

**EXHIBIT "A"**  
**Scope of Services**

**New southbound entrance ramp to US 287 at Walnut Creek Drive - Mansfield, Texas**

**GENERAL** - The scope of the project includes the survey and engineering work necessary to prepare a schematic design and environmental documents to support the approval of a new southbound single lane entrance ramp to US 287 with a possible 1,200 linear foot extension of the 3<sup>rd</sup> southbound frontage road lane situated near the connection of Mauser Way at the southbound US 287 frontage road. Design will be in accordance with the applicable City of Mansfield, FEMA, TxDOT and AASHTO standards. Proposed ramp to be a merge ramp to the US 287 main lanes without additional auxiliary lanes on the main lane.

The City of Mansfield will provide the following information for the design:

- Existing easement documents and record drawings on file at the City within and adjacent to the project limits
- A project manager to serve as the primary point of contact

Half will provide the following services as part of this design:

**BASIC SERVICES**

**I. Project Management and Coordination**

Half will manage and provide QAQC services on the project.

a. Project Management

- i. Lead, manage and direct design team activities
- ii. Ensure quality control is practiced in performance of the work
- iii. Communicate internally among team members
- iv. Allocate team resources

b. Communications and Reporting

- i. Attend one pre-design project kickoff meeting with City to confirm and clarify scope, understand City objectives, and ensure economical and functional designs that meet City requirements. Written minutes documenting discussion items during said meeting shall be prepared.
- ii. Conduct review meetings with the City and TxDOT at critical milestones. Up to four (4) total. Written minutes documenting discussion items during said meetings shall be prepared.
- iii. Prepare and submit monthly invoices in the format acceptable to the City.
- iv. Prepare and submit monthly progress reports.

- v. Prepare and submit baseline Project Schedule initially and Project Schedule updates.
- vi. Obtain any additional design criteria, available GIS information, pertinent utility plans, street plans, plats and right-of-way maps, existing easement information, previous studies prepared by others, as-built plans for portions of surrounding infrastructure, historical drainage complaints and other information available for the project area.

## **II. Design Survey**

Halff will conduct a field and topographic survey to verify and supplement survey data obtained as part of the schematic design.

### **a. Right of Entry**

- i. Right of Entry for private property is not anticipated for this project. Surveys in TxDOT ROW shall be conducted in accordance with TxDOT requirements and proper traffic control devices placed.

### **b. Survey**

- i. The survey will locate ROW line, surface utility features, structures, and other surface features relevant to the roadway design.
- ii. Halff will incorporate this survey with available LIDAR topography, existing aerial photography, and record drawings of existing improvements to prepare a base map for the design.

## **III. Local On System Agreement (LOSA)**

### **a. TxDOT Coordination**

- i. Halff shall attend an initial kickoff meeting with TXDOT to discuss the project and provide written minutes documenting major discussion items.
- ii. Halff shall complete the standard TXDOT Project Information Form and provide all necessary exhibits and information for the processing of said form in conjunction with the LOSA.
- iii. Halff shall complete the CSJ request form(s). Due to anticipated construction cost exceeding \$1 million dollars a CSJ is assumed to be required for the LOSA process.
- iv. Halff shall provide the City with the necessary information required to obtain the City Council resolution required for the LOSA final approval.

### **b. Environmental**

The Scope of Services includes the preparation of environmental documentation for a (c)-list CE, associated studies, and public involvement to meet the requirements of the National Environmental Policy Act (NEPA) of 1969 under 23 Code of Federal Regulations (CFR) Part 771 and 43 Texas Administrative Code (TAC) Part 1, Chapter 2. Halff will

follow TxDOT guidelines and templates. Halff will coordinate with TxDOT's Fort Worth District Environmental Coordinator and TxDOT's Environmental Affairs Division staff. Deliverables will be provided for review and approval by the City of Mansfield and TxDOT.

