HIDALGO COUNTY
Professional Engineering Services
Contract # C-12-126-10-16
Work Authorization Form

WORK AUTHORIZATION NO. 1

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Article 1 of the Agreement 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.** *d/b/a* **L&G Engineering**, professional engineers of **Mercedes, Texas** hereinafter called "**Engineer**".

PART 1. SCOPE OF WORK

The purpose of this Work Authorization is for the **Engineer** to provide Engineering Services required for the preparation of Environmental Assessment with TxDOT, Public Involvement, Schematic, Design, ROW Mapping, Compensable Utility Management for the 10th Street Extension Project from SH 107 to FM 1925.

The scope of services to be provided by the **Owner** is identified in ***EXHIBIT "A" – Scope of Services to be provided by the Owner*** attached hereto.

The scope of services to be provided by the **Engineer** is identified in ***EXHIBIT "B" – Scope of Services to be provided by the Engineer*** attached hereto.

PART 2. ESTIMATED COST

The estimated cost for services under this Work Authorization is **$ 621,824.10**. This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as ***EXHIBIT "D-1" - Fee Schedule.***

PART 3. PAYMENT

Compensation and payment to the Engineer for the services established under this Work Authorization shall be made in accordance with **Article 6** of the Agreement.

PART 4. FUNDING

This **Work Authorization No. 1** shall be funded through funding source:
Account No**. 2-1341-431-00-124-030-XXX** ***(object code to be identified by Budget Dept)***
Requisition Number **224606** **(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 scopes of the work authorization***, as identified on ***EXHIBIT "C" – Work Schedule.***

PART 6. RESPONSIBILITIES AND OBLIGATIONS

This Authorization does not waive the parties' responsibilities and obligations provided under the **Agreement**.

PART 7. ACKNOWLEDGEMENT AND CONFIRMATION

Acknowledgement and confirmation by Hidalgo County Precinct No. 4, Commissioner Joseph Palacios as to the content and detail of this Work Authorization No. 1.

HIDALGO COUNTY
COMMISSIONER PRECINCT NO. 4

BY: _____

PART 8. ACCEPTANCE AND APPROVAL

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners' Court on ___ _____as indicated below.

THE ENGINEER:
L&G ENGINEERING

_____

By: Jacinto Garza, P.E.
President

THE OWNER:
HIDALGO COUNTY

_____

By: Ramon Garcia,
County Judge

ATTEST:

_____

By: Arturo Guajardo, Jr., County Clerk

LIST OF EXHIBITS

Location Map
Exhibit A – Services to be provided by Owner
Exhibit B – Services to be provided by Engineer
Exhibit C – Work Schedule
Exhibit D-1 – Fee Schedule

