ENGINEERING SERVICES AGREEMENT

THIS AGREEMENT is made and entered into by and between the Fort Bend County Toll Road Authority, a Local Government Corporation (the "Authority") organized and operating under the laws of the State of Texas, hereinafter called the "FBCTRA" and Binkley & Barfield, Inc., hereinafter called "Engineer."

W I T N E S S E T H

WHEREAS, the FBCTRA proposes to contract for engineering services generally described as the preparation of schematic and related documents. Theses services include, but not limited to, roadway and bridge design, hydrologic and hydraulic design, and survey services necessary to support the design process along the Westpark Tollway Extension, from Charger Way to Simonton (Project Number 101-1060.1), in Fort Bend County, Texas, (the "Project");

WHEREAS, the FBCTRA desires to enter into an agreement with Engineer for the performance of services during the Projects, that are within the scope of services in Attachment A ("Scope of Services");

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 FBCTRA 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 Agreement is $1,000,000.00. The amount paid under this Agreement may not exceed the Maximum Compensation without an approved supplemental agreement.

Compensation for the performance of services within the Scope of Services described in Attachment A shall be in accordance with the billing rates shown in Attachment B, with total compensation not to exceed $1,000,000.00. Payments for work detailed in Attachment A will be made for such work performed.

The Engineer shall furnish satisfactory documentation of such work (e.g.,

timesheets, billing rates, classifications, invoices, etc.) as may be required by FBCTRA.

b. All performance of the Scope of Services and any services outside the Scope of Services ("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 FBCTRA, 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 FBCTRA. Payment will be made (i) on the basis of project progress to be billed monthly, and, for Additional Services, (ii) on the basis of time and expense records, and, in accordance with those payment procedures set forth in subsection 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 pre-approved and pre-authorized Additional Services, the Engineer will be reimbursed for subcontractors' actual salaries and hourly 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 FBCTRA, 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 FBCTRA based on the following procedures: On or before the first Monday of each month during the performance of services hereunder and on or before the first Monday of the month following completion of all services hereunder, the Engineer shall submit to the FBCTRA one (1) copy of invoice showing the amounts due for services performed during the previous month, set forth separately for work under this Agreement and for any Additional Services (accompanied by supporting certified time and expense records of such charges in a form acceptable to the FBCTRA). It is specifically understood that any requests for travel reimbursements shall comply with those procedures for travel reimbursement to Fort Bend County (the "County") employees established by the Fort Bend County Auditor (the "Auditor"). The FBCTRA shall review such invoices and approve them within 30 calendar days from the first Monday of the month 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 FBCTRA within thirty (30) calendar days after FBCTRA'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. The Engineer will maintain the delivery schedule to be provided by FBCTRA.

This Agreement will terminate upon the Engineer's completion of the Scope of Services to the satisfaction of the FBCTRA.

4. The FBCTRA's Option to Terminate

a. The FBCTRA 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 intentionsto 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 FBCTRA shall compensate the Engineer in accordance with Section 2, above, for those services which were provided under this Agreement prior to its termination, and which have not been previously invoiced to the FBCTRA. The Engineer's final invoice for said services will be presented to and paid by FBCTRA in the same manner set forth in Section 2(d), above.

b. Termination of this Agreement and payment as described in subsection (a) of this section shall extinguish all rights, duties, obligations, and liabilities of the FBCTRA 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 Sections 5, 6, and 14 of this Agreement shall survive the terminationof this Agreement.

c. If the FBCTRA terminates this Agreement as provided in this section, no fees of any type, other than fees due and payable at the Termination Date, shall thereafterbe paid to the Engineer.

d. The FBCTRA'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, and privileges otherwise available under law or equity to the FBCTRA by virtue of this Agreement or otherwise. Failure of the FBCTRA 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, 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 FBCTRA within 30 days of the Termination Date or upon Engineer's receipt of fees due and payable at the Termination Date, whichever is sooner, when and if this Agreement is terminated.

5. Inspection of the Engineer's Books and Records

Upon written notice (including email), the Engineer will permit the FBCTRA, or any duly authorized agent of the FBCTRA,to inspect and examine the books and records of the Engineer for the purpose of verifyingthe amount of work performed on the Project.

FBCTRA's right to inspect survives the termination of this Agreement for a period of four years.

6. Ownership and Reuse of Documents

Upon payment in full for undisputed amounts of Engineer's services, 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 FBCTRA, subject to all of the following terms and conditions; provided, however, FBCTRA shall not own and shall have no right to receive any documents not deemed "final" by the Engineer until completion or termination of this Agreement, as applicable. Engineer will deliver the Documents to FBCTRA within 30 days of the completion or 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 FBCTRA 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 FBCTRA's sole risk and without liability or legal exposure to Engineer.

FBCTRA 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 FBCTRA 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 FBCTRA, 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 FBCTRA that Engineer is permitted to use in connection with the services will not be used without FBCTRA's consent and shall remain the sole and exclusive properties of FBCTRA, 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 FBCTRA, to perform the Scope of Services when and as required and without delays. It is understood that the FBCTRA 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 FBCTRA'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 FBCTRA, is incompetent, or, by his conduct, becomes detrimental to the Project, shall, upon request of the FBCTRA, 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 FBCTRA

As applicable, 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 FBCTRA. Responsibility to FBCTRA for sublet work shall remain with the Engineer.

10. Conference

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

11. Appearance as Witness

If requested by the FBCTRA, or on its behalf, the Engineer shall, as an Additional Service, 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 FBCTRA 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 paid in accordance with Section 2(b).

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 FBCTRA 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 FBCTRA relating to the property or facilities with respect to which this Agreement pertains, Engineer and the FBCTRA agree as follows:

a. **ENGINEER WILL INDEMNIFY AND HOLD HARMLESS THE FBCTRA, ITS DIRECTORS, OFFICERS, AND EMPLOYEES AGAINST ANY CLAIMS, DEMANDS OR CAUSES OF ACTION; AND COSTS, LOSSES, LIABILITIES, EXPENSES AND JUDGMENTS INCURRED IN CONNECTION THEREWITH, INCLUDING REIMBURSEMENT OF REASONABLE ATTORNEY'S FEES AND COURT COSTS, BROUGHT BY ANY OF ENGINEER'S EMPLOYEES OR REPRESENTATIVES, OR BY ANY OTHER THIRD PARTY, TO THE EXTENT BASED UPON, IN CONNECTION WITH, RESULTING FROM OR ARISING OUT OF THE NEGLIGENT ACTS, ERRORS OR OMISSIONS OF ENGINEER; HOWEVER, ENGINEER'S CONTRACTUAL OBLIGATION OF INDEMNIFICATION SHALL NOT EXTEND TO THE NEGLIGENCE OR OTHER FAULT OF THE FBCTRA OR STRICT LIABILITY IMPOSED UPON THE FBCTRA AS A MATTER OF LAW (INCLUDING STRICT LIABILITY IMPOSED UPON THE FBCTRA 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 FBCTRA 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 Section 4. Option to Terminate, if a dispute arises out of, or relates to, the breach thereof, and if the dispute cannot be settled through negotiation, then the FBCTRA and the Engineer agree to submit the dispute to mediation. In the event the FBCTRA 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 Construction Industry 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 FBCTRA 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 FBCTRA under this Agreement, shall be delivered to the Fort Bend County Toll Road Authority, 245 Commerce Green Blvd., Suite 165, Sugar Land, Texas, 77478, Attention: Executive Director, 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 Binkley & Barfield, Inc., 1710 Seamist Dr., Houston, Tx, 77008, Attention: Kevin Mineo or such other place or places as the Engineer may designate by written notice delivered to FBCTRA.

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 FBCTRA, setting forth a full and concise statement of the facts pertaining thereto. The Engineer shall also immediately send the FBCTRA a copy of any summons, subpoena, notice, 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 FBCTRA's Acts

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

19. Limitations

Notwithstanding anything herein to the contrary, all covenants and obligations of the FBCTRA under this Agreement shall be deemed to be valid covenants and obligations only to extent authorized by the Act creating the FBCTRA 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 FBCTRA shall have any personal obligation hereunder.

20. Captions Not a Part Hereof

The captions of subtitle of the several sections 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. The parties hereto acknowledge that venue is proper in Fort Bend County, Texas, for all disputes arising hereunder and waive the right to sue or be sued elsewhere.

