

STATE OF TEXAS §
 §
 COUNTY OF FORT BEND §

**AMENDMENT TO AGREEMENT FOR
 PROFESSIONAL ENGINEERING SERVICES**

THIS AMENDMENT, 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 SES Horizon Consulting Engineers, Inc., (hereinafter “Contractor”), a company authorized to conduct business in the State of Texas.

WHEREAS, the parties executed and accepted that certain Agreement for Professional Engineering Services on September 22, 2020 pursuant to SOQ 14-025, (hereinafter “Agreement”); and

WHEREAS, the parties desire to amend the Agreement to allow Contractor to provide additional Services under the Agreement.

NOW, THEREFORE, the parties do mutually agree as follows:

1. County shall pay Contractor an additional amount not to exceed two hundred sixteen thousand four hundred ninety-two dollars and 75/100 (\$216,492.75) to perform the additional Services, as described in Contractor’s proposal dated May 9, 2022 attached hereto as Exhibit “A” and incorporated herein for all purposes.
2. The Maximum Compensation payable to Contractor for all Services rendered is hereby increased to an amount not to exceed nine hundred fifty thousand five hundred five dollars and 95/100 (\$950,505.95), authorized as follows:
 \$734,013.20 under the Agreement; and
 \$216,492.75 under this Amendment.
3. In no case shall the amount paid by County for all Services under the Agreement and this Amendment exceed the Maximum Compensation without an agreement executed by the parties.
4. The parties agree to extend the Time of Performance under the Agreement to end no later than December 31, 2027.
5. 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.

Except as provided herein, all terms and conditions of the Agreement shall remain unchanged.

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 final party.

FORT BEND COUNTY



County Judge KP George

KP George, County Judge

6.28.2022

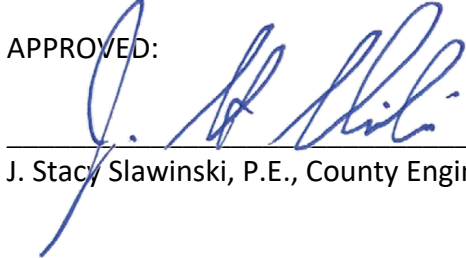
Date

ATTEST:



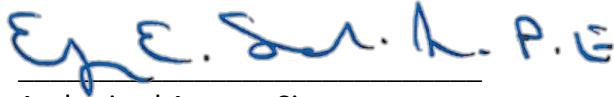
Laura Richard, County Clerk

APPROVED:



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

SES HORIZON CONSULTING ENGINEERS, INC



Authorized Agent – Signature

Epifanio E. Salazar, Jr., P.E.

Authorized Agent – Printed Name

Principal

Title

June 9, 2022

Date

AUDITOR'S CERTIFICATE

I hereby certify that funds are available in the amount of \$ 950,505.95 to accomplish and pay the obligation of Fort Bend County under this contract.



Robert Ed Sturdivant, County Auditor

EXHIBIT A



May 9, 2022

Fort Bend County Engineering Department
C/O Mr. Robert McBride, P.E.
LJA Engineering
3600 W. Sam Houston Parkway South, Suite 600
Houston, Texas 77042

Reference Project:
2020 Fort Bend County (FBC) Mobility Program
John Sharp Drive
From: SH 99 To FM 1464
Fort Bend Project No. 1742X

Dear Mr. McBride:

SES Horizon Consulting Engineers, Inc. (SES) respectfully submits this fee proposal for the above referenced project to include the professional engineering, geotechnical engineering at proposed detention pond, topographic surveying-metes and bounds at proposed detention pond, subsurface utility engineering and utility coordination for the preparation of the subject project construction documents. The project scope includes a new boulevard type roadway construction (100 foot right of way to include two – two lane travel ways, left turn bays, a closed storm sewer system, existing water line/service line adjustments and existing sanitary sewer line/service line adjustments) on John Sharp Drive between SH 99 To FM 1464. Fort Bend County plans to construct half of the above referenced boulevard section and design the entire boulevard section. The approximate length of the project is 5,000 linear feet.

The project will be prepared in accordance with the following documents provided by the Program Manager:

Attachment A – 2020 Mobility Bond Program Summary Of Design Process
Attachment B – Mobility Design Standards

Compensation:

SES proposes to perform the services described in Halff Associates, Inc.'s attached fee proposal, BGE's attached fee proposal, Associated Testing Laboratories, Inc. fee proposal and other task items performed by SES.