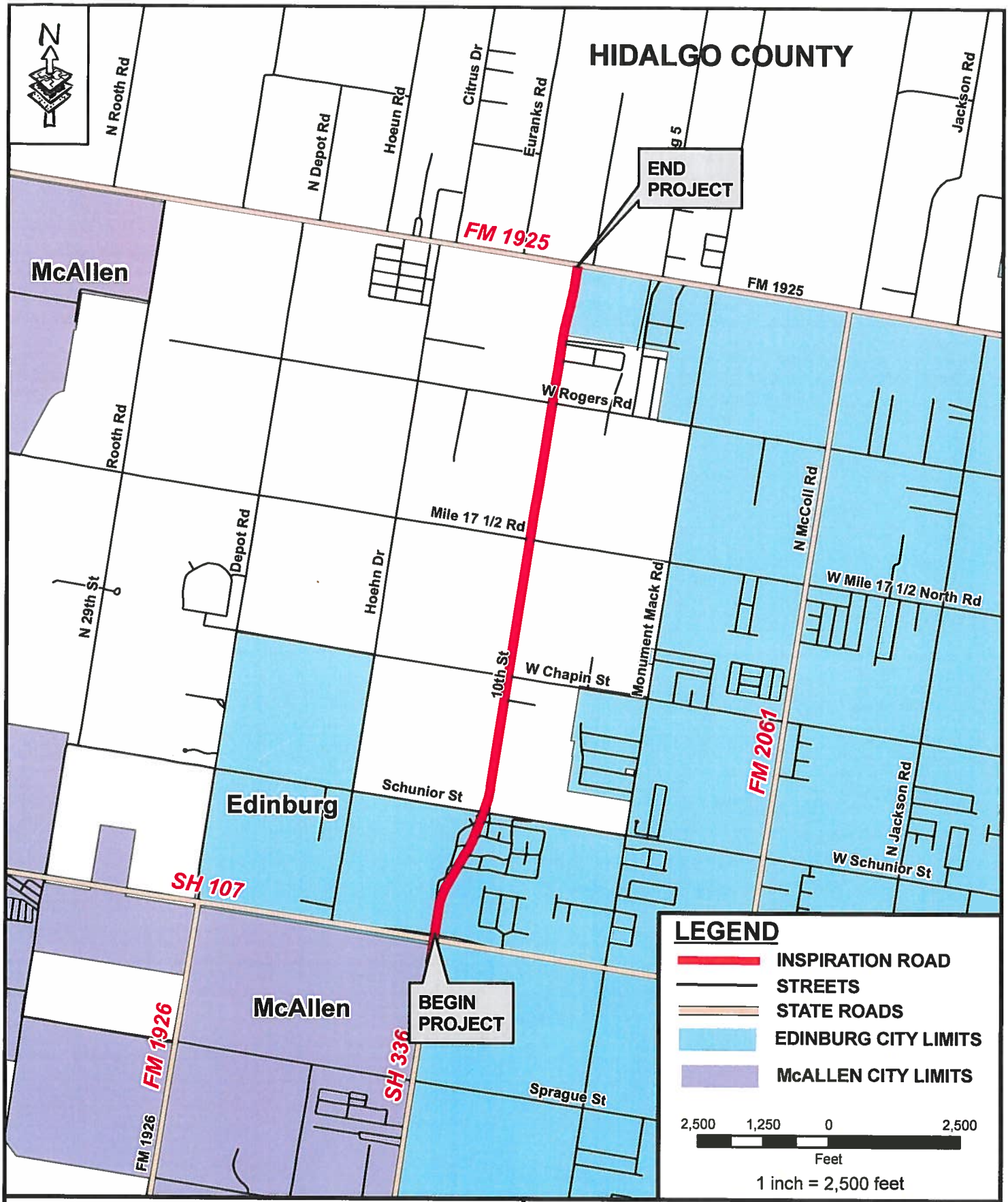


EXHIBIT A
10TH STREET EXTENSION
LOCATION MAP

FROM SH 107 TO FM 1925 (MONTE CRISTO RD)
APPROX. PROJECT LENGTH 2.5 MILES

L&G Engineering
Transportation Consulting Engineers

G:\AMAPS\10TH STREET

EXHIBIT "A"

Services to be provided by the County

1. The County will issue work authorization to initiate all required services and designate the authorized representative of the coordination of each work authorization.

2. The County will provide copies of all subdivision plats of record and/or in the subdivision process.

3. The County will provide the Engineer with on-going guidance, timely reviews, and decisions necessary to complete services required by the work authorization in order to permit the Engineer to maintain an agreed upon project schedule.

4. The County will process all acceptable requests for payment in a timely manner.

GENERAL INSTRUCTIONS

ENGINEER shall mean L&G Engineering.

STATE shall mean Texas Department of Transportation.

COUNTY shall mean the Hidalgo County.

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

CONTROL: _____

PROJECT/DESCRIPTION: 10th STREET EXTENSION PROJECT

LENGTH: VARIABLE

HIGHWAY: _____

LIMITS: from SH 107 TO FM 1925

EXISTING FACILITY

PROJECT CLASSIFICATION

(Place an "X" in only one Project Classification)

___ Surface Treatment
___ Overlay
___ Rehabilitation Existing Road (Scarify & Reshape)
___ Convert Non-Freeway to Freeway
___ Widen Freeway
_X_ 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)

NOTES

ROUTE AND DESIGN STUDIES

(Function Code 110)

Services Provided By: ENGINEER	COUNTY		
YES	NO	1.	Route Location Studies*
NO	NO	2.	Level of Service Analysis**
YES	NO	3.	Traffic Evaluations and Projections
YES	NO	4.	Develop Roadway Design Criteria
YES	NO	5.	Preliminary Cost Estimates
YES	NO	6.	Design Schematic (See Section 7, page 7-1 for schematic layout requirements)
YES	NO	7.	Preliminary Right-of-Way Requirements
YES	NO	8.	Design Concept Conference
		9.	Soil Core Hole Drilling
NO	NO		a. Pavement (See Section 7, pages 7-2 thru 7-3 for requirements)
NO	NO		b. Retaining Walls (See Section 10, page 10-1 thru 10-2 for requirements)
NO	NO		c. Miscellaneous Structures (See Section 10, page 10-4 for requirements)
NO	NO		d. Bridges (See Section 11, page 11-3 for requirements)

* The Phase I or better survey for hazardous material should be included as a determining factor of route selection. Projects which do not require additional right of way should be considered separately from an expansion or new location.

NOTES
SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT
(Function Code 120)

Services Provided By: ENGINEER	COUNTY	
		1. Environmental Reports All Environmental Reports shall be in accordance with 43 Texas Administrative Code (TAC) 2.40-2.51, Code of Federal Regulations, Title 23, Part 771 and Highway Design Operations and Procedures Manual, Part II-B.
		a. Environmental Assessments
YES	NO	(1) An Environmental Assessment shall be prepared, anticipating a Categorical Exclusion.
NO	NO	(2) An Environmental Assessment shall be prepared, anticipating a Finding of No Significant Impact.
NO	NO	(3) An Environmental Assessment shall be prepared, anticipating the need for a Draft Environmental Impact Statement.
		b. Environmental Impact Statement
NO	NO	(1) A Draft Environmental Impact Statement shall be prepared. After appropriate interagency and public reviews within time limits prescribed by the Code of Federal Regulations, Title 23, Part 771 and 43 Texas Administrative Code 2.40-2.51, a Final Environmental Impact Statement shall be prepared.
NO	NO	(2) A Section 4(f) Statement (Department of Transportation Act) shall be provided by the ENGINEER. The format and content of the statement is found in FHWA Technical Advisory T6640.8A.
		2. Public Involvement All public involvement procedures shall be in accordance with 43 Texas Administrative Code (TAC) 2.40-2.51, Code of Federal Regulations Title 23, Part 771 and Highway Design Operations and Procedures Manual, Part II-B.
YES	NO	a. A public involvement meeting(s)/hearing(s) shall be scheduled, coordinated and conducted.*
YES	NO	b. Technical assistance, meeting(s)/hearing(s) preparation, maintenance of contracts lists, minutes of meeting(s), exhibit preparation, and other tasks outlined by the COUNTY, shall be provided.
YES	NO	3. Cultural Resources Formal consultation with the State Historic Preservation Office (SHPO) and the Texas Historical Commission (THC) will be conducted by the COUNTY.
YES	NO	a. Historic Structure Studies A records search and reconnaissance survey shall be performed, and documentation prepared regarding identification efforts, National Register eligibility and potential impacts to historic properties in accordance with the state's historic structure requirements.
		b. Archeological Studies
YES	NO	(1) Files searches shall be conducted to determine if known archeological sites are present; to identify whether these sites have been listed or determined eligible for the National Register of Historic Places or have been designated State Archeological Landmarks; and to identify the need (if any) to perform additional archeological investigations.
YES	NO	(2) Archeological reconnaissance will be performed under a Texas Antiquities Permit (13 TAC 26) signed for the Sponsor by a professional archeologist with the STATE.
YES	NO	(3) Archeological survey shall be performed under a Texas Antiquities Permit (13 TAC 26) signed for the Sponsor by a professional archeologist with the STATE.

