

## ENGINEERING SERVICES AGREEMENT

THIS AGREEMENT is made and entered into by and between the Fort Bend Grand Parkway Toll Road Authority, a transportation corporation organized and operating under the laws of the State of Texas, hereinafter called the "FBGPTRA" and Pierce Goodwin Alexander & Linville, Inc., hereinafter called "Engineer."

### WITNESSETH

WHEREAS, the FBGPTRA desires to enter into an agreement for the performance by Engineer of services during the Project, and which are within the "Scope of Services" as defined in paragraph 2 below; and

WHEREAS, the FBGPTRA proposes to construct turn lanes and other improvements along the Fort Bend Grand Parkway Toll Road from US 59 to north of the Fort Bend Westpark Tollway (FM 1093) in Fort Bend County, Texas, (the "Project");

NOW, THEREFORE, in consideration of the mutual covenants and conditions set forth below, the parties agree as follows:

### AGREEMENT

#### 1. General

The Engineer shall render professional services to FBGPTRA related to the Project as defined in the Scope of Services in Attachment A.

The standard of care for all professional engineering and related services performed or furnished by Engineer under this Agreement will be the care and skill ordinarily used by members of Engineer's profession practicing under similar conditions at the same time and in the same locality.

#### 2. Compensation and Payment

- a. The Maximum Compensation under this contract is \$240,373.47. The amount paid under this Agreement may not exceed the Maximum Compensation without an approved change order.

Compensation for the performance of services within the Scope of Services described in Attachment A will be paid as a lump sum amount not to exceed \$240,373.47, as shown in Attachment B. Progress payments for work detailed in Attachment A will be made when the Engineer has attained a level of completion equal to or greater than agreed upon milestones of completion in the reasonable opinion of FBGPTRA.

The Engineer shall furnish satisfactory documentation of such work (e.g. timesheets, billing rates, classifications, invoices, etc.) as may be required by FBGPTRA.

- b. All performance of the Scope of Services and any Additional Services including changes in the contractual scope of work and revision of work satisfactorily performed, will be performed only when approved in advance and authorized by the FBGPTRA, and Additional Services will be reimbursed based on the billing rates in effect at that time, to the extent that such labor costs, and subcontracts are reasonable and necessary for the performance of such services. Out-of-pocket expense costs may be reimbursed only when approved in advance and authorized by the FBGPTRA. Payment will be made on the basis of project completion certificate and, for Additional Services, time and expense records and in accordance with those payment procedures set forth in subparagraph d, below. Billing rates will be inclusive of all direct labor, fringe benefits, general overhead, and profit.
- c. Where subcontractors are employed by the Engineer to perform additional services not within the original Scope of Services, the Engineer will be reimbursed for subcontractors' actual salaries and hourly rates, including overtime rates. Reimbursement to the Subcontractor for non-salary costs incurred by subcontractor will be on the same basis as if the cost was incurred by the Engineer. For subcontractors employed for the convenience of the FBGPTRA, the Engineer will be paid a subcontract administrative fee equal to ten percent (10%) of all subcontractor invoiced amounts.
- d. It is understood and agreed that monthly payments will be made to the Engineer by the FBGPTRA based on the following procedures: On or about the fifteenth day of each month during the performance of services hereunder and on or about the fifteenth day of the month following completion of all services hereunder, the Engineer shall submit to the FBGPTRA two (2) copies of invoices showing the amounts due for services performed during the previous month, set forth separately for work under this Agreement and for additional services (accompanied by supporting certified time and expense records of such charges in a form acceptable to the FBGPTRA.) It is specifically understood that any requests for travel reimbursements shall comply with those procedures for travel reimbursement to Fort Bend County employees established by the Fort Bend County Auditor. The FBGPTRA shall review such invoices and approve them within 30 calendar days with such modifications as are consistent with this Agreement and forward same to the Auditor. The County shall pay each such invoice as approved by the FBGPTRA within thirty (30) calendar days after the FBGPTRA's approval of same.

3. Time of Performance

It is understood and agreed that the time for performance of the Engineer's services under this Agreement shall begin with receipt of the Notice to Proceed and end October 31, 2015.

4. The FBGPTRA's Option to Terminate

- a. The FBGPTRA has the right to terminate this Agreement at its sole option at any time, with or without cause, by providing 30 days written notice of such intentions to terminate and by stating in said notice the "Termination Date" which shall be less than 30 days later than the actual receipt of such written notice by the Engineer. Upon such termination, the FBGPTRA shall compensate the Engineer in accordance with paragraph 2, above, for those services which were provided under this Agreement prior to its termination and which have not been previously invoiced to the FBGPTRA. The Engineer's final invoice for said services will be presented to and paid by the FBGPTRA in the same manner set forth in paragraph 2(d), above.
- b. Termination of this Agreement and payment as described in subparagraph (a) of this paragraph shall extinguish all rights, duties, obligations, and liabilities of the FBGPTRA and the Engineer under this Agreement and this Agreement shall be of no further force and effect; provided, however, such termination shall not act to release the Engineer from liability for any previous default either under this Agreement or under any standard of conduct set by common law or statute. The obligations in paragraph 6, below, shall survive the termination of this Agreement.
- c. If the FBGPTRA terminates this Agreement as provided in this paragraph, no fees of any type, other than fees due and payable at the Termination Date, shall thereafter be paid to the Engineer.
- d. The FBGPTRA's rights and options to terminate this Agreement, as provided in any provision of this Agreement shall be in addition to, and not in lieu of, any and all rights, actions, options, and privileges otherwise available under law or equity to the FBGPTRA by virtue of this Agreement or otherwise. Failure of the FBGPTRA to exercise any of its said rights, actions, options, or privileges to terminate this Agreement as provided in any provision of this Agreement shall not be deemed a waiver of any rights, actions, options, or privileges otherwise available under the law or equity with respect to any continuing or subsequent breaches of this Agreement or of any other standard of conduct set by common law or statute.
- e. Copies of all completed and partially completed documents prepared under this Agreement shall be delivered to the FBGPTRA within 30 days or upon Engineer's receipt of termination payment, whichever is sooner, when and if this Agreement is terminated.

5. Inspection of the Engineer's Books and Records

The Engineer will permit the FBGPTRA, or any duly authorized agent of the FBGPTRA, to inspect and examine the books and records of the Engineer for the purpose of verifying the amount of work performed on the Project. FBGPTRA's right to inspect survives the termination of this Agreement for a period of four years.