Reference Project:
2020 Fort Bend County Mobility Program
John Sharp Drive
From: SH 99 To FM 1464
Fort Bend Project No. 17421X
May 9, 2022
Page 2

Final Plans Phase:

Additional Services:

Subsurface Utility Engineering Services	\$195,864.75
Topographic Surveying Services	\$8,330.00
Geotechnical Engineering Services	\$12,298.00

Total Additional Services	\$216,492.75
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Total Fee Proposal **\$216,492.75**

Exclusions:

1. Environmental services, including but not limited to, preliminary wetlands investigations and Phase I Environmental Site Assessment
2. Fault Studies
3. Utility company signatures on completed drawings.
4. Construction Staking.
5. Material testing during construction.
6. Construction inspection services.
7. Construction management services, including processing of pay applications, change orders, etc..

Please review and advise if you require any additional information and/or clarifications. We look forward to providing this service to **FBC**.

Sincerely,

SES HORIZON CONSULTING ENGINEERS, INC.
TBPE Firm Registration Number 3922



Epifanio (Epi) E. Salazar Jr., P.E., Principal

Fort Bend County 2020 Mobility Bond Program Fee Estimate Worksheet

Project : John Sharp Drive From SH 99 To FM 1464

TASK DESCRIPTION	PRINCIPAL	PROJECT COORDINATOR	STRUCTURAL ENGINEER	SENIOR ENGINEER	ENGINEER	ENGINEERING TECHNICIAN	TECHNICIAN	ADMINISTRATION	TOTAL HOURS	Task Total
1. Preliminary Design (LS)										\$ -
Establish a Typical Cross Section									0	\$ -
Determine ROW Acquisition Needs									0	\$ -
Determine Potential Conflicts with existing facilities & utilities									0	\$ -
Identify Critical Path Items									0	\$ -
Identify Problem Areas and Potential Resolutions									0	\$ -
Site Visit									0	\$ -
Prepare a Construction Cost Estimate									0	\$ -
Prepare 30% Plans (Roadway And Drainage - Sheets)									0	\$ -
Hydraulic/Detention Requirement Analysis									0	\$ -
Utility Coordination (CPE Gas, CPE Electric, Private Pipelines and Communications)									0	\$ -
Utility Coordination (TDCJ Record Drawings Review And Assessment)									0	\$ -
Topographic Survey									0	\$ -
Control & Monumentation - Prepare Survey Control Map									0	\$ -
Right-of-way Mapping (0 Parcels, Abstracting)									0	\$ -
Right-of-way Mapping (0 Parcels, Parcel Plats/Metes And Bounds)									0	\$ -
Right-of-way Mapping (Right Of Way Map)									0	\$ -
Geotechnical Investigation									0	\$ -
Survey And Geotechnical Coordination									0	\$ -
Project Management & Meetings									0	\$ -
Project Management & Meetings With LID, MUD And Adjacent FBC Mobility Project									0	\$ -
Project Management & Meetings With TXDOT, GPTRA And TDCJ									0	\$ -
Preliminary Phase Expenses									0	\$ -
										\$ -
2. Final Design (LS)										\$ 216,492.75
Cover Sheet & Index									0	\$ -
General Notes									0	\$ -
Quantities (Summary Sheets - Optional)									0	\$ -
Typical Sections (70%-Final)									0	\$ -
Project Layout									0	\$ -
Drainage Area Maps									0	\$ -
Drainage Calculations									0	\$ -
Plan and Profile Sheets (Roadway And Drainage, 0 Sheets)									0	\$ -
Plan and Profile Sheets (Outfall To Oyster Creek, 0 Sheets)									0	\$ -
Intersection Layouts or Cross Street Details At FM 1464									0	\$ -
Driveway Schedule For Private Driveways									0	\$ -
TCP Advance Warning Signs									0	\$ -
TCP Overview & Narrative									0	\$ -
Detour Plans (with County Approval only)									0	\$ -
Traffic Control Plan									0	\$ -
SWPPP Sheets									0	\$ -
Culvert/Bridge Layouts									0	\$ -
Culvert/Bridge Detail Sheets									0	\$ -
Design Calculations									0	\$ -
Signing & Pavement Markings									0	\$ -
Detail Sheets									0	\$ -
Standard Details									0	\$ -
Technical Specifications									0	\$ -
Bid Form									0	\$ -
Construction Cost Estimate (Roadway, Drainage, Water And Sanitary)									0	\$ -
Utility & Agency Approvals & Signatures									0	\$ -
Cross Sections With Earthwork Calculations									0	\$ -
Responses to Comments									0	\$ -
Subsurface Utility Engineering QL-A, QL-B And Utility Coordination									0	\$ 188,432.75
Project Management, Coordination, Field Meetings & Other Meetings With Halff Associates, Inc.	16				60	40			116	\$ 14,232.00
Detention Pond Geotechnical Investigation - 2 Borings @ 30' Depth										\$ 12,298.00
Detention Pond Metes And Bounds And Topographic Survey										\$ 8,330.00
Project Management & Meetings With TXDOT, GPTRA And TDCJ									0	\$ -
Project Management & Meetings With FBCDD/LID, MUD And Adjacent FBC Mobility Project									0	\$ -
Subsurface Utility Engineering Phase Expenses										\$ 1,200.00
										\$ -
3. Bid & Construction Phase Services (T&M)										\$ -
Project Manual & Plans (PDF Format on Compact Disc * 28)									0	\$ -
Attend Pre-Bid Meeting									0	\$ -
Answer Bidder Questions & Addendum									0	\$ -
Attend Pre-Construction Meeting									0	\$ -
Review Contractor Submittals (Roadway, Storm, Water And Sanitary)									0	\$ -
Answering Requests for Information									0	\$ -
Substantial Completion Walkthrough									0	\$ -
Record Drawings									0	\$ -
Bid & Construction Phase Expenses										\$ -
										\$ -
MANHOUR SUBTOTAL	16	0	0	0	60	40	0	0	116	
	14%	0%	0%	0%	52%	34%	0%	0%		
LABOR RATE PER HOUR	\$202.00	\$150.00	\$144.00	\$135.00	\$130.00	\$80.00	\$59.00	\$50.00		
SUBTOTAL LABOR	\$3,232.00	\$0.00	\$0.00	\$0.00	\$7,800.00	\$3,200.00	\$0.00	\$0.00		
TOTAL										\$ 216,492.75