- i. Scoping documentation shall be provided to the TxDOT Fort Worth District office to initiate the CE process and identify the technical studies that will be required for the project.
- ii. Halff will obtain digital environmental information available from appropriate local, state, and federal agencies. Data collected through this task will be stored in Geographic Information System (GIS) format.
- iii. Halff shall complete the Work Plan Development (WPD) 1 and WPD 2 Environmental Compliance Oversight System (ECOS) screens and submit to TxDOT. The following resources will be preliminarily addressed in the scoping documentation.
  - Air Quality
  - Cultural Resources
  - Community Impacts
  - Biological Resources
  - Water Resources
  - Hazardous Materials
  - Traffic Noise
  - Section 4(f) & Section 6(f)
  - Parks and Wildlife Code, Chapter 26
  - Natural Resources Code, Chapter 183
  - Indirect Impact Analysis
  - Cumulative Impacts
  - Public Involvement
- iv. Technical reports and resource agency coordination requests shall be prepared for resources that require assessment as defined in the WPD ECOS screens. The technical reports are used by TxDOT to initiate resource/regulatory agency coordination and to obtain feedback/approval from agencies, as applicable. This project is anticipated to require the following technical reports and the Engineer's focus of effort will generally be limited to confirmation that the proposed project has no connection with any environmentally sensitive natural resources:
  - Biological Resources Deliverables
  - Surface Water Analysis Form
  - Historical Studies Project Coordination Request (PCR)
  - Archeological Background Study
  - Conformity Report Form

The technical reports will be submitted to the TxDOT Fort Worth District and revised in accordance with comments received during up to two rounds of review.

- v. Halff will mail out a notice and opportunity to comment as well as a project location map to affected property owners. A mailing list and corresponding property owner map will be prepared. Documentation will be prepared including any comments received and responses to comments.
  
- vi. Environmental scope of work exclusions are as follows:
  - Technical reports for the following items are excluded from this scope of services: Hazardous Materials Initial Site Assessment, Community Impact Assessment, Traffic Noise Analysis, Qualitative/Quantity MSAT analyses, Hot Spot analysis, Congestion Management Process Form, Carbon Monoxide Traffic Air Quality Technical Report, Waters of the United States Delineation Report, Section 404/10 Impacts table, Section 4(f)/6(f) documentation, archeological or historic resources survey reports, indirect impacts, and cumulative impacts.
  - A public meeting/hearing is not included in this scope of work.
  - Effort to obtain right-of-entry from public or private land owners to allow for the completion of environmental services is not included in this scope of work.
  - This scope of work does not include threatened or endangered species surveys or Section 7 consultation with the USFWS under the Endangered Species Act.
  - This scope of work does not include any presence/absence surveys to satisfy TxDOT/TPWD MOU BMP requirements
  - Preparation of a Preconstruction Notification (PCN), mitigation plan, or a U.S. Army Corps of Engineers (USACE) Section 404 Individual Permit Application is not included in this scope of work.
  - This scope of work does not include obtaining an Antiquities Permit from the Texas Historical Commission (THC), preparation of a research design, performing a reconnaissance survey or intensive surveys (i.e., on the ground or archival research for historic structures/districts and shovel testing/deep trenching for archeological sites), evaluation of National Register of Historic Places (NRHP) eligibility for any resources, evaluation of effects on NRHP-eligible or -listed sites, development of mitigation plans, or Section 4(f) evaluations.
  - This scope of work does not include a Phase I Environmental Site Assessment performed in accordance with applicable American Society for Testing and Materials (ASTM) standards or any surveys/investigations involving sampling and laboratory analysis (e.g., hazardous materials sampling and analysis, asbestos surveys, and lead-based paint surveys for demolition related items).

#### **IV. Subsurface Utility Engineering**

Halff will provide subsurface utility engineering services, (SUE) in accordance with ASCE CI/ASCE 38-02 "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data." This standard defines the following Quality Levels.