Services Provided By: ENGINEER	COUNTY	
		4. Noise and Air Quality Analyses
YES	NO	a. Noise Analysis A noise analysis shall be prepared, including predicted noise levels and the consideration and evaluation of noise mitigation, in accordance with the STATE'S Noise Guidelines. The noise analysis or a summary of the noise analysis shall be included in the environmental document for the project.
YES	NO	b. Air Quality Analysis An air quality analysis shall be prepared in accordance with the STATE'S Air Quality Guidelines. The air quality analysis or a summary of the air quality shall be included in the environmental document for the project.
NO	NO	5. Ecological Investigations A wetland survey and if necessary, a wetland delineation shall be conducted and a "wetland finding" shall be provided if necessary. As part of the environmental phase of the project, the consultant should notify the District if it is believed that a Section 404 or Section 9 permit is required, and provide the technical data to the District for application to the U.S. Army Corps of Engineers and/or the U.S. Coast Guard. A determination should be made if there are potential federally listed endangered or threatened species that could be impacted. The District will be notified as soon as possible that Section 7 or 10 consultations may be required. Supporting data will be furnished to the district when consultation with the U.S. Fish and Wildlife Service is undertaken.
YES	NO	6. Hazardous Materials The consultant shall perform an Environmental Site Assessment for hazardous materials impact in accordance with the American Society for Testing and Materials (ASTM) 1528.93 (Transaction Screen Process).
YES	NO	7. General Guidelines for Preparation of Environmental Documents a. The environmental document prepared shall be provided on paper and on a formatted diskette that is compatible with the word processor program and equipment of the district office. b. Three draft copies and twelve final copies of the Environmental Assessment shall be provided. c. Ten draft copies and thirty final copies of the Draft and Final Environmental Impact Statements shall be provided. d. The environmental document shall be prepared in accordance with the content and format of FHWA Technical Advisory T6640.8A. e. Exhibits in the environmental document shall be limited to 297 millimeters by 420.5 millimeters (11 inches by 17 inches) where possible.

RIGHT-OF-WAY DATA
(Function Code 130)

Services Provided By: ENGINEER	COUNTY	
		NOTE: No work involving right-of-way (ROW) data is to be performed until the COUNTY has given the ENGINEER written approval of the final location of the proposed ROW lines as approved by TxDOT.
YES	NO	1. Ownership Data in a .dgn file a. The entire project limits. b. Compensable utility ownership that has property rights on ROW shall be researched and provided. c. For each drainage outfall property d. For each irrigation structure pipe.
YES	NO	2. Parcel plats & Right-of-Way Map a. A ROW map, parcel plats and field notes shall be prepared and furnished. b. All plats and field notes must be signed and sealed by a Registered Professional Land Surveyor (RPLS). c. ROW map must depict all improvements affecting ROW.
YES	NO	3. Utilities (Compensable) a. Property ownership with recording information shall be shown on ROW Map and Parcel Plats with distance ties to property corners in an effort to locate utility.
YES	NO	4. Field Notes a. Field notes and plats, signed and sealed by a Registered Professional Land Surveyor, for all parcels on the ROW Map b. Computation Sheets for Survey Closure and Area for Each Parcel. c. Ground surveys and preparation of parcel maps, legal descriptions, and right of way maps.
YES	NO	5. Survey and Stake Right-of-Way
YES	NO	6. Records as Required by the County and State a. Records used to establish ownership
YES	NO	7. General Guidelines for Preparation of Right-of-Way Maps *(Sample ROW Maps and Parcel Plats and field notes attached)* **GENERAL SPECIFICATIONS** a. All data submitted by the surveyor will be legible, organized and well documented. b. The surveyor shall provide temporary signs and shall control traffic near surveying operations adequately to comply with provisions of the MUTCD; a copy of which the Surveyor acknowledges has been furnished to him. All signs, flags, and safety equipment are to be provided by the surveyor. c. Permission to enter private property for surveying (Right-Of-Entry) shall be the sole responsibility of the surveyor. d. The surveyor will be held responsible for the correctness of his services. The surveyor will be responsible for the completion of his services. e. The surveyor will be required to complete the attached "Right-of-Way Map Checklist" and submit along with the completed R.O.W. map. All requirements of attached R.O.W. map checklist must be complete, accurate and also considered to be essential and is a part of this contract.

PROJECT SPECIFIC SCOPE OF SERVICES

FC 130 – RIGHT-OF-WAY DATA – Abstract analysis, development of ROW Map sheets including parcel plats and field notes with Metes & Bounds field descriptions, and Title Commitments.

FC 150 – FIELD SURVEYING FOR PARCEL MAPPING – Recover horizontal & vertical control, locate and field tie existing ROW and boundary corners. Update topography, and reestablish corners for ROW map revisions.