6. Ownership and Reuse of Documents

All documents, including original drawings, estimates, specifications, field notes, and data created, produced, developed, or prepared by Engineer or its approved outside advisory or support consultants (collectively, the "Documents") shall be the property of the FBGPTRA subject to all of the following terms and conditions; provided, however, FBGPTRA shall not own and shall have no right to receive any documents not deemed "final" by the Engineer until termination of this Agreement. Engineer will deliver the Documents to FBGPTRA within 30 days of the termination of this agreement and may retain a set of reproducible record copies of the Documents, provided that the Engineer has received full compensation due pursuant to the terms of this Agreement. It is mutually agreed that FBGPTRA will use the Documents solely in connection with the Project and for no other purposes, except with the express written consent of the Engineer, which consent will not be unreasonably withheld. Any use of the Documents without the express written consent of the Engineer will be at District's sole risk and without liability or legal exposure to Engineer.

FBGPTRA shall also be the owner of all intellectual property rights of the services rendered hereunder, including all rights of copyright therein. It is the intention of Engineer and FBGPTRA that the services provided are a "work for hire" as the term is used in the federal Copyright Act. Moreover, Engineer hereby agrees to assign, and by these presents, does assign to FBGPTRA all of Engineer's worldwide right, title, and interest in and to such work product and all rights of copyright therein.

Engineer agrees that all trademarks, trade names, service marks, logos, or copyrighted materials of FBGPTRA that Engineer is permitted to use in connection with the services will not be used without FBGPTRA's consent and shall remain in the sole and exclusive properties of FBGPTRA and this Agreement does not confer upon Engineer any right or interest therein or in the use thereof.

7. Personnel, Equipment, and Material

- a. The Engineer represents that it presently has, or is able to obtain, adequate qualified personnel in its employment for the timely performance of the Scope of Services required under this Agreement and that the Engineer shall furnish and maintain, at its own expense, adequate and sufficient personnel and equipment, in the opinion of the FBGPTRA, to perform the Scope of Services when and as required and without delays. It is understood that the FBGPTRA will approve assignment and release of all key Engineer personnel and that the Engineer shall submit written notification of all key Engineer personnel changes for the FBGPTRA's approval prior to the implementation of such changes. For the purpose of this agreement, key Engineer personnel are defined as: Project Manager. Services described in this Agreement shall be performed under the direction of an engineer licensed to practice professional engineering in the State of Texas.
- b. All employees of the Engineer shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of the

Engineer who, in the opinion of the FBGPTRA, is incompetent or by his conduct becomes detrimental to the Project shall, upon request of the FBGPTRA, immediately be removed from association with the Project.

- c. Except as otherwise specified, the Engineer shall furnish all equipment, transportation, supplies, and materials required for its operation under this Agreement.

8. Items to be furnished to Engineer by the FBGPTRA

The following items will be supplied to the Engineer:

- a. Copies of preliminary studies by others.
- b. Assistance in coordination with all utility companies.
- c. Assistance in coordination with all public and governmental entities.

9. Subletting

The Engineer shall not sublet, assign, or transfer any part of its rights or obligations in this Agreement without the prior written approval of the FBGPTRA. Responsibility to the FBGPTRA for sublet work shall remain with the Engineer.

10. Conference

At the request of the FBGPTRA, the Engineer shall provide appropriate personnel for conferences at its offices, or attend conferences at the various offices of the FBGPTRA, or at the site of the Project, and shall permit inspections of its offices by the FBGPTRA, or others when requested by the FBGPTRA.

11. Appearance as Witness

If requested by the FBGPTRA, or on its behalf, the Engineer shall prepare such engineering exhibits and plans as may be requested for all hearings and trials related to the Project and, further, it shall prepare for and appear at conferences at the office of the FBGPTRA's Executive Director and shall furnish competent expert engineering witnesses to provide such oral testimony and to introduce such demonstrative evidence as may be needed throughout all trials and hearings with reference to any litigation relating to the Project. Trial preparation and appearance by the Engineer in courts regarding litigation matters are Additional Services and compensation will be made in accordance with the schedule contained in Exhibit B-1.

12. Compliance with Laws

The Engineer shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of this Agreement, including, without limitation, Worker's Compensation laws, minimum and maximum salary and wage

statutes and regulations, licensing laws and regulations. When required, the Engineer shall furnish the FBGPTRA with certification of compliance with said laws, statutes, ordinances, rules, regulations, orders, and decrees above specified.

13. Insurance

The Engineer shall obtain and maintain, throughout the term of the Agreement, insurance of the types and in the minimum amounts set forth in Attachment C.

14. Indemnification

With respect to claims brought by third parties against either Engineer or the FBGPTRA relating to the property or facilities with respect to which this Agreement pertains, Engineer and the FBGPTRA agree as follows:

- a. **ENGINEER WILL INDEMNIFY AND HOLD HARMLESS THE FBGPTRA, ITS DIRECTORS, OFFICERS, EMPLOYEES, AND AGENTS AGAINST ANY CLAIMS, DEMANDS, SUITS, OR CAUSES OF ACTION, AND ANY COSTS, LOSSES, LIABILITIES, DAMAGES, PENALTIES, EXPENSES, AND JUDGMENTS INCURRED IN CONNECTION THEREWITH, INCLUDING REASONABLE ATTORNEY'S FEES, EXPENSES, AND COURT COSTS, BROUGHT BY ANY OF ENGINEER'S EMPLOYEES OR REPRESENTATIVES, OR BY ANY OTHER THIRD PARTY, BASED UPON, IN CONNECTION WITH, RESULTING FROM, OR ARISING OUT OF THE NEGLIGENT ACTS, ERRORS, OR OMISSIONS OF ENGINEER OR ITS EMPLOYEES OR REPRESENTATIVES; PROVIDED HOWEVER, ENGINEER'S CONTRACTUAL OBLIGATION OF INDEMNIFICATION SHALL NOT EXTEND TO THE NEGLIGENCE OR OTHER FAULT OF THE FBGPTRA OR STRICT LIABILITY IMPOSED UPON THE FBGPTRA AS A MATTER OF LAW (INCLUDING STRICT LIABILITY IMPOSED UPON THE FBGPTRA AS A RESULT OF THE CONDITION OF THE PROPERTY OR FACILITIES WITH RESPECT TO WHICH THIS AGREEMENT PERTAINS).**
- b. In the event that both the FBGPTRA and Engineer are adjudicated negligent or otherwise at fault or strictly liable without fault with respect to damage or injuries sustained by the claimant, each shall be responsible for its own costs of litigation and pro rata share of damages as determined by the proceedings.

