

\$438,822.00 under this Second Amendment.

In no event shall the amount paid by County under this Agreement, as amended, exceed the Maximum Compensation without a County approved change order. Consultant clearly understands and agrees, such understanding and agreement being of the absolute essence of this Agreement, as amended, that County shall have available the total maximum sum of \$805,625.00 specifically allocated to fully discharge any and all liabilities County may incur under the Agreement, as amended.

Consultant does further understand and agree, said understanding and agreement also being of the absolute essence of the Agreement, as amended, that the total Maximum Compensation that Consultant may become entitled to and the total maximum sum that County may become liable to pay to Consultant under the Agreement, as amended, shall not under any conditions, circumstances, or interpretations thereof exceed \$805,625.00.

4. **Certain State Law Requirements for Contracts.** The contents of this Section are required by Texas law and are included by County regardless of content for purposes of Sections 2252.152, 2271.002, and 2274.002, Texas Government Code, as amended, Consultant hereby verifies that Consultant and any parent company, wholly owned subsidiary, majority-owned subsidiary, and affiliate:
 - A. Unless affirmatively declared by the United States government to be excluded from its federal sanctions regime relating to Sudan or Iran or any federal sanctions regime relating to a foreign terrorist organization, is not identified on a list prepared and maintained by the Texas Comptroller of Public Accounts under Section 806.051, 807.051, or 2252.153 of the Texas Government Code.
 - B. If employing ten (10) or more full-time employees and this Agreement has a value of \$100,000.00 or more, Consultant does not boycott Israel and is authorized to agree in such contracts not to boycott Israel during the term of such contracts. "Boycott Israel" has the meaning provided in § 808.001 of the Texas Government Code.
 - C. If employing ten (10) or more full-time employees and this Agreement has a value of \$100,000.00 or more, Consultant does not boycott energy companies and is authorized to agree in such contracts not to boycott energy companies during the term of such contracts. "Boycott energy company" has the meaning provided in § 809.001 of the Texas Government Code.
 - D. If employing ten (10) or more full-time employees and this Agreement has a value of \$100,000.00 or more, Consultant does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association

and is authorized to agree in such contracts not to discriminate against a firearm entity or firearm trade association during the term of such contracts. “Discriminate against a firearm entity or firearm trade association” has the meaning provided in §2274.001(3) of the Texas Government Code. “Firearm entity” and “firearm trade association” have the meanings provided in §2274.001(6) and (7) of the Texas Government Code.

5. **Recitals.** The recitals set forth above are incorporated herein by reference and made a part of the Agreement, as amended.
6. **Human Trafficking.** BY ACCEPTANCE OF THIS SECOND AMENDMENT, CONSULTANT ACKNOWLEDGES THAT FORT BEND 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.
7. **Modifications and Conflict.** Except as modified herein, the Agreement shall remain in full force and effect and has not been otherwise modified or amended. If there is a conflict among documents that make up the Agreement, this Second Amendment shall prevail with regard to the conflict.
8. **Certification.** By his or her signature below, each signatory individual certifies that he or she is the properly authorized person or officer of the applicable Party hereto and has the requisite authority necessary to execute this Second Amendment on behalf of such Party, and each Party hereby certifies to the other that it has obtained the appropriate approvals or authorizations from its governing body as required by law.

{Execution Page Follows}

FORT BEND COUNTY, TEXAS

FCM ENGINEERS, PC

KP George, County Judge

Date

ATTEST:

Laura Richard, County Clerk



Authorized Agent – Signature

Frank C. Mbachu
Authorized Agent- Printed Name

President
Title

10/23/2025
Date

APPROVED:



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

AUDITOR’S CERTIFICATE

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

Robert E. Sturdivant, County Auditor

EXHIBIT A-2

(Follows Behind)



3300 S. Gessner Rd.
Suite 249
Houston, Texas 77063
T-713-706-4414
F-713-706-4410

June 30, 2025

Mr. Stacy Slawinsky, P.E.
Attn: Mr. Gabriel Odreman, PE, PMP
Director, Program Management
11700 Katy Freeway, Suite 300
Houston, Texas 77079

Re: Fort Bend County 2020 Mobility Bond Program
Blueridge Road Widening from Rockergate Drive to South McHard Road
Project No 20205

Subject: Proposal for Amendment No. 2 Additional Services

Dear Ms. Cantner:

Attached is the fee proposal for additional scope of work design services. The fee proposal is based on additional scope of work that was not included in the original scope of work and in Amendment No.1. Items from the original scope and Amendment No.1 are summarized as follows:

- Replace asphalt pavement with concrete pavement.
- Provide in road bike path on both sides of the roadway.
- Add roadway shoulder on the west side of Blueridge road.
- Add street lights along the entire roadway limit.

The items No.1 through 6 are proposed additional scope of work services that were not included in the original scope of work and in Amendment No.1. The items that constitute the additional scope fee proposal are shown below:

1. 16-inch Water Line

The existing 16-inch AC Water Line created conflicts with both the storm sewer system and road side ditch design alternatives. It was determined that the existing 16-inch water line needs to be replaced in a different location to avoid conflicts with the proposed road reconstruction and drainage system. This will add approximately 14 sheets of plan and profile sheets; and standard details to the reconstruction of roadway. The replacement of 16-inch AC water line was not originally included in the scope of work.

2. Update Drainage Analysis for Additional Sidewalk and Shoulder

Sidewalk on both sides of the road was not included in original scope of work. Addition of sidewalk to both sides of roadway will increase the paved surface by 49,900 SF of sidewalk. This will increase the impervious cover and impact on drainage and detention requirement.