22. Successors and Assigns

The FBCTRA 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. Statutory Terms Applicable to State Political Subdivisions

a. Engineer certifies and agrees that it (i) does not, nor will not, so long as the Agreement remains in effect, boycott Israel, as such term is defined in Chapter 808, Texas Government Code, (ii) does not engage in business with Iran, Sudan, or any foreign terrorist organization pursuant to Subchapter F of Chapter 2252 of the Texas Government Code; (iii) is not identified on a list prepared and maintained under Sections 806.051, 807.051, or 2252.153, Texas Government Code; (iv) does not, nor will not, so long as the Agreement remains in effect, boycott energy companies, as such term is defined in Chapter 809, Texas Government Code; (v) does not, nor will not, so long as the Agreement remains in effect, have a practice, policy, guidance,

or directive that discriminates against a firearm entity or firearm trade association, as such term is defined in 2274.001(3), Texas Government Code; and (vi) is not (a) owned or controlled by (1) individuals who are citizens of China, Iran, North Korea, Russia or any designated country (as such term is defined in 117.003, Texas Business & Commerce Code); or (2) a company or other entity, including a governmental entity, that is owned or controlled by citizens of or is directly controlled by the government of China, Iran, North Korea, Russia, of any designated country; or (b) headquartered in China, Iran, North Korea, Russia or a designated country.

b. Prior to execution of this Agreement by FBCTRA, the Engineer will be requiredto submit a Texas Ethics Commission Form 1295. Please see this website for details related to this disclosure: https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

c. In accordance with Section 176.0065, Texas Local Government Code, a list of local government officers of FBCTRA may be obtained by contacting the FBCTRA's records administrator at (713) 374-3540.

24. 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

[Signatures Follow]

IN WITNESS WHEREOF, the parties hereto have signed or have caused their respective names to be signed to multiple counterparts.

Type text here

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

By: James D. Rice

Name: James D. Rice

Title: Chairman
Fort Bend County Toll Road Authority

DCCM Infrastructure, Inc., formally known as Binkley & Barfield, Inc.
ENGINEER

By: _____

Name: Kevin Mineo, P.E.

Title: Vice President – Transportation

EFFECTIVE DATE

THIS AGREEMENT IS EFFECTIVE ON THE DATE IT IS APPROVED BY THE FORT BEND COUNTY COMMISSIONERS COURT, AND IF NOT SO APPROVED SHALL BE NULL AND VOID.

DATE OF COMMISSIONERS COURT APPROVAL: _____

AGENDA ITEM NO.: _____

ATTACHMENT A

SCOPE OF SERVICES

The Engineer shall provide preliminary engineering services for development of a design schematic, environmental documents, and studies in support of the schematic work, public involvement, permit procurement, data collection and analysis, mitigation and remediation, monitoring, drainage, conceptual traffic control, traffic projections, traffic engineering and operations including capacity analysis, traffic simulations, safety analysis, and 3-D modeling, surveying and mapping, utility engineering investigation, and utility coordination for Westpark Tollway Extension from Charger Way to Simonton (101-1060.1) located within Fort Bend County, Texas. The Engineer shall receive authorization from FBCTRA's Project Manager prior to start of the engineering services stated above.

1. GENERAL REQUIREMENTS

1.1. Coordination.

The Engineer shall coordinate issues and any communications with FBCTRA's Project Manager. FBCTRA will communicate the resolution of issues and provide the Engineer direction through FBCTRA's Project Manager.

The Engineer shall notify the FBCTRA and coordinate with adjacent engineers on all controls at project interfaces. The Engineer shall document the coordination effort, and each engineer must provide written concurrence regarding the agreed project controls and interfaces. In the event the Engineer and the other adjacent engineers are unable to agree, the Engineer shall meet jointly with the FBCTRA and each adjacent engineer to resolve disagreements. If the engineers are unable to resolve an issue with the FBCTRA as mediator, the FBCTRA may decide the issue and the decision will be final.

The Engineer shall prepare each exhibit necessary for approval by each railroad, utility, and other governmental or regulatory agency in compliance with the applicable format and guidelines required by each entity and as approved by the FBCTRA. The Engineer shall notify FBCTRA in writing prior to beginning any work on any outside agency's exhibit.

1.2. Progress Reporting and Invoicing.

The Engineer shall invoice according to function code breakdowns shown in Attachment A – Scope of Services, of the Engineering Services Agreement and Exhibit B – Fee Schedule, of each service authorized by FBCTRA. The Engineer shall submit each invoice in a format acceptable to FBCTRA.

The Engineer shall complete the services according to the milestone work schedule. The Engineer shall submit a monthly written progress report with the invoice to the Fort Bend County Toll Road Authority (FBCTRA) indicating the actual work accomplished during the month, scheduled work to be accomplished for the month, the estimated work to be accomplished for the coming month, problems encountered and actions taken to remedy them, list of meetings attended, and overall status regardless of whether the Engineer is invoicing for that month. The progress report must indicate the percentage complete of each task shown on the previous report and the percentage complete of each task. The Engineer is required to meet with the designated FBCTRA project manager on a monthly basis for progress tracking purposes unless prior written agreement is made with FBCTRA not to hold a meeting in any given month. The Engineer shall submit minutes of the meeting summarizing the events of the meeting within seven calendar days after each meeting.

The Engineer shall prepare a project work schedule. The schedules shall indicate tasks, subtasks, critical dates, milestones, deliverables, and review requirements in a format that depicts the

interdependence of the various items. The work schedule must incorporate an allocation of time for stage reviews of the design schematic and the environmental documents by FBCTRA personnel. The Engineer shall present the work schedule to the FBCTRA for review and acceptance and provide assistance in interpreting the proposed work schedule. The Engineer shall provide advance written notice to the FBCTRA Project Manager if the Engineer is not able to meet the scheduled milestone review date.

Once the project has been completed and accepted by FBCTRA, the Engineer shall deliver all electronic files to the FBCTRA within 30 calendar days of FBCTRA's written request. Delivery of electronic files must comply with the requirements of FBCTRA.

Final payment is contingent upon the FBCTRA's receipt and confirmation by the FBCTRA's Project Manager that the electronic files can be opened and are usable utilizing the current version of the software in use by the FBCTRA, all files are formatted in accordance with Attachment G – Computer Graphics Files for Document and Information Exchange, and all the review comments have been addressed.

TASK DESCRIPTIONS AND FUNCTION CODES

The Engineer shall categorize each task performed to correspond with the Function Codes (FC) and Task Descriptions.

FUNCTION CODE 102 (110) – FEASIBILITY STUDIES

ROUTE AND DESIGN STUDIES

The Engineer shall prepare an alignment and proposed roadway schematic layout that includes projected traffic volumes and existing and proposed typical sections. The Engineer shall furnish Microsoft Office and MicroStation and OpenRoads computer generated media containing the roadway schematic layout to the FBCTRA. All supporting attachments and exhibits must accompany the schematic layout. All MicroStation and OpenRoads computer generated files containing the roadway design schematic must be fully compatible with the software used by FBCTRA without further modification or conversion.

The Engineer shall produce, obtain, review, and evaluate existing and twenty-year projected traffic data for use in the preparation of the schematic design layout. The data must be utilized in accordance with the requirements for schematic development and consistent with the policies of FBCTRA.

The Engineer shall prepare preliminary drawings to identify any potential impacts and constraints within the project corridor, including impacts to the nature, cultural, and human environment. The potential impacts and constraints identified must include all existing and proposed utilities (both public and private), structures, burial grounds, neighborhood communities, historical landmarks, and undeveloped areas. Any potential utility conflicts and structural impediments must be identified as such. The Engineer shall propose alternative alignments that avoid or minimize displacements and damages and prepare any additional attachments or exhibits required to illustrate a preferred alternative alignment. The Engineer shall assist FBCTRA with agency meetings during the development of schematic design as requested by the FBCTRA. If requested by FBCTRA, the Engineer shall prepare a Notice and Opportunity to Comment and assist FBCTRA with stakeholder meetings, public meetings, and a public hearing, if requested.

An itemization of the schematic design and engineering work activity to be performed under this contract is detailed below. The Engineer shall prepare all designs in accordance with the latest version of:

A. *Roadway Design Manual*, published by TxDOT;

B. *TxDOT Project Development Process Manual*, published by TxDOT;

C. *Policy on Geometric Design of Highways and Streets*, published by the American Association of State Highway and Transportation Officials' (AASHTO);

D. *Standard Specifications for Construction of Highways, Streets, and Bridges*, published by TxDOT;

E. *Texas Manual on Uniform Traffic Control Devices (TMUTCD)*, published by TxDOT;

F. *Highway Capacity Manual (HCM)*, published by the Transportation Research Board (TRB);

G. *Highway Safety Manual (HSM)*, published by AASHTO;

H. *Hydraulic Design Manual*, published by TxDOT;

I. *Access Management Manual*, published by TxDOT; and

J. other TxDOT or FBCTRA approved manuals and guides.

When design criteria are not identified in these manuals, the Engineer shall notify the FBCTRA and request direction.