It is a condition precedent to the indemnitor's contractual obligation of indemnification under this Agreement that the party seeking indemnity shall provide written notice of a third party claim, demand, or cause of action within 30 days after such third party claim, demand, or cause of action is received by the party seeking indemnity. It is a further condition precedent to the indemnitor's contractual obligation of indemnification under this Agreement that the indemnitor shall thereafter have the right to participate in the investigation, defense, and resolution of such third party claim.

15. Dispute Resolution

Except as expressly provided in paragraph 4, above, if a dispute arises out of, or relates to, the breach thereof, and if the dispute cannot be settled through negotiation, then the FBGPTRA and the Engineer agree to submit the dispute to non-binding mediation. In the event the FBGPTRA or the Engineer desires to mediate any dispute, that party shall notify the other party in writing of the dispute desired to be mediated. If the parties are unable to resolve their differences within 10 days of the receipt of such notice, such dispute shall be submitted for mediation in accordance with the procedures and rules of the American Arbitration Association (or any successor organization) then in effect. The deadline for submitting the dispute to mediation can be changed if the parties mutually agree in writing to extend the time between receipt of notice and submission to mediation. The expenses of the mediator shall be shared 50 percent by the FBGPTRA and 50 percent by the Engineer. This requirement to seek mediation shall be a condition required before filing an action at law or in equity.

16. Delivery of Notices, Etc.

- a. All written notices, demands, and other papers or documents to be delivered to the FBGPTRA under this Agreement shall be delivered to the Fort Bend Grand Parkway Toll Road Authority, P.O. Box 2789, Sugar Land, Texas 77487-9740, Attention: Bill Jameson, or at such other place or places as it may from time to time designate by written notice delivered to the Engineer. For purposes of notice under this Agreement, a copy of any notice or communication hereunder shall also be forwarded to the following address: Fort Bend County Clerk, 301 Jackson Street, Richmond, Texas 77469, Attention: County Judge.
- b. All written notices, demands, and other papers or documents to be delivered to the Engineer under this Agreement shall be delivered to Pierce Goodwin Alexander & Linville, Inc., 3131 Briarpark, Suite 200, Houston, Texas, 77042, Attention: Costas Georghiou, or such other place or places as the Engineer may designate by written notice delivered to the FBGPTRA.

17. Reports of Accidents, Etc.

Within 24 hours after the occurrence of any accident or other event which results in, or might result in, injury to the person or property of any third person (other than an employee of the Engineer), whether or not it results from or involves any action or failure to act by the Engineer or any employee or agent of the Engineer, and which arises in any manner from the performance of this Agreement, the Engineer shall send a written report of such accident or other event to the FBGPTRA, setting forth a full and concise statement of the facts pertaining thereto. The Engineer shall also immediately send the FBGPTRA a copy of any summons, subpoena, notice, or other documents served upon the Engineer, its agents, employees, or representatives, or received by it or them, in connection with any matter before any court arising in any manner from the Engineer's performance of work under this Agreement.

18. The FBGPTRA's Acts

Anything to be done under this Agreement by the FBGPTRA may be done by such persons, corporations, or firms as the FBGPTRA may designate.

19. Limitations

Notwithstanding anything herein to the contrary, all covenants and obligations of the FBGPTRA under this Agreement shall be deemed to be valid covenants and obligations only to extent authorized by the Act creating the FBGPTRA and permitted by the laws and the Constitution of the State of Texas. This Agreement shall be governed by the laws of the State of Texas, and no officer, director, or employee of the FBGPTRA shall have any personal obligation hereunder.

20. Captions Not a Part Hereof

The captions of subtitle of the several paragraphs and divisions of this Agreement constitute no part of the content hereof, but are only labels to assist in locating and reading the provisions hereof.

21. Controlling Law, Venue

This Agreement shall be governed and construed in accordance with the laws of the State of Texas, excluding any choice of law rules that would direct the application of the laws of another jurisdiction. The parties hereto acknowledge that venue is proper solely in Fort Bend County, Texas, for all disputes relating to or arising hereunder and waive the right to sue or be sued elsewhere.

22. Successors and Assigns

The FBGPTRA and the Engineer bind themselves and their successors, executors, administrators, and assigns to the other party of this Agreement and to the successors, executors, administrators, and assigns of the other party, in respect to all covenants of this Agreement.

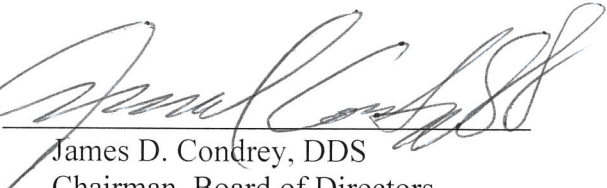
23. Appendices


The Appendices attached to this Agreement, which consists of:

Attachment A	Scope of Services
Attachment B	Compensation for Scope of Services
Attachment C	Insurance Requirements

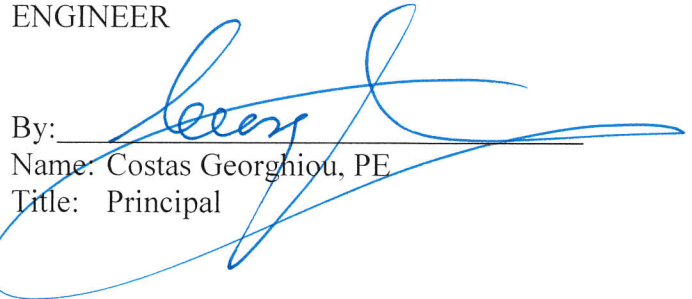
IN WITNESS WHEREOF, the parties hereto have signed or have caused their respective names to be signed to multiple counterparts to be effective on the 18<sup>th</sup> day of March, 2015.