Quality Level-A: Precise horizontal and vertical location of utilities obtained by the actual exposure (or verification of previously exposed and surveyed utilities) and subsequent measurement of subsurface utilities, usually at a specific point. Minimally intrusive excavation equipment is typically used to minimize the potential for utility damage. A precise horizontal and vertical location, as well as other utility attributes, is shown on plan documents.

Quality Level-B: Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate horizontal position of subsurface utilities. Quality Level-B data should be reproducible by surface geophysics at any point of their depiction. This information is surveyed to applicable tolerances defined by the project and reduced onto plan documents.

Quality Level-C: Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to Quality Level-D information.

Quality Level-D: Information derived from existing records or oral recollections.

##### **a. Subsurface Utility Engineering**

i. Quality Level A – Not in contract.

##### **ii. Quality Level B**

1. Halff will designate the approximate horizontal position of conductive/toneable utilities within the project limits using geophysical prospecting equipment and mark using paint and/or pin flags.
2. We anticipate the designation of buried communication, electric, and storm drain/storm sewer.
3. Designation of irrigation lines, HDPE lines, gathering lines, asbestos concrete and/or pvc lines, as well as pvc lines without tracer wire or access are not part of this Scope of Services.
4. Because of limited utility record information and the possibility of non-conductive/un-toneable utilities, Halff cannot guarantee all utilities will be found and marked within the project limits.

##### **iii. Quality Level C**

1. Utility Designation paint markings, pin flags, and above ground utility appurtenances as well the iron rod with cap will be surveyed as part of Basic Services II.

iv. Quality Level D

1. Halff will perform additional utility record research as needed to successfully complete the project.

v. Work Zone Traffic Control

1. Halff will provide standard temporary work zone traffic control consisting of cones and free-standing signage for this project. This Scope of Services does not include lane closure(s), flag person(s), changeable message board(s), arrow board(s) and/or engineered traffic control plans.
2. If an engineered traffic control plan is required for permit approval or if unique traffic control conditions exist, Halff will notify the Client and submit a supplemental agreement for authorization prior to proceeding with additional work.

**V. Schematic Design, Traffic and Opinion of Probable Construction Cost**

Halff shall develop preliminary design and traffic related information for TxDOT review and approval.

- a. The Engineer shall prepare a conceptual schematic design layout at 1" = 100' horizontal scale for the project to determine the preferred roadway geometry proposed typical sections. The Engineer shall identify design deviations, exceptions and waivers. The Engineer shall determine the necessity for each design deviation, exception or waiver for approval. If the State agrees that design deviation, exception or waiver is necessary, the Engineer shall prepare the State's required documentation including a Design Summary Report (DSR) to establish fundamental aspects, basic features, concepts, and design criteria. The Engineer shall furnish Microsoft Office and MicroStation and OpenRoads Designer (ORD) computer generated media containing the roadway schematic layout as required by TxDOT.
- b. The Engineer shall produce, obtain, review, and evaluate existing and twenty-year projected traffic data for use in the preparation of the schematic design layout. The data must be utilized in accordance with the requirements for schematic development and consistent with the policies of the State. The Engineer shall provide existing traffic counts, develop horizon year daily and AM and PM peak travel forecasts including the interchanges/intersections upstream and downstream of the proposed ramp. The Engineer shall review and analyze traffic data (including percent trucks, design hourly volume, and directional distribution), existing roadway features including existing ramp locations, weaving sections, number of lanes, offset to obstructions, lane widths, frontage road operations, and intersection operation and geometry. The Engineer shall conduct capacity analysis for all traffic interchanges and major intersections within the study area using HCM, CAP-X or SYNCHRO. Count and study locations are assumed to follow the locations shown in Exhibit D which are based upon the scoping meeting conducted

with TxDOT and the City on October 31, 2023. The locations shown in this Exhibit were provided to the City and TxDOT on November 6, 2023 via e-mail.