SURVEYING SCOPE OF SERVICES FOR PARCEL MAPPING

FC 130 – RIGHT-OF-WAY DATA

Right-of-Way Documents - The SURVEYOR will utilize State examples and provide the following:

GENERAL

a. Abstracting: The SURVEYOR will determine Ownership Data.
b. Prepare individual parcel maps and field notes as needed to properly describe the right-of-way the State is to acquire.
c. All procedures involving right-of-way maps will be in accordance with the STATE'S Right-of-Way Book I and Book II, the State's local operating procedures and according to the Texas Board of Professional Land Surveying Practices Act.
d. All required documents will be in English units.
e. The SURVEYOR will monument all corners with a 5/8 inch iron rod with a Surveyor's plastic cap on all parcel boundary corners.
f. The SURVEYOR will provide to the STATE a copy of Instruments of Record.
g. The SURVEYOR will attach graphics files compatible with the latest version of Micro-Station graphics software.
h. The SURVEYOR will attach documents or text files compatible with the latest version of Word software.

PARCEL PLATS

a. A parcel plat will be prepared for each parcel of land to be acquired. The STATE has developed standard formats for parcel plats, copies of which the SURVEYOR will request and secure for all purposes
b. Parcel boundary lines will be delineated with appropriate bearings, distances, and curve data.
c. Private property lines will be delineated with appropriate bearings, distances, and curve data to the extent necessary to describe the individual parcels of land to be acquired.
d. League lines and survey lines will be shown and identified by name and abstract number.
e. A north arrow will be shown on each sheet and, if possible, in the upper right hand corner.
f. Monumentation set or found will be shown and described as to material and size.
g. A station and offset will be shown for each PC, PT, and angle point in the proposed right-of-way lines and the existing right-of-way lines in areas of no proposed acquisition.
h. Intersecting streets will be shown and identified by name and right-of-way width.
i. A parent tract inset will be shown for each parent tract.
j. A note will be included on each map sheet stating the basis of bearings, coordinates, and datum used.
k. Appropriate notes will be included on the title sheet stating the following:
a. Month(s) and year abstracting was performed upon which the map is based.
b. Month(s) and year field surveys were conducted upon which the map is based.
c. Month and year map was completed by the SURVEYOR.
l. The right-of-way account number and R.O.W. CSJ if available will be shown on each parcel map sheet.

m. All parcel maps should be 8-1/2" x 11" signed and sealed by a Registered Professional Land Surveyor and note referencing legal description.
n. The acreage of the part taken should be shown to three decimal places, rounded.

FIELD NOTE DESCRIPTIONS

A field note description will be prepared for each parcel of land to be acquired. Field note descriptions will include, but need not be limited to, the following:

a. The field note description will begin with a general description that will include, as a minimum:
   (1) State, county, and city within which the proposed parcel of land to be acquired is located.
   (2) A reference to unrecorded and recorded subdivisions by name, lot, block, and recording data to the extent applicable.
   (3) A reference, by name, to the grantor and grantee, date, and recording data of the most current instrument(s) of conveyance describing the parent tract.

b. The field note description will continue with a metes and bounds description that will include, as a minimum:
   (1) A point of commencing (outside property corner).
   (2) A point of beginning on proposed R.O.W. line.
   (3) A series of courses, identified by number and proceeding in a clockwise direction, describing the perimeter of the parcel of land to be acquired, and delineated with appropriate bearings, distances, and curve data.
   (4) A description (8-1/2" x 11") of all monumentation set or found to include, as a minimum, size and material.
   (5) All field note descriptions will be signed and sealed by a Registered Professional Land Surveyor.
   (6) Note referencing parcel plat.

PHARR DISTRICT
ROW MAP CHECKLIST

Consultant: _____
Contract/WA# _____
Responsible Office: _____
TXDOT Project Manager: _____
County: _____
Highway: _____
RCSJ: _____
CCSJ: _____

As the responsible consultant project manager, I hereby certify that the attached ROW Map has undergone a QA/QC review, with the following applicable items specifically checked for accuracy, completeness and constructability (as noted by Checkmarks)

_____
Signature Date

_____
Printed Name

(This Checklist must be signed by the RPLS and turned in with all proposed ROW Projects. Pharr District ROW will not accept project without this checklist.)

MAP

GENERAL

___ All documents have been proofread and are accurate.
___ Title Commitments for each individual parcel.
___ Graphics files compatible with Microstation and Word software are provided.
___ Photos of proposed ROW staking included.
___ Field notes and Parcel Plats are numbered continuous.
___ Scale shall be 1"=50' or 1"=100".

TITLE SHEET REQUIREMENTS

___ Title and description of project including county, limits, etc....
___ Vicinity map with beginning and ending station
___ Equations and Exceptions
___ Index
___ Legend
___ Title block completely filled out with Construction and R.O.W. CSJ's
___ List all Major Utilities from Station to Station

INDIVIDUAL MAP SHEET REQUIREMENTS

___ Sheet size 34" X 22"
___ Text legible when reduced to half-scale.
___ Title block completely filled out with R.O.W. CSJ
___ Matchlines
___ Project layout sheet
___ Existing utility lines and easements, deed reference, as shown on Schedule "B" of the Title Commitment, and defined on parcel plats

EXISTING INFORMATION

___ R.O.W. lines
___ Whole property or whole property inset
___ Roadways

___ Survey, county, and city limit lines shown and labeled
___ Improvements shown and labeled *(see below)*
___ Monumentation i.e. P.C., P.T., Break Points
___ North arrow
___ Scale
___ Property lines
___ Property descriptions i.e., lot, block, tract, subdivision, etc…
___ Identify existing and proposed access denial locations *(if applicable)*

PROPOSED INFORMATION
___ Type II Monumentation i.e. P.C., P.T., Break Points and 1500' intervals
___ Survey and R.O.W. lines
___ Basis of bearings
___ Parcel bearings and distances correspond with traverse sheet
___ Outside ties (P.O.C.) corresponds with field notes
___ Point of beginning (P.O.B.) established on proposed R.O.W. line
___ Parcel tied to baseline
___ Baseline information shown i.e. Stationing, bearings, curve data, etc…
___ Conveyance information shown in tables i.e. parcel number, grantors name, amount of take, remainder etc...
___ Math checked on remainder

IMPROVEMENTS
___ Improvements bisected or within 25' of proposed R.O.W. line are shown on map with stationing and distance from proposed R.O.W. line. Buildings are labeled and dimensioned.
___ Off-premise outdoor advertising signs within proposed R.O.W. are shown and labeled.