FORT BEND GRAND PARKWAY TOLL ROAD  
AUTHORITY, a local government Texas  
corporation

By:   
James D. Condrey, DDS  
Chairman, Board of Directors

ATTEST:   
By \_\_\_\_\_  
Secretary, Board of Directors

Pierce Goodwin Alexander & Linville, Inc.  
ENGINEER

By:   
Name: Costas Georghiou, PE  
Title: Principal

ATTACHMENT A  
GRAND PARKWAY SEGMENT D  
MISCELLANEOUS IMPROVEMENTS

SCOPE OF SERVICES

US 59 Intersection

- Add third lane starting at exit ramp south of Riverpark Drive up to the US 59 intersection.
- Extend left turn lane storage at the intersection to the north to provide adequate storage length.
- Extend U-turn approach lane to the north to provide adequate storage length.
- Adjust signage and pavement markings to new configuration.
- Re-grade ditches in Grand Parkway median to restore drainage patterns.
- Adjust affected drainage structures.
- Re-grade median area to provide additional storage to mitigate for increase in impervious area.

Mason Road Interchange

- Add southbound left turn lane between frontage roads and on the southbound approach to the intersection.
- Adjust signal as necessary.
- Adjust signs and pavement markings to new configuration.
- Provide retaining wall or re-grade median and replace landscaping in approach side of the intersection.
- Package work on approach side separately to be contracted by Fort Bend County.

West Bellfort Interchange

- Add additional lane in both ramp approaches to create exclusive storage for existing U-turns.
- Re-grade existing drainage swales and adjust affected structures. Existing storm sewers will remain, if at all possible.
- Adjust signs and pavement markings to new configuration.

Westpark Interchange

- Add additional lane in southbound direction, south of the eastbound FM 1093 lanes, to provide a third thru southbound lane in the intersection.
- Add additional lane in the southbound approach to the FM 1093 intersection to provide storage for existing U-turn. Lane will be optional left turn lane.

- Construct a new lane between the FM 1093 eastbound and westbound lanes to accommodate left turn lane in southbound direction.
- Adjust signal as necessary to accommodate new configuration.
- Adjust drainage structures as necessary.
- Adjust signs and pavement markings to new configuration.

Miscellaneous Tasks

- In area between New Territory Boulevard and Sandhill Drive, demolish extraneous pavement.
- In area between Bullhead Ditch and West Airport, demolish extraneous pavement. Also develop installation detail for securing concrete barrier at culvert locations and any other locations along whole project. Add delineators as necessary.
- North of Bellaire Boulevard, demolish extraneous pavement.
- At necessary overpass locations, place concrete barrier to prevent access to the toll lanes from intersecting streets.
- Develop concept plan for adding pavers at a typical overpass. If approved, detailed plans for applicable intersections to be added later.
- At US 90A and FM 1093 depressed areas, add flood gauge markers at intersections.

Plans and specifications will be per TxDOT requirements, including 2014 specifications. Separate cost estimates and construction schedules will be prepared for work at each specific overpass location. Scope of work is based on the preparation of preliminary and final construction plans and specifications for the proposed improvements, the preparation of bid documents and the evaluation of bids. Construction phase services are not currently part of project scope.

SCHEDULE

NTP	April 1, 2015
Topographic Surveys	May 22, 2015
30% plan submittal	June 26, 2015
Review	July 3, 2015
90% submittal	July 31, 2015
Review	August 14, 2015
Final Plans	August 31, 2015



LANDTECH CONSULTANTS, INC.  
Civil Engineering • Land Surveying

March 10, 2015

Mr. Costas Georghiou, P.E.  
PGAL  
3131 Briarpark, Suite 200  
Houston, TX 77042

RE: Proposal to Provide Professional Surveying Services – Grand Parkway Segment D  
Topographic Surveying and Mapping

Dear Mr. Georghiou:

It is my pleasure to submit this proposal to provide professional surveying services for the above referenced project. Per your email dated 1/30/2015 and our subsequent discussions, the scope of work and fee are as follows:

Provide Topographic Surveying and Mapping of four sites as shown in the attached survey limits sketches and generally described as follows:

1. At WESTPARK TOLLWAY: Survey Southbound Frontage Road of Grand Parkway (ground level only) from 700 feet north of the approximate centerline of Westpark Tollway to 700 feet south of same (approximately 1,400 linear feet). The width of survey varies from 115 to 165 feet and will be from the west curb of the Southbound Frontage Road to the approximate centerline of Grand Parkway and include the U-Turn lanes located to the north and south of the interchange.
2. At SOUTH MASON ROAD: Survey Southbound lanes of S. Mason Road (ground level only) from 350 feet north of the north curb of the Grand Parkway Westbound Frontage Road to 50 feet south of the south curb of the Grand Parkway Eastbound Frontage Road (approximately 800 linear feet). The width of survey varies from 65 feet to 150 feet and will be from west curb of Mason Southbound lanes to the west curb of Mason Northbound lanes.
3. At US 59: Survey Southbound Frontage Road of Grand Parkway (ground level only) from 150 feet south of where main lane pavement ends to 75 feet south of the U-Turn just north of US 59 (approximately 3,675 linear feet). The width of survey varies from 180 to 225 feet and will be from west curb of Southbound Frontage Road to approximate centerline of Grand Parkway.

4. At West Belfort: Survey Southbound and Northbound Frontage Roads of Grand Parkway (ground level only) for 500 feet of the approaching frontage road leading up to West Belfort (500 feet for each frontage road). Width of survey is from outer curb of frontage road to retaining wall of main lanes (approximately 120 feet).

Survey all visible improvements, structures, pavement, utilities, etc., and cross sections at 100-ft intervals plus grade breaks. Survey will be mapped in 2D continuous plan view. 3D mapping and TIN file also included. Scope of work includes One Call, Utility Research and Mapping. A Survey Control Map for each site will also be provided.


The Lump Sum Fee for the above described services will be \$39,626.32.

We can complete this project eight weeks after receipt of notice to proceed, weather permitting.

Thank you for the opportunity to submit this proposal and we look forward to working with you.

Sincerely,

Landtech Consultants, Inc.



William J. Massey, R.P.L.S.  
Survey Manager

Attachments:

Westpark Tollroad Survey Limits\_3-10-15.jpg  
S Mason Road Survey Limits\_3-10-15.jpg  
US 59 Survey Limits\_3-10-15.jpg  
W Belfort Survey Limits\_3-10-15.jpg

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ATTACHMENT A

**SCOPE OF SERVICES  
FOR  
TRAFFIC SIGNAL DESIGN**

**At Various Interchanges  
Along Grand Parkway Toll Road (SH 99)  
From FM 1093 to US 59  
In Fort Bend County, Texas**

The Fort Bend Grand Parkway Toll Road Authority (FBGPTRA) is planning to improve the geometric configurations of various interchanges along the Grand Parkway Toll Road in order to increase their capacity as well as to enhance safety and reduce congestion.