April 28, 2022

SES Horizon Consulting Engineers, Inc.
10101 Southwest Freeway, Suite 400
Houston, TX 77074

Attn: Epi Salazar, P.E.

Re: Subsurface Utility Engineering QL-A, QL-B, and Utility Coordination in support of:
2020 Fort Bend County (FBC) Mobility Program
John Sharp Drive
From: SH 99 to FM 1464
Fort Bend Project No. 1742X

Dear Mr. Salazar:

Halff Associates is pleased to submit this proposal to provide Utility Locate Services, vacuum excavation, and utility coordination for the above referenced project.

We propose a Time and Materials proposal with a not to exceed fee of \$180,432.75 to perform these services (see attached Scope). We trust this proposal is satisfactory and appreciate the opportunity to be of service to SES Horizon. If this proposal meets with your approval, please initial, sign and date in the spaces provided below, and return one copy as your notice to proceed and approval of the budget. Please call me if you have any questions.

Sincerely,

HALFF ASSOCIATES, INC.

A handwritten signature in blue ink that reads "Carolyn S. Swann".

Carolyn Swann, P.E.
Senior Utility Coordinator

APPROVED:

SES Horizon, Inc.:

By: _____

Date: _____

SCOPE OF SERVICES (EXHIBIT A)

Client: SES Horizon

City/County Name: Richmond / Fort Bend

Project: John Sharp Drive (No 1742X)

Halff will perform SUE in accordance with ASCE CI/ASCE 38-02 "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data." This standard defines the following Quality Levels:

Quality Level-A: Precise horizontal and vertical location of utilities obtained by the actual exposure (or verification of previously exposed and surveyed utilities) and subsequent measurement of subsurface utilities, usually at a specific point. Minimally intrusive excavation equipment is typically used to minimize the potential for utility damage. A precise horizontal and vertical location, as well as other utility attributes, is shown on plan documents.

Quality Level-B: Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate horizontal position of subsurface utilities. Quality Level-B data should be reproducible by surface geophysics at any point of their depiction. This information is surveyed to applicable tolerances defined by the project and reduced onto plan documents.

Quality Level-C: Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to Quality Level-D information.

Quality Level-D: Information derived from existing records or oral recollections.

