

EXHIBIT "F"
HIDALGO COUNTY
Professional Engineering Services
Agreement # C-25-0480-10-28
WORK AUTHORIZATION NO. 2

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of the **Professional Engineering Services Agreement No. C-25-0480-10-28** incorporated herein by reference, for the "**Professional Engineering Services for Mile 2 West (SH 107 - I-2)**" made by and between **HIDALGO COUNTY**, action herein by and through the Commissioner's Court, hereinafter called the "**Owner**," and L&G Consulting Engineers, Inc., hereinafter called "**Engineer**".

PART 1. SCOPE OF WORK

The purpose of this Work Authorization is for the **Engineer** to provide Engineering Services required for PS&E Development, Local Letting and Project Management, as approved by the COUNTY.

The **Engineer** is to provide the scope of Services as required by the Agreement with Owner.

The scope of services to be provided by the **Engineer** is identified in **Attachment "A" – Scope of Services to be provided by Engineer**" attached hereto and incorporated by reference.

PART 2. ESTIMATED COST

The estimated cost for services under this Work Authorization is **\$1,204,000.00**. This amount is based upon the costs outlined in the **Attachment "B" – "Fee Proposal"** attached hereto and incorporated by reference.

PART 3. PAYMENT

Compensation and payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the **Professional Engineering Services Agreement No. C-25-0480-10-28** between the **Owner** and the **Engineer**.

PART 4. FUNDING

This Work Authorization No. 2 shall be funded through funding source:

Account No. _____

Requisition Number _____ (MUST BE INCLUDED AFTER CC APPROVAL)

PART 5. PERIOD OF SERVICE

This Work Authorization shall become effective on the date of final acceptance of the parties hereto, and terminate **upon completion of the scopes of the Work Authorization, within the limits of Agreement No. C-25-0480-10-28, provided in this Work Authorization; or on** (_____ **DATE:** _____). *If applicable:* Engineer shall conform to the "Approved Work/Project Schedule", attached hereto and incorporated by reference herein as **Attachment "C"**.

PART 6. RESPONSIBILITIES AND OBLIGATIONS

This Authorization does not waive the parties' responsibilities and obligations provided under the Agreement No. C-25-0480-10-28.

PART 7. ACCEPTANCE AND APPROVAL

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners' Court, and hereby executed and effective as of the date indicated below.

EXECUTED as of the day and year first written above.

APPROVED BY COMMISSIONERS' COURT ON _____.

Agenda Item No. _____

Executive Office: _____

ENGINEER:
L&G CONSULTING ENGINEERS

COUNTY:
COUNTY OF HIDALGO

By: Jacinto Garza, P.E.

By: Richard F. Cortez, County Judge

ATTEST:

By: Arturo Guajardo Jr., County Clerk

LIST OF ATTACHMENTS:

