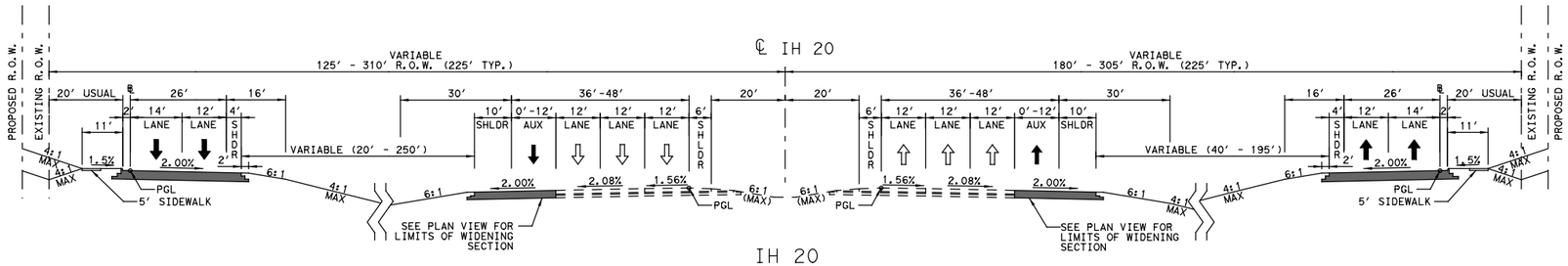
FIGURE 1-2
EXISTING TYPICAL SECTIONS

SHEET 2 OF 2

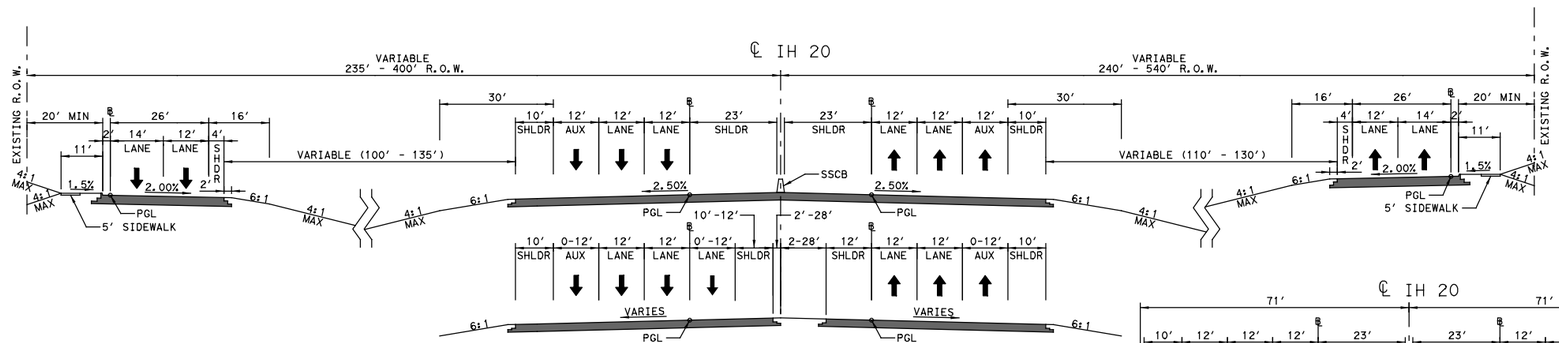
FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 20
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	DALLAS	DAL & KAUF	
CONTROL	SECTION	JOB	
0095	14	027, ETC.	

CONCEPTUAL



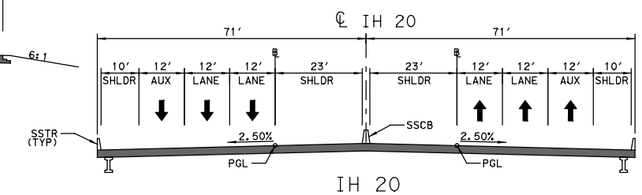
IH 20
PROPOSED TYPICAL SECTION

BEGIN TO STA 569+15



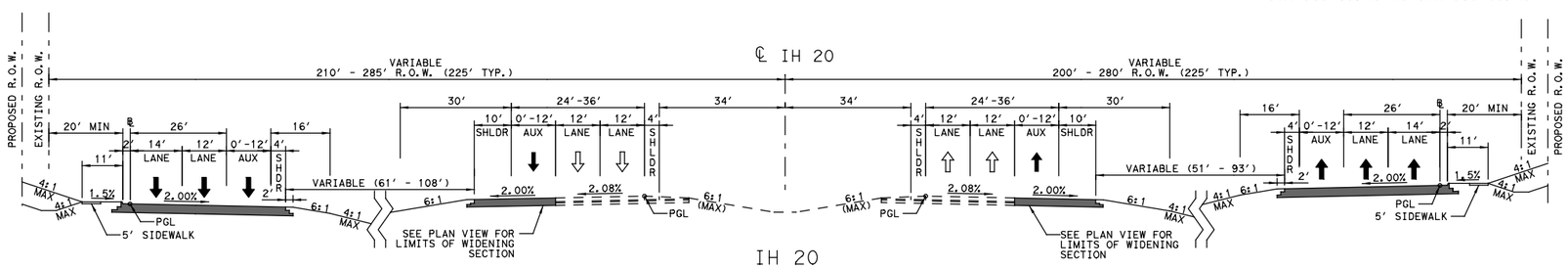
IH 20
PROPOSED TYPICAL SECTION

STA 569+15 TO STA 606+00



IH 20
PROPOSED TYPICAL SECTION

STA 585+83.43 TO STA 589+63.43



IH 20
PROPOSED TYPICAL SECTION

STA 606+00 TO STA 722+35

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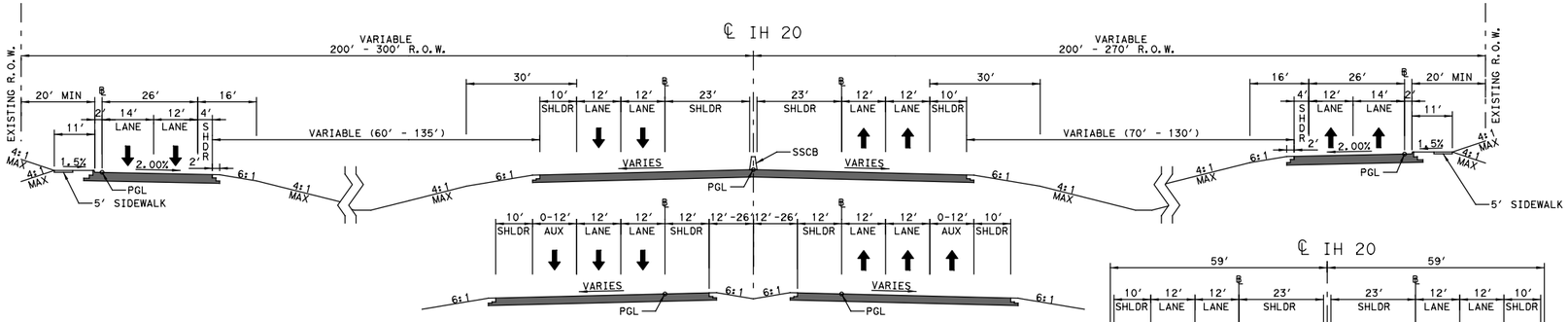
FIGURE 2-1
PROPOSED TYPICAL SECTIONS

SHEET 1 OF 4

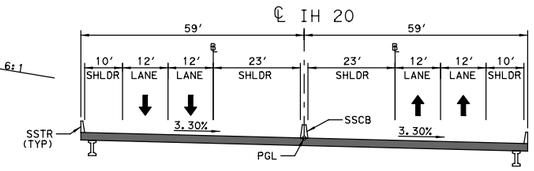
FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 20
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	DALLAS	DAL & KAUF	
CONTROL	SECTION	JOB	
0095	14	027, ETC.	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg USER: AKEMP FILE: \
DATE: 12/17/2018 TIME: 9:00:12 AM PENTABLE: TXDOT.tbl SCALE: 1:40

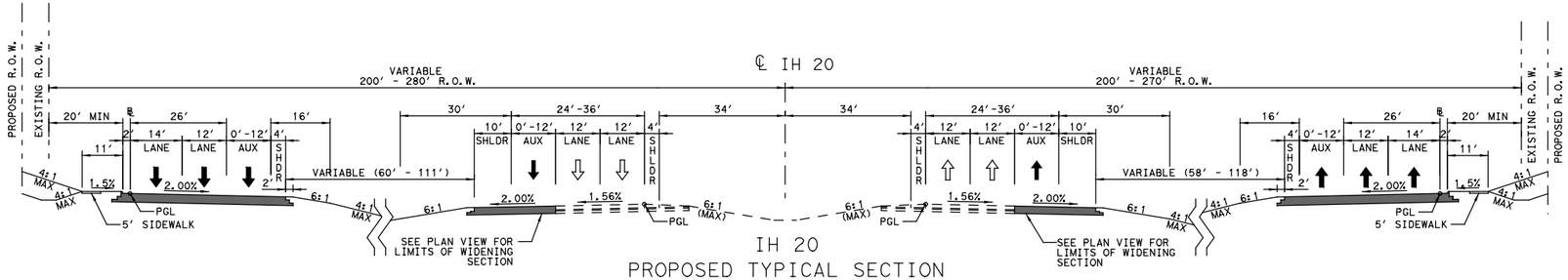
CONCEPTUAL



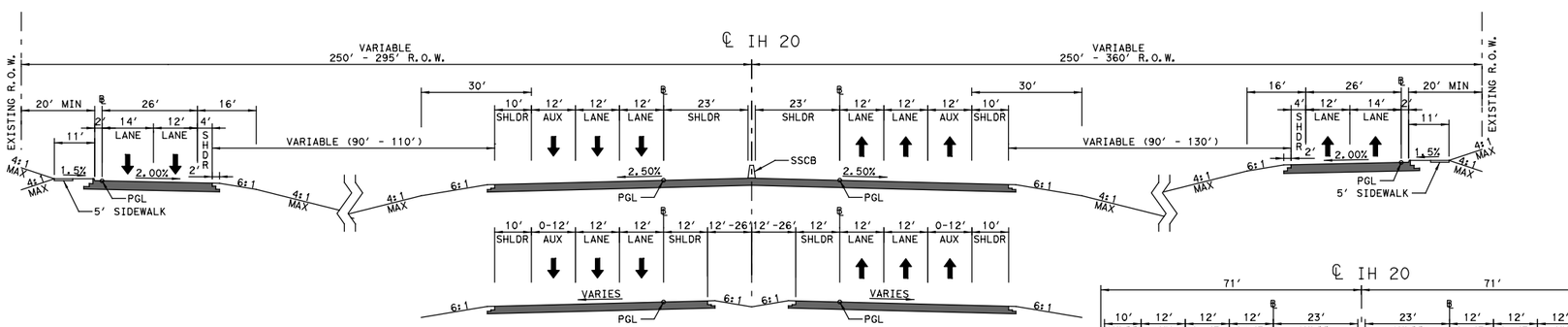
IH 20
PROPOSED TYPICAL SECTION
STA 722+35 TO STA 754+25 (EB)/STA 759+25 (WB)



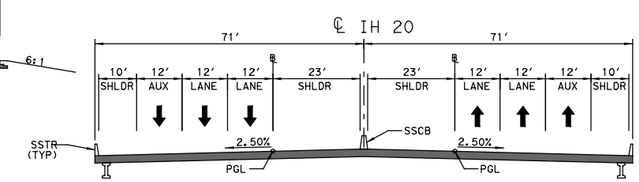
IH 20
PROPOSED TYPICAL SECTION
STA 735+38.89 TO STA 740+38.89



IH 20
PROPOSED TYPICAL SECTION
STA 754+25 (EB)/STA 759+25 (WB) TO STA 881+80



IH 20
PROPOSED TYPICAL SECTION
STA 881+80 TO STA 896+38.35
STA 900+73.35 TO STA 916+50



IH 20
PROPOSED TYPICAL SECTION
STA 896+38.35 TO STA 900+73.35

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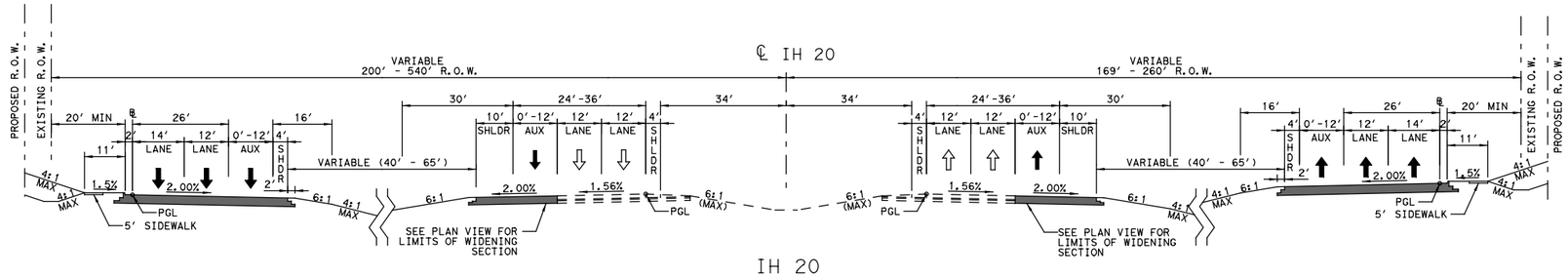
FIGURE 2-1
PROPOSED TYPICAL SECTIONS

SHEET 2 OF 4

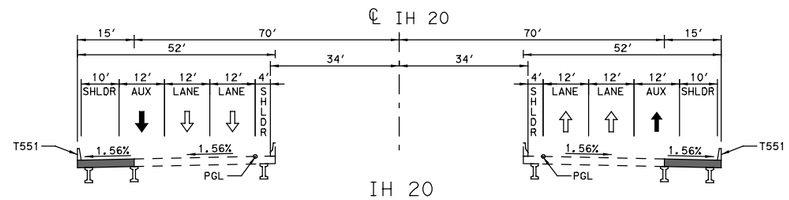
FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 20
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	DALLAS	DAL & KAUF	
CONTROL	SECTION	JOB	
0095	14	027, ETC.	