- c. The Engineer shall use a Bentley 3D OpenRoads Designer model to generate preliminary cross-sections at 100 feet intervals in conjunction with the geometric schematic showing ROW limits, side slopes, curbs and pavement cross slopes. The Engineer shall determine if any additional walls are required and verify the need for and length of the retaining wall as shown on the ultimate schematic.
  
- d. The Engineer shall prepare all designs in accordance with the latest version of:
  - i. Roadway Design Manual, published by TxDOT
  - ii. TxDOT Project Development Process Manual, published by TxDOT;
  - iii. Policy on Geometric Design of Highways and Streets, published by the American Association of State Highway and Transportation Officials' (AASHTO);
  - iv. Standard Specifications for Construction of Highways, Streets, and Bridges, published by TxDOT;
  - v. Texas Manual on Uniform Traffic Control Devices (TMUTCD), published by TxDOT;
  - vi. Highway Capacity Manual (HCM), published by the Transportation Research Board (TRB);
  - vii. Highway Safety Manual (HSM), published by AASHTO;
  - viii. Hydraulic Design Manual, published by TxDOT;
  - ix. Access Management Manual, published by TxDOT;
  
- e. Opinion of Probable Construction Cost (OPCC)

Half shall prepare an OPCC for the City and TxDOT's use during the project's design. Improvements within these OPCC shall be broken out upon a TXDOT and City basis for clarity and to help provide as accurate of cost as possible for the TXDOT on system improvements for LOSA permitting purposes.

## **SPECIAL SERVICES**

### **I. None**

## **ITEMS NOT INCLUDED IN THIS STUDY:**

The following services are not included in this scope, but Half can provide these as an amendment to this scope of services:

- Any services not specifically mentioned above under the Basic or Special Services sections herein
- Preparation of documents for and attendance at meetings, public or otherwise, pertaining to bicycle facilities within TXDOT right of way.
- Geotechnical exploration, samples and engineering recommendations.

- Construction plans and specifications.
- Construction engineering and inspection (CEI) services
- CLOMR/LOMR
- Access denial coordination and/or documentation
- Right of way acquisition including documents, title, appraisal, or other services required to deliver property
- Noise analysis for environmental purposes
- Traffic count beyond what is shown in Exhibit D.
- All services listed under Section III.b.vi



**EXHIBIT "B"**  
**Schedule**

**New southbound entrance ramp to US 287 at Walnut Creek Drive - Mansfield, Texas**

<b><u>Item</u></b>	<b><u>Schedule</u></b>
Subsurface Utility Engineering	30 calendar days from notice to proceed
Design Survey and Base Map	60 calendar days from notice to proceed
60% Schematic and DSR Submittal	150 calendar days from notice to proceed
LOSA Information Form and CSJ Request	30 calendar days after 60% submittal
Technical Reports	90 calendar days after TxDOT approval of Final Schematic
Pre-Final Schematic and DSR Submittal	30 calendar days after receipt of 60% comments from City and TXDOT
Final Schematic and DSR Submittal	45 calendar days after receipt of Pre-Final comments from City and TXDOT