The design schematic horizontal layout must adhere to a design scale of 1 inch = 100 foot (or 1 inch = 200 foot, when directed by the FBCTRA.) The Engineer shall develop the schematic layout, exhibits, and attachments in English units. All Microsoft Office, MicroStation, Keyhole Markup Language (KML), Keyhole Markup Language Zipped (KMZ), and Bentley OpenRoads computer graphic files furnished to the FBCTRA must be submitted to the FBCTRA in their native format, which must be fully compatible with the programs currently used by the FBCTRA. Schematics must follow TxDOT and Federal Highway Administration (FHWA) standards. The schematic must follow TxDOT's computer-aided design and drafting (CADD) standards. The Engineer shall submit the schematic as an original document, accompanied with an original MicroStation

formatted graphics file. Final copies of the schematic design must be signed and sealed by a professional engineer licensed in the state of Texas.

110.1. Schematic Design Work Outline.

A. Develop Base Maps

The Engineer shall develop the base maps to be used for the analysis and proposed schematic layout from existing construction and right of way plans as available. The Engineer shall re-establish the existing centerline horizontal alignments for all roadways, identify existing ROW and easements, property owners, and the approximate location of major utilities based on a utility engineering investigation in the preparation of base maps.

B. Planimetrics and Aerial Mapping

The Engineer shall obtain planimetrics, digital terrain modeling (DTM), and aerial photographs from the State, Fort Bend County if available.

C. Analyze Existing Conditions

Using collected data and base maps, the Engineer shall develop an overall analysis of the existing conditions to develop the schematic design. The analysis must include the following:

1. ROW and easement determination.
2. Horizontal alignment
3. Vertical alignment
4. Pavement cross slopes and pavement type
5. Intersection design and analysis
6. Sight distance.
7. Large guide signs and roadside signing
8. Level of service

9. Safety (i.e., crash data)
10. Locations of critical constraints
11. Drainage

D. Schematic Alternatives

The Engineer shall identify and analyze schematic alternatives to minimize potential adverse operational impacts, crash impacts, ROW impacts, environmental impacts, major utility conflicts, structural impediments, or exceptions to the FBCTRA and FHWA design criteria.

E. Deliverable Schematic

The Engineer shall evaluate and document the following in the analysis to optimize the design:

1. Efficient use of the allocated ROW
2. Control of access (COA) and driveway locations
3. Roadway and intersection geometry
4. Cross sections
5. Bicycle and pedestrian design.
6. Drainage and hydraulic design
7. Stopping sight distance
8. Level of service
9. Safety
10. Traffic and signal operations
11. Construction, ROW, easement, and utility costs
12. Roadside safety appurtenances
13. Large guide signage
14. Environmental mitigation (e.g., noise walls, storm water best management practices (BMPs))
15. Bridge layouts and clearance
16. Accommodation of ultimate corridor configuration.
17. Accommodation of future cross street expansion as described in local thoroughfare plan (if applicable)
18. Avoidance of utility lines (if feasible)
19. Impact of construction delays from utility relocations

F. Project Management and Coordination

1. The Engineer shall direct and coordinate the various elements and activities associated with developing the design schematic.
2. The Engineer shall prepare the detailed graphic project work schedule indicating tasks, critical dates, milestones, deliverables, and FBCTRA review requirements. The project work schedule must depict the order of the various tasks, milestones, and deliverables. The Engineer shall review the monthly schedule and provide updates regarding its progress on the schedule to the FBCTRA.
3. The Engineer shall submit written monthly progress reports to the FBCTRA.

4. The Engineer shall provide ongoing quality assurance and quality control to ensure completeness of product and compliance with the FBCTRA procedures.

G. Data Collection

The Engineer shall conduct field reconnaissance and collect data including a photographic record of notable existing features as necessary to complete the schematic design. Data must include the following information. Items 1 through 8 must be obtained from FBCTRA, if available. Items 9 through 13 must be obtained from other agencies as required.

1. Available corridor major investment studies
2. Design data from record drawings of existing and proposed facilities.
3. Existing and future design year traffic data
4. Historical crash data
5. As-built plans, including the number of lanes, speed limits, pavement widths, Bridge Inspection records, and ROW maps.
6. Aerial photos, planimetric mapping, and DTM
7. Environmental data
8. Previously prepared drainage studies
9. Adopted land use maps and plans (if available)
10. Federal Emergency Management Agency (FEMA) flood boundary maps and flood insurance studies and models
11. Public and private utility information
12. Plat research for adjacent properties (if available)
13. Local major thoroughfare plan

H. Roadway Design Criteria

The Engineer shall develop the roadway design criteria based on the latest TxDOT *Roadway Design Manual* and AASHTO *Policy on Geometric Design of Highways and Streets* guidelines. The design criteria must include the following roadway design elements: design speed, lane and shoulder widths, pavement structure and slopes, horizontal curvatures, horizontal and vertical clearances, range of vertical profile grades, and side slopes. If there is a discrepancy between the two sources, the TxDOT *Roadway Design Manual* will govern unless otherwise directed by the FBCTRA.

110.2. Schematic Design – General Tasks.

A. ROW Property Base Map

The Engineer shall obtain information on existing ROW, easements, and property information from as-built plans, ROW maps, and tax records. The Engineer shall prepare a base map depicting the information.

B. Typical Sections

The Engineer shall develop both existing and proposed typical sections that depict the number and type of lanes, shoulders, median width, curb offsets, cross slope, border width, clear zone widths, and ROW limits.

C. Environmental Constraints

The Engineer shall evaluate and document impacts to environmentally sensitive sites (as identified by the Engineer and verified by the FBCTRA) during the schematic design process.

Environmentally sensitive sites include natural, cultural, and the human environment. Examples are historic and archeological resources, burial grounds, neighborhood communities and residential areas, farmland, floodplains, wetlands, endangered species, rare habitats, wildlife corridors, wildlife crossings, parks and nature preserves, geologic features, undeveloped areas, and significant trees.

D. Drainage

1. The Engineer shall use data from as-built plans and FEMA maps to locate drainage out falls and to determine existing storm sewer and culvert sizes, design flows, and water surface elevations for use in the design of roadway geometry.
2. The Engineer shall conduct a preliminary drainage study based on Atlas 14 rainfall to determine and evaluate the adequacy of the ROW needed to accommodate the proposed roadway and drainage system. The drainage study must:
    a. identify the impacts to abutting properties and the 100-year floodplain due to proposed highway improvements.
    b. identify the water surface elevations for the 2, 5, 10, 25, 50, and 100-year storm events.
    c. identify and locate outfalls.
    d. provide drainage outfall descriptions.
    e. identify detention pond locations
    f. provide overall drainage area map, sub-drainage area map, and storm water detention facilities.
    g. provide a drainage study report identifying the results of the study.
3. The drainage report, which must be signed and sealed by a professional engineer licensed in Texas, must include applicable hydrologic and hydraulic models (e.g., HEC-1 and HEC-2, HEC-RAS, HEC-HMS, XP-SWMM). The models must be approved by the local TxDOT District hydraulic engineer prior to generating any reports. The Engineer shall prepare a final drainage study in accordance with one or more of the following: TxDOT Hydraulic Design Manual, local TxDOT district criteria, and any other specific guidance provided by the FBCTRA. The Engineer shall evaluate the adequacy of the existing drainage structures; otherwise, the Engineer shall not evaluate the adequacy of the existing drainage structures.

E. ROW Requirements

The Engineer shall determine the ROW requirements based on the proposed alignment, typical sections, design cross sections, access control, terrain, construction requirements, drainage, clear zone, maintenance, intelligent transportation system (ITS), and environmental constraints and mitigation requirements.

F. Design Exceptions

G. The Engineer shall identify design exceptions and waivers. The Engineer shall determine the necessity for each design exception or waiver for approval. If the FBCTRA agrees that design exception or waiver is necessary, the Engineer shall prepare the FBCTRA's required design exception or design waiver documentation. The Engineer shall document the operational and safety analysis for comparison of the no-build, build with standard design, and build with proposed design alternatives.

