STATE OF TEXAS §

§

COUNTY OF FORT BEND §

AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES

THIS AGREEMENT is made and entered into by and between Fort Bend County, (hereinafter "County"), a body corporate and politic under the laws of the State of Texas, and Cobb, Fendley & Associates, Inc., (hereinafter "Contractor"), a company authorized to conduct business in the State of Texas.

W I T N E S S E T H

WHEREAS, County desires that Contractor provide professional engineering services for extension of SH 99 Northbound Frontage Road from Cinco Ranch to Bay Hill intersections under 2020 Mobility Bond Project No. 20303a (hereinafter "Services") pursuant to SOQ 14-025; and

WHEREAS, County has determined Contractor is the most highly qualified provider of the desired Services on the basis of demonstrated competence and qualifications, and County and Contractor have negotiated to reach a fair and reasonable amount of compensation for the provision of such Services, as required under Chapter 2254 of the Texas Government Code; and

WHEREAS, Contractor represents that it is qualified and desires to perform such services.

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

AGREEMENT

Section 1. Scope of Services

Contractor shall render the professional engineering services as described in Contractor's proposal dated April 21, 2021, attached hereto as Exhibit A, and incorporated herein for all purposes.

Section 2. Personnel

2.1 Contractor 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 Contractor shall furnish and maintain, at its own expense, adequate and sufficient personnel, in the opinion of County, to perform the Scope of Services when and as required and without delays.

2.2 All employees of Contractor shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of Contractor who, in the opinion of County, is incompetent or by his conduct becomes detrimental to the project shall, upon request of County, immediately be removed from association with the project.

Section 3. Compensation and Payment

3.1 Contractor's fees shall be calculated at the rates set forth in the attached Exhibit A. The Maximum Compensation for the performance of Services within the Scope of Services described in Exhibit A is one million one hundred thousand seven dollars and no/100 ($1,100,007.00) as set forth in Exhibit A. In no case shall the amount paid by County under this Agreement exceed the Maximum Compensation without a written agreement executed by the parties.

3.2 All performance of the Scope of Services by Contractor including any changes in the Scope of Services and revision of work satisfactorily performed will be performed only when approved in advance and authorized by County.

3.3 County will pay Contractor based on the following procedures: Upon completion of the tasks identified in the Scope of Services, Contractor shall submit to County staff person designated by the County Engineer, one (1) electronic (pdf) copy of the invoice showing the amounts due for services performed in a form acceptable to County. County shall review such invoices and approve them within 30 calendar days with such modifications as are consistent with this Agreement and forward same to the Auditor for processing. County shall pay each such approved invoice within thirty (30) calendar days. County reserves the right to withhold payment pending verification of satisfactory work performed.

Section 4. Limit of Appropriation

4.1 Contractor clearly understands and agrees, such understanding and agreement being of the absolute essence of this Agreement, that County shall have available the total maximum sum of is one million one hundred thousand seven dollars and no/100 ($1,100,007.00) specifically allocated to fully discharge any and all liabilities County may incur.

4.2 Contractor does further understand and agree, said understanding and agreement also being of the absolute essence of this Agreement, that the total maximum compensation that Contractor may become entitled to and the total maximum sum that County may become liable to pay to Contractor shall not under any conditions, circumstances, or interpretations thereof exceed is one million one hundred thousand seven dollars and no/100 ($1,100,007.00).

Section 5. Time of Performance

Time for performance of the Scope of Services under this Agreement shall begin with receipt of the Notice to Proceed and end no later than December 31, 2025. Contractor shall complete the tasks described in the Scope of Services, within this time or within such additional time as may be extended by the County.

Section 6. Modifications and Waivers

6.1 The parties may not amend or waive this Agreement, except by a written agreement executed by both parties.

6.2 No failure or delay in exercising any right or remedy or requiring the satisfaction of any condition under this Agreement, and no course of dealing between the parties, operates as a waiver or estoppel of any right, remedy, or condition.

6.3 The rights and remedies of the parties set forth in this Agreement are not exclusive of, but are cumulative to, any rights or remedies now or subsequently existing at law, in equity, or by statute.

Section 7. Termination

7.1 Termination for Convenience – County may terminate this Agreement at any time upon forty-eight (48) hours written notice.

7.2 Termination for Default

7.2.1 County may terminate the whole or any part of this Agreement for cause in the following circumstances:

7.2.1.1 If Contractor fails to perform services within the time specified in the Scope of Services or any extension thereof granted by the County in writing;

7.2.1.2 If Contractor materially breaches any of the covenants or terms and conditions set forth in this Agreement or fails to perform any of the other provisions of this Agreement or so fails to make progress as to endanger performance of this Agreement in accordance with its terms, and in any of these circumstances does not cure such breach or failure to County's reasonable satisfaction within a period of ten (10) calendar days after receipt of notice from County specifying such breach or failure.

7.2.2 If, after termination, it is determined for any reason whatsoever that Contractor was not in default, or that the default was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the County in accordance with Section 7.1 above.

7.3 Upon termination of this Agreement, County shall compensate Contractor in accordance with Section 3, above, for those services which were provided under this Agreement prior to its termination and which have not been previously invoiced to County. Contractor's final invoice for said services will be presented to and paid by County in the same manner set forth in Section 3 above.

7.4 If County 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 Contractor.

Section 8. Ownership and Reuse of Documents

All documents, data, reports, research, graphic presentation materials, etc., developed by Contractor as a part of its work under this Agreement, shall become the property of County upon completion of this Agreement, or in the event of termination or cancellation thereof, at the time

of payment under Section 3 for work performed. Contractor shall promptly furnish all such data and material to County on request.

Section 9. Inspection of Books and Records

Contractor will permit County, or any duly authorized agent of County, to inspect and examine the books and records of Contractor for the purpose of verifying the amount of work performed under the Scope of Services. County's right to inspect survives the termination of this Agreement for a period of four years.

Section 10. Insurance

10.1 Prior to commencement of the Services, Contractor shall furnish County with properly executed certificates of insurance which shall evidence all insurance required and provide that such insurance shall not be canceled, except on 30 days' prior written notice to County. Contractor shall provide certified copies of insurance endorsements and/or policies if requested by County. Contractor shall maintain such insurance coverage from the time Services commence until Services are completed and provide replacement certificates, policies and/or endorsements for any such insurance expiring prior to completion of Services. Contractor shall obtain such insurance written on an Occurrence form (or a Claims Made form for Professional Liability insurance) from such companies having Best's rating of A/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:

10.1.1 Workers' Compensation insurance. Substitutes to genuine Workers' Compensation Insurance will not be allowed.

10.1.2 Employers' Liability insurance with limits of not less than $1,000,000 per injury by accident, $1,000,000 per injury by disease, and $1,000,000 per bodily injury by disease.

10.1.3 Commercial general liability insurance with a limit of not less than $1,000,000 each occurrence and $2,000,000 in the annual aggregate. Policy shall cover liability for bodily injury, personal injury, and property damage and products/completed operations arising out of the business operations of the policyholder.

10.1.4 Business Automobile Liability insurance with a combined Bodily Injury/Property Damage limit of not less than $1,000,000 each accident. The policy shall cover liability arising from the operation of licensed vehicles by policyholder.

10.1.5 Professional Liability insurance may be made on a Claims Made form with limits not less than $1,000,000.

10.2 County and the members of Commissioners Court shall be named as additional insured to all required coverage except for Workers' Compensation and Professional Liability. All Liability policies including Workers' Compensation written on behalf of Contractor shall contain a waiver of subrogation in favor of County and members of Commissioners Court.

10.3 If required coverage is written on a claims-made basis, Contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of the contract; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of 2 years beginning from the time that work under the Agreement is completed.

Section 11. Indemnity

CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS COUNTY AGAINST LOSSES, LIABILITIES, CLAIMS, AND CAUSES OF ACTION, INCLUDING THE REIMBURSEMENT OF COUNTY'S REASONABLE ATTORNEYS FEES IN PROPORTION TO CONTRACTOR'S LIABILITY, ARISING FROM ACTIVITIES OF CONTRACTOR, ITS AGENTS, SERVANTS OR EMPLOYEES, PERFORMED UNDER THIS AGREEMENT THAT RESULT FROM THE NEGLIGENT ACT, INTENTIONAL TORT, ERROR, OR OMISSION OF CONTRACTOR OR ANY OF CONTRACTOR'S AGENTS, SERVANTS OR EMPLOYEES.

Section 12. Confidential and Proprietary Information

12.1 Contractor acknowledges that it and its employees or agents may, in the course of performing their responsibilities under this Agreement, be exposed to or acquire information that is confidential to County. Any and all information of any form obtained by Contractor or its employees or agents from County in the performance of this Agreement shall be deemed to be confidential information of County ("Confidential Information"). Any reports or other documents or items (including software) that result from the use of the Confidential Information by Contractor shall be treated with respect to confidentiality in the same manner as the Confidential Information. Confidential Information shall be deemed not to include information that (a) is or becomes (other than by disclosure by Contractor) publicly known or is contained in a publicly available document; (b) is rightfully in Contractor's possession without the obligation of nondisclosure prior to the time of its disclosure under this Agreement; or (c) is independently developed by employees or agents of Contractor who can be shown to have had no access to the Confidential Information.

12.2 Contractor agrees to hold Confidential Information in strict confidence, using at least the same degree of care that Contractor uses in maintaining the confidentiality of its own confidential information, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose Confidential Information to third parties or use Confidential Information for any purposes whatsoever other than the provision of Services to County hereunder, and to advise each of its employees and agents of their obligations to keep Confidential Information confidential. Contractor shall use its best efforts to assist County in identifying and preventing any unauthorized use or disclosure of any Confidential Information. Without limitation of the foregoing, Contractor shall advise County immediately in the event Contractor learns or has reason to believe that any person who has had access to Confidential Information has violated or intends to violate the terms of this Agreement and Contractor will at its expense cooperate with County in seeking injunctive or other equitable relief in the name of County or Contractor against any such person. Contractor agrees that, except as directed by County, Contractor will not at any time during

or after the term of this Agreement disclose, directly or indirectly, any Confidential Information to any person, and that upon termination of this Agreement or at County's request, Contractor will promptly turn over to County all documents, papers, and other matter in Contractor's possession which embody Confidential Information.

12.3 Contractor acknowledges that a breach of this Section, including disclosure of any Confidential Information, or disclosure of other information that, at law or in equity, ought to remain confidential, will give rise to irreparable injury to County that is inadequately compensable in damages. Accordingly, County may seek and obtain injunctive relief against the breach or threatened breach of the foregoing undertakings, in addition to any other legal remedies that may be available. Contractor acknowledges and agrees that the covenants contained herein are necessary for the protection of the legitimate business interest of County and are reasonable in scope and content.

12.4 Contractor in providing all services hereunder agrees to abide by the provisions of any applicable Federal or State Data Privacy Act.

12.5 Contractor expressly acknowledges that County is subject to the Texas Public Information Act, TEX. GOV'T CODE ANN. §§ 552.001 *et seq.*, as amended, and notwithstanding any provision in the Agreement to the contrary, County will make any information related to the Agreement, or otherwise, available to third parties in accordance with the Texas Public Information Act. Any proprietary or confidential information marked as such provided to County by Consultant shall not be disclosed to any third party, except as directed by the Texas Attorney General in response to a request for such under the Texas Public Information Act, which provides for notice to the owner of such marked information and the opportunity for the owner of such information to notify the Attorney General of the reasons why such information should not be disclosed.

Section 13. Independent Contractor

13.1 In the performance of work or services hereunder, Contractor shall be deemed an independent contractor, and any of its agents, employees, officers, or volunteers performing work required hereunder shall be deemed solely as employees of contractor or, where permitted, of its subcontractors.

13.2 Contractor and its agents, employees, officers, or volunteers shall not, by performing work pursuant to this Agreement, be deemed to be employees, agents, or servants of County and shall not be entitled to any of the privileges or benefits of County employment.

Section 14. Notices

14.1 Each party giving any notice or making any request, demand, or other communication (each, a "Notice") pursuant to this Agreement shall do so in writing and shall use one of the following methods of delivery, each of which, for purposes of this Agreement, is a writing: personal delivery, registered or certified mail (in each case, return receipt requested and postage prepaid), or nationally recognized overnight courier (with all fees prepaid).

14.2 Each party giving a Notice shall address the Notice to the receiving party at the address listed below or to another address designated by a party in a Notice pursuant to this Section:

County:	Fort Bend County Engineering Department Attn: County Engineer 301 Jackson Street Richmond, Texas 77469
With a copy to:	Fort Bend County Attn: County Judge 401 Jackson Street, 1st Floor Richmond, Texas 77469
Contractor:	Cobb, Fendley & Associates Inc 13430 Northwest Fwy, Suite 1100 Houston, Texas 77040

14.3 A Notice is effective only if the party giving or making the Notice has complied with subsections 14.1 and 14.2 and if the addressee has received the Notice. A Notice is deemed received as follows:

14.3.1 If the Notice is delivered in person, or sent by registered or certified mail or a nationally recognized overnight courier, upon receipt as indicated by the date on the signed receipt.

14.3.2 If the addressee rejects or otherwise refuses to accept the Notice, or if the Notice cannot be delivered because of a change in address for which no Notice was given, then upon the rejection, refusal, or inability to deliver.

Section 15. Compliance with Laws

Contractor 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 by County, Contractor shall furnish County with certification of compliance with said laws, statutes, ordinances, rules, regulations, orders, and decrees above specified.

Section 16. Standard of Care

Contractor represents shall perform the Services to be provided under this Agreement with the professional skill and care ordinarily provided by competent engineers practicing under the same or similar circumstances and professional license. Further, Contractor shall perform the Services as expeditiously as is prudent considering the ordinary professional skill and care of a competent engineer.

Section 17. Assignment

17.1 Neither party may assign any of its rights under this Agreement, except with the prior written consent of the other party. That party shall not unreasonably withhold its consent. All assignments of rights are prohibited under this subsection, whether they are voluntarily or involuntarily, by merger, consolidation, dissolution, operation of law, or any other manner.

17.2 Neither party may delegate any performance under this Agreement.

17.3 Any purported assignment of rights or delegation of performance in violation of this Section is void.

Section 18. Applicable Law

The laws of the State of Texas govern all disputes arising out of or relating to this Agreement. The parties hereto acknowledge that venue is proper in Fort Bend County, Texas, for all legal actions or proceedings arising out of or relating to this Agreement and waive the right to sue or be sued elsewhere. Nothing in the Agreement shall be construed to waive the County's sovereign immunity.

Section 19. Successors and Assigns

County and Contractor 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.

Section 20. Third Party Beneficiaries

This Agreement does not confer any enforceable rights or remedies upon any person other than the parties.

Section 21. Severability

If any provision of this Agreement is determined to be invalid, illegal, or unenforceable, the remaining provisions remain in full force, if the essential terms and conditions of this Agreement for each party remain valid, binding, and enforceable.

Section 22. Publicity

Contact with citizens of Fort Bend County, media outlets, or governmental agencies shall be the sole responsibility of County. Under no circumstances whatsoever, shall Contractor release any material or information developed or received in the performance of the Services hereunder without the express written permission of County, except where required to do so by law.

Section 23. Captions

The section captions used in this Agreement are for convenience of reference only and do not affect the interpretation or construction of this Agreement.

Section 24. Conflict

In the event there is a conflict between this Agreement and the attached exhibits, this Agreement controls.

Section 25. Certain State Law Requirements for Contracts

25.1 Agreement to Not Boycott Israel Chapter 2271 Texas Government Code: By signature below, Contractor verifies that if Contractor employs ten (10) or more full-time employees and this Agreement has a value of $100,000 or more, Contractor does not boycott Israel and will not boycott Israel during the term of this Agreement.

25.2 Texas Government Code Section 2251.152 Acknowledgment: By signature below, Contractor represents pursuant to Section 2252.152 of the Texas Government Code, that Contractor is not listed on the website of the Comptroller of the State of Texas concerning the listing of companies that are identified under Section 806.051, Section 807.051 or Section 2253.153.

