**EXHIBIT "F"**
**HIDALGO COUNTY**
**Professional Engineering Services**
**Agreement # C-23-0310-08-08**

**WORK AUTHORIZATION NO. 2**

**THIS WORK AUTHORIZATION** is made pursuant to the terms and conditions of the Professional Engineering Services Agreement No. C-23-0310-08-08, incorporated herein by reference, for the "Los Ebanos Road Project from IH-2 to FM 1016 (Military Highway)" made by and between HIDALGO COUNTY, action herein by and through the Commissioner's Court, hereinafter called the "**Owner**," and L&G Consulting Engineers, Inc., hereinafter called "**Engineer**".

**PART 1. SCOPE OF WORK**
The purpose of this Work Authorization is for the **Engineer** to provide Engineering Services Required for PS&E Development and Bicycle Route, PS&E for Irrigation Bridge and Bypass, Geotechnical and pavement Design for approval by TxDOT, Engineering fee for set of plans to be submitted to TxDOT and Permitted Utilities for the Los Ebanos Rd Project (from I-H 2 to Military Highway). See Location Map

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

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

**PART 2. ESTIMATED COST**
The estimated cost for services under this Work Authorization is **$2,857,900.00.**This amount is based upon the costs outlined in the **Attachment "B" –***"Fee Proposal"* attached hereto and incorporated by reference.

**PART 3. PAYMENT**
Compensation and payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the **Professional Engineering Services** Agreement No. **C-23-0310-08-08**between the **Owner** and the **Engineer**.

**PART 4. FUNDING**
This Work Authorization No. 1 shall be funded through funding source:
Account No. _____
Requisition **(MUST BE INCLUDED AFTER CC APPROVAL)**

**PART 5. PERIOD OF SERVICE**
This Work Authorization shall become effective on the date of final acceptance of the parties hereto, and terminate **upon completion of the scopes of the Work Authorization, within the**

**limits of Agreement No. C-23-0310-08-08, provided in this Work Authorization.** ***If applicable***: Engineer shall conform to the approved "Work/Project Schedule", attached hereto and incorporated by reference herein as **Attachment "C"**.

**PART 6. RESPONSIBILITIES AND OBLIGATIONS**

This Authorization does not waive the parties' responsibilities and obligations provided under the **Agreement No. C-23-0310-08-08**

**PART 7. ACCEPTANCE AND APPROVAL**

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners' Court on August 04, 2026 as indicated below and effective as of 04 day of August , 2026.

**EXECUTED** as of the day and year first written above.

**APPROVED BY COMMISSIONERS' COURT ON August 04, 2026**

**Agenda Item No 104188**

**Executive Office: _____**

**ENGINEER:**
L&G Consulting Engineers, Inc.

_____
Jacinto Garza, P.E., President

**COUNTY:**
COUNTY OF HIDALGO

_____
Hon. Richard F. Cortez, County Judge

**ATTEST:**

_____
Arturo Guajardo, Jr., County Clerk

**LIST OF ATTACHMENTS:**
**Attachment "A" –** *Scope of Services to be provided by Engineer*
**Attachment "B" –** *Fee Proposal*
**Attachment "C" –** *Approved Work/Project Schedule (If applicable)*

# ATTACHMENT "A"
# 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 Pct#3

CONTROL: CSJ: 0921-02-521

PROJECT/DESCRIPTION: Los Ebanos Road Project

LENGTH: 2.2 Miles

HIGHWAY: CR (Los Ebanos Road)

LIMITS: FROM IH-2 to Military Highway

**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
___ Widen Non-Freeway
___ New Location Toll Freeway
_X_ New Location Non-Freeway
___ Interchange (New or Reconstruct)
___ Bridge Widening or Rehabilitation
___ Bridge Replacement
___ Upgrade to Standards - Freeway
___ Upgrade to Standards - Non-Freeway
___ Miscellaneous Studies (Use Function Code 110 for All Tasks)

ENGINEER shall mean L&G Engineering.

STATE shall mean Texas Department of Transportation.

LPA shall mean Local Public Agency __Hidalgo Co._

SURVEYOR shall mean __ROWSS___.

## SECTION 3 - ROUTE AND DESIGN STUDIES

(Function Code 110)

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

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

(Function Code 120)

| Services Provided By: ENGINEER | LPA | |
|---|---|---|
| | | 1. Environmental Reports<br>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 | N | (1) An Environmental Assessment shall be prepared, anticipating a Categorical Exclusion. |
| N | N | (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 | N | (3) An Environmental Assessment shall be prepared, anticipating the need for a Draft Environmental Impact Statement. |
| Y | N | (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 | N | (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 | N | (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<br>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 | N | a. A public involvement meeting(s) and public hearing shall be scheduled, coordinated and conducted. |
| N | N | 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. |
| N | N | c. A Notice of Availability (NOA) shall be published by the LPA upon approval of the environmental decision. |
| | | 3. Technical Reports<br>All technical reports shall be prepared in accordance with TxDOT's environmental rules and guidelines. |
| N | N | a. Air Quality Analysis<br>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. |
| Y | N | b. Biological Technical Report<br>The previously approved Species Analysis Form shall be updated as per the Memorandum of Understanding (MOU) with the Texas Parks and Wildlife Department (TPWD) and shall be prepared in accordance with the STATE'S Biological Guidelines. |

| Services Provided By: ENGINEER | LPA | |
|---|---|---|
| Y | N | c. Wetland Permits<br>Wetland delineations will be perform and permit applications shall be prepared as needed and all work efforts and deliverables shall be in accordance with the current TxDOT and the U.S. Army Corps of Engineers policies and procedures. Permits shall include all of the necessary maps and exhibits. |
| N | N | (1) Historic Structure Studies<br>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 | N | (2) Archeological Studies<br>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 | N | d. Community Impact Analysis<br>A community impact analysis shall be prepared in accordance with the STATE'S Community Impact Guidelines. |
| N | N | e. Hazardous Materials<br>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 | N | f. Indirect and Cumulative Impacts Analysis<br>An indirect and cumulative impacts analysis shall be prepared in accordance with the STATE's guidelines. |
| N | N | g. Noise Analysis<br>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. |
| N | N | 4. Environmental Scoping<br>The ENGINEER shall initiate the environmental scoping process with TxDOT. An environmental scoping document and risk assessment will be completed in coordination with TxDOT. |
| N | N | 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 administratively and technically complete document, the Engineer will provide one (1) hard copy to the Client. All copies to TxDOT will be digital.
f. Exhibits in the environmental document shall be color copies and text shall be black and white.

## SECTION 5 - RIGHT-OF-WAY DATA

(Function Code 130)

Services Provided By:
ENGINEER LPA

**NOTE:** No work involving right-of-way (ROW) data is to be performed until the ENGINEER has given the SURVEYOR written approval of the final location of the proposed ROW lines as approved by TxDOT and the CITY.

### A. RIGHT-OF-WAY MAPPING:

**1. PURPOSE:**

The purpose of right-of-way mapping is to prepare documents suitable for the acquisition of real property interests and the probable issuance of a title policy.

**2. DEFINITIONS:**

For purposes of this Contract, the following definitions shall apply:

2.1. Abstract Map – A drawing to scale prepared from record documents depicting proposed right-of-way lines, existing right-of-way lines, easement lines, and private property lines with relevant grantee names, recording data, and recording dates.

2.2. Closure/Area Calculation Sheet – A computer generated print-out of the area and the perimeter bearings, distances, curve data, and coordinates of an individual parcel of land to be acquired.

2.3. Access Denial Line – A line which indicates specific location where access to the roadway is denied.

2.4. Property Descriptions – A written metes and bounds description delineating the area and the boundary and describing the location of an individual parcel of land unique to all other parcels of land.

2.5. Owner – The most current title holder of record as determined by a study of the Real Property Records.

2.6. Parcel Plat – An 8 ½ inch by 11 inch drawing to scale depicting all the information shown on the right-of-way map regarding an individual parcel of land to be acquired.

2.7. Parent Tract – A unit or contiguous units of land under one ownership, comprising a single marketable tract of land consistent with the principle of highest and best use. A parent tract may be described by a single instrument or several instruments. A single parent tract cannot be severed by a public right-of-way, easement, or separate ownership which destroys unity of use.

2.8. Parent Tract Inset – A small line drawing, to an appropriate scale, of the parent tract perimeter placed upon the right-of-way map in the proximity of the respective parcel. Parent tract insets are used in cases where the parent tract cannot be shown to the same scale as the right-of-way map. Since parent tract insets are used to identify the limits and location of parent tracts, they should include public right-of-ways, utility easements and fee strips, and identifiable water courses which bound the parent tract.

2.9. Point of Beginning (P.O.B.) – A corner of the parcel of land to be acquired, located on the proposed right-of-way line and being the beginning terminus of the first course of the property description.

2.10. Point of Commencing (P.O.C.) – A monumented property corner which can be identified in the Real Property Records and is located outside the proposed right-of-way corridor. For title purposes, the point of commencing should be a monumented back corner of the parent tract. In the event a monumented back corner of the parent tract cannot be recovered, the nearest identifiable monumented property corner located outside the proposed right-of-way corridor may be used.

Services Provided By:
ENGINEER LPA

2.11. Preliminary Right-of-Way Layout/Abstract Map – A drawing to scale depicting proposed right-of-way lines, existing right-of-way lines, proposed pavement, access denial lines, the proposed centerline alignment, private property lines, easement lines, visible improvements, visible utilities, the station and offset from the centerline alignment to each Point of Curvature (PC), Point of Tangency (PT), and angle point in the proposed right-of-way lines and to each PC, PT, and angle point in the existing right-of-way lines in areas of no proposed acquisition. *(Reference Sample Attached)*

2.12. Right-of-Way Maps/Property Description/Parcel Plats – A series of 22 inch by 34 inch and 11 inch by 17 inch drawings to scale depicting the results of relevant elements of records research, field work, analysis, computation, and map making required to determine title, delineate areas and boundaries, locate and describe utilities and improvements to the extent necessary to appraise the value and negotiate the acquisition of individual parcels of private land for a proposed right-of-way project. *(Reference Sample Attached)*

**3. WORK TO BE PERFORMED:**

Y N 3.1. Preliminary Right-of-Way Layout/Abstract Map:

An abstract map shall be prepared sufficient to determine the following:

3.1.1. Any and all interests of public record held in the land to be acquired.

3.1.2 The total record holdings of an owner contiguous to land to be acquired from that owner.

3.1.3. Any and all interests in land to be acquired held in common (shopping mall parking lots, subdivision reserves, etc.)

3.1.4. Any and all improvements proposed by other agencies which may have a bearing on project development.

3.1.5. All called monuments, bearings, and distances as per recorded information.

3.1.6. Preliminary Parcel numbering system.

3.1.7. Any and all utilities (permitted or of record)

3.1.8. Reference Sample provided.

Y N 3.2. Right-of-Way Map:

The SURVEYOR shall field locate property corners, existing right-of-way markers, improvements, visible utilities, verify and update the planimetric file, if provided, and as directed by the ENGINEER.

A right-of-way map shall be prepared for each proposed right-of-way project. A right-of-way map shall include a title sheet, an index sheet, a survey control index sheet, a horizontal and vertical control data sheet, and sufficient plan sheets to cover the proposed project, or as directed by the ENGINEER. The STATE has developed standard title sheets, index sheets, and plan sheets, copies of which the SURVEYOR shall request and secure for all purposes of this Contract. Plan sheets shall include, but need not be limited to, the following items of information. By mutual agreement between the Texas Board of Professional Land Surveying and the TxDOT, right-of-way maps need not be signed and sealed by a Registered Professional Land Surveyor.

3.2.1. Proposed right-of-way lines shall be delineated with appropriate bearings, distances, and curve data. Curve data shall include the radius, delta angle, arc length, and long chord bearing and distance.

3.2.2. Existing right-of-way lines shall be delineated with appropriate bearings, distances, and curve data to the extent necessary to describe the individual parcels of land to be acquired. Curve data shall include the radius, delta angle, arc length, and long chord bearing and distance.

| Services Provided By: ENGINEER | LPA | |
|---|---|---|
| Y | N | 3.2 *Right-of-Way Map Continued (continued)* |

3.2.3. The proposed project baseline alignment shall be delineated with appropriate bearings, distances, and curve data. Curve data shall include the station of the curve Point of Intersection (PI), radius, delta angle, arc length, tangent length, long chord bearing and distance, and the N and E coordinates of the curve PI. All alignment PCs, PTs, and even 500 foot stations shall be labeled as to station.

~~3.2.4. Proposed paving lines combined with relevant existing paving lines shall be shown to the extent necessary to compile a complete picture of proposed traffic movements. Proposed paving on the final mylars submitted to the ENGINEER shall be shaded with a dot pattern or highlighted by some other means acceptable to the ENGINEER.~~

~~3.2.5. Access denial lines shall be shown sufficiently to indicate areas where access is to be denied and where access is to be permitted if required by the ENGINEER.~~

3.2.6. Private property lines shall be delineated with appropriate bearings, distances, and curve data to the extent necessary to describe the individual parcels of land to be acquired. Curve data shall include the radius, delta angle, arc length, and long chord bearing and distance.

3.2.7. Porción lines, subdivision lines and survey lines shall be shown and identified by name and Porción number.

3.2.8. County lines and city limit lines shall be located and identified by name.

3.2.9. A north arrow shall be shown on each sheet, and, if possible, located in the upper right corner of the sheet.

3.2.10. Monumentation set or found shall be shown and described as to material and size.

3.2.11. A station and offset shall be shown for each PC, PT, and angle point in the proposed right-of-way lines. Stations and offsets shall be with respect to the proposed centerline alignment.