H. Traffic Data and Projections

The Engineer shall obtain the base year traffic data from TxDOT Houston District Advance Project Development and develop the opening-year, design-year (opening year +20), and pavement design year (opening year + 30) travel forecasts, and related traffic analysis in coordination with the TxDOT Houston District and per the TxDOT Traffic Forecasting Guide (March 26, 2025). The developed traffic projections must be utilized for design and environmental analysis. The Engineer shall develop traffic forecasts for the mainlanes, ramps, cross streets, intersections, and frontage roads for no-build and build alternatives. These projections must include graphic representations of the anticipated daily movements along the corridor (suitable for inclusion in the design schematic and environmental document) and the traffic analysis for highway design table. The Engineer shall prepare a traffic projections methodology memo, based on the information provided in the traffic

analysis package. The Engineer shall review the proposed methodology with the FBCTRA and refine it based on these discussions. The Engineer shall submit the traffic volumes developed by the Engineer to TxDOT Houston District for review and approval. The Engineer shall revise the traffic volumes based on their comments.

I. Traffic and Operational Analysis

The Engineer shall review and analyze traffic data (including percent trucks, design hourly volume, and directional distribution), existing roadway features (including ramp locations, weaving sections, number of lanes, offset to obstructions, lane widths, frontage road operations, and intersection operation and geometry), traffic flow patterns, and transit and traffic operations. The Engineer shall conduct capacity analysis studies for designated locations and sections of roadway and make recommendations for improving traffic flow. The Engineer shall use the HCM to analyze and make appropriate recommendations. The analysis must be done for existing/base year, opening year, design year (opening+20 year), and interim year (if needed) for existing and future conditions. Results of this analysis must be incorporated into the schematic design. The Engineer shall develop and submit to TxDOT a traffic and operational analysis report summarizing all analysis performed. If microsimulation is used, the Engineer shall develop and calibrate an existing condition traffic model. The calibration memo must be included in the traffic analysis report. The analysis must be performed using the latest versions of TxDOT-approved software (e.g., HCS, Synchro, VISSIM, CORSIM, SIDRA).

J. Safety Analysis

The Engineer shall review and analyze historical crash data for latest 3 to 5 full calendar years (i.e., January 1 to December 31, inclusive) with respect to crash characteristics such as severity, crash types, frequency, rates, patterns, clusters, and their relationship to crash contributing factors. The purpose of the historical crash analyses is to determine safety performance of the existing conditions to understand any safety issues within the study area.

Predictive, or quantitative safety analysis, involves using HSM-based methods that use safety performance functions (SPFs) and crash modification factors (CMFs) to estimate anticipated change in crashes from existing condition to the proposed design. The predictive safety analysis must be done for no-build and build conditions for design year. The purpose of the predictive safety analysis is to compare the safety performance of the no-build and build alternatives to help determine the preferred alternative and to determine the countermeasures, if necessary, to improve safety. Predictive safety analysis must be performed using HSM based tools including Interactive Highway Safety Design Model (IHSDM), Enhanced Interchange Safety Analysis Tools (ISATe), HSS, or other tools acceptable to the FBCTRA. The Engineer shall develop and submit to the FBCTRA a safety analysis report summarizing all analysis performed.

K. Bicycle and Pedestrian Accommodations

The Engineer shall comply with the *United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations*. The inclusion of bicycle and pedestrian facilities must be evaluated when the project is scoped. Public input when applicable, as well as local city and metropolitan planning organization for bicycle and pedestrian plans must be considered in this evaluation.

L. Project Implementation Plan

The Engineer shall develop an implementation plan for prioritizing improvements along the corridor and identify a sequence of improvements to manage future traffic operations and available funding. The implementation plan must consider traffic operation, the ultimate preferred alternative, and potential funding levels and sources to identify a timeline for short

and mid-term improvements that accommodate corridor growth while minimizing future throwaway construction. The Engineer shall provide the recommendations for the implementation plan in a project implementation report deliverable and incorporate the recommendations into the engineering summary report.

110.3. Conceptual Design Schematics.

The Engineer shall develop conceptual design schematics in MicroStation format to evaluate various methods of handling traffic while providing access in key areas. The Engineer shall develop a single recommended design alternative that optimizes traffic flow and access. The conceptual schematics are to be plan view only. Profile work must be done only to the extent necessary to lay out the proper horizontal geometry.

The schematics must contain the following design elements:

A. Mainlane roadway alignment

B. Pavement edges, face of curbs, and shoulder lines of mainlanes, intersections, interchanges, and connecting highways or streets.

C. Typical sections of existing and proposed roadways

D. Anticipated structure locations (including wildlife crossings and fencing structures)

E. Anticipated retaining wall and sound wall locations.

F. Anticipated conveyance of major drainage elements

G. Preliminary ROW and easement requirements and control-of-access locations

H. Direction of traffic flow and the number of lanes on all roadways

I. Existing and projected traffic volumes

J. Existing utilities

K. Waters of the United States (WOTUS)

110.4. Geometric Design Schematics.

The Engineer shall develop geometric design schematics based on the conceptual schematics after the basic layout, lane arrangement, and anticipated ROW and easement impacts depicted on the conceptual schematics are approved. The Engineer shall use Bentley OpenRoads tools in performing this task. The geometric design schematics must include both a plan view and profile view.

A. The geometric schematic plan view must contain the following design elements:

1. Bentley OpenRoads calculated roadway alignments for mainlanes, general purpose lanes, ramps, , bridges, , , collector distributor roads, frontage roads and cross streets at major intersections and grade separations.

2. Horizontal curve data shown in tabular format.
3. Pavement edges, curb lines, and sidewalks for all roadway improvements
4. Typical sections of existing and proposed roadways
5. Proposed bridge structures, including bridge deck, abutment, bent, and rail locations
6. Proposed retaining walls and sound walls.
7. Proposed cross-drainage structures with outfall flow arrows and significant drainage features or waterways identified.
8. Proposed detention pond locations
9. Existing utilities and proposed utilities
10. Existing property lines and respective property ownership information
11. Existing ROW and easements
12. Proposed ROW and easements adequate for preparation of ROW maps
13. Waters of the US (WOTUS)
14. Control-of-access limits.
15. Existing and projected traffic volumes
16. Location and text of the existing and proposed guide signs and the preliminary locations for changeable message signs
17. Lane lines, shoulder lines, and direction of traffic flow arrows indicating the number of lanes on all roadways.

B. The geometric schematic profile view must contain the following design elements:

1. Calculated profile grade and vertical curve data including “K” values for all curves and sight distance values for crest vertical curves on the mainlanes.
2. Existing ground line profiles along the mainlanes
3. Grade separations and overpasses including preliminary abutment and bent locations, girder type, and span lengths.
4. Calculated vertical clearances at grade separations and overpasses.
5. Anticipated cross-drainage structures with approximate inlet and outfall elevations.
6. Proposed ditch grading (special grading), if it does not follow the typical section.
7. Approximate locations of existing and proposed major utility crossings.
8. The calculated profile grade for frontage roads, connectors, ramps, and cross streets will be shown on separate Supplemental Profile rolls.

110.5. Cross-Sections.

The Engineer shall use a Bentley 3D OpenRoads model to generate preliminary cross-sections at 50 feet intervals (unless otherwise directed by the FBCTRA) and at culvert locations in conjunction with the geometric schematic. The Engineer shall determine earthwork volumes for use in the cost estimate. The Engineer shall prepare 11-inch x17 inch or roll plots of the cross-sections.

110.6. Retaining Walls.

The Engineer shall prepare preliminary retaining wall concepts to be shown on schematics, typical sections, and cross sections.

A. The Engineer shall determine if any additional walls are required and verify the need for and length of the retaining wall as shown on the ultimate schematic.

B. The Engineer shall compute and tabulate retaining wall quantities for preliminary design milestone plans submittal.

110.7. Preliminary Cost Estimate.

The Engineer shall prepare a preliminary cost estimate for the project, including the costs of construction, required ROW and associated improvements, and eligible utility adjustments. Current TxDOT unit bid prices must be used in preparation of the estimate.

110.8. Engineering Summary Report.

The Engineer shall prepare an engineering summary report to summarize the design criteria, traffic analysis, preliminary cost estimate and basis of estimate, construction sequence description, and utility conflict issues.

110.9. Agency Coordination and Public Involvement.

A. The Engineer shall assist the FBCTRA in conducting meetings with property owners, stakeholders, and various agencies to discuss and review the schematic design. The Engineer shall document and respond to issues related to the schematic design.

B. The Engineer shall prepare a Notice and Opportunity to Comment as needed and assist in conducting public meetings and public hearings during the project development process. The Engineer shall prepare schematic exhibits, constraints maps, and other necessary exhibits, and assist the FBCTRA with all presentations.