3. RCB Bridge Extension

The addition of sidewalk to both sides of the roadway requires that the two culvert bridges be extended. In order to maintain the continuity of sidewalk across the two culvert bridges an extension of the bridges is required to accommodate the addition of sidewalk. The bridges will be extended by at least 20-ft. The bridge extension was not included in the original scope of work and Amendment No.1 scope of work.

4. TDLR Registration, Review and Inspection

TDLR registration, review and inspection will be required during the design and inspection of the construction of the project for the sidewalks and/or shared use path. TDLR registration, review and inspection were not included in the original scope and amendment No.1 scope of work.

5. Geotechnical Investigation

There will be additional work by geotechnical consultant to obtain deeper borings data to meet COH requirements for storm sewer, water line and detention ponds. The fee proposal from subconsultant (Geotech Engineering & Testing) for additional scope of work as required by COH IDM is also attached and also included in FCM Engineers fee proposal.

This additional scope of work will be added to the original contract and Amendment No. 1 scope for Blueridge Road Widening from Rockergate Drive to South McHard Road. The fee proposal is in the amount of Four Hundred Thirty-Eight Thousand Eight Hundred Twenty-Two Dollars and Zero Cent (\$438,822.00). This scope of work will include Phase I, Phase II and Phase III engineering Services. The total fee proposal including original contract, Amendment No. 1 and this proposal is \$805,625.00 and breaks down as follow:

Original Contract Amount	= \$ 344,981.00
Amendment No. 1	= \$ 21,822.00
Proposed Amendment No. 2	= \$ 438,822.00
Total fee	\$ 805,625.00

Deliverables

The followings are the deliverables associated with additional scope of work:

- 1) Complete PER, construction ready plans, specifications, cost estimate, bidding support, and construction phase services for replacement of the 16-inch AC water line from Rockergate to McHard Road.
- 2) Complete and approved drainage system and detention analysis including design to mitigate for the additional impervious cover created by the sidewalks (or shared use path) proposed for both sides of the road.
- 3) Complete PER, construction ready plans, specifications, cost estimates, bidding support, and construction phase services for extension of two channel crossings with all appurtenances from Rockergate to McHard Road to accommodate additional corridor width needed for the sidewalks.
- 4) TDLR registration number, plan review, and construction inspection including full TDLR compliance and approval.
- 5) Complete combined and updated geotechnical report including approval by the City of Houston for all proposed items to be constructed for and eventually accepted by the City of Houston for maintenance and operation.

We look forward to working and completing this very important Fort Bend County project. If you have any questions, please let me know.