The following list describes the type of improvement at each interchange:

1. FM 1093:
  - a. Install shared left/U-turn lane in the southbound direction and extend under the Westpark Toll Road overpass; reassign to U-turn or left movements
  - b. Extend the second inside southbound lane through the interchange to accommodate left turns; reassign to left or through movements (by PGAL)
  - c. Install additional signal heads to face the southbound traffic on the new added left and through lanes
2. West Bellfort:
  - a. Install U-turn lane in the southbound direction (by PGAL)
  - b. Revise lane assignments (by PGAL)
  - c. Install additional signal head to face the southbound left turn movements
  - d. Install pavement markings and signs as needed (by PGAL)
3. South Mason Road:
  - a. Install a left turn lane in the southbound direction of South Mason Road, from approximately 250' north of the intersection to under the overpass. (by PGAL)
  - b. Revise lane assignments (by PGAL)
  - c. Replace left turn signal head facing the newly installed southbound left turn lane; add proper left turn signal sign
  - d. Replace pedestrian signal pole with walk signals and push buttons
  - e. Replace curb ramps where they currently exist
  - f. Install pavement markings and signs as required (by PGAL)
4. US 59 Frontage Roads
  - a. Conduct approach counts in the southbound direction of the frontage roads to determine average queue lengths.
  - b. Extend left and through lanes in the southbound direction based on average queue lengths (by PGAL)
  - c. Install pavement markings and signs as required (by PGAL)

Ergonomic Transportation Solutions, Inc. (ETSI) will produce plans, specifications and cost estimates (ready bid documents) for the traffic signal improvements at the above referenced interchanges, in accordance with the Texas Manual on Uniform Traffic Control Devices and the FBGPTRA directives. It is understood that the FBGPTRA's intent is not to update the signal equipment to meet accessibility standards.

Ergonomic Transportation Solutions, Inc. (ETSI) will provide the following services:

### **Task I - Field Investigation and Data Collection**

- ETSI will conduct field investigations along the project to cover the following:
  - Record intersection geometries, speed limits and traffic controls,
  - Record visible utilities,
  - Identify safe sight distance restrictions if any,
  - Observe traffic patterns and signal operations and identify existing traffic problems.
  - Conduct approach counts in the southbound direction of the frontage roads at US 59 to determine average queue lengths.
- In addition, ETSI will obtain with assistance from Client the Record Drawings for each interchange to include the signal plans. Client will furnish topographic and base files for use to prepare ETSI's work.

### **Task II - Traffic Signal Design**

ETSI will prepare plans, specifications and estimates for the installation/modification of traffic signals at the above listed interchanges.

Design drawings will be prepared in accordance with TxDOT standards and specifications, at an appropriate scale on 11x17 sheets to cover the following:

- **General Notes:** One or more plan sheets will be used to provide general notes for the signal construction.
- **Condition Diagram:** This will show the existing traffic control and geometric features of the intersections.
- **Plan Layout:** This will show the proposed signal improvements. It may include accessible pedestrian signals, pushbuttons and curb ramps. Some of the features that will be included in the plan are:
  - Signal pole locations
  - Mast arm lengths
  - Signal indications and locations
  - Signal pole foundation details
  - Vehicle detection zones (Video Detection)
  - Conduit runs and Pull box locations
- **Electrical Schedule:** This will show conduit runs and cables in each conduit. It will also show in table format the detection and phasing connections.
- **Intersection Curb Ramps and Pavement Markings:** In order to properly locate the proposed signal equipment, ETSI will also assist in the design of curb ramps as well as cross walks and stop bars at each interchange, as needed.

- **Standard and Special Details:** ETSI will incorporate into the plan set TxDOT's applicable standard drawings. ETSI will also prepare special details for the signal equipment at the intersections to show detail and clarity as needed.
- **Quantities Estimate:** ETSI will calculate all materials to be furnished and installed by the contractor and tabulate them by pay item number.
- **Cost Estimate:** ETSI will prepare a construction cost estimate based on average bid prices typical on TxDOT projects.
- **Coordination Meetings:** ETSI will participate in coordination meetings to address any issues that may arise.
- **Submittals:** ETSI will provide submittals for review at the 60%, 90% and 100% levels of completion.

Client shall furnish the following:

- Design files covering the interchanges.
- As built construction plans for the existing signals.
- Other available data required for the project.

ATTACHMENT B  
FEE PROPOSAL

TURN LANES AND MISCELLANEOUS DESIGN  
FORT BEND GRAND PARKWAY TOLL ROAD  
SEGMENT D

Firm Name	Tasks	Fee
PGAL	Roadway, Drainage	\$ 155,350.30
Landtech Consultants	Surveying	\$ 39,626.32
Ergonomic Transportation Solutions	Signals and traffic counts	\$ 45,396.85
	TOTAL	\$ 240,373.47

# ATTACHMENT B

## GRAND PARKWAY SEGMENT D MISCELLANEOUS SERVICES FEE PROPOSAL

LEAD PROVIDER NAME: PGAL

PURCHASE ORDER:

PROJECT NAME: GRAND PARKWAY SEGMENT D MISCELLANEOUS SERVICES

TASK DESCRIPTION	PRINCIPAL	PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER (EIT)	CADD OPERATOR	CLERICAL	TOTAL LABOR HRS. & COSTS	NO OF DWGS PER SHEET	NO OF LABOR HRS PER SHEET
ROUTE & DESIGN STUDIES (FC 110)										
DATA COLLECTION		1	4	0				5	N/A	N/A
SITE VISITS		2	4	0				6	N/A	N/A
PRELIMINARY COST ESTIMATE		2	4	0				12	N/A	N/A
REVIEW AVAILABLE GEOTECHNICAL DATA		2	2	2				6	N/A	N/A
HOURS SUB-TOTALS	10	7	14	2	6	0	0	29		
CONTRACT RATE PER HOUR (use the loaded rate in the contract which includes base hourly rate, overhead and profit)	\$240.00	\$185.00	\$185.00	\$135.00	\$84.00	\$84.00	\$65.00	\$4,439.00		
TOTAL LABOR COSTS	\$0.00	\$1,295.00	\$2,310.00	\$270.00	\$504.00	\$0.00	\$0.00	\$4,439.00		
% DISTRIBUTION OF STAFFING	0.0%	29.1%	48.3%	6.9%	20.7%	0.0%	0.0%			
<b>SUBTOTAL (FC 110)</b>								<b>\$4,439.00</b>		