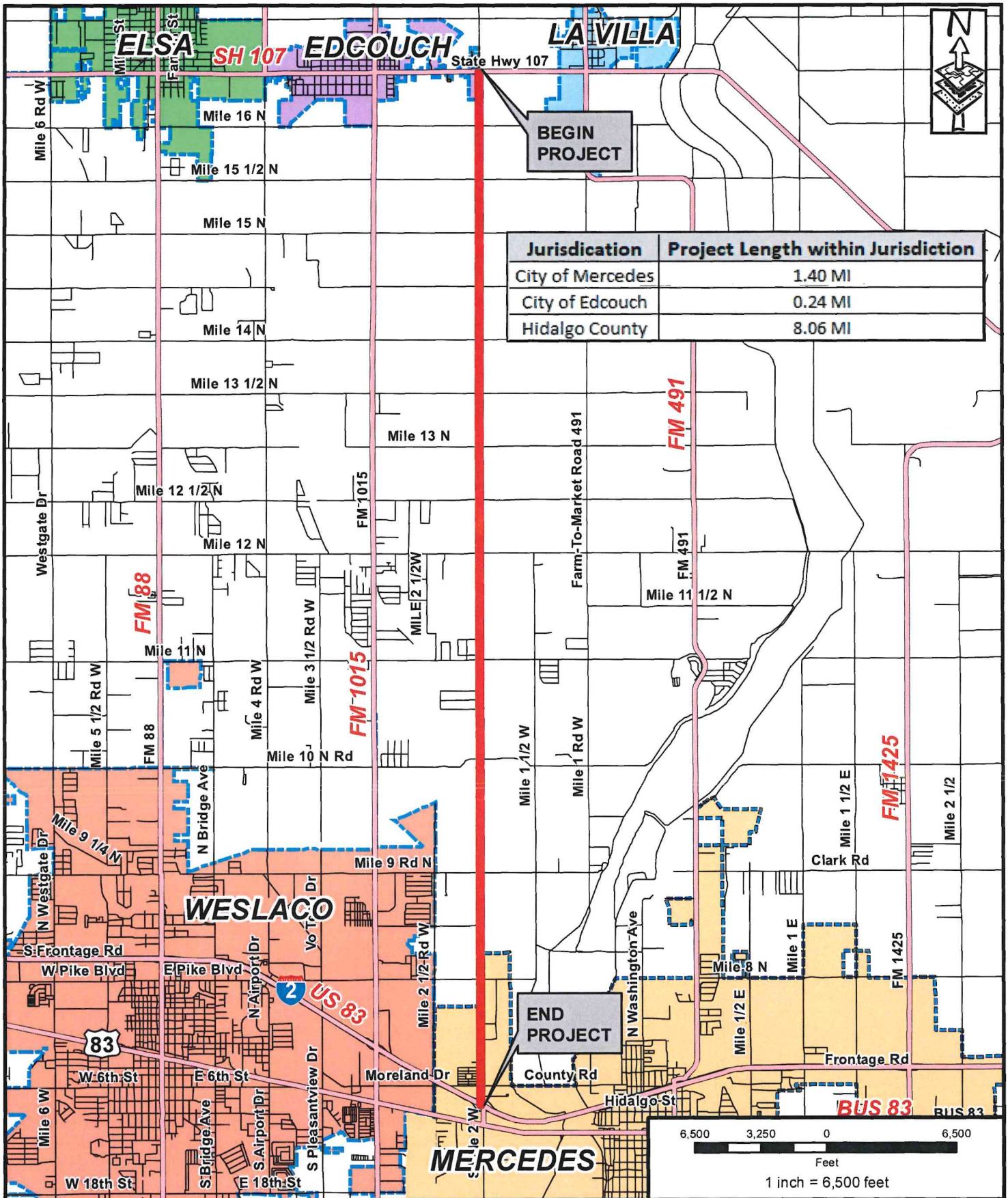
LOCATION MAP

FORM 1295 Certificate of Interested Parties

Attachment "A" – Project Specific Scope of Services to be provided by Engineer

Attachment "B" – Man-Hour Breakdown

Attachment "C" – Approved Work/Project Schedule



MILE 2 W LOCATION MAP

FROM SH 107 TO I-2 (US 83) (APPROX. 9.7 MILES)





ATTACHMENT A

**PROJECT SPECIFIC SCOPE OF SERVICES
TO BE PROVIDED BY ENGINEER**

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 1-PROJECT DESCRIPTION

The services designated herein as "Services provided by the ENGINEER" shall include the performance of all engineering services for the following described facility:

COUNTY/CITY: Hidalgo County (HC Pct. 1)
CONTROL: 0921-02-565
PROJECT/DESCRIPTION: Rehabilitation Project
LENGTH: 9.7 Miles
HIGHWAY: Mile 2 W
LIMITS: From: SH 107, To: I-2

PROJECT CLASSIFICATION

(Place an "X" in only one Project Classification) – May Be Both Overlay & Rehab.

- Surface Treatment
- Overlay
- Rehabilitation Existing Road (Scarify & Reshape)
- Convert Non-Freeway to Freeway
- Widen Freeway
- Widen Non-Freeway
- New Location Toll Freeway
- New Location Non-Freeway
- Interchange (New or Reconstruct)
- Bridge Widening or Rehabilitation
- Bridge Replacement
- Upgrade to Standards - Freeway
- Upgrade to Standards - Non-Freeway
- Miscellaneous Studies (Use Function Code 110 for All Tasks)

ENGINEER shall mean L&G Engineering.