Yours Sincerely,
FCM Engineers, PC



Dr. Frank C. Mbachu, P.E., DEE
President

FCM/mh

cc: FCM file #2021062

Fort Bend County 2020 Mobility Bond Program Fee Estimate Worksheet

Blueridge Road Widening from Rockegate Drive to s. Michard Rd.
Project No. 20205

Additional Scope Fee Proposal

TASK DESCRIPTION	PRINCIPAL MANAGER	DEPARTMENT MANAGER	SENIOR PROJECT MANAGER	PROJECT MANAGER	SENIOR PROJECT ENGINEER	STRUCTURAL ENGINEER	PROJECT ENGINEER	OIS SPECIALIST	CADD MANAGER	SENIOR DESIGNER	DESIGNER	SENIOR CADD TECHNICIAN	CADD TECHNICIAN	SENIOR ENVIRONMENTAL PLANNER	ENVIRONMENTAL PLANNER	CLERICAL	TOTAL HOURS	Task Total	NO OF DWGS	COST PER SHEET	LABOR HRS PER SHEET	
1. Preliminary Design (LS)																						
a) Identify Problem Areas and Potential Resolutions for 16" Water Line	1		4		4		4										13	\$ 77,106.00		\$ 5,931.23	#DWG/0	
b) Site Visit for Bridge Extension			4		4		4										8	\$ 2,862.00		\$ 357.75	#DWG/0	
c) 30% Plan & Profile Design for Storm Sewer, 16" Water Line, Storm Sewer, RBC Bridge Extension and Sidewalk	2		4		4		6										16	\$ 3,180.00		\$ 198.75	#DWG/0	
d) Prepare 30% Plan to Show Proposed Storm Sewer Alternative, 16" Water Line, Storm Sewer, RBC Bridge Extension and Sidewalk	4		24		30		40										142	\$ 22,458.00	14	\$ 1,599.86	#DWG/0	
e) Utility Coordination and Conflicts for 16" Water Line, RBC Bridge Extension and Sidewalk	4		8		8		8										28	\$ 6,640.00		\$ 237.14	#DWG/0	
f) Utility Coordination and Conflicts for 16" Water Line, RBC Bridge Extension and Sidewalk	8		30		30		8										102	\$ 17,486.00		\$ 171.33	#DWG/0	
g) Amend PER to include Storm Sewer System, 16" Water Line, Storm Sewer, RBC Bridge Extension and Sidewalk	2		6		6		12										52	\$ 7,692.00		\$ 148.12	#DWG/0	
h) Amend PER to include Storm Sewer System, 16" Water Line, Storm Sewer, RBC Bridge Extension and Sidewalk	2		4		4		4										10	\$ 2,160.00		\$ 216.00	#DWG/0	
i) Coordinate Meeting with Program Manager (Biweekly meetings for months)	2		12		12		18										28	\$ 5,920.00		\$ 211.43	#DWG/0	
j) Prepare Preliminary Engineering Report (PER)	2		8		12												88	\$ 9,960.00		\$ 113.07	#DWG/0	
k) Geotechnical Investigation - Prepare Survey Control Map	2																0	\$ -		\$ -	#DWG/0	
l) Project Management & Meetings (3 Months Typical)																	0	\$ -		\$ -	#DWG/0	
2. Final Design (LS)																						
a) 16" Water Line Notes	3		1		1		122										4	\$ 817.00	1	\$ 817.00	#DWG/0	
b) 16" Water Line Notes	4		4		3		12			60							46	\$ 687.00	14	\$ 49.07	#DWG/0	
c) Receive and Address 70% & 85% Comments for 16" Water Line	2		8		8		24										50	\$ 723.00		\$ 14.46	#DWG/0	
d) Specification & Standard Details for 16" Water Line	1		8		8		8										42	\$ 6,240.00		\$ 148.57	#DWG/0	
e) Detail Sheets & Utility Study	1		8		8		8										18	\$ 3,360.00		\$ 186.67	#DWG/0	
f) Coordination Meeting with COH and Program Manager	2		12		12		30			30							24	\$ 3,040.00		\$ 126.67	#DWG/0	
g) Bridge Extension sections and detail	2		8		8		30			150							150	\$ 18,760.00	6	\$ 3,126.67	#DWG/0	
h) Receive and Address 70% & 85% Comments for RCB Bridge extension	2		2		2		2			12							30	\$ 4,662.00		\$ 155.40	#DWG/0	
i) Receive and Address 70% & 85% comments for subsoil	2		2		2		2			48							30	\$ 4,662.00		\$ 155.40	#DWG/0	
j) Final Design Expenses	2		8		8		8			12							30	\$ 4,662.00		\$ 155.40	#DWG/0	
k) Bridge Layout Notes																	0	\$ -		\$ -	#DWG/0	
l) Design Calculations																	0	\$ -		\$ -	#DWG/0	
m) Spring & Payment Markings																	0	\$ -		\$ -	#DWG/0	
n) Detail Sheets & Utility Study																	0	\$ -		\$ -	#DWG/0	
o) Standard Details																	0	\$ -		\$ -	#DWG/0	
p) B01 Form Specifications																	0	\$ -		\$ -	#DWG/0	
q) Construction Cost Estimate																	0	\$ -		\$ -	#DWG/0	
r) Cross Sections with cut/fillwork Calculations																	0	\$ -		\$ -	#DWG/0	
s) Responses to Comments																	0	\$ -		\$ -	#DWG/0	
t) Final Design Phase Expenses																	0	\$ -		\$ -	#DWG/0	
3. Additional Services (LS)																						
a) Review Contractor Submittal for Storm Sewer, 16" Water Line, RBC Bridge Extension and Sidewalk (Approximately 10 RFI's)	2		4		4		4										0	\$ 82,674.00		\$ 20,668.50	#DWG/0	
b) Review Contractor Submittals	2		4		4		4										12	\$ 2,280.00		\$ 190.00	#DWG/0	
c) Answer Requests for Information (RFI) for Storm Sewer, 16" Water Line, RBC Bridge Extension and Sidewalk (Approximately 10 RFI's)																	0	\$ -		\$ -	#DWG/0	
d) Record Drawings for Storm Sewer, 16" Water Line, RBC Bridge Extension and Sidewalk																	0	\$ -		\$ -	#DWG/0	
e) Review Contractor Submittals																	0	\$ -		\$ -	#DWG/0	
f) Answering Requests for Information																	0	\$ -		\$ -	#DWG/0	
g) Record Drawings (Station Worksheet)																	0	\$ -		\$ -	#DWG/0	
h) Bid & Construction Phase Expenses																	0	\$ -		\$ -	#DWG/0	
4. Optional Additional Services for Storm Sewer (LS)																						
a) Storm Sewer Notes	1		1		1		2										4	\$ 817.00		\$ 204.25	#DWG/0	
b) 17% plan & profile design drawings for Storm Sewer system	6		20		48		60			24							218	\$ 34,200.00		\$ 156.88	#DWG/0	
c) 100% plan and profile design drawings for storm sewer system	4		24		24		18			12							88	\$ 13,824.00		\$ 155.95	#DWG/0	
d) 100% plan and profile design drawings for storm sewer system	2		8		8		8			8							30	\$ 5,028.00		\$ 167.60	#DWG/0	
e) Receive and Address comments for 70% and 85% for storm sewer	2		4		4		8										18	\$ 3,480.00		\$ 193.33	#DWG/0	
f) Construction cost estimate for storm sewer system	2		4		4		8										0	\$ -		\$ -	#DWG/0	
MANPOWER SUBTOTAL	58	0	268	0	402	118	500	0	0	206	0	0	488	0	0	0	2,178	\$ -		\$ -	#DWG/0	
LABOR RATE PER HOUR	\$6,600.00	0%	\$170.00	0%	\$234.00	58%	\$238.00	0%	\$170.00	9%	0%	\$170.00	2%	\$170.00	0%	\$170.00	2%	\$4,800.00		\$ 2,208.00	#DWG/0	
SUBTOTAL LABOR	\$13,920.00	\$0.00	\$60,300.00	\$0.00	\$95,580.00	\$27,010.00	\$82,200.00	\$0.00	\$0.00	\$27,310.00	\$0.00	\$0.00	\$48,840.00	\$0.00	\$0.00	\$0.00	\$4,320.00	\$ 458,822.00		\$ 210.60	#DWG/0	
TOTAL																						

**REVISED
PROPOSAL AMENDMENT NO. 1 FOR
A GEOTECHNICAL STUDY
BLUERIDGE ROAD RECONSTRUCTION
BETWEEN ROCKERGATE DRIVE AND McHARD ROAD
PAVING, WATER AND DRAINAGE IMPROVEMENTS
FORT BEND COUNTY, TEXAS
REVISION II**