TASK DESCRIPTION	PRINCIPAL	PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER (EIT)	CADD OPERATOR	CLERICAL	TOTAL LABOR HRS. & COSTS	NO OF DWGS PER SHEET	NO OF LABOR HRS PER SHEET
1. WESTPARK INTERSECTION										
ROADWAY DESIGN CONTROLS (FC 160)										
PRELIMINARY DESIGN										
PREPARE PRELIMINARY LAYOUT WESTHEIMER PARKWAY INTERSECTION	1	1	4	8	0	2		16	N/A	N/A
PREPARE PRELIMINARY LAYOUT MASON ROAD INTERSECTION	0	2	4			2		8	N/A	N/A
PREPARE PRELIMINARY LAYOUT WEST BELLFORT INTERSECTION	0	1	4			2		7	N/A	N/A
PREPARE PRELIMINARY LAYOUT GRAND PARKWAY APPROACH TO US 59	1	2	4	4	0	4		15	N/A	N/A
ROADWAY DESIGN:										
TITLE SHEET								4		4
INDEX OF SHEETS	0	1				3		4		4
PROPOSED TYPICAL SECTIONS				2	8			19		4
HORIZONTAL ALIGNMENT DATA SHEET		4		24				28		4
MISCELLANEOUS ROADWAY DETAILS (2 SHEETS)	4	24	0	60	6			148		4
ROADWAY STANDARDS		2	4	0	4	0		10		2
GEOPAK EARTHWORK CROSS SECTIONS	1	4	2	32	0	6		6		6
REMOVAL LAYOUTS	1	2	0	8	0	12		23		3
HOURS SUB-TOTALS	8	45	22	144	22	102	0	345		35
CONTRACT RATE PER HOUR (use the loaded rate in the contract which includes base hourly rate, overhead and profit)	\$240.00	\$185.00	\$185.00	\$135.00	\$84.00	\$84.00	\$65.00	\$49,951.00		
TOTAL LABOR COSTS	\$0.00	\$8,325.00	\$3,650.00	\$19,440.00	\$2,068.00	\$0.00	\$0.00	\$49,951.00		
% DISTRIBUTION OF STAFFING	2.33%	13.27%	6.41%	41.98%	5.41%	29.73%	0.00%			
<b>SUBTOTAL (FC 160)</b>								<b>\$49,951.00</b>		

**GRAND PARKWAY SEGMENT D  
MISCELLANEOUS SERVICES FEE PROPOSAL**

LEAD PROVIDER NAME: PGAL  
PURCHASE ORDER:

PROJECT NAME: GRAND PARKWAY SEGMENT D MISCELLANEOUS SERVICES

TASK DESCRIPTION	PRINCIPAL	PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER (EIT)	CADD OPERATOR	CLERICAL	TOTAL LABOR HRS. & COSTS	NO OF DWGS	LABOR HRS PER SHEET
DRAINAGE (FC161)										
OVERALL DRAINAGE AREA MAP	6			12	6			24	4	6
DRAINAGE AREA MAP (1"=100')	0	6	12	0	0	12		30	4	8
INLET AREA & RUNOFF CALCULATIONS (TABLE)	0	6	28	0	20	12		66	4	17
HYDRAULIC DATA COMPUTATIONS (WINSTORM OUTPUT)	0	3	12	0	12			27	N/A	N/A
STORM DRAIN DESIGN										
STORM SEWER DITCH PLAN AND PROFILES (1"=100')	3	6	14		20	12		56	5	11
STORM SEWER LATERALS	3	3	6	0	6	6		24	3	8
MISC. DRAINAGE DETAILS	3	3	0	0	6	0		9	1	9
DRAINAGE STANDARD DETAILS	1	1	2		2	1		6	4	2
ENVIRONMENTAL / STORM WATER POLLUTION PREVENTION PLAN (SW3P):										
EPIC SHEETS (2 SHEETS)	2	0	0	4		4		10	2	5
SW3P NARRATIVE	1	0	0	3		6		10	1	10
SW3P SHEET	0	0	6	0	12	6		24	5	5
SW3P STANDARDS	1	1		1		2		3	4	1
HOURS SUB-TOTALS	3	37	80	20	84	61	0	295	33	
CONTRACT RATE PER HOUR (use the loaded rate in the contract which includes base hourly rate, overhead and profit)	\$240.00	\$185.00	\$165.00	\$135.00	\$94.00	\$84.00	\$65.00			
TOTAL LABOR COSTS	\$720.00	\$6845.00	\$13,200.00	\$27,000.00	\$7,896.00	\$5,124.00	\$0.00	\$36,485.00		
% DISTRIBUTION OF STAFFING	1.95%	12.98%	28.07%	10.28%	29.47%	21.40%	0.00%			
SUBTOTAL (FC 161)								\$36,485.00		

TASK DESCRIPTION	PRINCIPAL	PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER (EIT)	CADD OPERATOR	CLERICAL	TOTAL LABOR HRS. & COSTS	NO OF DWGS	LABOR HRS PER SHEET
SIGNING, PAVEMENT MARKING, & SIGNAL (FC162)										
SIGNING AND PAVEMENT MARKING SHEET	2	6	32	0	32	16		88	9	10
SIGNING AND PAVEMENT MARKING DETAILS/STANDARDS		1		2	2	0		5	8	1
HOURS SUB-TOTALS	2	7	32	2	34	16	0	93	17	
CONTRACT RATE PER HOUR (use the loaded rate in the contract which includes base hourly rate, overhead and profit)	\$240.00	\$185.00	\$165.00	\$135.00	\$94.00	\$84.00	\$65.00			
TOTAL LABOR COSTS	\$480.00	\$1,295.00	\$5,280.00	\$270.00	\$3,196.00	\$1,344.00	\$0.00	\$11,865.00		
% DISTRIBUTION OF STAFFING	2.15%	11.53%	34.41%	2.15%	36.56%	7.20%	0.00%			
SUBTOTAL (FC 162)								\$11,865.00		