UTILITIES
___ All utilities within or crossing existing and proposed right of way are shown and labeled as to size, easement or fee width, and recording data of instrument.
___ Location of underground storage tanks and/or filler caps are shown and labeled

**** DO NOT SEAL MAP***

FIELD NOTES HEADING
___ County
___ Highway
___ Parcel number
___ R.O.W. CSJ
___ Construction CSJ

GENERAL DESCRIPTION OR "PREAMBLE"
___ Area of parcel to be acquired is shown in acreage (0.000) for rural land and/or square feet (to nearest whole sq. ft.) for urban land or smaller parcels

PARENT TRACT DATA IS SHOWN
___ Size of parent tract
___ Survey data or lot, block, and subdivision
___ Name of last recorded seller and buyer
___ Date, volume and page or document number of last recorded conveyance
___ Records and county of last recorded conveyance

BEGINNING DESCRIPTION
___ Point of commencement is on outside tie and is described accurately by bearings and distances as it leads to the point of beginning.
___ Point of beginning is on proposed R.O.W. line

PARTICULAR DESCRIPTION

___ Traverse calls are clockwise sequence
___ Bearings and distances correspond exactly with map, parcel sketch, and traverse sheet
___ Bearings are to nearest whole second and distances are to the nearest one-hundredth of a foot
___ Calls are numbered
___ Denial of access shall be described from beginning to end *(if applicable)*

CLOSING DESCRIPTION

___ Last call leads back to P.O.B.
___ Restates area of parcel
___ Establishes taking in existing road R.O.W. *(if applicable)*
___ Legal description is referenced to Plat
___ Sealed and signed
___ Include an access clause whether access is permitted or denied *(if applicable)*

PARCEL SKETCH

___ Shows P.O.B. and P.O.C.
___ All data corresponds exactly with Map and Field Notes
___ Sheet size is no larger than 81/2" x 11"
___ Plat closely matches example provided
___ Plat referenced to legal description
___ Sealed and signed
___ Include an access clause whether access is permitted or denied *(if applicable)*
___ Existing utility lines and easements (deed reference, if available);

TRAVERSE SHEET

___ Computations show area to be acquired in sq. ft. or acres, whichever is applicable
___ Computations show area that is existing road R.O.W. *(if applicable)*
___ Traverse calls are in clockwise sequence
___ Error of closure meets the following:

Secondary rural	.0003
Primary rural - secondary urban	.0002
Urban or industrial	.00013

FIELD SURVEYING AND PHOTOGRAMMETRY

(Function Code 150)

Services Provided By: ENGINEER	COUNTY	
		1. Field Surveying
YES	NO	a. Primary Project Control – 3 to 5 miles spacing Precision shall be 1 part in 20,000 or better, unless otherwise directed by the District Engineer. (1) Establish horizontal control points (2) Establish vertical control points NOTE: ALL BEARING AND DISTANCE SHALL BE BASED ON THE STATE PLANE COORDINATE SYSTEM NAD 1983, SOUTH ZONE. ALL DISTANCES AND COORDINATES SHALL BE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999960
YES	NO	b. Secondary Project Control – Surveyor shall recover and/or reset H&V Control Points as provided by the Engineer and create Survey Data Sheets for inclusion in the Project Plans. • No traverse should exceed 25 angle points. Planimetrics shall be 20 ft Lt & Rt from the proposed ROW as per the schematic provided by the Engineer. • The unadjusted angular error should not exceed 2 seconds per angle, plus 14 seconds. • The unadjusted ratio of precision should be one part in 10,000 or better. (The ratio of precision is the total length of the traverse divided by the total error.) • The unadjusted vertical error should not exceed 0.03 foot per mile of traverse. (1) Project control base lines
NO	NO	(2) Photogrammetric ground control
NO	NO	(a) Establish horizontal control
NO	NO	(b) Establish vertical control points
NO	NO	(c) Place and maintain control point targets
YES	NO	c. Other Field Surveying (1) **The limit of the Design surveys shall be 500-ft before and after the limits of the project as identified by the Project Engineer on the schematic. Establish horizontal and vertical control.** Set benchmarks at 1000-ft intervals along the project proposed right-of-way. Provide x, y, z for each Benchmark. Provide a BM along each outfall identified on the Hydrologic Map. The BM's shall be #5 I.R. 2-ft in depth set in concrete. **The surveyor shall provide an H&V Book (a Sample shall be provided by the Engineer to the Surveyor).** The Surveyor will provide a 3-pt reference sketch with ties to the BMs for inclusion the existing H&V Control Book. Establish benchmark circuit throughout the project with a tolerance of 0.03'/ft per mile error vertically. (2) Complete topographic and cross section survey, data processing, and CADD mapping (2D & 3D) for the limits of the project. (3) Locate all visible utilities, data processing and CADD mapping (2D & 3D) including irrigation lines. Follow sample provided by the Engineer. (4) Field locate cross culverts, driveway culverts, inverts, irrigation lines, within the project limits, data processing and CADD mapping (2D & 3D).