3.2.12. Intersecting and adjoining public right-of-ways shall be shown and identified by name, right-of-way width, and recording data.

3.2.13. Railroads shall be shown and identified by name, right-of-way width, and recording data.

3.2.14. Utility corridors shall be identified as to easement or fee and recording information shall be identified.

3.2.15. Easements and fee strips shall be shown and identified by width, owner, distance of easement to a property corner of the parent track, and recording data.

3.2.16. Building lines or set-back lines shall be shown and identified.

3.2.17. Visible improvements located within the proposed right-of-way corridor or within 50 feet of a proposed right-of-way line shall be shown and identified.

3.2.18. Structures shall be identified as commercial or residential, by number of stories, and as to type (brick, wood frame, etc.).

3.2.19. Structures which are severed by a proposed right-of-way line shall be dimensioned to the extent necessary to completely delineate the severed parts.

3.2.20. Parking areas, billboards, and other on-premise signs which are severed by a proposed right-of-way line shall be dimensioned to the extent necessary to delineate that portion of the parking area, billboard, or sign which is located within the proposed right-of-way corridor.

| Services Provided By: ENGINEER | LPA |
|---|---|
| Y | N |

3.2 *Right-of-Way Map Continued (continued)*

3.2.21. In cases where structures are located outside the proposed right-of-way corridor and within 25 feet of a proposed right-of-way line, the shortest distance between the structure and the proposed right-of-way line shall be shown and field verified.

3.2.22. Visible utilities located within the proposed right-of-way corridor or within 50 feet of a proposed right-of-way line shall be shown and identified.

3.2.23. The location of underground utilities and fuel storage tanks situated within the proposed right-of-way corridor or within 50 feet of a proposed right-of-way line shall be determined and shown as required by the ENGINEER. The visible location of stand pipes, vents and filler caps in conjunction with available design and as-built drawings may be used to determine a most probable location and size in the event an actual location is indeterminable.

3.2.24. Points of commencing and points of beginning shall be shown and labeled. Points of beginning shall be shown with their respective N and E surface coordinates. As an exception, a point of commencing will not be required in the case of a total taking without a remainder.

3.2.25. Each parcel of land to be acquired shall be identified by a parcel number which shall appear in the ownership tabulation and on the right-of-way map in the proximity of the respective parcel. If the SURVEYOR is unfamiliar with the criteria used by the STATE to assign parcel numbers, he shall seek the assistance of the ENGINEER at the time the abstract map is complete. THE SURVEYOR SHALL SEEK ASSISTANCE FROM THE ENGINEER IN DEVELOPING AN OWNERSHIP TABULATION TABLE.

3.2.26. An ownership tabulation shall be shown which shall include the parcel number, existing area of the parent tract, lot(s) and block(s) constituting the parent tract when applicable, owner's name, type of conveyance, film code, county clerk's file number, taking area, and remaining area of the parent tract located left and/or right of the centerline alignment. ~~Types of conveyance, film code and file numbers refer to conveyances into the STATE and will be added to the right-of-way map by the STATE at a later date. Several blank lines shall be provided in the tabulation block to facilitate future map additions.~~

3.2.27. A parent tract inset shall be shown for each parent tract which cannot be shown to scale on the right-of-way map. The use of broken scale lines should be avoided. When parent tract insets are used, the point of commencing with the appropriate bearing and distance to the point of beginning may be shown on the parent tract inset.

3.2.28. A note shall be included on the title sheet and each map sheet stating the source of bearings, coordinates, and datum used.

3.2.29. Appropriate notes shall be included on the title sheet and each map sheet stating the following:

a. Month(s) and year abstracting upon which the map is based.
b. Month(s) and year field surveys were conducted upon which the map is based.
c. Month and year the map was completed by the SURVEYOR.

3.2.30. The right-of-way CSJ number, if available, shall be shown on each right-of-way map sheet.

Services Provided By:
ENGINEER LPA

3.3. Exhibits:
An Exhibit shall be prepared for each parcel or tract consisting of a property description and a parcel plat.

Y N 3.3.1. Property Description:

A property description shall be prepared for each parcel of land to be acquired. Standard formats for property descriptions, copies of which the SURVEYOR shall request to the ENGINEER and secure for all purposes of this Contract. Property descriptions shall include, but need not be limited to, the following items of information.

All property descriptions shall be signed and sealed by a Registered Professional Land Surveyor. The property description shall begin with a general description which shall include as a minimum:

a. State, County, and Survey within which the proposed parcel of land to be acquired is located.
b. A reference to unrecorded and recorded subdivisions by name, lot, block, and recording data to the extent applicable.
c. A reference by name to the grantor and grantee, date and recording data of the most current instrument(s) of conveyance describing the parent tract. Use execution dates in deed references as opposed to recording or filing dates. In any case, the property description shall make clear which date is being used.
   The property description shall continue with a metes and bounds description which shall include as a minimum:
d. A point of commencing.
e. A point of beginning with the appropriate N and E surface coordinates.
f. A series of courses, identified by number and proceeding in a clockwise direction, describing the perimeter of the parcel of land to be acquired, and delineated with appropriate bearings, distances, and curve data.
   Curve data shall include the radius, delta angle, arc length, and long chord bearing and distance. Each course shall be identified either as a proposed right-of-way line, and existing right-of-way line, or a property line of the parent tract. Each property line of the parent tract shall be described with an appropriate adjoiner call.
g. A description of all monumentation set or found shall include, as a minimum, size and material.
h. A reference to the source of bearings, coordinates, and datum used.

Y N 3.3.2. Parcel Plat:
A parcel plat shall be prepared for each parcel of land to be acquired. The STATE has developed standard formats for parcel plats, copies of which the SURVEYOR shall request from the ENGINEER and secure for all purposes in this Contract. Parcel plats shall include each and every item of information shown on the right-of-way map which concerns the individual parcel. All parcel plats shall be signed and sealed by a Registered Professional Land Surveyor.

| Services Provided By: ENGINEER | LPA | | |
|---|---|---|---|
| | | **4.** | **DELIVERABLES:** In preparing right-of-way maps, the following is an outline of the work to be submitted (records should be delivered in a binder): |
| Y | N | 4.1. | An Abstract Map of the current record title holders included in the Preliminary Map showing the proposed schematic and existing right-of-way as per General Specifications defined in 2.11. |
| Y | N | 4.2. | A Right-of-Way map for the project limits under cover of Title Sheet, Index Sheet, Control Data Sheet, and Exhibits of the property descriptions and parcel plats as per General Specifications defined in 2.12, 3.2 and 3.3. |
| | | | ROW Map Submittal Requirements: |
| | | | 4.2.1. Two (2) paper sets of half-size ROW maps (11"x 17") |
| | | | 4.2.2. One (1) paper set of the full-size ROW maps (22"x 34") |
| | | | 4.2.3. Four (4) sets of original metes & bounds descriptions (field notes) with parcel plats (signed & sealed by the surveyor). *Do not include traverse sheet.* |
| | | | 4.2.4. City requires one (1) electronic copy of the ROW Map on a CD, and One (1) copy of the DGN electronic file on a CD from the surveyor- Both the electronic copy of the ROW Map and the DGN file can be on one CD. |
| | | | ~~IF Roadway is ON-SYSTEM and after Administrative Approval of the ROW Maps by Division (REVISIONS) Submittal Requirements:~~ |
| | | | 4.2.5. Two (2) paper sets of the half-size of the affected ROW map sheets (11"x17"), detailing the revision |
| | | | 4.2.6. One (1) paper set of the full-size of the affected ROW map sheets (22"x 34"), detailing the revision |
| | | | 4.2.7. Four (4) sets of any revised original metes & bounds descriptions (field notes) with parcel plats (signed & sealed by the surveyor). *Do not include traverse sheet.* |
| | | | 4.2.8. Division needs one (1) electronic copy of the revised ROW Map sheets on a CD**,** and |
| | | | 4.2.9. One (1) copy of the DGN electronic file on a CD from the surveyor- detailing the revision-Both the electronic copy of the revised ROW Map sheets and the DGN file can be on one CD. |
| Y | N | 4.3. | Set a #5 Iron Rod 2-ft. in depth on the proposed right-of-way lines at intersecting property lines, and at all PCs, PTs, angle points, intersecting right-of-way lines of side streets, and at 1,000 foot stations of the proposed centerline alignment. |
| Y | N | 4.4. | Set a #5 Iron Rod 2–ft. in depth on the existing right-of-way lines in areas of no acquisition at all PCs, PTs, angle points, and 1,000 foot stations, and as directed by the ENGINEER of the proposed centerline. |
| N | N | 4.5. | A SURVEYOR's report, outlining the approach, reasons or basis for the existing right-of-way determination, and conclusions made. |
| Y | N | 4.6. | Records used to establish ownership. |
| Y | N | 4.7. | ROW and parcel filed notes signed and sealed by a RPLS. |
| Y | N | 4.8. | Computation sheets of survey closures, ground surveys, etc. used to develop plats and meets and bound information. |
| Y | N | 4.9. | Items indicated under the Automation Requirements Section 6. |
| Y | N | 4.10 | Completed (Attached) Checklist with submittal of ROW Map etc. |
| Y | N | 4.11 | Set #5 Iron Rod 2 –ft. in depth at all corners of a proposed parcel. |

Services Provided By:
ENGINEER LPA

**5. GENERAL REQUIREMENTS:**

For purposes of this Contract, the following general requirements shall apply:

Y N

5.1. Copies of instruments of record submitted to the ENGINEER shall be indexed by parcel number.

5.2. Coordinates appearing on right-of-way maps, on parcel plats, and in property descriptions shall be surface coordinates based on the Texas State Plane Coordinate System. The combined adjustment factors (sea level factor x scale factor) which have been developed by the STATE for its use are as follows:

5.2.1. In (List Applicable Counties): Counties (---------- Zone), grid coordinates are multiplied by a combined adjustment factor of 1.xxxxxx to obtain surface coordinates. For work in Counties other than those listed, the ENGINEER will provide the combine adjustment factor.

5.3. Line and curve tables may be used when necessary.

5.4. The number of centerline alignment stations to be shown on a single plan sheet shall be restricted to the extent necessary to allow approximately 4 inches between match lines and sheet borders for future details and notes.

5.5. A minimum 4 inch by 4 inch space shall be reserved at the bottom right corner of each map sheet for future revision notes.

**6. AUTOMATION REQUIREMENTS:**

In addition to standard hard copy plots and mylar copies, the following will be required electronically:

Y N

0.1. Right-of-way maps and parcel plats shall be prepared using a *Micro Station* software graphics system capable of producing graphics files that can be plotted and viewed without further modification or conversion using the State's *Micro Station V8* graphics system.

0.2. It is the intent of the ENGINEER to secure graphics files which have elements of equal integrity, singularity, and attributes as elements prepared using the State's *Micro Station V8* graphics system.

0.3. For purposes of clarity, consistency, and ease of utilization, the SURVEYOR shall request and secure standards relevant to right-of-way mapping to the extent necessary to ensure that the needs of the ENGINEER are met. This includes, but may not be limited to, TxDOT seed file and corresponding units.def file, TxDOT font resource file, TxDOT GEOPAK SMD file, TxDOT DGNLIB, associated cell libraries and custom line styles, and other files as deemed appropriate for the project.

0.4. Graphics files furnished to the ENGINEER by the SURVEYOR shall be submitted on a Compact Disk CD, DVD or USB, in a format compatible with the STATE's computer system. The SURVEYOR shall confer with the ENGINEER regarding acceptable media and formats before making submissions. The SURVEYOR shall request and secure a Consultant File Index form provided by the ENGINEER, to be completed by the SURVEYOR, and to be submitted to the ENGINEER along with the graphics files.

0.5. Property descriptions shall be prepared using a computer word processing system capable of producing data files readable using *Microsoft Office Word Version 2007* word processing software.

0.6. Data files furnished to the ENGINEER by the SURVEYOR shall be submitted in ACSII format on a CD, DVD or USB.

0.7. Provide to the ENGINEER electronic copies of all instruments of record acquired pursuant to a work authorization.

Services Provided By:
ENGINEER LPA

**7. GENERAL SPECIFICATIONS:**

For purposes of this Contract, the following general specifications for right-of-way mapping shall apply:

Y N

7.1. Completed right-of-way maps shall be submitted to the ENGINEER on ~~single or double matte mylar~~, 22 inches by 34 inches in size with a 21 inch by 32 inch printed border positioned ½ inch from the top, bottom, and right edge of the sheet. Two copies on 11 inch by 17 inch paper will also be supplied to the ENGINEER.

7.2. Parcel plats shall be submitted to the ENGINEER on 8 ½ inch by 11 inch bond paper with respective borders of 7 ½ inches by 10 inches, positioned ½ inch from the top, bottom, and right edge of the sheet. Match lines shall be used where more than one sheet is required.

7.3. Right-of-way maps shall be drawn to a scale of 1 inch = 50 feet. An appropriate scale other than 1 inch = 50 feet may be used on some proposed right-of-way projects upon prior approval by the ENGINEER.

7.4. Since right-of-way maps are reduced in size by one-half for archiving purposes, the smallest size lettering acceptable on a right-of-way map shall be 1/10 of one inch (Leroy #100). A right-of-way map which contains any lettering smaller than 1/10 of one inch will not be accepted by the ENGINEER.