C. The Engineer shall coordinate, schedule, reserve, and pay for all meeting locations and facilities.

D. For all public involvement activities, the Engineer shall prepare the adjacent property owner list; mail out and pay for notices; draft letters to public officials; prepare, publish and pay for notices to major and local newspaper; hire court reporter and law enforcement for public meetings and hearing; and provide audio and visual rental equipment and changeable message boards.

E. The Engineer shall compile public comments received and responses to comments and prepare the required documentation for all public involvement activities. The Engineer shall comply with the environmental compliance toolkits related to public involvement.

110.10. Schematic Design Project Deliverables.

In conjunction with the performance of the services included under Function Code 110 of this attachment, the Engineer shall provide the following draft and final documents and associated electronic files as applicable.

A. Draft and final copies of the engineering summary report

B. Draft copies of the preliminary drainage study

C. Draft and final copies of the geometric design schematic layouts on 11-inch x 17 inch cut sheets or rolls, as requested by the FBCTRA.

D. Draft and final copies of the conceptual design schematics roll plots.

E. Draft and final copies of the geometric design schematic layouts (1 inch = 100 feet)

F. Draft and final copies of the geometric design schematic profiles rolls

G. Draft and final copies of the geometric design schematic cross-sections on 11 inch x 17inch cut sheets or roll plot format, as requested by FBCTRA.

H. Copy of the preliminary cross-sections in a roll plot format or 11 inch x17 inch format, as requested by the FBCTRA

I. Electronic 3D model copy of the preliminary cross-sections created using OpenRoads tools.

J. final copies of the preliminary drainage study

K. Electronic submittal of the hydrologic and hydraulic model digital files from the drainage study

L. Electronic copy of the 3D rendering and traffic simulation for the reasonable build alternatives

M. Electronic files shall be furnished to FBCTRA.

N. Traffic data schematics

O. Traffic projections methodology memo

P. Average daily corridor traffic projections report

Q. Risk management plan.

R. Participation in CER

S. Line schematics with traffic data shown.

T. Documentation of public involvement activities

U. Utility plan – electronic file in latest version of MicroStation fully compatible with OpenRoads civil design system

V. Design exception and design waiver documents.

W. Hard copy of a draft hydraulic report for review and comment

X. Drainage report –, one electronic copy of the entire drainage report in PDF format, and computer files of hydrologic and hydraulic modeling with appropriate labeling of location, CSJ, and submittal date

Y. KMZ or KML file of conceptual design schematic created from applicable DGN files for reviewing in Google Earth

Z. Final schematic 3D model created using OpenRoads software.

AA. Draft and final copies of traffic analysis report

FUNCTION CODE 145 (145, 164) – MANAGING CONTRACTED/DONATED PE

PROJECT MANAGEMENT AND ADMINISTRATION

145.1. Contract Management and Administration.

The Engineer shall:

A. Prepare monthly written progress reports for each project.

B. Develop and maintain a detailed project schedule to track project conformance to Exhibit C, Work Schedule, for each work authorization. The schedule submittals shall be hard copy and electronic format.

C. Meet on a scheduled basis with the FBCTRA to review project progress.

D. Prepare, distribute, and file both written and electronic correspondence

E. Prepare and distribute meeting minutes.

F. Document phone calls and conference calls as required during the project to coordinate the work for various team members.

G. Act as an agent for the FBCTRA.

H. Produce a complete and acceptable deliverable for each environmental service performed for environmental documentation.

I. Incorporate environmental data into identification of alternatives.

J. Notify the FBCTRA of its schedule, in advance, for all field activities.

K. Notify the FBCTRA as soon as practical, by phone and in writing, if performance of environmental services discloses the presence or likely presence of significant impacts (in accordance with 40 Code of Federal Regulations (CFR) 1500-1508). Inform the FBCTRA of the basis for concluding there are significant impacts and the basis for concluding that the impacts might require mitigation.

L. Notify the FBCTRA as soon as practical, by phone and in writing, if performance of environmental services results in identification of impacts or a level of controversy that might elevate the transportation activity's status from a categorical exclusion or environmental assessment. The FBCTRA will reassess the appropriate level of documentation.

ATTACHMENT B - FEE SCHEDULE **PROJECT 101-1060.1**

BILLING RATES

Binkley & Barfield, Inc. | DCCM			
Job Classification	**Years of Experience**	**Base Rate**	**Loaded Rate**
Project Manager	10+	$ 120.24	$ 360.72
Deputy Project Manager	10+	$ 95.00	$ 285.00
Support Manager	10+	$ 110.00	$ 330.00
Support Manager - Utility	10+	$ 103.82	$ 311.46
Technical Advisor - Senior	20+	$ 130.00	$ 390.00
Quality Manager	10+	$ 93.00	$ 279.00
Structural Engineer	5 to 15	$ 87.67	$ 263.01
Engineer (Senior)	15+	$ 90.00	$ 270.00
Engineer (Project)	10 to 15	$ 67.00	$ 201.00
Engineer (Design)	5 to 10	$ 60.00	$ 180.00
Engineer (Structural) - Senior	15+	$ 100.00	$ 300.00
Engineer (Structural)	5 to 15	$ 70.00	$ 210.00
Engineer (Traffic)	5 to 15	$ 57.00	$ 171.00
Engineer (Utilities) - Senior	15+	$ 80.00	$ 240.00
Engineer (Utilities)	5 to 15	$ 60.00	$ 180.00
Engineer-In-Training	0 to 5	$ 50.00	$ 150.00
Sr. CADD/Designer	15+	$ 61.33	$ 183.99
CADD/Designer	0 to 15	$ 55.67	$ 167.01
CADD Technician - Structures	20+	$ 53.00	$ 159.00
GIS Operator - Senior	15+	$ 45.67	$ 137.01
GIS Operator	5 to 15	$ 42.00	$ 126.00
GIS Operator - Junior	0 to 5	$ 33.55	$ 100.65
SUE Manager	15+	$ 70.00	$ 210.00
SUE Field Manager		$ 45.00	$ 135.00
Utilities Coordinator - Senior	15+	$ 69.00	$ 207.00
Utilities Coordinator		$ 60.33	$ 180.99
Utilities Field Inspector - Senior	15+	$ 45.00	$ 135.00
Utilities Field Inspector		$ 38.50	$ 115.50
Engineering Specialist (Utility) - Senior		$ 65.00	$ 195.00
Administrative/Clerical		$ 36.00	$ 108.00
Project Coordinator		$ 48.50	$ 145.50
Engineering Intern		$ 24.00	$ 72.00
			200.00%
		-	

ATTACHMENT B - FEE SCHEDULE
BILLING RATES

PROJECT 101-1060.1

HR GREEN			
	Classification	**Base Rate**	**Base Rate * 3.0 Multiplier**
1	Principal	$100.00	$300
2	Senior Project	95.00	$285
3	Project Engineer	61.67	$185
4	Staff Engineer	45.00	$135
5	CADD Technician I	40.00	$120
6	GIS Specialist	36.67	$110

ATTACHMENT C

The Engineer shall furnish certificates of insurance to the FBCTRA 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 FBCTRA 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 FBCTRA and the FBCTRA'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 FBCTRA and the FBCTRA's Directors, with the exception of insurance required under paragraph "e."

ENGINEERING SERVICES AGREEMENT

THIS AGREEMENT is made and entered into by and between the Fort Bend County Toll Road Authority, a Local Government Corporation (the "Authority") organized and operating under the laws of the State of Texas, hereinafter called the "FBCTRA" and Terracon Consultants, Inc., hereinafter called "Engineer."

W I T N E S S E T H

WHEREAS, the FBCTRA proposes to construct the extension of the Fort Bend Parkway Toll Road from Sienna Ranch Road to FM 2759 (Segments B-3 and B-4) (Project 101-1029), in Fort Bend County, Texas, (the "Project");

WHEREAS, the FBCTRA desires to enter into an agreement with Engineer for the performance of services during the Project, that are within the scope of services in Attachment A ("Scope of Services");

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 FBCTRA 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 Agreement is $900,000.00. The amount paid under this Agreement may not exceed the Maximum Compensation without an approved supplemental agreement.

Compensation for the performance of services within the Scope of Services described in Attachment A will be paid per the rates shown in Attachment B, in an amount not to exceed $900,000.00, only for work authorized prior to being performed and only for such work as was actually performed.