**EXHIBIT "C"**  
**Fee Summary**

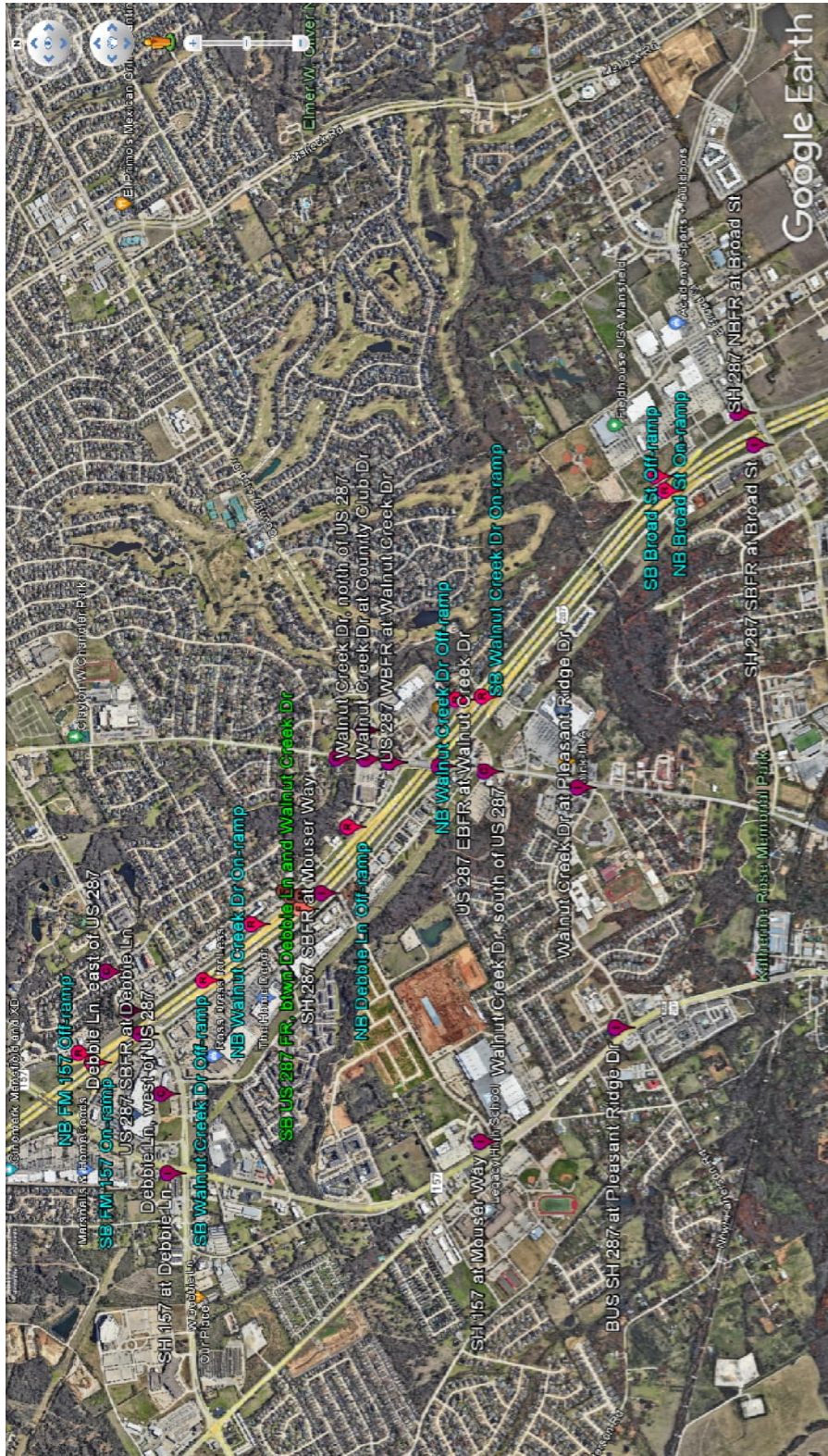
**New southbound entrance ramp to US 287 at Walnut Creek Drive - Mansfield, Texas**

<u>Item</u>	<u>Cost</u>
<b>BASIC SERVICES</b>	
I. Project Management and Coordination	\$50,700.00
II. Design Survey	\$15,200.00
III. Local On System Agreement (LOSA)	\$49,300.00
IV. Subsurface Utility Engineering	\$9,400.00
V. Schematic Design, Traffic, and Opinion of Probable Construction Cost	\$370,900.00
 <b>TOTAL FEE NOT TO EXCEED</b>	 <b>\$495,500.00</b>

