

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

PROJECT DESCRIPTION

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

COUNTY/CITY: Hidalgo County

CONTROL: _____

PROJECT/DESCRIPTION: Surveying and PS&E

LENGTH: 2 Parking Lot Locations

HIGHWAY: N/A

LIMITS: At Sheriff's Dept. Jail & CDI Parking Lots

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
- New Location Non-Freeway
- Interchange (New or Reconstruct)
- Bridge Widening or Rehabilitation
- Bridge Replacement
- Upgrade to Standards - Freeway
- Upgrade to Standards - Non-Freeway
- Parking Lot Improvements

ENGINEER shall mean GDJ Engineering.

COUNTY shall mean Hidalgo County.

LPA shall mean Hidalgo County.

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FIELD SURVEYING AND PHOTOGRAMMETRY
(Function Code 150)

TOPOGRAPHY AND CONSTRUCTION SURVEYS:

The SURVEYOR will perform Topography and Construction Surveying for the project which will include:

1. Primary Project Control: 3 to 5 mile spacing (Precision shall be 1 part in 20,000 or better, unless otherwise directed by the ENGINEER).
 - a. Establish Horizontal Control Points
 - b. 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

2. Secondary Project Control (Surveyor shall recover and/or reset H&V Control Points as provided by the Engineer and create Survey Data Sheets for inclusion in the Project Plans).
 - a. 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.
 - b. The unadjusted angular error should not exceed 2 seconds per angle, plus 14 seconds.
 - c. 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.).
 - d. The unadjusted vertical error should not exceed 0.03 foot per mile of traverse.
3. Other Field Surveying
 - a. **The limit of the Design surveys shall be 1,500-ft before and after the limits of the project as identified by the Project Engineer on the schematic. Establish horizontal and vertical control.** Set benchmarks at 1000-ft intervals along the project proposed right-of-way. Provide x, y, z for each Benchmark. Provide a BM along each outfall identified on the Hydrologic Map. The BM's shall be #5 I.R. 2-ft in depth set in concrete. **The surveyor shall provide an H&V Book (a Sample shall be provided by the Engineer to the Surveyor).** The Surveyor will provide a 3-pt reference sketch with ties to the BMs for inclusion the existing H&V Control Book. Establish benchmark circuit throughout the project with a tolerance of 0.03'ft per mile error vertically.
 - b. The Surveyor shall provide complete topographic and cross section survey, data processing, and CADD mapping (2D & 3D) for the limits of the project.
 - c. The Surveyor shall locate all visible utilities, data processing and CADD mapping (2D & 3D) including irrigation lines. Follow sample provided by the Engineer.
 - d. The Surveyor shall field locate cross culverts, driveway culverts, inverts, irrigation lines, within the project limits, data processing and CADD mapping (2D & 3D).
 - e. Right of Entry, Right of Way Research, and Appraisal District Records is the responsibility of the Surveyor.
 - f. The Surveyor shall also paint the proposed centerline on the existing pavement as approved by the ENGINEER (at 500-ft stations and a tick mark at 100-ft stations, 12 inches long with approved paint by ENGINEER) before construction for the purpose of utility adjustments and project location.
 - g. 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.

