HIDALGO COUNTY
Professional Engineering Services
Contract # C-17-103-05-30
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 Professional Engineering Services required for the completion of the Environmental Assessment Re-Evaluation, PS&E Development, Right-of-Way Acquisition Services and Compensable Utility Management for the Mile 6 from Mile 9 to Mile 11 project.

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 **$1,614,606.00**. This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as ***EXHIBIT "D-1" - Estimated Man-hour Breakdown.***

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. _____

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 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. 1, Commissioner David Fuentes as to the content and detail of this Work Authorization No. 1.

HIDALGO COUNTY
COMMISSIONER PRECINCT NO. 1

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

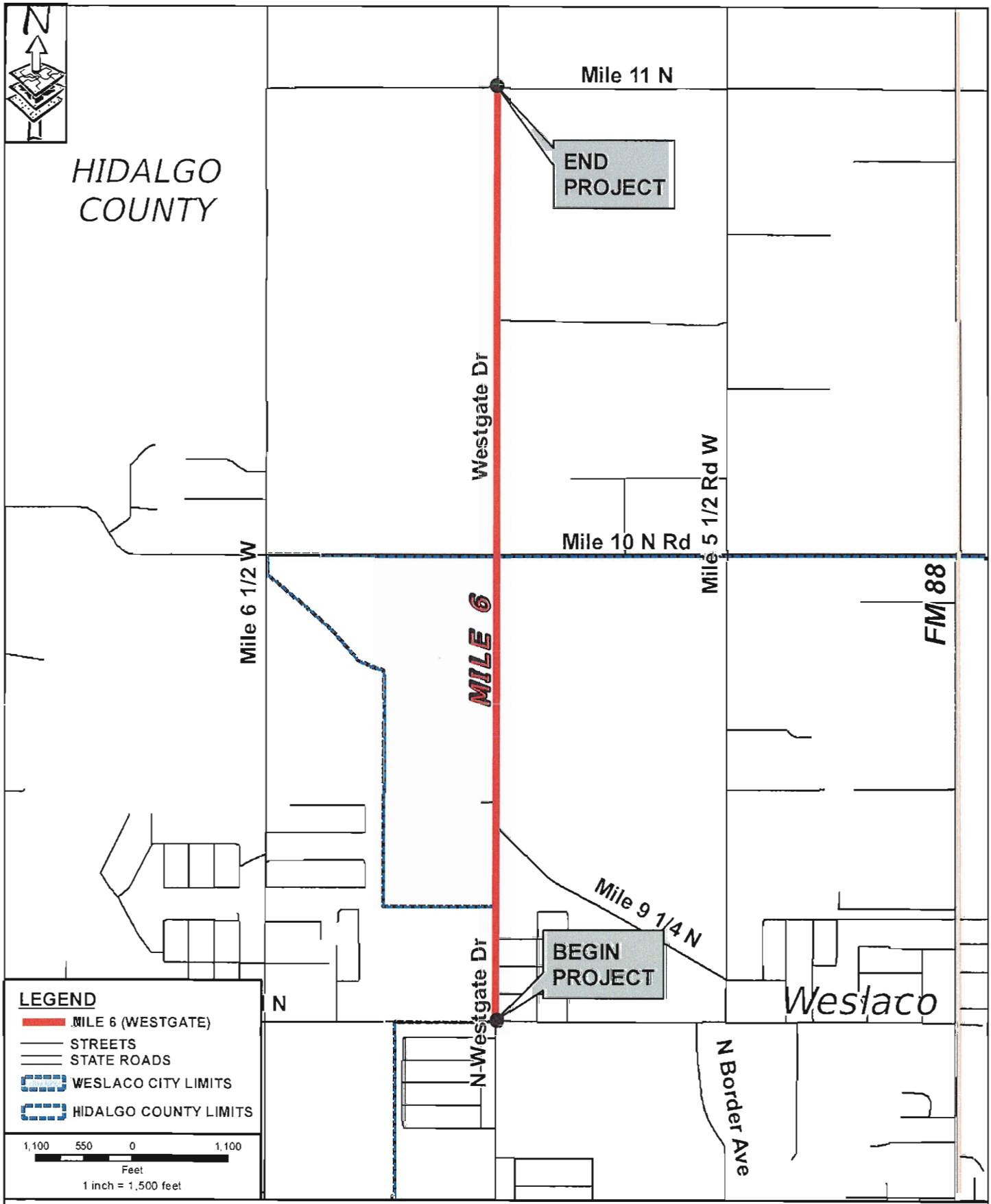
_____
By: Ramon Garcia,
County Judge

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 - Estimated Man-hour Breakdown



MILE 6 (WESTGATE) LOCATION MAP

FROM MILE 9 TO MILE 11

APPROX. TOTAL PROJECT LENGTH 2.0 MILES

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.

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

CONTROL:

PROJECT/DESCRIPTION: ENVIRONMENTAL ASSESSMENT RE-EVALUATION, PS&E AND ROW ACQUISITION

LENGTH: 2.0 MILES

HIGHWAY: MILE 6

LIMITS: FROM MILE 9 TO MILE 11

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)

ENGINEER shall mean L&G Engineering.

STATE shall mean Texas Department of Transportation.

LPA (Local Public Agency) shall mean the COUNTY OF HIDALGO.

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

SECTION 4 - ADDITIONAL SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT

(Function Code 120)

Services Provided By: ENGINEER	LPA	
		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
N/A	N/A	(1) An Environmental Assessment shall be prepared, anticipating a Categorical Exclusion.
N/A	N/A	(2) An Environmental Assessment shall be prepared in accordance with 23 USC 327 and the 2014 TxDOT-FHWA Memorandum of Understanding, anticipating a Finding of No Significant Impact.
N/A	N/A	(3) An Environmental Assessment shall be prepared, anticipating the need for a Draft Environmental Impact Statement.
YES	NO	(4) A Consultation Reevaluation Memorandum and a Documented Reevaluation Checklist, shall be prepared in accordance with 23 CFR 771.129, anticipating approval.
		b. Environmental Impact Statement
N/A	N/A	(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.
N/A	N/A	(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.
N/A	N/A	a. A public involvement meeting(s) and public hearing shall be scheduled, coordinated and conducted.
N/A	N/A	b. Technical assistance for one public meeting and one public hearing, preparation of, and maintenance of contact lists, minutes of meeting(s), exhibit preparation, and other tasks outlined by the LPA, shall be provided.
YES	NO	c. A meeting with affected property owners shall be scheduled, coordinated & conducted.
N/A	N/A	d. A Notice of Availability (NOA) shall be published by the LPA upon approval of the environmental decision.
		3. Technical Reports All technical reports shall be prepared in accordance with TxDOT's environmental rules and guidelines.
YES	NO	a. Air Quality Analysis An air quality analysis shall be prepared in accordance with the STATE'S Air Quality Guidelines. The air quality analysis shall be provided as a Technical Report and a summary of the air quality results included in the administratively complete document for the project.
YES	NO	b. Biological Technical Report A biological form and technical report shall be prepared in accordance with the STATE'S Biological Guidelines. The report will include water resources, and threatened and endangered species.

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

Services Provided By: ENGINEER	LPA	
N/A	N/A	c. Cultural Resources Historical and archeological studies shall be completed in accordance with the STATE'S guidelines.
N/A	N/A	(1) Historic Structure Studies A records search, project coordination request, 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.
N/A	N/A	(2) Archeological Studies File searches, project coordination request, an archeological reconnaissance, and an archeological survey shall be conducted to determine if known archeological sites are present or have been designated State Archeological Landmarks; and to identify the need (if any) to perform additional archeological investigations.
N/A	N/A	d. Community Impact Analysis A community impact analysis shall be prepared in accordance with the STATE'S Community Impact Guidelines.
N/A	N/A	e. Hazardous Materials The consultant shall perform an Initial Site Assessment (ISA) for hazardous materials impact in accordance with the American Society for Testing and Materials (ASTM) 1528.93 (Transaction Screen Process) and a Hazardous Materials Technical Report, as needed.
N/A	N/A	f. Indirect and Cumulative Impacts Analysis An indirect and cumulative impacts analysis shall be prepared in accordance with the STATE's guidelines.
N/A	N/A	g. 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 shall be provided as a Technical Report and a summary of the noise analysis results shall be included in the administratively complete document.
YES	NO	h. Water Resources A Water Resources technical report shall be prepared in accordance with the STATE's water guidelines.
N/A	N/A	4. Environmental Scoping The ENGINEER shall initiate the environmental scoping process and complete an environmental scoping document/risk assessment in coordination with TxDOT.
YES	NO	5. General Guidelines for Preparation of Environmental Documents
		a. All technical reports will be submitted electronically to TxDOT through their FTP site.
		~~b. The draft administratively complete document will be submitted to TxDOT electronically through their FTP site.~~
		~~c. The administratively complete document will be prepared in accordance with the content and format of FHWA Technical Advisory T6640.8A and the TxDOT Administrative Code 43 TAC §2.44.~~
		~~d. The administratively complete document will be submitted to TxDOT electronically through their FTP site.~~
		e. Upon completion and approval of the technical reports and checklists, the Engineer will provide one (1) hard copy to the Client. All copies to TxDOT will be digital. Exhibits in the environmental document shall be color copies and text shall be black and white.

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

SECTION 6 - ADDITIONAL FIELD SURVEYING AND PHOTOGRAMMETRY

(Function Code 150)

Services Provided By:
SURVEYOR LPA

DESIGN AND CONSTRUCTION SURVEYS:

PURPOSE:

The purpose of a "design survey" is to provide field information in support of transportation systems design.

The purpose of a "construction survey" is to provide field data in support of highway construction.

DEFINITIONS:

A "design survey" is defined as the combined performance of research, field work, analysis, computation, and documentation necessary to provide detailed topographic (3-dimensional) mapping of a project site. A design survey may include, but need not be limited to, cross-sections or data to create cross-sections and Digital Terrain Models (DTM), horizontal and vertical location of utilities and improvements, detailing of bridges and other structures, review of right-of-way maps, establishing control points, etc.

A "construction survey" is defined as the combined performance of reconnaissance, field work, analysis, computation, and documentation necessary to provide the horizontal and vertical position of specific ground points to be used by the construction contractor for determining lines and grades.