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

FBCTRA. All performance of the Scope of Services and any services outside the Scope of Services ("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 FBCTRA, 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 performanceof such services. Out-of-pocket expense costs may be reimbursed only when approved in advance and authorized by the FBCTRA. Payment will be made (i) on the basis of project progress to be billed monthly, and, for Additional Services, (ii) on the basis of time and expense records, and, in accordance with those payment procedures set forth in subsection 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 pre-approved and pre-authorized Additional Services, the Engineer will be reimbursed for subcontractors' actual salaries and hourly 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 FBCTRA, 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 FBCTRA 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 FBCTRA one invoice 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 FBCTRA.) 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 FBCTRA shall review such invoices and approve them 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 FBCTRA within thirty (30) calendar days after receipt by the FBCTRA.

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. The Engineer will maintain the delivery schedule to be provided by the FBCTRA.

This Agreement will terminate upon the Engineer's completion of the Scope of Services to the satisfaction of the FBCTRA.

4. The FBCTRA's Option to Terminate

a. The FBCTRA 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 FBCTRA shall compensate the Engineer in accordance with Section 2, above, for those services which were provided under this Agreement prior to its termination, and which have not been previously invoiced to the FBCTRA. The Engineer's final invoice for said services will be presented to and paid by the FBCTRA in the same manner set forth in Section 2(d), above.

b. Termination of this Agreement and payment as described in subsection (a) of this section shall extinguish all rights, duties, obligations, and liabilities of the FBCTRA 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 Sections 5, 6, and 14 of this Agreement shall survive the termination of this Agreement.

c. If the FBCTRA terminates this Agreement as provided in this section, no fees of any type, other than fees due and payable at the Termination Date, shall thereafter be paid to the Engineer.

d. The FBCTRA'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, and privileges otherwise available under law or equity to the FBCTRA by virtue of this Agreement or otherwise. Failure of the FBCTRA 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, 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 FBCTRA within 30 days of the Termination Date or upon Engineer's receipt of fees due and payable at the Termination Date, whichever is sooner, when and if this Agreement is terminated.

5. Inspection of the Engineer's Books and Records

Upon written notice (including email), the Engineer will permit the FBCTRA, or any duly authorized agent of the FBCTRA,to inspect and examine the books and records of the Engineer for the purpose of verifying the amount of work performed on the Project. FBCTRA's right to inspect survives the termination of this Agreement for a period of four years.

6. Ownership and Reuse of Documents

Upon payment in full for undisputed amounts of Engineer's services, 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 FBCTRA, subject to all of the following terms and conditions; provided, however, FBCTRA shall not own and shall have no right to receive any documents not deemed "final" by the Engineer until completion or termination of this Agreement, as applicable. Engineer will deliver the Documents to FBCTRA within 30 days of the completion or 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 FBCTRA 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 FBCTRA's sole risk and without liability or legal exposure to Engineer.

FBCTRA 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 FBCTRA 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 FBCTRA, 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 FBCTRA that Engineer is permitted to use in connection with the services will not be used without FBCTRA's consent and shall remain the sole and exclusive properties of FBCTRA, 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 FBCTRA, to perform the Scope of Services when and as required and without delays. It is understood that the FBCTRA 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 FBCTRA'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 FBCTRA, is incompetent, or, by his conduct, becomes detrimental to the Project, shall, upon request of the FBCTRA, 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 FBCTRA

As applicable, the following items will be supplied to the Engineer:

a. Copies of Segment B-3 and Segment B-4 Issue for Construction plans and specifications by others.

b. Assistance in coordination with construction company.

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 FBCTRA. Responsibility to the FBCTRA for sublet work shall remain with the Engineer.

10. Conference

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

11. Appearance as Witness

If requested by the FBCTRA, or on its behalf, the Engineer shall, as an Additional Service, 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 FBCTRA 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 paid in accordance with Section 2(b).

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 FBCTRA 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 FBCTRA relating to the property or facilities with respect to which this Agreement pertains, Engineer and the FBCTRA agree as follows:

a. **ENGINEER WILL INDEMNIFY AND HOLD HARMLESS THE FBCTRA, ITS DIRECTORS, OFFICERS, AND EMPLOYEES AGAINST ANY CLAIMS, DEMANDS OR CAUSES OF ACTION; AND COSTS, LOSSES, LIABILITIES, EXPENSES AND JUDGMENTS INCURRED IN CONNECTION THEREWITH, INCLUDING REIMBURSEMENT OF REASONABLE ATTORNEY'S FEES AND COURT COSTS, BROUGHT BY ANY OF ENGINEER'S EMPLOYEES OR REPRESENTATIVES, OR BY ANY OTHER THIRD PARTY, TO THE EXTENT BASED UPON, IN CONNECTION WITH, RESULTING FROM OR ARISING OUT OF THE NEGLIGENT ACTS, ERRORS OR OMISSIONS OF ENGINEER; HOWEVER, ENGINEER'S CONTRACTUAL OBLIGATION OF INDEMNIFICATION SHALL NOT EXTEND TO THE NEGLIGENCE OR OTHER FAULT OF THE FBCTRA OR STRICT LIABILITY IMPOSED UPON THE FBCTRA AS A MATTER OF LAW (INCLUDING STRICT LIABILITY IMPOSED UPON THE FBCTRA 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 FBCTRA 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 Section 4. Option to Terminate, if a dispute arises out of, or relates to, the breach thereof, and if the dispute cannot be settled through negotiation, then the FBCTRA and the Engineer agree to submit the dispute to mediation. In the event the FBCTRA 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 Construction Industry 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 FBCTRA 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 FBCTRA under this Agreement, shall be delivered to the Fort Bend County Toll Road Authority, 245 Commerce Green Blvd., Suite 165, Sugar Land, Texas, 77478, Attention: Executive Director, 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 Terracon Consultants, Inc., 11555 Clay Road, Suite 100, Houston, Tx, 77043, Attention: Yatish A. Jakatimath, P.E. or such other place or places as the Engineer may designate by written notice delivered to the FBCTRA.

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 FBCTRA, setting forth a full and concise statement of the facts pertaining thereto. The Engineer shall also immediately send the FBCTRA a copy of any summons, subpoena, notice, 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 FBCTRA's Acts

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

19. Limitations

Notwithstanding anything herein to the contrary, all covenants and obligations of the FBCTRA under this Agreement shall be deemed to be valid covenants and obligations only to extent authorized by the Act creating the FBCTRA 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 FBCTRA shall have any personal obligation hereunder.

20. Captions Not a Part Hereof

The captions of subtitle of the several sections 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. The parties hereto acknowledge that venue is proper in Fort Bend County, Texas, for all disputes arising hereunder and waive the right to sue or be sued elsewhere.

22. Successors and Assigns

The FBCTRA 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. Statutory Terms Applicable to State Political Subdivisions

a. Engineer certifies and agrees that it (i) does not, nor will not, so long as the Agreement remains in effect, boycott Israel, as such term is defined in Chapter 808, Texas Government Code, (ii) does not engage in business with Iran, Sudan, or any foreign terrorist organization pursuant to Subchapter F of Chapter 2252 of the Texas Government Code; (iii) is not identified on a list prepared and maintained under Sections 806.051, 807.051, or 2252.153, Texas Government Code; (iv) does not, nor will not, so long as the Agreement remains in effect, boycott energy companies, as such term is defined in Chapter 809, Texas Government Code; (v)

does not, nor will not, so long as the Agreement remains in effect, have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association, as such term is defined in 2274.001(3), Texas Government Code; and (vi) is not (a) owned or controlled by (1) individuals who are citizens of China, Iran, North Korea, Russia or any designated country (as such term is defined in 117.003, Texas Business & Commerce Code); or (2) a company or other entity, including a governmental entity, that is owned or controlled by citizens of or is directly controlled by the government of China, Iran, North Korea, Russia, of any designated country; or (b) headquartered in China, Iran, North Korea, Russia or a designated country.

b. Prior to execution of this Agreement by FBCTRA, the Engineer will be required to submit a Texas Ethics Commission Form 1295. Please see this website for details related to this disclosure: https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

c. In accordance with Section 176.0065, Texas Local Government Code, a list of local government officers of FBCTRA may be obtained by contacting the FBCTRA's records administrator at (713) 374-3540.

24. 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

[Signatures Follow]

IN WITNESS WHEREOF, the parties hereto have signed or have caused their respective names to be signed to multiple counterparts.

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

By:_____

Name: James D. Rice

Title: Chairman

TERRACON CONSULTANTS, INC.
ENGINEER

By:_____

Name: Yatish A. Jakatimath, P.E.

Title: Principal

EFFECTIVE DATE

THIS AGREEMENT IS EFFECTIVE ON THE DATE IT IS APPROVED BY THE FORT BEND COUNTY COMMISSIONERS COURT, AND IF NOT SO APPROVED SHALL BE NULL AND VOID.