Services Provided By: ENGINEER	COUNTY	
YES	NO	c. Other Field Surveying *(continued)*
		(5) Right of Entry, Right of Way Research, and Appraisal District Records is the responsibility of the Surveyor.
		(6) The Surveyor shall also paint the proposed centerline on the existing pavement as approved by Engineer. (500-ft stations and a tick mark at 100 ft. stations –12 inches long with approved paint by Engineer) before construction for the purpose of utility adjustments and project location.
		(7) Profile and cross section intersecting streets for ties into project (500-ft. beyond the proposed ROW per schematic and 20-ft wider than the existing ROW of intersecting street). Reference missing voids as per CD provided by the Engineer.
		(8) Cross section irrigation crossings for a distance of 20-ft beyond the proposed ROW at 100-ft intervals in a DTM file. Provide a complete description of irrigation appurtances as identified by the engineer sample layout.
		(9) Tie Horizontally and Vertically the existing storm drain system that lies within the existing proposed ROW including the elevation of the outfall of said recovered existing storm drain systems.
YES	NO	(10) Tie to existing underground and overhead utilities (location, elevation and direction) Horizontally – The surveyor shall call the 1-800 number for the utilities to be marked on the ground as well as any city water and sewer lines. He shall tie all visible utility crossings with name, address and Phone #'s of utility companies. The engineer will coordinate with the utility companies and jointly the Surveyor and the Engineer will identify which utilities were missed and need to be tied down. Vertically – The engineer shall identify all utilities that are potential conflicts and that need to be tied vertically. The engineer will advise the surveyor in writing of the needed vertical ties and the surveyor will tie the lines vertically once the surveyor has coordinated the exposure and provide the information to the engineer.
YES	NO	(11) Additional Field Surveying as shown below: (a) IRRIGATION LINES – The surveyor will meet with the engineer before he ties down any irrigation lines. The Engineer will provide him the existing Irrigation District Maps and the A&M Data of existing irrigation lines that are identified of record. He will follow the sample given to him by the engineer and tie the structures horizontally and vertically and provide Field Books to the engineer. (b) OUTFALLS – The surveyor will provide a complete 2D & 3D File including utilities of the outfall identified on the Hydrologic Map.
		(12) Driveways and Turnouts (a) Inventory commercial entrances, public roads and side streets separately. (b) Obtain centerline station. (Width at ROW, PAV'T and existing radius. (c) Inventory by type (dirt, caliche, gravel or paved). If paved, indicate condition in terms of no patches, has patches or has potholes. (d) Obtain width at R.O.W. line. (e) Obtain elevations at both edges of the driveway or turnout in line with the side drain.
YES	NO	(13) ROW staking (Existing and Proposed @ 1,000 ft. stations PC's PT's and Angle points as per ROW Map)
NO	NO	(14) Soil core hole staking.
YES	NO	(15) Determine changes in topography from voids and outdated maps due to development, erosion, etc.
NO	NO	(16) Profiles of existing drainage facilities.
NO	NO	(17) Measurement of hydraulic opening under existing bridges.

Services Provided By: ENGINEER	COUNTY	
		c. Other Field Surveying *(continued)*
YES	NO	(18) Obtain elevations of manholes and valves of utilities
YES	NO	(19) Provide temporary signs, traffic control, flags, safety equipment, etc.
YES	NO	(20) Ties to existing bridges or culverts that may conflict with new construction.
N/A	N/A	(21) Bridge widening top of deck and/or top of cap elevations at the Profile Grade Line (PGL) and the edges of slab at bent locations.
YES	N/A	(22) Inventory signs, mailboxes, and driveways
YES	N/A	(23) Survey controlled data sheets per TxDOT guidelines.
N/A	N/A	2. Photogrammetric Products
		a. Uncontrolled Photography
		(1) Contact Prints
		(2) Mosaics
		(3) Digital ortho plots
		b. Mapping
		(1) Planimetric Maps
		(2) Contour Maps
		(3) Cross Sections
		(4) Profiles
		(5) Digital Terrain Models (DTM)

ROADWAY DESIGN CONTROLS

(Function Code 160)

Services Provided By: ENGINEER	COUNTY	
		1. Geometric Design
NO	NO	a. Horizontal and Vertical Alignment
YES	NO	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.
____	___	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 COUNTY 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.

DRAINAGE

(Function Code 161)

Services Provided By: ENGINEER	COUNTY	
		All hydraulic design shall be in accordance with the TxDOT's Hydraulic Manual, except where variances are permitted in writing by the COUNTY.
		1. Hydrologic Studies, Discharges
YES	NO	a. Drainage area maps showing existing conditions and proposed improvements.
YES	NO	b. Hydrologic data/discharge determination
		2. Hydraulic Drainage Study and Documentation
		a. Hydraulic computations
N/A	N/A	(1) Storm water detention available within the ROW (linear ft. along side drain ditch).
NO	NO	(2) Storm water detention required outside the ROW (as per HCDD#1)
YES	NO	(3) Culverts
YES	NO	(4) Bridge waterways
YES	NO	(5) Channels
YES	NO	(6) Storm sewers/inlets
NO	NO	(7) Pump stations
YES	NO	(8) Storm Water Management facilities
YES	N/A	(9) Other
		(a) Irrigation Canals/Siphons
NO	NO	b. Hydraulic report(s)
N/A	N/A	c. Federal Emergency Management Agency (FEMA) floodway requirements
NO	N/A	d. Determine impact of proposed drainage plan on the following receiving stream(s)
		(1) Hidalgo County Drainage District Outfalls
		(2) All Irrigation District Outfalls impacted
		3. Layout, Structural Design and Detailing of Drainage Features
		a. Culverts
YES	NO	(1) New culverts
YES	NO	(2) Culvert widening and/or lengthening
YES	NO	(3) Culvert replacements
		b. Storm sewers
YES	NO	(1) New storm sewers
YES	NO	(2) Modify existing storm sewers
YES	NO	(3) Inlets
YES	NO	(4) Manholes
YES	NO	(5) Trunk lines
		c. Pump stations
YES	NO	d. Subsurface drainage at retaining walls
YES	N/A	e. Outfall channel(s) within the ROW
YES	NO	f. Outfall channel(s) outside the ROW
NO	NO	g. Detention Pond(s) within the ROW
NO	NO	h. Detention Pond(s) outside the ROW
YES	NO	i. Summary of Quantities
YES	NO	j. Storm Water Management facilities
YES	NO	4. Storm Water Pollution Prevention Plan (SW3P)
NO	NO	5. Scour Evaluation - Waterway Structures only (to be completed by Bridge Engineer under FC 170.