Section 26. Human Trafficking

BY ACCEPTANCE OF AGREEMENT, CONTRACTOR ACKNOWLEDGES THAT THE COUNTY IS OPPOSED TO HUMAN TRAFFICKING AND THAT NO COUNTY FUNDS WILL BE USED IN SUPPORT OF SERVICES OR ACTIVITIES THAT VIOLATE HUMAN TRAFFICKING LAWS.

[THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK.]

IN WITNESS WHEREOF, the parties hereto have signed or have caused their respective names to be signed to multiple counterparts to be effective on the date signed by the last party hereto.

FORT BEND COUNTY

KP George, County Judge

Date

ATTEST:

Laura Richard, County Clerk

COBB, FENDLEY & ASSOCIATES, INC

Authorized Agent – Signature

Charles M. Eastland

Authorized Agent – Printed Name

Exec. Vice President

Title

5/26/21

Date

APPROVED:

J. Stacy Slawinski, P.E., County Engineer

APPROVED AS TO LEGAL FORM:

Marcus D. Spencer, First Assistant County Attorney

AUDITOR'S CERTIFICATE

I hereby certify that funds are available in the amount of $_____ to accomplish and pay the obligation of Fort Bend County under this contract.

Robert Ed Sturdivant, County Auditor

EXHIBIT A

CobbFendley

April 21, 2021

Mr. Stacy Slawinski, P.E.
Fort Bend County Engineer
C/O Mark Dessens, P.E.
11767 Katy Freeway, Ste. 900
Houston, TX 77079

Re: Extension of SH 99 NB Frontage Road from Cinco Ranch to Bay Hill intersections
FBC 2020 Mobility Bond Program Project No. 20303a

Subject: Proposal for Schematic/Preliminary Engineering and Final Design Professional Services

Dear Mr. Slawinski:
We are pleased to provide you with this proposal to perform professional engineering and surveying services in connection with Extension of SH 99 NB Frontage Road from Cinco Ranch Blvd. to Bay Hill Drive intersections, Mobility Bond Program Project No. 20303a for PCT 3 of Fort Bend County, Texas.
Enclosed are Cobb, Fendley & Associates, Inc. (CobbFendley) consultant team proposed budget, manpower, and direct expense breakdown and scope of services for completing preliminary engineering, final design, geotechnical, surveying, bidding, and limited construction phase services for the above referenced project.

CobbFendley proposed budget for the referenced project as follow:

Basic Services

Phase I – Preliminary Design Services (Lump-Sum)	$286,442
Phase II- Final Design Services (Lump-Sum)	$562,780
Subtotal Basic Services Fee	$849,221

Additional Services

Geotechnical Investigation, Geotest (Lump-Sum)	$ 22,163
Surveying, EHRA (Lump-Sum)	$ 59,975
Environmental Studies, Bio-West (Lump-Sum)	$116,050
Subtotal Additional Services Fee	$198,188

Optional Services for Detention site (if Required)

Lighting Design & CenterPoint Coordination*	$ 25,000
Design services for potential off-site detention basin, if required*	$ 25,000
Subtotal Optional Services Fee (If Required)	$ 50,000

* Tasks will only be performed with prior FBC Engineer's authorization

CobbFendley

Reimbursable Direct Expenses

Direct Expenses	$ 2,598
Subtotal Reimbursable Direct Expenses	$ 2,598

Total Fee for Basic, Additional & Optional Services and Reimbursables..... $1,100,007

We respectfully request a total budget of $1,100,007.00 for the abovementioned professional services. Detailed scope of services and the level of effort for the basic, additional, and optional services are attached. Also attached are the proposals from subconsultants for the surveying, geotechnical, and environmental services. Please note that optional services fee for the street lighting and engineering design and construction of a potential detention site are for budgetary purposes, if deemed necessary, as determined by the H&H analysis. The optional services will only be performed with prior written authorization by the County Engineer or the Fort Bend County Managing Consultant.

Upon receipt of the written notice to proceed we will commence work. Please call at your earliest convenience should you have any questions, or require additional information,

Sincerely,

COBB, FENDLEY & ASSOCIATES, INC.

Mahmoud Salehi, P.E.
Principal | Senior Project Manager

Attachments

EXHIBIT A

SERVICES TO BE PROVIDED BY THE COUNTY

Engineer County (hereinafter to be referred to as the County) has commissioned the services of Cobb Fendley & Associates, Inc. to serve as the Engineer on this project.

County shall provide Engineer with all existing plans, maps studies, reports, field notes, statistics, computations, and other data in its possession relative to existing facilities and to this particular Project at no cost to Engineer; however, any and all such information shall remain the property of County and shall be returned, if the County Engineer so instructs Engineer.

County shall provide direct payments to the Engineer in a timely fashion. The invoices from this work will be forwarded to the County's designated engineering consultant manager for review and approval of the invoices for direct payment by the County.

Engineer shall be responsible for securing all required permits and agreements, with the direction and cooperation provided by the County, as required.

SCOPE OF SERVICES

SERVICES TO BE PROVIDED BY THE ENGINEER

The work to be performed by the Engineer shall consist of development of a schematic design layout and construction cost estimate, preparing construction documents and bid documents, and limited construction phase services, and environmental studies in support of the schematic work, public involvement, permit procurement, data collection, drainage mitigation, traffic control, and surveying and mapping for extension of northbound (NB) frontage road along SH 99 from Cinco Ranch Blvd. to Bay Hill Street.

Schematic & design project limits:

The proposed SH 99 NB frontage road will be extended from the existing frontage road downstream of the existing on-ramp approximately 800-ft north of the Cinco Ranch intersection to the existing frontage road upstream of the existing off-ramp approximately 500-ft south of the Bay Hill intersections in Engineer County, Texas. (Length = 3,500 LF or 0.663 Mile)

Geometric Design Studies

The Engineer shall prepare an alignment and proposed roadway schematic layout to include projected traffic volumes, existing and proposed typical sections. The Engineer shall furnish Microsoft Office and Microstation V8i-Geopak computer generated media containing the roadway schematic layout to the County and State. All supporting attachments and exhibits shall accompany the schematic layout. All Microsoft Office and Microstation V8i-Geopak computer generated files containing the roadway schematic layout shall be compatible with the software used by the State.

The Engineer shall prepare preliminary drawings to identify any potential adverse impacts within the project corridor. Identification of all existing and proposed utilities (public and private), structures, burial grounds, neighborhood communities, historical landmarks, and undeveloped areas is required. Any potential utility conflicts and structural impediments must be identified as such. The Engineer shall propose alternative alignments which would avoid or minimize displacements and damages and prepare any additional attachments or exhibits required illustrating a preferred alternative alignment. The Engineer shall render assistance to the County for agency meetings as necessary during the development of the schematic design as requested by the County. The Engineer shall also render assistance to the State for 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. All designs shall be prepared in accordance with the latest version of: TxDOT Roadway Design Manual, TxDOT Project Development Process Manual, AASHTO Policy on Geometric Design of Highways and Streets, TxDOT Standard Specifications for Construction of Highways, Streets, and Bridges, TxDOT Traffic Operations Manual on Highway Operations, and Highway Capacity Manual - Transportation Research Board.

The schematic layout will adhere to a design scale of 1 in. = 100 ft. The schematic layout, exhibits, and attachments will be developed in English units. All Microsoft Office and Microstation V8i - Geopak computer graphic files furnished to the County and State must be submitted in electronic format by means of a CD media that will be compatible to the State. Schematics will follow the State and Federal Highway Administration (FHWA) standards, the schematic will also follow the CADD standards used by the State and shall be submitted as an original document, accompanied with an original Microstation V8i formatted graphics file. The final schematic design and construction documents shall be signed by a professional engineer licensed in the State of Texas.

Schematic Design Work Outline:

Develop Base Maps

The base maps to be used for the analysis and proposed schematic layout shall be developed by the Engineer from existing construction and right of way (ROW) plans as available. The Engineer shall establish the proposed horizontal alignments for all roadways and ramps, identify existing ROW, property owners and the approximate location of major utilities in the preparation of base maps.

Planimetric and Aerial Mapping

Planimetric, Digital Terrain Modeling (DTM), and aerial photographs of the SH 99 corridor shall be furnished to the Engineer by the County/TxDOT when available.

Analyze Existing Conditions

Using collected data and base maps, the Engineer shall develop an overall analysis of the existing conditions in order to develop the schematic design. The analysis shall include, but not be limited to the following:

a. ROW determination
b. Horizontal alignment
c. Profile grades
d. Pavement cross slopes and pavement type
e. Geotechnical Testing & Soil Exploration
f. Sight distance
g. Roadside signing
h. Locations of critical constraints
i. Drainage
j. Traffic control and construction phasing sequence

Schematic Alternatives

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

Deliverable Schematic

The Engineer shall consider the following in the analysis to optimize the design:

a. The most efficient use of the allocated ROW
b. Roadway and ramp geometry, if applicable
c. Sight distance
d. Construction costs
e. Construction sequencing and traffic control during construction
f. Roadside safety appurtenances

Project Management and Coordination

a. The Engineer shall direct and coordinate the various elements and activities associated with developing the design schematic.
b. The Engineer shall prepare the detailed graphic Project Work Schedule indicating tasks, critical dates, milestones, deliverables, and State review requirements.
c. The Engineer shall prepare subcontracts for subconsultants, direct and monitor subconsultants activities, and review subconsultant work and invoices.
d. The Engineer shall provide ongoing quality assurance and quality control to ensure completeness of product and compliance with the State procedures.

e. The Engineer shall prepare and submit invoices.

Data Collection

The Engineer shall conduct field reconnaissance and collect data as necessary to complete the schematic design. Data shall include the following information. Items "a" to "g" will be obtained from the County and/or State, if available, while items "h" to "j" will be obtained from other agencies as required.

a. Design data from record drawings of existing and proposed facilities
b. Existing and future design year traffic data
c. Roadway inventory information, including the number of lanes, speed limits, pavement widths and rating, bridge widths and ratings, and ROW widths.
d. Aerial photos, planimetric mapping, and DTM
e. Available Environmental Data
f. Previously prepared drainage studies
g. Adopted land use maps and plans as available.
h. Federal Emergency Management Agency (FEMA) Flood Boundary Maps
i. Public and private utility information

Design Kick-Off Meeting

Engineer will attend an initial Kick-Off Meeting with the County to establish and agree on fundamental aspects and concepts and to establish the basic features and design criteria for the project. This meeting will be coordinated with any adjacent projects to ensure continuity.

Schematic Design – General Tasks

a. ROW/Property Base Map

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

b. Utility Base Map

   The Engineer shall obtain information on existing utilities from utility owners and shall conduct investigations to identify and evaluate all known existing and proposed public and private utilities. The Engineer shall identify potential conflicts and attempt to minimize the potential adverse utility impacts in the preparation of the schematic design. The Engineer shall prepare a base map depicting the utility locations.

c 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.

d. Environmental Constraints

The Engineer shall consider impacts to environmentally sensitive sites (as identified by the State and provided to the Engineer) during the schematic design process. The environmental sensitive sites may include historic structures, cemeteries, residential areas, historical landmarks, and farmland.

e. Drainage

The Engineer shall use data from as-built plans and FEMA maps to locate drainage out fall(s) and to determine existing storm sewer and culvert sizes, design flows, and water surface elevations for use in the design of roadway geometry. The Engineer shall conduct a Preliminary Drainage Study to determine and evaluate the adequacy of the ROW needed to accommodate the proposed roadway and drainage system. The drainage study shall identify the impacts to abutting properties and the 100-year floodplain due to proposed highway improvements, identify the water surface elevations for the 2, 5, 10-, 25-, 50- and 100-year storm events, identify and locate outfalls, drainage outfall descriptions, provide overall drainage area map, sub-drainage area map, storm water detention facilities, and provide a drainage study report identifying the results of the study. The drainage report, signed and sealed by a professional engineer, shall include applicable hydrologic and hydraulic models such as HEC-1 and HEC-2, HEC-RAS, HEC-HMS, XP-SWMM, and other applicable models. The Engineer shall not evaluate the adequacy of the existing drainage structures.

f. ROW Requirements

The Engineer shall determine the ROW requirements based on the proposed alignment, typical sections, access control, terrain, construction requirements, drainage, clear zone, maintenance, and environmental mitigation requirements.

g. Construction Sequence

The Engineer shall consider the requirements for construction and traffic control throughout the development of schematic and final design to ensure that the proposed design can be constructed.

h. Design Exceptions

The Engineer shall identify design exceptions and waivers and shall document the necessity

for each design exception or waiver.

i. Bicycle and Pedestrian Accommodations (If Required)

The Engineer shall comply with the federal policy statement on Bicycle and Pedestrian Accommodations Regulations and Recommendations by United States Department of Transportation (USDOT). This policy encourages the incorporation of safe and convenient walking and bicycling facilities into transportation projects. The inclusion of bicycle and pedestrian facilities shall be considered when the project is scoped. Public input when applicable, as well as local city and metropolitan planning organization for bicycle and pedestrian plans shall be considered.

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. It is anticipated that a single design alternative that optimizes traffic flow and access shall be produced. The conceptual schematics will be plan view only. Profile work will be done only to the extent necessary to lay out the proper horizontal geometry.

The schematics shall contain the following design elements:

a. Frontage roadway alignment
b. Face of curbs for travel lanes and shoulder lines, if applicable
c. Typical sections of existing and proposed roadway
d. Proposed structure locations, if applicable
e. Preliminary ROW requirements and control-of-access locations
f. Direction of traffic flow and the number of lanes on all roadways
g. Existing and projected traffic volumes

Geometric Design Schematics

The Engineer shall develop geometric design schematics based on the conceptual schematics after the basic layout, lane arrangement, and ROW requirements depicted on the conceptual schematics is approved.

The geometric schematic plan view shall contain the following design elements:

a. Geopak calculated roadway alignments for frontage road, (mainlanes, ramps & bridges if applicable), and horizontal curve data shown in tabular format.
b. Pavement edges, curb lines, sidewalks for all roadway improvements
c. Typical sections of existing and proposed roadways

d. Proposed structure locations, bridge layouts including abutment, bent and rail locations, if applicable.
e. Existing and proposed major utilities.
f. Existing property lines and respective property ownership information
g. ROW requirements adequate for preparation of ROW maps
h. Control-of-access limits
i. Lane lines, shoulder lines, and direction of traffic flow arrows indicating the number of lanes on all roadways.

The geometric schematic profile view shall contain the following design elements:

a. Calculated profile grade and vertical curve data including "K" values for the proposed SH 99 NB frontage road.
b. Existing ground line profiles along the frontage road and (mainlanes if applicable)
c. Grade separations and overpasses, if applicable

The calculated profile grade for frontage roads and (ramps if applicable)

Cross-Sections

The Engineer shall use Geopak to generate preliminary cross-sections every 100 feet in conjunction with the Geometric Schematic. The Engineer shall determine earthwork volumes for use in the cost estimate and shall prepare roll plots of the cross-sections.

Preliminary Construction Sequence

The Engineer shall prepare a Preliminary Construction Sequence Layout in conjunction with the Geometric Schematic depicting the phasing and traffic detours anticipated to construct the proposed design.

Preliminary Cost Estimate

The Engineer shall prepare a preliminary cost estimate for the project, including the costs of construction and eligible utility adjustments. Current State unit bid prices will be used in preparation of the estimate.

Agency Coordination and Public Involvement

a. The Engineer shall assist the County in conducting meetings with 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 assist in conducting public meetings and public hearing during the project development process. The Engineer shall prepare schematic exhibits, constraints maps, other necessary exhibits, and assist the County in the presentation, if warranted.