STATE shall mean Texas Department of Transportation.

LPA shall mean Local Public Agency Hidalgo County.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 7 - ROADWAY DESIGN CONTROLS

(Function Code 160)

Services
Provided By:
ENGINEER LPA

Y
N

N
N

1. Geometric Design
 - a. Horizontal and Vertical Alignment (If Applicable)
 - b. Schematic Layout
 - (1) The location of interchanges, main lanes, grade separations, frontage roads and ramps.
 - (2) Develop vertical and horizontal alignment of main lanes, ramps and cross roads at proposed interchanges or grade separations. Frontage road alignment data need not be shown on the schematic; however, it should be developed in sufficient detail to determine ROW needs. The degree of horizontal curves and vertical curve data, including "K" values, shall also be shown for ease of checking.
 - (3) For freeways, show the location and text of the proposed main lane guide signs. Lane lines and/or arrows indicating the number of lanes shall also be shown.
 - (4) A complete explanation of the sequence and methods of stage construction, if proposed, including the initial and ultimate proposed treatment of crossovers and ramps.
 - (5) The tentative ROW limits.
 - (a) Provide a roadway Design System (RDS) or (GEOPAK) computer tape of the preliminary earthwork to verify ROW requirements.
 - (b) Provide a graphics file containing the approved schematic.
 - (6) The geometric (pavement cross slopes, lane and shoulder widths, slope rates for fills and cuts) of the typical sections of proposed highway main lanes, ramps, frontage roads, and cross roads.
 - (7) The current and projected traffic volumes as provided by the TxDOT (20 year traffic projection, unless otherwise determined by the District Engineer).
 - (8) The control of access lines if Interstate or designated under House Bill 179.
 - (9) Direction of traffic flow on all roadways.
 - (10) Location and width of median openings for highway without access control.
 - (11) The geometric of speed change (acceleration, deceleration, climbing) lanes.

N

N

2. General Guidelines for Project Development
 - a. Prior to preparing detailed plans for a proposed project, a preliminary schematic layout shall be prepared which indicates the general geometric features and location requirements peculiar to the project. An uncontrolled aerial mosaic will be provided for this use. Four copies of the schematic layout shall be submitted through the district to the Design Division for approval and subsequent coordination with the Federal Highway Administration (FHWA) where applicable. The layout shall be submitted for two-lane arterial highway projects on new locations and for all multi-lane highway projects. **No geometric design is to be performed until the LPA has given the engineer written approval of the preliminary schematic layout.**
 - b. All geometric design shall be in conformance with the State's Design Division, Operations and Procedures Manual, except where variances are permitted in writing by the STATE.
 - c. The schematic layout shall include basic information which is necessary for the proper review and evaluation including the items listed above in the checklist for schematic layout.
 - d. Handling of traffic during construction shall be a consideration in the development of preliminary designs.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services
 Provided By:
ENGINEER LPA