1. Design Surveying

YES N/A 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 N/A b. Secondary Project Control – Surveyor shall recover and/or reset H&V Control Points as provided by the Engineer and create Survey Control Data Sheets for inclusion in the Construction Project Plans signed and sealed by an R.P.L.S.
(1) 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.
(2) The unadjusted angular error should not exceed 2 seconds per angle, plus 14 seconds.
(3) 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.)
(4) The unadjusted vertical error should not exceed 0.03 foot per mile of traverse.
(5) Project control base lines

N/A N/A (6) Photogrammetric ground control
(a) Establish horizontal control
(b) Establish vertical control points
(c) Place and maintain control point targets

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

Services Provided By: SURVEYOR	LPA	
YES	N/A	c. Other Design 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 H&V Control at 1000-ft intervals along the project proposed right-of-way. Provide x, y, z for each H&V Control. Provide an H&V Control along each outfall identified on the Hydrologic Map. The H&V Control shall be #5 I.R. 2-ft in depth set in concrete. **The surveyor shall provide an H&V Control 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).

(5) Right of Entry, Right of Way Research, and Appraisal District Records is the responsibility of the Surveyor.

(6) The Surveyor shall stake the proposed centerline on the existing fields as approved 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 "EXHIBIT E". The SURVEYOR will meet with the ENGINEER before he ties down any irrigation lines. Jointly the SURVEYOR and the ENGINEER will identify from records such as the Irrigation District Maps and the A&M Data of existing irrigation lines that will need to be tied down. The SURVEYOR will follow the sample given to him by the ENGINEER and tie the structures horizontally and vertically and include in the field books to be submitted.

(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.

(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.

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

Services Provided By: SURVEYOR	LPA	
YES	N/A	(11) Cross section and profile all outfall channels identified on the Hydrologic Map for a distance of 200-ft beyond the proposed ROW upstream and downstream at 100-ft intervals. The SURVEYOR will provide a complete 2D/3D File including utilities of the outfalls identified.
		(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	N/A	(13) ROW staking (Existing and Proposed @ 1,000 ft. stations PC's PT's and Angle points as per ROW Map)
YES	N/A	(14) Soil core hole staking at bridge class structures.
YES	N/A	(15) Determine changes in topography from voids and outdated maps due to development, erosion, etc.
YES	N/A	(16) Profiles of existing drainage facilities.
YES	N/A	(17) Measurement of hydraulic opening under existing bridges.
YES	N/A	(18) Obtain elevations of manholes and valves of utilities
YES	N/A	(19) Provide temporary signs, traffic control, flags, safety equipment, etc.
YES	N/A	(20) Ties to existing bridges railroad rail elevations or culverts that may conflict with new construction.
YES	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) Locate wetlands.
YES	N/A	(24) Locate existing right-of-ways.
		d. Construction Surveys: In performing construction surveys, the following will be requested by the ENGINEER on an as needed basis, but need not be limited to:
N/A	N/A	(1) Stake existing and/or proposed right-of-ways.
N/A	N/A	(2) Stake existing and/or proposed baseline/centerline.
N/A	N/A	(3) Stake proposed bridge structures.
N/A	N/A	(4) Stake proposed drainage structures, such as manholes, culverts, etc.
N/A	N/A	(5) Set grade stakes.
N/A	N/A	(6) Recover and check existing control points.
N/A	N/A	(7) Establish additional control points.
N/A	N/A	(8) Check elevations and locations of structures.
N/A	N/A	(9) Determine and resolve conflicts associated with survey data.

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

Services Provided By: SURVEYOR	LPA	
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)
		3. UTILITY SUBSURFACE INVESTIGATION: Utility Quality Levels are in cumulative order (least to greatest) as follows
YES	N/A	3.1. Quality Level C - Existing Records: Utilities are plotted from review of available existing records that will be generated by the Engineer on the schematic and provided to the surveyor for his further creation of a Utility Map which will be turned in as a deliverable as part of this work order.
YES	N/A	3.2. Quality Level B - Surface Visible Feature Survey: The Surveyor shall gather the field tied Utility Information and compare it to the existing records (if any) as provided by the Engineer and correlate with surveyed surface-visible features. The surveyor shall create a Utility Layout Map or plan layout 2D, showing the limits of the proposed project and limits of the work area required for this work authorization; including highway stations, limits within existing or proposed right of way. Correlate utility owner records with designating data and resolve discrepancies using professional judgment. A color-coded composite utility facility plan with utility owner names, quality levels, line sizes and subsurface utility locate (test hole) locations. The Layout Map will include all utilities that have been field tied – 2D Horizontal Utilities. This Layout will be provided to the Engineer and a meeting held with Engineer to identify which utilities will need to be tied down vertically. A note must be placed on the designate deliverable only that states "lines sizes are from best available records". All above ground appurtenance locations must be included in the deliverable to the Engineer. This information will be provided in the latest version of Micro Station or Geopak used by the State. The electronic file will be delivered on C.D. or DVD. A hard copy is required and must be signed, sealed, and dated by the Surveyor. Note: Determine and inform the Engineer of the approximate utility depths at critical locations. This depth indication is understood by the Engineer to be approximate only and is not intended to be used for preparing the construction plans.
YES	N/A	3.3. Subsurface Utility Locate (Test Hole) Service (Quality Level A), **THE SURVEYOR SHALL ESTIMATE LOCATING VERICALLY 25 UTILITES PER MILE OR AS IDENTIFIED BY THE ENGINEER.** Locate shall mean to obtain precise horizontal and vertical position, material type, condition, size and other data that may be obtainable about the utility facility and its surrounding environment through exposure by non-destructive excavation techniques that ensures the integrity of the utility facility. Subsurface Utility Locate (Test Hole) Services (Quality Level A) are inclusive of Quality Levels B and C. The Surveyor shall: 3.3.1 Review the requested test hole locations that have been identified by the Engineer and Coordinate with utility owner inspectors as may be required by law or utility owner policy.

Services Provided By:
SURVEYOR LPA

3. *Utility Subsurface (continued)*

3.3.2 Measure and record the following data on an appropriately formatted test hole data sheet that has been sealed and dated by the Engineer:

- Elevation of top and/or bottom of utility tied to the datum of the furnished plan.
- Identify a minimum of two benchmarks utilized. Elevations shall be within an accuracy of 15mm (.591 inches) of utilized benchmarks.
- Elevation of existing grade over utility at test hole location.
- Horizontal location referenced to project coordinate datum.
- Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems.
- Utility facility material(s).
- Utility facility condition.
- Coating/Wrapping information and condition.
- Unusual circumstances or field conditions.

3.3.3 Excavate test holes in such a manner as to prevent any damage to wrappings, coatings, cathodic protection or other protective coverings and features. Water excavation can only be utilized with written approval from the appropriate State District Office.

3.3.4 Back fill all excavations with appropriate material, compact backfill by mechanical means, and restore pavement and surface material. The Engineer shall be responsible for the integrity of the backfill and surface restoration for a period of three years. Install a marker ribbon throughout the backfill.

3.3.5 Provide complete restoration of work site and landscape to equal or better condition than before excavation.

3.3.6 Plot utility location position information on the Utility Layout sheet and identify the vertical elevation and sealed by the responsible Surveyor. This information will be provided in the latest version of Micro Station or Geopak format used by the State. The electronic file will be delivered on C.D or DVD.

4. DELIVERABLES:

The deliverables to be specified in individual work authorizations for design surveys and construction surveys may be any combination of the following:

YES N/A 4.1. Digital Terrain Models (DTM) in a format acceptable by the ENGINEER.

YES N/A 4.2. Final H&V Field Book Binder with all pertinent information obtained in the field for Design Surveys. Maps, plans, or sketches prepared by the SURVEYOR showing the results of field surveys.

YES N/A 4.3. Computer printouts or other tabulations summarizing the results of field surveys.

YES N/A 4.4. Digital files or media acceptable by the ENGINEER containing field survey data.

YES N/A 4.5. Maps, plats, plans, sketches, or other documents acquired from utility companies, private corporations, or other public agencies, the contents of which are relevant to the survey.

YES N/A 4.6. Field survey notes, as electronic and/or hard copies.

YES N/A 4.7. A H&V Control Book identifying the basis of the Primary and Secondary Control and an 8 ½ inch by 11 inch survey control data sheet for each construction control point which shall include, but need not be limited to, a location sketch, a physical description of the point including a minimum of two reference ties, surface coordinates, a surface adjustment factor, elevation, and the horizontal and vertical datums used. Survey control data sheets shall be signed and sealed by the supervising Registered Professional Land Surveyor.

Services Provided By: SURVEYOR	LPA	
		4. *Deliverables (continued)*
YES	N/A	4.8. Final mylar set of 11 inch by 17 inch Survey Control data sheets sign and seal by the RPLS per TxDOT guidelines.
YES	N/A	4.9. A digital and/or hard copy of all computer printouts of horizontal and vertical conventional traverses, GPS analysis and results, data including property descriptions with field notes and plats, right-of-way maps, and survey control data sheets to include in the H&V Field Book Binder.
YES	N/A	4.10. Survey reports in a format requested by the ENGINEER.
YES	N/A	4.11. Items indicated under the Automation Requirements Section 6.

5. GENERAL REQUIREMENTS:

5.1. Design surveys and construction surveys shall be performed under the supervision of a Registered Professional Land Surveyor currently registered with the Texas Board of Professional Land Surveying.

5.2. Horizontal ground control used for design surveys and construction surveys, furnished to the SURVEYOR by the ENGINEER or based on acceptable methods conducted by the SURVEYOR, shall meet the standards of accuracy required by the STATE.

5.3. Reference may be made to standards of accuracy for horizontal control traverses, as described in the FGCS Standards and Specifications for Geodetic Control Networks, latest edition, the TxDOT Survey Manual, latest edition, the TxDOT GPS Manual of Practice, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

5.4. Vertical ground control used for design surveys and construction surveys, furnished to the SURVEYOR by the ENGINEER or based on acceptable methods conducted by the SURVEYOR, shall meet the standards of accuracy required by the ENGINEER.

5.5. Reference may be made to standards of accuracy for vertical control traverses, as described in the FGCS Standards and Specifications for Geodetic Control Networks, latest edition, the TxDOT Survey Manual, latest edition, the TxDOT GPS Manual of Practice, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

5.6. Side shots or short traverse procedures used to determine horizontal and vertical locations shall meet the following criteria:

- Side shots or short traverses shall begin and end on horizontal and vertical ground control as described above.
- Standards, procedures, and equipment used shall be such that horizontal locations relative to the control may be reported within the following limits:
- Bridges and other roadway structures: less than 0.1 of one foot.
- Utilities and improvements: less than 0.2 of one foot.
- Cross-sections and profiles: less than 1 foot.
- Bore holes: less than 3 feet.
- Standards, procedures, and equipment used shall be such that vertical locations relative to the control may be reported within the following limits:
- Bridges and other roadway structures: less than 0.02 of one foot.
- Utilities and improvements: less than 0.1 of one foot.
- Cross-sections and profiles: less than 0.2 of one foot.
- Bore holes: less than 0.5 of one foot.

Services
Provided By:
SURVEYOR LPA

5. **AUTOMATION REQUIREMENTS:**

6.1 Planimetric design files (DGN) shall be fully compatible with the State's *Micro Station V8* graphics program without further modification or conversion.