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- h. 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 appurtenances as identified by the engineer sample layout.
 - i. 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.
 - j. Tie to existing underground and overhead utilities (location, elevation and direction)
 - i. 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.
 - ii. 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.
 - k. Additional Field Surveying as shown below:
 - i. Irrigation Lines - The surveyor will meet with the engineer before he ties down any irrigation lines. The Engineer will provide him the existing Irrigation District Maps and the A&M Data of existing irrigation lines that are identified of record. He will follow the sample given to him by the engineer and tie the structures horizontally and vertically and provide Field Books to the engineer.
 - ii. Outfalls - The surveyor will provide a complete 2D & 3D File including utilities of the outfall identified on the Hydrologic Map.
 - l. Driveways and Turnouts
 - i. Inventory commercial entrances, public roads and side streets separately.
 - ii. Obtain centerline station (Width at ROW, Pavement and existing radius).
 - iii. Inventory by type (dirt, caliche, gravel or paved). If paved, indicate condition in terms of no patches, has patches or has potholes.
 - iv. Obtain width at ROW line
 - v. Obtain elevations at both edges of the driveway or turnout in line with any side drain.
 - m. ROW Staking (Existing and proposed @ 1,000 ft stations, PC's, PT's and Angle points as per ROW Map)
 - n. Soil core hole staking
 - o. Determine changes in topography from voids and outdated maps due to development, erosion, etc.
 - p. Profile existing drainage facilities, if applicable
 - q. Measure hydraulic openings under existing bridges, if applicable
 - r. Obtain elevations of manholes and valves of utilities, if applicable
 - s. Provide temporary signs, traffic control, flags, safety equipment, etc.
 - t. Provide ties to existing bridges or culverts that may conflict with new construction
 - u. If there is a Bridge widening, provide top of deck and/or top of cap elevations at the Profile Grade Line (PGL) and the edges of slab at bent locations.
 - v. Inventory signs, mailboxes and driveways
 - w. Survey controlled data sheets as per STATE guidelines
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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/LPA'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.

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ROADWAY DESIGN CONTROLS
(Function Code 160)

ROADWAY DESIGN:

The ENGINEER will perform roadway design services for the needed construction repairs along the project limits. The services will include:

1. Geometric Design
 - a. Horizontal and Vertical Alignment
 - 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 LPA.
 - c. Handling of traffic during construction shall be a consideration in the development of preliminary designs.

2. Grading Design
 - a. Refine the horizontal alignment including the following items
 - i. Typical Sections
 - ii. Design Cross Sections
 - iii. Determine Cut and Fill Quantities
 - iv. Slope Stability Analysis, if applicable
 - v. Embankment Foundation Stability Analysis, if applicable
 - vi. Embankment Settlement Analysis, if applicable

DRAINAGE
(Function Code 161)

DRAINAGE DESIGN:

The ENGINEER will perform drainage design services for the needed construction repairs along the project limits. The services will include:

1. Hydrologic & Hydraulic Studies, Discharges
 - a. Drainage area maps showing existing conditions and proposed improvements.
 - b. Hydrologic data/discharge determination

 2. Hydraulic Drainage Study & Documentation
 - a. Hydraulic Computations, if applicable
 - i. Channels
 - ii. Storm sewers/inlets

 3. Layout, Structural Design and Detailing of Drainage Features
 - a. Storm Sewers
 - i. New storm sewers
 - ii. Modify existing storm sewers
 - iii. Inlets
 - iv. Trunk lines
 - b. Summary of Quantities

 4. Storm Water Pollution Prevention Plan (SW3P)
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SIGNING, MARKINGS AND SIGNALIZATION
(Function Code 162)

PAVEMENT MARKINGS:

The ENGINEER will provide pavement marking layouts for the needed construction repairs along the project limits. The services will include:

1. Signing and Markings Layout
 - a. Roadway layout
 - b. Center line with station numbering
 - c. ROW lines
 - d. Culverts and other structures that present a hazard to traffic
 - e. Location of utilities, if not shown on plan and profile
 - f. Existing signs to remain, to be removed, to be relocated
 - g. Proposed signs (illustrated and numbered)
 - h. Existing overhead sign bridges to remain, to be revised, removed or relocated
 - i. Proposed overhead sign bridges indicating location by plan layout (electrical details need not be shown on this layout)
 - j. Proposed markings (illustrated and quantified) which include pavement markings, object markings and delineation
 - k. Quantities of existing pavement markings to be removed
 - l. Proposed delineators and object markers
2. Summary of Small Sign Tabulation
3. Summary of Large Sign Tabulation including all Guide Signs (if applicable)
4. Sign Detail Sheets
 - a. All signs except for route markers
 - b. Design details for large guide signs
 - c. Dimensions of letters, shields, borders, corner radii, etc.
 - d. Designation of shields attached to guide signs
 - e. Designation of arrow used on exit direction signs