Schematic Design Project Deliverables

In conjunction with the performance of the foregoing services, the Engineer shall provide the following draft and final documents and associated electronic files:

- Two (3) draft copies of the Geometric Schematic layouts (1 inch = 100 feet)
- Four (3) final copies of the Geometric Schematic layouts (1 inch = 100 feet)
- One (1) copy of the Preliminary Cross-Sections in a roll plot format
- Four (3) final copies of the Preliminary Drainage Study
- Electronic files shall be furnished to the County on a USB. Files should include in originals, DGN, PDF and KMZ format. PDF of final schematic and engineering reports to be sign and seal by the Engineer.

Project Management and Administration

1. Perform all work in accordance with the County & State's latest practices, criteria, specifications, policies, procedures, and Standards of Uniformity (SOU). All documents shall be sufficient to satisfy the current SOUs available from the State.
2. Produce a complete and acceptable deliverable for each environmental service performed for environmental documentation.
3. Incorporate environmental data into identification of alternatives.
4. Notify the County/TxDOT of its schedule, in advance, for all field activities.
5. When specified, seek right of entry from public or private landowners to perform environmental services. Right of entry permission shall be written and signed by the landowner. Develop letters or other materials for seeking right of entry. Letters or other materials seeking right of entry shall not be distributed without prior approval of the State. Letters or other materials seeking right of entry shall contain explicit reference to the kinds of activities for which right of entry is requested and an indication of the impacts (if any) that will result from performance of environmental services.
6. Notify the County & State as soon as practical, by phone and in writing, if performance of environmental services discloses the presence or likely presence of significant impacts (in accord with 40 Code of Federal Regulations (CFR) 1500-1508). Inform the

State of the basis for concluding there are significant impacts and the basis for concluding that the impacts may require mitigation.

7. Notify the County & State 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 may elevate the Transportation Activity's status from a categorical exclusion or environmental assessment, and the County/State will reassess the appropriate level of documentation.

FIELD SURVEYING

Surveyor will perform a Topographic Survey in substantial compliance with a Category 6, Condition II survey for the land adjacent to the east edge of existing SH- 99 north bound lane to the east right-of-way line of SH-99 required for the final frontage roadway design. This will involve mapping the existing north bound frontage road entry ramp from 100-feet north of Cinco Ranch Boulevard to the intersection of the north bound exit ramp 100-feet south of Bay Hill Boulevard (approximately 4,600 linear feet) from the east edge of the existing north bound toll lane to the east right-of-way line. We will map approximately 1,000 linear feet of the Willow Fork Drainage Ditch east of and adjacent to the east right-of-way line of SH-99. Mapping of the existing features along SH-99 from the east edge of the existing main lane roadway for the limits of current existing right-of-way and approximately 60-feet beyond the existing east right-of-way up to the privacy fences, providing access is permitted.

The scope of services is more specifically described as follows:

1. Notify DIGTESS and request underground utility companies mark the locations of private utility lines within the project limits.
2. Research public and private utilities to obtain record documents or plans for existing facilities.
3. Coordinate with private pipeline companies to meet and obtain information regarding the locations and depths for petroleum pipelines that might cross the project limits. This information will be incorporated into the existing topographic survey.
4. Research the Texas Department of Transportation existing right-of-way for SH-99 and perform field surveying to recover and tie sufficient monumentation necessary to establish the east right-of-way for SH-99 from Cinco Ranch Boulevard to Bay Hill Boulevard.
5. Research public records for copies of subdivision plats and easement deeds crossing or adjacent to the east right-of-way of SH-99 and perform field surveying to

recover and tie sufficient monumentation necessary to establish the location of the subdivisions and easements.

6. Research the Texas Department of Transportation existing survey control for SH-99 and perform field surveying to recover and verify the survey control;
7. Perform field surveying to set additional "permanent" iron rod control monuments throughout the project limits at the beginning, the end, and at approximate 500-foot intervals sufficient for conventional total station data collection surveying. The new control shall be oriented to the datum of the Texas Department of Transportation existing survey control for SH-99. Elevations will be established on all control monuments based on the current Texas Department of Transportation existing survey control. Additional temporary benchmarks shall be set at the beginning, end, and at approximate 1,000-foot intervals throughout the project limits;
8. Perform office data processing and analysis of the monumentation researched and tie in Items 4 and 5 to calculate the existing centerline for SH-99 and the location of the current east right-of-way for SH-99 from Cinco Ranch Boulevard to Bay Hill Boulevard and the subdivisions and easements adjacent to the east right-of-way line to establish the project limits.
9. Perform field surveying along the east side of SH-99 to locate existing features (natural and man-made). The field surveying shall include locating existing roadway features, culverts, ditches, visible utilities and marked utilities, fences, structures, signs, trees and other major visible improvements; Outline heavily wooded areas; Obtain elevations across the project limits at 100-foot intervals based on the stationing for the centerline of SH-99; Obtain elevations of banks and flow lines of existing drainage ditches; Obtain elevations of manhole covers, inlets, valve covers, valve operating nuts (where accessible); Elevations of underground utility pipes where accessible (manholes, inlets and culvert pipes); and Obtain locations, dimensions and elevations of box culverts, rip-rap, banks, toes and flow lines for the Willow Fork Drainage Ditch;
10. Coordinate with geotechnical consultants to determine the locations and ground surface elevations for soil boring locations throughout the limits of the project.
11. Process all field survey data and record utility data and prepare an existing condition topographic survey base map for the project limits; Research the Federal Emergency Management Agency for current elevations and locations of the flood plain lines affecting the project limits and incorporate these into the final drawing; and Attach a

separate reference file of the existing right-of-way lines and boundary lines for the property adjacent to the limits of the project. The map shall be prepared in AutoCAD and will be sufficient for engineering review and design.

12. Upon preliminary engineering alignment review and authorization, perform a Land Title Survey for two (2) tracts of land adjacent to the east right-of-way of SH-99 necessary for the acquisition of a parcel of land for roadway widening purposes. This will include ordering a current Title Report for the parent tracts;
13. Prepare a Parcel Map and Metes and Bounds description for two (2) separate parcels of land to be acquired; and
14. Prepare a Survey Control Map (not to Texas Department of Transportation standards) for the overall project control to be signed and sealed by a Registered Professional Land Surveyor licensed to practice in the State of Texas.

ENVIRONMENTAL REVIEW & PERMITTING SUPPORT

The environmental scope addresses multiple regulatory and environmental needs of the project. The engineer understands the primary objective of this scope of work is to include all potential environmental aspects of the project including appropriate field assessments, permitting, coordination, and potentially public involvement. For ease of understanding this proposal is divided into Scope of Work, Cost Estimate, Schedule, and Assumptions.

To facilitate the understanding of the proposed services, the project has been divided into the eight tasks described below.

Task 1: Water of the U.S. Delineation - The engineer proposes to evaluate the project site for the presence of potential jurisdictional waters of the U.S., including wetlands, and other waterbodies as defined in Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers & Harbors Act (RHA). Evaluations will be conducted through coordination with Engineer County to identify the presence or absence of potentially jurisdictional waters of the U.S. at the project site as well as to provide guidance for avoidance of jurisdictional waters, where possible. Our methods will include:

1. Review of recent aerial photography and U.S. Geological Survey (USGS) 7.5-minute Topographic Quadrangle maps of the project site to evaluate the potential for waters of the U.S.

2. Review of Natural Resources Conservation Service (NRCS) soil survey maps and hydric soils lists for Harris County.
3. Field reconnaissance of the project site for identification of wetlands and other water bodies
4. Use of a Trimble® Global Positioning System (GPS) device with sub-meter accuracy to mark each sampling location and the extent of any wetlands and waters of the U.S. within the proposed ROW boundaries per USACE Galveston District Standards

The delineation will identify and document the presence of waters of the U.S. within the proposed ROW and include a delineation of these resources as specified in the 1987 USACE Wetlands Delineation Manual (Manual), the 2010 Regional Supplement to the USACE Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region – Version 2.0 (Supplement), Regulatory Guidance Letter 05-05 – OHWM Identification, and other applicable industry guidance and standards. This effort is not intended to act as a forensic or atypical delineation.

This scope of work proposes to identify and delineate aquatic features within the project site and provide geographic information system (GIS)-based data documenting those findings to CobbFendley and Engineer County. Data may include the following:

- A water of the U.S. delineation map
- A USGS topographic map
- A Federal Emergency Management Agency (FEMA) map
- A National Wetland inventory (NWI) map
- An NRCS soils map
- Historical aerial photographs and topographic maps
- Project site photographs documenting site conditions.

The findings derived from the delineation effort will document the presence (or absence) and location of Section 404 and Section 10 waters within the project site; this is a critical first step in the permitting process. If such resources are present, the delineation will provide details which can aid in (1) planning in support of avoidance and minimization efforts and (2) estimation and quantification of unavoidable project impacts as permitting below.

All findings would be preliminary and based on ENGINEER's professional experience with similar projects under similar circumstances. Only the USACE can make the final jurisdictional determination of the project site. This determination will likely be made during any necessary permitting process in Task 5 below.

Task 2 Threatened and Endangered Species and Critical Habitat Assessment - ENGINEER will assess the presence or absence of both state- and federally listed threatened and endangered species and their critical habitat within the project site. Prior to fieldwork, ENGINEER will review applicable listings from the United States Fish and Wildlife Service (USFWS) and Texas Parks and Wildlife Department (TPWD) to determine appropriate species lists and their respective terrestrial and/or aquatic habitat.

In conjunction with the fieldwork associated with Task 1, ENGINEER will document existing habitats within the project site and perform a potential presence survey for listed species documented to occur in Engineer County, Texas.

Task 3 Cultural Resource Desktop and Limited Pedestrian Surveys - ENGINEER will contract with a local and reputable archeological consultant to conduct a cultural resources survey of the project site in compliance with Section 106 of the National Historical Preservation Act (NHPA) and Texas Historical Commission (THC) standards. The survey will be supervised by a Principal Investigator (PI) meeting the Secretary of the Interior's Professional Qualification Standards for Archeology.

Field investigations will consist of limited pedestrian surveys with shovel test excavations of high probability areas (HPAs). Extant Historic-age structures will be photographed and mapped during the investigation, and a preliminary assessment of these will be made as well.

This task only proposes to identify and delineate existing cultural resources on the project site and represents the first step in any potential permitting process. Additional evaluations, although not initially required, may be necessary to determine if these sites are eligible under NRHP.

Task 4: Phase I Environmental Site Assessment (OPTIONAL) - The purpose of the assessment is to identify potential environmental concerns in accordance with the requirements of the Standards and Practices for All Appropriate Inquiries, Final Rule 40 CFR Part 312; American Society for Testing and Materials (ASTM) Practice E1527-13.

"Recognized environmental conditions," as defined under this ASTM standard, include "the presence or likely presence of any hazardous substances or petroleum products on a site under conditions that indicate an existing release, a past release, or a material threat of release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property." The assessment will be performed in accordance with generally accepted practices of the profession undertaken in similar studies at the same time

and in the same geographical area, and ENGINEER will observe that degree of care and skill generally exercised by the profession under similar circumstances and conditions.

ENGINEER will submit a draft Phase I ESA for review and comment. Once comments are incorporated, ENGINEER will submit a final Phase I ESA for the record. The results of the Phase I ESA will also be utilized in the EDF in Task 7.

Task 5: Project Management and Agency Coordination - ENGINEER will act as the environmental liaison for the project in discussions with Texas Department of Transportation (TXDOT). The project will be required to be reviewed by TXDOT and most likely will be required to adhere to TXDOT environmental regulations, potentially including a Categorical Exclusion or Environmental Assessment.

Task 6: USACE Permitting - ENGINEER will initiate the project permitting process by first scheduling and performing all necessary field resource studies during Tasks 1, 2, 3, and 4. ENGINEER assumes that all survey permissions will be received prior to fieldwork to avoid schedule impacts. Permitting for this project can include, but is not limited to, the one each of the following permits:

- USACE NWP 14 – Linear Transportation under Section 404 of the Clean Water Act (CWA)

Given the scope of the project, ENGINEER assumes that an NWP will cover proposed impacts to any jurisdictional waters of the U.S. delineated within the project site. If an Individual Permit is required, ENGINEER will coordinate with Engineer County on a course of action and new scope of work.

Upon completion of Task 1, ENGINEER will prepare necessary permit applications and supporting technical reports for the corresponding agencies. ENGINEER will prepare a draft permit package for Fort Bend County staff to review and provide comment. After comments are incorporated, ENGINEER will deliver final permit packages with all necessary application forms completed and clear instructions for final signature and execution. Once signed and executed, ENGINEER will submit all permit applications on behalf of Engineer County, as appropriate.

When requested and as necessary, ENGINEER's Senior Project Manager will correspond with the permitting agency as an authorized agent of Engineer County throughout the permit review and approval process. Fort Bend County will be apprised of approval status and schedule through the management process via telephone or email.

In addition to these permits, ENGINEER will coordinate with the appropriate agencies (USFWS, TPWD, THC, etc.) regarding the results of field surveys. Coordination efforts will be undertaken

per guidelines from TXDOT Environmental processes. Based on a desktop review of each project component, ENGINEER assumes that no permits (Section 10, Section 7, etc.) will be required for these agencies.

Task 7a: TXDOT Environmental Assessment Preparation, Submittal, and Coordination -
Once fieldwork is complete and it is determined through Task 5 that an Environmental Assessment (EA) is required for the project, ENGINEER will draft an EA pursuant to TXDOT Environmental guidelines.

ENGINEER will coordinate with TXDOT staff and obtain copies of the latest templates for this document. ENGINEER will utilize the data obtained during Tasks 1 through 4 above for completion of the EA. ENGINEER will submit a draft version for review and comment. Once comments are incorporated, ENGINEER will submit a final version to TXDOT and County for review and comment.

As part of the EA package, ENGINEER will provide the following reports and geospatial data:

Waters of the U.S. delineation map set (Task 1)

- T&E species assessment and habitat map set (Task 2)
- Historical resources report meeting the standards and guidelines of the THC (Task 3)

Once submitted to TXDOT, the internal regulatory process and begins. ENGINEER will continue to manage the project and answer any questions or provide information as requested by TXDOT.

Task 7b: TXDOT Categorical Exclusion Preparation, Submittal, and Coordination -
Once fieldwork is complete and it is determined through Task 5 that a Categorical Exclusion (CE) is required for the project, ENGINEER will draft a CE pursuant to TXDOT Environmental guidelines.

ENGINEER will prepare the appropriate environmental documentation necessary to comply with TXDOT environmental regulations. ENGINEER will coordinate with TXDOT in order to ensure all necessary tasks and items are completed and documented. The NWP 14 (Task 6) may have to be submitted to the USACE for compliance purposes, depending upon TXDOT requirements, costs associated with this have been built into this proposal and cost estimate.

Task 7c: TXDOT Categorical Exclusion Preparation, Submittal, and Coordination-
Once fieldwork is complete and it is determined through Task 5 that a Categorical Exclusion (CE) is required for the project, BIO-WEST will draft a CE pursuant to TXDOT Environmental guidelines.

Engineer will prepare the appropriate environmental documentation necessary to comply with TXDOT environmental regulations. Engineer will coordinate with TXDOT in order to ensure all necessary tasks and items are completed and documented. The NWP 14 (Task 6) may have to be submitted to the USACE for compliance purposes, depending upon TXDOT requirements, costs associated with this have been built into this proposal and cost estimate.

Task 8: Public Involvement and Meeting (OPTIONAL) - Projects similar in scope, size, and location to this project generally do not require public involvement or meetings, as the potential for controversy or disproportionate impacts to various socioeconomics groups is relatively low. However, TXDOT review of the project and associated environmental documents will determine the need for and extent of public involvement. This could include mailers, public notices, open house or presentation style meetings, or meetings with elected officials.