6.2 Electronically collected and processed field survey data files shall be fully compatible with the State's *CADD* systems without further modification or conversion. All files shall incorporate only those feature codes currently being used by the STATE.

6.3 Digital Terrain Models (DTM) shall be fully compatible with the STATE's GEOPAK system without further modification or conversion. All DTM files shall be fully edited and rectified to provide a complete digital terrain model with all necessary break lines.

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

ADDITIONAL RESPONSIBILITIES

A. TRAFFIC CONTROL:

The SURVEYOR shall control traffic in and near surveying operations adequately to comply with provisions of the latest edition of the TxDOT Manual on Uniform Traffic Control Devices – Part VI and the latest edition of the Occupational Safety Manual both of which can be found on the TxDOT internet site.

In the event field crew personnel must divert traffic or close traveled lanes, a Traffic Control Plan based upon principles outlined in the latest edition of the TxDOT Manual on Uniform Traffic Control Devices – Part VI shall be prepared by the SURVEYOR and approved by the ENGINEER prior to commencement of field work. A copy of the approved plan shall be in the possession of field crew personnel on the job site at all times and shall be made available to the ENGINEER for inspection upon request.

B. INVOICING:

Payment requests shall include a SURVEYOR's invoice. With each payment request, the SURVEYOR shall submit a project status report which will, as a minimum, include the percentage of total work complete as of the date of the payment request and a description of current work activity. The percentage of total work complete shall not be based simply on the percentage of funds expended, but shall be based on the best judgment of the SURVEYOR as to the percentage of actual work complete.

C. EASEMENTS, LETTERS OF PERMISSION, ETC.

The SURVEYOR shall be responsible for delineating easements. The SURVEYOR will be responsible for securing the necessary legal instruments and obtaining all Right-of-Entries (ROEs).

D. MEETINGS:

The ENGINEER shall setup the necessary meetings with the SURVEYOR in order to assure all field information is provided on-time and products are delivered in accordance with TxDOT's specifications. SURVEYOR must attend all meetings involving data provided if requested by ENGINEER.

E. PROJECT MANAGER/SURVEYOR COMMUNICATION:

The SURVEYOR shall designate one Texas Registered Professional Land Surveyor (RPLS) to be responsible throughout the project for project surveying coordination and all communications, including billing, with the ENGINEER.

F. OFFICE LOCATION:

The SURVEYOR will perform the services to be provided under this agreement out of a local office and have a crew available to perform requested tasks within 24 hours of request. The coordinating SURVEYOR's Project Manager (RPLS) shall be accessible at all times and working from the local office.

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

SECTION 7 - ADDITIONAL ROADWAY DESIGN CONTROLS

(Function Code 160)

Services Provided By: ENGINEER	LPA	
		1. Geometric Design
YES	N/A	a. Horizontal and Vertical Alignment ~~(Preliminary based on office surveys)~~
YES	N/A	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.
YES	N/A	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.

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

Services Provided By: ENGINEER	LPA	
YES	N/A	2. General Guidelines for Project Development *(continued)*
		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.**
N/A	N/A	3. Exhibit for Airway/Highway Clearance Permits
		4. Grading Design
YES	N/A	a. Refine the horizontal and vertical alignment of main lanes, frontage roads, ramps, cross roads and direct connectors based upon the approved schematic layout. Determine vertical clearances at grade separations and overpasses, taking into account the appropriate super elevation rate.
YES	N/A	b. Typical Sections
YES	N/A	c. Design Cross Sections
YES	N/A	d. Determine Cut and Fill Quantities
N/A	N/A	e. Slope Stability Analysis
N/A	N/A	f. Embankment Foundation Stability Analysis
N/A	N/A	g. Embankment Settlement Analysis
		5. Pavement Design
YES	N/A	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.
YES	N/A	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
		(1) Soil Core Holes (Show cost estimate with Function Code 110)
N/A	N/A	(a) Along center line
N/A	N/A	(b) Along center line of each roadway
		The location and minimum number of soil core holes required for this project are as follows: (To be determined when schematic is being completed)

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

Services Provided By: ENGINEER	LPA	
		5. Pavement Design *(continued)*
		c. Embankment and Subgrade *(continued)*
YES	N/A	(2) Identify,interpret and summarize geologic features that affect engineering design (PI, Sulfate content, % of lime)
YES	N/A	d. Traffic Data for Pavement Design by STATE
YES	N/A	e. Basic Design Criteria
YES	N/A	f. Life Cycle Cost Analysis(es)
YES	N/A	g. Cost Data
YES	N/A	h. Pavement Material Properties
YES	N/A	i. Rehabilitation Investigations
YES	N/A	(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 8 - ADDITIONAL DRAINAGE

(Function Code 161)

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

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

SECTION 9 - ADDITIONAL SIGNING, MARKINGS AND SIGNALIZATION

(Function Code 162)

Services Provided By: ENGINEER	LPA	
YES	N/A	1. Signing and Markings Layout a. Requirements (Separate Layout) (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: (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
YES	N/A	2. Summary of Small Signs Tabulation
NO	N/A	3. Summary of Large Signs Tabulation including all Guide Signs
YES	N/A	4. Sign Detail Sheets 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

Services Provided By: ENGINEER	LPA	
		5. Traffic Signals
		a. Development of Justification (Warrant) Data
NO	N/A	(1) Location Map Relationship of proposed installation to other traffic signals, highways, business areas and traffic generators
NO	N/A	(2) Photographs as appropriate
NO	N/A	(3) Accident data as appropriate
		(4) Vehicle volumes (provided by TxDOT)
N/A	N/A	(a) Existing
N/A	N/A	(b) Estimated
N/A	N/A	(c) Projected
N/A	N/A	(d) Pedestrian
N/A	N/A	(5) Traffic Survey - Count Analysis
N/A	N/A	(6) Recommendation based on above data
YES	N/A	b. Layout
		(1) Title Sheet (when applicable)
		(a) Describe the location
		(b) Type of installation
		(c) Area map with project limits for each location
		(d) Index of sheets
		(e) Space for official signatures
		(2) Estimate and quantity sheet (when applicable)
		(a) List of all bid items
		(b) Bid item quantities
		(c) Specification item number
		(d) Paid item description and unit of measure
		(3) Basis of estimate sheet (list of materials)
		(4) General notes and specification data sheet
		(5) Condition diagram
		(a) Highway and intersection design features
		(b) Roadside development
		(c) Traffic control including illumination
		(6) Plan sheet(s)
		(a) Existing traffic control that will remain (signs and markings)
		(b) Existing utilities
		(c) Proposed highway improvements
		(d) Proposed installation
		(e) Proposed additional traffic controls
		(f) When applicable, proposed conduit for Railroad interconnect with standard details for runs under tracks.
		(g) Proposed illumination attached to signal poles.
		(7) Notes for plan layout
		(8) Elevation sheet(s) (span wire design)
		(9) Phase sequence diagram(s)
		(a) Signal locations
		(b) Signal indications
		(c) Phase diagram
		(d) Signal sequence table
		(e) Flashing operation (normal and emergency)
		(f) Preemption operation (when applicable)
		(g) Interval timing, cycle length and offset

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

Services Provided By: ENGINEER	LPA	
		5. Traffic Signals *(continued)*
YES	N/A	b. Layout *(continued)*
		(10) Construction detail sheets(s)
		(a) Poles (TxDOT standard sheets)
		(b) Detectors
		(c) Pull Box and conduit layout
		(d) Controller Foundation standard sheet
		(11) Marking details (when applicable)
		(12) Barricade and warning sign standard sheet and any special details for work zone traffic control for special conditions
		(13) Aerial or underground interconnect details (when applicable)
		c. General Requirements
		(1) Contact local utility company
YES	N/A	(a) Confirm power source
YES	N/A	(b) Discuss route of aerial or underground interconnect cable (when applicable)
YES	N/A	(c) Adjustment of overhead utility lines
YES	N/A	(2) Prepare governing specifications and special provisions list
YES	N/A	(3) Prepare project estimate
YES	N/A	d. Summary of Quantities

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

SECTION 10 - ADDITIONAL MISCELLANEOUS (ROADWAY)

(Function Code 163)

Services Provided By: ENGINEER	LPA	
		1. Retaining Walls
		a. Structural Details
N/A	N/A	(1) Cast-in-Place Cantilever at _____ locations. (TxDOT Standard Retaining Wall)*
N/A	N/A	(2) Tiedback Retaining Wall at _____ location. (TxDOT standard retaining wall)
N/A	N/A	(3) Specialized Retaining Wall at _____ locations (Unique Design).*
		b. Alternate Patented Retaining Walls at all locations. (Layouts Only)**
N/A	N/A	(1) Mechanically Stabilized Earth
N/A	N/A	(2) Concrete Block Wall Systems
N/A	N/A	c. Retaining Wall Layout (PLAN)
		(1) Designation of reference line
		(2) Beginning and ending retaining wall stations
		(3) Station of each retaining wall joint***
		(4) Offset from reference line
		(5) Horizontal curve data
		(6) Number of retaining wall panels and lengths***
		(7) Total length of wall
		(8) Indicate face of wall
		(9) All wall dimensions and alignment relations (alignment data as necessary)
		(10) Soil core hole locations
N/A	N/A	d. Retaining Wall Layout (ELEVATION)
		(1) Top of wall elevations at each joint or intervals***
		(2) Existing and finished ground line elevations
		(3) Height of stem at each joint***
		(4) Wall panel designations***
		(5) Top of footing elevations***
		(6) Limits of measurement for payment****
		(7) Type, limits and anchorage details of railing (If applicable)
		(8) Top and bottom of wall profiles and soil core hole data plotted at correct station and elevation. The plot shall be at the same scale as the wall profile. Ground water elevations and the observation date shall be shown.
N/A	N/A	e. Foundation Studies (Show cost estimate with Function Code 110)
N/A	N/A	(1) The soil core holes shall be obtained at approximately 200 foot intervals along retaining wall alignments. The core holes shall extend 25 feet below the footing elevation.
N/A	N/A	f. Stability Analysis (the ENGINEER shall estimate this task as part of his bid to complete the work).
N/A	N/A	g. Estimate
N/A	N/A	h. Summary of Quantities
N/A	N/A	i. Typical X-section.
N/A	N/A	j. General Guidelines for Retaining Walls
		(1) The ENGINEER shall make final design calculations and final detail drawings in accordance with standard requirements of the Texas Department of Transportation. **The designer and checker shall check all calculations and initial each page.**
		(2) The ground water level should be observed at the water strike.
		(3) For purposes of uniformity statewide, soil core hole data shall be shown on layouts as illustrated in the Bridges and Structures Foundation Exploration and Design Manual.
		(4) Foundation exploration shall conform to the requirements set forth in Administrative Circular No. 25-84, Administrative Circular 33-87 and Administrative Circular No. 25-92.