7.5. Parcel plats shall be drawn to a preferred scale of 1 inch = 50 feet. An appropriate scale other than 1 inch = 50 feet may be used on some proposed right-of-way projects upon prior approval by the ENGINEER. In the case of a very large parcel which would be difficult to show with clarity on a single 8 ½ inch by 11 inch sheet, the SURVEYOR shall use multiple 8 ½ inch by 11 inch sheets with matching lines.

7.6. The smallest size lettering acceptable on a parcel plat shall be 0.06 of an inch (Leroy #60).

7.7. Property descriptions shall be submitted on 8 ½ inch by 11 inch bond paper.

~~7.8. The ENGINEER has encountered a number of mylar products which are considered unacceptable. The SURVEYOR shall confer with the ENGINEER regarding mylar products he intends to use which have not been previously used on State projects.~~

7.9. Zip-A-Tone or other similar stick-on products shall not be used on right-of-way maps or parcel plats.

**8. ADHERENCE TO STANDARDS:**

For purposes of clarity, consistency, and ease of understanding, the CITY/COUNTY, as an acquiring agency of private property for public use, has adopted the STATE standards and formats for right-of-way mapping which have proven to facilitate the processes of negotiation, appraisal, relocation assistance, and condemnation. It shall be the responsibility of the SURVEYOR to adhere to these standards and formats to every extent possible to ensure that the needs of the acquiring agency are met.

SAMPLES ATTACHED FC 130: (FURNISHED UPON REQUEST FROM THE PROJECT ENGINEER)

- PRELIMINARY Right-of-Way Layout / Abstract Map
- Right-of-Way Map, Field Notes, Parcel Sketches and Area Computation Sheets

**ROW MAP CHECKLIST**

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

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

_____
Signature Date

_____
Printed Name

***(This Checklist must be signed by the RPLS and turned in with all proposed ROW Projects.***

**MAP:**

General

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

Title Sheet Requirements

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

Individual Map Sheet Requirements

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

Existing information:

___ R.O.W. lines
___ Whole property or whole property inset
___ Roadways
___ Survey, county, and city limit lines shown and labeled
___ Improvements shown and labeled *(see below)*
___ Monumentation i.e. P.C., P.T., Break Points
___ North arrow

___ Scale
___ Property lines
___ Property descriptions i.e., lot, block, tract, subdivision, etc…
___ Identify existing and proposed access denial locations *(if applicable)*

Proposed information:
___ #5- 2-ft iron road set monumentation i.e. P.C., P.T., Break Points and 1000' stations at proposed ROW lines and where existing ROW line is the proposed ROW.
___ Survey and R.O.W. lines
___ Basis of bearings
___ Parcel bearings and distances correspond with traverse sheet
___ Outside ties (P.O.C.) corresponds with field notes
___ Point of beginning (P.O.B.) established on proposed R.O.W. line
___ Parcel tied to baseline
___ Baseline information shown i.e. Stationing, bearings, curve data, etc…
___ Conveyance information shown in tables i.e. parcel number, grantors name, amount of take, remainder etc.
___ Math checked on remainder

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

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

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

General Description or "preamble"
___ Area of parcel to be acquired is shown in acreage (0.000) for rural land and/or square feet (to nearest whole sq. ft.) for urban land or smaller parcels
Parent tract data is shown:
___ Size of parent tract
___ Survey data or lot, block, and subdivision
___ Name of last recorded seller and buyer
___ Date, volume and page or document number of last recorded conveyance
___ Records and county of last recorded conveyance

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

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

Closing Description

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

**PARCEL SKETCH:**

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

**TRAVERSE SHEET**

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

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

## SECTION 6 - FIELD SURVEYING AND PHOTOGRAMMETRY

(Function Code 150)

Services Provided By:
ENGINEER 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 ( Recover and / or Re- Establish )**

Y N 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

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

| Services Provided By: ENGINEER | LPA | |
|---|---|---|
| Y | N | c. Other Design Surveying (Additional Surveys not gathered in WA#1) |

(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.

| Services Provided By: ENGINEER | LPA | |
|---|---|---|
| Y | N | (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<br>(a) Inventory commercial entrances, public roads and side streets separately.<br>(b) Obtain centerline station. (Width at ROW, PAV'T and existing radius.<br>(c) Inventory by type (dirt, caliche, gravel or paved). If paved, indicate condition in terms of no patches, has patches or has potholes.<br>(d) Obtain width at R.O.W. line.<br>(e) Obtain elevations at both edges of the driveway or turnout in line with the side drain. |
| Y | N | (13) ROW staking (Existing and Proposed @ 1,000 ft. stations PC's PT's and Angle points as per ROW Map) |
| Y | N | (14) Soil core hole staking at bridge class structures. |
| Y | N | (15) Determine changes in topography from voids and outdated maps due to development, erosion, etc. |
| Y | N | (16) Profiles of existing drainage facilities. |
| Y | N | (17) Measurement of hydraulic opening under existing bridges. |
| Y | N | (18) Obtain elevations of manholes and valves of utilities |
| Y | N | (19) Provide temporary signs, traffic control, flags, safety equipment, etc. |
| Y | N | (20) Ties to existing bridges railroad rail elevations or culverts that may conflict with new construction. |
| Y | N | (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. |
| Y | N | (22) Inventory signs, mailboxes, and driveways |
| Y | N | (23) Locate wetlands. |
| Y | N | (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 | N | (1) Stake existing and/or proposed right-of-ways. |
| N | N | (2) Stake existing and/or proposed baseline/centerline. |
| N | N | (3) Stake proposed bridge structures. |
| N | N | (4) Stake proposed drainage structures, such as manholes, culverts, etc. |
| N | N | (5) Set grade stakes. |
| N | N | (6) Recover and check existing control points. |
| N | N | (7) Establish additional control points. |
| N | N | (8) Check elevations and locations of structures. |
| N | N | (9) Determine and resolve conflicts associated with survey data. |

Services Provided By:
ENGINEER LPA

N N **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: (FINALIZE ANY ADDITIONAL AREAS NOT TIED DOWN IN WA #1)**
Utility Quality Levels are in cumulative order (least to greatest) as follows

N N 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.

N N 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.

N N 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.
3.3.2

Services Provided By:
ENGINEER LPA

3. *Utility Subsurface (continued)*

3.3.3 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.

3.3.4 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.

3.3.5 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.

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

3.3.7 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. <u>DELIVERABLES: (</u>NOT SUBMITTED IN WA#1)**

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

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

Y N 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.

Y N 4.3. Computer printouts or other tabulations summarizing the results of field surveys.

Y N 4.4. Digital files or media acceptable by the ENGINEER containing field survey data.

Y N 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.

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

N N 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: ENGINEER | LPA | |
|---|---|---|
| | | 4. *Deliverables (continued)* |
| Y | N | 4.8. Final mylar set of 11 inch by 17 inch Survey Control data sheets sign and seal by the RPLS per TxDOT guidelines. |
| Y | N | 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. |
| N | N | 4.10. Survey reports in a format requested by the ENGINEER. |
| Y | N | 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:
ENGINEER 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.

# ATTACHMENT "A"
# 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.

# ATTACHMENT "A"
# SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

## SECTION 7 - ROADWAY DESIGN CONTROLS

(Function Code 160)

| Services Provided By: ENGINEER | LPA | |
|---|---|---|
| | | 1. Geometric Design |
| N | N | a. Horizontal and Vertical Alignment |
| N | N | b. Schematic Layout |
| | | (1) The location of interchanges, main lanes, grade separations, frontage roads and ramps. |
| | | (2) Develop vertical and horizontal alignment of main lanes, ramps and cross roads at proposed interchanges or grade separations. Frontage road alignment data need not be shown on the schematic; however, it should be developed in sufficient detail to determine ROW needs. The degree of horizontal curves and vertical curve data, including "K" values, shall also be shown for ease of checking. |
| | | (3) For freeways, show the location and text of the proposed main lane guide signs. Lane lines and/or arrows indicating the number of lanes shall also be shown. |
| | | (4) A complete explanation of the sequence and methods of stage construction, if proposed, including the initial and ultimate proposed treatment of crossovers and ramps. |
| | | (5) The tentative ROW limits. |
| | | (a) Provide a roadway Design System (RDS) or (GEOPAK) computer tape of the preliminary earthwork to verify ROW requirements. |
| | | (b) Provide a graphics file containing the approved schematic. |
| | | (6) The geometric (pavement cross slopes, lane and shoulder widths, slope rates for fills and cuts) of the typical sections of proposed highway main lanes, ramps, frontage roads, and cross roads. |
| | | (7) The current and projected traffic volumes as provided by the TxDOT (20 year traffic projection, unless otherwise determined by the District Engineer). |
| | | (8) The control of access lines if Interstate or designated under House Bill 179. |
| | | (9) Direction of traffic flow on all roadways. |
| | | (10) Location and width of median openings for highway without access control. |
| | | (11) The geometric of speed change (acceleration, deceleration, climbing) lanes. |
| N | N | 2. General Guidelines for Project Development |
| | | a. Prior to preparing detailed plans for a proposed project, a preliminary schematic layout shall be prepared which indicates the general geometric features and location requirements peculiar to the project. An uncontrolled aerial mosaic will be provided for this use. Four copies of the schematic layout shall be submitted through the district to the Design Division for approval and subsequent coordination with the Federal Highway Administration (FHWA) where applicable. The layout shall be submitted for two-lane arterial highway projects on new locations and for all multi-lane highway projects. **No geometric design is to be performed until the 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. |

| Services Provided By: ENGINEER | LPA | |
|---|---|---|
| N | N | 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 | N | 3. Exhibit for Airway/Highway Clearance Permits |
| | | 4. Grading Design |
| Y | N | 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. |
| Y | N | b. Typical Sections |
| Y | N | c. Design Cross Sections |
| Y | N | d. Determine Cut and Fill Quantities |
| Y | N | e. Slope Stability Analysis |
| Y | N | f. Embankment Foundation Stability Analysis |
| Y | N | g. Embankment Settlement Analysis |
| | | 5. Pavement Design |
| Y | N | 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. |
| Y | N | 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) |
| Y | N | (a) Along center line |
| Y | N | (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) |

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

# ATTACHMENT "A"
# SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

## SECTION 8 - 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 |
| N | N | a. Hydrologic Map showing drainage areas, contours and drainage Q's. |
| N | N | b. Drainage area maps showing existing conditions and proposed improvements. |
| N | N | c. Hydrologic data/discharge determination |
| | | 2. Hydraulic Drainage Study and Documentation |
| | | a. Hydraulic computations |
| Y | N | (1) Storm water detention available within the ROW (linear ft. along side drain ditch). |
| Y | N | (2) Storm water detention required outside the ROW (as per HCDD#1) |
| Y | N | (3) Culverts |
| Y | N | (4) Bridge waterways |
| Y | N | (5) Channels |
| Y | N | (6) Storm sewers/inlets |
| N | N | (7) Pump stations |
| Y | N | (8) Storm Water Management facilities |
| Y | N | (9) Other |
| | | (a) Irrigation Canals/Siphons |
| N | N | b. Hydraulic report(s) |
| N | N | c. Federal Emergency Management Agency (FEMA) floodway requirements |
| Y | N | 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 |
| Y | N | (1) New culverts |
| Y | N | (2) Culvert widening and/or lengthening |
| Y | N | (3) Culvert replacements |
| | | b. Storm sewers |
| Y | N | (1) New storm sewers |
| Y | N | (2) Modify existing storm sewers |
| Y | N | (3) Inlets |
| Y | N | (4) Manholes |
| Y | N | (5) Trunk lines |
| N | N | c. Pump stations |
| Y | N | d. Subsurface drainage at retaining walls |
| Y | N | e. Outfall channel(s) within the ROW |
| Y | N | f. Outfall channel(s) outside the ROW |
| Y | N | g. Detention Pond(s) within the ROW |
| Y | N | h. Detention Pond(s) outside the ROW |
| Y | N | i. Summary of Quantities |
| Y | N | j. Storm Water Management facilities |
| Y | N | 4. Storm Water Pollution Prevention Plan (SW3P) |
| Y | N | 5. Scour Evaluation - Waterway Structures only (to be completed by Bridge Engineer under FC 170. |

# ATTACHMENT "A"
# SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

## SECTION 9 - SIGNING, MARKINGS AND SIGNALIZATION

(Function Code 162)

Services Provided By:
ENGINEER LPA

YES NO 1. **TRAFFIC ENGINEERING DESIGN**

ETSI will produce a complete set of Plans, Specifications and Cost Estimates (PS&E) that cover the following:

- Los Ebanos Road at IH 2 Frontage Roads (Diamond Signal Design)
- Los Ebanos Road at Mile 1 South Road (Permanent Signal Design)
- Los Ebanos Road at Military Road (Flashing Beacon Design)

o **TASK 1 – General Notes for Traffic Signal Installation**

ETSI will prepare the general notes based on TxDOT's latest practices

o **TASK 2 – Basis of Estimate**

ETSI will prepare Basis of Estimate sheet(s) with adequate number of columns to reflect the number of the above intersections and one column for the total quantities.

ETSI will calculate quantities at 90% and 100% levels of completion or as directed by L&G.

o **TASK 3 – Condition Diagram**

ETSI will collect from various agencies the existing geometries for the above intersections. Information from these plans will be verified in the field and then incorporated into the condition diagram sheets.

ETSI will setup the condition diagram sheets that would show the existing configuration of each intersection, existing utilities and other elements in accordance with TxDOT design practices and as required by L&G. ETSI will show which items are to be removed and which to are to remain.

o **TASK 4 – Proposed Signal/Flashing Beacon Plan Layout**

ETSI will setup proposed signal/flashing beacon layout sheets that would show the proposed geometry of the above intersections along with the basic elements of the signal design, such as location of signal poles, pedestrian poles, wheel chair ramps, cross walks and service pole locations, in accordance with TxDOT Signal Design practices and as required by L&G.