Quality Level-A Utility Test Holes (Vacuum Excavation):

Up to twenty (20) test holes will be performed on various utilities at locations specified by SES Horizon. Halff will cut up to a 12" square test hole, excavate down to utility, record the depth to top of utility, backfill & compact the hole, and restore the surface to its original condition. An iron rod with cap or "x-cut" will be set to mark the approximate centerline location of the utility. A jackhammer will be utilized for work to be performed in asphalt and concrete areas. This Scope of Services includes all test holes being performed under one (1) mobilization.

If test holes are requested on non-conductive/untonable utilities depicted as Quality Level-D where the horizontal location is assumed, Halff will coordinate with Client and respective utility owner, on-site personnel if private property and available records to pinpoint the location to perform the test hole. Due to the concrete/ground conditions, one (1) attempt shall be made, which may or may not expose the subject utility. Should the utility not be exposed, Halff will coordinate with SES Horizon for direction on digging additional test holes if required and shall be compensated for each test hole dug.

Quality Level-B Utility Designating:

Halff will designate the approximate horizontal position of conductive/tonable utilities within the project limits using geophysical prospecting equipment and mark using paint and/or pin flags. We anticipate the designation of approximately 60,000 linear feet of

utilities including buried communication, electric, natural gas, water, and waste water/sanitary sewer. Designation of irrigation lines, HDPE lines, gathering lines, asbestos concrete and/or pvc lines, as well as pvc lines without tracer wire or access are not part of this Scope of Services.

Because of limited utility record information and the possibility of non-conductive/un-toneable utilities, Halff cannot guarantee all utilities will be found and marked within the project limits.

Quality Level-C Surveying:

Quality Level-B Utility Designation paint markings, pin flags, and above ground utility appurtenances as well the iron rod with cap or “x-cut” for Quality Level-A Test Holes will be surveyed and tied utilizing project survey control provided by SES Horizon.

Quality Level-D Records Research:

Available Records will be provided to Halff by SES Horizon. Halff will perform additional utility record research as needed to successfully complete the project.

Because there are situations where the utility does not have a metallic composition, a metallic tracer line attached, or access to insert a tracer line, the approximate location of the utility may be determined by the use of utility records and direct correspondence with the utility owner/representative. In these areas, the information will be considered Quality Level-D, depicted according to utility record information only.

SUE Field Manager / Professional Engineer:

A SUE Field Manager will be on-site for a portion of this project for field crew supervision, field quality control, and coordination with on-site personnel. A Professional Engineer will be responsible for QA/QC, management of the contract, coordination with the project team and signing the final deliverables if required.

SUE Deliverables / CADD:

Deliverables for the Quality Level-B 3D Utility Designation will be 11-in. x 17-in. SUE plan sheets depicting the findings of the investigation. Deliverables for the Quality Level-A Test Hole excavations will be an 11-in. x 17-in. Test Hole Data Form for each Test Hole performed indicating depth, size, location, and other notable characteristics of the utility. Electronic files will be provided in MicroStation and/or AutoCAD format along with PDFs and photos.

Right-of-Entry:

Right-of-Entry is not part of this Scope of Services as work is anticipated within the existing road right-of-way. If right-of-entry is required, it will be performed and provided to Halff by SES Horizon. Halff will coordinate with property owner(s) once right-of-entry has been obtained.

Permitting:

Street Cut permits are not part of this Scope of Services.

IF TRAF CNTL BUDGETTED IN EXHIBIT B

Halff will provide standard temporary work zone traffic control consisting of cones and free-standing signage for this project in accordance with the TMUTCD. As exact test holes

locations are unknown, certified traffic control such as lane closure(s), flag person(s), changeable message board(s), and/or arrow board(s), if needed or required, will be provided by a certified traffic control provider such as Houston Barricade.

This Scope of Services does not include an engineered traffic control plan and if required for permit approval, Halff will notify SES Horizon and submit a supplemental agreement for authorization prior to proceeding with additional work.

Schedule:

Halff will complete the Quality Level-B Utility Designation investigation within Sixty (60) calendar days upon receipt of written notice to proceed from SES Horizon.

Halff will complete the Quality Level-A Test Hole services within Forty-five (45) calendar days upon receipt of the test hole layout from SES Horizon and approved permits from Harris County.

Due to uncontrollable factors such as ground conditions, weather, and safety hazards, Halff reserves the right to request more time to facilitate field efforts should one of these circumstances exist.

Work performed in the right-of-way shall be performed Monday through Friday, 9 am to 4 pm and Saturday and Sunday, 7 am to 7 pm barring foul weather.