- | | | |
|----------|----------|--|
| <u>N</u> | <u>N</u> | 2. General Guidelines for Project Development (<i>continued</i>) |
| | | <ul style="list-style-type: none"> e. Upon approval of the schematic layout by Design Division (FHWA on Federal-aid projects), it shall be the basis for an exhibit at any required public hearing prior to final development of the project. If there are any changes to the schematic after the Design Division and FHWA approval and before the public hearing, four copies of the revised schematic, as displayed at the hearing, shall be submitted either prior to or accompanying the public hearing data. If there are no changes in the schematic as displayed at the hearing, only photographs of the schematic and other displays shall be submitted with the public hearing data. f. For all freeway construction projects, these schematics shall show the location and text of the proposed main lane guide signs. A schematic layout shall be submitted through the district to the Traffic Operations Division, Traffic Safety Section for approval and subsequent coordination with the FHWA. All signing shall be in conformance with the Texas MUTCD. g. On complex projects, informal contact through the district with the Design Division and FHWA personnel is encouraged with regard to development of preliminary design prior to official schematic submission. h. The engineer shall furnish a project tape that is compatible with the STATE's computer system, a project listing, and a cross section plot showing the original design sections containing the earthwork input and original cross sections for the project. Accuracy of the earthwork design is of utmost importance since it is the basis for contractor payments and construction staking. |
| <u>N</u> | <u>N</u> | 3. Exhibit for Airway/Highway Clearance Permits |
| <u>Y</u> | <u>N</u> | 4. Grading Design |
| | | <ul style="list-style-type: none"> a. Refine the horizontal and vertical alignment of main lanes, frontage roads, ramps, cross roads and direct connectors based upon the approved project concept. Determine vertical clearances at grade separations and overpasses, taking into account the appropriate super elevation rate. (N/A) b. Typical Sections c. Design Cross Sections d. Determine Cut and Fill Quantities (If needed) e. Slope Stability Analysis f. Embankment Foundation Stability Analysis g. Embankment Settlement Analysis |
| <u>Y</u> | <u>N</u> | 5. Pavement Design |
| | | <ul style="list-style-type: none"> a. Prior to initiating detailed plan preparations for a project, a preliminary investigation shall be made to determine the approximate section and pavement type to be used for the pavement structure. The Flexible Pavement Design Manual for flexible pavement, "Appendix F" of the Design Division, Operations and Procedures Manual, and the current AASHTO Guide for the Design of Pavement Structures, may be used for this purpose. b. The typical section shall also reflect proposed geometric including pavement cross slopes, lane and shoulder widths, and slope rates whenever this data have not been previously shown on a schematic submission. c. Embankment and Subgrade <ul style="list-style-type: none"> (1) Soil Core Holes (<u>Already Completed in WA 1</u>) <ul style="list-style-type: none"> (a) Along center line (b) Along center line of each roadway |
| <u>N</u> | <u>N</u> | |
| <u>N</u> | <u>N</u> | |

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

The location and minimum number of soil core holes required for this project are as follows: (To be determined when schematic is being completed)

Services
 Provided By:
ENGINEER LPA

		5. Pavement Design (<i>continued</i>)
<u>N</u>	<u>N</u>	c. Embankment and Subgrade (<i>continued</i>)
		(2) Identify, interpret and summarize geologic features that affect engineering design (PI, Sulfate content, % of lime)
<u>N</u>	<u>N</u>	d. Traffic Data for Pavement Design
<u>Y</u>	<u>N</u>	e. Basic Design Criteria
<u>Y</u>	<u>N</u>	f. Life Cycle Cost Analysis(es)
<u>Y</u>	<u>N</u>	g. Cost Data
<u>Y</u>	<u>N</u>	h. Pavement Material Properties
<u>N</u>	<u>N</u>	i. Rehabilitation Investigations (<u>Already Completed in WA 1</u>)
<u>N</u>	<u>N</u>	(1) Core Hole Survey (Show cost estimate with Function Code 110)
		(a) Determine type and depth of existing material, pavement, etc. The Engineer will determine whether to salvage ACP and FLEXBASE as well as their properties and provide this information to TxDOT.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 9 - SIGNING, MARKINGS AND SIGNALIZATION
(Function Code 162)