ADDITIONAL RESONSIBILITIES
(As applicable to Work Authorization No. 1)

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 COUNTY 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 COUNTY. The ENGINEER shall coordinate through the COUNTY 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 COUNTY's Director. Any replacements to the ENGINEER's designated Project Manager/Engineer must be approved by the COUNTY.

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 COUNTY 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 COUNTY will not relieve the ENGINEER of the responsibility for subsequent correction of any such errors or omissions or for clarification of any ambiguities.

Document and Information Exchange

Data, Plan Sheets, General Notes and/or Specifications provided to the COUNTY shall be furnished on 8GB USB flash drives. Each 8 GB flash drive shall have a file titled Table of Contents. The Table of Contents shall indicate the locations of files within the directory structure of the documentation.

General Notes and specifications shall be provided in MS Office 2007 format. Plan sheets shall be provided in Microstation DGN or GEOPAK GPK format. PDF copies of plan sheets shall also be provided.

Two copies of the documentation shall be provided to the COUNTY.

If required, the ENGINEER shall provide to the COUNTY, a CD that contains all the plan sheets for the project. The graphics tape shall be compatible with the COUNTY's computer system.

CD Tape Required (YES or NO): YES

Proposal Time

The time indicated in the proposal and the contract shall include time necessary for reviews, approval, etc.

Office Location

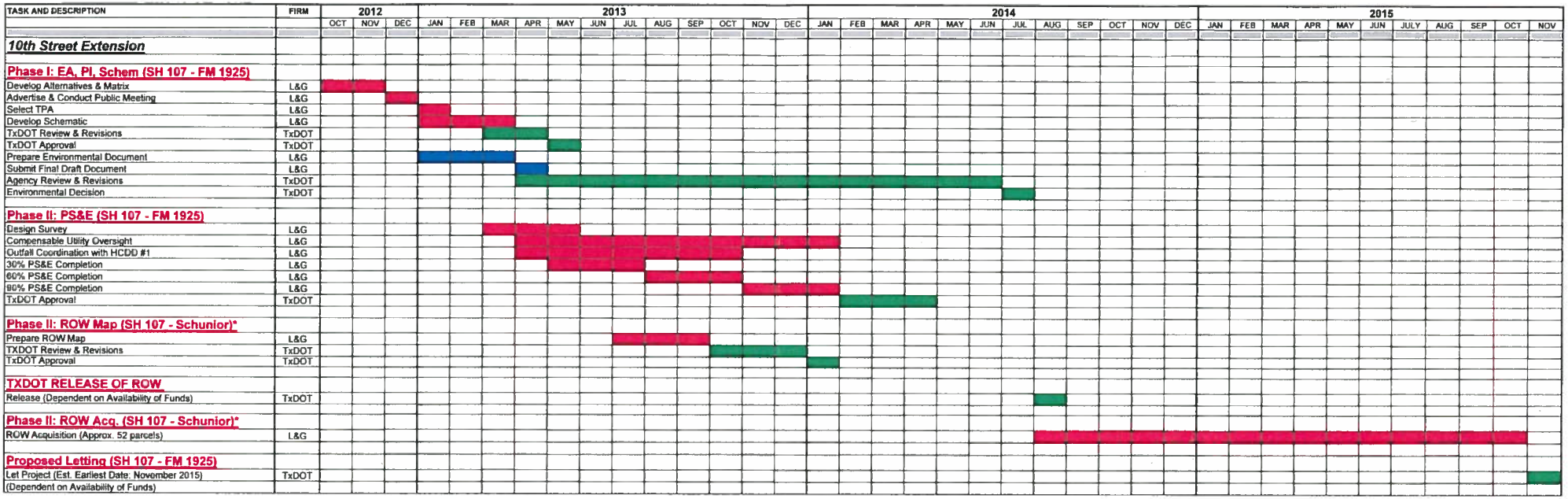
The ENGINEER will perform the services to be provided under this agreement out of their office or offices listed below:

Service	Office Location
PS&E	Mission Office
Schematic	Mission Office
Environmental Document	Mercedes Office

The work effort will be managed out of the Mercedes (City)
office located at 2100 West Expressway 83 (Address),
Mercedes (City), Texas (State).

Client: Hidalgo County

EXHIBIT "C"
WORK SCHEDULE
10th Street Extension
From SH 107 to FM 1925 (Monte Christo Rd)
Length = 2.5 miles



* - Note: Hidalgo County Pct. #4 has already purchased 120' of ROW from Schunior to FM 1925

L&G FUNCTION
ENVIRONMENTAL ASSESSMENT WORK
TXDOT FUNCTION

4:08 PM9/24/2012

EXHIBIT "D-1"

FEE SCHEDULE

ESTIMATED PRELIMINARY

PROJECT FACT SHEET

10TH ST. EXTENSION PROJECT

ROADWAY PROJECT:	10th St. North Extension PROJECT
LIMITS:	SH 107 to FM 1925
EXISTING ROADWAY SECTION:	40' -- Rural
EXISTING ROW WIDTH:	80 Varies and New Location
PROPOSED ROADWAY SECTION:	4-lane divided urban
PROPOSED ROW WIDTH:	120ft
ESTIMATED CONSTRUCTION COST	**$8,250,000.00**
LENGTH:	2.5 Miles