Hotels/Meals:

Per US General Services Administration current rates, meals will be reimbursed at \$64.00 per person per day and hotel lodging will be invoiced at cost plus associated taxes. The \$122.00 and \$30.00 rate are used for estimating purposes only.

Utility Coordination:

Halff shall:

1. Complete and deliver two (2) iterations of the Utility Conflict Matrix (UCM), Utility Conflict Layout, and Utility Contact List identifying potential known conflicts based on 60% and 90% design to support Utility Coordination efforts.
2. Identify all potential conflicts and develop conflict resolution strategy in compliance with the State's utility accommodation policy.
3. Assist the design team in determining test hole locations, if applicable.
4. Coordinate utility conflicts/relocations due to the project improvements with each utility owner, including meetings with all affected utility owners, client, and other concerned parties. All meeting minutes will be provided to the client electronically.
5. Review of applicable right of way permits or utility permits needed for utility adjustments and/or relocations within the project improvement area.
6. All other applicable coordination efforts as needed to clear utility conflicts within the project improvement area.
7. Up to one (1) utility agreement assembly is included. The Utility Coordinator shall assist the utility companies in the preparation of required utility agreement associated with the funding of adjustments and the occupation of State, county, or city right of way (ROW) or within easements on private property. The State's ROW Utility Manual and Utility Accommodation Rules (UAR) - 43 TAC Section 21.31 - 21.41) shall be used to support utility adjustment coordination activities. The Utility Coordinator shall determine whether or not a compensable interest exists and the owner's degree of eligibility.

Exclusions:

The following is not part of this Scope of Services:

- Utility Adjustment Monitoring and Verification
- Utility Construction Management
- Right of Way Mapping
- Coordination of Easement Replacement
- Coordination of Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit for Utility Work

WORK PLAN (EXHIBIT B)

I. DESIGNATING (UTILITY LOCATING) (QL-B)

Description	Quantity	Authorized Rate	Unit	Estimated Cost
Designating 1-Man Crew	68	\$100.00	hour	\$6,800.00
Designating 2-Man Crew	140	\$200.00	hour	\$28,000.00
Project Manager	16	\$230.00	hour	\$3,680.00
SUE Manager	34	\$150.00	hour	\$5,100.00
SUE Field Manager	68	\$120.00	hour	\$8,160.00
Utility Coordinator	16	\$155.00	hour	\$2,480.00
RPLS	6	\$175.00	hour	\$1,050.00
Survey Tech	34	\$105.00	hour	\$3,570.00
Sr CADD Tech	10	\$110.00	hour	\$1,100.00
CADD Tech	60	\$95.00	hour	\$5,700.00
Survey Crew 2-Man	68	\$180.00	hour	\$12,240.00
Sr. Contract Specialist	6	\$115.00	hour	\$690.00

Subtotal: \$78,570.00

II. POT HOLING (VACUUM EXCAVATION) (QL-A)

Depth	Quantity	Authorized Rate	Unit	Estimated Cost
0.0 feet to 5 feet	9	\$1,250.00	each	\$11,250.00
Over 5.01 feet to 10 feet	9	\$1,575.00	each	\$14,175.00
Over 10.01 feet to 15 feet	1	\$1,800.00	each	\$1,800.00
Over 15.01 feet to 20 feet	1	\$2,450.00	each	\$2,450.00

Subtotal: \$29,675.00

III. MISCELLANEOUS

Task	Quantity	Authorized Rate	Unit	Estimated Cost
Lodging/Hotel	20	\$122.00	night	\$2,440.00
Lodging/Hotel Taxes/Fees	20	\$30.00	night	\$600.00
Per-Diem/Meals	20	\$64.00	day	\$1,280.00
Mileage	150	\$0.585	mile	\$87.75
Certified Traffic Control (Provided by Houston Barricade)	4	\$2,000.00	day	\$8,000.00
Concrete Coring	4	\$250.00	each	\$1,000.00

Subtotal: \$13,407.75

IV. UTILITY COORDINATION

Description	Quantity	Authorized Rate	Unit	Estimated Cost
QC Manager	16	\$280.00	hour	\$4,480.00
Project Manager	60	\$230.00	hour	\$13,800.00
Utility Coordinator	200	\$155.00	hour	\$31,000.00
Sr CADD Tech	10	\$110.00	hour	\$1,100.00
CADD Tech	40	\$95.00	hour	\$3,800.00
Sr. Contract Specialist	40	\$115.00	hour	\$4,600.00

Subtotal: \$58,780.00

TOTAL \$180,432.75

Note: This is an estimate based upon the anticipated hours and personnel categories to perform Quality Level-D Utility Records Research through Quality Level-B Utility Designation and the number Quality Level-A Test Hole requested within the project limits. Due to the unknown timing of project approval and personnel availability, Halff will invoice actual hours worked and personnel categories utilized, in accordance with the attached 2022 Halff SUE Rate Schedule, and the number of test holes attempted (whether utility is located or not). If quantities are exceeded or additional test holes are required, Halff will notify SES Horizon for authorization and submit a supplemental agreement to increase the fee prior to proceeding with any additional work.