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

Services Provided By: ENGINEER	LPA	
YES	N/A	2. 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.
		3. Illumination
N/A	N/A	a. Preliminary Roadway Illumination Layout and Circuit Layout (1) For projects involving freeway to freeway or other types of directional interchanges and projects including left-hand ramps or connections, provide the following: (a) The location of interchanges, main lanes, grade separations, frontage roads and ramps (b) A 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 (c) The number of lanes in each section of proposed highway and the location of changes in the number of lanes (d) The projected traffic volumes as provided by the STATE (20 year traffic projection unless otherwise determined by the district engineer) (e) Tentative ROW limits (f) Direction of traffic flow on all roadways (g) Main lane, ramp, frontage road, and necessary cross road profiles at proposed interchanges or grade separations
N/A	N/A	b. Final Roadway Illumination and Electrical Circuit Layouts (1) Roadway layout showing pavement edges, shoulders, curbs, retaining walls, etc. (2) Center line with station numbering. (3) ROW lines. (4) Symbol legend. Use department standard symbols for lighting and electrical. (5) Culverts and other structures that present a hazard to traffic. (6) Location of underground utilities, if not shown on plan profile. (7) Location of overhead electrical lines, both crossing and parallel to ROW. (8) Existing sign lighting circuits and roadway illumination to remain, to be removed, to be relocated. (9) Existing service poles, electrical circuits, ground boxes, etc. (10) Contact electric utility for service pole locations, voltage characteristics. (11) Location of proposed sign lighting circuits and roadway illumination. (12) Proposed electrical circuits. (13) Tabulation of all quantities including proposed, existing to be relocated, existing to be removed. The layout sheet quantities and lighting summary shall be shown. Tabulations to include estimated quantity with a column for final quantities.

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

Services Provided By: ENGINEER	LPA	
		3. Illumination *(continued)*
N/A	N/A	c. General Guidelines for Illumination (If applicable) The ENGINEER shall submit to the LPA, well in advance of PS&E due date, the roadway illumination and electrical circuit layout sheets for review by the STATE. Two copies of the layout sheets are to be submitted. One copy will be returned to the Engineer showing corrections that are to be made by the ENGINEER. When final plan submission is made, the ENGINEER shall provide a written statement regarding completion of the corrections.
		4. Miscellaneous Drafting/Standards
YES	N/A	a. Erosion Control
N/A	N/A	b. Landscape Development
YES	N/A	5. Compute and Tabulate Quantities
YES	N/A	6. Special Utility Details (Irrigation lines)
		7. Miscellaneous Structures
		a. Type of Structure*
		(1) Overhead Sign Bridges (O.S.B.) Modifications or special O.S.B. designs shall be prepared using the same design assumptions that are used for the standard O.S.B structures.
N/A	N/A	(a) New O.S.B. structure(s)
N/A	N/A	(b) Structural evaluation of existing O.S.B. structure(s) that are to remain in place or to be relocated.
N/A	N/A	(2) High Mast Illumination Poles (HMIP)
N/A	N/A	(3) Traffic Signal Supports
N/A	N/A	(4) Conventional Illumination Poles
N/A	N/A	(5) Sound Barrier Walls
N/A	N/A	b. Checklist for Layouts
		(1) Reference appropriate O.S.B. standard
		(2) Drilled shaft size and length
		(3) Soil strength used for design {indicate basis and boring(s) used}
		(4) Design height
		(5) Tower heights
		(6) Leg spacings
		(7) Design wind speed
N/A	N/A	c. Foundation Studies (Show cost estimate with Function Code 110) The soils exploration requirements for miscellaneous structures on this project are as follows: (To be provided by the Engineer on an as-needed basis)
		8. Agreements
YES	N/A	a. Utility Agreements
YES	N/A	b. Exhibits for Utility Agreements
N/A	N/A	c. Railroad Agreements
		d. Railroad Exhibits
N/A	N/A	(1) Railroad Underpasses
N/A	N/A	(2) Railroad Overpasses
N/A	N/A	(3) Railroad Grade Crossing (Replanking)
N/A	N/A	(4) Railroad Grade Crossing Warning Systems (Signals)
N/A	N/A	(5) Other Miscellaneous Sketches for Railroads
N/A	N/A	e. Traffic Signal Agreements
N/A	N/A	f. Exhibits for Traffic Signal Agreements
N/A	N/A	9. Estimate
N/A	N/A	10. Specifications and General Notes

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

SECTION 11 - ADDITIONAL BRIDGE DESIGN

(Function Code 170)

Services Provided By: ENGINEER	LPA		NUMBER REQUIRED
		1. Preparation of Structural Details	
		a. New Structure(s)	
N/A	N/A	(1) Underpass(es)	
N/A	N/A	(2) Overpass(es)	
N/A	N/A	(3) Main Lanes	____
N/A	N/A	(4) Direct Connector(s)	____
N/A	N/A	(5) Ramp Bridge(s)	____
N/A	N/A	(6) Waterway Structure(s)**	____
N/A	N/A	(7) Pedestrian Structure(s)	____
N/A	N/A	(8) Utility Structure(s)	____
N/A	N/A	(9) Railroad Underpass(es)	____
N/A	N/A	(10) Railroad Overpass(es)	____
N/A	N/A	(11) Bridge Classification Culvert(s)**	____
N/A	N/A	(11) Alternate Structural Designs	____
N/A	N/A	(12) Alternate Foundation Design	____
		Total New Structures =	
		b. Existing Structure(s)	____
N/A	N/A	(1) Bridge Widening, Rehabilitation and/or Modification of Existing Structure(s)	
N/A	N/A	(2) Bridge Replacement	____
N/A	N/A	(3) Raising Bridge Elevation	____
N/A	N/A	(4) Bridge Classification Culvert(s) Widening and/or Modification of Existing Structures(s)	____ ____
N/A	N/A	(5) Railroad Overpass(es)	____
N/A	N/A	(6) Railroad Underpass(es)	____
		Total Existing Structures =	____

* Countour plots of bridge gores are required for projects involving ramps within the main bridge in order to ensure project transition. The Template data and vertical alignment necessary to generate the contour plots are also required.

** In the early stages of a project, it sometimes cannot be determined whether a Waterway Bridge Structure or a Bridge Classification Culvert (20' minimum length) will be required. Therefore, the ENGINEER should be aware that either of these two types of bridges may be reclassified later in the project for the other type when more information is known that would dictate a change in structure classification.

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

Services Provided By: ENGINEER	LPA	
N/A	N/A	2. Preparation of Bridge Layouts (each bridge)

a. Bridge Layouts (PLAN)
   (1) Horizontal curve information or bearing of centerline.
   (2) Including horizontal, vertical, and template information of all roadways or railroads crossed.
   (3) Bearing of center line or reference line.
   (4) Skew angle(s).
   (5) Slope for header banks and approach fills.
   (6) Control stations at beginning and ending of bridge (with deck elevation), intersections, etc.
   (7) Approach pavement and crown width.
   (8) Bridge roadway width and curbs, face of rail, shoulders, or sidewalks.
   (9) Approach slab and curb returns.
   (10) Limits and type of riprap.
   (11) Proposed features under structure.
   (12) Location of profile grade line.
   (13) North arrow.
   (14) Typical bridge roadway section including preliminary proposed beam types and spacings.
   (15) Cross slope and super elevation data.
   (16) Minimum horizontal clearances when applicable.
      (a) Dimensions to features that control clearances. (Calculate and indicate points of minimum vertical and horizontal clearances.
   (17) Location of soil core holes (station and offset), shown on layout.
   (18) Bent stations and bearings.
   (19) Retaining wall locations.
   (20) Traffic flow directional arrows.
   (21) Railing types shown.
   (22) Joint types and seal size, if used.
   (23) Beam line numbers consistent with span details.
   (24) Critical horizontal clearances (location of railroad tracks, nearby structures and utilities).
   (25) Bearings of utilities.

b. Bridge Layouts (ELEVATION)
   (1) Type of foundation.
   (2) Finished grade elevations at beginning and end of bridge.
   (3) Overall length of structure.
   (4) Length, type of spans and units.
   (5) Type of railing.
   (6) Minimum calculated vertical clearance(s).
   (7) Existing and proposed ground lines clearly marked.
   (8) Grid elevations and stations.
   (9) Bent numbers encircled.
   (10) Stationing of bridge compatible with grid stations.
   (11) Standard title.
   (12) Profile grade data.
   (13) Type of riprap.
   (14) Soil Core Hole information with penetrometer test data shall be shown on the bridge layout at correct station, elevation and scale.
   (15) Fixed/expansion condition of all bents.
   (16) Column "H" heights.
   (17) Number, size and length of foundations.

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

Services Provided By: ENGINEER	LPA	
N/A	N/A	2. Preparation of Bridge Layouts (each bridge) *(continued)* c. Additional layout requirements for waterway structures and bridge classification culverts. (1) Design and 100-year peak discharges. (2) Design and 100-year high water (HW) (Recorded HW and date if available) (3) Natural and through-bridge velocities for design and 100-year floods. (4) Calculated backwater for design and 100-year floods. (5) Direction of flow for waterway crossings. (6) Contours for water crossing.
N/A	N/A	3. Bridge Classification Culvert, Estimate, Quantities, and Specifications (each bridge)
N/A	N/A	4. Foundation Studies (Show cost estimate with Function Code 110) The minimum number of soil core holes shall be obtained in accordance with Section 1-301 of the Bridges and Structures Foundation Exploration and Design Manual. Soil core holes shall be obtained at approximately (300 foot) intervals along bridge alignments. Texas cone penetrometer (TCP) tests shall be conducted in all soil types encountered at a maximum of (10 foot) intervals. If single column bents with single drilled shafts are planned, TCP values should be taken at close intervals in the upper (15 feet).
N/A	N/A	5. Bridge Total Quantities and Cost Estimates (each bridge)
N/A	N/A	6. Bridge Special Provisions and Specifications (each bridge)
N/A	N/A	7. Bearing seat elevations for each beam or girder. Top of cap elevations for non-beam type structures.
N/A	N/A	8. General Guidelines for Bridge Design a. The ENGINEER shall prepare a bridge layout of each bridge structure for Company's review and approval. The bridge layout shall be in conformance with the Bridges and Structures, Operation and Planning Manual and the Bridges and Structures, Detailing Manual. Soil core hole data is not required for submission of the preliminary bridge layout. **No bridge design work is to be performed until the LPA has given the engineer written approval of the preliminary bridge layout.** Several months may be required, after the preliminary bridge layout is submitted, for the district to obtain approval and/or permits from the following: • TxDOT Design Division, when applicable: - Railroad Companies - FHWA - U.S. Army Corps of Engineers - U.S. Coast Guard - Bureau of Reclamation - Texas Parks and Wildlife - Others Therefore, the bridge layout should be submitted at the earliest possible date and the ENGINEER's design schedule should reflect this. b. All bridge superstructure and substructure design will be reviewed by the Design Division for purposes of verifying structural integrity and optimization of design. c. The final bridge layout shall be in conformance with the Bridges and Structures, Operation and Planning Manual and the Bridges and Structures Detailing Manual.