DATE OF COMMISSIONERS COURT APPROVAL: _____

AGENDA ITEM NO.: _____

ATTACHMENT A
SCOPE OF SERVICES

FORT BEND COUNTY TOLL ROAD AUTHORITY
CONSTRUCTION MATERIALS TESTING & INSPECTION ENGINEERING SERVICES

GENERAL DESCRIPTION

Provide on-call construction materials testing & inspection services, mostly to support construction of the extension of the Fort Bend Parkway Toll Road from Sienna Ranch Road to FM 2759 (Segments B-3 and B-4) (Project 101-1029). The construction work may include materials such as embankment, stabilized subgrade, base, asphalt, concrete pavement, concrete structures, foundations, etc. All work is to Texas Department of Transportation (TxDOT) and Fort Bend County Toll Road Authority (FBCTRA) specifications and requirements.

SCOPE OF SERVICES

Scope of services covered consist of all required materials testing & inspection to ensure the work meets TxDOT specifications, including any additional or different requirements of FBCTRA. The following services are expected to be performed:

- Moisture/density relationship of soils / stabilized soils
- The atterberg limits / percent soil passing No. 20 sieve / soils classification
- Compaction testing of subgrade soils, compaction testing of fill / backfill
- Compressive strength testing of concrete test cylinders
- Compressive strength of cement stabilized sand
- Asphalt testing
- Material mix design review
- Other engineering consulting, testing and inspection services as requested

Working hours for testing and inspection staff will not be limited to 7 a.m. to 5 p.m. on weekdays, and may include night and weekend work with proper notification.

GENERAL NOTES

1. General

1.1 All construction materials engineering services including sampling, field and laboratory testing, and inspection services ("Services") performed by Engineer for Authority must be authorized by Authority.

1.2 Services not specifically authorized by Authority will not be paid for.

1.3 Failure to perform specified services in accordance with Authority requirements may result in cancellation of Engineer's agreement.

2. Engineering Services

2.1 Engineering Services shall be performed by a professional engineer licensed in the State of Texas and employed full-time by the Engineer.

2.2 Authority shall also compensate Engineer when attending Project-related on-site and progress meetings at the request of the Authority.

2.3 Overtime will not be allowed for any Engineering Service.

3. Field Services

3.1 "Sampling" is defined as the process of procuring materials for subsequent testing or examination that is performed by a certified technician with knowledge of appropriate sampling procedures.

3.2 "Specimen Pickup" is defined as the process of retrieving "specimens" usually prefabricated in the field such as cylinders, beams, or cubes, and transporting those specimens to the laboratory for subsequent testing or examination.

3.3 Field Services shall be performed by Engineer's certified engineering technicians in accordance with the Fee Schedule.

3.3.1 A non-certified technician may be allowed to assist a certified technician on a Project provided two or more technicians are required.

3.3.2 Specimen Pickup shall be performed, whenever possible, as part of a scheduled field trip or by the full-time technician assigned to the Project.

3.3.3 Specimen Pickup not performed as a part of a scheduled field trip or by the technician assigned to the Project shall be compensated at the technician rate.

3.3.4 Field sieve analysis and lime slurry percent-solids determination shall be performed in the field as part of the field inspection without an additional testing charge.

3.3.5 Sampling and testing personnel must obtain and keep current their certifications.

3.3.6 All technicians must submit their testing certifications to the Authority before commencing work on the project.

3.3.7 Provisional Certifications: In the event the above mentioned certifications cannot be readily available due to course availability, schedule conflicts, or other extenuating circumstances, provisional certifications may be approved by the Authority, per the following stipulations:

a) Provisional certifications will be valid for up to 6 months; and
b) The candidate must show evidence of having enrolled in the required ACI or TXAPA course.

4. Reporting

Engineer shall document all field and laboratory services in a written report prepared in accordance with Project Specifications and standard methods.

4.1 Reports shall contain hours of service for each visit to the Authority Project including Specimen Pickup.

4.2 All Reports must be received by the Authority within 14 calendar days of the original date of service or completion of required laboratory tests.

4.3 Final reports presenting strength test results shall be sent to Authority within three (3) business days following the test date.

ATTACHMENT B
COMPENSATION FOR SCOPE OF SERVICES

CONSTRUCTION MATERIALS TESTING AND INSPECTION SERVICES

TO SUPPORT THE CONSTRUCTION OF THE EXTENSION OF THE FORT BEND PARKWAY TOLL ROAD FROM SIENNA RANCH ROAD TO FM 2759 (SEGMENTS B-3 AND B-4) PROJECT 101-1029

GENERAL NOTES

1. General

1.1 Compensation of Engineer for personnel performing sampling, testing, and inspection shall be as stated in the Fee Schedule.

1.2 Fees for services are inclusive of all tools, equipment and consumable supplies needed to perform the subject services, except as specifically noted in this Attachment.

1.3 Fees for Services performed on an hourly basis shall be recorded to the nearest ¼ (0.25) hour and will be compensated at the applicable rate.

1.4 Overtime for field services is applicable for any hours worked over 40 hours per week on the project. No overtime will be paid without prior approval from the Authority.

1.5 A minimum charge of four (4) hours for field technician, vehicle, and equipment (where charged on an hourly rate) shall apply to each visit to the Project site or to an authorized off- site location for sampling, observation, inspection, or testing as outlined in the Fee Schedule. The Authority's authorized field personnel may determine when field testing or inspection services are required.

1.6 All hourly services invoiced shall be accompanied by the Company representative's signed time sheet or daily report, including the name and classification of the individual. Hourly services shall be invoiced to the nearest 1/4 hour.

1.7 A minimum of a 30-minute unpaid lunch shall be taken by the field technician for work over eight (8) hours unless otherwise approved in writing by Authority.

1.8 If a technician has departed for the Project, prior to receipt of a cancellation notice by Engineer, Engineer shall be compensated at the applicable technician rate for the time required to Engineer's facility plus applicable Vehicle Charge. A four (4) hour minimum shall apply.

1.9 Engineer may be reimbursed by Authority for services of a qualified subcontractor or Engineer, authorized in advance by the Authority, at cost plus 10%.

1.10 All reimbursable expenses of Engineer shall be supported by documentation acceptable to the Authority. Reimbursables such as photographs, reproduction material, delivery, background checks, safety training / orientation, traffic control, parking, badging, special supplies, permits, equipment, associated drilling, sampling,

field testing, on site facilities, grading contractors, water trucks, bulldozers, security forces, surveyors or other support services, shall be invoiced and reimbursed at cost + 10%. Receipts for reimbursable expenses must be submitted with the Engineer's invoice for the reimbursable expense.

1.11 Authority shall compensate Engineer for travel time between the Engineer's facility and the Authority's Project or other Project-related location. The maximum time compensated for this travel is 1 hour total/roundtrip (30 minutes each way).

1.12 Field Services shall be performed by Engineer's certified engineering technicians in accordance with the Fee Schedule.

1.12.1 The rates for coring of Portland cement concrete or asphaltic concrete are inclusive of the field representative's time, all equipment, and patching of the core hole with a conventional concrete mixture for concrete or cold-patching asphaltic materials for asphaltic concrete. The rates for coring do not include a Vehicle Charge. Patching with specialty materials (such as non-shrink repair mortar) must be approved in advance by Authority.

1.13 Fees for laboratory tests are inclusive of sample preparation unless specifically noted in this Attachment. Compensation shall not be paid for personnel services and / or materials related to such testing, except as specifically noted in this Attachment.

FEE SCHEDULE

The rates and fees listed below are specified rates and fees for the duration of this contract.

Personnel

Principal, per hour	$ 350.00
Senior Project Manager (P.E), per hour	$ 195.00
Project Manager, per hour	$ 160.00
On-Call Inspector as requested, per hour…	$150.00
Administrative Staff, per hour	$ 100.00
Certified Welding Inspector (CWI), per hour	$ 168.00
Field Representative (Concrete), per hour	$ 90.00
Field Representative (Earthwork), per hour	$105.00
Senior Engineering Technician (Foundations & Asphalt), per hour	$ 110.00

Transportation

Vehicle Charge, per day	$ 90.00
Mileage, per mile	$ 0.00[1]

[1] Mileage reimbursement will follow the official federal travel reimbursement rates set by the Internal Revenue Service (IRS) for the year in which the service is provided.