ESTIMATED PROJECT COSTS	*STATE/MPO*	*LOCAL*
WORK AUTHORIZATION NO. 1		
PHASE I - EA, PUBLIC INVOLVEMENT, SCHEMATIC, DESIGN, ROW MAPPING		
Environmental Assessment with TxDOT		$ 95,024.83
Public Involvement for Environmental Assessment		$ 20,019.67
Archeological and Historical Research		$ 20,022.48
Engineering Technical Support at Public Mtgs with Layouts etc		$ 20,005.84
Schematic		$ 118,815.08
Hydrological Map		$ 30,017.18
Office Surveys for Schematic (Preliminary Ownership Identification and Property Rights)		$ 20,017.05
ROW Map (ESTIMATED 52 PARCELS)		$ 207,906.22
Relocated Homes/Businesses		$ -
Compensible Utilitiey Management Oversight (1-person for 10 months) /2 Phase I Work		$ 89,995.75
SUB-TOTAL	**$ -**	**$ 621,824.10**
WORK AUTHORIZATION NO. 2		
PHASE II- PS&E and ROW Acquisition		
Right-of-Way Costs - Acq.Services @ (est. 52 Parcels @ $12,800/Parcel Avg.)		$ 665,600.00
Compensible Utiilities Management Oversight (1-person for 10 months) /2 Phase II Work		$ 90,000.00
Roadway Right-of-Way Costs - (120 ft. for 1/2 mile @ $4.00/sq ft)	$ 960,000.00	$ 240,000.00
COMPENSABLE UTILITY COSTS (UNKOWN $300,000 IS FOR BUDGET PURPOSES)	$ 240,000.00	$ 60,000.00
Field Surveys for Design and Construction		$ 125,000.00
PS&E Development		$ 660,000.00
PS&E Development for OUTFALL(S)		UNKNOWN
Signal Design		$ 120,000.00
Permitted Utilities Coordination	$ -	$ 90,000.00
PHASE II- CONSTRUCTION OVERSIGHT		
ROADWAY CONSTRUCTION COST	$ 8,167,500.00	$ 62,500.00
Construction Inspection & Testing (11.5%)	$ -	$ 948,750.00
L&G Construction Management (18 Months		$ 162,000.00
SUB-TOTAL	**$ 9,367,500.00**	**$ 3,243,850.00**
GRAND TOTAL	**$9,367,500.00**	**$ 3,865,674.10**

Work Authorization No. 1 Phase I	FY 12	$ 621,824.10	NOT ISSUED
Work Authorization No. 2 Phase II	FY 13	$ 1,912,600.00	NOT ISSUED

State Estimated Cost

Local Estimated Cost

TOTAL ESTIMATED COUNTY COST:	**$**	**3,865,674.10**	29.21%
TOTAL ESTIMATED PROJECT COST:	**$**	**13,233,174.10**	
COUNTY COSTS NOT INCLUDED IN WORK AUTHORIZATIC	**$**	**1,331,250.00**	
COUNTY COSTS ELIGIBLE (NOT AVAILABLE YET) FOR FEDERAL FUNDS		$ 948,750.00	

8/2/2012

EXHIBIT D-1

PROJECT FEE SCHEDULE AND
ESTIMATED MANHOUR BREAKDOWN

10TH STREET EXTENSION PROJECT

		MANHOURS													
		Senior Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Senior Engineer Tech	Engineer Tech	CADD Operator	Senior Environmental Scientist /Specialist	Environmental Scientist /Specialist	Admin / Clerical	TOTAL HOURS	Sub-Contract Amounts / ROW COST	TOTAL LINE ITEM COST
	CONTRACT RATE	199.89	166.58	119.38	105.50	72.18	69.41	66.63	58.30	119.38	69.41	49.97			
WORK AUTHORIZATION NO. 1															
PHASE I - EA, PUBLIC INVOLVEMENT, SCHEMATIC, DESIGN, ROW MAPPING															
1	Environmental Assessment with TxDOT	70	0	55	0	0	0	0	0	200	600	179	1104		$ 95,024.83
2	Public Involvement for Environmental Assessment	49	0	10	26	0	26	0	0	25	0	30	166		$ 20,019.67
3	Archeological and Historical Research	51	0	10	25	0	29	0	0	25	0	20	160		$ 20,022.48
4	Engineering Technical Support at Public Meetings with Layouts, etc.	25	20	16	16	0	16	16	16	16	16	39	196		$ 20,005.84
5	Schematic	84	90	360	186	0	352	0	0	0	0	0	1072		$ 118,815.08
6	Hydrological Map	48	79	0	0	0	0	100	0	0	0	12	239		$ 30,017.18
7	Office Surveys for Schematic (Preliminary Ownership Identification and Property Rights)	30	20	0	10	0	80	0	40	0	0	35	215		$ 20,017.05
8	ROW Map (ESTIMATED 52 PARCELS)	50	40	30	0	0	0	42	20	0	0	34	216	$ 182,003.68	$ 25,902.54
9	Relocated Homes/Businesses	0	0	0	0	0	0	0	0	0	0	0	0		$ -
10	Compensable Utility Management Oversite (1-person for 10 mo.) / 2 Phase I Work	119	90	158	3	0	200	0	200	0	0	130	900		$ 89,995.75
SUB-TOTAL		**526**	**339**	**639**	**266**	**0**	**703**	**158**	**276**	**266**	**616**	**479**	**4268**	**$ 182,003.68**	**$ 439,820.42**

Subtotal Manhour Fee with Sub-Consultant Costs	$	621,824.10
Total Project Fee:	$	621,824.10