The proposed layouts will also show existing equipment to remain, existing equipment to be removed and proposed new equipment to be installed by the contractor.

ETSI with assistance from L&G Engineering will contact the local power company for electrical service requirements at each of the above intersections.

ETSI will produce submittals for Client's review at the 90% and 100% completion levels or as directed by L&G.

o **TASK 5 – Signal Phasing and Timing**

ETSI will develop optimal phasing and timing chart for the signalized intersections. The chart will be presented to TxDOT for review and approval before incorporation into the plan sheets.

Services Provided By:
ENGINEER LPA

- **TASK 6 – Electrical Schedules**

  ETSI will prepare tables, depicting the electrical schedule for the wiring connections at each intersection.

- **TASK 7 – Intersection Signing, Pavement Markings and Curb Ramps**

  While working on the proposed layouts, ETSI will also locate the cross walks and stop bars at the intersections, as they affect the signal design and furnish this information to L&G. Curb ramps and cross walks will conform to current US Access Board's Proposed Accessibility Guidelines as well as ADA standards.

  ETSI will produce submittals for Client's review at the 90% and 100% completion levels.

- **TASK 8 – Standard Sheets List**

  ETSI will prepare a list of standard sheets for the 90% and 100% submittals. ETSI will also prepare the drill shaft tables on the TSFD standard sheet as well as the shipping parts list on the SP/SMA standard sheet.

- **TASK 9 – Specifications List and Cost Estimate**

  ETSI will prepare a list with all pertinent specifications and special provisions as they relate to the above tasks. ETSI will also prepare cost estimates using Pharr District's average bid values at the 90% and 100% submittals.

- **TASK 10 – Coordination and Meetings**

  ETSI will participate in one or more project progress meetings as requested by L&G.

## SECTION 10 - MISCELLANEOUS (ROADWAY)

(Function Code 163)

| Services Provided By: ENGINEER | LPA | |
|---|---|---|
| | | 1. Retaining Walls |
| | | a. Structural Details |
| NO | NO | (1) Cast-in-Place Cantilever at _____ locations. (TxDOT Standard Retaining Wall)* |
| NO | NO | (2) Tiedback Retaining Wall at _____ location. (TxDOT standard retaining wall) |
| NO | NO | (3) Specialized Retaining Wall at _____ locations (Unique Design).* |
| | | b. Alternate Patented Retaining Walls at all locations. (Layouts Only)** |
| YES | NO | (1) Mechanically Stabilized Earth |
| NO | NO | (2) Concrete Block Wall Systems |
| YES | NO | 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 |
| YES | NO | 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. |
| YES | NO | e. Foundation Studies (Show cost estimate with Function Code 110) |
| YES | NO | (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. |
| YES | NO | f. Stability Analysis (the ENGINEER shall estimate this task as part of his bid to complete the work). |
| YES | NO | g. Estimate |
| YES | NO | h. Summary of Quantities |
| YES | NO | i. Typical X-section. |
| YES | NO | 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. |

| Services Provided By: ENGINEER | LPA | |
|---|---|---|
| YES | NO | 2. Traffic Control Plan, Detours and Sequence of Construction<br>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:<br>a. The sequence of construction and method of handling traffic during each phase.<br>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.<br>c. The proposed traffic control devices (stop signs, signals, flag person, etc.) at grade intersections during each construction sequence.<br>d. Where detours are provided, typical cross sections shall be shown.<br>e. Road construction work hours shall be developed after an investigation of the traffic volumes has been performed. |
| | | 3. Illumination |
| NO | NO | a. Preliminary Roadway Illumination Layout and Circuit Layout<br>(1) For projects involving freeway to freeway or other types of directional interchanges and projects including left-hand ramps or connections, provide the following:<br>(a) The location of interchanges, main lanes, grade separations, frontage roads and ramps<br>(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<br>(c) The number of lanes in each section of proposed highway and the location of changes in the number of lanes<br>(d) The projected traffic volumes as provided by the STATE (20 year traffic projection unless otherwise determined by the district engineer)<br>(e) Tentative ROW limits<br>(f) Direction of traffic flow on all roadways<br>(g) Main lane, ramp, frontage road, and necessary cross road profiles at proposed interchanges or grade separations |
| NO | NO | b. Final Roadway Illumination and Electrical Circuit Layouts<br>(1) Roadway layout showing pavement edges, shoulders, curbs, retaining walls, etc.<br>(2) Center line with station numbering.<br>(3) ROW lines.<br>(4) Symbol legend. Use department standard symbols for lighting and electrical.<br>(5) Culverts and other structures that present a hazard to traffic.<br>(6) Location of underground utilities, if not shown on plan profile.<br>(7) Location of overhead electrical lines, both crossing and parallel to ROW.<br>(8) Existing sign lighting circuits and roadway illumination to remain, to be removed, to be relocated.<br>(9) Existing service poles, electrical circuits, ground boxes, etc.<br>(10) Contact electric utility for service pole locations, voltage characteristics.<br>(11) Location of proposed sign lighting circuits and roadway illumination.<br>(12) Proposed electrical circuits.<br>(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. |

| Services Provided By: ENGINEER | LPA | |
|---|---|---|
| | | 3. Illumination *(continued)* |
| NO | NO | c. General Guidelines for Illumination (If applicable)<br>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 | NO | a. Erosion Control |
| NO | NO | b. Landscape Development |
| YES | NO | 5. Compute and Tabulate Quantities |
| YES | NO | 6. Special Utility Details (Irrigation lines) |
| NO | NO | 7. Miscellaneous Structures |
| | | a. Type of Structure* |
| | | (1) Overhead Sign Bridges (O.S.B.)<br>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. |
| NO | NO | (a) New O.S.B. structure(s) |
| NO | NO | (b) Structural evaluation of existing O.S.B. structure(s) that are to remain in place or to be relocated. |
| NO | NO | (2) High Mast Illumination Poles (HMIP) |
| YES | NO | (3) Traffic Signal Supports |
| NO | NO | (4) Conventional Illumination Poles |
| NO | NO | (5) Sound Barrier Walls |
| NO | NO | 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 |
| NO | NO | c. Foundation Studies (Show cost estimate with Function Code 110)<br>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 |
| NO | NO | a. Utility Agreements |
| NO | NO | b. Exhibits for Utility Agreements |
| NO | NO | c. Railroad Agreements |
| | | d. Railroad Exhibits |
| NO | NO | (1) Railroad Underpasses |
| NO | NO | (2) Railroad Overpasses |
| NO | NO | (3) Railroad Grade Crossing (Replanking) |
| NO | NO | (4) Railroad Grade Crossing Warning Systems (Signals) |
| NO | NO | (5) Other Miscellaneous Sketches for Railroads |
| NO | NO | e. Traffic Signal Agreements |
| NO | NO | f. Exhibits for Traffic Signal Agreements |
| YES | NO | 9. Estimate |
| YES | NO | 10. Specifications and General Notes |

# ATTACHMENT "A"
# SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

## SECTION 11 - BRIDGE DESIGN

(Function Code 170)

| Services Provided By: ENGINEER | LPA | | NUMBER REQUIRED |
|---|---|---|---|
| | | 1. Preparation of Structural Details | |
| | | a. New Structure(s) | |
| NO | NO | (1) Underpass(es) | |
| NO | NO | (2) Overpass(es) | |
| NO | NO | (3) Main Lanes | _____ |
| NO | NO | (4) Direct Connector(s) | _____ |
| NO | NO | (5) Ramp Bridge(s) | _____ |
| YES | NO | (6) Waterway Structure(s)** | __1___ |
| YES | NO | (7) Pedestrian Structure(s) | ___1__ |
| NO | NO | (8) Utility Structure(s) | _____ |
| NO | NO | (9) Railroad Underpass(es) | _____ |
| NO | NO | (10) Railroad Overpass(es) | _____ |
| NO | NO | (11) Bridge Classification Culvert(s)** | _____ |
| NO | NO | (11) Alternate Structural Designs | _____ |
| NO | NO | (12) Alternate Foundation Design | _____ |
| | | Total New Structures = | 2 |
| | | b. Existing Structure(s) | ____1_ |
| YES | NO | (1) Bridge Widening, Rehabilitation and/or Modification of Existing Structure(s) | |
| NO | NO | (2) Bridge Replacement | _____ |
| NO | NO | (3) Raising Bridge Elevation | _____ |
| NO | NO | (4) Bridge Classification Culvert(s) Widening and/or Modification of Existing Structures(s) | _____ _____ |
| NO | NO | (5) Railroad Overpass(es) | _____ |
| NO | NO | (6) Railroad Underpass(es) | _____ |
| | | Total Existing Structures = | __1___ |

* 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.

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| Services Provided By: ENGINEER | LPA | |
|---|---|---|
| YES | NO | 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.

| Services Provided By: ENGINEER | LPA | | |
|---|---|---|---|
| YES | NO | 2. | Preparation of Bridge Layouts (each bridge) *(continued)*<br>c. Additional layout requirements for waterway structures and bridge classification culverts.<br>(1) Design and 100-year peak discharges.<br>(2) Design and 100-year high water (HW) (Recorded HW and date if available)<br>(3) Natural and through-bridge velocities for design and 100-year floods.<br>(4) Calculated backwater for design and 100-year floods.<br>(5) Direction of flow for waterway crossings.<br>(6) Contours for water crossing. |
| NO | NO | 3. | Bridge Classification Culvert, Estimate, Quantities, and Specifications (each bridge) |
| YES | NO | 4. | Foundation Studies (Show cost estimate with Function Code 110)<br>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). |
| YES | NO | 5. | Bridge Total Quantities and Cost Estimates (each bridge) |
| YES | NO | 6. | Bridge Special Provisions and Specifications (each bridge) |
| YES | NO | 7. | Bearing seat elevations for each beam or girder. Top of cap elevations for non-beam type structures. |
| YES | NO | 8. | General Guidelines for Bridge Design<br>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.**<br><br>Several months may be required, after the preliminary bridge layout is submitted, for the district to obtain approval and/or permits from the following:<br>• TxDOT Design Division, when applicable:<br>- Railroad Companies<br>- FHWA<br>- U.S. Army Corps of Engineers<br>- U.S. Coast Guard<br>- Bureau of Reclamation<br>- Texas Parks and Wildlife<br>- Others<br><br>Therefore, the bridge layout should be submitted at the earliest possible date and the ENGINEER's design schedule should reflect this.<br><br>b. All bridge superstructure and substructure design will be reviewed by the Design Division for purposes of verifying structural integrity and optimization of design.<br><br>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. |

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.

# ATTACHMENT "A"
# SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

| Services Provided By: ENGINEER | LPA | |
|---|---|---|
| YES | YES | **PROJECT LOCAL LETTING -** The following is a list of work associated with locally letting the project. See attached **Texas Department of Transportation "Local Government Project Development & Delivery Check list" (Pages 1-16).** |

## Local Government Project Development & Delivery Checklist

Project CSJ#: _____ Project Info: _____

Local Government: _____ TxDOT District: _____

| Item | Description | Not Applicable | Plans or Project Manual Page No. | Task Completion Verified By LG (insert name below): | LG Date Verified | Task Completion Verified By TxDOT (insert name below): | TxDOT Date Verified |
|---|---|---|---|---|---|---|---|
| **2** | **Project Initiation** | | | | | | |
| **2.2.4** | **LG Project Oversight** | | | | | | |
| 1 | Oversight Level Special Approval, Part A is completed by LG and provided to TxDOT. | | | | | | |
| 2 | Oversight Level Special Approval, Part B is completed by TxDOT, including confirmation of the LG's most recent Overall Risk Score and date. | | | | | | |
| **2.3.3** | **Responsible Person in Charge (RPIC)** | | | | | | |
| 1 | Documentation of District RPIC assignment. | | | | | | |
| 2 | Documentation of LG RPIC assignment. | | | | | | |
| **2.3.4** | **Qualified Person** | | | | | | |
| 1 | Documentation of LG Qualified person. | | | | | | |
| **2.3.5** | **Initial Project Coordination** | | | | | | |
| 1 | Documentation of Initial Project Meeting - minutes and roster. | | | | | | |
| 2 | Appropriate project designation and agency information in TxDOTCONNECT resources tab. | | | | | | |
| **2.4** | **Advance Funding Agreement (AFA)** | | | | | | |
| 1 | LG DUNS # and Zip Code +4 provided to TxDOT district. | | | | | | |
| 2 | District verifies DUNS # and forwards DUNS # and Zip Code +4 to FIN-LM. | | | | | | |
| 3 | AFA map of project matches PS&E layout. | | | | | | |
| 4 | Project budget and description matches TxDOT finance information (TxDOTCONNECT). | | | | | | |
| 5 | Engineering design guidelines for geometrics are specified (e.g. AASHTO, TxDOT, ADAAG, etc.). | | | | | | |
| 6 | Clear statement of project development responsibilities between TxDOT and LG (ROW mapping and acquisition, utility relocation, environmental, design, construction). | | | | | | |
| 7 | Statement of applicability of LGPP and need for "Qualified Person." | | | | | | |
| 8 | Statement of latest allowable letting date (if responsibility of LG) or risk of having funding withdrawn. | | | | | | |
| 9 | Statement of milestones LG must accomplish including dates to allow project to be added to TxDOT's 24-month letting | | | | | | |
| 10 | On MPO agreements, statement that CMAQ funds (if applicable) may be withdrawn if not committed to project that advances within a specified year. | | | | | | |
| 11 | Document signed and dated by appropriate signing authority for LG and TxDOT. | | | | | | |
| 12 | Statement indicating if there is any retainage withheld from LG on interim reimbursements. | | | | | | |
| 13 | All amendments to AFA meet above requirements. | | | | | | |
| **2.5** | **State Letter of Authority (SLOA)** | | | | | | |
| 1 | SLOA for PE on file prior to commencing work. | | | | | | |
| 2 | If federal aid, FPAA on file prior to commencing work. | | | | | | |
| **2.6** | **Project Accounting** | | | | | | |
| 1 | Appropriate invoicing frequency from LG. | | | | | | |
| 2 | Appropriate review and approval of invoicing. | | | | | | |
| **3** | **Non-Construction Projects** | | | | | | |
| **3.2** | **Professional Services Procurement** | | | | | | |
| 1 | TxDOT pre-approval of LG written procurement process. | | | | | | |
| | a. Preparation of Scope (size & complexity of project). | | | | | | |
| | b. Evaluation factors for ranking/selection of consultant. | | | | | | |
| | c. Use of selection committee, if any, and details regarding evaluation and selection. | | | | | | |
| | d. Request for Qualifications (RFQ) or Statement of Qualifications (SOQ) from prospective consultants including DBE and other federal referenced requirements. | | | | | | |
| | e. Request for Proposal (RFP) from prospective consultants. | | | | | | |
| | f. Conflict of interest identification, disclosure & resolution. | | | | | | |
| | g. Evaluation for debarment actions or suspension actions. | | | | | | |
| | h. Discussion of disposition of submitted RFQ, SOQ and/or RFP that will not be used and public disclosure requirements. | | | | | | |