Halff's services will be performed in a manner consistent with that degree of skill and care ordinarily exercised by members of the same profession currently practicing under similar circumstances. Halff will make a good faith effort to locate all utilities, but shall be compensated for work performed even if the utility is not located. This proposal is valid for 30 days.



July 19, 2021

SES Horizon
Epifanio Salazar, Jr., PE
10101 Southwest Freeway, Suite 400
Houston, TX 77074

Re: Owens Rd- Detention Pond
Fort Bend County Precinct 4

Mr. Salazar:

This is our proposal to provide surveying services for the subject tract. We appreciate the opportunity to provide these services to you.

SCOPE OF SERVICES

Design Topo

Acquire topographic data on a 50' grid within the proposed Detention Pond A boundary as shown on exhibit 'A' attached hereto. Includes 5 cross-sections of oyster creek at 100' intervals, specific location to be determined by client at a future date.

Metes and Bounds Description with Exhibit

Prepare a metes and bounds description of proposed Detention Pond A as shown on exhibit 'A' attached hereto.

FEE

Design Topo

- | | |
|--|---------|
| • Topographic Grid within Detention Pond A | \$4,480 |
| • Creek Cross-sections | \$2,150 |

Metes and Bounds Description with Exhibit

\$1,700

The total fee for these services will be a lump sum of **\$8,330.00**. Invoices will be mailed monthly and payable upon receipt. Failure to make payment within 30 days will result in an interest charge equal to 18 percent per annum. This proposal is subject to change after 3 months from this date.

Revisions due to changes by the Client or any additional services not provided in the described services that may be desired by the Client will be performed hourly. An estimate of the cost of the hourly services will be provided prior to doing the work if desired by the Client.

SES Horizon
July 19, 2021
Page 2

Estimated time for completion is anticipated to be 7-10 working days from the time a signed proposal is received back from the client.

If the above outlined proposal meets with your approval, please sign and return one copy of this letter for our files.

We look forward to working with you on this project.

ACCEPTED
BGE, Inc.