PENTABLE: TXDOT.tbl
SCALE: 1:40
TIME: 9:00:14 AM
DATE: 12/17/2018
PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: AKEMP
FILE: \

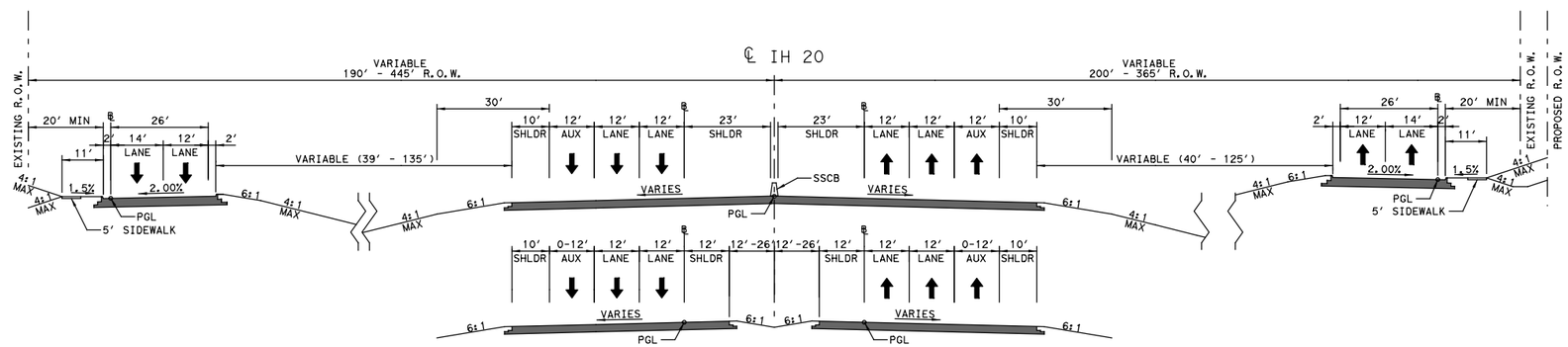
CONCEPTUAL



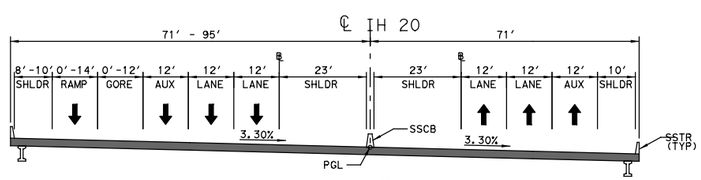
IH 20
PROPOSED TYPICAL SECTION
STA 916+50 TO STA 1115+00



IH 20
PROPOSED TYPICAL SECTION
STA 1028+74.00 TO STA 1031+44.00



IH 20
PROPOSED TYPICAL SECTION
STA 1115+00 TO STA 1161+00



IH 20
PROPOSED TYPICAL SECTION
STA 1129+17.03 TO STA 1132+77.03
STA 1142+06.05 TO STA 1146+25.05

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Dallas, Texas 75248
972.960.4400

Texas Department of Transportation
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FIGURE 2-1
PROPOSED TYPICAL SECTIONS

SHEET 3 OF 4

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 20
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	DALLAS	DAL & KAUF	
CONTROL	SECTION	JOB	
0095	14	027, ETC.	

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FILE: \
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TIME: 9:00:17 AM
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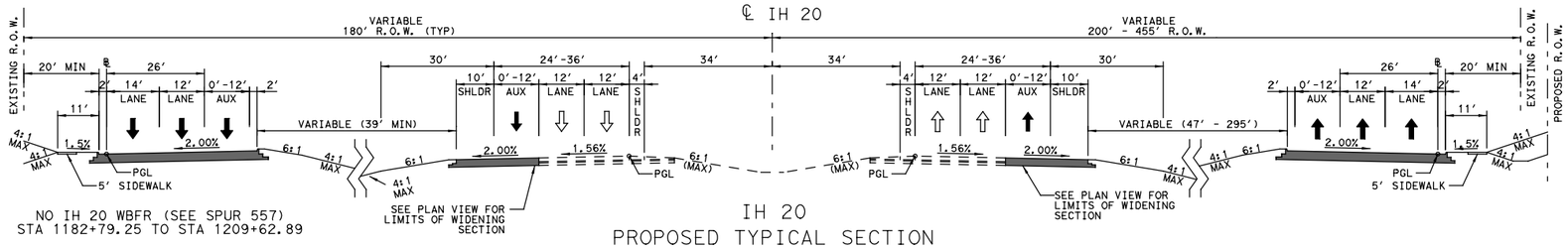
SCALE: 1:40

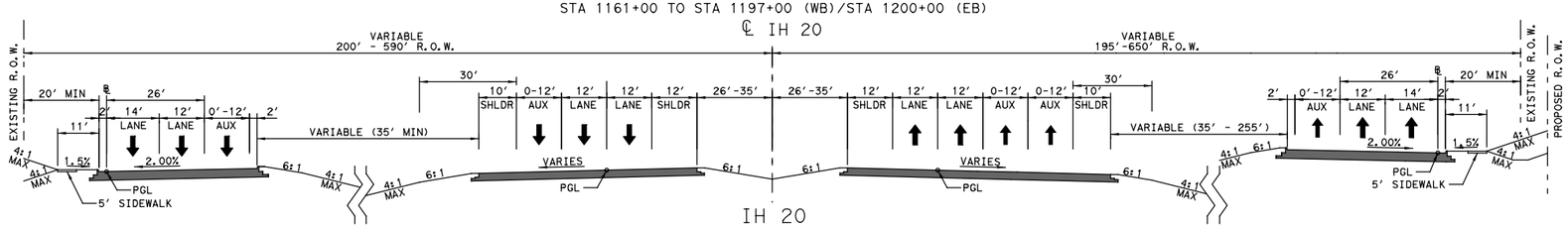
CONCEPTUAL



NO IH 20 WBFR (SEE SPUR 557)
STA 1182+79.25 TO STA 1209+62.89

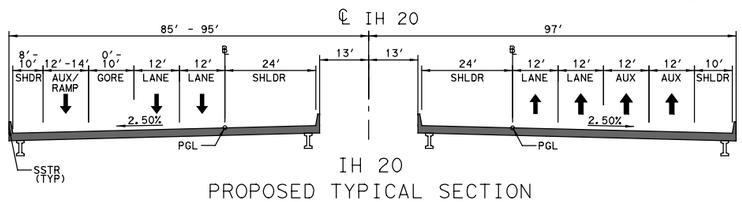
IH 20
PROPOSED TYPICAL SECTION

STA 1161+00 TO STA 1197+00 (WB)/STA 1200+00 (EB)



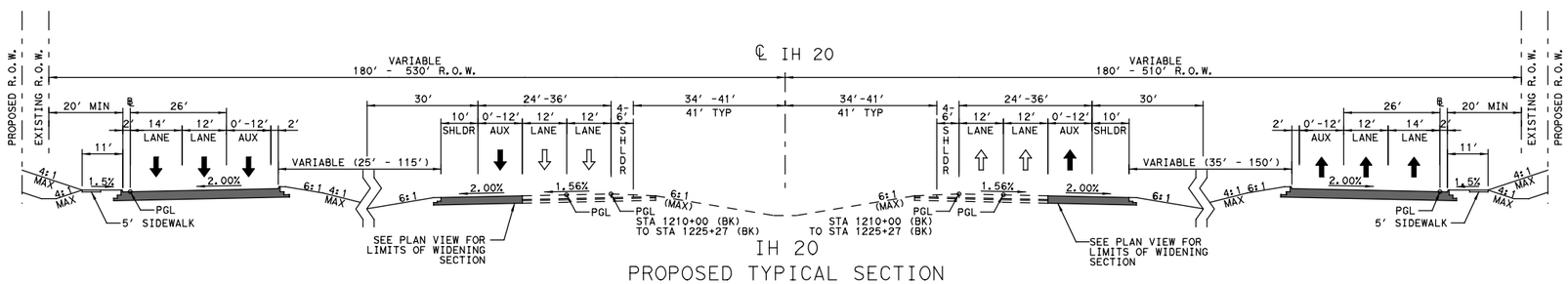
IH 20
PROPOSED TYPICAL SECTION

STA 1197+00 (WB)/STA 1200+00 (EB) TO STA 1230+55.37
STA 1234+30.37 TO STA 1246+62.66 (WB (BK))/STA 780+25 (EB (AH))



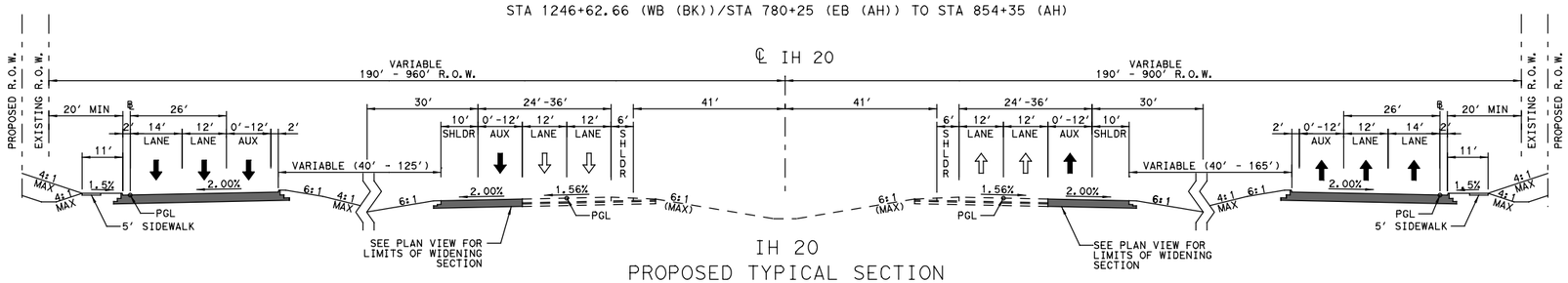
IH 20
PROPOSED TYPICAL SECTION

STA 1230+55.37 TO STA 1234+30.37



IH 20
PROPOSED TYPICAL SECTION

STA 1246+62.66 (WB (BK))/STA 780+25 (EB (AH)) TO STA 854+35 (AH)



IH 20
PROPOSED TYPICAL SECTION

STA 854+35 (AH) TO END

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

Texas Department of Transportation
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FIGURE 2-1
PROPOSED TYPICAL SECTIONS

SHEET 4 OF 4

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 20
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	DALLAS	DAL & KAUF	
CONTROL	SECTION	JOB	
0095	14	027, ETC.	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: AKEWP
FILE: \
DATE: 12/17/2018
TIME: 9:00:19 AM
PENTABLE: TXDOT.tbl
SCALE: 1:40

APPENDIX E

PLAN AND PROGRAM EXCERPTS

Mobility 2045
Asset Optimization Summary Table

AO Corridor	ID	Facility	From	To	Type	YOE Cost
2 - IH 20 (Dallas County)	30.80.10	IH 20	Bonnie View Rd	IH 45	Operational Improvements/ Bottleneck Removal	included w/ 30.80.4
2 - IH 20 (Dallas County)	30.80.11	IH 20	IH 45	Haymarket Rd	Operational Improvements/ Bottleneck Removal	included w/ 30.80.4
2 - IH 20 (Dallas County)	30.80.12	IH 20	Haymarket Rd	US 175	Operational Improvements/ Bottleneck Removal	included w/ 30.80.4
2 - IH 20 (Dallas County)	30.90.1	IH 20	US 175	IH 635	Operational Improvements/ Bottleneck Removal	included w/ 30.80.4
2 - IH 20 (Dallas County)	30.90.2	IH 20	IH 635	SH 190/Loop 9 (Kaufman County Line)	Operational Improvements/ Bottleneck Removal and Addition of Frontage Roads	$70,000,000
2 - IH 20 (Dallas County)	30.100.1	IH 20	SH 190/Loop 9 (Dallas County Line)	FM 740	Addition of Frontage Roads	$500,000,000
3 - IH 20 (Kaufman County)	30.100.2	IH 20	FM 740	Spur 557	Addition of Frontage Roads	included w/ 30.100.1
3 - IH 20 (Kaufman County)	30.110.1	IH 20	Spur 557	Wilson Rd	Addition of Frontage Roads	included w/ 30.100.1
3 - IH 20 (Kaufman County)	30.110.2	IH 20	Wilson Rd	E of FM 2965 (Van Zandt County Line)	Addition of Frontage Roads	included w/ 30.100.1

(HOV/ExL) - HOV/Tolled Express Lanes
(HOV) - HOV Lanes
(ExL) - Express Lanes
(ML/T) - Tolled Managed Lanes
(-C) - Concurrent Lanes
(-R) - Reversible Lanes