## Local Government Project Development & Delivery Checklist

Project CSJ#: _____ Project Info: _____

Local Government: _____ TxDOT District: _____

| Item | Description | Not Applicable | Plans or Project Manual Page No. | Task Completion Verified By LG (insert name below): | LG Date Verified | Task Completion Verified By TxDOT (insert name below): | TxDOT Date Verified |
|---|---|---|---|---|---|---|---|
| | i. Evaluation process for ranking/selection of consultant. | | | | | | |
| | j. Preparation of independent agency estimate for use in negotiation with selected consultant. | | | | | | |
| | k. Determination of contract type, payment method, terms and required provisions, assurances and certifications. | | | | | | |
| | l. Negotiation of the contract with selected consultant including instruction for proper disposal of concealed cost proposals of unsuccessful bidders. | | | | | | |
| | m. Establishment of contract costs, accepting indirect cost rate (address administrative qualification of indirect cost rate), compliance with Federal cost principles. | | | | | | |
| | n. Method of monitoring consultant's work. | | | | | | |
| | o. Consultant's work performance when services are complete for use in future evaluations. | | | | | | |
| | p. Contract close out, including retention of documents by consultant according to TxDOT's policies. | | | | | | |
| | q. Retaining supporting programmatic and contract records. | | | | | | |
| | r. Discussion professional quality and errors and omissions liability of consultant. | | | | | | |
| | s. Dispute escalation & resolution process. | | | | | | |
| 2 | LG issues Notices of Intent/Request for Qualifications (NOI/RFQ) or advertisement. | | | | | | |
| 3 | LG receives Letters of Interest/Statements of Qualifications (LOI/SOQ). | | | | | | |
| 4 | LG performs screenings/evaluations of LOIs/SOQs and related correspondence. | | | | | | |
| 5 | LG issues invitations to providers selected for interviews. | | | | | | |
| 6 | LG evaluation of interviewed providers. | | | | | | |
| 7 | LG notifies highest-ranked provider and requests scope, manhour and price proposal. | | | | | | |
| 8 | LG reviews proposal from highest ranked proposer and negotiates contract. | | | | | | |
| 9 | All state and federal required contract clauses must be included in contract. | | | | | | |
| 10 | LG and selected provider execute contract. | | | | | | |
| 11 | LG submits copy of Professional Services Contract to TxDOT. | | | | | | |
| 12 | LG sends letters/correspondence to provider(s) not selected. | | | | | | |
| 13 | LG retains documentation indicating a qualifications-based procurement process for retention period stated in the project AFA. | | | | | | |
| **3.4** | **Contract Administration** | | | | | | |
| 1 | Scope of work in AFA is consistent with STIP. | | | | | | |
| 2 | Documentation of Post-Award Meeting - minutes and roster. | | | | | | |
| 3 | LG provided adequate monthly progress reports. | | | | | | |
| 4 | Regular project meetings conducted; LG provided written summary of meetings. | | | | | | |
| 5 | Corrective action(s) documented. | | | | | | |
| 6 | Project reviews (and/or site visits if appropriate) conducted by district staff at a frequency in accordance with the established oversight level. | | | | | | |
| **3.5** | **Application of Contract Elements** | | | | | | |
| 1 | DBE reporting submitted to district; district provided reporting to CIV. | | | | | | |
| 2 | LG contract contains required provisions (DBE, ADA, 1273, EEO, Lobbying). | | | | | | |
| **4** | **Preliminary Engineering and Design** | | | | | | |
| **4.3** | **Professional Services Procurement Review** | | | | | | |
| 1 | TxDOT pre-approval of LG written procurement process. | | | | | | |
| | a. Preparation of Scope (size & complexity of project). | | | | | | |
| | b. Evaluation factors for ranking/selection of consultant. | | | | | | |
| | c. Use of selection committee, if any, and details regarding evaluation and selection. | | | | | | |
| | d. Request for Qualifications (RFQ) or Statement of Qualifications (SOQ) from prospective consultants including DBE and | | | | | | |
| | e. Request for Proposal (RFP) from prospective consultants. | | | | | | |
| | f. Conflict of interest identification, disclosure & resolution. | | | | | | |
| | g. Evaluation for debarment actions or suspension actions. | | | | | | |
| | h. Discussion of disposition of submitted RFQ, SOQ and/or RFP that will not be used and public disclosure requirements. | | | | | | |

## Local Government Project Development & Delivery Checklist

Project CSJ#: _____ Project Info: _____

Local Government: _____ TxDOT District: _____

| Item | Description | Not Applicable | Plans or Project Manual Page No. | Task Completion Verified By LG (insert name below): | LG Date Verified | Task Completion Verified By TxDOT (insert name below): | TxDOT Date Verified |
|---|---|---|---|---|---|---|---|
| | i. Evaluation process for ranking/selection of consultant. | | | | | | |
| | j. Preparation of independent agency estimate for use in negotiation with selected consultant. | | | | | | |
| | k. Determination of contract type, payment method, terms and required provisions, assurances and certifications. | | | | | | |
| | l. Negotiation of the contract with selected consultant including instruction for proper disposal of concealed cost proposals of unsuccessful bidders. | | | | | | |
| | m. Establishment of contract costs, accepting indirect cost rate (address administrative qualification of indirect cost rate), compliance with Federal cost principles. | | | | | | |
| | n. Method of monitoring consultant's work. | | | | | | |
| | o. Consultant's work performance when services are complete for use in future evaluations. | | | | | | |
| | p. Contract close out, including retention of documents by consultant according to TxDOT's policies. | | | | | | |
| | q. Retaining supporting programmatic and contract records. | | | | | | |
| | r. Discussion professional quality and errors and omissions liability of consultant. | | | | | | |
| | s. Dispute escalation & resolution process. | | | | | | |
| 2 | LG issues Notices of Intent/Request for Qualifications (NOI/RFQ) or advertisement. | | | | | | |
| 3 | LG receives Letters of Interest/Statements of Qualifications (LOI/SOQ). | | | | | | |
| 4 | LG performs screenings/evaluations of LOIs/SOQs and related correspondence. | | | | | | |
| 5 | LG issues invitations to providers selected for interviews. | | | | | | |
| 6 | LG evaluation of interviewed providers. | | | | | | |
| 7 | LG notifies highest-ranked provider and requests scope, manhour and price proposal. | | | | | | |
| 8 | LG reviews proposal from highest ranked proposer and negotiates contract. | | | | | | |
| 9 | All state and federal required contract clauses must be included in contract. | | | | | | |
| 10 | LG and selected provider execute contract. | | | | | | |
| 11 | LG submits copy of Professional Services Contract to TxDOT. | | | | | | |
| 12 | LG sends letters/correspondence to provider(s) not selected. | | | | | | |
| 13 | LG retains documentation indicating a qualifications-based procurement process for retention period stated in the project AFA. | | | | | | |
| **4.4** | **General Design Guidelines** | | | | | | |
| 1 | LG identifies environmental issues and commitments to be considered during project development. | | | | | | |
| 2 | LG prepares Design Concept Conference Summary Report. | | | | | | |
| 3 | LG completes FAA Form 7460-1, if applicable, in coordination with FAA. | | | | | | |
| 4 | On-system design complies with TxDOT's Access Management Manual and TxDOT's Roadway Design Manual. | | | | | | |
| 5 | LG coordinates land surveys in preparation for ROW activities. | | | | | | |
| 6 | LG assures landscape plans are prepared under supervision of a Tx LA. | | | | | | |
| 7 | Landscape design in accordance with TxDOT Landscape and Aesthetics Design Manual. | | | | | | |
| 8 | LG includes SWPPP in conformance with TxDOT's Storm Water Management Guidelines for Construction Activities. | | | | | | |
| **4.5** | **Preliminary Engineering Design for Construction** | | | | | | |
| 1 | LG prepares Form 1002 (PS&E Submission Data), Page 3 - Basic Design Data. | | | | | | |
| 2 | Design exceptions submitted to TxDOT for approval (with conditions noted, if any). | | | | | | |
| 3 | Design waiver requests submitted to TxDOT (granted with conditions, if any). | | | | | | |
| 4 | Design variance requests submitted to TxDOT (granted with conditions, if any). | | | | | | |
| 5 | LG develops capacity analysis using TRB's Highway Capacity Manual and submits to TxDOT for concurrence. | | | | | | |
| 6 | LG submits schematic layout (or 30% drawings) to TxDOT for approval. | | | | | | |
| 7 | LG prepares Interstate Access Justification Report and traffic analysis. | | | | | | |
| 8 | Value engineering study completed for project >$50M or bridge cost >$40M. | | | | | | |
| **5** | **Environmental Compliance** | | | | | | |
| **5.2** | **General Environmental Compliance Requirements** | | | | | | |
| 1 | Environmental Permits Issues and Commitments (EPIC) sheet in plans. | | | | | | |
| 2 | Storm Water Pollution Prevention Plans included in plans. | | | | | | |

## Local Government Project Development & Delivery Checklist

Project CSJ#: _____ Project Info: _____

Local Government: _____ TxDOT District: _____

| Item | Description | Not Applicable | Plans or Project Manual Page No. | Task Completion Verified By LG (insert name below): | LG Date Verified | Task Completion Verified By TxDOT (insert name below): | TxDOT Date Verified |
|---|---|---|---|---|---|---|---|
| 3 | LG ensures all environmental studies, reports, documents and public involvement are performed and/or obtained to satisfy the requirements of the project scope. | | | | | | |
| 4 | LG ensures the project receives NEPA clearance. | | | | | | |

## Local Government Project Development & Delivery Checklist

Project CSJ#: _____ Project Info: _____

Local Government: _____ TxDOT District: _____

| Item | Description | Not Applicable | Plans or Project Manual Page No. | Task Completion Verified By LG (insert name below): | LG Date Verified | Task Completion Verified By TxDOT (insert name below): | TxDOT Date Verified |
|---|---|---|---|---|---|---|---|
| **5.3** | **Specific Environmental Compliance Requirements** | | | | | | |
| 1 | LG determines and documents that the project complies with air quality standards, | | | | | | |
| 2 | For CMAQ projects, the LG documents that the project contributes to the attainment of the required standards. | | | | | | |
| 3 | LG identifies and, if necessary, mitigates impacts to biological resources. | | | | | | |
| 4 | LG identifies and, if necessary, mitigates impacts to water resources. | | | | | | |
| 5 | LG identifies and, if necessary, mitigates impacts to archeological resources. | | | | | | |
| 6 | LG identifies and, if necessary, mitigates impacts to historic resources. | | | | | | |
| 7 | LG determines presence of hazardous materials and receives TxDOT approval of abatement method(s). | | | | | | |
| 8 | LG performs noise analysis, report findings to TxDOT, and, if necessary, develop abatement plan. | | | | | | |
| **6** | **Right-of-Way and Utilities** | | | | | | |
| **6.2** | **ROW and Other Land Acquisition** | | | | | | |
| 1 | SLOA (and FPAA, if applicable) on file for ROW. | | | | | | |
| 2 | A final Right-of-Way Map listing all right-of-way parcels (fee title and/or easements/drainage easements) required for the project, including the grantor's names and the recording references. | | | | | | |
| 3 | A Right-of-Way Map checklist available or on file documenting the Right-of-Way Map is in conformance with TxDOT's Right-of-Way Manual. | | | | | | |
| 4 | All of the original deeds, easements and/or condemnation judgments that have been recorded in the real property official records of the proper county, conveying title into the state of Texas, for all right-of-way parcels listed on the final right-of-way | | | | | | |
| 5 | Title insurance policies insuring title in the name of the State of Texas for all rights of way and/or easements acquired. | | | | | | |
| 6 | TxDOT completion of a Title III audit of the right-of-way parcel files utilizing TxDOT's separate Title III Parcel Review Checklist. (If no, a TxDOT representative should arrange to complete a review of the parcel acquisition documentation utilizing the Title III Parcel Review Checklist). | | | | | | |
| 7 | Evidence that identified deficiencies in the Title III audit been corrected or satisfied. | | | | | | |
| 8 | On system project - District has entered project and parcel information into the Right-of-Way Information System (ROWIS). | | | | | | |
| 9 | District receives ROW certification from LG. | | | | | | |
| **6.3** | **Utility Accommodation for Transportation Projects** | | | | | | |
| 1 | A complete inventory, description and location of all utilities that were relocated and/or adjusted and permitted to remain within the right of way. | | | | | | |
| 2 | Copies of any and all use and occupancy agreements (Form ROW-U-JUAA or MNT 1082) for those utilities that were relocated and/or adjusted and permitted to remain within the right of way. | | | | | | |
| 3 | Evidence all exceptions to Utility Accommodation Rules have been approved and documented (Form ROW-U-CFA). | | | | | | |
| 4 | District receives Utility certification from LG. | | | | | | |
| **7** | **Plans, Specifications and Estimates (PS&E) Development** | | | | | | |
| **7.2** | **Design - Highways and Roads** | | | | | | |
| 1 | Drainage complies with TxDOT's Hydraulic Design Manual. | | | | | | |
| 2 | Coordination with FEMA performed, if necessary. | | | | | | |
| 3 | Longitudinal barriers, including bridge rail, in accordance with TxDOT manuals and standards. | | | | | | |
| 4 | Pavement design based upon traffic data from district reviewed and approved by TxDOT. | | | | | | |
| 5 | Existing and proposed ROW lines (including control of access lines) shown on plans. | | | | | | |
| 6 | Existing and proposed utility locations shown on plans. | | | | | | |
| 7 | Road closure/detour plans reviewed and approved by TxDOT. | | | | | | |
| 8 | Includes TxDOT Standard Specifications, Special Specifications and required Special Provisions as required in funding agreement or previously approved by TxDOT. | | | | | | |
| 9 | Special Provisions or alternate specifications, if allowed by state regulation, have TxDOT approval. | | | | | | |
| 10 | No propriety materials or processes specified, unless approved by TxDOT. | | | | | | |
| 11 | LG has constructability review performed. | | | | | | |