MISCELLANEOUS ROADWAY
(Function Code 163)

TRAFFIC CONTROL PLAN, DETOURS AND SEQUENCE OF CONSTRUCTION:

The ENGINEER will provide a Traffic Control Plan (TCP) for the needed construction repairs along the project limits. TCP's are required for all projects; therefore 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 TCP Layouts:

1. The Sequence of Construction and method of handling traffic during each phase
 2. Roadway layout
 3. Center line with station numbering
 4. 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
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signs, guide signs, route markers, construction pavement markings, channelizing devices, portable changeable message signs, flashing arrow boards, barricades, barriers, etc...

5. The proposed traffic control devices (stop signs, signals, flag person, etc.) at grade intersections during each construction sequence.
6. Where detours are provided, typical cross sections shall be shown.
7. Road construction work hours shall be developed after an investigation of the traffic volumes has been performed.

ILLUMINATION DESIGN:

The ENGINEER will provide design of any needed illumination within the project limits, including plan layouts, quantities and needed specifications.

COMPUTE AND TABULATE QUANTITIES:

The ENGINEER will provide a summary of quantities sheet in the plans identifying all estimated project quantities.

PROJECT ESTIMATE:

The ENGINEER will provide a project estimate summarizing all estimated construction costs.

SPECIFICATIONS AND GENERAL NOTES:

The ENGINEER will provide all relevant project specification and general notes to the project construction activities.

PROJECT MANAGEMENT

(Function Code 164)

MEETINGS, COORDINATION & SUPPORT FOR PROJECT MANAGEMENT:

The ENGINEER shall meet and coordinate with all relevant entities (i.e. County, Regional Mobility Authority, Texas Department of Transportation, Rio Grande Valley Metropolitan Planning Organization, etc...) and all other affected parties. The Engineer shall serve as representative for the Owner in coordination items. The Engineer shall coordinate with the Owner's staff on all Project related items.

ADDITIONAL RESONSIBILITIES

EASEMENTS, LETTERS OF PERMISSION, ETC.:

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

MEETINGS:

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

SPECIFICATIONS, SPECIAL PROVISIONS, SPECIAL SPECIFICATIONS:

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

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PROJECT MANAGER/ENGINEER COMMUNICATION:

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

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

DESIGN RESPONSIBILITIES:

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

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

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

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 all services to be provided under this agreement out of their office located at: 2805 Fountain Plaza Blvd., Suite A, Edinburg, Texas 78539

**"Exhibit D"
Fee Estimate**



Hidalgo County Sheriff's Department Parking Lot Project

TASK	MANHOURS							Total Line Item Cost
	Principal	Project Manager	Project/Design Engineer	EIT	Engineering Tech	Admin/Clerical	Total Hours	
Hidalgo Co. Sheriff's Jail Parking Lot								
1	2	16	26	34	42	2	122	\$ 3,000.00
2								\$ 13,302.00
3								\$ 10,000.00
4	2	4	8	8		2	24	\$ 2,984.00
Subtotal (Sheriff's Jail Parking Lot)								
	4	20	34	42	42	4	146	\$ 29,286.00
Hidalgo Co. Sheriff's CDI Parking Lot								
5								\$ 5,000.00
6	2	14	20	24	30	2	92	\$ 10,220.00
7	2	4	8	8			22	\$ 2,874.00
Subtotal (Sheriff's CDI Parking Lot)								
	4	18	28	32	30	2	114	\$ 18,094.00
Labor Hours	8	38	62	74	72	6	260	
Contract Rate	\$ 185.00	\$ 160.00	\$ 138.00	\$ 95.00	\$ 82.00	\$ 55.00		
Total Labor Costs	\$ 1,480.00	\$ 6,080.00	\$ 8,556.00	\$ 7,030.00	\$ 5,904.00	\$ 330.00	\$ 29,380.00	\$ 47,380.00

LINE ITEM EXPENSES

N/A

Total Expenses

GDJ Engineering Total Cost

\$

\$

\$