*Interim Pk-Hr Lanes
**Technology Lanes

Non-Regionally Significant Frontage Roads

MTP ID	TIP Code	Project Type	CSJ	Facility	From	To	Description	YOE Funded Cost
NRSA- 30.10.4	11934	Addition of lanes	0314-07-051	IH 20	West of Bankhead Highway	East of Bankhead Highway	Reconstruct and widen 2 lane bridge to 4 lane bridge at Bankhead over IH 20, ramp modifications and 2 lane frontage roads in each direction with an auxiliary lane between ramps west of Bankhead, construct new u-turn bridge east of Bankhead	$250,000
NRSA1- 30.80.1 NRSA1- 30.80.2	55031	New Roadway	2374-04-076	IH 20	Sh 161/Lakeridge Parkway	East of Carrier Parkway	Construct 0 to 6 lane frontage roads and ramp modifications	$44,389,365
NRSA1- 30.80.12	54041	New Roadway	2374-03-077	IH 20	West of Haymarket Rd	West of US 175	Construct 2 lane EB and WB frontage roads and new ramps	$8,744,273
NRSA1- 30.80.2	20212	New Roadway, Bike/Pedestrian	2374-04-049	IH 20	West of Carrier Parkway	FM 1382 (Belt Line Road)	Construct 0 to 6 lane frontage roads, ramp modifications, and sidewalks	$35,543,589
NRSA1- 30.80.5	11265	New Roadway	2374-04-060	IH 20	North Main Street	Camp Wisdom Road	Construct 0 to 4 lane frontage roads	$15,097,180
NRSA1- 30.80.5 NRSA1- 30.80.6	55240	New Roadway	2374-04-085	IH 20	West of Cockrell Hill Rd	Hampton Rd	Construct 0 to 4 lane frontage roads	$31,897,216
NRSA1- 30.90.2	55232	New Roadway	0095-13-038	IH 20	Lawson Road	Kaufman County Line	Add 0 to 4 lanes continuous frontage roads	$91,604,075
NRSA1- 30.100.1 NRSA1- 30.100.2	55219	New Roadway	0095-14-027	IH 20	Dallas County line	SP 557	Add 0 to 4 lanes continuous frontage roads	$412,050,700
NRSA1- 30.110.1	55220	New Roadway	0495-01-071	IH 20	SP 557	East of CR 138 (Wilson Road)	Add 0 to 4 lanes continuous frontage roads	$176,773,605
NRSA1- 34.10.1	83224	New Roadway	0495-01-066	SP 557	FM 148	IH 20	New location 2 lane frontage road eastbound only	$4,266,024
NRSA1- 36.30.2	51460	New Roadway	0197-03-054	US 175	FM 148	CR 4106 in Crandall	Construct new 2 lane frontage roads; Convert existing frontage road from 2 lane 2-way to 2 lane 1-way frontage road & ramp modifications	$19,922,969
NRSA1- 5.20.1	55036	New Roadway	0081-13-041	IH 35W	Eagle Parkway	SH 114	Construct 2 lane southbound frontage roads with ramp modifications (Phase 1)	$35,080,152
NRSA1- 7.40.1	83259	Bike/Pedestrian, New Roadway	0196-03-263	IH 35E	Manana Drive	Royal lane	Construct new 0 to 2 lane frontage roads northbound from Manana Dr to Royal lane and southbound from Walnut Hill Lane to Manana Dr and pedestrian improvements along Walnut Hill Lane	$21,882,803
NRSA1- 7.50.1	52201	New Roadway, Bottleneck Removal	0196-03-223	IH 35E	Lombardy lane	Spur 482 (Storey Rd)	Construct 0 to 2 SB frontage road and ramp modifications	$11,689,762
NRSA1- 7.100.3	14032.2	Intersection Improvement, Reconstruction	0442-02-161	IH 35E	At Bear Creek Road		Construct Intersection Improvements including reconstructing existing 4 to 4 lane frontage roads with the addition of a Texas U-turn and sidewalks	$9,437,652

STIP Portal

Logged in as Tim Wood Log Out

Project Management | Reports | Support

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

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

Data

Statewide	☐
TIP Revision	None
District	DALLAS
County	KAUFMAN
MPO	NCTCOG
Highway	IH 20
CSJ	0095 - 14 - 027
TIP FY	2020
Revision Date	08/2019
Project Sponsor	TXDOT-DALLAS
MPO Proj Number	55219
MTP Reference	AO1-30.100.1, AO1-30.100.2, NRSA1-30.100.1, NRSA1-30.100.2
City	VARIOUS
Limits From	DALLAS COUNTY LINE
Limits To	SP 557
Project Description	ADD 0 TO 4 CONTINUOUS FRONTAGE ROADS
P7 Remarks	UPDATE MTP REFERENCE TO INCLUDE NRSA1-30.100.1 AND NRSA1-30.100.2

Phase
- ☐ Construction
- ☑ Engineering
  - ☐ Environmental
  - ☑ Engineering
- ☑ Right-of-Way
  - ☑ Acquisition
  - ☐ Utilities
- ☐ Transfer

NOX	Kg/D	0.0000
VOC	Kg/D	0.0000
PM10	Kg/D	0.0000
PM2.5	Kg/D	0.0000
CO	Lbs/D	

Total Project Cost Information

Prelim Engineering	$15,000,000
ROW Purchase	$13,000,000
Construction Cost	$361,800,000
Const Engineering	$17,728,200
Contingencies	$4,522,500
Indirect Costs	$0
Bond Financing	$0
Potential Chg Ord	$0
Total Project Cost	$412,050,700
YOE Cost	
Toll	☐
TCM	☐

UPDATE MTP REFERENCE TO INCLUDE NRSA1-30.100.1 AND NRSA1-30.100.2

Project History

Authorized Funding by Category/Share

Category	Federal	State	Regional	Local	Local Contributions	Total
SW PE	$0	$15,000,000	$0	$0	$0	$15,000,000
SW ROW	$11,700,000	$1,300,000	$0	$0	$0	$13,000,000
Total	$11,700,000	$16,300,000	$0.00	$0.00	$0.00	$28,000,000

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	KAUFMAN	0095-14-027	2020	IH 20	E,ENG,R,ACQ	VARIOUS	$ 28,000,000

LIMITS FROM: DALLAS COUNTY LINE
LIMITS TO: SP 557
PROJECT SPONSOR: TXDOT-DALLAS
REVISION DATE: 08/2019
PROJECT DESCR: ADD 0 TO 4 CONTINUOUS FRONTAGE ROADS
MPO PROJ NUM: 55219
FUNDING CAT(S): SW PE,SW ROW
REMARKS P7: UPDATE MTP REFERENCE TO INCLUDE NRSA1-30.100.1 AND NRSA1-30.100.2
PROJECT HISTORY:

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 15,000,000
ROW PURCH:	$ 13,000,000
CONST COST:	$ 361,800,000
CONST ENG:	$ 17,728,200
CONTING:	$ 4,522,500
INDIRECT:	$ 0
BOND FIN:	$ 0
POT CHG ORD:	$ 0
TOTAL COST:	$ 412,050,700

COST OF APPROVED PHASES $ 28,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW ROW	$ 11,700,000	$ 1,300,000	$ 0	$ 0	$ 0	$ 13,000,000
SW PE	$ 0	$ 15,000,000	$ 0	$ 0	$ 0	$ 15,000,000
TOTAL	$ 11,700,000	$ 16,300,000	$ 0	$ 0	$ 0	$ 28,000,000

TIP History

2019-2022 STIP **08/2019 Revision: Administrative 03/19/2020**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	KAUFMAN	0095-14-027	2020	IH 20	E,ENG,R,ACQ	VARIOUS	$ 28,000,000

LIMITS FROM: DALLAS COUNTY LINE
LIMITS TO: SP 557
PROJECT SPONSOR: TXDOT-DALLAS
REVISION DATE: 08/2019
PROJECT DESCR: ADD 0 TO 4 CONTINUOUS FRONTAGE ROADS
MPO PROJ NUM: 55219
FUNDING CAT(S): SW PE,SW ROW
REMARKS P7: UPDATE MTP REFERENCE TO INCLUDE NRSA1-30.100.1 AND NRSA1-30.100.2
PROJECT HISTORY:

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 15,000,000
ROW PURCH:	$ 13,000,000
CONST COST:	$ 361,800,000
CONST ENG:	$ 17,728,200
CONTING:	$ 4,522,500

COST OF APPROVED PHASES $ 28,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 0	$ 15,000,000	$ 0	$ 0	$ 0	$ 15,000,000
SW ROW	$ 11,700,000	$ 1,300,000	$ 0	$ 0	$ 0	$ 13,000,000

CONTING:	$ 4,522,500	TOTAL	$ 11,700,000	$ 16,300,000	$ 0	$ 0	$ 0	$ 28,000,000
INDIRECT:	$ 0							
BOND FIN:	$ 0							
POT CHG ORD:	$ 0							
TOTAL COST:	$ 412,050,700							

2019-2022 STIP **08/2019 Revision: Approved 10/18/2019**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	KAUFMAN	0095-14-027	2020	IH 20	E,ENG,R,ACQ	VARIOUS	$ 28,000,000

LIMITS FROM: DALLAS COUNTY LINE
LIMITS TO: SP 557
PROJECT SPONSOR: TXDOT-DALLAS
REVISION DATE: 08/2019
PROJECT DESCR: ADD 0 TO 4 CONTINUOUS FRONTAGE ROADS
MPO PROJ NUM: 55219
FUNDING CAT(S): SW PE,SW ROW
REMARKS P7: ADVANCE ENGINEERING AND ROW PHASES TO FY2020; ADD PROJECT TO 2019-2022 TIP/STIP
PROJECT HISTORY:

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 15,000,000
ROW PURCH:	$ 13,000,000
CONST COST:	$ 361,800,000
CONST ENG:	$ 17,728,200
CONTING:	$ 4,522,500
INDIRECT:	$ 0
BOND FIN:	$ 0
POT CHG ORD:	$ 0
TOTAL COST:	$ 412,050,700

COST OF APPROVED PHASES $ 28,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 0	$ 15,000,000	$ 0	$ 0	$ 0	$ 15,000,000
SW ROW	$ 11,700,000	$ 1,300,000	$ 0	$ 0	$ 0	$ 13,000,000
TOTAL	$ 11,700,000	$ 16,300,000	$ 0	$ 0	$ 0	$ 28,000,000

Comment History

Time	User	Comment	Related Approval
2019/08/13 14:36:25	**Barbara Maley**		**08/2019: Approved**

STIP Portal

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Project Management | Reports | Support

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

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

Data

Statewide	☐
TIP Revision	None
District	DALLAS
County	DALLAS
MPO	NCTCOG
Highway	IH 20
CSJ	0095 - 13 - 038
TIP FY	2021
Revision Date	11/2019
Project Sponsor	TXDOT-DALLAS
MPO Proj Number	55232
MTP Reference	NRSA1-30.90.2
City	MESQUITE
Limits From	LAWSON ROAD
Limits To	KAUFMAN COUNTY LINE
Project Description	ADD 0 TO 4 LANE CONTINUOUS FRONTAGE ROADS
P7 Remarks	ADD PROJECT TO THE 2019-2022 TIP/STIP

Phase

- ☐ Construction
- ☑ Engineering
  - ☐ Environmental
  - ☑ Engineering
- ☑ Right-of-Way
  - ☑ Acquisition
  - ☐ Utilities
- ☐ Transfer

NOX (Kg/D):	0.0000
VOC (Kg/D):	0.0000
PM10 (Kg/D):	0.0000
PM2.5 (Kg/D):	0.0000
CO (Lbs/D):	

Total Project Cost Information

Prelim Engineering	$3,000,000
ROW Purchase	$10,000,000
Construction Cost	$74,050,000
Const Engineering	$3,628,450
Contingencies	$925,625
Indirect Costs	$0
Bond Financing	$0
Potential Chg Ord	$0
Total Project Cost	$91,604,075
YOE Cost	
Toll	☐
TCM	☐

ADD PROJECT TO THE 2019-2022 TIP/STIP

Project History

Authorized Funding by Category/Share

Category	Federal	State	Regional	Local	Local Contributions	Total
SW PE	$0	$3,000,000	$0	$0	$0	$3,000,000
SW ROW	$9,000,000	$1,000,000	$0	$0	$0	$10,000,000
Total	$9,000,000	$4,000,000	$0.00	$0.00	$0.00	$13,000,000

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	DALLAS	0095-13-038	2021	IH 20	E,ENG,R,ACQ	MESQUITE	$ 13,000,000

LIMITS FROM: LAWSON ROAD
LIMITS TO: KAUFMAN COUNTY LINE
PROJECT SPONSOR: TXDOT-DALLAS
REVISION DATE: 11/2019
PROJECT DESCR: ADD 0 TO 4 LANE CONTINUOUS FRONTAGE ROADS
MPO PROJ NUM: 55232
FUNDING CAT(S): SW PE,SW ROW
REMARKS P7: ADD PROJECT TO THE 2019-2022 TIP/STIP
PROJECT HISTORY:

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 3,000,000
ROW PURCH:	$ 10,000,000
CONST COST:	$ 74,050,000
CONST ENG:	$ 3,628,450
CONTING:	$ 925,625
INDIRECT:	$ 0
BOND FIN:	$ 0
POT CHG ORD:	$ 0
TOTAL COST:	$ 91,604,075