PROPOSAL NO. P21-168



TO

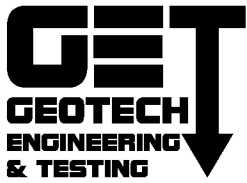
**FCM ENGINEERS, PC
HOUSTON, TEXAS**

BY

GEOTECH ENGINEERING AND TESTING

www.geotecheng.com

MAY 2025



GEOTECH ENGINEERING and TESTING

Geotechnical, Environmental, Construction Materials, and Forensic Engineering



ACCREDITED
CERTIFICATE #0075-01
#0075-02

FCM Engineers, PC
3300 S. Gessner Road, Suite 249
Houston, Texas 77063

Proposal No. P21-168
May 12, 2025
Tel.: 713-706-4414

E-mail: fmbachu@fcm-engineers.com

Attention: Dr. Frank C. Mbachu, P.E., DEE
President


**REVISED
PROPOSAL AMENDMENT NO. 1 FOR
A GEOTECHNICAL STUDY
BLUERIDGE ROAD RECONSTRUCTION
BETWEEN ROCKERGATE DRIVE AND McHARD ROAD
PAVING, WATER AND DRAINAGE IMPROVEMENTS
FORT BEND COUNTY, TEXAS
REVISION II**

Gentlemen:

At your request, we are pleased to submit this proposal for the Blueridge Road paving/drainage improvement project. The roadway improvement will be about 4,990-ft, from Rockergate Drive to McHard Road, Fort Bend County, Texas. The contracted improvement includes the rehabilitation of the existing 2-lane asphalt roadway. The proposed Amendment No. 1 includes the full depth reconstruction of the road. The project will include storm sewer or open ditch drainage, a detention pond, and a 16" water line. The planned paving/drainage improvements were discussed in detail with Dr. Frank C. Mbachu, P.E., DEE in order to plan a study that would provide the necessary design and construction data.

INTRODUCTION

It is planned to improve approximately 4,990-ft of Blueridge Road from Rockergate Drive to South of McHard Road, Fort Bend County, Texas. GET conducted an initial geotechnical study for this project alignment and submitted the results of our study in GET Report No. 21-557E, dated February 1, 2022. We understand that the proposed improvement will consist of concrete or asphalt reconstruction, roadside ditch or storm sewer, 16" water line and detention pond, asphalt pavement rehabilitation and roadside ditch regrading. Furthermore, the improvements shall be performed by Fort Bend County for ownership, maintenance and operations by the City of Houston. The specific improvement will consist of the following:

Facility	Remarks
Paving	<p>The roadway will be about 4,990-ft long, asphalt or concrete paving. TBD in the PER and based on the investigation results and preference of Fort Bend County and the City of Houston. The traffic loading in the form of ESAL is not available at this time, hence, the traffic loading will be assumed. Furthermore, we understand that 50-year design life will be used for asphalt pavement design. GET already provided concrete paving recommendations in the initial draft report. We are only supplementing what we have already done to meet COH criteria.</p> 
Underground utilities	<p>The underground utilities will consist of storm sewers. We assumed that the depth of the underground utilities will be about 10-ft deep. Boring depths for up to 10-ft deep trench is about 15-ft per COH IDM, with spacing between borings as 500-ft.</p>
Box Culverts	<p>We understand that the planned improvements will include installing two RC box culverts at each creek crossing. Based on the information provided by the client, We understand that the channels are 7- to 15-ft deep.</p>
Detention Pond	<p>We understand that a 5-acre detention pond shall be constructed at the project site. The depth and location of this proposed pond is not known at this time. We understand that the pond shall be about 7-ft deep.</p>

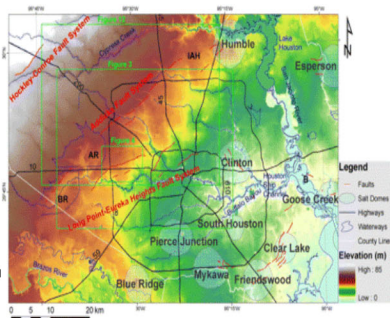
This proposal is divided into two sections. Each section will be discussed and estimated separately. These sections are as follows:

- o Desktop Geologic Fault Study from our initial geotechnical report shall be included.
- o Geotechnical Exploration Study for the pavement, utilities and drainage improvements.

The scope of our services will be in general accordance with the City of Houston (COH) Department of Public Works and Engineering Infrastructure Design Manual, Chapter 11, Geotechnical and Environmental Guidelines, 2021 edition. We will not perform the geotechnical exploration for the road in accordance with the TxDOT Guidelines. We will conduct geotechnical study for the proposed detention pond in accordance with the HCFCD Guidelines. **We understand that the scope of our work will not include review of plans and specifications prior to the final design.**

DESKTOP GEOLOGIC FAULTING

The project site is located in Fort Bend County, Texas. Geologic faults are scattered throughout Houston. In general, faults are caused by groundwater and oil removal from the underlying surface. Faults originate several thousand feet below the ground surface and can often cause displacement of the ground surface, causing broken pavement, water lines, and damage to residential and commercial structures.



A Desktop Geologic Fault Study was conducted in 2021. It included a study of published data on surface faults in the area of the site from the Geotech Engineering and Testing Library. The report of our findings will be provided.

GEOTECHNICAL STUDY

Field Exploration

Site Access. Major portion of the project alignment is along the existing 2-lane asphalt roadway. Therefore, site access can be provided, using a truck-mounted drilling rig. Traffic control will be required.



Due to presence of soft subgrade soils and potential access problems, an ATV rig may have to be used to drill borings for the proposed detention pond.

Surveying. The client will establish and provide GET the boring coordinates and ground surface elevations. GET will mark the boring locations in the field so that the survey crew can locate them.