Phase	Fee
1.0 Project Management and Coordination	\$50,700
2.0 Design Survey	\$15,200
3.0 Local On System Agreement (LOSA)	
3.1 TxDOT Project Initiation and Meetings	\$1,800
3.2 Environmental Services (Cat Ex)	\$42,500
3.3 Notice and Opportunity to Comment	\$5,000
4.0 Subsurface Utility Engineering	\$9,400
5.0 Schematic Design, Traffic and Opinion of Probable Construction Cost	
5.1 Preliminary Schematic Design	\$114,700
5.2 Final Schematic Design	\$32,800
5.3 Traffic Counts	\$61,400
5.4 Traffic Modeling	\$142,700
5.2 Traffic Projections, Volumes, and Memorandum	\$19,300
	<b>\$495,500</b>

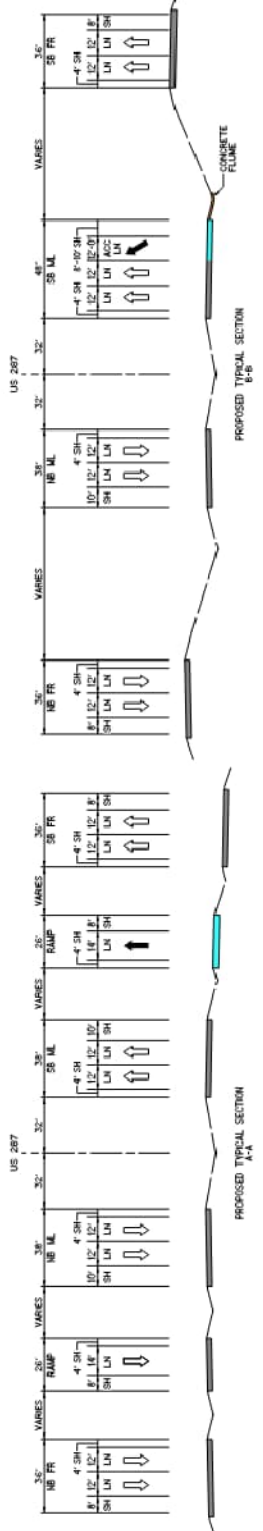
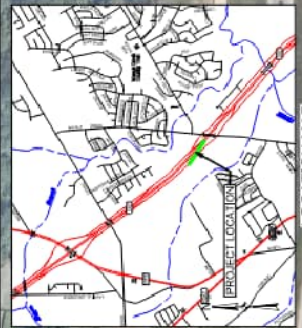
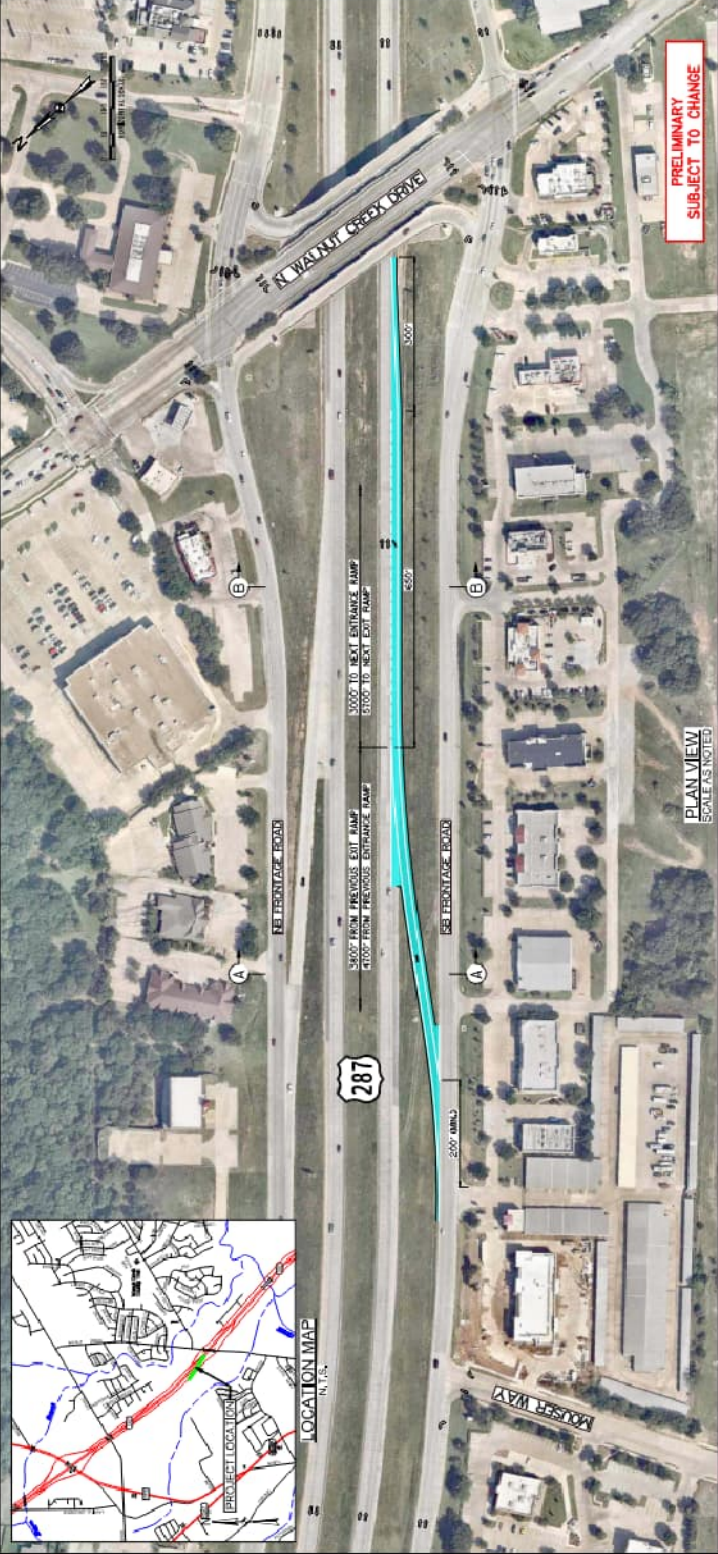
# EXHIBIT "D"