COST OF APPROVED PHASES $ 13,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 0	$ 3,000,000	$ 0	$ 0	$ 0	$ 3,000,000
SW ROW	$ 9,000,000	$ 1,000,000	$ 0	$ 0	$ 0	$ 10,000,000
TOTAL	$ 9,000,000	$ 4,000,000	$ 0	$ 0	$ 0	$ 13,000,000

TIP History

2019-2022 STIP **11/2019 Revision: Approved 01/29/2020**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	DALLAS	0095-13-038	2021	IH 20	E,ENG,R,ACQ	MESQUITE	$ 13,000,000

LIMITS FROM: LAWSON ROAD
LIMITS TO: KAUFMAN COUNTY LINE
PROJECT SPONSOR: TXDOT-DALLAS
REVISION DATE: 11/2019
PROJECT DESCR: ADD 0 TO 4 LANE CONTINUOUS FRONTAGE ROADS
MPO PROJ NUM: 55232
FUNDING CAT(S): SW PE,SW ROW
REMARKS P7: ADD PROJECT TO THE 2019-2022 TIP/STIP
PROJECT HISTORY:

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 3,000,000
ROW PURCH:	$ 10,000,000
CONST COST:	$ 74,050,000
CONST ENG:	$ 3,628,450
CONTING:	$ 925,625

COST OF APPROVED PHASES $ 13,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 0	$ 3,000,000	$ 0	$ 0	$ 0	$ 3,000,000
SW ROW	$ 9,000,000	$ 1,000,000	$ 0	$ 0	$ 0	$ 10,000,000

CONTING:	$	[illegible]							
INDIRECT:	$	0	**TOTAL**	$ 9,000,000	$ 4,000,000	$ 0	$ 0	$ 0	$ 13,000,000
BOND FIN:	$	0							
POT CHG ORD:	$	0							
TOTAL COST:	$	91,604,075							

Comment History

Time	User	Comment	Related Approval
2019/12/04 06:57:21	**Genevieve Bales**	Approved. Approved for early action effective 1/7/2020.	**11/2019: Approved**

STIP Portal

Texas Department of Transportation

Mon, Mar 30, 2020 9:51:01 AM

STIP Portal

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Project Management | Reports | Support

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

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

Data

Statewide	☐
TIP Revision	None
District	DALLAS
County	KAUFMAN
MPO	NCTCOG
Highway	IH 20
CSJ	0495 - 01 - 071
TIP FY	2021
Revision Date	11/2019
Project Sponsor	TXDOT-DALLAS
MPO Proj Number	55220
MTP Reference	AO1-30.110.1
City	TERRELL
Limits From	SP 557
Limits To	EAST OF CR 138 (WILSON RD)
Project Description	ADD 0 TO 4 LANE CONTINUOUS FRONTAGE ROADS
P7 Remarks	ADD PROJECT TO THE 2019-2022 TIP/STIP

Phase
- ☐ Construction
- ☑ Engineering
  - ☐ Environmental
  - ☑ Engineering
- ☑ Right-of-Way
  - ☑ Acquisition
  - ☐ Utilities
- ☐ Transfer

NOX	Kg/D	0.0000
VOC	Kg/D	0.0000
PM10	Kg/D	0.0000
PM2.5	Kg/D	0.0000
CO	Lbs/D	

Total Project Cost Information

Prelim Engineering	$5,000,000	☐
ROW Purchase	$25,000,000	☐
Construction Cost	$138,270,000	☐
Const Engineering	$6,775,230	☐
Contingencies	$1,728,375	☐
Indirect Costs	$0	☐
Bond Financing	$0	☐
Potential Chg Ord	$0	☐
Total Project Cost	$176,773,605	
YOE Cost		
Toll	☐	
TCM	☐	

ADD PROJECT TO THE 2019-2022 TIP/STIP

Project History

Authorized Funding by Category/Share

Category	Federal	State	Regional	Local	Local Contributions	Total
SW PE	$0	$5,000,000	$0	$0	$0	$5,000,000
SW ROW	$22,500,000	$2,500,000	$0	$0	$0	$25,000,000
Total	$22,500,000	$7,500,000	$0.00	$0.00	$0.00	$30,000,000

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	KAUFMAN	0495-01-071	2021	IH 20	E,ENG,R,ACQ	TERRELL	$ 30,000,000

LIMITS FROM: SP 557
LIMITS TO: EAST OF CR 138 (WILSON RD)
PROJECT SPONSOR: TXDOT-DALLAS
REVISION DATE: 11/2019
MPO PROJ NUM: 55220
FUNDING CAT(S): SW PE,SW ROW
PROJECT DESCR: ADD 0 TO 4 LANE CONTINUOUS FRONTAGE ROADS
REMARKS P7: ADD PROJECT TO THE 2019-2022 TIP/STIP
PROJECT HISTORY:

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 5,000,000
ROW PURCH:	$ 25,000,000
CONST COST:	$ 138,270,000
CONST ENG:	$ 6,775,230
CONTING:	$ 1,728,375
INDIRECT:	$ 0
BOND FIN:	$ 0
POT CHG ORD:	$ 0
TOTAL COST:	$ 176,773,605

COST OF APPROVED PHASES $ 30,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 0	$ 5,000,000	$ 0	$ 0	$ 0	$ 5,000,000
SW ROW	$ 22,500,000	$ 2,500,000	$ 0	$ 0	$ 0	$ 25,000,000
TOTAL	$ 22,500,000	$ 7,500,000	$ 0	$ 0	$ 0	$ 30,000,000

TIP History

2019-2022 STIP **11/2019 Revision: Approved 01/29/2020**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
DALLAS	NCTCOG	KAUFMAN	0495-01-071	2021	IH 20	E,ENG,R,ACQ	TERRELL	$ 30,000,000

LIMITS FROM: SP 557
LIMITS TO: EAST OF CR 138 (WILSON RD)
PROJECT SPONSOR: TXDOT-DALLAS
REVISION DATE: 11/2019
MPO PROJ NUM: 55220
FUNDING CAT(S): SW PE,SW ROW
PROJECT DESCR: ADD 0 TO 4 LANE CONTINUOUS FRONTAGE ROADS
REMARKS P7: ADD PROJECT TO THE 2019-2022 TIP/STIP
PROJECT HISTORY:

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 5,000,000
ROW PURCH:	$ 25,000,000
CONST COST:	$ 138,270,000
CONST ENG:	$ 6,775,230
CONTING:	$ 1,728,375

COST OF APPROVED PHASES $ 30,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 0	$ 5,000,000	$ 0	$ 0	$ 0	$ 5,000,000
SW ROW	$ 22,500,000	$ 2,500,000	$ 0	$ 0	$ 0	$ 25,000,000

CONTING:	$ 1,726,670								
INDIRECT:	$ 0		**TOTAL**	$ 22,500,000	$ 7,500,000	$ 0	$ 0	$ 0	$ 30,000,000
BOND FIN:	$ 0								
POT CHG ORD:	$ 0								
TOTAL COST:	$ 176,773,605								

Comment History

Time	User	Comment	Related Approval
2019/12/06 12:44:16	**Barbara Maley**	Approved. Approval based on NCTCOG KBunkley NonRSA upload that reflects the project. Per NCTCOG the NonRSA addition is in addition to AO1-30.110.1 which represents the larger project of which this portion is included. NCTCOG to administratively update the eSTIP with the new MTP reference.	**11/2019: Approved**

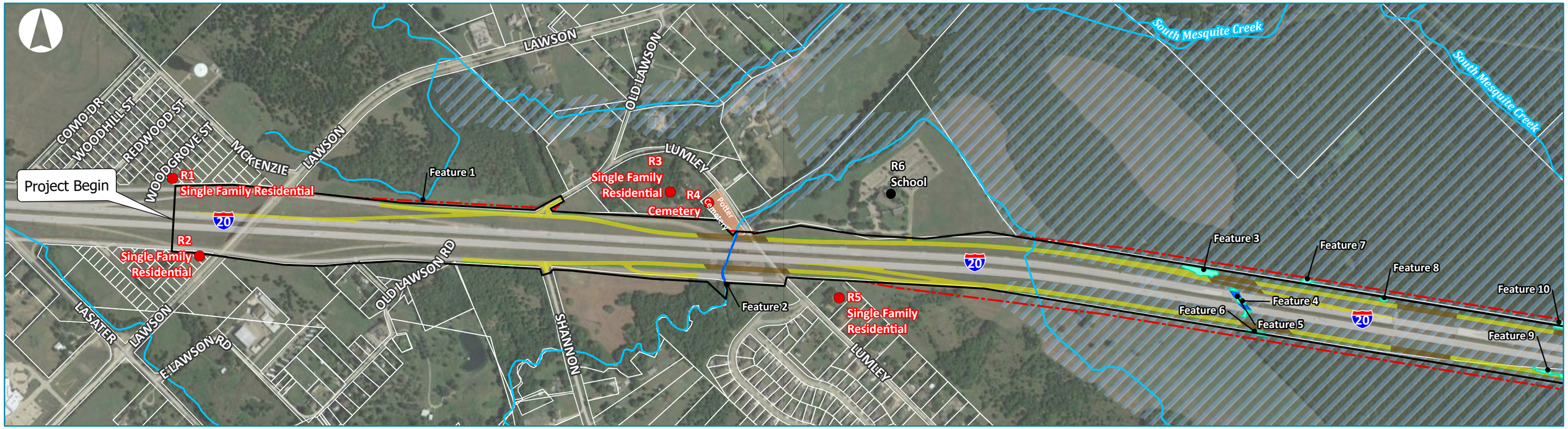
STIP Portal

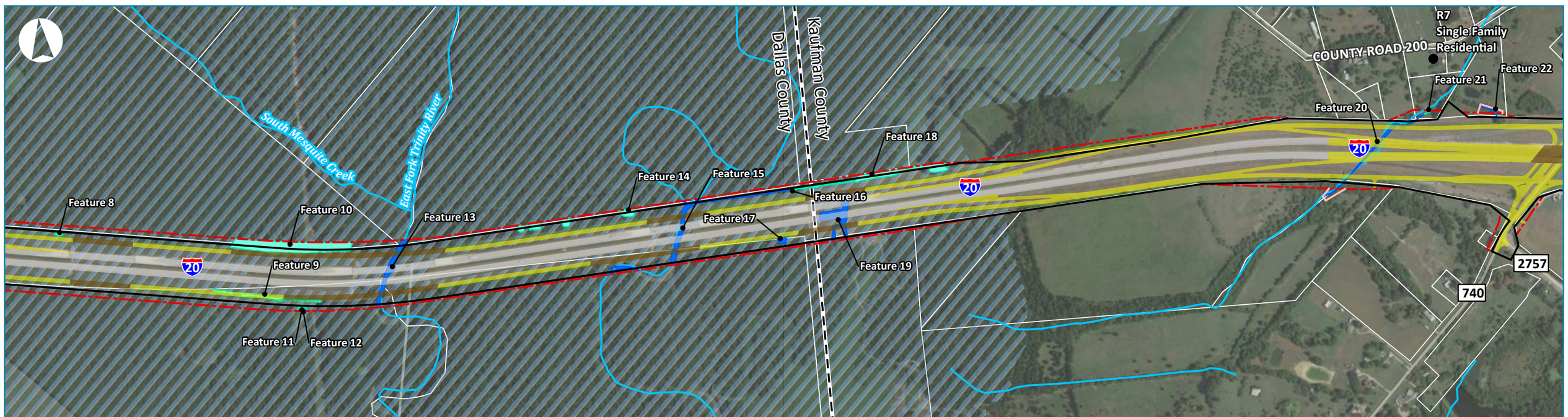
Texas Department of Transportation

Mon, Mar 30, 2020 10:33:14 AM

APPENDIX F

RESOURCE-SPECIFIC MAPS





PROJECT RESOURCE MAP

Interstate Highway 20
From Lawson Road
To East of County Road 138 (Wilson Road)
CSJs: 0095-14-027, 0095-13-038, 0495-01-071

Dallas and Kaufman Counties

- Existing ROW
- Proposed ROW
- Drainage Easement
- Proposed Pavement
- Proposed Structure
- Proposed Sidewalk
- Existing Pavement
- Proposed Displacement
- Place of Worship
- Educational Facility
- Cemetery
- Park
- Parcel
- County Boundary
- Creek or Stream (NHD)
- Delineated Creek/Impoundment
- Delineated Wetland
- 100 Year Floodplain (FEMA)
- Proposed Noise Barrier

Representative Noise Receiver
- Benefitted Receiver
- Impacted Receiver
- Non-Impacted Receiver

Hazardous Materials Site
- Low/No Environmental Risk
- Moderate Risk

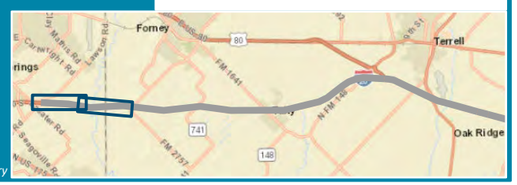
Hazardous Materials Area
- Low/No Environmental Risk
- Moderate Environmental Risk