Based on current TXDOT guidance, the mostly likely scenario for public involvement is an open house style meeting with affected parties (i.e. local citizens, local groups, local elected officials, area businesses, etc.). If required by TXDOT, ENGINEER can lead the effort, if requested or can co-host with the County. ENGINEER proposes to coordinate one public meeting for dissemination of project information to the public. This effort will follow current TXDOT protocol and include:

- Draft, submittal, review, and publication of a Public Notice 30 days prior to the meeting in two local newspapers or other appropriate means
- Draft, review, printing, and mailing of one mailer to interested parties, if required by TXDOT
- Review and printing of alignment sheets and project plans in large format (>30 inch) for exhibition during the meeting
- Draft, review, and printing of up to three separate handouts during the meeting

ENGINEER assumes that the meeting building will be owned, operated, or accessible through Engineer County, reducing or eliminating rental fees, and large enough to accommodate approximately 120 people. ENGINEER will coordinate with Engineer County on the location and meeting logistics, including setup, attendance, and tear down and clean-up.

SCHEDULE

ENGINEER proposes the following schedule to complete scope of environmental work:

Task	Days
Baseline Assessment (Tasks 1, 2, 3, and 4 concurrent)	30
Management & Agency Coordination (Task 5)	45
USACE Permitting (Task 6)	120
TX DOT Env Document Preparation and Submittal (Task 7)	60-90

While ENGINEER cannot guarantee approval of any permit application, ENGINEER will utilize its best professional judgment and the standard and care utilized by similar companies completing similar work. Although most permitting processes have decision timelines based on legal requirements, the project permitting schedule can be based on the following influences that are outside ENGINEER's control:

- Manpower and workload allocation at the various agencies
- Morale, leadership changes, or employee retention at the various agencies
- Force Majeure or other Acts of God
- Financial, personnel, and/or political instabilities at the various agencies

Should any of these factors influence the permit schedule, ENGINEER will notify Engineer County in writing and coordinate a plan of action. ENGINEER shall not be held liable or at fault if any of these factors, or any other factor outside of ENGINEER's direct control, adversely affects the project schedule.

ASSUMPTIONS

The following assumptions were made in order to complete the study:

- Project site access will be provided during normal business hours.
- Only one weather related delay day is assumed. Additional delays due to weather or lack of access may result in additional mobilization costs or field days.
- If the findings of this assessment and permitting effort indicate the need for further study beyond the scope of work specifically enumerated herein, ENGINEER will notify Engineer County of the conditions of concern and recommendations for revised services, and additional costs and request a change order.

- The proposed budget is inclusive of professional labor, expenses, materials, contractors, and reporting necessary to complete the proposed scope of services.
- Task 2 does not include species-specific surveys.
- Task 3 only includes a visual examination of the property, photo-documentation, and a limited pedestrian survey by shovel testing.
- Historic structure or historic architecture investigation is not included under this scope of work.
- Under the provisions of the Texas Antiquities Code, all documents, forms, and photographs associated with Task 4 will require curation. Costs beyond those outlined in this proposal will be determined separately upon completion of the project.
- Additional evaluations, although not initially required, may be necessary to determine if these sites are eligible under National Register of Historical Properties (NRHP). These evaluations are not included in this scope of work.
- This scope or work assumes that deep testing will not be necessary.
- The scope of work outlined in this proposal does not include the acquisition of any permits, with the exception of the Texas Antiquities Permit for archeological surveys.
- Task 4 will be accomplished according to current ASTM Practice E1527-13.
- A single Nationwide Permit 14 is proposed and referenced for Task 6. No individual permits, or Section 10 or Section 7 consultations are proposed for this scope of work.
- The final cost and scope of Task 7 is subject to change based on the results of fieldwork and reporting, and application of the current TXDOT guidelines for this work.

Geotechnical Investigation

This geotechnical investigation is for the proposed SH 99 Northbound Frontage Road from Cinco Ranch Boulevard to Bay Hill Drive in Fort Bend County, Texas. The proposed improvements include approximately 3,500 linear feet of new pavement for the proposed extension of the north bound frontage road and associated storm sewer along the alignment. The project also includes extension of existing 3- 8'x8' box culvert and headwalls/wingwalls under the new frontage road near ditch crossing along alignment. The geotechnical report will be prepared per TxDOT criteria.

The scope of geotechnical services and consists of the following:

Drill and sample seven (5) soil borings to depths ranging from 30 to 50 feet in accordance with TxDOT criteria. The details of boring program are given below:

- Three (3) soil borings each to a depth of 30 feet for storm sewer and paving
- Two (2) soil borings, each to a depth of 50 feet, for extension of existing 3- 8' x 8' box culvert at the ditch crossing
- Texas Cone Penetration (TCP) tests will be performed on every 5-foot interval for all borings. It is assumed that the proposed borings will be located and tied in by you or your surveyor.
- Perform laboratory tests on representative soil samples to evaluate the engineering properties of the soils.
- Perform engineering analyses to develop geotechnical recommendations for the proposed storm sewer, pavement, retaining walls and culverts.
- Submit a geotechnical report containing a plan showing the locations of the borings, Wincore logs and recommendations as outlined above.

We will start field work within one (1) week after receiving your written authorization or one (1) week after receiving the Right of Way permission whichever is latest. The field work will be complete in about one (1) week, barring bad weather. The laboratory tests will be completed in about four (4) weeks. The geotechnical report, which will include field and laboratory data and design recommendations, will be submitted in about eight (8) weeks after completion of field work.

Utility/Pipeline Conflict Investigation

The Engineer shall perform such investigations, research, and other activities necessary to identify any potential utility/pipeline conflicts including but not limited to:

1. Locating and identifying all existing utilities/pipelines including casings and vent pipes within the existing and proposed rights-of-way, including obtaining information from utility owners record drawings and site reconnaissance, as well as shooting elevations marked or uncovered by others.
2. Meeting with the utility companies and to provide information and schematics as necessary.
3. Identifying major utilities (i.e. pipelines, concrete incased conduits, water, sanitary sewer, storm sewer, or other utilities of this nature) that may require relocation.
4. Identifying any utilities that are within dedicated easement that will be within the proposed right—of-way (i.e. utilities for which the County may be responsible for the cost of any adjustments and/or relocations).
5. Providing a utility table listing each utility identified with an ID number for, station number (at the left right-of-way, centerline, and right right-of-way), utility owner,

contact person (name, address, phone number, and email address), notes in regard to potential conflict, and notes in regard to making recommendations for addressing potential conflicts.

6. The design for potential replacement, relocation, and/or betterment of the existing public utilities primarily water & wastewater facilities within the project work area will not be performed in this contract.

ROADWAY DESIGN

A. Finalize Horizontal and Vertical Alignments. - The Engineer shall finalize the horizontal and vertical alignment for the frontage road. Minor modifications in the alignment will be considered to provide optimal design. Modifications must be coordinated with the County.

The plan view shall contain the following design elements:

1. Calculated roadway baseline(s) for new frontage road, ramps, and auxiliary lane along the SH 99 mainlanes, if required. Horizontal control points shall be shown. The alignments shall be calculated using GEOPAK.
2. Pavement curbline and pavement edges for all improvements (main lanes, ramps, and driveways) if applicable.
3. Lane and pavement width dimensions.
4. Proposed structure locations, lengths, and widths.
5. Direction of traffic flow on all roadways. Lane lines and/or arrows indicating the number of lanes shall also be shown.
6. Drawing scale shall be 1"=100'
7. ROW lines and easements.
8. Begin/end super elevation transitions and cross slope changes.
9. Limits of riprap, block sod, and seeding.
10. Existing utilities and structures.
11. Benchmark information.
12. Radii call outs, curb location, CTB, guard fence, crash safety items and American with Disabilities Act Accessibility Guidelines (ADAAG) compliance items.

The profile view shall contain the following design elements:

1. Calculated profile grade for proposed frontage road. Vertical curve data, including "K" values shall be shown.
2. Existing and proposed profile grade lines (PGL) along the proposed frontage road, ramps and mainlanes if applicable.

3. Water surface elevations at major stream crossing for 10, 25, 50-, and 100- year storms.
4. The location of frontage road lanes (shall include cross sections of any proposed or existing roadway, structure, or utility crossing).
5. Drawing vertical scale to be 1" = 10'.

B. Typical Sections. Typical sections shall be required for all proposed and existing roadways and structures. Typical sections shall include width of travel lanes, shoulders, outer separations, border widths, curb offsets, managed lanes, and ROW. The typical section shall also include PGL, centerline, pavement design, longitudinal joints, side slopes, sodding/seeding limits, concrete traffic barriers and sidewalks, if required, station limits, common proposed/existing structures including retaining walls, riprap, limits of embankment and excavation, etc.

C. Intersection Layout/Grading Plans. The Engineer shall provide an intersection layout detailing the pavement design and drainage design at the intersection of each cross street. The layout shall include the curb returns, geometrics, transition length, stationing, pavement, and drainage details. The Engineer shall design for full pavement width to the ROW and provide a transition to the existing roadway.

D. Design Cross Sections/Cut and Fill Quantities. The Engineer shall develop an earthwork analysis to determine cut and fill quantities and provide final design cross sections at 100 feet intervals. Annotation shall include at a minimum existing/proposed right of way, side slopes (front and back), profiles, etc. Cross sections shall be delivered in standard GEOPAK format on 11"x17" sheets and electronic files. The Engineer shall provide all criteria and input files used to generate the design cross sections. Cross sections and quantities shall consider existing pavement removals. Two sets of drawings shall be submitted by the Engineer at the 30%, 70%, 90%, and final submittals, respectively.

E. Plan Preparation. The Engineer shall prepare roadway plans, profiles, and typical sections for the proposed frontage road improvements. This scope of services and the corresponding cost proposal are based on the Engineer preparing plans to construct frontage road lanes, ramps, and auxiliary lane along SH 99 if applicable.

DRAINAGE DESIGN

A. **Drainage Report.** The Engineer shall prepare the drainage design elements that conform to the recommendations of the comprehensive drainage studies issued by the County & State and coordinate all drainage design.

B. **Analysis.** Perform final hydrologic and hydraulic computations and final design of detention pond(s), if deemed necessary.

C. **Culvert and Storm Drain Design.** The Engineer shall develop design details that minimize the interference with the passage of traffic or incur damage to the highway and local property. The Engineer shall provide layouts, drainage area maps, and design of all drainage components. The Engineer shall design all conventional storm drainage and cross drainage in conformance with the latest edition of *TxDOT Hydraulic Manual*, Houston District criteria, and any specific program guidance provided by the County. Storm drain design shall be performed using WinStorm or GEOPAK Drainage. Cross drainage design shall be performed using THYSYS, THYSYS CULVERT, HEC RAS & XP SWMM. When oversized storm drains are used for detention, the Engineer shall evaluate the hydraulic grade line throughout the whole system, within project limits, for the design frequency(ies) and make necessary system adjustments. The Engineer shall coordinate with the County any proposed changes to the detention systems. The County will assess the effects of such changes on the comprehensive drainage studies. The Engineer shall coordinate with the County and designers of adjacent projects to check that all proposed drainage systems accommodate the proposed construction phasing plan.

The Engineer shall perform the following:

1. Prepare culvert cross sections.
2. Identify areas requiring trench protection, excavation, shoring and de-watering.
3. Prepare drainage area maps.
4. Prepare plan/profile sheets for storm drain systems and outfall ditches.
5. Select standard details from the State or Houston District's list of standards for items such as inlets, manholes, junction boxes and end treatment, etc.
6. Prepare details for non-standard inlets, manholes and junction boxes.
7. Prepare drainage details for outlet protection, outlet structures and utility accommodation structures.

8. Identify pipe strength requirements.
9. Prepare drainage facility quantity summaries.
10. Identify potential utility conflicts and design around them, wherever possible.
11. Take into consideration pedestrian facilities, utility impacts, driveway grades, retaining wall and concrete traffic barrier drainage impacts.
12. Identify existing ground elevation profiles at the ROW lines on storm sewer plan and profile sheets.

D. **Storm Water Pollution Prevention Plans (SW3P).** The Engineer shall develop SW3P, on separate sheets from (but in conformance with) the TCP, to minimize potential impact to receiving waterways. The SW3P shall include text describing the plan, quantities, type, phase and locations of erosion control devices and any required permanent erosion control measures.

E. **Temporary drainage facilities.** The Engineer shall develop plans for all temporary drainage facilities necessary to allow staged construction of the project and to conform with the phasing of adjacent construction projects without significant impact to the hydraulic capacity of the area.

F. **Layout, Structural Design and Detailing of Drainage Features.**

The Engineer shall perform layout, structural design and detailing for the following:

1. Culverts: New culverts; culvert replacement.
2. Storm Sewers: New or modified storm sewers; inlets; manholes; trunk lines.
3. Subsurface drainage at retaining walls.
4. Outfall channels within existing ROW
5. Detention pond(s), if applicable

The Engineer shall use standard details where practical.

SIGNING, MARKINGS AND SIGNALIZATION

A. **Signing.** The Engineer shall prepare drawings, specifications, and details for all signs. The Engineer shall coordinate with the County (and other Engineers as required) for overall temporary, interim, and final signing strategies and placement of signs outside contract limits. Sign detail sheets shall be prepared for large guide signs showing dimensions, lettering, shields, borders, corner radii, etc., and shall provide a summary of

large and small signs. The Engineer shall also designate the shields to be attached to guide signs. The proposed signs shall be illustrated and numbered on plan sheets.

The Engineer shall provide the following information on sign/pavement marking layouts:

1. Roadway layout.
2. Center line with station numbering.
3. ROW lines.
4. Designation of arrow used on exit direction signs.
5. Culverts and other structures that present a hazard to traffic.
6. Location of utilities.
7. Existing signs to remain, to be removed, or to be relocated.
8. Proposed signs (illustrated and numbered).
9. Existing overhead sign bridges to remain, to be revised, removed or relocated. Proposed overhead sign bridges, indicating location by plan.

B. Pavement Markings. The Engineer shall detail permanent and temporary pavement markings and channelization devices on plan sheets. The Engineer shall coordinate with the County (and other Engineers as required) for overall temporary, interim, and final pavement marking strategies. Pavement markings shall be selected from the latest State standards.

The Engineer shall provide the following information on sign/pavement marking layouts:

1. Proposed markings (illustrated and quantified) which include pavement markings, object markings and delineation.
2. Quantities of existing pavement markings to be removed.
3. Proposed delineators and object markers.
4. The location of interchanges and mainlanes.
5. The number of lanes in each section of proposed highway and the location of changes in numbers of lanes.
6. ROW limits.
7. Direction of traffic flow on all roadways.

C. Summary of Quantities

1. Small signs tabulation
2. Large signs tabulation including all guide signs.

D. Sign Detail Sheets

1. All signs except route markers
2. Design details for large guide signs
3. Dimensioning (letters, shields, borders, etc.)
4. Designation of shields attached to guide signs.

MISCELLANEOUS

A. **Traffic Control Plan, Detours and Sequence of Construction.** The Engineer shall prepare Traffic Control Plans (TCP) for the project. A detailed TCP shall be developed in accordance with the latest edition of the *Texas Manual on Uniform Traffic Control Devices for Streets and Highways* (Texas MUTCD). The Engineer is to implement the current Barricade and Construction (BC) standards as applicable. The Engineer shall interface and coordinate phases of work, including the TCP, with adjacent Engineers.

1. The Engineer shall provide a written narrative of the construction sequencing and work activities per phase and determine the existing and proposed traffic control devices (regulatory signs, warning signs, guide signs, route markers, construction pavement markings, barricades, flag personnel, temporary traffic signals, etc.) to be used to handle traffic during each construction sequence. The Engineer shall show proposed traffic control devices at grade intersections during each construction phase (stop signs, flagperson, signals, etc.). The Engineer shall show temporary roadways, structures and detours required to maintain lane continuity throughout the construction phasing.
2. Where detours are required, the Engineer shall develop typical cross sections, calculate quantities, and show horizontal and vertical alignment information. The Engineer shall provide a detailed layout and arrangement of construction signs, construction pavement marking, traffic control devices (including temporary signals and signal heads).
3. The Engineer shall be responsible to coordinate with the County in scheduling a Traffic Control Workshop and submittal of the TCP for Safety Review Team (SRT) approval. The Engineer shall assist the County in coordinating mitigation of impacts to adjacent schools, emergency vehicles, pedestrians, bicyclists and neighborhoods.
4. Continuous, safe access to all properties during all phases of construction is mandatory. The Engineer shall develop TCP to preserve existing curb cuts. Approval from the State is required for any elimination of existing access capacity.