**GRAND PARKWAY SEGMENT D  
MISCELLANEOUS SERVICES FEE PROPOSAL**

LEAD PROVIDER NAME: PGAL  
PURCHASE ORDER:

PROJECT NAME: GRAND PARKWAY SEGMENT D MISCELLANEOUS SERVICES

TASK DESCRIPTION	PRINCIPAL	PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER (EIT)	CADD OPERATOR	CLERICAL	TOTAL LABOR HRS. & COSTS	NO OF DWGS	LABOR HRS PER SHEET
MISCELLANEOUS (ROADWAY) (FC 163)										
TRAFFIC CONTROL PLAN, DETOURS & SEQUENCE OF CONSTRUCTION:										
TCP GENERAL NOTES	1			4		2		7	1	7
OVERALL PHASING LAYOUT \ NARRATIVE	2	6		40	8	8		16	2	8
TCP PLAN (1"=100')	1		0	3	24	24		96	8	12
TCP DETAILS, TYPICAL SECTIONS	1		0	3	1	6		11	3	4
TCP STANDARDS	1		1	2	2	2		5	10	5
UTILITIES										
UTILITY CONFLICT LIST	1			2	2			5	N/A	N/A
COORDINATE UTILITY CONFLICTS	0	8		10				18	N/A	N/A
PLANS PREP, QUANTITIES, SPECIFICATIONS & ESTIMATE:										
TABULATE TCP QUANTITIES	1			1	3	2		6	1	6
TABULATE REMOVAL QUANTITIES	1			1	3	2		6	1	6
TABULATE ROADWAY QUANTITIES	1			1	3	2		6	1	6
TABULATE DRAINAGE QUANTITIES	1			1	3	2		6	1	6
TABULATE SW3P QUANTITIES	1			1	3	2		6	1	6
TABULATE PVMT MRKG QUANTITIES	1			1	3	2		6	1	6
PREPARE SIGN SUMMARY TABLES	0			1	3	2		6	1	6
QUANTITY CALCULATIONS (30% 90%)	1	16		0	32	0		50	N/A	N/A
CONSTRUCTION COST EST. (30%, 90%)	1	6		0	12	0		25	N/A	N/A
GENERAL NOTES	0	8		4	10	1		13	N/A	N/A
SPECIFICATIONS AND PROVISIONS	1	8		3	10	1		20	N/A	N/A
QA/QC PREPARATION \ COMMENT RESPONSES	8	12		0	0	8		28	N/A	N/A
BID PHASE										
PREPARE BID FORMS / ITEMS	2			2	8			16	N/A	N/A
PRE-BID MEETING	2			2				4	N/A	N/A
ISSUE ADDENDA	1	2		2	12			16	N/A	N/A
BID TABULATION / EVALUATION	1	2		2	12			16	N/A	N/A
	14	54	83	71	110	57	22	367	36	
CONTRACT RATE PER HOUR (use the loaded rate in the contract which includes base hourly rate, overhead and profit)	\$240.00	\$185.00	\$165.00	\$135.00	\$94.00	\$84.00	\$65.00			
TOTAL LABOR COSTS	\$3,360.00	\$9,990.00	\$5,445.00	\$9,585.00	\$10,940.00	\$4,788.00	\$1,430.00	\$44,938.00		
% DISTRIBUTION OF STAFFING	3.88%	18.95%	9.14%	19.97%	30.47%	15.79%	6.09%			
SUBTOTAL (FC 163)								\$44,938.00		

**GRAND PARKWAY SEGMENT D  
MISCELLANEOUS SERVICES FEE PROPOSAL**

LEAD PROVIDER NAME: PGAL

PURCHASE ORDER:

PROJECT NAME: GRAND PARKWAY SEGMENT D MISCELLANEOUS SERVICES

TASK DESCRIPTION	PRINCIPAL	PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER (EIT)	CADD OPERATOR	CLERICAL	TOTAL LABOR HRS. & COSTS	NO OF DWGS PER SHEET	NO OF LABOR HRS PER SHEET
MANAGING CONTRACTED SERVICES (FC 164)		8		8				16	N/A	N/A
PROJECT MEETINGS WITH FBTRA		4		4				8	N/A	N/A
COORDINATION WITH OTHER AGENCIES										
HOURS SUB-TOTALS	0	12	0	12	0	0	0	24		
CONTRACT RATE PER HOUR (use the loaded rate in the contract which includes base hourly rate, overhead and profit)	\$240.00	\$185.00	\$165.00	\$135.00	\$94.00	\$84.00	\$65.00			
TOTAL LABOR COSTS	\$0.00	\$2,220.00	\$0.00	\$1,620.00	\$0.00	\$0.00	\$0.00	\$3,840.00		
% DISTRIBUTION OF STAFFING	0.00%	50.00%	0.00%	40.00%	0.00%	0.00%	0.00%			
SUBTOTAL (FC 164)								\$3,840.00		

DESCRIPTION	# OF UNITS	COST/UNIT	TOTAL MH BY FC	TOTAL COSTS BY FC
ROUTE AND DESIGN STUDIES (FC110)			29	\$4,439.00
ROADWAY DESIGN CONTROLS (FC 160)			243	\$43,951.00
DRAINAGE (FC 181)			245	\$36,485.00
SIGNING, PAVT. MARK., & SIGNALS (FC182)			93	\$11,865.00
MISCELLANEOUS (ROADWAY) (FC 183)			951	\$44,938.00
MANAGING CONTRACTED SERVICES (FC 164)			24	\$3,840.00
SUBTOTAL LABOR EXPENSES			1,355	\$145,518.00
OTHER DIRECT EXPENSES				
Mileage (# of miles) (current state rate)	400	\$0.550		\$220.00
Overnight Mail - letter size (\$25.00/Each)	0	\$25.00		\$0.00
Overnight Mail - oversized box (\$50.00/Each)	0	\$50.00		\$0.00
Courier Services (Deliveries) (\$25.00/Each)	6	\$25.00		\$150.00
Photocopies BW (8.5 X 11) (\$.10/Each)	0	\$0.10		\$0.00
Photocopies BW (11 X 17) (\$.20/Each)	0	\$0.20		\$0.00
Photocopies Color (8.5 X 11) (\$1.00/Each)	0	\$1.00		\$0.00
Photocopies Color (11 X 17) (\$1.50/Each)	0	\$1.50		\$0.00
Plots (MT/LAR)	120	\$8.00		\$960.00
SUBTOTAL DIRECT EXPENSES				\$1,330.00