1 Inch = 750 Feet

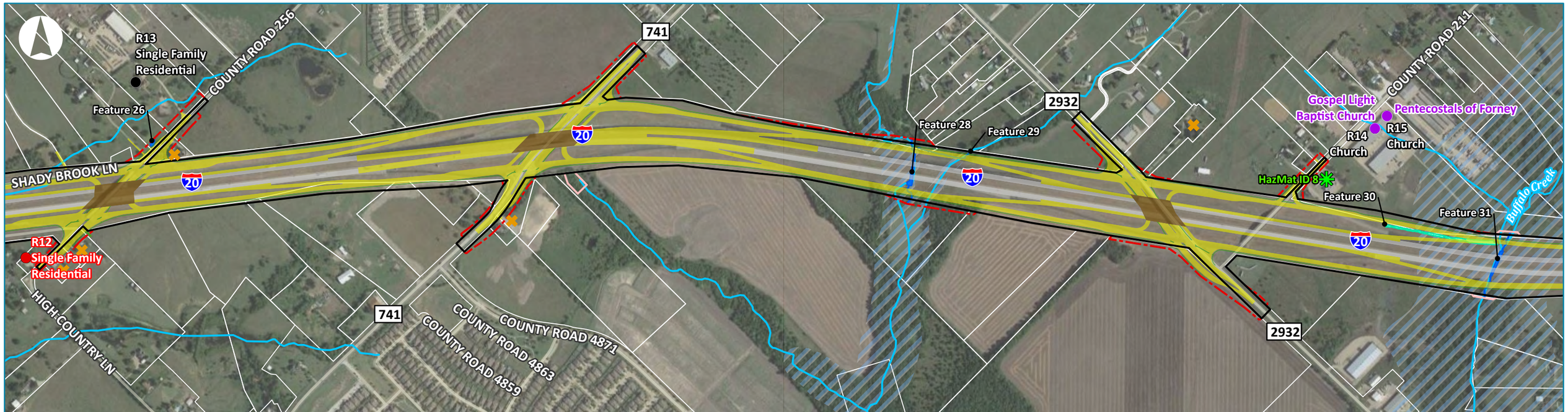
Feet

0 375 750

Basemap: Google Imagery



MAP SHEET 1 OF 5



PROJECT RESOURCE MAP

Interstate Highway 20
From Lawson Road
To East of County Road 138 (Wilson Road)
CSJs: 0095-14-027, 0095-13-038, 0495-01-071

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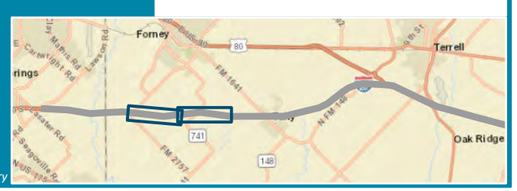
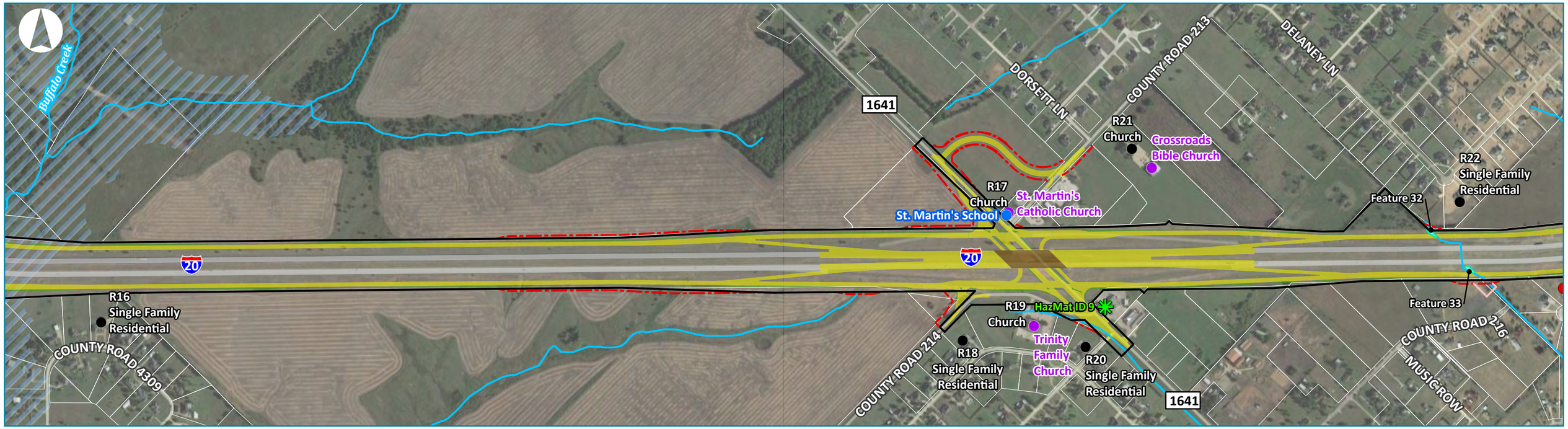
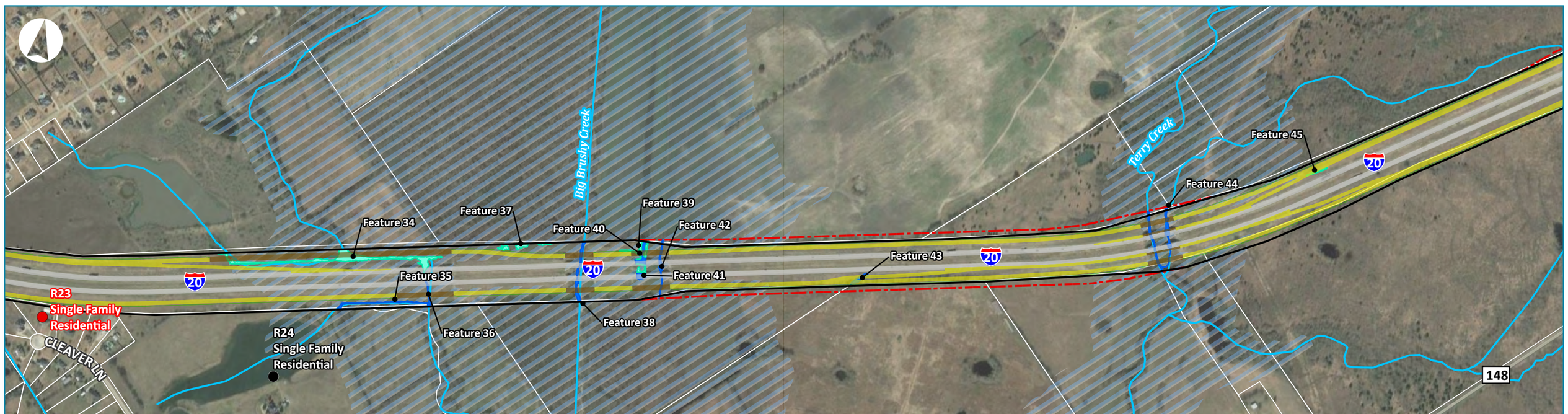


MAP SHEET 2 OF 5





PROJECT RESOURCE MAP

Interstate Highway 20
From Lawson Road
To East of County Road 138 (Wilson Road)
CSJs: 0095-14-027, 0095-13-038, 0495-01-071

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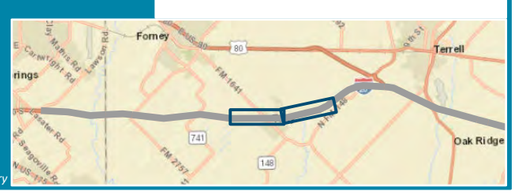
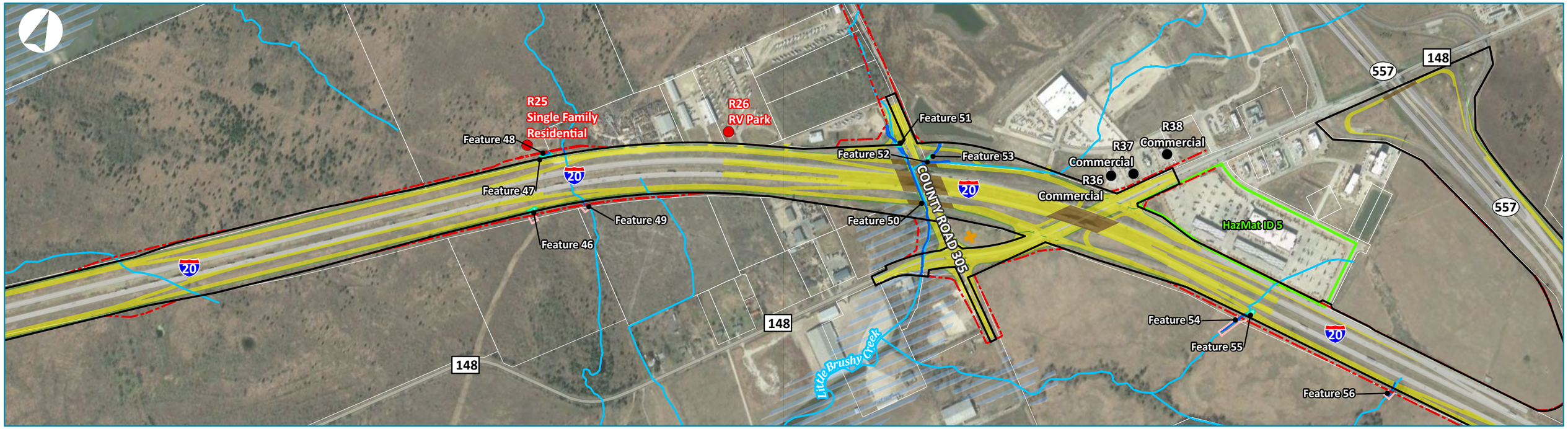
Basemap: Google Imagery



MAP SHEET 3 OF 5



PROJECT RESOURCE MAP

Interstate Highway 20
From Lawson Road
To East of County Road 138 (Wilson Road)
CSJs: 0095-14-027, 0095-13-038, 0495-01-071

Dallas and Kaufman Counties

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Feet
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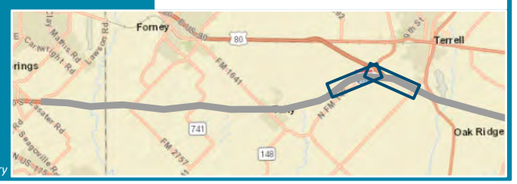
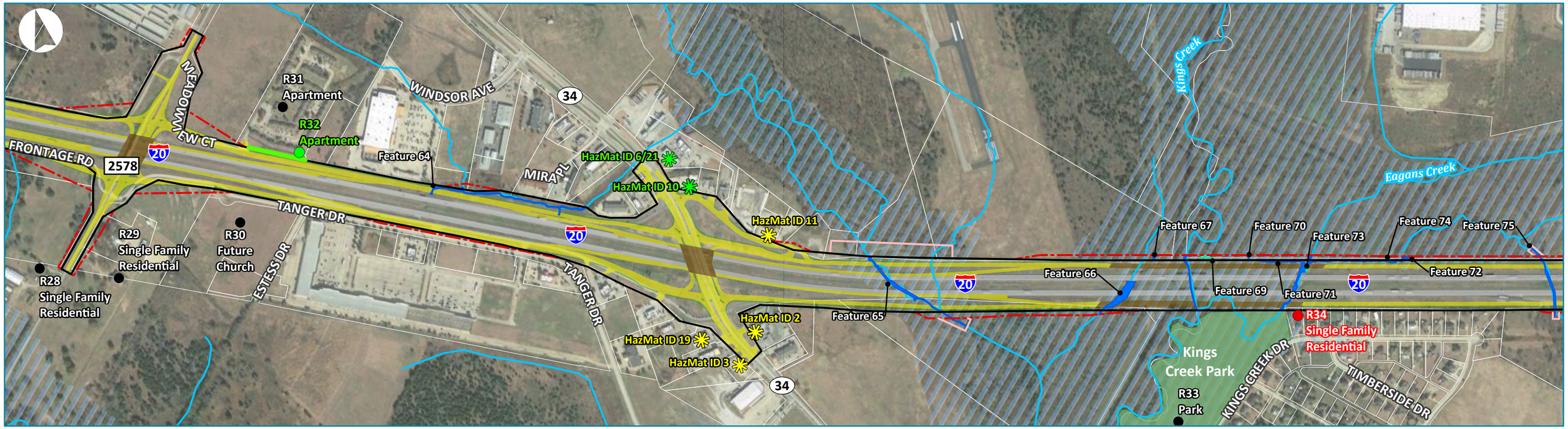
Basemap: Google Imagery

MAP SHEET 4 OF 5





PROJECT RESOURCE MAP

Interstate Highway 20
From Lawson Road
To East of County Road 138 (Wilson Road)
CSJs: 0095-14-027, 0095-13-038, 0495-01-071

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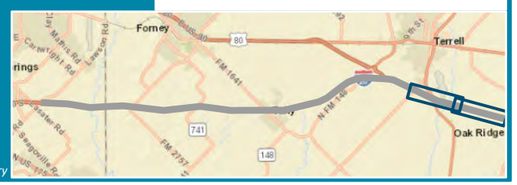
Feet
0 375 750

MAP SHEET 5 OF 5



Basemap: Google Imagery

APPENDIX G

RESOURCES AGENCY COORDINATION

Texas Department of Transportation

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

June 17, 2019

Section 106/Antiquities Code of Texas: Archeological Review (Permit #8869)
IH 20: Lawson Road – East of County Road 138 (aka Wilson Road)
Dallas District; Dallas & Kaufman Counties (0095-14-027)

Ms. Patricia A. Mercado-Allinger
Division Director/State Archeologist
Archeology Division
Texas Historical Commission
PO Box 12276
Austin, TX 78711-2276

Dear Ms. Mercado-Allinger:

The proposed project will be undertaken with Federal funding. In accordance with Section 106 (and the Programmatic Agreement among the Texas Department of Transportation [TxDOT], the Texas State Historical Preservation Officer [TSHPO], the Federal Highway Administration [FHWA], and the Advisory Council on Historic Preservation) and the Antiquities Code of Texas (and the Memorandum of Understanding between the Texas Historical Commission [THC] and TxDOT), this letter initiates consultation for the proposed undertaking.