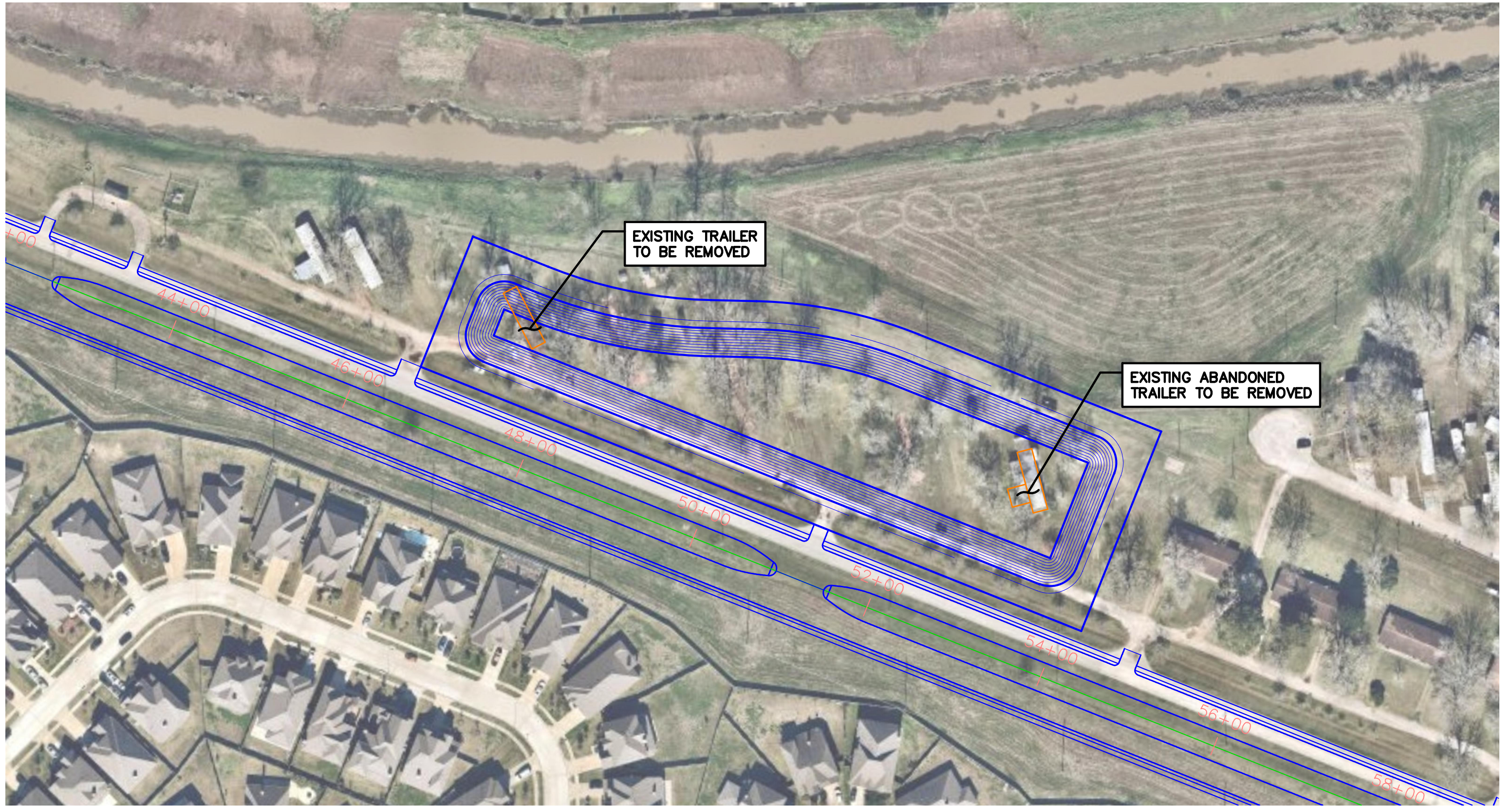
Nicolas Vann, RPLS
Director, Land Surveying
TBPLS FIRM Reg. # 10106500

ACCEPTED
SES Horizon

Print Name:
Title:

Date

Exhibit 'A'



July 28, 2021
Proposal No: GP21-0706

Mr. Epifanio Salazar, Jr., P. E.
SES Horizon Consulting Engineers
10101 Southwest Freeway Suite 400
Houston, Texas 77074

Reference: Proposal for Geotechnical Investigation
Detention Pond
Owens Road from FM 1464 to SH 99
Fort Bend County, Texas

Dear Mr. Salazar,

Associated Testing Laboratories, Inc. (ATL) is pleased to submit the proposal for the above-referenced project. The scope of work entails a Geotechnical Investigation following procedures and guidelines of Harris County District. The project detention pond is approximately 3.5 acres, as shown in **Figure 1: Boring Location Plan**.

PROJECT DESCRIPTION

Based on the information provided by Mr. **Epifanio Salazar, Jr., P.E.**, with SES Horizon Consulting Engineers, ATL understands that the project consists of detention pond to be connected to the existing drainage conditions, evaluating potential side slope erosion of the pond construction, alternative solution of slope stability. The project area is 3.5 acres detention pond with slope 3:1, with assumed detention pond depth is about 10 to 13 feet below existing grade (i.e. Elevation .

SCOPE OF WORK:

The proposed scope of this geotechnical investigation will entail conducting a geotechnical investigation involving two at 30 ft soil borings to evaluate the subsurface soils and groundwater conditions. The boring locations and depths may be field adjusted as necessary.

GEOTECHNICAL INVESTIGATION

Field Exploration

ATL assumes the existing project alignment will be accessible with our truck-mounted drill rig, and traffic control signs and cones will be use during drilling operation for work personnel safety. ATL assumes that the permission to access to the proposed boring locations along the project alignment will be provided at ATL at no cost.

The field investigation will be performed in accordance with Standard Practice for Soil Investigation and Sampling by Auger Borings [ASTM D 1452].