Services Provided By:
ENGINEER LPA

8. General Guidelines for Bridge Design *(continued)*

d. The ENGINEER shall make final design calculations and final detail drawings in accordance with standard requirements of the Texas Department of Transportation. All bridge design shall be in conformance with the Texas Department of Transportation Bridges and Structures Operation and Planning Manual, the current American Association of State Highway and Transportation Officials or American Railway Engineers Association Specifications for railway structures, Standard Specifications for Highway Bridges, including applicable interim specifications, and the Bridges and Structures, Foundation Exploration and Design Manual. The ENGINEER shall furnish design calculations to the Design Division. **The designer and checker shall check all calculations and initial each page.**

e. Structural steel or prestressed concrete shop drawings, form work drawings and false work drawings are not part of the design requirements. However, contract plans shall be in sufficient detail to permit the preparation of complete shop details for fabrication and erection.

f. Elements of the bridge (abutments, bents, slabs, etc.) shall be detailed to a metric scale of 1:20 (1/2 inch equals one foot architect scale) or 1:50 (1/4 inch equals one foot architect scale) to provide clear legible drawings when the drawings are reduced. Lettering shall be a minimum size of 4 millimeters (5/32 inch) height for hand lettering and 140 for lettering by computer-aided design and drafting (CADD).

g. Standard drawings for beams, diaframs, railings, armor joints, riprap, etc., shall be furnished to the ENGINEER upon request. These standards shall not be redrawn by the ENGINEER nor shall his title block be transferred to the standard drawings. Modifications to the standards, if necessary, shall be clearly identified and designated by "MOD" in the standard title. Specific special drawings prepared by the ENGINEER shall not be identified as standards.

h. Bridge layout sheets shall have the same vertical and horizontal scale. Usually a metric scale of 1:100 (1 inch = 10 feet) or 1:200 (1 inch = 20 feet) is used. Sections of existing and proposed structures usually have a metric scale of 1:50 (1 inch = 5 feet). Soil core holes shall be positioned and labeled on the bridge layout plan view. The core hole data shall be plotted at the correct station, at the same vertical scale, and at the proper elevation unless otherwise approved by the Design Division.

i. APPENDIX C, "GENERAL PLAN CHECKLIST", on pages C-1 thru C-5, more specifically relates various sheet types, details, summaries, standards, etc.

j. For purposes of uniformity statewide, soil core hole data shall be shown on layouts as illustrated in the Bridges and Structures Foundation Exploration and Design Manual.

k. Geometry and structural design errors found after acceptance of bridge plans shall be promptly corrected by the consultant at no cost to the Company.

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

SECTION 13 - FC 600 – ACQUISITION PROVIDER SERVICES
(for EST. 68 PARCELS AND 0 RELOCATIONS/DISPLACEMENTS)

(Services to be provided by L&G Engineering)

Services Provided By: ENGINEER	LPA	
		1) PROJECT ADMINISTRATION
YES	NO	a) Negotiation of Scope of Services for Work Authorization i) Acquisition Provider will visit project site with COUNTY personnel if necessary.
YES	NO	b) Project Presence at L&G Consultant Office Headquarters i) Full Project Office (1) No Joint Use of COUNTY facilities (2) Open during normal COUNTY work hours (3) Personnel available to answer questions (4) Availability of Project Files (5) At least one office staff member is required to be a current commissioned notary public.
YES	NO	c) Overhead Costs i) Administrative costs
YES	NO	d) Communication i) Provide monthly progress reports with invoice. ii) Participate in project review meetings as determined by the COUNTY. iii) Prepare initial property owner contact list for use by the COUNTY in distribution of Acquisition Provider introduction letters. iv) Prepare and Mail via Certified, Return Receipt Requested method, all introduction letters for each individual parcel.
YES	NO	e) File Management i) Project and parcel files will be kept in the COUNTY's Office, if necessary. Working files will be kept in the Acquisition Provider's project administrative office, but documents generated or received by the Acquisition Provider will be forwarded to the COUNTY office as they are generated or received by the Acquisition Provider, if necessary. ii) Prepare payment transmittal request utilizing standard payment submissions forms with supporting documentation. iii) Maintain records of all payments including check number, amount, and date paid, etc. iv) Provide copies of all incoming and outgoing correspondence as generated if requested by COUNTY at provider conference. v) Maintain copies of all correspondence and contacts with property owners.
		2) TITLE SERVICES
YES	NO	a) Secure preliminary title commitments from the Title Company that will be providing title insurance. Cost of preliminary title commitments will be paid by the Acquisition Provider (if requested by the title company) and will be included in the Acquisition Provider's scope of work for payment and paid as a separate item.
YES	NO	b) Secure title commitment updates in accordance with insurance rules and requirements for parcel payment submissions. Cost of title commitment updates will be paid by the Acquisition Provider (if requested by the title company) and will be included in the Acquisition Provider's scope of work and paid as a separate item.
YES	NO	c) Secure title insurance for all parcels acquired, insuring acceptable title to COUNTY OF HIDALGO. Written approval by the COUNTY required for any exception.

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

Services Provided By: ENGINEER	LPA	
		3) APPRAISAL
YES	NO	a) Appraiser may be selected from TxDOT's Department Certificate for Professional Real Estate Appraisers. This list will be available for review at all District offices or at the Right of Way Division Office at 118 E. Riverside Drive, Austin, Texas, upon request.
YES	NO	b) Secure written permission (if necessary) from the owner to enter the property from which land is to be acquired. If the Acquisition Provider and/or the fee appraiser, after diligent effort, are unable to secure the necessary letter of permission from the property owner, a waiver must be obtained, in writing from the COUNTY. Maintain permission letters with appraisal reports.
YES	NO	c) Prepare (if necessary) pre-appraisal contact with interest owner(s) for each parcel using acceptable COUNTY forms.
YES	NO	d) Contact property owners or their designated representative to offer opportunity to accompany the appraiser on the appraiser's inspection of subject property. Maintain record of contact in file.
YES	NO	e) Prepare complete appraisal report for each parcel to be acquired utilizing TxDOT Forms No. ROW-A-5 and ROW-A-6 as applicable. These reports shall conform to COUNTY policies and procedures along with the Uniform Standards of Professional Appraisal Practices.
YES	NO	f) As necessary, prepare written notification to COUNTY of any environmental concerns associated with the right of way to be acquired which could require environmental remediation.
YES	NO	g) All completed appraisals will be administratively reviewed by L&G Engineering ROW Office and recommended for approval by COUNTY.
YES	NO	h) As necessary, the appraiser will appear and or testify as an Expert Witness in eminent domain proceedings and be available for pre-hearing /pre-trial meetings as directed by L&G Engineering and/or COUNTY.
YES	NO	i) As necessary, the appraiser will coordinate with review appraiser regarding revisions, comments, or additional information that may be required.
YES	NO	j) The cost of the appraiser appearing as an expert witness for testimony at special commissioners hearing must be included in the proposed fee schedule for the appraiser. The cost of the appraiser's expert witness testimony for trial is not part of this contract, and shall be paid by the COUNTY.
		4) APPRAISAL REVIEW
YES	NO	a) Review Appraiser may be selected from TxDOT's Department Certificate for Professional Real Estate Appraisers. This list is available for viewing at all District offices or the Right of Way Division office at 118 E. Riverside Drive, Austin, Texas upon request.
YES	NO	b) Review all appraisal reports for each parcel to determine consistency of values, supporting documentation related to the conclusion reached and compliance with COUNTY policies and procedures and the Uniform Standards of Professional Appraisal Practices.
YES	NO	c) Prepare and submit to COUNTY the Form ROW-RTA-10 "Tabulation of Values", for each appraisal.

Services Provided By: ENGINEER	LPA	
YES	NO	d) The cost of the review appraiser appearing as an expert witness for testimony at special commissioners hearing must be included in the proposed fee schedule for the review appraiser. The cost of the appraiser's expert witness testimony for trial is not part of this contract, and shall be paid by the COUNTY.
		5) APPRAISAL UPDATES
YES	NO	a) Prepare complete appraisal update for the parcel to be acquired utilizing TxDOT Form No. ROW-A-5. These reports shall conform to COUNTY policies and procedures along with the Uniform Standards of Professional Appraisal Practices.
YES	NO	b) As necessary, prepare written notification to COUNTY of any environmental concerns associated with the right of way to be acquired which could require environmental remediation. All completed appraisals will be administratively reviewed by L&G Engineering Right of Way Office and recommended for approval by COUNTY.
YES	NO	c) As necessary, the appraiser will appear or testify as an Expert Witness in eminent domain proceedings and be available for pre-hearing or pre-trial meetings as directed by the COUNTY.
YES	NO	d) The cost of the appraiser appearing as an expert witness for testimony at special commissioners hearing must be included in the proposed fee schedule for the appraiser. The cost of the appraiser's expert witness testimony for trial is not part of this contract, and shall be paid by the COUNTY.
YES	NO	e) As necessary, the appraiser will coordinate with the review appraiser regarding corrections and/or additional information that may be required.
		6) NEGOTIATION, TASKS AND FEES (Negotiations of Providers must be licensed as either a broker or sales agent under the Real Estate License Act.)
YES	NO	a) Analyze appraisal and appraisal review reports and confirm the COUNTY's approved value prior to making offer for each parcel.
YES	NO	b) Analyze preliminary title report to determine potential title problems, propose methods to cure title deficiencies.
YES	NO	c) Prepare the initial offer letter, instruments of conveyance, and any other documents required or requested by COUNTY on applicable COUNTY forms.
YES	NO	d) Mail (Certified Mail Return Receipt Requested) initial offer letter, draft deed, Bill of Rights Brochures, Acknowledgement of Appraisal and Appraisal Reports to address confirmed with the Appraisal District of Hidalgo County. Maintain follow-up contacts and secure the necessary instruments upon acceptance of the offer for the closing.
YES	NO	e) Provide a copy of the appraisal report for the subject property exclusively to the property owner or authorized representative at mailing of initial offer. Maintain original signed Receipt of Appraisal. (unless property owner refuses to sign it).
YES	NO	f) Respond to property owner inquiries verbally and in writing within two business days.
YES	NO	g) Prepare a separate negotiator contact report for each parcel per contact.