The following proposed project would improve Interstate Highway (IH) 20 in Dallas and Kaufman Counties, Texas in TxDOT's Dallas District. TxDOT proposes various improvements to IH 20 from Lawson Road in Dallas County to east of County Road (CR) 138 (Wilson Road) in Kaufman County, Texas. The proposed improvements would include constructing continuous one-way frontage road lanes in each direction, reconfiguring the ramps from a "diamond" configuration to an "X" configuration at each interchange, and adding auxiliary lanes on the mainlanes. The project length is approximately 20.39 miles long. Within the project limits, existing IH 20 has four to six, 12 foot wide mainlanes (two to three lanes in each direction) with 4 to 6 foot wide inside shoulders and 10 foot wide outside shoulders, separated by a 40 to 82 foot wide grassy median. There are no frontage roads, bike lanes, or sidewalks within most of the project limits, as the existing frontage road ends just east of Lawson Road. The existing right-of-way (ROW) in the project area varies from 375 to 550 feet in width and totals approximately

1,280 acres. The proposed improvements to IH 20 would add continuous one-way frontage roads in both the eastbound and westbound directions from Lawson Road to CR 138 (Wilson Road). The frontage roads would consist of a 12 foot wide inside lane, a 14 foot wide shared outside lane, a 4 foot wide inside shoulder and a 2 foot wide outside shoulder. A minimum 5 foot wide sidewalk would be included along the eastbound and westbound frontage roads behind the back of curb. Proposed auxiliary lanes on the mainlanes would be 12 feet wide. The proposed project would also include the reconstruction of the mainlanes to accommodate cross street improvements, and the construction, relocation, or modification of 43 ramps. The proposed project would require approximately 121.5 acres of additional ROW and approximately 3.8 acres of permanent easement (drainage easement). The Area of Potential Effect (APE) is defined as the horizontal footprint of the proposed project and the vertical depth of construction impacts. This includes the project length, the amount of existing ROW, proposed new ROW, easements and the depth of construction impacts (approximately 5 feet usual and 100 feet maximum).

Archeologists from AmaTerra Environmental, Inc., on behalf of TxDOT, conducted an intensive survey of the APE. Work was conducted May 2–24, 2019 by a team of five archeologists and consisted of a 100 percent intensive pedestrian survey and backhoe trenching within select locations of the project APE, resulting in the excavation of 474 shovel tests and 11 backhoe trenches. Fourteen high probability units were selected for survey within the 20.39-mile corridor. Four new archeological sites were recorded Sites 41KF183, 41KF184, 41KF185 and 41KF186. None of these sites are recommended for further work within the APE and are also recommended not eligible for listing to the National Register of Historic Places (NRHP) or as a State Antiquities Landmark. In addition to the four newly identified sites, five previously recorded sites were revisited and two Isolated Finds (IF1 and IF2) were recorded. The revisited sites, IFs and newly recorded sites have no data potential within the APE and therefore are recommended for no further work to complete Section 106 and ACT requirements. The survey team found most of the project area to be heavily impacted by development and roadway disturbance. This report recommends that further work is warranted for Unit 2, along the East Fork Trinity River, prior to construction to assess its potential for buried archaeological deposits, as this section of the APE was entirely inundated by continuous rain and flooding at the time of survey. No artifacts were collected as part of this project. All notes and field records will be curated at the Texas Archeological Research Laboratory in Austin, Texas. TxDOT agrees with their findings. Based on the above information, ***TxDOT recommends that the archeological inventory is adequate and complete. TxDOT recommends that proposed project, thus far, would have No Effect on any eligible archeological sites of any kind, no further archeological investigations are needed for the portion of the APE that has been inventoried, the surveyed parcels within the APE were found to be relatively disturbed and sterile within the APE, and the surveyed portion of the proposed project should be allowed to proceed to construction. TxDOT further recommends that the remainder of the archeological inventory (along the East Fork of the Trinity River) be deferred until that time that access is possible. No construction should be allowed in this area and once the survey is complete, the entire draft report shall be coordinated with your office.***

Please find attached for your review and comments the archeological contractor's draft survey report; *Intensive Archeological Survey, IH 20 from Lawson Road to East of CR 138 (Wilson Road), Dallas and Kaufman Counties, Texas. Dallas District.* If you have no objections to the recommendations made or any comments on this report and find it acceptable, please sign below to indicate your concurrence and stamp the draft cover as acceptable.

Thank you for your consideration in this matter. If you have any questions or further need of assistance, please contact Allen Bettis of the TxDOT Archeological Studies Program at (512) 416-2747.

Sincerely,

Allen C. Bettis Jr.
Archeological Studies Program
Environmental Affairs Division

Attachment
cc w/o attachments: Maura Hogan: AmaTerra Environmental, Inc. – Austin
Christine Polito, Dallas District Office
ACB PA File

Concurrence by: 6/20/19
for Mark S. Wolfe, State Historic Preservation Officer Date:

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.

DRAFT REPORT
ACCEPTABLE
by
for Mark Wolfe
Executive Director, THC
Date 6/20/19
Track#

Texas Department of Transportation

Archeological Survey

IH20 from Lawson Road to East of CR 138 (Wilson Road) Dallas and Kaufman Counties, Texas. Dallas District.

CSJ 0095-13-038, 0095-14-027 and 0495-01-071

Maura Hogan, Principal Investigator; Antiquities Permit No. 8869
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.

Texas Department of Transportation

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

September 4, 2019

Section 106/Antiquities Code of Texas: Archeological Review (Permit #8869)
IH 20: Lawson Road – East of County Road 138 (aka Wilson Road)
Dallas District; Dallas & Kaufman Counties (0095-14-027)

Ms. Patricia A. Mercado-Allinger
Division Director/State Archeologist
Archeology Division
Texas Historical Commission
PO Box 12276
Austin, TX 78711-2276

Dear Ms. Mercado-Allinger:

The proposed project will be undertaken with Federal funding. In accordance with Section 106 (and the Programmatic Agreement among the Texas Department of Transportation [TxDOT], the Texas State Historical Preservation Officer [TSHPO], the Federal Highway Administration [FHWA], and the Advisory Council on Historic Preservation) and the Antiquities Code of Texas (and the Memorandum of Understanding between the Texas Historical Commission [THC] and TxDOT), this letter continues consultation for the proposed undertaking.

The following proposed project would improve Interstate Highway (IH) 20 in Dallas and Kaufman Counties, Texas in TxDOT's Dallas District. TxDOT proposes various improvements to IH 20 from Lawson Road in Dallas County to east of County Road (CR) 138 (Wilson Road) in Kaufman County, Texas. The proposed improvements would include constructing continuous one-way frontage road lanes in each direction, reconfiguring the ramps from a "diamond" configuration to an "X" configuration at each interchange, and adding auxiliary lanes on the mainlanes. The project length is approximately 20.39 miles long. Within the project limits, existing IH 20 has four to six, 12 foot wide mainlanes (two to three lanes in each direction) with 4 to 6 foot wide inside shoulders

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Archeologists from AmaTerra Environmental, Inc., on behalf of TxDOT, conducted an intensive survey of the APE. Work was conducted May 2–24, 2019 by a team of five archeologists and consisted of a 100 percent intensive pedestrian survey and backhoe trenching within select locations of the project APE, resulting in the excavation of 474 shovel tests and 11 backhoe trenches. Coordination with your office was dated June 17, 2019. The survey team found most of the project area to be heavily impacted by development and roadway disturbance, but access was limited along the East Fork of the Trinity River due to flooding at the time. TxDOT recommended that further work is warranted for Unit 2, along the East Fork Trinity River. TxDOT further recommended to defer the remainder of the survey until access was obtained after flood waters receded. Your office concurred with these recommendations on June 20, 2019.

Since that time, AmaTerra returned to the field on July 25-26, 2019 and completed the remainder of the survey, including additional scraping at Potters Cemetery to ensure that intact soils had been reached with no evidence of grave shafts. This addendum survey resulted in the excavation of 27 negative shovel tests and 3 sterile backhoe trenches. No cultural materials were encountered on any part of the survey. The backhoe trench in Unit 1 demonstrates the absence of unmarked graves within the proposed ROW south of Potter Cemetery. No further archeological work is recommended on any portion of the IH 20 project area. No artifacts were collected as part of this project. All notes and field records will be curated at the Texas Archeological Research Laboratory in Austin, Texas. TxDOT agrees with their findings. Based on the above information, ***TxDOT recommends that the archeological inventory is adequate and complete. TxDOT further recommends that proposed project would have No Effect on any eligible archeological sites of any kind, no further archeological investigations are needed, and the proposed project should be allowed to proceed to construction.***

Please find attached for your review and comments the archeological contractor's draft survey report; *Addendum Report for Supplemental Archeological Survey of IH 20: Additional Intensive Survey of Interstate Highway 20 from Lawson Road to East of CR 138 (Wilson Road), Dallas and Kaufman Counties, Texas. Dallas District.* If you have no objections to the recommendations made or any comments on this report and find it acceptable, please sign below to indicate your concurrence and stamp the draft cover as acceptable.

Thank you for your consideration in this matter. If you have any questions or further need of assistance, please contact Allen Bettis of the TxDOT Archeological Studies Program at (512) 416-2747.

Sincerely,

Allen C. Bettis Jr.
Archeological Studies Program
Environmental Affairs Division

Attachment
cc w/o attachments: Maura Hogan: AmaTerra Environmental, Inc. – Austin
Christine Polito, Dallas District Office
ACB PA File

Concurrence by: 9/5/19
for Mark S. Wolfe, State Historic Preservation Officer Date

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.

DRAFT REPORT
ACCEPTABLE
by
for Mark Wolfe
Executive Director, THC
Date 9/5/19
Track#

Texas Department of Transportation

Addendum Report for Supplemental Archeological Survey of IH 20

Additional Intensive Survey of Interstate Highway 20, From Lawson Road to East of CR 138 (Wilson Road) Dallas and Kaufman Counties, Dallas District

CSJs: 0095-13-038, 0095-14-027 and 0495-01-071.

Maura Hogan, Principal Investigator; Antiquities Permit No. 8869

July 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.

DocuSign Envelope ID: BA70A476-CC6F-43C9-8AF8-C996AB9392A9

MEMO

June 10, 2019

TO: Administrative File
From: Rebekah Dobrasko

District: Dallas
County: Dallas, Kaufman
CSJ#: 0095-14-027, 0095-13-038, 0495-01-071
Highway: IH 20
Let Date: August 2027

Project Limits: From Lawson Road to East of CR 138
Project Description: Stipulation IX, Appendix 6. Widen roadway and improve intersections. Approximately 125.3 acres of new ROW and permanent easements. 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 20.4-mile segment of IH 20 in Dallas and Kaufman Counties, between Lawson Road in Dallas County and just east of CR 138 in Kaufman County. The proposed project includes constructing continuous frontage roads in each direction, adding auxiliary lanes on the mainlanes of IH 20, and improving intersections and ramps along the interstate. TxDOT proposes to acquire approximately 121.5 acres of new right-of-way (ROW) for this project and 3.8 acres of permanent easement for the 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 proposed new ROW and the existing ROW where no new acquisition is proposed.

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TxDOT conducted a reconnaissance survey of the project APE to identify historic-age (built prior to 1982) properties. As a result of that survey, TxDOT identified 30 historic-age resources. None of these identified properties have any significance to historic events, people, or in architecture or design. Therefore, TxDOT finds all 30 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.

DocuSigned by:
Lead Reviewer Rebekah Dobrasko 0F414A49C0E44B3... for TxDOT 6/10/2019
Rebekah Dobrasko Date

DocuSigned by:
Approved by Bruce Jensen 7EBA09BEBA8043B... for TxDOT 6/10/2019
Bruce Jensen Date

Texas Department of Transportation

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

January 6, 2017

RE: Early Coordination for Sec. 106 Consultation

To: 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 the Federal Highway Administration (FHWA) and TxDOT.

The purpose of this letter is to include more detailed information about TxDOT's consultation program. The documents include information on the **TxDOT Early Tribal Coordination Tool** and a table of the projects and nearby archeological sites, if any, that the **TxDOT Early Tribal Coordination Tool** map depicts. This letter provides more detail about both the **TxDOT Early Tribal Coordination Tool** and the table.

TxDOT Early Coordination Tool

The first attachment contains the link, log in information and directions for the **TxDOT Early Tribal Coordination Tool**. This web-based map depicts hundreds of both minor and major TxDOT projects within your area of interest and any known archeological sites within a kilometer of each project. Each project's provisional area of effects (APE) is defined in the tool as the area within 500 feet of a roadway segment. As TxDOT develops detailed plans for each project and finalizes the APE, this provisional APE in most cases will likely be refined to a smaller area. Archeological sites do occur in proximity to some of the projects, and new sites may be discovered through further investigations. Archeological sites that qualify for inclusion in the National Register of Historic Properties are, however, rare. TxDOT thus expects that most of these projects will have no effect on archeological historic properties. All of the depicted projects have been or will be reviewed by the Environmental Affairs' Archeology Branch to verify that the projects will have no effect.