Concrete Mix Verifications

Regular aggregates, each	$ 336.00
Lightweight aggregates, each	$ 392.00
Additional design, same aggregate sample, each	$ 224.00
Review mix design submitted by others, each	$ 196.00
Laboratory Trial Mix Design with cylinders, each	$ 896.00
Laboratory Trial Mix Design with beams, each	$ 1,344.00
Laboratory Trial Mix Design with cylinders and beams, each	$ 1,568.00
Design confirmation cylinder test (ASTM C-39), each	$ 23.00
Design confirmation beam test (ASTM C-293 or C-78), each	$ 62.00

Concrete Tests

Cylinder compression test (ASTM C-39), each	$ 25.00
Beam flexural test (ASTM C-293 or C-78), each	$ 62.00
Cube compression test (ASTM C-109), each	$ 34.00
Compressive strength of shotcrete/gunite (ASTM C-1140), each	$ 129.00
Lightweight insulating concrete compression test, 3" x 6" cylinders (ASTM C-495), each	$ 40.00
Lightweight insulating concrete Dry Unit Weight 3" x 6" cylinders (ASTM C-495), each	$ 40.00
Length change of hardened hydraulic cement mortar of concrete (ASTM C-157), set of 3	$ 504.00
Oven Dry Density of Structural Lightweight Concrete (ASTM C-567), each	$ 56.00
Density of Hardened Concrete (ASTM C-642), each	$ 112.00
Determining F_FFloor Flatness and F_L Floor Levelness Numbers for Random Traffic Floors (ASTM E-1155) (includes labor, equipment, & vehicle), 4 Hr. Minimum, per hour	$ 168.00
Hilti® Ferroscan (includes labor, equipment, & vehicle), 4 Hr. Minimum, per hour	$ 168.00
Hilti® GPR (includes labor, equipment, & vehicle), 4 Hr. Minimum, per hour	$ 280.00

Masonry Tests

Cement mortar mix verification (ASTM C-305), each	$ 560.00
Compressive strength CMU block (ASTM C-140), each	$ 112.00
CMU block absorption only (ASTM C-140), each	$ 101.00
Compressive strength masonry prism (ASTM C-1314)	
CMU prism up to 8 (in.) width, Hollow Cells, each	$ 112.00
CMU prism up to 8 (in.) width, Grout Filled Cells, each	$ 168.00
Brick prism up to 4 (in.) width, each	$ 112.00
Compressive strength of masonry cube/cylinder (ASTM C-109/C-780), each	$ 34.00

Aggregate Tests

Sieve analysis, dry (ASTM C-136), each	$ 95.00
Sieve analysis (ASTM C-117), each	$ 85.00
Sieve analysis w/ -200 (ASTM C-136 & C-117), each	$ 135.00
Unit weight (ASTM C-29), each	$ 55.00
Specific gravity/absorption (ASTM C-127 or C-128), each	$ 112.00
Organic impurities (ASTM C-40), each	$ 85.00
L.A. abrasion (ASTM C-131 or C-535), each	$ 390.00
Sulfate soundness, 5 cycles (ASTM C-88), each	$ 615.00
Additional cycles, each	$ 195.00
Sample prep if uncrushed	$ 28.00
Potential Alkali-Silica Reactivity of Aggregates (Mortar Bar Method) (ASTM C1260/C1567):	
2 samples or less, each	$ 1,568.00
3 or more samples, each	$ 1,232.00
Sand Equivalent (ASTM D-2419, TX 203-F), each	$ 135.00
Deleterious Material (ASTM C142), each	$ 90.00
Lightweight Pieces (ASTM C123):	
Fine Aggregate, each	$ 140.00
Coarse Aggregate, each	$ 168.00
Chert, each	$ 196.00
Percent Flat / Elongated Particles (ASTM D-4791), each	$ 75.00
Percent Fractures Faces (ASTM D-4791), each	$ 75.00

Soils Laboratory Tests

Classification

Moisture Content and visual classification, each	$ 17.00
Atterberg limits (ASTM D-4318 Method A), each	$ 85.00
Percent Passing No. 200 Sieve (ASTM D-1140), each	$ 90.00
Sieve Analysis, each	$ 95.00
Grain Size Analysis (Sieve), each	$ 60.00
Hydrometer Analysis, each	$ 140.00
Density, each	$ 25.00

Soils Field Services

Technician time will be charged at the appropriate hourly rate plus:

Nuclear density gauge, per trip	$ 75.00

Compaction

Optimum moisture / maximum density relations (proctors)

ASTM D-698, method A & B, each	$ 196.00
ASTM D-698, method C, each (Includes Rock Correction ASTM D4718)	$ 224.00
ASTM D-1557, method A & B, each	$ 245.00
ASTM D-1557, method C, each (Includes Rock Correction ASTM D4718)	$ 265.00
TXDOT 113E, each	$ 300.00
TXDOT 114E, Part I, each	$ 245.00
TXDOT 114E, Part II, each	$ 300.00
TXDOT 120E, Part I), each…	$115.00

Strength

TXDOT wet ball mill value (TEX 116E), each	$ 280.00
TXDOT triaxial series (TEX 117E), each	$ 1,680.00
California Bearing Ratio (CBR) (ASTM D-1883), each	$ 504.00
Compressive Strength Tests including molding	
Fine grained soils (ASTM D-1633, Method A), each	$ 96.00
Base material (TEX 120E), each	$ 112.00

Stabilization Evaluation

Lime Series Testing – pH only (ASTM D6276)	$ 395.00
Lime Series Testing – PI and pH (ASTM D6276 and D4318)	$ 560.00
Cement content (ASTM D-806), each	$ 840.00
Cement content (ASTM D-806), two or more samples, each	$ 616.00
Soil pH Value, each	$ 62.00
Fresh cement content (ASTM D-2901), each	$ 107.00
Fresh cement content 3 point curve (ASTM D-2901), each	$ 471.00
Compressive Strength of Cement Stabilized Sample (ASTM D-1633, Method A), each	$ 70.00

Chemical Testing

Corrosion Suite Testing (Chlorides, sulfates, TDS, Red-Ox, pH, Resistivity)	$ 392.00
Sulfate Testing (ASTM C1580, TX 145E), each	$ 560.00
Chloride Testing (ASTM D512, AWWA-4500-D), each	$ 840.00
Sulfide Testing (AWWA 4500-CL), each	$ 616.00
Red-Oxidation (ASTM G200), each	$ 62.00
Total Salts (TDS), (AWWA 2520 B), each	$ 107.00
Resistivity (ASTM G57), each	$ 471.00
Resistivity (TX 129E), each	$ 68.00

Coring Services (Flat Work)*

***Coring performed by a Terracon Approved Sub-Contractor**

Core drilling, minimum charge per trip, local, each	$ 560.00
Concrete pavement cores, 4" diameter up to 6" depth or less, each	$ 112.00
Concrete coring, additional thickness greater than 6" depth, per inch	$ 12.00
Testing concrete cores (includes: length, sawing, capping and compressing testing), each	$ 129.00
Asphalt pavement cores 4" diameter up to 6" depth or less, each	$ 79.00
Asphalt coring, additional thickness greater than 6" depth, per inch	$ 10.00
Standby time in clients interest, machine and operator, per hour	$ 84.00
Structural Concrete Coring	By Quotation

Asphaltic Concrete Services

Asphalt Laboratory, Full Set	$ 1,010.00
Molding specimens (TEX 206F), set of 3	$ 84.00
Molding specimens (TEX 241F), set of 2	$ 168.00
Bulk specific gravity of lab molded specimens, set of 2 or 3	$ 73.00
Bulk specific gravity of core specimen (TEX 207F), each	$ 84.00
Maximum theoretical density (TEX 227F), each	$ 135.00
Hveem stability (TEX 208F), set of 3	$ 90.00
Extraction (ASTM D-2172 or TEX 210F), each	$ 269.00
Asphalt Content and Gradation (TEX 236F & TEX 200-Part 1), each	$ 269.00
HMAC Mix Design (TEX 204F), each	$ 1,792.00
HMAC Mix Design review prepared by others, each	$ 280.00

NDE Field Services

Technician time will be charged at the appropriate hourly rate plus:

Ultrasonic gauge, per day	$ 168.00
MT/LP consumables, per day	$ 168.00
Minimum trip charge, personnel and equipment	$ 560.00
Torque Wrench, per day	$ 112.00
Skidmore Wilhelm, per day	$ 112.00
Paint thickness gauge, per day	$ 56.00

Sprayed Applied Fireproofing Materials

Density by Displacement Method (ASTM E-605), each	$ 56.00
Adhesion / Cohesion (ASTM E-736), each	$ 34.00

ATTACHMENT C

The Engineer shall furnish certificates of insurance to the FBCTRA 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 FBCTRA 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 FBCTRA and the FBCTRA'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 FBCTRA and the FBCTRA's Directors, with the exception of insurance required under paragraph "e."