5. The Engineer shall design temporary drainage to replace existing drainage disturbed by construction activities or to drain detour pavement. The Engineer shall show horizontal and vertical location of culverts and required cross sectional area of culverts.
6. The Engineer shall identify and delineate any outstanding ROW parcels.

C. **Estimate.** The Engineer shall independently develop and report quantities in standard State bid format at the 30% and Final PS&E submittals. The Engineer shall identify and report quantity variances by means of a quantity variance report, to be provided with each submittal. The Engineer shall also provide the construction cost estimate at 70%, 95% & and Final PS&E submittals.

D. **Specifications**. Once the estimate is developed, the Engineer shall develop the list of standard specifications with the appropriate reference items the estimate. The Engineer shall also identify the need for any special specifications, and special provisions. The Engineer shall prepare General Notes from the County and TxDOT Houston District's *Master List of General Notes*, Special Specifications and Special Provisions for inclusion in the plans and bidding documents. The Engineer shall provide General Notes, Special Specifications and Special Provisions in rich text format.

PROJECT MANAGEMENT

A. The Engineer will:

1. Prepare progress and sequencing schedule, with milestone activities and/or deliverables identified, and submit to County for approval.
2. Update schedule as necessary to reflect actual progress.
3. Coordinate activities within the various phases of the project.
4. Coordinate the subconsultants' interrelated activities and timely coordination with State agencies, local government, civic groups, and interested citizens.
5. Maintain contact with local officials, resource agencies, and the public.
6. Schedule and attend 9 status meetings with the County, bringing an up-to-date schedule with status and completion dates.

B. Administer this phase of the project not reserved to the State.

1. Submit monthly invoices and monthly progress reports to Fort Bend County.
2. Management of subconsultants to assure adherence to project schedule consistent with expenditures. Subconsultants consist of Geotest, EHRA, and Bio-West.

C. Coordinate and ensure reviews and approvals of various submittals by Fort Bend County

D. Assign and brief all staff and subconsultants to assure compliance with County policies and procedures and to assure that work is accomplished on time.

CONSTRUCTION PHASE SERVICES

Bidding Phase Services shall include:

1. Prepare all construction documents, including project manual, for bidding.
2. Attend the pre-bid meeting and furnish construction documents to prospective bidders.
3. Respond to bidder's questions during the bid period.
4. Prepare and distribute project addenda during bid period.
5. Analyze contractor bids, prepare bid tabulation, check references, and make recommendation for award to the apparent low bidder.
6. Furnish construction documents to awarded contractor.
7. Attend the pre-construction conference.

ADDITIONAL SERVICES:

The following tasks are shown for budgetary purposes only in this proposal and are considered additional services to be included when warranted:

1. Illumination Design.
2. Design of off-site detention site or reconfiguration design of the existing outfall channel.
3. Construction Phase Services may be requested with a supplemental work authorization.

DELIVERABLES:

Deliverables shall include the following:

- Electronic project design files.
- Electronic Copy of the Project Manual.
- Plans submittals shall be half-scale drawings, 11" x 17".

ATTACHMMENTS:

1. Geotest Engineers, Geotechnical Scope of Services proposal
2. EHRA, Surveying Scope of Services Proposal
3. Bio-West, Environmental Services Proposal
4. Level of Effort for Basic, Additional services & Reimbursables

Fee Summary
2020 Fort Bend County Mobility Program
Extension of SH 99 NB Frontage Road from Cinco Ranch to Bay Hill intersections
Fort Bend County Project No. 20303a

Sponsor: Fort Bend County
Description: Proposed SH 99 NB Frontage Roads from Cinco Ranch to Bay Hill intersections
Date: 04/21/2021

Basic Services		
Phase I - Geometric Schematic/PER (Lump-Sum)	$	286,442
Phase II Final Design (Lump-Sum)	$	562,780
Subtotal Phases I & II (Schematic/PER & Final Design Services)	$	849,221

Additional Services		
Topographical Survey (EHRA) (Lump-Sum)	$	59,975
Environmental Studies (Bio-West) (Lump-Sum)	$	116,050
Geotechnical Investigation (Geotest) (Lump-Sum)	$	22,163
Subtotal Additional Services	$	198,188

Optional Additional Services		
Lighting Design & CenterPoint Coordination, if required*	$	25,000
Design of potential off-site detention basin or modification of existing drainage ditch, if required*	$	25,000
Subtotal Optional Services	$	50,000

* Tasks will only be performed with prior FBC Engineer's authorization

Reimbursables		
Reimbursable Expenses	$	2,598
Subtotal Reimbursable Expenses	$	2,598

PROJECT GRAND TOTAL	$	**1,100,007**

Cobb Fendley Fee Summary

2020 Fort Bend County Mobility Program

Extension of SH 99 NB Frontage Road from Cinco Ranch to Bay Hill intersections

Sponsor: Fort Bend County

Date: 04/21/2021

OVERALL PHASE I & II BASIC SERVICES

Classification	Hours	Rate	Labor Cost
Principal	72	$99.67	$7,176.00
Project Manager	654	$92.67	$60,604.00
Senior Engineer	659	$80.67	$53,159.33
Project Engineer III	703	$58.33	$41,008.33
Project Engineer I	930	$43.00	$39,990.00
Senior Technician	706	$49.67	$35,064.67
CAD Operator	537	$43.00	$23,091.00
RPLS	0	$58.33	$0.00
3-Man Crew	0	$58.33	$0.00
Survey Tech I	0	$36.67	$0.00
Utility Specialist	16	$56.67	$906.67
Clerical	100	$27.33	$2,733.33
Total Labor	4,377		$263,733.33
OVERHEAD	180.00%		$474,720.00
OPERATING MARGIN	15%		$110,768.00
TOTAL CFA BASIC SERVICES PHASES I & II			$849,221.33

SCHEMATIC/PER (PHASE I)

Classification	Hours	Rate	Labor Cost
Principal	8	$99.67	$797.33
Project Manager	192	$92.67	$17,829.07
Senior Engineer	279	$80.67	$22,506.00
Project Engineer III	327	$58.33	$19,075.00
Project Engineer I	329	$43.00	$14,138.40
Senior Technician	186	$49.67	$9,238.00
CAD Operator	112	$43.00	$4,816.00
RPLS	0	$58.33	$0.00
3-Man Crew	0	$58.33	$0.00
Survey Tech I	0	$36.67	$0.00
Utility Specialist	8	$56.67	$453.33
Clerical	4	$27.33	$103.87
Total Labor	1,445		$88,957.00
OVERHEAD	180.00%		$160,122.60
OPERATING MARGIN	15%		$37,361.94
SUBTOTAL CFA PHASE I PER/SCHEMATIC			$286,441.54

FINAL DESIGN SERVICES (PHASE II)

Classification	Hours	Rate	Labor Cost
Principal	64	$99.67	$6,378.67
Project Manager	462	$92.67	$42,774.93
Senior Engineer	380	$80.67	$30,653.33
Project Engineer III	376	$58.33	$21,933.33
Project Engineer I	601	$43.00	$25,851.60
Senior Technician	520	$49.67	$25,826.67
CAD Operator	425	$43.00	$18,275.00
RPLS	0	$58.33	$0.00
3-Man Crew	0	$58.33	$0.00
Survey Tech I	0	$36.67	$0.00
Utility Specialist	8	$56.67	$453.33
Clerical	96	$27.33	$2,629.47
Total Labor	2,932		$174,776.33
OVERHEAD	180.00%		$314,597.40
OPERATING MARGIN	15%		$73,406.06
SUBTOTAL CFA PHASE II DESIGN SERVICES			$562,779.79

2020 Fort Bend County Mobility Program

Fort Bend County Project No. 20303a

Sponsor: Fort Bend County

Extension of SH 99 NB Frontage Road from Cinco Ranch to Bay Hill intersections

Consultant: Cobb, Fendley & Associates, Inc.

Manhour Estimate													
Task	Principal	Project Manager	Senior Engineer	Project Engineer III	Project Engineer I	Senior Technician	CAD Operator	RPLS	3-Man Crew	Survey Tech I	Utility Specialist	Clerical	Total Hours
Project Management													
Project kick-off meeting	0	4	4	0	0	0	0	0	0	0	0	0	8
Attend status meetings	0	40	40	0	8	0	0	0	0	0	0	0	88
Prepare invoice (monthly)	0	8	0	0	0	0	0	0	0	0	0	6	14
Update project status	0	16	16	0	8	0	0	0	0	0	0	0	40
Project Management (project staff & subs)	0	80	80	40	40	0	0	0	0	0	0	0	240
Subtotal Project Management*	0	148	140	40	56	0	0	0	0	0	0	6	**390**
* *Project management total hours are didtributed at 30% & 70% and applied to the subtotal hours for PER/Schematic (30%) and subtotal hours for 70% to 70%, 95%, 100% Final Design submittals & Public Invovement respectively*													
PRELIMINARY & GEOMETRIC SCHEMATIC/PER (30%)													
Data collection	0	2	2	0	2	2	0	0	0	0	0	0	8
Conduct field visits	0	4	4	4	4	0	0	0	0	0	0	0	16
Review existing condition drainage area boundaries, calculations, and models and update as necessary to include present condition	0	16	24	32	16	0	0	0	0	0	0	0	88
Proposed condition drainage areas to include future frontage road expansion	0	16	24	32	40	16	16	0	0	0	0	0	144
Proposed condition hydrologic calculations	0	16	24	40	40	0	0	0	0	0	0	0	120
Coordination with TxDOT Houston District H&H specialist	0	8	16	40	16	0	0	0	0	0	0	0	80
Create new alternatives for proposed condition storm sewer(s) and or ditches	0	8	32	40	40	16	8	0	0	0	0	0	144
Create new alternatives to mitigate flow increases and water surface elevation impacts to receiving outfall locations	0	8	32	40	40	16	8	0	0	0	0	0	144
Prepare Drainage Report	0	8	24	32	16	24	16	0	0	0	0	0	120
Address Review Comments made by the TxDOT Houston District H&H specialist & geometrics	0	16	16	16	16	16	0	0	0	0	0	0	80
Typical sections	0	2	0	0	0	4	4	0	0	0	0	0	10
Horz/Vert alignments	0	8	8	8	8	16	0	0	0	0	0	0	48
Schematic Layout/ 30% Plan production	0	8	8	8	8	8	8	0	0	0	0	0	48
Cross sections	0	1	0	0	8	24	0	0	0	0	0	0	33
Traffic Engineering (TCP phasing)	0	2	2	2	2	8	8	0	0	0	0	0	24
Public & Private Utility coordination & research	0	1	0	0	8	4	4	0	0	0	0	0	17
Utility conflict table, relocation with potential relocation, upgrade/upsizing if required	0	4	0	4	8	8	8	0	0	0	8	0	40
Construction cost estimate	0	4	0	4	8	0	0	0	0	0	0	0	16
Compile the Updated Preliminary Engineering Report/Exhibits/Charts	0	8	8	8	16	16	24	0	0	0	0	0	80
Preparation for the public meeting	0	4	1	1	16	8	8	0	0	0	0	2	40
Attend Public meeting	0	4	4	4	0	0	0	0	0	0	0	0	12
QA/QC	8	0	8	0	0	0	0	0	0	0	0	0	16
Subtotal PER/30% Submittal**	8	192	279	327	329	186	112	0	0	0	8	4	**1328**
category													

Task	Principal	Project Manager	Senior Engineer	Project Engineer III	Project Engineer I	Senior Technician	CAD Operator	RPLS	3-Man Crew	Survey Tech I	Utility Specialist	Clerical	Total Hours
Final Design - 70% submittal													
Refine horz/vert alignments	0	8	8	8	8	16	0	0	0	0	0	0	48
Drainage design, Drainage Area Map	0	8	8	16	24	24	0	0	0	0	0	0	80
Utility research, adjustment, relocation	0	2	0	0	4	4	0	0	0	0	8	0	18
Cover sheet/Index Sheet (2 Sheets)	0	2	0	0	0	0	4	0	0	0	0	0	6
Typical sections (1 Sheets)	0	2	0	0	0	4	8	0	0	0	0	0	14
Layout sheet (1 Sheets)	0	2	0	0	0	2	8	0	0	0	0	0	12
Plan & profiles sheets Street(9) (Roadway)	0	8	16	16	40	40	40	0	0	0	0	0	160
Traffic control plan	0	4	0	16	0	16	24	0	0	0	0	0	60
General Notes & Miscellaneous Details	0	8	8	0	0	24	40	0	0	0	0	0	80
Cross sections	0	4	0	0	28	40	8	0	0	0	0	0	80
Signing & Pavement Marking	0	2	0	4	8	8	8	0	0	0	0	0	30
Misc.Details (Culvert Extension detail, head Wall layout, railing, fencing)	0	16	16	16	24	16	8	0	0	0	0	0	96
Quantities	0	2	0	0	16	16	0	0	0	0	0	0	34
Cost Estimates	0	4	0	0	8	0	0	0	0	0	0	0	12
QA/QC	8	0	8	0	0	0	0	0	0	0	0	0	16
Address Review Comments made by the TxDOT Houston District	0	8	8	16	16	0	0	0	0	0	0	0	48
Subtotal 70% Submittal	8	80	72	92	176	210	148	0	0	0	8	0	**794**
Final Design - 95% submittal													
Cover sheet/Index Sheet (2 Sheets)	0	0	0	0	0	2	2	0	0	0	0	0	4
General notes/Special Provisions Specifications (2 Sheets)	0	8	8	8	8	0	0	0	0	0	0	0	32
Typical sections (1 Sheets)	0	0	0	0	0	2	2	0	0	0	0	0	4
Layout sheet (1 Sheets)	0	1	0	0	0	0	4	0	0	0	0	0	5
Drainage design, on-site and off-site Drainage Area Map	0	4	4	8	8	8	8	0	0	0	0	0	40
Plan & profiles sheets (9) (Roadway)	0	8	8	8	16	40	40	0	0	0	0	0	120
Utility Design, adjustment, relocation	0	8	0	8	16	24	24	0	0	0	0	0	80
Traffic control plan	0	4	4	4	16	8	8	0	0	0	0	0	44
Stormwater pollution prevention plans	0	1	0	8	8	8	16	0	0	0	0	0	41
Signing & pavement markings (5 sheets)	0	1	0	8	8	8	16	0	0	0	0	0	41
Misc.Details (Junction Box(S), headwall & RCB extension, Retaining Wall layout, railing, fencing)	0	8	8	16	16	16	16	0	0	0	0	0	80
Cross sections	0	2	0	4	16	16	0	0	0	0	0	0	38
Quantities	0	2	0	0	16	16	6	0	0	0	0	0	40
Cost Estimates	0	2	0	0	8	0	0	0	0	0	0	0	10
Prepare project manual (specifications, bid forms)	0	32	16	16	8	0	0	0	0	0	0	4	76
QA/QC	8	0	8	0	0	0	0	0	0	0	0	0	16
Address Review Comments made by the TxDOT Houston District	0	8	8	8	16	16	8	0	0	0	0	0	64
Subtotal 95% Design Phase Submittal	8	89	64	96	160	164	150	0	0	0	0	4	**735**