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

Services Provided By: ENGINEER	LPA	
YES	NO	h) Maintain parcel files of original documentation related to the purchase of the real property or property interests.
YES	NO	i) Advise property owner on the Administrative Settlement process. Transmit to COUNTY any written counter offer from property owners including supporting documentation, and provider recommendation with regard to Administrative Settlements in accordance with COUNTY policy and procedures.
YES	NO	j) Prepare final offer letter, documents of conveyance as necessary.
YES	NO	k) Appear and provide Expert Witness testimony as an Acquisition Provider when requested.
YES	NO	l) Meet at the L&G Engineering ROW office in Mission once per week as agreed-upon with the Right of Way Acquisition Manager/Administrator.
YES	NO	m) Provide a monthly progress report per parcel by the 25th of the month with invoice.
YES	NO	n) The consultant shall, as part of this proposal, estimate 10% of the parcels identified on Page 37 may result in condemnation. The consultant shall be available for any meeting/hearings as requested by the COUNTY Attorney.
		7) CLOSING SERVICE FEES
YES	NO	a) Coordinate with COUNTY and Title Company to obtain an updated title commitment along with other Forms and certified copy of the instrument of conveyance necessary when requesting the Parcel Payment from the COUNTY.
YES	NO	b) Acquisition Provider shall attend closings and provide closing services in conjunction with Title Company.
YES	NO	c) Acquisition Provider shall record all original instruments immediately after closing at the respective County Clerk's Office, except for donations which must be forwarded to COUNTY for acceptance by the COUNTY.
		8) RELOCATION ASSISTANCE SERVICES (separate Work Authorization will be issued once relocations have been identified, unless noted otherwise).
N/A	N/A	a) The amount of relocations or displacements as identified. L&G will provide relocation advisory services. L&G will compute replacement housing supplements (owner occupant and/or tenants)
N/A	N/A	b) L&G will provide advisory services to business displacements and relocate them effectively.
N/A	N/A	c) COUNTY will review, approve and pay for all relocation costs as per the Agreement.
		9) CONDEMNATION SUPPORT
YES	NO	a) Pre-Hearing Support i) Upon receipt of a copy of the final offer, request an updated title commitment for Eminent Domain from the Title Company. ii) Prepare a Bisection Clause for the original set of Legal Descriptions supplied by Surveyor, if applicable. iii) Use the information from the Title Commitment to join all interested parties on the necessary forms. Spouses of owners must also be joined.

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

Services Provided By: ENGINEER	LPA	
		iv) Upon completion of the necessary forms, prepare a packet containing 2 copies each of the following documents: Title Commitment, Negotiator's Reports, Appraisal Acknowledgment, Preappraisal Contact Sheet, signed and sealed property description, and plat, Final Offer Letter, any correspondence from the land owner or representatives, along with one copy of the appraisal report. Submit packet to the COUNTY Office for submission to the COUNTY Attorney's office.
		v) Upon receipt of concurrence for the Appraisal Witness, request the update of appraisal.
		vi) Upon receipt of packet prepared by the COUNTY Attorney which will include Petition for Condemnation, Lis Pendens, Order Appointing Special Commissioners, Order Setting Hearing, Oath of Special Commissioner, and Notice of Hearings, developedby the COUNTY Attorney; the attorney shall file the original petition with the COUNTY Court at Law or other appropriate Court for a cause number to be assigned.
		vii) The COUNTY attorney shall file the Lis Pendens including the cause number with the COUNTY Clerk's Office.
		viii) Upon assignment of a court, the COUNTY Attorney shall file the Order Appointing Commissioners with the judge retaining a copy of the Order for the files.
		ix) Following appointment of Special Commissioners by the judge, the COUNTY shall secure the following documents: Oath of Commissioners signed by the Commissioners, Order Setting Hearing, 2 copies of the Notice of Hearing signed by the Commissioners.
		x) The COUNTY shall file all originals with the court and send copies marked "copy" to L & G Engineering.
		xi) The COUNTY Attorney shall send a copy of the petition to the Title Company so that the Title Company can make sure the appropriate parties were joined and that no changes in title have occurred.
		xii) The COUNTY Attorney shall set the Special Commissioners Hearing after the updated appraisal has been submitted, if there is no change in value. If there is an increase in value, COUNTY will approve the new value and the COUNTY's provider will present a revised offer and a final offer letter and submit a copy of the final offer letter.
		xiii) The COUNTY Attorney shall coordinate a pre-hearing conference prior to the hearing (the day before or earlier) to discuss facts of the case with the COUNTY, Appraiser, and Negotiator.
		xiv) After the hearing is set, the COUNTY Attorney shall serve Notices of Hearing to the indicated parties at least 11 days prior to the Commissioner's hearing. If it is necessary to join the Federal Government, be advised that they have an additional 60 days to prepare for the Hearing.
		xv) Once the notices have been served, the COUNTY Attorney shall file the original notices with the court and send copies stamped "copy" to L&G Engineering ROW Office.
		xvi) The COUNTY's Attorney shall send a reminder letter 2-3 weeks in advance to the COUNTY Administration offices, Acquisition Provider, the three special commissioners and court reporter concerning Hearing dates.
YES	NO	b) Post Hearing Support (by COUNTY Attorney)
		i) For the hearing, prepare the necessary forms and Special Commissioners time sheets and submit forms to Hidalgo COUNTY clerk's office.
		ii) Obtain the signatures of Special Commissioners on the Award of Commissioners and file with the court for the judge's signatures within 48 hours of the Hearing.
		iii) Give timesheets to Judge. The amount paid to the Special Commissioners is determined by the Judge.
		iv) Obtain and distribute 3 certified copies of the award as follows: 1 certified copy to the title company with a request for a commitment, 1 certified copy to the COUNTY, 1 certified copy to L&G Engineering with the Commitment to request the warrant in the amount of the Special Commissioners Award.

Services Provided By:
ENGINEER LPA

v) Send the Commitment and the Award to COUNTY, along with individual special commissioner's billing requesting the payment for their fees.
vi) File COUNTY warrant in the registry of the court. File a Notice of Deposit with the court and send certified copies to each defendant notifying them of the date of the deposit. The Date of Deposit is the Date of Take.
vii) Take photograph of the interest to be acquired (if necessary) on the day of deposit for relocation verification.
viii) Send written notices of the date of deposit to the COUNTY Administration office and all interested parties.
ix) Appear as Expert Witness as requested. Sub-contractors must also appear as Expert Witnesses as requested.
x) All acquisition negotiations file indicating all "due diligence" provided by the Acquisition Provider will be directed to the COUNTY Attorney's office for his further handling in accordance to the Eminent Domain process by the COUNTY.

10) COMPENSABLE UTILITIES

Utility Accommodation is an integral factor in road construction and design. Coordination of utility adjustments is a necessary function within planning, design, acquisition and construction and requires the administration of property rights issues, utility policy, and reimbursement of eligible utility adjustments. It includes the following tasks:

YES NO a) Preliminary Design Consultations
i) Conduct Field Investigation and review Certificate of Convenience and Necessity boundaries to identify utility providers within the project area. Communications through letter, phone calls and email to establish a contact list. Coordinate data gathering by surveyors and design team. Introduce project to utility providers.

YES NO b) Field Observations and Verifications
i) Provide maps to Utility providers to "redline" and identify conflicts. Coordinate exposures and data collection by surveyor. Provide and confirm utility data on project maps. Order Utility Location Service.

YES NO c) Exchange of Information with Utility Providers
i) Provide project schedule.
ii) Request schedules for utility adjustments.
iii) Identify who is responsible for utility process.

YES NO d) Confirmation of Property Interests
i) Request Documents.
ii) Coordination of data on maps and citation of property interest documents.
iii) Confirm utilities are within easements.

YES NO e) Coordination of Agreements
i) Identify utilities that are compensable.
ii) Determine parties and agreements necessary to complete compensable process.
iii) Coordinate execution and processing of Standard Utility Agreements.

YES NO f) Utility Meetings throughout project development
i) Set up and coordinate utility meetings during planning, design, acquisition and construction phases.
ii) Attend and participate in meetings by other parties.

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

Services Provided By: ENGINEER	LPA	
		11) PAYMENT SCHEDULE
YES	NO	a) Project Administration
		i) Payment and Milestones
		(a) Full Project Office
		(1) Lump Sum Basis (assume 1 year project presence)
		(2) Initial payment of 25% upon establishment of a project office with functional phone and utility services.
		(3) Remainder paid out in equal monthly installments of 15% starting the following month.
		(4) Monthly billing to COUNTY OF HIDALGO will be required.
		b) Title Services
		ii) Payment
		(a) Per Parcel basis.
		iii) Milestones
		(a) 100% upon securing initial title commitment.
		c) Appraisal Services
		i) Payment
		(a) Per Parcel Basis
		ii) Milestones
		(a) 100% paid upon delivery of complete and acceptable appraisal report
		d) Appraisal Review
		i) Payment
		(a) Per Parcel Basis
		ii) Milestones
		(a) 100% upon submission of ROW-A-10
		e) Appraisal Update
		i) Payment
		(a) Per Parcel Basis
		ii) Milestones
		(a) 100% upon delivery of complete and acceptable appraisal update.
		f) Negotiation, Task, and Fees
		i) Payment
		(a) Per Parcel Basis
		ii) Milestones
		(a) 80% upon presentation of initial offer.
		(b) 20% upon successful negotiation and all instruments are recorded.
		g) Closing Service Fees
		i) Payment
		(a) Per Parcel Basis
		ii) Milestones
		(a) 100% upon recordation of instrument of conveyance.
		h) Relocation Assistance
		i) Payment
		(a) Per Relocation
		ii) Milestones
		(a) 100% upon issuance of 90-day vacancy letter.
		i) Compensable Utilities
		i) Payment
		(a) By percent complete

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.

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

Document and Information Exchange

Data, Plan Sheets, General Notes and/or Specifications provided to the LPA 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 LPA.