## Traffic County Summary and Conceptual Layout



- US 287 (Mansfield).kmlz
- SH 287 NBFR at Broad St
- SH 287 SBFR at Broad St
- US 287 (Mansfield)
- 24-Hour Counts - Mainlanes
- 24-Hour Bi-directional Counts - Crossroads
- Country Club Dr, east of Walnut Creek Dr
- Walnut Creek Dr, south of US 287
- Walnut Creek Dr, north of US 287
- Debbie Ln, east of US 287
- Debbie Ln, west of US 287
- TMCs (AM & PM 3-Hour Peak Period)
- Walnut Creek Dr at Country Club Dr
- US 287 NBFR at Debbie Ln
- US 287 SBFR at Debbie Ln
- SH 157 at Debbie Ln
- SH 157 at Mouser Way
- SH 287 SBFR at Mouser Way
- BUS SH 287 at Pleasant Ridge Dr
- Walnut Creek Dr at Pleasant Ridge Dr
- US 287 EBFR at Walnut Creek Dr
- US 287 WBFR at Walnut Creek Dr
- 24-Hour Directional Counts - Ramps
- SB FM 157 On-ramp
- SB Walnut Creek Dr Off-ramp
- SB Walnut Creek Dr On-ramp
- SB Broad St Off-ramp
- NB Broad St On-ramp
- NB Walnut Creek Dr Off-ramp
- NB Debbie Ln Off-ramp
- NB Walnut Creek Dr On-ramp
- NB FM 157 Off-ramp
- 24-Hour Directional Counts - Frontage Roads
- SB US 287 FR, btwn Debbie Ln and Walnut ...
- NB US 287 FR, btwn Debbie Ln and Walnut ...





TYPICAL SECTIONS  
 N.T.S.