Checking for Utilities. GET will call Texas 811-Call for the locations of utilities. GET will coordinate these activities. GET will not hire a contractor to conduct subsurface utility studies to find location of any and all utilities. This is not the scope of GET work. We recommend the scope of our work to include subsurface utility investigation at boring locations to assess that underground utilities are not hit during field exploration.



Traffic Control. Traffic control will be required along the project alignment during our field exploration. The scope of our field work will require a lane closure during drilling and sampling and borehole grouting. Our traffic control will be subcontracted out.

Drilling and Sampling. We will evaluate the soil stratigraphy and groundwater conditions for the proposed paving and drainage improvements by conducting seventeen (17) soil borings to depth ranging between 20-ft and 30-ft below the existing grade. It should be noted that spacing between borings is about 250-ft. The Plan of Borings for the proposed paving and utilities is shown on Plate 2. The borings schedule is as follows:

Facility	Borings ¹	Depth, ft	Remark
Two Box Culverts	B-1, B-12, B-4 and B-14	30	A truck-mounted drilling rig.
Paving and Underground Utilities	B-2, B-3, B-5 through B-11, B-13, B-15 through B-21	20	A truck-mounted drilling rig
Detention Pond	B-22 through B-26	15	A truck-mounted drilling rig/ATV rig Location of the pond is not known.
	Total Footage	315	

Note 1: Borings B-1 through B-11 were drilled during initial geotechnical study. Borings B-12 through B-26 shall be drilled during this study. Borings B-1 and B-4 shall be re-drilled to deeper depths.

Soil samples will be obtained continuously from the surface to the completion depth of borings. The cohesive soils will be sampled, using a Shelby Tube sampler. Standard Penetration Tests (SPT) will be performed in sands, if encountered. Shear strengths of the clays will be measured in the field with a hand penetrometer and correlations between this data and laboratory unconfined compression and Torvane tests used to supplement laboratory shear strength data.

Groundwater. Depth to groundwater will be important for design and construction of the proposed facilities. For this reason, borings will be drilled dry and the depth at which groundwater is encountered will be recorded. Twenty-four hour water levels will be measured at the detention pond borings only.

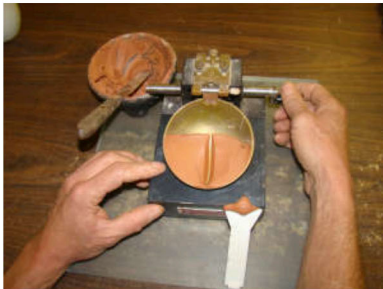


Piezometer. We recommend one (1) piezometer be installed at each creek crossing for the proposed box culverts and one (1) at the detention pond. The piezometers for the channel will be installed in Borings B-1 and B-4 to a depth of 30-ft. The piezometer for the pond will be installed in Boring B-26 to a depth of 15-ft. The piezometers will be developed by GET. They will be monitored twice in one month. All three (3) piezometers will be abandoned per TDLR Requirements soon after 30-day water level reading.

Borehole Grouting. All of the geotechnical boreholes except, two (2) piezometer borings and five (5) detention pond borings will be grouted with cement and bentonite, after drilling and sampling.

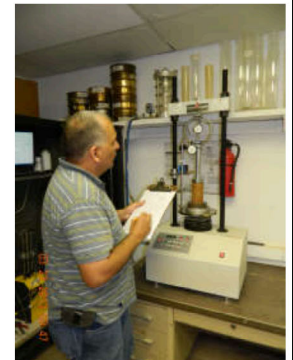
LABORATORY TESTING

Laboratory tests will vary with the soils encountered but will be planned to evaluate soils design parameters for the proposed pavements and roadside ditches.



It is anticipated that the tests will include hand penetrometer, torvane, unconfined compression, unit weight, moisture content, liquid and plastic limit tests, gradation and hydrometers.

We will conduct additional detailed testing for slope stability analysis of detention pond side slope. These tests will consist of Consolidated Undrained (CU) Triaxial Tests with pore pressure measurements, Unconsolidated Undrained (UU) Triaxial Tests, six (6) double hydrometer tests and twelve (12) crumb tests.



All of the subsoils will be classified in general accordance with the American Society of Testing Materials (ASTM) Soil Classification System. All tests will be performed in general accordance with the ASTM Procedures.

ENGINEERING ANALYSES AND REPORTING

The field and laboratory data will be summarized in an engineering report. Analyses of these data will be presented and recommendations made relative to the following:

Facility	Recommendations
General	<ul style="list-style-type: none"> ○ Summary. ○ Project site pictures. ○ Geology. ○ Results of the Desktop Fault Study and recommendations for Phase I Study, if warranted. ○ Generalized soils stratigraphy and groundwater levels. ○ Boring logs per COH format.
16" waterline and Storm Sewers	<ul style="list-style-type: none"> ○ Recommendations on the design of the storm sewers including bedding requirements, dewatering, trench safety etc. ○ In the event that open excavation is used, we will provide bedding, backfilling, excavation wall and bottom stability, thrust restraint, dewatering, pipe design parameters. ○ In the event that tunneling is used, we will provide, soil design parameters, ground stability, tunnel shaft excavation stability and dewatering. ○ Construction requirements for trench excavations and backfilling, including groundwater effects and dewatering considerations. ○ Soil types available from excavations and use of these materials for fill. ○ OSHA soil classification for the trench safety. ○ Trench construction and safety requirements. ○ Trench safety report. ○ Lateral earth pressures for the design of the retention system. ○ Recommendations on design of the shaft structure. ○ Potential for bottom blow up at the trenches and tunnel. ○ Any other soil design or construction problems revealed by the study.