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

APPENDIX A - PLAN SHEET SEQUENCE PROCEDURE

1. Title Sheet
   Detailed Index of Sheets

2. Typical Sections

3. General Notes and Specifications Data

4. Estimate and Quantity Sheets

5. Storm Water Pollution Prevention Plan (SW3P) Sheets

6. Traffic Control Plans
   a. Sequence of Construction Layouts
   b. Detour Plan/Profile/Typical Sections/Quantities

7. Roadway Layouts
   a. Roadway Plan/Profile Sheets
   b. Intersection Plan/Profile Sheets
   c. Intersection Layouts
   d. Alignment Layouts/Data
   e. Ramp Layouts/Profiles
   f. Connection Roads/U-turns Layouts/Profile

8. Roadway Details
   a. Concrete Pavement Details/Standards
   b. Concrete Pavement Terminal Anchorage Details/Standards
   c. Bridge Approach Details/Standards
   d. Bridge Terminal Anchorage Details/Standards
   e. Roadway/Median Barrier Details/Standards
   f. Curb Details
   g. Driveway Details/Typical Sections/Standards

9. Signing Layouts and Marking Layouts

10. Traffic Signal Layouts

11. Lighting Layouts

12. Illumination Detail Standards (HMID, HMIF, HMIP, RID)

13. Utility Layouts/Profiles

14. Drainage Area Maps and Hydraulic Data
   a. General Drainage Area Maps
   b. Stage-Discharge Curves
   c. Main Cross-Drainage Culvert/Bridge Hydraulic Data
   d. Drainage Area Maps/Culverts/Storm Sewer
   e. Hydraulic Data/Culverts/Inlets/Storm Sewer/Pumps

15. Detailed Drainage Plans
   a. Drainage Plan/Profile Sheets (Storm Sewer Plan/Profile Sheets)
   b. Channel Plan/Profiles/Typical Sections
   c. Box Culvert Plan/Profile
   d. Pipe Sewer/Culvert Cross Sections

APPENDIX A - PLAN SHEET SEQUENCE PROCEDURE (Continued)

16. Drainage Structural Details/Standards
    a. Inlet Details/Standards
    b. Manhole Details/Standards
    c. Junction Box Details/Standards
    d. Safety End Treatment Details/Standards
    e. Box Culvert Details/Standards
    f. Culvert Wingwall Details/Standards
    g. Excavation-Backfill Diaphrams
    h. Riprap Details/Standards
    i. Temporary Pollution and Erosion Control Details

17. Pumphouse Layouts

18. Pumphouse Details

19. Pumphouse Standard Details

20. Bridge Layouts/Profile/Typical Sections*

21. Bridge Details*
    a. Summary of Bridge Quantities
    b. Abutments
    c. Interior Bents
    d. Spans
    e. Special details for the specific bridge

22. Bridge Standard Details*

23. Bridge Railing Standards

24. Retaining Wall Layouts/Profiles**

25. Retaining Wall Details**

26. Retaining Wall Standard Details**

27. Guard Fence/Standards and Signal Pole Standards

28. Signal/Electrical Details/Standards and Signal Pole Standards

29. Signing/Markers/Striping Details/Standards

30. Barricade/Construction/Beacon Standards

31. Miscellaneous Standards
    a. Chain Link Fence Standards
    b. Bridge End Detail/Standards
    c. Roadway Clearance Details/Standards
    e. Attenuator Standards

NOTE: Variations of these plan sheet sequence guidelines may be permitted if approved in writing by the County.

APPENDIX B - PLAN PREPARATION PROCEDURES

1. Title Sheet
   The ENGINEER shall be responsible for completing the title sheet as required and formatted by the STATE and as discussed in Part V of the Highway Design, Operations and Procedures Manual. Refer to Section K - Plans, 1 - Title Sheets, page 5-24, for the procedure to be used regarding all plans prepared by the ENGINEER.

2. Project Layout
   The project layout shall clearly depict the entire project as it is proposed and will usually be drawn at a scale of 1 inch=100 feet or 1 inch=200 feet, depending on the size of the project.

3. Typical Sections
   See Part IV of the Highway Design, Operations and Procedures Manual.

4. Sequence of Work Sheets (Traffic Control Plan)
   Clarity and completeness should be the rule to follow in preparing these sheets, with particular attention given to location of construction signs and barricades, lane widths, protection of drop offs, etc. For a reference guide use the Texas Department of Transportation, Texas Manual on Uniform Traffic Control Devices. Usual scale of 1 inch=100 feet and/or 1 inch=50 feet for special locations. A narrative sequence shall be included in the special provisions for the project. Staging of structural elements shall be considered. Provisions for drainage shall be considered, included and indicated during all stages of construction operations.

5. Removal Item Sheets
   These sheets indicate removal of existing facilities necessary to the proposed construction. (1 inch=40 feet) (use same scale as plan/profile sheets).

6. Summary Sheets
   Summary Sheets are required to indicate type, quantity and/or location of work for individual items of the proposed project.

7. Alignment Layout Sheets
   These sheets indicate the horizontal alignment with curve data and coordinates usually tabulated thereon. On some projects, depending on size, this information may be included on the plan profile sheets. Usual scale (1 inch=100 feet) or (1 inch=40 feet).

8. Plan Profile Sheet
   Clarity and completeness should be the rule to follow in preparation of these sheets. Usual scale (1 inch=40 feet or 1 inch=50 feet) or (1 inch=20 feet), depending on project complexity.

9. Drainage Area Maps
   Usual scale (1 inch=100 feet) and/or (1 inch=200 feet) supplemented by large scale area maps as necessary.

10. Drainage Plan Profile Sheets
    These sheets may be required on some projects to clearly depict location of inlets, storm sewer lines, and profile of storm sewer lines and laterals. Usual scale (1 inch=40 feet or 1 inch=50 feet) or (1 inch=20 feet). Storm sewer design does include redesign of storm sewers imposed by utility constraints developing after initial reviews by the STATE and consequential redesign and adjustments.

11. Runoff, Inlet, Storm Sewer and Culvert Sheets
    Use standard sheets.

APPENDIX B - PLAN PREPARATION PROCEDURES (Continued)

12. Culvert Cross Sections and Details
District standard reproducible sheets can be furnished (one each) to the ENGINEER for modification of special designs.

13. Manhole and Inlet Details
District standard reproducible sheets can be furnished (one each) to the ENGINEER.

14. Miscellaneous Detail
Curb, Sidewalk, Driveways, etc.

15. Intersection Details

16. Marking Layouts and/or Details
Layouts of the entire project with markings depicted thereon. Usual scale 1:500 (1 inch=40 feet or 1 inch =50 feet). On some projects typical details might suffice.

17. Structural Details
Bridge layout sheets shall have the same horizontal and vertical scale. Usually (1 inch = 10 feet) (1 inch = 20 feet). Sections of existing and proposed structures usually have a scale of (1 inch = 5 feet). Elements of the bridge (abutments, bents, slabs, etc.) shall be detailed to a (1/2 inch = 1 foot) or (1/4 inch equals 1 foot) architect scale to provide clear legible drawings when reduced. Letters shall be a minimum size of 4 millimeters (5/32 inch) height for hand lettering and 140 for lettering by computer-aided design and drafting (CADD).

18. Overhead Sign Bridge Layouts
A maximum of four structures may be shown on each layout sheet. The reference to the appropriate overhead sign bridge (OSB) standard and the following requirements shall be shown on the layout:
(1) Drilled shaft size and length
(2) Soil strength used for design {indicate basis and boring(s) used}
(3) Design height
(4) Tower height
(5) Leg spacings and
(6) Design wind speed.
The wind speed design map need not be included in the project plans. Designation of tower member size and anchor bolt size shall not be shown. For OSBs which require special design, the design shall be in accordance with the AASHTO sign specifications (see Item 22 of References on page 49) and to the same loading requirements as for normal standard structures. Structures (special or standard) which will have changeable message signs shall be analyzed by the ENGINEER.

APPENDIX C - GENERAL PLAN CHECKLIST

Services Provided By: ENGINEER	COUNTY	
___	___	Title Sheet
___	___	Project Layout
___	___	Sequence of Work
___	___	Detour Layouts & Profiles
___	___	Construction Pavement Markings
___	___	Signing & Barricades
___	___	Construction Sign & Beacons
___	___	Typical Sections
___	___	Shaping & Finishing Sections
___	___	Slopes Adjacent to Shoulders
___	___	Estimate & Quantities
___	___	General Notes & Specification Data
___	___	Grading Summary
___	___	Miscellaneous Summaries (See following "SUMMARIES" heading)
___	___	Horizontal Curve Data & Alignment Layouts
___	___	Drainage Summaries
___	___	Structure Summaries
___	___	Erosion Control Summary & Details
___	___	Plan/Profile Sheets
___	___	Erosion Control Summary & Details
___	___	Pavement Contours
___	___	Superelevation Transition (If Required)
___	___	Grading Contours
___	___	Guard Fence Layouts
___	___	Storm Water Pollution Prevention Plans (SW3P)
___	___	Drainage Area Maps
___	___	Hydraulic Data
___	___	Drainage Sheets
___	___	Bridge Hydrology Sheets
___	___	Inlet & Manhole Details
___	___	Utility Support Details
___	___	Culvert Cross Sections & Details
___	___	Special Culvert Designs
___	___	Special Drainage Details
___	___	Chain Link Fence Locations
___	___	Ramp Details Sheet
___	___	Removal Item Sheet - Including detours
		(Shown in detour summary, No payment for removal; subsidiary to construction detours)
___	___	Pavement Details
___	___	Pavement Standard Modification for Concrete Shoulder
___	___	Concrete Pavement Continuously Reinforced (CPCR)
___	___	Concrete Pavement Contraction Design (CPCD)
___	___	Concrete Pavement Details - Jointed Reinforced (Steel Bars) (CPJR)
___	___	Bridge Approach Slab Details
___	___	Vehicle Attenuator Details
___	___	Miscellaneous Details
___	___	Wheelchair Ramps
___	___	Pavement Marking Details
___	___	Modified Standards
___	___	List of Standards
___	___	Permanent Signing Plans & Quantities

APPENDIX C - GENERAL PLAN CHECKLIST *(continued)*

Services Provided By: ENGINEER	COUNTY	
___	___	Permanent Lighting Plans, Quantities & Standards
___	___	Bridge Layout(s)
___	___	Bridge Details
___	___	Retaining Wall Layout(s)
___	___	Retaining Wall Details
___	___	Pumphouse Details
___	___	Underdrain Details (Retaining Walls)
___	___	Culvert Standards
___	___	Soil Profile
___	___	Temporary Traffic Signals
___	___	Design Cross Sections
___	___	Estimate
___	___	List of Standard Specification, Special Provisions & Special Specifications
___	___	Detour Special Provisions (If Required)
___	___	Construction Time Estimate
___	___	Critical Path Method (CPM)
___	___	Unit Price Documentation
Miscellaneous		
___	___	Conduit Requirements
___	___	Traffic signal Requirements
Summaries		**(ALL BELOW YES FOR ENGINEER AND NO FOR COUNTY UNLESS NOTED OTHERWISE)**
___	___	Salvaging and Placing Topsoil
___	___	Prepare ROW
___	___	Remove Old Structures
___	___	Scarify Existing Pavement
___	___	Remove Old Concrete Curb of Curb and Gutter (C&G)
___	___	Remove Old Concrete Pavement
___	___	Remove Old Concrete Riprap
___	___	Remove Metal Beam Guard Fence
___	___	Galvanized steel Beam Guard Fence (12Ga) (GSBGF)
___	___	Temporary Guard Fence (TEMPGF)
___	___	Summary of Concrete Flumes
___	___	Curbs
___	___	Adjust Manholes & Inlets
___	___	Underdrains
___	___	Base and Pavement
___	___	Large Structure
___	___	Concrete Riprap (RR8 & RR9)
___	___	Temporary Portable Concrete Barrier (PCBR)
___	___	Concrete Traffic Barrier
___	___	Vehicle Attenuator
___	___	Guard Rail Energy Absorbing Terminal (Great System)
___	___	Pavement Markings & Blast Cleaning (Thermoplastic)
___	___	Retaining Walls
___	___	Large Structure Summaries
___	___	Small Structure Summaries