SUMMARY	LABOR COSTS (LUMP SUM) FOR PGAL	NON-SALARY (OTHER DIRECT EXPENSES) (LUMP SUM) FOR PGAL	TOTAL PROJECT (LUMP SUM) FOR PGAL
	\$145,518	\$1,330	\$146,848



# ATTACHMENT B

LANDTECH CONSULTANTS, INC.  
Topographic Surveying and Mapping Services  
Cost Proposal for PGAL  
3/10/2015

TASK	Principal	Sr PM	RPLS	Tech	CADD	Clerical	2-Man crew	3-man crew	4-man crew	Total Hours	Total Cost
	\$225.20	\$199.44	\$131.67	\$92.46	\$95.10	\$56.64	\$123.03	\$161.73	\$196.84		
At WESTPARK TOLLWAY: Survey SB Frontage Rd of Grand Parkway (ground level only) from 700 ft N of Cl. Westpark Tollway to west curb to approx. 1,400 linear feet). Width of survey is from lanes north and south of the interchange (approx. 115 to 165 ft). Survey all visible improvements, structures, pavement, utilities, etc., and cross sections at 100-ft intervals plus grade breaks. Survey will be mapped in 2D continuous plan view. 3D mapping and TIN file also included. Includes One Call, Utility Research and Mapping. Includes Survey Control Map.	0	1	6	16	36	0	0	30	0	89	\$10,744.32
At SOUTH MASON ROAD: Survey SB lanes of S. Mason Road (ground level only) from 360 ft N of N curb Grand Parkway WB Frontage Road to 50 ft S of S curb Grand Parkway EB Frontage Road (approx. 800 linear feet). Width of survey is from west curb Mason SB lanes to west curb of Mason NB lanes (varies from 65 ft to 150 ft in width). Survey all visible improvements, structures, pavement, utilities, etc., and cross sections at 100-ft intervals plus grade breaks. Survey will be mapped in 2D continuous plan view. 3D mapping and TIN file also included. Includes One Call, Utility Research and Mapping. Includes Survey Control Map.	0	1	5	12	24	0	0	16	0	58	\$6,837.39
At US 59: Survey SB Frontage Rd of Grand Parkway (ground level only) from 150 ft S of where main lane pavement ends to 75 ft S of U-Turn just north of US 59 (approx. 3,675 linear feet). Width of survey is from west curb SB Frontage Road to approx. Cl. Grand Parkway (varies in width from 180 to 225 ft). Survey all visible improvements, structures, pavement, utilities, etc., and cross sections at 100-ft intervals plus grade breaks. Survey will be mapped in 2D continuous plan view. 3D mapping and TIN file also included. Includes One Call, Utility Research and Mapping. Includes Survey Control Map.	0	1	9	20	48	0	0	40	0	118	\$14,267.67
At West Belfort: Survey SB and NB Frontage Roads of Grand Parkway (ground level only) for 500 feet of the approaching frontage road leading up to West Belfort (500 feet for each frontage road). Width of survey is from outer curb of frontage road to retaining wall of main lanes (approx. 120 feet). Survey all visible improvements, structures, pavement, utilities, etc., and cross sections at 100-ft intervals plus grade breaks. Survey will be mapped in 2D continuous plan view. 3D mapping and TIN file also included. Includes One Call, Utility Research and Mapping. Includes Survey Control Map.	0	1	4	8	20	0	0	18	0	51	\$6,278.94
Subtotal Hours	0	4	24	56	128	0	0	104	0	316	
Subtotal Fee	\$0.00	\$797.76	\$3,160.08	\$5,177.76	\$12,172.80	\$0.00	\$0.00	\$16,619.92	\$0.00		\$38,128.32
Total Labor:											\$38,128.32

REIMBURSABLE EXPENSES:	
Mileage	1040 miles x \$0.575 = \$599.00
ATV	0 days x \$165.00 = \$0.00
Boat	0 unit/days x \$125.00 = \$0.00
GPS Unit	4 unit/days x \$225.00 = \$900.00

Total Reimbursable Expenses: **\$1,498.00**  
**TOTAL LUMP SUM FEE: \$39,626.32**

## Attachment C

The Engineer shall furnish certificates of insurance to the FBGPTRA evidencing compliance with the insurance requirements hereof. Certificates shall indicate name of the Engineer, name of insurance company, policy number, term of coverage and limits of coverage. The Engineer shall cause its insurance companies to provide the FBGPTRA with at least 30 days prior written notice of any cancellation or non-renewal of the insurance coverage required under this Agreement. The Engineer shall obtain such insurance from such companies having a Bests rating of B+/VII or better, licensed or approved to transact business in the State of Texas, and shall obtain such insurance of the following types and minimum limits:

- a. Workers' Compensation insurance in accordance with the laws of the State of Texas, or state of hire/location of Services, and Employers' Liability coverage with a limit of not less than \$1,000,000 each employee for Occupational Disease, \$1,000,000 policy limit for Occupational Disease; and Employer's Liability of \$1,000,000 each accident.
- b. Commercial General Liability insurance including coverage for Products/Completed Operations, Blanket Contractual, Broad Form Property Damage, Personal Injury/Advertising Liability, and Bodily Injury and Property Damage with limits of not less than:
  - \$2,000,000 general aggregate limit
  - \$1,000,000 each occurrence, combined single limit
  - \$2,000,000 aggregate Products, combined single limit
  - \$1,000,000 aggregate Personal Injury/Advertising Liability
  - \$50,000 Fire Legal Liability
  - \$5,000 Premises Medical
- c. Business Automobile Liability coverage applying to owned, non-owned and hired automobiles with limits not less than \$1,000,000 each occurrence combined single limit for Bodily Injury and Property Damage combined.
- d. Umbrella Excess Liability insurance written as excess of Employer's Liability, with limits not less than \$2,000,000 each occurrence combined single limit.
- e. Professional Liability insurance with limits not less than \$2,000,000 each claim/annual aggregate.

The FBGPTRA and the FBGPTRA's Directors shall be named as additional insureds to all coverages required above, except for those requirements in paragraphs "a" and "e." All policies written on behalf of the Engineer shall contain a waiver of subrogation in favor of the FBGPTRA and the FBGPTRA's Directors, with the exception of insurance required under paragraph "e."