## Local Government Project Development & Delivery Checklist

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|---|---|---|---|---|---|---|---|
| **7.3** | **Design - Traffic** | | | | | | |
| 1 | LG provided submission to TxDOT for approval that project meets warrants for illumination. | | | | | | |
| 2 | LG received approval from TxDOT for ITS implementation and elements. | | | | | | |
| 3 | Traffic design complies with TMUTCD. | | | | | | |
| 4 | Traffic design complies with ITS prohibition regulations of 2 CFR 200.216 and 2 CFR 200.471. | | | | | | |
| 5 | LG obtained RR agreement and included RR provisions in the plans. | | | | | | |
| 6 | LG received approval from TxDOT using Form 1204 for construction speed limits. | | | | | | |
| 7 | Traffic control plans (maintenance of traffic) reviewed and approved by TxDOT. | | | | | | |
| 8 | Construction sequencing reviewed and approved by TxDOT. | | | | | | |
| 9 | District obtains plan and estimate approval from TRF on Safe Routes to Schools projects. | | | | | | |
| 10 | LG conducted traffic study and determined project meets signal warrants, and received TxDOT approval of a traffic signal authorization request. | | | | | | |
| 11 | LG submits plans to TDLR or RAS PS&E for review of pedestrian elements, if greater than $50,000. | | | | | | |
| 12 | LG adopts TxDOT's program or submits an alternate for TxDOT approval. | | | | | | |
| 13 | Include bid items for traffic control features and operations and, if used, law enforcement in the bid documents. | | | | | | |
| **7.4** | **Design - Bridges and Structures** | | | | | | |
| 1 | Bridge designs reviewed by TxDOT (complies with TxDOT Bridge Design Manual). | | | | | | |
| 2 | Bridges over waterway approved by USCOE or other agencies. | | | | | | |
| 3 | Design of Other Structures complies with TxDOT standards. | | | | | | |
| 4 | Geotechnical Investigation report reviewed and approved by TxDOT. | | | | | | |
| **7.5** | **Design - Building Facilities** | | | | | | |
| 1 | Plans comply with approved architectural and engineering standards. | | | | | | |
| 2 | District received and reviewed progress reviews of project documents. | | | | | | |
| **7.6** | **Bid Document Preparation** | | | | | | |
| 7.6.2 | **Submittal of Final PS&E Documents (20 weeks prior to letting)** | | | | | | |
| 1 | Environmental documents completed and project cleared. | | | | | | |
| 2 | Railroad agreements completed and certification provided to TxDOT. | | | | | | |
| 3 | Final project cost estimate submitted. | | | | | | |
| 4 | No funding overruns or adjusted additional funding provided. | | | | | | |
| 5 | Necessary plans and documents submitted to FHWA, if required. | | | | | | |
| 7.6.3 | **Bonding** | | | | | | |
| 1 | Bid document indicates performance bonds are required if the contract is in excess of $100,000. | | | | | | |
| 2 | Bid document indicates payment bonds are required if the contract is in excess of $25,000 ($50,000 for municipalities). | | | | | | |
| 7.6.4 | **Buy America** | | | | | | |
| 1 | If there are federal funds, LG includes contract provisions in bid document addressing Buy America. | | | | | | |
| 2 | Assurance that, if there are federal funds, LG prepared any request(s) for waivers and submitted the request(s) through TxDOT to FHWA for approval prior to advertisement for receipt of bids. | | | | | | |
| 7.6.6 | **Child Support Documentation** | | | | | | |
| 1 | LG includes verbatim certification of Child Support Statement and form for Business Ownership (list of names and Social Security numbers of all individuals owning 25% or more of company) required by Family Code §231.006 in all bid documents. | | | | | | |
| 7.6.7 | **Claims** | | | | | | |
| 1 | LG includes language outlining conditions for when a claim may be filed. | | | | | | |
| 7.6.8 | **Contract Time** | | | | | | |
| 1 | TxDOT reviews and concurs in LG time determination. | | | | | | |
| 2 | Time charge method is clearly defined. | | | | | | |
| 7.6.9 | **Debarment Certification** | | | | | | |
| 1 | LG includes debarment certification in all bid documents for projects with federal funds. | | | | | | |

## Local Government Project Development & Delivery Checklist

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|---|---|---|---|---|---|---|---|
| 7.6.10 | **Designated Material Sources/Disposal Sites** | | | | | | |
| 1 | If LG wants to furnish material to a contractor, designate a source of material for the contractor or require the contractor to use designated disposal sites, LG makes a formal finding that it is in the public's interest to do so. | | | | | | |
| 2 | Public interest determination must have TxDOT concurrence. For federal oversight projects, FHWA approval required. | | | | | | |
| 7.6.11 | **Differing Site Conditions** | | | | | | |
| 1 | LG includes the contract language in 23 CFR 635.109(a) verbatim in the bid document. | | | | | | |
| 7.6.12 | **Disadvantaged Business Enterprises (DBEs), Historically Underutilized Businesses (HUBs), and Small Business Enterprises (SBEs)** | | | | | | |
| 1 | TxDOT-CIV established project goal included in bid document. | | | | | | |
| 2 | DBE provisions included in bid document. | | | | | | |
| 7.6.13 | **Title VI and Nondiscrimination Program** | | | | | | |
| 1 | LG adopts TxDOT's EEO program or submits and receives approval from FHWA of alternate program. | | | | | | |
| 2 | Federal EEO requirements language included in bid document. | | | | | | |
| 7.6.14 | **Equipment Rental Rates** | | | | | | |
| 1 | LG adopts TxDOT specifications for equipment rental rates or develop procedures based on 48 CFR 31. If LG developed its own rental rates, TxDOT reviews and approves the rates for compliance with the policy before including the rates in a contract | | | | | | |
| 7.6.15 | **Form FHWA 1273** | | | | | | |
| 1 | LG includes Form FHWA-1273 verbatim into all contracts and ensures prime contractor incorporates the provisions into all subcontracts and purchase orders. | | | | | | |
| 7.6.16 | **Liquidated Damages and Incentive/Disincentive** | | | | | | |
| 1 | LG develops liquidated damage rates to recover the cost of construction engineering and other allowable costs. Must be approved by TxDOT. | | | | | | |
| 2 | LG submits any other desired provisions, such as incentive/disincentive, to TxDOT for approval. | | | | | | |
| 7.6.17 | **Lobbying Certification** | | | | | | |
| 1 | LG includes certification in all bid documents for projects with federal funds. | | | | | | |
| 7.6.18 | **Local Hiring Preference** | | | | | | |
| 1 | For projects with federal funds, do not include any state or local hiring preferences in bid documents or request for proposals. | | | | | | |
| 7.6.19 | **Non-Resident Bidder and Texas Preference** | | | | | | |
| 1 | For projects with federal funds, do not include any state or local preferences for resident bidders in bid documents or request for proposals. | | | | | | |
| 2 | For projects with state funds, LG provisions comply with Texas reciprocity statutes. | | | | | | |
| 7.6.20 | **Material State or Local Preference** | | | | | | |
| 1 | For projects with federal funds, do not include any state or local preferences in its contracts. | | | | | | |
| 2 | For projects with state funds, LG contract provisions comply with Texas Government Code Chapter 2155 and receive TxDOT approval of local material preference. | | | | | | |
| 7.6.21 | **Materials** | | | | | | |
| 1 | LG adopts TxDOT Standard Specifications or submits alternate, comparable specifications to TxDOT for approval. | | | | | | |
| 2 | Include language in bid documents regarding compliance with ITS prohibitions of 2 CFR 200.216 and 2 CFR 200.471 (manufactured by various corporations). | | | | | | |
| 7.6.22 | **Method of Construction (or Method of Bidding)** | | | | | | |
| 1 | LG submits its competitive bidding process to TxDOT for approval or submits written cost-effective justification of emergency condition if procurement other than competitive bidding is desired. | | | | | | |
| 7.6.23 | **Non-Collusion Statement** | | | | | | |
| 1 | Includes non-collusion statement in bid package or in the request for proposal. | | | | | | |
| 7.6.24 | **Non-Discrimination Against Persons with Disabilities** | | | | | | |
| 1 | All new and existing transportation facilities must be designed and constructed to comply with the provisions of all cited | | | | | | |
| 7.6.25 | **Non-Responsive Bid** | | | | | | |

## Local Government Project Development & Delivery Checklist

Project CSJ#: _____ Project Info: _____

Local Government: _____ TxDOT District: _____

| Item | Description | Not Applicable | Plans or Project Manual Page No. | Task Completion Verified By LG (insert name below): | LG Date Verified | Task Completion Verified By TxDOT (insert name below): | TxDOT Date Verified |
|---|---|---|---|---|---|---|---|
| 1 | On design-bid-build, LG adopts Article 2.7L of TxDOT Standard Specification (Non-Responsive Proposals) or submits alternate for TxDOT approval. | | | | | | |

## Local Government Project Development & Delivery Checklist

Project CSJ#: _____ Project Info: _____

Local Government: _____ TxDOT District: _____

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|---|---|---|---|---|---|---|---|
| 7.6.26 | **Non-Segregated Facilities** | | | | | | |
| 1 | Advises potential bidders that submission of a bid constitutes the certification of compliance with FHWA Form 1273. | | | | | | |
| 2 | Contractor must get certification from all subcontractors and materials suppliers of greater than $10,000. | | | | | | |
| 7.6.27 | **Patented/Proprietary Products** | | | | | | |
| 1 | LG does not specify patented or proprietary products in its contracts without prior written approval from TxDOT. | | | | | | |
| 7.6.28 | **Prequalification** | | | | | | |
| 1 | For projects on the State Highway System, require bidders to be prequalified by TxDOT. | | | | | | |
| 2 | LG submits any additional, desired pre-qualifying/qualifying/licensing procedures to TxDOT for approval. | | | | | | |
| 3 | Does not include a requirement for a contractor to obtain a license as a condition of submitting a bid. | | | | | | |
| 4 | Bid document may require the successful bidder to obtain a license if applied to all bidders if they are successful. | | | | | | |
| 7.6.29 | **Prevailing Minimum Wage** | | | | | | |
| 1 | Includes FHWA-1273 provisions, including Davis-Bacon wage rates, in contract, request for proposals or concessionaire agreement. Current wages may be obtained at www.access.gpo.gov/davisbacon/ or include appropriate wage rates in bid document in accordance with state statute if no federal funds are used. | | | | | | |
| 7.6.30 | **Prison Produced Materials** | | | | | | |
| 1 | Prohibits the use of convict-produced materials in bid document. | | | | | | |
| 7.6.31 | **Publicly-Owned Equipment** | | | | | | |
| 1 | Does not include contract provisions requiring use of LG equipment unless approved in writing by TxDOT. | | | | | | |
| 7.6.32 | **Railroad Insurance Provision** | | | | | | |
| 1 | Verify LG coordinated with railroad, if necessary. | | | | | | |
| 2 | Includes provision for contractor's railroad liability insurance and other railroad provisions in bid documents, request for proposals or concessionaire agreement. | | | | | | |
| 7.6.33 | **Retainage** | | | | | | |
| 1 | If retainage is not kept, adopts TxDOT spec Article 9L (Progress Payments) including FHWA-approved special provision and includes in bid documents, request for proposals or concessionaire agreement. | | | | | | |
| 2 | Verify that if retainage is kept, incremental final acceptance of subcontracted work will be made. | | | | | | |
| 3 | Verify retainage percentage is a maximum of 10% for contracts valued between $400,000 and $4,999,999, or a maximum of 5% for contracts valued at $5M or greater. | | | | | | |
| 7.6.34 | **Safety: Accident Prevention (OSHA)** | | | | | | |
| 1 | Includes provisions in contract to implement OSHA. | | | | | | |
| 7.6.35 | **Subcontracting** | | | | | | |
| 1 | LG adopts TxDOT Standard Specification Article 8L (Subcontracting) or submits alternate for TxDOT approval. | | | | | | |
| 2 | Includes Contractor's Assurance in bid documents. | | | | | | |
| 7.6.36 | **Termination or Default of Contract** | | | | | | |
| 1 | LG either adopts Article 8.6 of TxDOT Standard Specs (Abandonment of Work or Default of Contract) or develops comparable contract language for default of contract and includes in bid documents, request for proposals or concessionaire agreement. | | | | | | |
| 7.6.38 | **Title VI and Nondiscrimination Program** | | | | | | |
| 1 | LG adopts TxDOT's EEO program or submits and receives approval from FHWA of alternate program. | | | | | | |
| 2 | Federal EEO requirements language included in bid document. | | | | | | |
| 7.6.39 | **Trench Safety** | | | | | | |
| 1 | Includes the required provisions in the bid documents. | | | | | | |
| 7.6.40 | **Warranties and Warranty Clauses** | | | | | | |
| 1 | LG provides TxDOT with procedures to be used and includes only TxDOT-approved procedures in bid document. | | | | | | |
| **8** | **Letting and Award** | | | | | | |
| **8.2** | **Letting** | | | | | | |
| 8.2.2 | **Letter of Authority** | | | | | | |
| 1 | All items from Checklist section 7.6.2 'Submittal of Final PS&E' have been provided and approved. | | | | | | |