APPENDIX C - GENERAL PLAN CHECKLIST *(continued)*

Services Provided By: ENGINEER	COUNTY	Summaries (ALL BELOW YES FOR ENGINEER AND NO FOR COUNTY UNLESS NOTED OTHERWISE)
___	___	Earthwork (Roadway & Channel) & Channel Details
___	___	Culverts
___	___	Detours
___	___	Seeding or Mulch Sod - Quantity Only
___	___	Inlet & Manholes
___	___	Sidewalks
___	___	Construction Pavement Markings
___	___	Driveways
___	___	Concrete Median
___	___	Storm Sewers
___	___	Head Walls & Safety End Treatments
___	___	Curb Openings
___	___	Manholes
___	___	Chain Link Fence, Remove & Replace Chain Link Fence
___	___	Remove & Relay Reinforced Concrete Pipe (RCP) or Pipe Sewer

EXHIBIT "C"
WORK SCHEDULE
Mile 6 Project
From (Mile 9 to Mile 11)

TASK AND DESCRIPTION	FIRM	2017								2018					
		MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
WORK AUTHORIZATION NO. 1															
PHASE II & III: ROW MAP, PS&E, ROW ACQ.															
from Mile 9 to Mile 11															
Re-Evaluation of the EA to include Outfalls in Project Construction	L&G														
Field Surveys for Design and Construction of ROADWAY	L&G														
Field Surveys for Design and Construction of OUTFALLS	L&G														
PS&E Development Roadway	L&G														
Sub-Surface Utility Engineering (SUE)	L&G														
Permanent Signal Designs (Mile 9, Mile 10 and Mile 11)	L&G														
Temporary Signal Designs during Construction	L&G														
Permitted Utilities Coordination to Adjust	L&G														
Right-of-Way Acquisition Services	L&G														
Compensable Utility Management for Acquisition of Property Rights	L&G														

L&G Engineering Tasks

EXHIBIT D-1

ESTIMATED MAN-HOUR BREAKDOWN

MILE 6 PROJECT
from Mile 9 to Mile 11

		MANHOURS									
		Senior Project Manager	Senior Engineer	Senior Environmental Scientist /Specialist	Project Engineer	Senior Engineer Tech	CADD Operator / GIS Analyst	Admin / Clerical	TOTAL HOURS	Sub-Contract Amounts / ROW COST	TOTAL LINE ITEM COST
	CONTRACT RATE	198.10	164.14	158.48	127.35	90.56	62.26	56.60			
WORK AUTHORIZATION NO. 1											
PHASE I - EA, PUBLIC INVOLVEMENT, SCHEMATIC, HYDROLOGIC DESIGN											
1	Addtn'l Costs of Re-evaluation of the Environmental Assessment to include Outfalls in Project Constr.		10	69.828	18				98		$ 15,000.04
2	Field Surveys for Design and Construction of ROADWAY and OUTFALLS (See Exhibit D-1, Page 2)								0	$ 30,820.00	$ -
3	Sub-Surface Utility Engineering (SUE) 25 pot holes/mile (See Exhibit D-1, Page 2)								0	$ 12,500.00	$ -
4	Management of Surveyor	40	60		95.467				195		$ 29,930.12
5	PS&E Development Roadway	100	120		240	2000	1700	39.987	4200		$ 359,296.06
6	Permanent and Temporary Traffic Signal Design at Mile 9, 10 and 11 North		80		240	113.79			434		$ 54,000.02
7	Engineering Fee to Create 1 Set of Plans and Submit through TxDOT	20	30		80	518.174			648		$ 66,000.04
8	Permitted Utilities Coordination to Adjust	10	40		100	454	698	37.928	1340		$ 108,000.04
9	Right-of-Way Costs - Acq. Services (est. 68 Parcels) (See Exhibit D-1, Page 3)								0	$ 844,560.00	$ -
10	Est. Comp. Utility Mngmt. for Acq. of Property Rights & Compensate for Utility Adjust(s)		100		286	460.070			846		$ 94,500.04
SUB-TOTAL		**170**	**440**	**69.828**	**1059**	**3546**	**2398**	**78**	**7761**	**$ 887,880.00**	**$ 726,726.37**

Sub-Total Manhours Fee with Subconsultant Fee:	$ 1,614,606.37
*** TOTAL PROJECT FEE:**	**$ 1,614,606.00**

Exhibit "D"
BUDGET
LUMP SUM RATE BASIS OF PAYMENT

	A	B	C	D	E	F	G	H	I	J	K
1	Project: Mile 6 West					R.O.W. Surveying Services, LLC					
2	County: Hidalgo County										
3	From: Mile 9 North										
4	To: SH 107										
5	Description of Work: Design Survey										
6											
7	TASK AND DESCRIPTION	Survey		Survey	4-man	3-man	2-man	Admin/	Subsurface	Total	Cost
8	FC 150 Field Surveying	PM	RPLS	Technician	Survey Crew	Survey Crew	Survey Crew	Clerical	Utility	Hours	
9	HOURLY RATE	$124.00	$125.00	$82.00	$175.00	$155.00	$130.00	$50.00	$500/ Test Hole		
10	**PHASE 1 - FC 150 Field Surveying (Control Hz & Vt)**										
11	**A. Primary Control**										
12	a. Recover/ Verify set as needed	0	2	2	0	8	0	0		12	$ 1,654.00
13	**B. Secondary Project Control**							0			
14	a. Recover/Verify set as needed	0	2	8	0	8	0	0		18	$ 2,146.00
15	Subtotal Hours	0	4	10	0	16	0	0	0	30	
16	Subtotal Cost - Phase 1	$0.00	$500.00	$820.00	$0.00	$2,480.00	$0.00	$0.00			$3,800.00
17	**PHASE 2 - DTM Topography and Cross sections**										
18	**C. Design Survey**										
19	**1. Intersections (4000' total distance)**	0	0	0	0	8	0	0		8	$ 1,240.00
20	a. Mile 6 and Mile 9 (1000' East and West)	0	0	8	0	24	0	0		32	$ 4,376.00
21	b. Mile 6 and Mile 10 (1000' East and West)	0	0	8	0	24	0	0		32	$ 4,376.00
22	**2. Canal Crossings (4000' total distance)**										
23	a. STA 62+79 (1000' East and West)	0	0	8	0	16	0	0		24	$ 3,136.00
24	5. STA 71+95 (1000' East and West)	0	0	4	0	16	0	0		20	$ 2,808.00
25	**3. Drainage Crossings and Structures(1200' total distance, 3 structures)**										
26	a. STA 146+00	0	0	8	0	16	0	0		24	$ 3,136.00
27	b. Structures	0	0	8	0	8	0	0		16	$ 1,896.00
28	**4. Subsurface Utility Engineering (S.U.E.)**										
29	a. Per Unit/ App. 25 unless advised otherwise								25	0	$ 12,500.00
30	Subtotal Hours	0	0	44	0	112	0	0	25	156	
31	Subtotal Cost - Phase 2	$0.00	$0.00	$3,608.00	$0.00	$17,360.00	$0.00	$0.00	$12,500.00		$33,468.00
32	**PHASE 3 - FINAL REPORT & DELIVERABLES**										
33	A. CADD file (2D & 3D) for limits of project	5	5	5	0	0	0	0		15	$ 1,655.00
34	B. Final Report and Deliverables	5	5	5	0	0	0	5		20	$ 1,905.00
35	Subtotal Hours	10	10	10	0	0	0	5		35	
36	Subtotal Cost - Phase 3	$1,240.00	$1,250.00	$820.00	$0.00	$0.00	$0.00	$250.00			$ 3,560.00
37	**PROJECT MANAGEMENT & OVERSIGHT**										
38	A. Meeting & Coordination w/ Engineers	4	4	0	0	0	0	5		13	$ 1,246.00
39	B. QC/QA Survey	4	4	0	0	0	0	5		13	$ 1,246.00
40	Subtotal Hours	8	8	0	0	0	0	10		18	
41	Subtotal Cost - PM & Oversight	$992.00	$1,000.00	$0.00	$0.00	$0.00	$0.00	$500.00			$ 2,492.00
42											
43											
44	**Total Fee FC 150**	$2,232.00	$2,750.00	$5,248.00	$0.00	$19,840.00	$0.00	$750.00	$22,875.00	239	**$43,320.00**
45											
46	**Grand Total FC 150**										**$43,320.00**

EXHIBIT "D-1"

FEE SCHEDULE - L&G ENGINEERING's ROW ACQUISITION SERVICES

Mile 6

Limits: from Mile 9 to Mile 11

The following is an estimated Parcel No. Cost for completing the subject project's Right-of-Way Acquisition Services as outlined in Exhibit B according to the Exhibit D "Fee Schedule" of the contract. The parcels are estimated from the approved Schematic. **The work and payment, for these services will be accomplished by L&G Engineering and approved and paid for by Hidalgo County Pct. 1- on a percent complete basis as approved by Hidalgo County Pct. 1.** L&G Engineering will be completing the work on the approximate schedule provided in Exhibit C of this Work Order or as approved by Hidalgo County Pct. 1. The Parcels will be acquired either by completing the entire negotiation of the parcel or by modifying the approved schematic to acquire the parcels. This is a lump sum cost proposal.

RIGHT-OF-WAY ACQUISITION SERVICES

Estimated Number of Parcels	Project Admin (Per Parcel)	Title Services Per Parcel	Appraisal Services Per Parcel	Appraisal Review Per Parcel	Appraisal Update	Negotiation Fees Per Parcel	Closing Services Per Parcel	** Relocation (Residential/ Business)	Grand Total of Task
68	$5,820.00	$600.00	$1,000.00	$800.00		$4,000.00	$200.00	0 Residential / 0 Business	
Sub Total of Tasks	$395,760.00	$40,800.00	$68,000.00	$54,400.00	*	$272,000.00	$13,600.00	$0.00	**$844,560.00**

(*) Appraisal Update costs included in Project Administration.
(**) Relocations - $6,000 (Residential), $5,000 (Business)
- Any condemnation support required will be provided by L&G Engineering as part of the administrative costs.