Facility	Recommendations
RC Box Culvert	<ul style="list-style-type: none"> ○ We understand that open excavation is used. We will provide bedding, bedding, backfilling, excavation wall and bottom stability, thrust restraint, dewatering and design parameters for the box culverts. ○ OSHA soil classification for the trench safety. ○ Trench safety report. ○ Lateral earth pressures for the design of the box culvert.
Detention Pond	<ul style="list-style-type: none"> ○ Recommendations on design of detention pond, including the detailed computerized slope stability, erosion protection and testing per HCFCD requirements. ○ Computerized slope-stability recommendations for short-term, long-term and rapid draw down conditions. ○ Recommendations on subsoil dispersive characteristics. ○ Seepage and bottom blow up recommendations. ○ Erosion recommendations, including the use of grass for erosion protection. ○ Recommendations on subsoil stabilization, if necessary. ○ Recommendations on the use of excavated materials as fill, per HCFCD requirements. ○ Recommendations on earthwork, select fill and construction procedures. ○ Recommendations on site drainage. ○ Recommendations on construction and dewatering, if warranted. ○ Construction requirements for trench excavations and backfilling, including groundwater effects and dewatering considerations. ○ Soil types available from excavations and use of these materials for fill. ○ Constructability considerations. ○ Geotechnical Report check list.



COST ESTIMATE

General

Based on the scope of work outlined above, we estimate the cost for field, laboratory, and engineering services based on the COH Fee Schedule as shown on Plates 3 through 5. This estimate assumes underground obstructions will not be encountered that require boring relocations. GET is not responsible for damages to underground utilities, man-made utilities, etc. In the event that concrete, rock/rubble is encountered, the boring(s) will be terminated. We understand that all of the boring elevations will be provided by the client prior to completion of GET report. Our cost estimate includes digital draft and final report copies. We understand that COH does not need hard copy, hence it will not be provided. Additional report copies will be provided at a separate charge. All of our field and laboratory test data will be submitted on City of Houston boring logs.

Underground Utilities

The cost estimate for geotechnical services assumes that underground obstructions will not be encountered during boring that requires boring relocation(s). GET will contact Texas 811 for the presence of underground utilities. However, Texas 811 does not have information regarding the presence of underground utilities inside the properties. GET is not responsible for damage to underground utilities, man-made objects, etc., that are not identified by Texas 811. The scope of our work does not include subsurface utility engineering. We recommend the scope of our work to include subsurface utility investigation at boring locations to assess that underground utilities are not hit during field exploration.



Traffic Control Allowance

The cost estimate for traffic control is only an allowance. The actual cost may vary, depending on access and daily production. **Alternatively, the road may be closed during GET's drilling cycle to remove the traffic control expenses.** GET is prepared to use any qualified traffic control subcontractor specified by the client. **Our estimated traffic control (if used) schedule is as follow:**

	<u>Day</u>	<u>Services</u>
	<u>4.0</u>	Drilling and Sampling, Borehole Grouting
Total:	<u>4.0</u>	

Cost Summary

A summary of estimated cost is presented below:

<u>Scope of Work</u>	<u>Estimated Cost</u>	<u>Cost Breakdown Plate(s)</u>
Geotechnical Exploration for Paving and Storm Sewer	69,369.00	3 – 4
Traffic Control (allowance)	6,399.00	5
ATV Rig (allowance)	2,100.00	5
Piezometer Installation (Allowance)	4,806.00	5
Subtotal	\$ <u>82,674.00</u>	
Grand Total	\$ <u>82,674.00</u>	

REPORT REVIEWS AND COMMENTS

Our report will be submitted to FCM Engineers, PC in a draft form for comments. Once these reviews are completed, a final report will be issued. All of these comments will be incorporated in the final report. The client agrees that all reviews are complete once a notice for a final report is issued. Any changes to the final report will be outside the scope of our study. We will incorporate any future comments after the final report is issued on a time and materials basis per the applicable fee schedule.

TIME SCHEDULES

We estimate that the field work can be started about one (1) week after authorization is received. The project schedule will be as follows:

<u>Facility</u>	<u>Number of Working Days</u>				<u>Total</u>
	<u>Right of Way/Utility Clearance</u>	<u>Field Exploration</u>	<u>Laboratory Testing</u>	<u>Engineering</u>	
Paving and Utilities, Box Culvert & Detention Pond	10	15	30	25	80

Preliminary recommendations will be submitted during the course of the exploration, if required to expedite design.

We appreciate the opportunity to submit this proposal and look forward to being of service to you on this project. Formal acceptance of this proposal and our general conditions can be acknowledged by signing below and returning one copy for our files.

Very truly yours,

GEOTECH ENGINEERING AND TESTING
TBPE Registration Number F-001183



James Namekar, Ph D., P.E.
Vice President

ACCEPTED BY: _____

COMAPANY NAME: _____

PRINTED NAME: _____

DATE: _____

Enclosures: Site Vicinity Map – Plate 1
Plan of Borings – Plate 2
Cost Estimate – Plates 3 through 5
General Conditions
COH Fee Schedule

Copies Submitted: (1) Dr. Frank C. Mbachu, P.E., DEE
(1) DAE



SITE VICINITY MAP

PROJECT: Desktop Geologic Fault Study and Geotechnical Exploration for Blueridge Road- Paving and Drainage Improvements
Fort Bend County, Texas