## Local Government Project Development & Delivery Checklist

Project CSJ#: _____ Project Info: _____

Local Government: _____ TxDOT District: _____

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|---|---|---|---|---|---|---|---|
| 2 | Federal Project Authorization Agreement (FPAA) request created by FIN-LM. | | | | | | |
| 3 | Signed FPAA received. Confirm FPAA matches AFA on funding amount and percentages. | | | | | | |
| 4 | FHWA approves Letter of Authority on federal-oversight projects. | | | | | | |
| 5 | District issues State Letter of Authority. | | | | | | |
| 6 | Signed Plans Title Sheet and copies of LOA and FPAA sent by District to LG giving authorization to advertise. | | | | | | |
| 8.2.3 | **Advertising** | | | | | | |
| 1 | TxDOT (or FHWA, if it has oversight) authorization prior to advertisement. | | | | | | |
| 2 | Documentation supporting minimum 3 weeks (21 days) in advance of bid opening. | | | | | | |
| 3 | Documentation that advertisement informed potential bidders of place and time bids are to be opened and read. | | | | | | |
| 4 | Documentation supporting newspaper advertisements started after LOA and at least 3 weeks prior to bid opening and ran consecutive weeks. | | | | | | |
| 8.2.4 | **Distribution of Bid Documents** | | | | | | |
| 1 | Verify approved bid documents were available at least 3 weeks prior to bid opening. | | | | | | |
| 2 | LG ensures plans and specifications are not furnished to federal suspended or debarred bidders or TxDOT debarred bidders. | | | | | | |
| 8.2.5 | **Addenda** | | | | | | |
| 1 | TxDOT (or FHWA, if it has oversight) approval of all addenda prior to release to bidders. | | | | | | |
| 2 | Assurance all addenda made available to all bidders. | | | | | | |
| 3 | Bidders must acknowledge receipt of all addenda in their bids. | | | | | | |
| 8.2.6 | **Bid Opening and Tabulation** | | | | | | |
| 1 | Verify all bids were sealed and filed with the LG and opened in a public meeting; bidders were not prohibited from attending the public meeting; and all bids were opened and publicly read in the presence of the meeting attendees at time and location listed in advertisement. | | | | | | |
| 2 | Verify all unit prices are provided and mathematical extensions are correct in bid tabulations. | | | | | | |
| 3 | Verify bidder provided documentation of railroad insurance, if applicable. | | | | | | |
| 4 | Receive lobbying certification form from bidder. | | | | | | |
| 5 | Verify Child Support Statement certification and Business Ownership form (list of names and Social Security numbers of all individuals owning 25% or more of company) are included in bid. If not, bid is non-responsive. | | | | | | |
| 8.2.7 | **Bid Analysis** | | | | | | |
| 1 | LG checks to verify contractor is not debarred as part of the bid tabulation process. | | | | | | |
| 2 | LG ensures all bidders submit a non-collusion statement. If bidder fails to submit statement, its bid may not be opened, read and considered for contract award. Retain statement for all bidders. | | | | | | |
| 3 | Check submitted bids or proposal for compliance with reasons that make a proposal non-responsive. Do not consider non-responsive bids for award. | | | | | | |
| 4 | LG verifies all addenda have been acknowledged. | | | | | | |
| 5 | If bid list is changed by addenda, LG verifies that correct bid list is submitted. | | | | | | |
| 6 | If bid list is changed by addenda, LG verifies the engineer's final estimate is correct for comparison. | | | | | | |
| 7 | LG verifies all required forms are submitted and all required pages are signed. | | | | | | |
| 8 | Prepare a written analysis and evaluation of bids. | | | | | | |
| 9 | Determination of lowest responsible/responsive bidder. | | | | | | |
| **8.3** | **Contract Award** | | | | | | |
| 8.3.2 | **Concurrence in Award** | | | | | | |
| 1 | Request for TxDOT Concurrence Letter submitted to TxDOT for processing. | | | | | | |
| 2 | Submit the following information to the district for concurrence: | | | | | | |
| | a. Letter of recommendation from the LG and engineer. | | | | | | |
| | b. Bid analysis and tabulation with all bids and engineer's estimate. | | | | | | |
| | c. Documentation of minimum 21-day advertising period. | | | | | | |
| | d. Verification the contractor is not currently debarred from receiving federal- or state-funded contracts. | | | | | | |

## Local Government Project Development & Delivery Checklist

Project CSJ#: _____ Project Info: _____

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|---|---|---|---|---|---|---|---|
| | e. Documentation of contractor's DBE Plan; LG must review DBEs for debarment and certification status and submit to District for review and approval. | | | | | | |
| | f. Other information required to support LG's recommendation. | | | | | | |
| 3 | The district seeks concurrence from TxDOT Construction Division. CST will need the following: | | | | | | |
| | a. District recommendation memo. | | | | | | |
| | b. LG submissions a. and b. provided by LG from Checklist Item 8.3.2.2 above. | | | | | | |
| | c. TxDOT's State Letter of Authority. | | | | | | |
| | d. FPAA for each CSJ, if multiple, and if federally funded. | | | | | | |
| | e. The completed PS&E phase and Letting and Award phase sections of this Checklist. | | | | | | |
| | f. The LG's certification statements for ROW, Utilities, and Railroad. | | | | | | |
| 4 | CST makes a recommendation to the Deputy Executive Director; provides approval memo to District. | | | | | | |
| 5 | LG obtains official concurrence document from District prior to execution of contract. | | | | | | |
| **9** | **Construction** | | | | | | |
| **9.2** | **Contract Administration** | | | | | | |
| 9.2.2 | **Contract Execution** | | | | | | |
| 1 | District receives and reviews final contract documents prior to LG issuing NTP. | | | | | | |
| | a. Verify contractor performance bonds meet minimum requirements. | | | | | | |
| | b. Verify contractor payment bonds meet minimum requirements. | | | | | | |
| | c. Verify contractor submitted required insurance, if required. | | | | | | |
| | d. Verify railroad agreement executed prior to contract execution, if required. | | | | | | |
| | e. Written certification from contractor that workers' compensation insurance coverage is provided to each contractor and subcontractor employee working on the project. | | | | | | |
| 9.2.3 | **Project Coordination Meeting** | | | | | | |
| 1 | Documentation of Project Coordination Meeting - minutes and sign-in sheet. | | | | | | |
| 9.2.4 | **Pre-Construction Meeting** | | | | | | |
| 1 | Documentation of Pre-Construction Meeting - minutes and sign-in sheet. | | | | | | |
| 9.2.5 | **Notice to Proceed (NTP)** | | | | | | |
| 1 | NTP issued by LG is on file in district project records. | | | | | | |
| 9.2.6 | **Environmental Concerns** | | | | | | |
| 1 | Construction Site Notice and Construction General Permit obtained, if required. | | | | | | |
| 2 | SW3P Inspections conducted and control devices monitored. | | | | | | |
| 9.2.7 | **Inspection** | | | | | | |
| 1 | Certification of compliance sealed by an engineer licensed in Texas specifying materials quality and construction standards | | | | | | |
| 9.2.8 | **Supervision and Staffing** | | | | | | |
| 1 | RPIC maintained; TxDOT notified of staffing changes. | | | | | | |
| 2 | Project is appropriately staffed. | | | | | | |
| 9.2.9 | **Specification Compliance** | | | | | | |
| 1 | TxDOT approval of changes to specifications. | | | | | | |
| 9.2.10 | **Quality Assurance Plan** | | | | | | |
| 1 | LG adopts TxDOT Quality Assurance program or submits alternate program through TxDOT for FHWA approval. | | | | | | |
| 2 | Certification of compliance sealed by a licensed engineer that all materials incorporated are in conformity with approved plans and specifications. | | | | | | |
| 9.2.11 | **Records** | | | | | | |
| 1 | LG fields staff keep a daily project diary of work performed and project activities. | | | | | | |
| 2 | LG must document verification of field measurements and installed work items. | | | | | | |
| 3 | LG must provide as-built plans to TxDOT for on-system projects. | | | | | | |
| 9.2.12 | **Subcontracting** | | | | | | |

## Local Government Project Development & Delivery Checklist

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|---|---|---|---|---|---|---|---|
| 1 | LG must approve requests for subcontractors in writing, and provide TxDOT subcontractor approval log. | | | | | | |
| 2 | LG must ensure subcontractors are not debarred. | | | | | | |
| 3 | LG must monitor the 30% (or 25% if state funded) prime contractor self-performance requirement. | | | | | | |
| 4 | LG must obtain and review all subcontract agreements for required provisions, including the physical incorporation of form FHWA 1273. | | | | | | |

## Local Government Project Development & Delivery Checklist

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|---|---|---|---|---|---|---|---|
| 9.2.14 | **Progress Payments** | | | | | | |
| 1 | Appropriate invoicing frequency (monthly) from LG during construction. | | | | | | |
| 2 | Appropriate support documentation provided with reimbursement requests. | | | | | | |
| 3 | Contractor paid by LG within 30 days. | | | | | | |
| 4 | LG received Prompt Payment certification monthly from the Contractor. | | | | | | |
| 9.2.15 | **Retainage** | | | | | | |
| 1 | If retainage is not kept, adopts TxDOT spec Article 9L (9.6L Progress Payments) including FHWA-approved special provision and includes in bid documents, request for proposals or concessionaire agreement. | | | | | | |
| 2 | Verify that if retainage is kept, incremental final acceptance of subcontracted work is made. | | | | | | |
| 9.2.16 | **Contract Time** | | | | | | |
| 1 | LG must ensure all days are charged and/or credited in accordance with the time charge method in the contract documents. | | | | | | |
| 2 | LG must provide a monthly Contract Time Statement. | | | | | | |
| 3 | LG must obtain a Scheduler designation from the Contractor, and receive regular progress schedule updates (monthly). | | | | | | |
| 9.2.17 | **Time Extensions** | | | | | | |
| 1 | LG must obtain TxDOT approval for all time extensions requested from the contractor prior to approval. Time extensions must be supported by a contractor developed TIA. | | | | | | |
| 9.2.18 | **Termination or Default of Contract** | | | | | | |
| 1 | LG shall consult with and receive the concurrence of TxDOT prior to termination of a contract. | | | | | | |
| 9.2.19 | **Claims** | | | | | | |
| 1 | LG must keep TxDOT involved and receive approval of claims if it anticipates requesting participation of settlement costs. | | | | | | |
| **9.3** | **Application of Contract Elements During Construction** | | | | | | |
| 9.3.2 | **Change Orders** | | | | | | |
| 1 | TxDOT reviews and concurs in all changes to the contract. | | | | | | |
| 2 | The LG assures the total contract price does not vary by more than +/- 25% without contractor consent. | | | | | | |
| 9.3.22 | **Convict (Inmate) Labor** | | | | | | |
| 1 | LG must ensure no convict labor is utilized on the project. | | | | | | |
| 9.3.4 | **Differing Site Conditions** | | | | | | |
| 1 | Differing site conditions must be handled in accordance with provisions included in the contract documents. | | | | | | |
| 9.3.5 | **Disadvantaged Business Enterprises (DBEs), Historically Underutilized Businesses (HUBs), and Small Business** | | | | | | |
| 1 | LG obtains contractor's DBE liaison officer information. | | | | | | |
| 2 | LG must ensure DBEs are certified under the TUCP; maintain a screenshot of search results in project records. | | | | | | |
| 3 | LG must receive and monitor monthly DBE reporting provided by Contractor; forward monthly reporting to TxDOT. | | | | | | |
| 4 | LG must conduct CUF reviews on all DBE subcontractors. | | | | | | |
| 9.3.6 | **Equal Employment Opportunity (EEO)** | | | | | | |
| 1 | LG obtains contractor's designated EEO Officer information. | | | | | | |
| 2 | In accordance with 23 CFR Part 230 and Form FHWA-1273, LG ensures all federal-aid construction contractors and subcontractors with contracts of $10,000 or greater do not discriminate and will take affirmative action to assure equal employment opportunity for all persons attendant to the contract. To assure nondiscrimination, LG must have done the following: | | | | | | |
| | a. All contractors and subcontractors accepted the following as their operating EEO policy verbatim: "It is the policy of the Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color or national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training." | | | | | | |
| | b. All contractors and subcontractors designated and identified an EEO officer. | | | | | | |
| | c. All contractor and subcontractor personnel authorized to hire, supervise, promote and discharge employees must be fully | | | | | | |