Services
Provided By:
ENGINEER LPA

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| <u>Y</u> | <u>N</u> | 1. Signing and Markings Layout |
| | | <ul style="list-style-type: none"> a. Requirements (Separate Layout) <ul style="list-style-type: none"> (1) Roadway layout (2) Center line with station numbering (3) ROW lines (4) Culverts and other structures that present a hazard to traffic (5) Location of utilities, if not shown on plan and profile (6) Existing signs to remain, to be removed, to be relocated (7) Proposed signs (illustrated and numbered) (8) Existing overhead sign bridges to remain, to be revised, removed or relocated (9) Proposed overhead sign bridges indicating location by plan layout (electrical details need not be shown on this layout) (10) Proposed markings (illustrated and quantified) which include pavement markings, object markings and delineation (12) Quantities of existing pavement markings to be removed (13) Proposed delineators and object markers b. For projects involving freeway to freeway or other types of directional interchanges, projects including left-hand ramps or connections, the following information must be provided: <ul style="list-style-type: none"> (1) The location of interchanges, main lanes, grade separations, frontage roads and ramps (2) complete explanation of the sequence and methods of stage construction, where applicable, which would include the initial and ultimate proposed treatment of crossovers and ramps (3) The number of lanes in each section of proposed highway and the location of changes in numbers of lanes (4) The projected traffic volumes as provided by the STATE (20 year traffic projection, unless otherwise determined by the District Engineer) (5) Tentative ROW limits (6) Direction of traffic flow on all roadways (7) Main lane, ramp, frontage road, and necessary cross road profiles at proposed interchanges or grade separations |
| <u>Y</u> | <u>N</u> | 2. Summary of Small Signs Tabulation |
| <u>N</u> | <u>N</u> | 3. Summary of Large Signs Tabulation including all Guide Signs (N/A) |
| <u>Y</u> | <u>N</u> | 4. Sign Detail Sheets <ul style="list-style-type: none"> a. All signs except route markers b. Design details for large guide signs c. Dimensions of letters, shields, borders, corner radii etc. d. Designation of shields attached to guide signs e. Designation of arrow used on exit direction signs |

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 10 - MISCELLANEOUS (ROADWAY)
(Function Code 163)

Services
Provided By:
ENGINEER LPA

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| <u>Y</u> | <u>N</u> | 1. Traffic Control Plan, Detours and Sequence of Construction |
| | | Traffic Control Plans (TCP) are required for all projects. A detailed TCP shall be developed when traffic handling during construction involves complications for which a feasible solution is not covered by the Texas MUTCD or the current Barricade and Construction (BC) Standards. The following items are required on all Traffic Control Plan Layouts: |
| | | a. The sequence of construction and method of handling traffic during each phase. |
| | | b. The existing and proposed traffic control devices that will be used to handle traffic during each construction sequence. Include signals, regulatory signs, warning signs, construction warning signs, guide signs, route markers, construction pavement markings, channelizing devices, portable changeable message signs, flashing arrow boards, barricades, barriers, etc. |
| | | c. The proposed traffic control devices (stop signs, signals, flag person, etc.) at grade intersections during each construction sequence. |
| | | d. Where detours are provided, typical cross sections shall be shown. |
| | | e. Road construction work hours shall be developed after an investigation of the traffic volumes has been performed. |
| | | 2. Miscellaneous Drafting/Standards |
| <u>Y</u> | <u>N</u> | a. Erosion Control |
| <u>N</u> | <u>N</u> | b. Landscape Development |
| <u>Y</u> | <u>N</u> | 3. Compute and Tabulate Quantities |
| <u>N</u> | <u>N</u> | 4. Special Utility Details (Irrigation lines) |
| <u>N</u> | <u>N</u> | a. Utility, Railroad, Traffic Signal, Other Agreements |
| <u>Y</u> | <u>N</u> | 6. Estimate |
| <u>Y</u> | <u>N</u> | 7. Specifications and General Notes |

EXHIBIT "B"

SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

ADDITIONAL RESONSIBILITIES

Easements, Letters of Permission, Etc.

The ENGINEER shall be responsible for delineating easements. The ENGINEER will be responsible for securing the necessary legal instruments.

Coordination of Utilities

The ENGINEER shall furnish the LPA prints of a project layout which will be distributed by ENGINEER to various utility companies to determine which utilities are in the limits of the project. These shall be preliminary layouts. Upon completion of the preliminary drainage plans and U&D sheets, the ENGINEER shall distribute to the various utility companies and request return. Upon return of these prints, the ENGINEER will schedule a meeting with the various utility companies to discuss potential conflicts and conformance with the State's Utility Accommodation Policy. The ENGINEER is responsible for coordination with the various utility companies for exposing potential conflicts and field ties to uncover utilities in potential conflict areas.