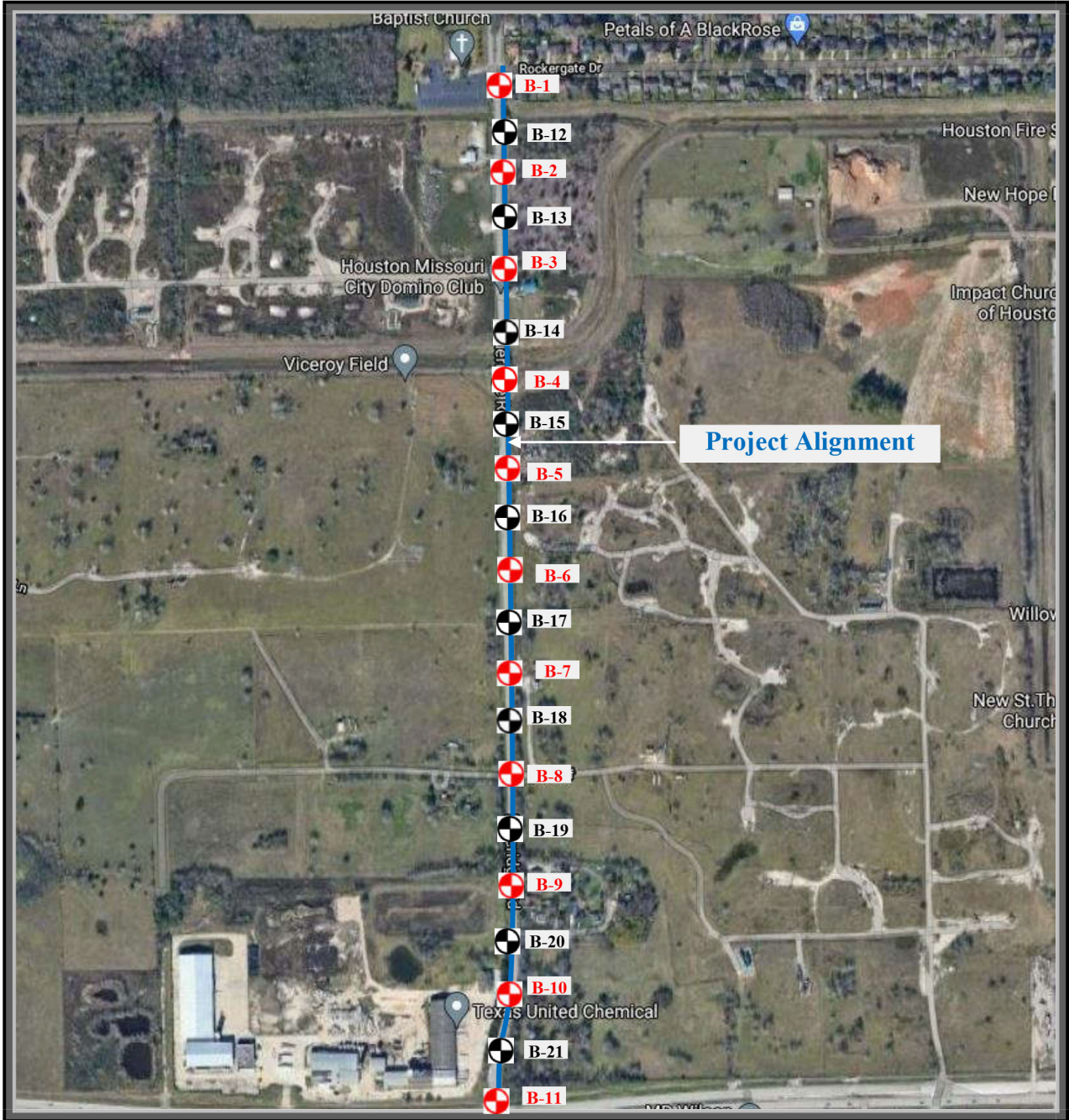
SCALE: NOT TO SCALE



DATE: MAY 2025

PROPOSAL NO.: 21-168E-1

NORTH





Note:  Borings B-1 through B-11 were drilling during initial geotechnical study.
 Borings B-1, B-4, B-12 through B-26 are proposed during the current study. Borings B-22 through B-26 for the proposed detention pond are not shown here, since the location of the pond is not known. B-1 and B-4 shall be drilled deeper than those drilled during initial geotechnical study.

PLAN OF BORINGS (Boring locations are approximate)

PROJECT: Desktop Geologic Fault Study and Geotechnical Exploration for Blueridge Road- Paving and Drainage Improvements
 FBC Project No. 20205, Fort Bend County, Texas

SCALE: NOT TO SCALE

DATE: MAY 2025

PROPOSAL NO.: 21-168E-1

NORTH



Estimated Cost Summary (Detailed)

**Desktop Geologic Fault Study and Geotechnical Study
Blueridge Road Paving and Drainage Improvements
Fort Bend County, Texas**