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| | d. All contractors and subcontractors, when recruiting for employees, included in all advertisements for employees the notation: "An Equal-Opportunity-Employer." Contractors and subcontractors also implemented additional recruitment efforts such as utilizing public and private employee-referral services and employee referrals. | | | | | | |
| 3 | LG ensures FHWA 1273 is physically incorporated into each subcontract agreement. | | | | | | |
| 4 | LG conducts bulletin board inspection, documented on a checklist and pictures, to ensure all required job postings are | | | | | | |
| 5 | LG must obtain the contractor's Form 1391 in August for work performed in July. | | | | | | |
| 9.3.7 | **Equipment Rental Rates** | | | | | | |
| 1 | If there has been work completed by force account, the contractor provided costs for equipment using the Blue Book rental rate, or actual invoice rates. | | | | | | |
| 9.3.8 | **Temporary Traffic Control Devices** | | | | | | |
| 1 | LG must obtain Contractor Responsible Person (CRP) and alternate designations from contractor. | | | | | | |
| 2 | LG must conduct inspections of implemented traffic control devices and ensure compliance with required TCP. | | | | | | |
| 9.3.10 | **Liquidated Damages** | | | | | | |
| 1 | LG must monitor time charges and assess liquidated damages according to specifications for each progress payment once time has elapsed. | | | | | | |
| 9.3.11 | **Materials and Buy America** | | | | | | |
| 1 | LG must receive concurrence for any changes to materials specifications prior to their implementation. | | | | | | |
| 2 | The LG must obtain material source verification documents for all materials incorporated into the project and maintain them in the project records. | | | | | | |
| 3 | The LG must ensure ITS components are in compliance with 2 CFR 200.216 and 2 CFR 200.471. | | | | | | |
| 4 | The LG must obtain documentation certifying steel and iron products are domestic, such as certified mill test reports. | | | | | | |
| 9.3.12 | **Non-Discrimination Against Persons with Disabilities** | | | | | | |
| 1 | LG must obtain TDLR approval of completed construction and provide report to TxDOT. | | | | | | |
| 9.3.15 | **Prevailing Minimum Wage** | | | | | | |
| 1 | Includes FHWA-1273 provisions, including Davis-Bacon wage rates, in contract, request for proposals or concessionaire | | | | | | |
| 2 | LG obtains contractor's designated Payroll Officer information. | | | | | | |
| 3 | LG must obtain weekly certified payrolls from contractor and all subcontractors. | | | | | | |
| 4 | LG must conduct labor interviews (3 per quarter). | | | | | | |
| 9.3.19 | **Safety: Accident Prevention (OSHA) and Trench Safety** | | | | | | |
| 1 | LG obtains contractor's Safety Point of Contact information. | | | | | | |
| 2 | LG monitors project site for safety concerns of the workers and traveling public. | | | | | | |
| 9.3.23 | **False Statements** | | | | | | |
| 1 | LG must ensure false statement notice Form FHWA-1022 is posted at the jobsite. | | | | | | |
| 9.3.24 | **Salvage Credits** | | | | | | |
| 1 | LG provides assurance that disposal of surplus property has been conducted in conformance with TAC. | | | | | | |
| **10** | **Project Close-Out and Maintenance** | | | | | | |
| **10.2** | **Project Close-out** | | | | | | |
| 10.2.2 | **Project Review** | | | | | | |
| 1 | LG notifies TxDOT of project completion within 30 days. | | | | | | |
| 2 | TxDOT conducts final inspection of project site (before LG releases contractor) and provides completion letter to LG. | | | | | | |
| 3 | LG provides final request for reimbursement to TxDOT. | | | | | | |
| 4 | LG provides TxDOT access to project records for final review. | | | | | | |
| 5 | TxDOT conducts final records review and provides report to LG; this may include instructions to address comments. | | | | | | |
| 6 | LG responds to all review comments. | | | | | | |
| 7 | TxDOT approves final reimbursement request. | | | | | | |
| 10.2.3 | **Final Close-out** | | | | | | |
| 1 | TxDOT completes Statement of Cost (SOC) within 90 days of final reimbursement and provides to LG. | | | | | | |

## Local Government Project Development & Delivery Checklist

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|---|---|---|---|---|---|---|---|
| 2 | If SOC states additional funds are due from LG, payment must be made by due date in the request letter. | | | | | | |
| 10.2.4 | **Audit** | | | | | | |
| 1 | LG makes project records available for audit in accordance with AFA. | | | | | | |
| 10.2.5 | **Document Retention** | | | | | | |
| 1 | LG must retain project records for minimum of the period established in the AFA. | | | | | | |

## Local Government Project Development & Delivery Checklist

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|---|---|---|---|---|---|---|---|
| 10.2.6 | **Disposition of Excess Property** | | | | | | |
| 1 | LG must develop a plan for the disposition of property interests that are no longer needed according to the procedures in TxDOT's ROW Property Management Manual. | | | | | | |
| **10.3** | **Maintenance** | | | | | | |
| 10.3.3 | **Federally Funded Projects** | | | | | | |
| 1 | LG must assure that projects completed off the state highway system is maintained "satisfactorily" and as outlined in the AFA. | | | | | | |
| 10.3.4 | **Comprehensive Maintenance Management Agreement (CMMA)** | | | | | | |
| 1 | If LG will be taking on the maintenance of a highway facility, a CMMA must be executed. | | | | | | |
| 10.3.5 | **One-year Maintenance Plans and Inspections** | | | | | | |
| 1 | LG will complete a one-year plan and conduct regular inspections to determine the condition of the highway and establish maintenance needs. | | | | | | |
| 10.3.6 | **Materials Specifications** | | | | | | |
| 1 | Materials utilized in maintenance of the facilities on the state highway system must conform to the latest version of TxDOT's Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, and must conform to TxDOT's required special specifications and special provisions. | | | | | | |

# ATTACHMENT "A"
# 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 |
|---|---|
| Project Management | Mission Office |
| PS&E Development | Mission Office |
| ROW Mapping | Mission Office |
| Environmental Clearance | Mercedes Office |
| Permitted Utilities | Mission Office |
| Geotechnical & Pavement | Mission Office |

The work effort will be managed out of the Mission (City)
office located at 900 S. Stewart Rd (Address),
Mission (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 LPA.

## 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 | LPA | |
|---|---|---|
| ___ | ___ | 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 | LPA | |
|---|---|---|
| ___ | ___ | 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 LPA 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 | LPA | **Summaries** **(ALL BELOW YES FOR ENGINEER AND NO FOR LPA 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 |

ATTACHMENT "B"

# PROJECT FEE SCHEDULE AND ESTIMATED MAN-HOUR BREAKDOWN

## Los Ebanos Road Project
## (from: I-H 2 to Military Highway)

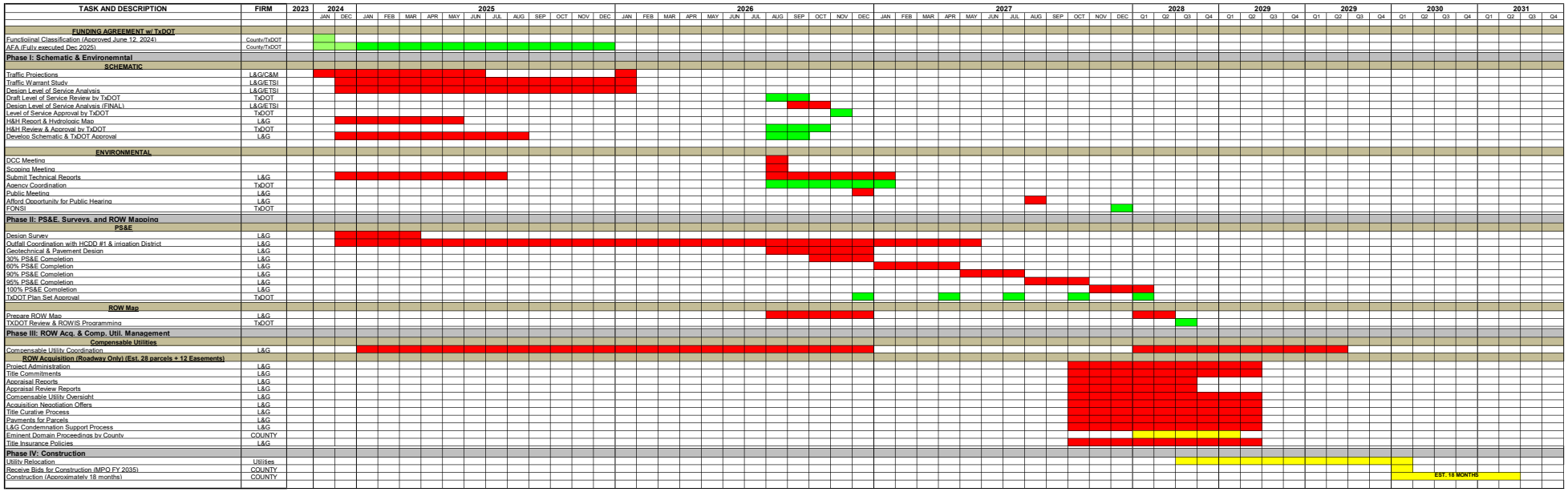
| | | MANHOURS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Senior Project Manager | Senior Engineer | Senior Environmental Scientist /Specialist | Project Engineer | Senior Engineer Tech | Environmental Scientist /Specialist | CADD Operator / GISAnalyst | Admin / Clerical | TOTAL HOURS | Sub-Contract Amounts / ROW COST | L&G TOTAL LINE ITEM COST | *ROUNDED TOTAL LINE ITEM COST |
| **CONTRACT RATE** | | 292.99 | 229.45 | 208.27 | 197.68 | 141.2 | 102.37 | 95.31 | 77.66 | | | | |
| ***WORK AUTHORIZATION NO. 2*** | | | | | | | | | | | | | |
| ***PHASE II - ROW Map, Additional Surveys, PS&E, Local Letting, EA Report, Geotechnical & Pavement Design & Permitted Utilities*** | | | | | | | | | | | | | |
| ***Function Code*** | ***Description of Work*** | | | | | | | | | | | | |
| 164 | Project Management | 62 | 195 | | 440 | 638 | | | 773 | 2108 | | $ 300,004.11 | $ 300,000.00 |
| 130 | Complete ROW Map (Estimated 26 Parcels & 13 Easements) | 7 | 11 | | 29 | 36 | | | 53 | 136 | $ 183,300.00 | $ 202,806.78 | $ 202,800.00 |
| 150 | Additional Survey for updated work required upon finalization of Schematic | 8 | 27 | | 58 | 85 | | | 103 | 281 | | $ 40,005.49 | $ 40,000.00 |
| 160 | PS&E Development Roadway & Bicycle Route | 290 | 922 | | 2,020 | 2,995 | | 1,880 | 1,500 | 9607 | | $ 1,414,400.40 | $ 1,414,400.00 |
| 160 | PS&E for Irrigation Bridge and Bypass plus coordination with Irrigation District | 79 | 242 | | 545 | 777 | | 483 | 423 | 2549 | | $ 375,006.02 | $ 375,000.00 |
| 320 | Local letting submittal and engineering work | 13 | 37 | | 92 | 126 | | | 151 | 419 | | $ 60,002.94 | $ 60,000.00 |
| 120 | Additional work associated with EA clearance | 12 | | 73 | | | 98 | | 87 | 270 | | $ 35,508.27 | $ 35,500.00 |
| 330 | Geotechnical and Pavement Design for approval by TxDOT | 10 | 26 | | 63 | 88 | | | 106 | 293 | | $ 42,007.00 | $ 42,000.00 |
| 162 | Permanent Singal Designs & Temporary Sginal Design during Construction | 6 | 13 | | 30 | 41 | | | 52 | 142 | $ 84,504.64 | $ 105,003.35 | $ 105,000.00 |
| 160 | Engineering Fee to Create 1 set of Plans and Submit through TxDOT | 29 | 83 | | 190 | 225 | | 169 | 245 | 941 | | $ 132,004.35 | $ 132,000.00 |
| 163 | Permitted Utiliites | 32 | 98 | | 222 | 321 | | | 388 | 1,061 | | $ 151,204.02 | $ 151,200.00 |
| | | | | | | | | | | | | | |
| ***SUB-TOTAL*** | | **548** | **1654** | **73** | **3689** | **5332** | **98** | **2532** | **3881** | **17807** | **$ 267,804.64** | **$ 2,857,952.73** | **$ 2,857,900.00** |

| | |
|---|---|
| Subtotal Manhour Fee with Sub-Consultant Costs: | $ 2,857,952.73 |
| *** Total Project Fee:** | **$ 2,857,900.00** |

*Rounded Figure

**ATTACHMENT "C"**

**PROJECT DEVELOPMENT SCHEDULE**
**CSJ: 0921-02-521**
**Los Ebanos Rd**
**From IH-2 South to Military Rd**
**Length = 2.0 miles**




Rev. 04-20-2026 By: Damien B. Tilerina. P.E.