Task	Principal	Project Manager	Senior Engineer	Project Engineer III	Project Engineer I	Senior Technician	CAD Operator	RPLS	3-Man Crew	Survey Tech I	Utility Specialist	Clerical	Total Hours
Bid-Ready 100% - Final Submittal													
Cover sheet/Index Sheet (2 Sheets)	0	0	0	0	0	0	1	0	0	0	0	0	1
General notes/Special Specifications & Special Provisions (3 Sheets)	0	4	4	8	16	0	2	0	0	0	0	0	34
Typical sections	0	0	0	0	0	2	2	0	0	0	0	0	4
Layout sheet (2 Sheets)	0	0	0	0	0	0	2	0	0	0	0	0	2
Drainage area maps & calculations	0	2	2	8	8	0	8	0	0	0	0	0	28
Plan & profiles (9)	0	8	8	8	8	24	24	0	0	0	0	0	80
Utility Design, adjustment, relocation	0	4	2	2	8	8	8	0	0	0	0	0	32
Traffic control plan	0	2	0	0	6	0	8	0	0	0	0	0	16
Cross sections	0	2	0	0	24	40	0	0	0	0	0	0	66
Stormwater pollution prevention plans	0	0	0	3	4	8	8	0	0	0	0	0	23
Signing & pavement markings	0	2	0	3	8	8	16	0	0	0	0	0	37
Agency approvals (TxDOT, FBC Drainage District, TDLR)	0	8	8	8	8	0	0	0	0	0	0	0	32
Compile standard Details/Misc. details	0	2	2	0	8	8	16	0	0	0	0	0	36
Quantities	0	1	0	0	8	16	16	0	0	0	0	0	41
Cost Estimates	0	2	0	0	8	8	0	0	0	0	0	0	18
Prepare complete project manual (specs, bid forms)	0	16	16	24	16	0	0	0	0	0	0	8	80
100% Sign & Sealed Bid ready Package	0	8	8	8	0	8	8	0	0	0	0	0	40
QA/QC	8	0	8	0	0	0	0	0	0	0	0	0	16
Address Review Comments made by the TxDOT Houston District	0	8	8	8	16	16	8	0	0	0	0	0	64
Subtotal 100% Bid Ready Plans - Final Submittal	8	69	66	80	146	146	127	0	0	0	0	8	**650**
Public Involvement													
Participate in public meeting planning meeting	0	8	0	8	0	0	0	0	0	0	0	0	16
Secure public meeting site, court reporter, public meeting security	4	16	16	8	8	0	0	0	0	0	0	8	60
Develop and maintain public database	0	8	0	0	16	0	0	0	0	0	0	16	40
Draft, revise, finalize, and distribute public meeting notices (direct mail)	0	16	8	8	0	0	0	0	0	0	0	8	40
Draft, revise, finalize, and submit legal notices for publication	0	16	16	8	8	0	0	0	0	0	0	8	56
Develop public meetings handouts (agenda/comment card, etc.) and contribute to exhibit development	8	8	16	16	16	0	0	0	0	0	0	16	80
Participate and attend pre-public meeting meeting (dry-run) with client	8	8	8	8	8	0	0	0	0	0	0	0	40
Set-up, staff, and breakdown public meeting	4	8	0	8	8	0	0	0	0	0	0	8	36
Draft, revise, and finalize public meeting summary	8	16	8	8	8	0	0	0	0	0	0	8	56
Finalize responses to comments received at public meeting for Environmental report	8	16	8	8	8	0	0	0	0	0	0	8	56
Subtotal Public Involvement	40	120	80	80	80	0	0	0	0	0	0	80	**480**
Subtotal 70%, 95%, 100% Final Design & Public Invovement***	64	462	380	376	601	520	425	0	0	0	8	96	**2659**
***Totals include an additional 70% of project management total hours distributed and applied to each labor category to the subtotal hours for 70%, 95% & 100% final design submittals & Public Invovement													
TOTAL HOURS PER, FINAL DESIGN & PUBLIC INVOLVEMENT	**72**	**654**	**659**	**703**	**930**	**706**	**537**	**0**	**0**	**0**	**16**	**100**	**4377**

2020 Fort Bend County Mobility Program

Fort Bend County Project No. 20303a

Sponsor: Fort Bend County

Extension of SH 99 NB Frontage Road from Cinco Ranch to Bay Hill intersections

Consultant: Cobb, Fendley & Associates, Inc.

Expense Estimate						
Task	Deliveries	Miles	Mileage ($0.58 per mile)	Reproduction	Review Fees (TDLR)	Total Cost
Project Management						
Project kick-off meeting (1)	$0		$0	$0	$0	$0
Attend status meetings (6)	$0	150	$87	$0	$0	$87
Prepare invoice (monthly) (12)	$0		$0	$0	$0	$0
Update project status (12)	$0		$0	$0	$0	$0
Project coordination (project staff & subs)	$0		$0	$0	$0	$0
Preliminary Engineering Report						
Data collection	$0		$0	$0	$0	$0
Conduct field visits	$0	150	$87	$0	$0	$87
Typical sections	$0		$0	$0	$0	$0
Horz/Vert alignments	$0		$0	$0	$0	$0
Alternatives analysis	$0		$0	$0	$0	$0
Traffic studies	$0		$0	$0	$0	$0
Drainage studies	$0		$0	$0	$0	$0
Construction sequencing/TCP	$0		$0	$0	$0	$0
Utility coordination	$0		$0	$0	$0	$0
Right-of-Way requirements	$0		$0	$0	$0	$0
Construction cost estimate	$0		$0	$0	$0	$0
Interagency coordination	$0		$0	$0	$0	$0
Prepare draft PER	$0		$0	$250	$0	$250
Prepare final PER	$0		$0	$500	$0	$500
QA/QC	$0		$0	$0	$0	$0
Final Design						
Revise horz/vert alignments	$0		$0	$0	$0	$0
Drainage design	$0	200	$116	$0	$0	$116
Utility coordination	$0		$0	$0	$0	$0
Agency approvals (TxDOT, Drainage District, TDLR)	$0		$0	$0	$0	$0
Prepare 70% submittal						
Cover sheet	$0		$0	$0	$0	$0
Typical sections	$0		$0	$0	$0	$0
Layout sheet	$0		$0	$0	$0	$0
Drainage area map	$0		$0	$0	$0	$0
Plan & profiles	$0		$0	$0	$0	$0
Traffic control plan	$0		$0	$0	$0	$0
Stormwater pollution prevention plans	$0		$0	$0	$0	$0
Traffic signals	$0		$0	$0	$0	$0
Illumination	$0		$0	$0	$0	$0
Bridges	$0		$0	$0	$0	$0
Details	$0		$0	$0	$0	$0
Quantities	$0		$0	$0	$0	$0
Cost Estimates	$0		$0	$0	$0	$0
Technical specifications	$0		$0	$0	$0	$0
QA/QC	$0		$0	$0	$0	$0
Prepare 100% submittal						
Cover sheet	$0		$0	$0	$0	$0
General notes	$0		$0	$0	$0	$0
Typical sections	$0		$0	$0	$0	$0
Layout sheet	$0		$0	$0	$0	$0
Drainage area map	$0		$0	$0	$0	$0
Plan & profiles	$0		$0	$0	$0	$0
Traffic control plan	$0		$0	$0	$0	$0
Cross sections	$0		$0	$0	$0	$0
Stormwater pollution prevention plans	$0		$0	$0	$0	$0
Traffic signals	$0		$0	$0	$0	$0
Signing & pavement markings	$0		$0	$0	$0	$0
Illumination	$0		$0	$0	$0	$0
Bridges	$0		$0	$0	$0	$0
Details	$0		$0	$0	$0	$0
Quantities	$0		$0	$0	$0	$0
Cost Estimates	$0		$0	$0	$0	$0
Prepare project manual (specifications, bid forms)	$0		$0	$0	$0	$0
QA/QC	$0		$0	$0	$0	$0
Prepare final submittal						
Cover sheet	$0		$0	$0	$0	$0
General notes	$0		$0	$0	$0	$0
Typical sections	$0		$0	$0	$0	$0
Layout sheet	$0		$0	$0	$0	$0
Drainage area map	$0		$0	$0	$0	$0
Plan & profiles	$0		$0	$0	$0	$0
Traffic control plan	$0		$0	$0	$0	$0
Cross sections	$0		$0	$0	$0	$0
Stormwater pollution prevention plans	$0		$0	$0	$0	$0
Traffic signals	$0		$0	$0	$0	$0
Signing & pavement markings	$0		$0	$0	$0	$0
Illumination	$0		$0	$0	$0	$0
Bridges	$0		$0	$0	$0	$0
Details	$0		$0	$0	$0	$0
Quantities	$0		$0	$0	$0	$0
Cost Estimates	$0		$0	$0	$0	$0
Prepare complete project manual (specs, bid forms and front end docs)	$0		$0	$1,500	$0	$1,500
QA/QC	$0		$0	$0	$0	$0
Bid Phase						
Attend Pre-Bid Meeting	$0	100	$58	$0	$0	$58
Questions & Addenda	$0		$0	$0	$0	$0
Tabulation & Recommendation of Bid	$0		$0	$0	$0	$0
Total Cost=	$0		$348	$2,250	$0	$2,598

EHRA
ENGINEERING THE FUTURE
SINCE 1936

TBPE No. F-726
TBPLS No. 10092300

March 8, 2021
Revised: April 12, 2021

VIA E-MAIL: MSalehi@cobbfendley.com

Mr. Mahmoud Salehi, P.E.
Cobb Fendley & Associates, Inc.
22316 Grand Corner Drive, Suite 100
Katy, Texas 77494

Re: Proposal for Topographic Surveying Services for SH-99 North Bound Frontage Road from Cinco Ranch Boulevard to Bay Hill Boulevard
Fort Bend County Precinct 3 Project No. 20303a
EHRA Project No. 211-507-00 (50)

Dear Mr. Salehi,

At your request, Edminster, Hinshaw, Russ & Associates, Inc. d/b/a EHRA (Surveyor) has prepared this proposal to provide professional surveying services for Cobb Fendley & Associates, Inc. (Client) as referenced above, in accordance with the following description of professional services, terms, and conditions:

SCOPE OF SERVICES

Topographic Survey

Surveyor will perform a Topographic Survey in substantial compliance with a Category 6, Condition II survey for the land adjacent to the east edge of existing SH-99 north bound lane to the east right-of-way line of SH-99 required for the final frontage roadway design. This will involve mapping the existing north bound frontage road entry ramp from 100-feet north of Cinco Ranch Boulevard to the intersection of the north bound exit ramp 100-feet south of Bay Hill Boulevard (approximately 4,600 linear feet) from the east edge of the existing north bound toll lane to the east right-of-way line. We will map approximately 1,000 linear feet of the Willow Fork Drainage Ditch east of and adjacent to the east right-of-way line of SH-99. We will map the existing features along SH-99 from the east edge of the existing main lane roadway for the limits of current existing right-of-way and approximately 60-feet beyond the existing east right-of-way up to the privacy fences, providing access is permitted. The scope of services is more specifically described as follows:

1. Notify DIGTESS and request underground utility companies mark the locations of private utility lines within the project limits;

2. Research public and private utilities to obtain record documents or plans for existing facilities;

3. Coordinate with private pipeline companies to meet and obtain information regarding the locations and depths for petroleum pipelines that might cross the project limits. This information will be incorporated into the existing topographic survey;

4. Research the Texas Department of Transportation existing right-of-way for SH-99 and perform field surveying to recover and tie sufficient monumentation necessary to establish the east right-of-way for SH-99 from Cinco Ranch Boulevard to Bay Hill Boulevard;

5. Research public records for copies of subdivision plats and easement deeds crossing or adjacent to the east right-of-way of SH-99 and perform field surveying to recover and tie sufficient monumentation necessary to establish the location of the subdivisions and easements;

6. Research the Texas Department of Transportation existing survey control for SH-99 and perform field surveying to recover and verify the survey control;

7. Perform field surveying to set additional "permanent" iron rod control monuments throughout the project limits at the beginning, the end, and at approximate 500-foot intervals sufficient for conventional total station data collection surveying. The new control shall be oriented to the datum of the Texas Department of Transportation existing survey control for SH-99. Elevations will be established on all control monuments based on the current Texas Department of Transportation existing survey control. Additional temporary benchmarks shall be set at the beginning, end, and at approximate 1,000-foot intervals throughout the project limits;

8. Perform office data processing and analysis of the monumentation researched and tie in Items 4 and 5 to calculate the existing centerline for SH-99 and the location of the current east right-of-way for SH-99 from Cinco Ranch Boulevard to Bay Hill Boulevard and the subdivisions and easements adjacent to the east right-of-way line to establish the project limits;

9. Perform field surveying along the east side of SH-99 to locate existing features (natural and man-made). The field surveying shall include locating existing roadway features, culverts, ditches, visible utilities and marked utilities, fences, structures, signs, trees and other major visible improvements; Outline heavily wooded areas; Obtain elevations across the project limits at 100-foot intervals based on the stationing for the centerline of SH-99; Obtain elevations of banks and flow lines of existing drainage ditches; Obtain elevations of manhole covers, inlets, valve covers, valve operating nuts (where accessible); Elevations of underground utility pipes where accessible (manholes, inlets and culvert pipes); and Obtain locations, dimensions and elevations of box culverts, rip-rap, banks, toes and flow lines for the Willow Fork Drainage Ditch;

10. Coordinate with geotechnical consultants to determine the locations and ground surface elevations for soil boring locations throughout the limits of the project;

11. Process all field survey data and record utility data and prepare an existing condition topographic survey base map for the project limits; Research the Federal Emergency Management Agency (FEMA) for current elevations and locations of the flood plain lines affecting the project limits and incorporate these into the final drawing; and Attach a separate reference file of the existing right-of-way lines and boundary lines for the property adjacent to the limits of the project. The map shall be prepared in AutoCAD and will be sufficient for engineering review and design;

12. Upon preliminary engineering alignment review and authorization, perform a Land Title Survey for two (2) tracts of land adjacent to the east right-of-way of SH-99 necessary for the acquisition of a parcel of land for roadway widening purposes. This will include ordering a current Title Report for the parent tracts;

13. Prepare a Parcel Map and Metes and Bounds description for two (2) separate parcels of land to be acquired; and

14. Prepare a Survey Control Map (not to Texas Department of Transportation standards) for the overall project control to be signed and sealed by a Registered Professional Land Surveyor licensed to practice in the State of Texas.

COMPENSATION

We propose to provide these professional services to the Client on an **hourly basis, plus reimbursable expenses, for a total estimated fee of $59,975.00, as shown on the attached man-hour projection sheet. Should we discover any unforeseen problems not routinely or customarily associated with the above-described Scope of Services, we will notify you of the circumstances and provide a separate proposal for Additional Services**. Surveyor will not proceed with any Additional Services without prior written authorization by Client. The cost of labor, materials and equipment for performing the above Scope of Services includes deed research for the boundary, printing and delivery of copies of the drawing and metes and bounds description.

PAYMENT

Surveyor shall submit invoice(s) for services rendered in accordance with the attached Hourly Rate and Reimbursement Schedule. Client shall make prompt payment(s) in response to Surveyor's invoice(s).

Additional work beyond the Scope of Services described above will be considered an Additional Service and will subsequently be provided in accordance to the attached Hourly Rate and Reimbursement Schedule or negotiated to a fixed fee. Surveyor will not proceed with any Additional Services without prior written authorization by Client. Any Additional Services not contemplated under this Agreement can only be provided by a separate contract or change order.

The General Conditions (Exhibit "A") of this proposal are attached hereto and made a part hereof for all purposes.

If all terms and provisions are acceptable to you, please signify so by executing this document in the appropriate space provided. Please retain one (1) executed copy for your records and return one (1) executed copy to the undersigned. We will consider receipt of this executed document as our authorization to proceed.

We thank you for the opportunity to provide professional surveying services and we look forward to working with you on this project.

CLIENT AND SURVEYOR AGREE AS SET FORTH ABOVE.

CLIENT

COBB FENDLEY & ASSOCIATES, INC.

By: _____
Mahmoud Salehi, P.E.