****YOU MAY COMMENT AT ANY TIME DURING THIS EARLY COORDINATION PROCESS AND USE OF THE TOOL DOES NOT PRECLUDE THE ABSENTEE SHAWNEE TRIBE OF OKLAHOMA FROM ENTERING INTO CONSULTATION PER SEC. 106 OF THE NATIONAL HISTORIC PRESERVATION ACT (NHPA).**

We will continue to send you consultation letters on any project whose area of potential effects includes Native American sites and on all major projects. Major projects:

- include border crossing facility construction, conversion of non-freeways to freeways, new location non-freeways, new location freeways, widening non-freeways, and widening freeways; and
- Require new right-of-way.

Major projects would cause more than 100 cubic yards of ground disturbance to previously-undisturbed areas, and such projects may affect areas that have not been previously surveyed for cultural resources.

For minor projects, TxDOT will conduct investigations of the final APE. These investigations will comprise review of available background information and, in some cases, field studies. TxDOT will not provide further information about such minor projects unless these investigations reveal the presence of a site.

Table of Projects and Sites

The second attachment contains a table of the projects and any sites within the 500-foot APE of each project. As previously noted, sites may have already been identified within this provisional APE. The table lists, as a separate row, each site found within 500 feet of a project. For projects where multiple sites have been found within the provisional APE, the same project will be listed multiple times in the table. Projects for which no known sites occur within 500 feet will be listed only once. The table can be sorted in various ways, such as by County, project status, and let date.

If you have any questions about these tools or would like to consult on any of the projects listed, please contact Laura Cruzada at 512/416-2638, laura.cruzada@txdot.gov. When replying to this correspondence by US Mail, please ensure that the envelope address includes reference to the Archeological Studies Branch, Environmental Affairs Division.

Thank you for your attention to this matter.

Sincerely,

Scott Pletka, Deputy Section Director
Environmental Affairs Division

Draft e-mail response to TxDOT (comments)

Re: Response to Request for TCEQ Environmental Review

The Texas Commission on Environmental Quality (TCEQ) received a request from the Texas Department of Transportation (TxDOT) regarding the following project: EA Review – IH 20 Dallas and Kaufman Counties, CSJ: 0095-14-027.

In accordance with the Memorandum of Understanding between TxDOT and TCEQ addressing environmental reviews, which is codified in Chapter 43, Subchapter I of the Texas Administrative Code (TAC) and 30 TAC § 7.119, TCEQ is responding to your request for review by providing the below comments.

We are in support of the project. The environmental Assessment addresses issues related to surface and groundwater quality.

TxDOT will still need to follow all other applicable laws related to this project, including applying for applicable permits.

If you have any questions, please feel free to contact the NEPA Coordinator at (512) 239-0010 or NEPA@tceq.texas.gov.

Leslie Mirise

From: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Sent: Thursday, November 21, 2019 8:49 AM
To: Leslie Mirise
Cc: Christine Polito; Dan Perge; Stirling Robertson
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination
Attachments: TxDOT-Dallas District-SGCN Plants-I20-11.21.2019.pdf

This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Leslie,

I apologize for the delay in responding. Thank you for the additional information that you provided during the coordination process. We would appreciate efforts by TxDOT to minimize temporary impacts to riparian and wetland habitats to reduce any unintentional impacts to these environmentally sensitive areas. Please let me know if we can assist the Dallas District with the USACE required compensatory stream and wetland mitigation for this project.

Please feel free to reach out to me If you need further assistance with SCGN plants. I have attached information sheets by Bill Carr of the Nature Conservancy of Texas in 2011 for three SGCN species that will be included in the EPIC sheet for this project.

Thank you for submitting the following project for early coordination: IH 20 Add Frontage Roads Project (CSJ: 0095-14-027). TPWD appreciates TxDOT's commitment to implement the practices listed in the Tier I Site Assessment form submitted on May 31, 2019. Based on a review of the documentation, the avoidance and mitigation efforts described, and provided that project plans do not change, TPWD considers coordination to be complete. However, please note it is the responsibility of the project proponent to comply with all federal, state, and local laws that protect plants, fish, and wildlife.

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

Sincerely,

Suzanne Walsh
Transportation Conservation Coordinator
(512) 389-4579

From: Leslie Mirise <Leslie.Mirise@txdot.gov>
Sent: Wednesday, November 20, 2019 12:41 PM
To: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Stirling Robertson <Stirling.Robertson@txdot.gov>
Subject: FW: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

Hi Suzanne,

I mistakenly wrote May 21, 2019. The public hearing is actually Thursday, November 21, 2019.

Thanks,

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

From: Leslie Mirise
Sent: Tuesday, November 19, 2019 4:30 PM
To: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Stirling Robertson <Stirling.Robertson@txdot.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

Hi Suzanne,

Just a heads up that the project is going to public hearing this week, on Thursday, May, 21, 2019. Do you have any further recommendations?

Thanks,

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

From: Leslie Mirise
Sent: Thursday, November 07, 2019 11:33 AM
To: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Stirling Robertson <Stirling.Robertson@txdot.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

Hi Suzanne,

Any required compensatory mitigation for impacts to wetlands or waters of the U.S. would be coordinated with the USACE. Mitigation bank credits from a mitigation bank in the proposed project's watershed would be used to satisfy PCN requirements. Please see the August 6, 2019, email below for additional information on the impact reductions made at two jurisdictional features that result in the project no longer requiring IPs but rather NWP with PCN for both features.

Thanks,

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

From: Suzanne Walsh [mailto:Suzanne.Walsh@tpwd.texas.gov]
Sent: Wednesday, November 06, 2019 4:53 PM
To: Leslie Mirise <Leslie.Mirise@txdot.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Stirling Robertson <Stirling.Robertson@txdot.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

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Hi Leslie,

I appreciate you adding a note about SGCN plants to the EPIC sheet. In my previous email, I asked for information about TxDOT plans for stream and wetland mitigation. Can you provide any information?

Thanks,
Suzanne

From: Leslie Mirise <Leslie.Mirise@txdot.gov>
Sent: Wednesday, November 6, 2019 11:37 AM
To: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Stirling Robertson <Stirling.Robertson@txdot.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

Suzanne,

Thank you for the recommendations. TxDOT's responses are below:

TPWD recommendation #1: The contractor will be advised of the potential occurrence of SGCN plant species, including plateau milkvine, Texas milk vetch, and tree dodder, in the project area and avoid harming the species if encountered.
TxDOT response #1: The above language would be added to the project EPIC sheet.

TPWD recommendation #2: For SCGN plants that are found within the project area, but outside of the project footprint, mark plant locations with temporary barrier fencing and alert contractors to avoid plants within those areas. For SCGN plants found within the project footprint, and avoidance is not possible, please contact me to discuss options to seed bank or otherwise attempt to conserve populations prior to construction.
TxDOT response #2: At this point in the project development it is expected that the project area is the project footprint, and as such would be impacted. All vegetation types within the project area have been accounted for in the EMST and Field-Verified Vegetation Map. Because no SGCN plant species were identified by the qualified biologist during the site assessment, and no EO ID detections of SGCN plant species were present in the project's 1.5-mile buffer, no further survey is projected.

TPWD recommendation #3: Impacts at stream crossings should be minimized during the design phase by spanning stream channels and other water features when feasible, reducing culvert lengths, and utilizing metal-beam guard fence to increase slope angles and reduce embankment.
TxDOT response #3: Stream crossings are designed per TxDOT hydraulic specifications. As detailed in the August 6, 2019, email below, two bridges have been extended during this coordination process to avoid and minimize impacts to jurisdictional wetland features associated with the East Fork Trinity River.

TPWD recommendation #4: To further minimize impacts, where culverts are used for road crossings, the crossings should be designed with the culvert(s) in the active channel area lower than those in the floodplain benches so that the flow in the channel is not overly spread out. The central/low-flow culvert(s) should be large enough to handle a 1.5 year flow without backing up water. The bottoms of these lower culverts should be set at least a foot below grade (i.e. recessed) to allow natural substrate to cover the culvert bottom and to allow for aquatic organism passage. These lower, recessed culverts should be installed in the thalweg or deepest part of the channel and be aligned with the low flow channel.
TxDOT response #4: Culverts are designed per TxDOT hydraulic specifications.

TPWD recommendation #5: Dewatering activities can impact aquatic resources through stranding fish and mussels. Other harmful construction activities can trample, dredge, or fill areas exhibiting stationary aquatic resources such as plants and mussels. To avoid or reduce impacts, TPWD may recommend relocating aquatic life, including, but not limited to, fish, turtles, and mussels, to an area of suitable habitat outside the project footprint. Relocation activities are done under the authority of a TPWD *Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters*. Information regarding this permit can be obtained at: http://www.tpwd.state.tx.us/publications/fishboat/forms/. Aquatic Resource Relocation Plans (ARRP) are used to plan resource handling activities and assist in the permitting process. If dewatering activities and other project-related activities cause mortality to fish and wildlife species, then the responsible party could be liable for the value of the lost resources under the authority of TPW Code Sections 12.0011 (b) (1) and 12.301. Aquatic Resource Relocation Plans can be submitted to Greg Conley, TPWD Region 2 KAST at 903-566-2518 or Greg.Conley@tpwd.texas.gov to initiate coordination prior to construction for a Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters. An Aquatic Resource Relocation Plan should be completed and approved by the department 30 days prior to dewatering and/or resource relocation and submitted with an application for a no-cost Permit to Introduce Fish, Shellfish, or Aquatic Plants into Public Waters.
TxDOT response #5: Dewatering is not part of the project description. However, in regard to Lousiana pigtoe, Texas heelsplitter, Texas pigtoe a survey and relocation associated with the Freshwater Mussel BMPs would be implemented prior to the start of construction. An ARRP would be submitted to TPWD KAST for a relocation permit. The Aquatic Reptile BMPs would be implemented for the alligator snapping turtle.

Please let me know if you need any additional information.

Thank you,

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

From: Suzanne Walsh [mailto:Suzanne.Walsh@tpwd.texas.gov]
Sent: Monday, November 04, 2019 4:59 PM
To: Leslie Mirise <Leslie.Mirise@txdot.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Stirling Robertson <Stirling.Robertson@txdot.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Leslie,

Thank you for your patience. TPWD has the following recommendations for the proposed project:

- The contractor will be advised of the potential occurrence of SGCN plant species, including plateau milkvine, Texas milk vetch, and tree dodder, in the project area and avoid harming the species if encountered.

- For SCGN plants that are found within the project area, but outside of the project footprint, mark plant locations with temporary barrier fencing and alert contractors to avoid plants within those areas. For SCGN plants found within the project footprint, and avoidance is not possible, please contact me to discuss options to seed bank or otherwise attempt to conserve populations prior to construction.

- Impacts at stream crossings should be minimized during the design phase by spanning stream channels and other water features when feasible, reducing culvert lengths, and utilizing metal-beam guard fence to increase slope angles and reduce embankment.

- To further minimize impacts, where culverts are used for road crossings, the crossings should be designed with the culvert(s) in the active channel area lower than those in the floodplain benches so that the flow in the channel is not overly spread out. The central/low-flow culvert(s) should be large enough to handle a 1.5 year flow without backing up water. The bottoms of these lower culverts should be set at least a foot below grade (i.e. recessed) to allow natural substrate to cover the culvert bottom and to allow for aquatic organism passage. These lower, recessed culverts should be installed in the thalweg or deepest part of the channel and be aligned with the low flow channel.

- Dewatering activities can impact aquatic resources through stranding fish and mussels. Other harmful construction activities can trample, dredge, or fill areas exhibiting stationary aquatic resources such as plants

and mussels. To avoid or reduce impacts, TPWD may recommend relocating aquatic life, including, but not limited to, fish, turtles, and mussels, to an area of suitable habitat outside the project footprint. Relocation activities are done under the authority of a TPWD *Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters*. Information regarding this permit can be obtained at: http://www.tpwd.state.tx.us/publications/fishboat/forms/. Aquatic Resource Relocation Plans (ARRP) are used to plan resource handling activities and assist in the permitting process. If dewatering activities and other project-related activities cause mortality to fish and wildlife species, then the responsible party could be liable for the value of the lost resources under the authority of TPW Code Sections 12.0011 (b) (1) and 12.301. Aquatic Resource Relocation Plans can be submitted to Greg Conley, TPWD Region 2 KAST at 903-566-2518 or Greg.Conley@tpwd.texas.gov to initiate coordination prior to construction for a Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters. An Aquatic Resource Relocation Plan should be completed and approved by the department 30 days prior to dewatering and/or resource relocation and submitted with an application for a no-cost Permit to Introduce Fish, Shellfish, or Aquatic Plants into Public Waters.

Are there plans for TxDOT to mitigate for stream and wetland impacts?

Thanks,
Suzanne

From: Leslie Mirise <Leslie.Mirise@txdot.gov>
Sent: Wednesday, October 30, 2019 5:11 PM
To: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Stirling Robertson <Stirling.Robertson@txdot.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

Hi Suzanne,

Thanks so much. I really appreciate it.

Leslie

From: Suzanne Walsh [mailto:Suzanne.Walsh@tpwd.texas.gov]
Sent: Wednesday, October 30, 2019 5:03 PM
To: Leslie Mirise <Leslie.Mirise@txdot.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Stirling Robertson <Stirling.Robertson@txdot.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

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Hi Leslie,

Thanks for the email. I am finalizing my review and should be able to provide any final comments by Monday.

Thanks,
Suzanne

From: Leslie Mirise <Leslie.Mirise@txdot.gov>
Sent: Monday, October 28, 2019 3:59 PM
To: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Stirling Robertson <Stirling.Robertson@txdot.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

Hi Suzanne,

It's been approximately 33 days since submitting updated schematic information and memo. As a result of TPWD comments, TxDOT reduced the project footprint and impacts to associated bottomland hardwood habitat. Is there anything else you need for your review? I'm being asked for updates since coordination started back in May.