Meetings

Meetings will be held with the FHWA, State Officials, local governments, property owners, utility owners, railroad companies, other consulting firms, etc., as needed or required by the LPA. The ENGINEER shall coordinate through the LPA for the development of this project with any local entity having jurisdiction or interest in the project (i.e., city, county, etc).

Specifications, Special Provisions, Special Specifications

Use the State's standard specifications or previously approved special provisions and/or special specifications. If a special provision and/or special specification is developed for this project, it shall be in the State's format and incorporate references to approved State test procedures.

Project Manager/Engineer Communication

The ENGINEER shall designate one Texas Registered Professional Engineer to be responsible throughout the project for project management and all communications, including billing, with the LPA's Director. Any replacements to the ENGINEER's designated Project Manager/Engineer must be approved by the LPA.

Engineering documents produced for the department's engineering projects shall be signed, sealed and dated or CADD sealed in accordance with Administrative Order No. 5-89 and Administrative Circular No. 26-91.

Design Responsibilities

The ENGINEER is responsible for design errors and/or omissions that become evident before, during or after construction of the project. The ENGINEER's responsibility for all questions arising from design errors and/or omissions will be determined by the LPA and all decisions shall be final and binding. This would include, but not necessarily be limited to:

1. All design errors and/or omissions resulting in additional design work to correct the errors and/or omissions.
2. Preparation of design documents and detail drawings necessary for a field change due to design errors and/or omissions.
3. Revision of original tracings to the extent required for a field change due to design errors and/or omissions.

The ENGINEER shall promptly make necessary revisions or corrections resulting from the ENGINEER's errors, omissions or negligent acts without additional compensation. Acceptance of the work by the LPA will not relieve the ENGINEER of the responsibility for subsequent correction of any such errors or omissions or for clarification of any ambiguities.



ATTACHMENT B

FEE PROPOSAL

ATTACHMENT "B"
PROJECT FEE SCHEDULE AND ESTIMATED MAN-HOUR BREAKDOWN

Mile 2 W Project WA#2
 (From: SH 107 to I-2 (US 83))

		MANHOURS										Sub-Contract Amounts / ROW COST	TOTAL LINE ITEM COST	*ROUNDED TOTAL LINE ITEM COST
		Senior Project Manager	Senior Engineer	Senior Environmental Scientist /Specialist	Project Engineer	Senior Engineer Tech	Environmental Scientist /Specialist	CADD Operator / GISAnalyst	Admin / Clerical	TOTAL HOURS				
CONTRACT RATE		263.11	206.05	187.03	177.52	126.80	117.29	120.46	72.91					
WORK AUTHORIZATION NO. 2														
PHASE II - PS&E, PROJECT MANAGEMENT AND LOCAL LETTING														
Function Code	Description of Work													
160	PS&E Development Roadway	340	1087		1767	1767			615	5576		\$ 896,006.84	\$ 896,000.00	
320	Local letting submittal and engineering work	43	131		210	212			76	672		\$ 108,008.24	\$ 108,000.00	
164	Project Management	76	243		395	393			137	1244		\$ 200,007.98	\$ 200,000.00	
SUB-TOTAL		459	1461	0	2372	2372	0	0	828	7492	\$ -	\$ 1,204,023.06	\$ 1,204,000.00	

Subtotal Manhour Fee with Sub-Consultant Costs: \$ 1,204,023.06

*** Total Project Fee: \$ 1,204,000.00**

*Rounded Figure



ATTACHMENT C

APPROVED WORK/PROJECT SCHEDULE

TASK AND DESCRIPTION	2027						
	DEC	JAN	FEB	MAR	APR	MAY	JUN-DEC
Funding Agreement w/ TxDOT							
Request MTP/TIP Update for Additional TASA Funds							
Execute AFA							
Public Involvement & Environmental							
Field Visit, Reports, and Documentation							
Environmental Clearance (CE)							
PS&E							
PS&E							
TxDOT Plan Set Approval							
Receive Bids for Construction, Project Contract, Contract Management							
Construction	CONSTRUCTION (EST. 8 MO)						

Update: 8/18/2025