P21-168

Consultant Proposal Breakdown

GEOTECH ENGINEERING AND TESTING		Principal Engineer	Senior Engineer	Project Engineer	Field Technician	Typing/ Drafting	Unit of Measure	Estimated Quantity	Rate	Subtotal (Cost \$)	
Date: August 27, 2025											
PER COH FEE SCHEDULE		\$210.00	\$170.00	\$133.00	\$85.00	\$68.00					
Task Description		* LEVEL OF EFFORT									
Project Initiation upon Receiving NTP											
1	Review of the scope of the work	2	6	2						\$1,706.00	
2	Coordinate with Client, in obtaining the updated information of the project			1						\$133.00	
Paving and Drainage Improvements along project alignment, 17 Borings											
Field Investigation											
3	Develop a Drilling Plan			1						\$133.00	
4	Staking the Seventeen (17) Borings in the Field			12						\$1,596.00	
5	Coordinate with Surveyors to Locate & Tie in Borings at Site			1						\$133.00	
6	Field Coordination during Drilling Including Utility Clearance, Texas One Call, and/or obtain drilling permission			20						\$2,660.00	
7	Mobilization / Demobilization						Minimum	4	\$1,000.00	\$4,000.00	
8	Drilling and Sampling Seventeen (17) Borings										
9	Continuous 8 borings (0' - 20'), 5 borings (0'-15') & 4 borings (0' - 30')						LF	315	\$24.00	\$7,560.00	
10	Borehole Grouting						FT	180	\$8.00	\$1,440.00	
11	Vehicle Charge (Boring staking, site visits during field coordination during drilling including utility clearance, Texas One Call etc.)						Trip	4	\$72.00	\$288.00	
										Subtotal	\$19,649.00
Laboratory Testing											
12	Assign Laboratory Tests, Looking at Soil Samples			6						\$798.00	
13	Data Reduction and Evaluation			2						\$266.00	
14	Water Content (all samples)						EA	158	\$10.00	\$1,580.00	
15	Liquid and Plastic Limits						EA	32	\$68.00	\$2,176.00	
16	Percent Passing #200 Sieve						EA	32	\$52.00	\$1,664.00	
17	Torvane						EA	158	\$0.00	\$0.00	
18	Hand Penetrometer						EA	158	\$0.00	\$0.00	
19	Unconfined Compression						EA	32	\$50.00	\$1,600.00	
20	UU Triaxial Tests						EA	5	\$69.00	\$345.00	
21	Consolidated Undrained Triaxial Test with Pore Pressure						EA	2	\$2,500.00	\$5,000.00	
22	Double Hydrometer Test						EA	6	\$245.00	\$1,470.00	
23	Crumb Tests						EA	12	\$42.00	\$504.00	
										Subtotal	\$15,403.00

Estimated Cost Summary (Detailed)

**Desktop Geologic Fault Study and Geotechnical Study
Blueridge Road Paving and Drainage Improvements
Fort Bend County, Texas**

P21-168

Consultant Proposal Breakdown

Date: August 27, 2025		Billing Rate per Hour									
PER COH FEE SCHEDULE		\$210.00	\$170.00	\$133.00	\$85.00	\$68.00	Typing/ Drafting	Unit of Measure	Estimated Quantity	Rate	Subtotal (Cost \$)
Task No.	Task Description	* LEVEL OF EFFORT									
Engineering Analysis and Report											
27	Prepare Plan of Borings			2							\$266.00
28	Analyze field and laboratory test results			2							\$266.00
29	Prepare summary of laboratory test data			1							\$133.00
30	Edit and prepare final boring log profiles			17							\$2,261.00
31	Prepare and develop boring log profiles			1							\$133.00
Underground Utilities											
34	Develop Soil parameters and Recommendations for tunneling	0.5	1	3							\$674.00
35	Develop soil parameters and recommendations for open excavations	0.5	1	3							\$674.00
36	Develop excavation support earth pressures for trench excavation	0.5	1	4							\$807.00
37	Recommend dewatering method		1	2							\$436.00
38	Prepare a Geotechnical Trench Safety Letter Report	0.5	2	4							\$977.00
Box Culvert											
39	Bedding, backfilling, excavation wall and bottom stability Recommendations	1	3	6							\$1,518.00
40	Design parameters for box culvert		2	6							\$1,138.00
41	Lateral earth pressures for the design of retention system	0.5	2	4							\$977.00
42	Erosion analysis at the side slope of the channel near the road crossing	0.5	2	4							\$977.00
Detention Pond											
43	Develop parameters for slope-stability		2	6							\$0.00
44	Perform Slope-Stability Analysis	0.5	10	20							\$1,138.00
45	Recommendation on Erosion Control	0.5	2	3							\$4,465.00
46	Prepare geotechnical trench safety recommendations	1	2	6							\$844.00
47	Evaluation of Stormwater Basin Constructability		1	3							\$569.00
48	Document the results of soil exploration, laboratory testing and geotechnical recommendations in a geotechnical draft report	8	16	44							\$10,252.00
49	Incorporate the review comments on draft report into final geotechnical report	2	8	12							\$3,376.00
50	Technical Typing/Drafting						16				\$1,088.00

Subtotal \$34,317.00
Total: \$69,369.00

Estimated Cost Summary (Detailed)

**Desktop Geologic Fault Study and Geotechnical Study
Blueridge Road Paving and Drainage Improvements**

Fort Bend County, Texas

P21-168

Consultant Proposal Breakdown

Date:		Billing Rate per Hour										Subtotal (Cost \$)
August 27, 2025		Principal Engineer	Senior Engineer	Project Engineer	Field Technician	Typing/ Drafting	Unit of Measure	Estimated Quantity	Rate			
PER COH FEE SCHEDULE		\$210.00	\$170.00	\$133.00	\$85.00	\$68.00						
Task No. Task Description		* LEVEL OF EFFORT										
ALLOWANCE ITEMS												
Traffic Coordination/Allowance												
51	Traffic Control, See Attached						DAY	5	\$1,200.00		\$6,000.00	
52	Coordination, Project Engineer			3							\$399.00	
ATV Rig (Allowance)												
53	Mobilization/demobilization						EA	1	\$150.00		\$150.00	
54	Surcharge						FT	195	\$10.00		\$1,950.00	
Subtotal \$2,100.00												
Piezometer Installation and Abandonment												
55	Three (3) 2-inch diameter Piezometers w/ 10' screen (Installation and P&A)						FT	75	\$34.00		\$2,550.00	
56	Technician, Piezometer Installation, Development and Reading (for a month, twice in one month)				24						\$2,040.00	
57	Vehicle Charge						Trip	3	\$72.00		\$216.00	
Subtotal \$4,806.00												
Total: \$13,305.00												
Grand Total: \$82,674.00												