Thanks,

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

From: Suzanne Walsh [mailto:Suzanne.Walsh@tpwd.texas.gov]
Sent: Thursday, October 17, 2019 5:34 PM
To: Leslie Mirise <Leslie.Mirise@txdot.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Stirling Robertson <Stirling.Robertson@txdot.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

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Hi Leslie,

Sorry for the delay in responding. Thanks for letting me know about the public hearing next month. I will let you know if I have any questions during my review.

Thanks,
Suzanne

From: Leslie Mirise <Leslie.Mirise@txdot.gov>
Sent: Thursday, October 10, 2019 1:51 PM

To: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Stirling Robertson <Stirling.Robertson@txdot.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

Hi Suzanne,

Could you provide a status on coordination for this project? We need to keep it moving because the hearing is in mid-November. I realize coordination doesn't have to be completed prior to the hearing, but it is helpful if it is. The final EA is under development and would be completed after the hearing.

Thanks,

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

From: Suzanne Walsh [mailto:Suzanne.Walsh@tpwd.texas.gov]
Sent: Thursday, October 03, 2019 4:36 PM
To: Leslie Mirise
Cc: Christine Polito; Dan Perge
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

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Thanks, Leslie. I will take a look over and let you know if I have any questions.

Suzanne

From: Leslie Mirise <Leslie.Mirise@txdot.gov>
Sent: Wednesday, September 25, 2019 2:01 PM
To: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

Suzanne,

As previously discussed, and as a result of Sue Reilly's question on 7/26/19, the schematic has been updated to reflect a reduction of the project area. The attached memo describes the project area changes and how they affect the Biological Resources documentation (i.e., the Biological Evaluation Form and Tier 1 Site Assessment). This memo and updated

schematic, with a 9-18-19 date in the file name, been uploaded to ECOS. In addition, the updated EMST and observed vegetation figures and the accompanying Excel spreadsheet are included as attachments and will be uploaded in ECOS as part of the coordination activity.

Please let me know if you have any questions.

Thanks!

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

From: Suzanne Walsh [mailto:Suzanne.Walsh@tpwd.texas.gov]
Sent: Wednesday, August 14, 2019 10:13 AM
To: Leslie Mirise
Cc: Christine Polito; Dan Perge
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Leslie,

Thanks for the update on the IH-20 project.

Suzanne

From: Leslie Mirise <Leslie.Mirise@txdot.gov>
Sent: Tuesday, August 6, 2019 11:40 AM
To: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

Suzanne,

There has been a project update involving impacts to waters of the US and resulting USACE permitting. This is different from the Loop 9/SH 190 intersection topic discussed below, for which there will be updates to at a later date.

The following is an update to the Tier 1 Form:

5. Yes Does the project require a NWP with PCN or IP by USACE?

*Explain:

Due to temporary and permanent impacts to jurisdictional waters of the US, including wetlands, it is NWP 14 and NWP 25 with PCN will be required.

Two bridges would be extended to minimize impacts at jurisdictional wetlands associated with East Fork Trinity River. More specifically, the East Fork bridge at station 485+00 would be extended. In addition, the alignment would be modified and bridge extended at station 965+00. Impacts to the two corresponding wetlands would be reduced to approximately 0.1 acre each. As a result, the project would no longer require a Section 404 Individual Permit. The project would be covered by a NWP 14 and NWP 25, with a Pre-construction Notification to the USACE. The project footprint would not change in these locations, and estimated impacts to vegetation would remain as previously calculated.

An update to the project schematic is currently in progress. I will let you know when it is approved.

Please let me know if you have any questions.

Thanks,

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

From: Leslie Mirise
Sent: Friday, August 02, 2019 1:25 PM
To: Sue Reilly
Cc: Suzanne Walsh
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

Sue,

Sounds good, and congratulations again on the new position. Yay fisheries!

Yes, Suzanne, I will keep you in the loop on any prospective changes. I hope to hear from our engineers soon, perhaps in the next week.

Happy Friday!

Leslie Mirise
Environmental Specialist
Dallas District – DAL-ENV

Texas Department of Transportation
4777 East Highway 80
Mesquite, Texas 75150
(214) 320-6162 office
(214) 320-4470 FAX

From: Sue Reilly [mailto:Sue.Reilly@tpwd.texas.gov]
Sent: Friday, August 02, 2019 1:12 PM
To: Leslie Mirise
Cc: Suzanne Walsh
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

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Leslie,

Thanks for calling today. It sounds like there may be some changes forthcoming on this project that may affect the configuration I was asking about in my email on July 26. I'm moving on to a new position and won't be reviewing projects any more, so I will pass this on to Suzanne to continue coordination as needed since the project needs to stay open. Thanks so much!

Thank you,

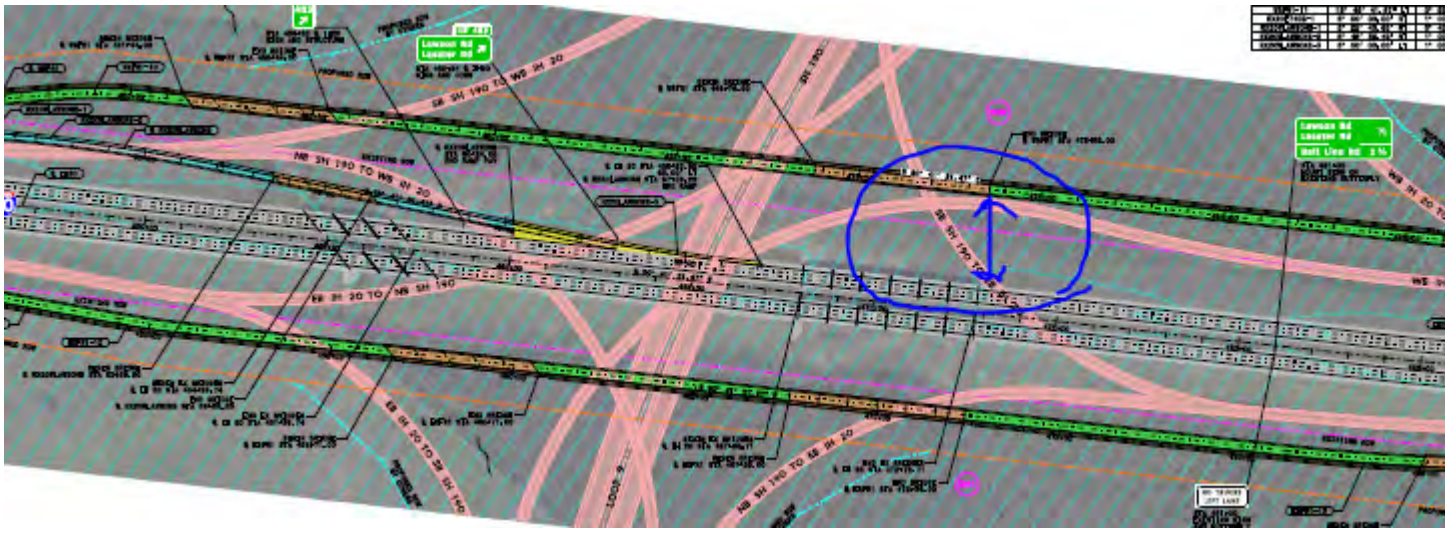
Sue Reilly
Transportation Assessment Liaison
Texas Parks and Wildlife
Wildlife Division
512-389-8021

From: Sue Reilly
Sent: Friday, July 26, 2019 4:22 PM
To: Leslie Mirise <Leslie.Mirise@txdot.gov>
Cc: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>; Mark Hull <Mark.Hull@txdot.gov>; Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Sandra Williams <Sandra.Williams2@txdot.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

Leslie,

On page 2 of the schematic, it does look like the frontage roads are farther from the mainlanes in the area where Loop 9 crosses though? That's my main question, since if the frontage roads are farther from the mainlanes, there is a lot more impact to habitat, and it's also strange to have those sitting way out far away from the mainlanes if Loop 9 doesn't end up in that location.

I'm pasting the image below for reference, just so we are looking at the same area. I put blue circles around the two distances I'm comparing.



Thank you,

Sue Reilly
Transportation Assessment Liaison
Texas Parks and Wildlife
Wildlife Division
512-389-8021

From: Leslie Mirise <Leslie.Mirise@txdot.gov>
Sent: Friday, July 26, 2019 4:04 PM
To: Sue Reilly <Sue.Reilly@tpwd.texas.gov>
Cc: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>; Mark Hull <Mark.Hull@txdot.gov>; Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Sandra Williams <Sandra.Williams2@txdot.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

Sue,

Page 2 of the approved schematic shows Loop 9 and SH 190 to be performed by others. That should be considered like a place holder, as neither of those projects have started the NEPA process. Those "by others" locations should be considered conceptual, as they are based on Loop 9's 2014 Feasibility Study, and could change.

No specific design features of the IH 20 Frontage Roads project are dependent on the location of Loop 9 or SH 190.

Thanks,

Leslie Mirise
Environmental Specialist
Dallas District – DAL-ENV
Texas Department of Transportation

4777 East Highway 80
Mesquite, Texas 75150
(214) 320-6162 office
(214) 320-4470 FAX

From: Sue Reilly [mailto:Sue.Reilly@tpwd.texas.gov]
Sent: Friday, July 26, 2019 3:24 PM
To: Leslie Mirise
Cc: Suzanne Walsh; Mark Hull; Christine Polito; Dan Perge; Sandra Williams
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

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Leslie,

I'm glad minimization is feasible for the water impacts.

Are there design features in the IH-20 frontage roads that are dependent on the location of Loop 9?

Thank you,

Sue

From: Leslie Mirise <Leslie.Mirise@txdot.gov>
Sent: Friday, July 19, 2019 2:44 PM
To: Sue Reilly <Sue.Reilly@tpwd.texas.gov>
Cc: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>; Mark Hull <Mark.Hull@txdot.gov>; Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Sandra Williams <Sandra.Williams2@txdot.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

Sue,

Thank you for the questions below.

Feature 30 is an intermittent, unnamed tributary. The two, 10' x 10' culverts would be extended to accommodate the addition of frontage roads. Currently there is an energy dissipater in place on the downstream side, where there is evidence of erosion. The proposed extension would also incorporate energy dissipation due to expected flow velocities and would meet TxDOT hydraulics specifications.

Since the Tier 1 Site Assessment Form was turned in, there have been two recent changes to two crossings in order to minimize impacts. The crossing at feature 12, a five-acre wetland, would include a longer bridge in order to minimize impacts. In addition, the bridge at feature 36, a one-acre stream/wetland, would be lengthened to minimize impacts. Both crossings would now utilize NWP 14 with PCN instead of an IP.

The Draft EA is currently in progress. The NEPA process for Loop 9 Segment C has not started. Therefore, it is unknown how the Loop 9 Segment C project would or would not interact with this project.

Please let me know if you have any further questions.

Thanks,

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

From: Sue Reilly [mailto:Sue.Reilly@tpwd.texas.gov]
Sent: Tuesday, July 09, 2019 3:38 PM
To: Leslie Mirise
Cc: Suzanne Walsh
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

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Leslie,

I have a couple of questions about the IH-20 project.

Could you tell me more about the culvert extension at water Feature 30, which is an unnamed tributary at the upstream portion of Lower East Fork Lateral Site No 1. It looks like there are some large energy dissipators on that culvert as well as it being perched above the water line for the downstream part. Will the culvert be made passable for aquatic life? Or will a bridge be added so that water can flow through without creating erosive velocities?

Also, do you have an EA document for this project? And how will this EA and the EIS for Loop 9 interact, since the IH-20 frontage roads seem like they will be quite far from the mainlanes at the intersection with Loop 9. If the EIS will not be completed until after the EA, is the location for Loop 9 final?

I appreciate your help.

Thank you,

Sue

From: WHAB_TxDOT
Sent: Monday, June 3, 2019 3:23 PM
To: Leslie Mirise <Leslie.Mirise@txdot.gov>; Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Sandra Williams <Sandra.Williams2@txdot.gov>
Cc: Sue Reilly <Sue.Reilly@tpwd.texas.gov>
Subject: RE: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

The TPWD Wildlife Habitat Assessment Program has received your request and has assigned it project ID # 41996. The Habitat Assessment Biologist who will complete your project review is copied on this email.

Thank you,

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

From: Leslie Mirise [mailto:Leslie.Mirise@txdot.gov]
Sent: Friday, May 31, 2019 5:14 PM
To: WHAB_TxDOT <WHAB_TxDOT@tpwd.texas.gov>
Cc: Christine Polito <Christine.Polito@txdot.gov>; Dan Perge <Dan.Perge@txdot.gov>; Sandra Williams <Sandra.Williams2@txdot.gov>
Subject: CSJ 0095-14-027, etc. IH 20 Add Frontage Roads Project - Request for Early Coordination

Hello,

TxDOT requests early coordination for the IH 20 Add Frontage Roads Project in Dallas and Kaufman counties, Texas. I have attached the following:

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

These documents, along with other project-related information, are also available in ECOS under the CSJ: 0095-14-027. The approved project schematic is available in ECOS in the Documents/Project section under the following filename: 0095-14-027, etc IH 20 Approved Schematic.pdf

The planned NEPA clearance date for this project is July 8, 2019. In order for the project to remain on its current letting schedule, please provide comments or complete coordination before the NEPA clearance date.

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

Thank you,

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

A Texas Department of Transportation (TxDOT) message

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