Effective Date: 4/12/2021 | 12:59:49 PM PDT

SURVEYOR

EDMINSTER, HINSHAW, RUSS & ASSOCIATES, INC. d/b/a EHRA

By: _____
Robert L. Boelsche, R.P.L.S.
Sr. Survey Project Manager
Surveying and Mapping Services

Date: 4/12/2021 | 2:41:29 PM CDT

By: _____
Charles Kennedy, Jr., R.P.L.S.
Sr. Vice President | Practice Area Leader
Surveying and Mapping Services

Date: 4/12/2021 | 2:48:00 PM CDT

RLB/ol
Attachments: Exhibit "A" – General Conditions
Hourly Rates 2019STD2SV
Man-Hour Projections for SH-99 Basic Survey Services Topographic Survey

EXHIBIT "A"
GENERAL CONDITIONS

CLIENT'S RESPONSIBILITY (SURVEYING): Easements and other restrictions of record, unless depicted on a recorded plat, will be noted based on a current title insurance commitment or title report together with copies of the relevant documents all of which will be provided by the Client.

SURVEYOR'S/ENGINEER'S RESPONSIBILITY: The Surveyor/Engineer hereby represents and warrants to the Owner/Client that the Surveyor/Engineer is licensed by the State of Texas to perform the work, is experienced in the performance of the work similar to the work to be performed, and is competent to perform the work. The Owner/Client is relying upon the expertise of the Engineer/Surveyor in its performance of the work.

ADDITIONAL SERVICES: If authorized by the Owner/Client, Edminster Hinshaw, Russ & Associates, Inc. ("EHRA") will furnish or obtain from others, Additional Services not included in the Basic Services. Any Additional Services not contemplated under this Agreement can only be provided by written authorization from the Owner/Client and will be in accordance with the attached Hourly Rate and Reimbursement Schedule or negotiated to a lump-sum fee. Any work not specified above that may arise will be covered under the Additional Services section and as such, EHRA will not proceed with any Additional Services without written authorization by Owner/Client.

Additional Services required by Owner/Client, which may arise and are not outlined in the Basic Services include revisions to drawings due to design changes associated with alteration to Owner/Client-approved general plan after the design work has commenced, design of non-standard structures, preparation of easements by separate instrument, and survey staking other than listed above, etc. All Additional Services for assignments related to design and preparation of construction plans will include topographic surveying, construction plan preparation, governmental agency approvals, bidding cycle services, construction control staking, construction phase services, and post-construction topographic survey, as may be required.

FAILURE TO MAKE PAYMENT: If Owner/Client fails to make any payment due EHRA for services and expenses within thirty (30) days after receipt of EHRA's statement thereof, the amounts due EHRA will be increased at the rate of 1% per month from said thirtieth (30th) day, and in addition, EHRA may, after giving fourteen (14) days written notice to Owner/Client, suspend services under this Agreement until EHRA has been paid in full all amounts due for services, expenses and charges.

TERMINATION OF AGREEMENT: This Agreement may be terminated by EHRA or Owner/Client by providing fourteen (14) days written notice to the other party. In the event of such termination, EHRA will prepare an invoice for all work performed, on the task underway, up to the date of termination. The total of this work will be deducted from the advance payment (if any) and any balance remaining will be reimbursed back to Owner/Client.

OWNERSHIP OF DOCUMENTS: Drawings, images, fonts and specifications as instruments of service are, and will remain, the property of EHRA, whether the project for which they are made is executed, or not. EHRA is not to reuse these drawings, or any part thereof, for any other client EHRA may have, without the written approval of Owner/Client contingent upon EHRA having been paid in full. These drawings, images and fonts are not to be used by Owner/Client on other projects, or extensions to this project, except by agreement in writing and with appropriate compensation to EHRA.

Owner/Client certifies they have proper license or ownership of data, fonts or images given to EHRA for incorporation into work product.

EHRA will provide Owner/Client with a copy of its engineering/surveying calculations upon which its designs are based. All correspondence, documents and drawings initiated from EHRA's office will be copied to Owner/Client's office as an original document.

EHRA will provide to the Owner/Client the results of the work product in a paper ("hard copy") form. An AutoCAD drawing file ("soft copy") of the work product may be provided to the Owner/Client, if requested. Use of soft copy information is governed by the attached "Electronic File Transfer Agreement." All original documents, drawings, notes, or procedures, in whatever form, produced as a result of this professional service will remain the property of EHRA and may be used by EHRA without the consent of the Owner/Client.

SUCCESSORS AND ASSIGNS: Owner/Client and EHRA each binds itself, its successors, assigns and legal representatives to the other party of this Agreement and to the successors, assigns and legal representatives of such other party with respect to all provisions of this Agreement. Neither Owner/Client nor EHRA will assign, set over or transfer its interest, in whole or in part, in this Agreement without the prior written consent of the other, and any act in derogation hereof, will, at the option of the non-assigning party, render the within Agreement terminated. Minor changes in EHRA's corporation will not operate to cancel this Agreement.

INSURANCE PROVISION: EHRA will carry professional liability insurance in the minimum amount of One Million ($1,000,000) dollars per claim and Two Million ($2,000,000) dollars aggregate limits to indemnify itself from damage resulting from errors and omissions from surveying, drawings, or specifications, which insurance will inure to the benefit of Owner/Client.

DISPUTE RESOLUTION: If a dispute arises out of or related to this Agreement or the breach thereof, the parties will attempt to settle the matter between themselves. If no agreement can be reached, the laws of Texas (other than the choice of law provisions thereof) should govern the validity of this Agreement, the construction of its terms, and the interpretation of the rights and duties of the parties. The parties hereto each hereby agree that all obligations performable under this Agreement and/or the Ancillary Documents shall be performed in Harris County, Texas, and each party hereto irrevocably attorns to the venue of the courts in Harris County, Texas.

CONDITIONS (SURVEYING): EHRA will begin the Survey upon receipt of this signed Agreement and proceed diligently to complete the Survey as soon as possible. Weather and other site conditions may affect our schedule and we will attempt to notify you promptly of delays which may affect our anticipated schedule. If the Client has a particular closing schedule or contract deadline, the Surveyor must be informed of this prior to the start of work.

LANDSCAPE ARCHITECT STATEMENT OF JURISDICTION: The Texas Board of Architectural Examiners has jurisdiction over complaints regarding the professional practices of persons registered as Landscape Architects in Texas. Mailing Address: P.O. Box 12337, Austin, TX 78711; Phone: (512) 305-9000; or e-mail: customerservice@tbae.state.tx.us.

EXTENT OF AGREEMENT: This Agreement represents the entire and integrated agreement between Owner/Client and EHRA and supersedes all prior negotiations, representatives or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both Owner/Client and EHRA. Any modifications to this original Agreement must be agreed to by Owner/Client and EHRA and initialed and dated by both the Owner/Client and EHRA in order for the modification to be in full force and effect.

GOVERNING LAW: This Agreement will be governed by the laws of the State of Texas.

EHRA

HOURLY RATE AND REIMBURSEMENT SCHEDULE

Standard Rates

2019

PROFESSIONAL SURVEYING PERSONNEL	Per Hour
Principal / RPLS	$240.00
Expert Witness	225.00
Senior Survey Project Manager/RPLS	195.00
Survey Project Manager/RPLS	165.00
Senior Survey CAD Technician	135.00
CAD Technician	95.00
Senior Platting Coordinator	115.00
Platting Coordinator	105.00
Administrative Assistant	85.00
Clerical	80.00
Survey Field Supervisor	130.00
Survey 1 Person GPS/Robotic Crew	140.00
Survey Party Chief	90.00
Survey Instrument Person	65.00
Survey Rod Person	35.00

UAV LiDAR (Drone)	*available upon request*

REIMBURSABLES:	
Delivery	Cost
Sub-Consultant Fees	Cost
Outside Abstracting, Documentation, Deed Research	Cost
Advertising	Cost
Plan Review Fees, Governmental Fees	Cost

Above fees include all materials, mileage, tolls, equipment, reproduction and incidentals.

E:\STANDARD\FORMS\HOURLY RATES Masters\HOURLYRATES 2019STD2SV

APRIL 2021

MAN-HOUR PROJECTIONS FOR SURVEY SERVICES-TOPOGRAPHIC SURVEY

NORTH BOUND FRONTAGE ROAD-SH 99-CINCO RANCH BLVD. TO BAY HILL BLVD.

	TASK	PROJECT MANAGER	SURVEY TECH	CADD TECH	2-MAN CREW	ADMIN	TOTAL
1	DIGTESS Utility Locate Request	1	2				$465.00
2	Utility Research	2	10			1	$1,820.00
3	Pipeline Coordination	1	1	5	5		$1,755.00
4	TxDOT ROW	2	4	4	10		$3,210.00
5	Subdivisions	2	5	6	10		$3,535.00
6	TxDOT Control	1	3		10		$2,500.00
7	Field Topographic Survey Control	1	5		10		$2,770.00
8	TxDOT ROW/Subdivision Project Limits	3	5	10			$2,210.00
9	Field Topographic Survey	3	8		60	1	$13,145.00
10	Soil Borings		1		5		$1,085.00
11	Topographic Survey-Office	4	12	60		1	$8,180.00
12	Land Title Survey (2)	4	8	16	15		$6,230.00
13	Parcel Taking Exhibit/Metes Bounds (2)	4	12	24	10		$6,580.00
14	Survey Control Map	5	10	27			$4,890.00
TOTAL HOURS		33	86	152	135	3	
HOURLY RATE		$ 195.00	$ 135.00	$ 95.00	$ 190.00	$ 80.00	
TOTAL		$ 6,435.00	$ 11,610.00	$ 14,440.00	$ 25,650.00	$ 240.00	
	OTHER - Reimburseable (Abstracting, Utility Records)						$1,600.00
GRAND TOTAL		**$ 6,435.00**	**$ 11,610.00**	**$ 14,440.00**	**$ 25,650.00**	**$ 240.00**	**$59,975.00**

April 13, 2021

Mahmoud Salehi
Cobb, Fendley, & Associates, Inc.
22316 Grand Corner Drive, Suite 100
Katy, TX 77494

RE: Scope of Services
Environmental Reviews and Permitting Support
State Highway 99 Northbound Frontage Road – Bay Hill Blvd to Cinco Ranch Blvd
Fort Bend County, Texas

Dear Mr. Salehi:

BIO-WEST, Inc. (BIO-WEST) is pleased to submit this scope of work to Cobb, Fendley, & Associates, Inc. (CobbFendley) to provide appropriate environmental field surveys, environmental document preparation, and permitting support for the construction of the southbound lanes of State Highway 99 Frontage Road from Bay Hill Boulevard to Cinco Ranch Boulevard. This project is part of the 2020 Fort Bend County Mobility Projects. BIO-WEST understands that CobbFendley is the engineer of record for this project and that Fort Bend County is the applicant and end client.

This scope addresses multiple regulatory and environmental needs of the project. BIO-WEST understands the primary objective of this scope of work is to include all potential environmental aspects of the project including appropriate field assessments, permitting, coordination, and potentially public involvement. For ease of understanding this proposal is divided into Scope of Work, Cost Estimate, Schedule, and Assumptions.

SCOPE OF WORK

To facilitate the understanding of the proposed services, the project has been divided into the eight tasks described below.

Task 1: Water of the U.S. Delineation

BIO-WEST proposes to evaluate the project site for the presence of potential jurisdictional waters of the U.S., including wetlands, and other waterbodies as defined in Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers & Harbors Act (RHA). Evaluations will be conducted through coordination with CobbFendley and Fort Bend County to identify the presence or absence of potentially jurisdictional waters of the U.S. at the project site as well as to provide guidance for avoidance of jurisdictional waters, where possible. Our methods will include:

1. Review of recent aerial photography and U.S. Geological Survey (USGS) 7.5-minute Topographic Quadrangle maps of the project site to evaluate the potential for waters of the U.S.
2. Review of Natural Resources Conservation Service (NRCS) soil survey maps and hydric soils lists for Harris County
3. Field reconnaissance of the project site for identification of wetlands and other water bodies
4. Use of a Trimble® Global Positioning System (GPS) device with sub-meter accuracy to mark each sampling location and the extent of any wetlands and waters of the U.S. within the proposed ROW boundaries per USACE Galveston District Standards

The delineation will identify and document the presence of waters of the U.S. within the proposed ROW and include a delineation of these resources as specified in the 1987 USACE Wetlands Delineation Manual (Manual), the 2010 Regional Supplement to the *USACE Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region – Version 2.0* (Supplement), Regulatory Guidance Letter 05-05 – OHWM Identification, and other applicable industry guidance and standards. This effort is not intended to act as a forensic or atypical delineation.

This scope of work proposes to identify and delineate aquatic features within the project site and provide geographic information system (GIS)-based data documenting those findings to CobbFendley and Fort Bend County. Data may include the following:

- A waters of the U.S. delineation map
- A USGS topographic map
- A Federal Emergency Management Agency (FEMA) map
- A National Wetland inventory (NWI) map
- An NRCS soils map
- Historical aerial photographs and topographic maps
- Project site photographs documenting site conditions

The findings derived from the delineation effort will document the presence (or absence) and location of Section 404 and Section 10 waters within the project site; this is a critical first step in the permitting process. If such resources are present, the delineation will provide details which can aid in (1) planning in support of avoidance and minimization efforts and (2) estimation and quantification of unavoidable project impacts as permitting below.

All findings would be preliminary and based on BIO-WEST's professional experience with similar projects under similar circumstances. Only the USACE can make the final jurisdictional determination of the project site. This determination will likely be made during any necessary permitting process in Task 5 below.

Task 2 Threatened and Endangered Species and Critical Habitat Assessment

BIO-WEST will assess the presence or absence of both state- and federally-listed threatened and endangered species and their critical habitat within the project site. Prior to fieldwork, BIO-WEST will review applicable listings from the United States Fish and Wildlife Service (USFWS) and Texas Parks and Wildlife Department (TPWD) to determine appropriate species lists and their respective terrestrial and/or aquatic habitat.

In conjunction with the fieldwork associated with Task 1, BIO-WEST will document existing habitats within the project site and perform a potential presence survey for listed species documented to occur in Fort Bend County, Texas.

Task 3 Cultural Resource Desktop and Limited Pedestrian Surveys

BIO-WEST will contract with a local and reputable archeological consultant to conduct a cultural resources survey of the project site in compliance with Section 106 of the National Historical Preservation Act (NHPA) and Texas Historical Commission (THC) standards. The survey will be supervised by a Principal Investigator (PI) meeting the Secretary of the Interior's Professional Qualification Standards for Archeology.

Field investigations will consist of limited pedestrian surveys with shovel test excavations of high probability areas (HPAs). Extant Historic-age structures will be photographed and mapped during the investigation, and a preliminary assessment of these will be made as well.

This task only proposes to identify and delineate existing cultural resources on the project site, and represents the first step in any potential permitting process. Additional evaluations, although not initially required, may be necessary to determine if these sites are eligible under NRHP.

Task 4: Phase I Environmental Site Assessment (OPTIONAL)

The purpose of the assessment is to identify potential environmental concerns in accordance with the requirements of the Standards and Practices for All Appropriate Inquiries, Final Rule 40 CFR Part 312; American Society for Testing and Materials (ASTM) Practice E1527-13.

"Recognized environmental conditions," as defined under this ASTM standard, include "the presence or likely presence of any hazardous substances or petroleum products on a site under conditions that indicate an existing release, a past release, or a material threat of release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property." The assessment will be performed in accordance with generally accepted practices of the profession undertaken in similar studies at the same time and in the same geographical area, and BIO-WEST will observe that degree of care and skill generally exercised by the profession under similar circumstances and conditions.

BIO-WEST will submit a draft Phase I ESA for review and comment. Once comments are incorporated, BIO-WEST will submit a final Phase I ESA for the record. The results of the Phase I ESA will also be utilized in the EDF in Task 7.

Task 5: Project Management and Agency Coordination

BIO-WEST will act as the environmental liaison for the project in discussions with Texas Department of Transportation (TXDOT). The project will be required to be reviewed by TXDOT and most likely will be required to adhere to TXDOT environmental regulations, potentially including a Categorical Exclusion or Environmental Assessment.

Task 6: USACE Permitting

BIO-WEST will initiate the project permitting process by first scheduling and performing all necessary field resource studies during Tasks 1, 2, 3, and 4. BIO-WEST assumes that all survey permissions will be received prior to fieldwork to avoid schedule impacts. Permitting for this project can include, but is not limited to, the one each of the following permits:

- USACE NWP 14 – Linear Transportation under Section 404 of the Clean Water Act (CWA)

Given the scope of the project, BIO-WEST assumes that an NWP will cover proposed impacts to any jurisdictional waters of the U.S. delineated within the project site. If an Individual Permit is required, BIO-WEST will coordinate with CobbFendley on a course of action and new scope of work.

Upon completion of Task 1, BIO-WEST will prepare necessary permit applications and supporting technical reports for the corresponding agencies. BIO-WEST will prepare a draft permit package for CobbFendley and Fort Bend County staff to review, and provide comment. After comments are incorporated, BIO-WEST will deliver final permit packages with all necessary application forms

completed and clear instructions for final signature and execution. Once signed and executed, BIO-WEST will submit all permit applications on behalf of CobbFendley and Fort Bend County, as appropriate.

When requested and as necessary, BIO-WEST's Senior Project Manager will correspond with the permitting agency as an authorized agent of Fort Bend County throughout the permit review and approval process. CobbFendley and Fort Bend County will be apprised of approval status and schedule through the management process via telephone or email.

In addition to these permits, BIO-WEST will coordinate with the appropriate agencies (USFWS, TPWD, THC, etc.) regarding the results of field surveys. Coordination efforts will be undertaken per guidelines from TXDOT Environmental processes. Based on a desktop review of each project component, BIO-WEST assumes that no permits (Section 10, Section 7, etc.) will be required for these agencies.

Task 7a: TXDOT Environmental Assessment Preparation, Submittal, and Coordination

Once fieldwork is complete and it is determined through Task 5 that an Environmental Assessment (EA) is required for the project, BIO-WEST will draft an EA pursuant to TXDOT Environmental guidelines.

BIO-WEST will coordinate with TXDOT staff and obtain copies of the latest templates for this document. BIO-WEST will utilize the data obtained during Tasks 1 through 4 above for completion of the EA. BIO-WEST will submit a draft version for review and comment. Once comments are incorporated, BIO-WEST will submit a final version to TXDOT for review and comment.

As part of the EA package, BIO-WEST will provide the following reports and geospatial data:

- Waters of the U.S. delineation map set (Task 1)
- T&E species assessment and habitat map set (Task 2)
- Historical resources report meeting the standards and guidelines of the THC (Task 3)

Once submitted to TXDOT, the internal regulatory process and begins. BIO-WEST will continue to manage the project and answer any questions or provide information as requested by TXDOT.

Task 7b: Additional Environmental Services as Required by TXDOT Related to Noise

BIO-WEST will coordinate with CobbFendley, Fort Bend County, and TXDOT to determine if additional environmental studies, specifically related to a Noise Study or an Amended Noise Study, need to be conducted. If a Noise Study is required by TXDOT, BIO-WEST will work with CobbFendley to conduct a noise survey, coordinate public outreach to potential affected parties, plan and co-host a noise workshop, and prepare for a public meeting on the topic.

Task 7c: TXDOT Categorical Exclusion Preparation, Submittal, and Coordination

Once fieldwork is complete and it is determined through Task 5 that a Categorical Exclusion (CE) is required for the project, BIO-WEST will draft a CE pursuant to TXDOT Environmental guidelines.

BIO-WEST will prepare the appropriate environmental documentation necessary to comply with TXDOT environmental regulations. BIO-WEST will coordinate with TXDOT in order to ensure all necessary tasks and items are completed and documented. The NWP 14 (Task 6) may have to be submitted to the USACE for compliance purposes, depending upon TXDOT requirements, costs associated with this have been built into this proposal and cost estimate.

Task 8: Public Involvement and Meeting (OPTIONAL)

Projects similar in scope, size, and location to this project generally do not require public involvement or meetings, as the potential for controversy or disproportionate impacts to various socioeconomics groups is relatively low. However, TXDOT review of the project and associated environmental documents will determine the need for and extent of public involvement. This could include mailers, public notices, open house or presentation style meetings, or meetings with elected officials.

Based on current TXDOT guidance, the mostly likely scenario for public involvement is an open house style meeting with affected parties (i.e. local citizens, local groups, local elected officials, area businesses, etc.). If required by TXDOT, BIO-WEST can lead the effort, if requested or can co-host with CobbFendley. BIO-WEST proposes to coordinate one public meeting for dissemination of project information to the public. This effort will follow current TXDOT protocol and include:

- Draft, submittal, review, and publication of a Public Notice 30 days prior to the meeting in two local newspapers or other appropriate means
- Draft, review, printing, and mailing of one mailer to interested parties, if required by TXDOT
- Review and printing of alignment sheets and project plans in large format (>30 inch) for exhibition during the meeting
- Draft, review, and printing of up to three separate handouts during the meeting

BIO-WEST assumes that the meeting building will be owned, operated, or accessible through Fort Bend County, reducing or eliminating rental fees, and large enough to accommodate approximately 120 people. BIO-WEST will coordinate with CobbFendley and Fort Bend County on the location and meeting logistics, including setup, attendance, and tear down and clean-up.

COST ESTIMATE

BIO-WEST estimates the total costs as described below. BIO-WEST proposes this project to be conducted on a lump sum basis by the tasks identified below as authorized.

Table 1: Cost Breakdown by Task

Task	Cost
Task 1: Water of the U.S. Delineation	$6,500.00
Task 2: T&E Species and Critical Habitat Assessment	$1,200.00
Task 3: Cultural Resource Terrestrial Survey	$10,500.00
Task 4: Phase I Environmental Site Assessment	$5,000.00
Task 5: Project Management and Agency Coordination (Time and Materials)	$7,850.00
Task 6: USACE Permitting	$12,000.00
Task 7a: TXDOT Environmental Assessment Preparation, Submittal, and Coordination	$35,500.00
Task 7b: Additional Environmental Services as Required by TXDOT Related to Noise	$30,000.00
Task 7c: TXDOT Categorical Exclusion Preparation, Submittal, and Coordination	$22,500.00
Task 8: Public Involvement and Meeting	$7,500.00
Total with Task 7a & 7b, without Task 8	$108,550.00
Total with Task 7a, without Task 8	$78,550.00
Total with Task 7c, without Task 8	$65,550.00
Total with Task 7a & 7b, with Task 8	$116,050.00
Total with Task 7a, with Task 8	$86,050.00
Total with Task 7c, with Task 8	$73,050.00

These fixed fee costs include the expenses incurred by BIO-WEST during the performance of this scope of work. Project costs will not exceed the proposed budget without prior approval from CobbFendley and Fort Bend County. For project budgeting purposes, BIO-WEST will bill the client on a monthly basis for work completed prior to the date of billing.

SCHEDULE

BIO-WEST proposes the following schedule to complete this scope of work:

Task	Days
Baseline Assessment (Tasks 1, 2, 3, and 4 concurrent)	30
Management & Agency Coordination (Task 5)	45
USACE Permitting (Task 6)	120
TX DOT Env Document Preparation and Submittal (Task 7)	60-90

While BIO-WEST cannot guarantee approval of any permit application, BIO-WEST will utilize its best professional judgment and the standard and care utilized by similar companies completing similar work. Although most permitting processes have decision timelines based on legal requirements, the project permitting schedule can be based on the following influences that are outside BIO-WEST's control:

- Manpower and workload allocation at the various agencies
- Morale, leadership changes, or employee retention at the various agencies
- Force Majeure or other Acts of God

Should any of these factors influence the permit schedule, BIO-WEST will notify CobbFendley and Fort Bend County in writing and coordinate a plan of action. BIO-WEST shall not be held liable or at fault if any of these factors, or any other factor outside of BIO-WEST's direct control, adversely affects the project schedule.

ASSUMPTIONS

This proposal was completed under the following assumptions:

- BIO-WEST will be provided project site boundaries, including maximum proposed right-of-way for boundaries.
- Project site access will be provided during normal business hours
- Only one weather related delay day is assumed. Additional delays due to weather or lack of access may result in additional mobilization costs or field days.
- If the findings of this assessment and permitting effort indicate the need for further study beyond the scope of work specifically enumerated herein, BIO-WEST will notify CobbFendley and Fort Bend County of the conditions of concern and recommendations for revised services, and additional costs and request a change order.
- The proposed budget is inclusive of professional labor, expenses, materials, contractors, and reporting necessary to complete the proposed scope of services.
- Task 2 does not include species-specific surveys.
- Task 3 only includes a visual examination of the property, photo-documentation, and a limited pedestrian survey by shovel testing.
- Historic structure or historic architecture investigation is not included under this scope of work.
- Under the provisions of the Texas Antiquities Code, all documents, forms, and photographs associated with Task 4 will require curation. Costs beyond those outlined in this proposal will be determined separately upon completion of the project.

- Additional evaluations, although not initially required, may be necessary to determine if these sites are eligible under National Register of Historical Properties (NRHP). These evaluations are not included in this scope of work.
- This scope or work assumes that deep testing will not be necessary.
- The scope of work outlined in this proposal does not include the acquisition of any permits, with the exception of the Texas Antiquities Permit for archeological surveys.
- Task 4 will be accomplished according to current ASTM Practice E1527-13.
- A single Nationwide Permit 14 is proposed and referenced for Task 6.
- This scope of work does not include an individual permit, Section 10 permits, or Section 7 consultation. If required, BIO-WEST will submit a change order at the appropriate time.
- The final cost and scope of Task 7(a, b, and c) is subject to change based on the results of fieldwork and reporting, and application of the current TXDOT guidelines for this work.

CONDITIONS OF ENGAGEMENT

This proposal may be accepted by signing in the attached Agreement for Consulting Services or by submitting CobbFendley's preferred contracting method. This scope and work and accompanying limitations shall constitute the exclusive services to be performed for this project. BIO-WEST'S terms are Net 30 days. This proposal is valid only if authorized within 60 days from the proposal date. Tasks are not required to be approved together and can be authorized in any order as you see appropriate.

BIO-WEST greatly appreciates the opportunity to provide this scope of services and cost estimate. If you have any questions or would like any additional information, please feel free to contact me at (832) 595-9064 or ABoswell@Bio-West.com.

Sincerely,

Andy Boswell

Andy Boswell
Senior Project Manager & Senior Ecologist

GEOTEST ENGINEERING, INC.

Geotechnical Engineering & Materials Testing

5600 Bintliff Drive Houston, Texas 77036 Telephone: (713) 266-0588
Fax: (713) 266-2977

Proposal No. 1140526899
April 12, 2021

Mr. Mahmoud Salehi, P. E.
Vice President
Cobb Fendley
22316 Grand Corner Drive, Suite 100
Katy, TX 77494

Reference: **Proposal for Geotechnical Investigation**
SH 99 Northbound Frontage Road Extension
From Cinco Ranch Boulevard to Bay Hill Drive
Fort Bend County, Texas

Dear Mr. Salehi:

In accordance with your request, Geotest Engineering, Inc. (Geotest) is pleased to present this revised proposal for the geotechnical investigation for the proposed SH 99 Northbound Frontage Road from Cinco Ranch Boulevard to Bay Hill Drive in Fort Bend County, Texas. The proposed improvements include approximately 3,500 linear feet of new pavement for the proposed north bound frontage road and associated storm sewer along the alignment. The project also includes extension of existing 3-8'x8' box culvert and headwalls/wingwalls under the new frontage road at the ditch crossing. It is our understanding that the existing ditch depth is about 15 feet. Based on the information provided by Cobb Fendley, all the borings will be performed in the grass area per TxDOT criteria.

Purpose and Scope

The purposes of this study are to perform a geotechnical investigation and develop geotechnical recommendations for the proposed improvements.

The scope of services is based on the information provided to us by your e-mail on March 4, 2021 and April 9, 2021 and our conversations on March 4, 2021, and consists of the following:

- Drill and sample five (5) soil borings to depths ranging from 30 to 50 feet in accordance with TxDOT criteria. The details of boring program are given below and also shown on attached KMZ file:
  - Three (3) soil borings each to a depth of 30 feet for storm sewer and paving
  - Two (2) soil borings, each to a depth of 50 feet, for extension of 3-8' x 8' box culvert and proposed headwall at the ditch crossing

  Texas Cone Penetration (TCP) tests will be performed on every 5-foot interval for all borings. It is assumed that the proposed borings will be located and tied in by you or your surveyor.
- Perform laboratory tests on representative soil samples to evaluate the engineering properties of the soils.

- Perform engineering analyses to develop geotechnical recommendations for the proposed storm sewer, pavement and culverts.
- Submit a geotechnical report containing a plan showing the locations of the borings, Wincore logs and recommendations as outlined above.

Schedule and Fees

We should be able to start field work within one (1) week after receiving your written authorization or one (1) week after receiving the Right of Way permission whichever is latest. The field work will be complete in about one (1) week, barring bad weather. The laboratory tests will be completed in about four (4) weeks. The geotechnical report, which will include field and laboratory data and design recommendations, will be submitted in about eight (8) weeks after completion of field work.

Based on the scope of work outlined above, the cost of the field investigation, laboratory testing, engineering analyses, and a geotechnical report will be a not to exceed a cost of $22,163.07. The cost breakdown is provided in Attachment No. 1.

We appreciate the opportunity to submit this proposal. Formal authorization is required for our services. This may be provided by signing in the space provided below and returning one copy for our files.

Very truly yours,
GEOTEST ENGINEERING, INC.

B.C. K

Mohan Ballagere, P.E.
Vice President

MB\ego
Copies Submitted: (1)
Enclosures: Proposed Plan of Borings – KMZ file
Attachment No. 1 – Cost Breakdown
PC38\Geotechnical\Proposals\40526899R2.DOC

ACCEPTED BY: _____

PRINTED NAME: _____

TITLE: _____

DATE: _____

Geotechnical Investigation
SH 99 Northbound Frontage Road
From Cinco Ranch Boulevard to Highland Knolls Drive
Fort Bend County, Texas

Proposal No. 1140526899

Attachment No. 1
COST BREAKDOWN

	QUANTITY	UNIT RATE	COST
Engineering Services			
Senior Engineer	4 hrs.	$221.98	$887.92
Support Manager	8 hrs.	$208.83	$1,670.64
Project Engineer	12 hrs.	$160.63	$1,927.56
Engineer-In-Training II	36 hrs.	$81.15	$2,921.40
Administrative/Clerical	6 hrs.	$69.44	$416.64
		Subtotal	**$7,824.16**
Subsurface Field Investigation			
Mobilization/Demobilization of Truck Mounted Drill Rig and Crew	1 ea.	$600.00	$600.00
Drilling and Sampling, Truck Mounted Rig, from 0 to 50 ft	190 ft.	$25.00	$4,750.00
Grouting of Completed Bore Holes	190 ft.	$12.00	$2,280.00
TxDOT Cone Penetration Test (every 5 feet)	38 ea.	$31.00	$1,178.00
Utility Clearance for Boring Locations, Logging and and Field Coordination	7 hrs.	$81.13	$567.91
		Subtotal	**$9,375.91**
Laboratory Tests			
Liquid and Plastic Limits	26 ea.	$71.00	$1,846.00
Moisture Content	49 ea.	$11.00	$539.00
Percent Passing No. 200 Sieve	10 ea.	$55.00	$550.00
Sieve Analysis through No. 200 Sieve	2 ea.	$65.00	$130.00
Sieve Analysis with Hydrometer	2 ea.	$145.00	$290.00
Unconfined Compressive Strength of Soil	16 ea.	$51.00	$816.00
Unconsolidated-Undrained Triaxial Compression	11 ea.	$72.00	$792.00
		Subtotal	**$4,963.00**
		Total	**$22,163.07**