Type	Total No of Boring	Depth (ft)	Total Depth (ft)
Borings (B-1 & B-2)	2	30	60
Piezometer PZ-1	1	30	30

Soils stratigraphy and conditions for the proposed project detention pond will be evaluated by drilling two (2) 30 ft deep soil borings at locations proposed and presented in Figure 1. As per Ford Bend County, continuous soil sampling will be conducted of the soil boring to a depth of 20-ft and 5-ft interval thereafter.

ATL plans to drill the soil borings using a truck mounted rig. The test borings will be drilled using dry auger methods until groundwater is observed or caving soils were encountered. When groundwater is encountered the levels will be allowed to stabilize for approximately 15 minutes.

The soil borings will be logged and sampled by an experienced geotechnical engineering technician. Soil samples will be obtained continuously for a depth of 20-ft and 5-ft interval thereafter. Undisturbed samples of cohesive soils will be obtained using pushed thin-wall tubes with an ID of 3 in. The extruded samples will be wrapped in protective foil and transported to our laboratory. Field shear strengths of the clays will be measured in the field with a hand penetrometer and correlations between this data and laboratory shear strength data will be made during analysis.

Standard penetration tests (SPT) will be performed in low cohesion silts and sands. We will record the driving resistance while performing the standard penetration tests. The samples will be placed in sealed bags and delivered to our laboratory.

The borings will be drilled dry and the depth at which groundwater is encountered (if any) will be recorded. Depth to ground water will be important for design and construction of the proposed detention ponds and outfall. One (1) 30-ft deep piezometers will be installed into a predetermined locations, a total footage of 30 linear feet shot holes for piezometers. If water is encountered in piezometers, then water levels in piezometers will be measured 24 hours, 7 days, and 4 weeks after installation; the piezometers will be pulled, and boreholes be grouted after the 4-weeks water level readings. The boreholes will be backfilled with cement-grout and soil cuttings after drilling and sampling are completed.

Laboratory Testing

Laboratory tests will be assigned corresponding to the types of soils encountered, with the objective of classifying the soils physical and index properties, moisture contents, unconfined compressive strength, undrained unconsolidated compressive strength, Atterberg limits, percent finer than No. 200 sieve, and total unit weight tests.

All laboratory tests will be performed in accordance with appropriate ASTM standards. We will keep the samples for 30 days after the final report is presented. We will discard the samples after that time, unless instructed otherwise.

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 in accordance with the Harris County Criteria. The following geotechnical information and recommendations will be provided:

The field and laboratory data will be presented in a geotechnical report. Geotechnical analyses will be conducted using the field and laboratory test data to provide geotechnical data for the design and construction of the proposed improvements, including (but not limited to) the following:

- Generalized soils stratigraphy
- A preliminary fault review based on the review of the available fault maps.
- Existing site conditions
- Subsurface soil and groundwater conditions
- Slope stability analyses for the proposed detention pond and evaluating global and local slope stability in terms of End of Construction, Long Term and Rapid drawdown conditions.

One (1) electronic PDF copy of the draft geotechnical report will be submitted. Once we have received the review comments, a final report addressing the review comments will be issued. One (1) copies of final report and an electronic copy (PDF) of the final report will also be issued.

COST ESTIMATE

Based on the scope of work outlined above, we estimate the cost for field, laboratory, and engineering services for the geotechnical services presented in this proposal to be **\$12,298.00**.

The cost estimates using the estimated project quantities and requirements are presented in the enclosed **Itemized Geotechnical Fee Estimate** spreadsheet. This estimate assumes: underground utilities at proposed boring locations will be cleared by One Call Service and/or private property maintenance personnel; boring locations and elevations will be surveyed by others; and that the sites will be accessible to our truck-mounted equipment; and, environmental sampling/ handling/ transportation/ disposal are not in the scope of this project. Permission/permit to access site, if needed, will be arranged by others at no cost to ATL.

TIME SCHEDULES

We estimated that the fieldwork can be started shortly after authorization is received. The actual drilling work is expected to take about 1 week, assuming no delays in permission to access the sites. The laboratory testing will take approximately 1 to 2 weeks. Weather permitting, we anticipate submitting a draft report about 2 weeks after completion of all laboratory testing. A final report will

be issued about 1 week after receiving your review comments.

CLOSING

We appreciate the opportunity to submit this proposal and look forward to being of service to you on this project.

Very truly yours,
ASSOCIATED TESTING LABORATORIES, INC.



Nutan V. Palla, Ph.D., P.E.
Director, Geotechnical Services

Enclosure:

Figure 1: Propose Boring Location Plan
Itemized Geotechnical Fee Estimate

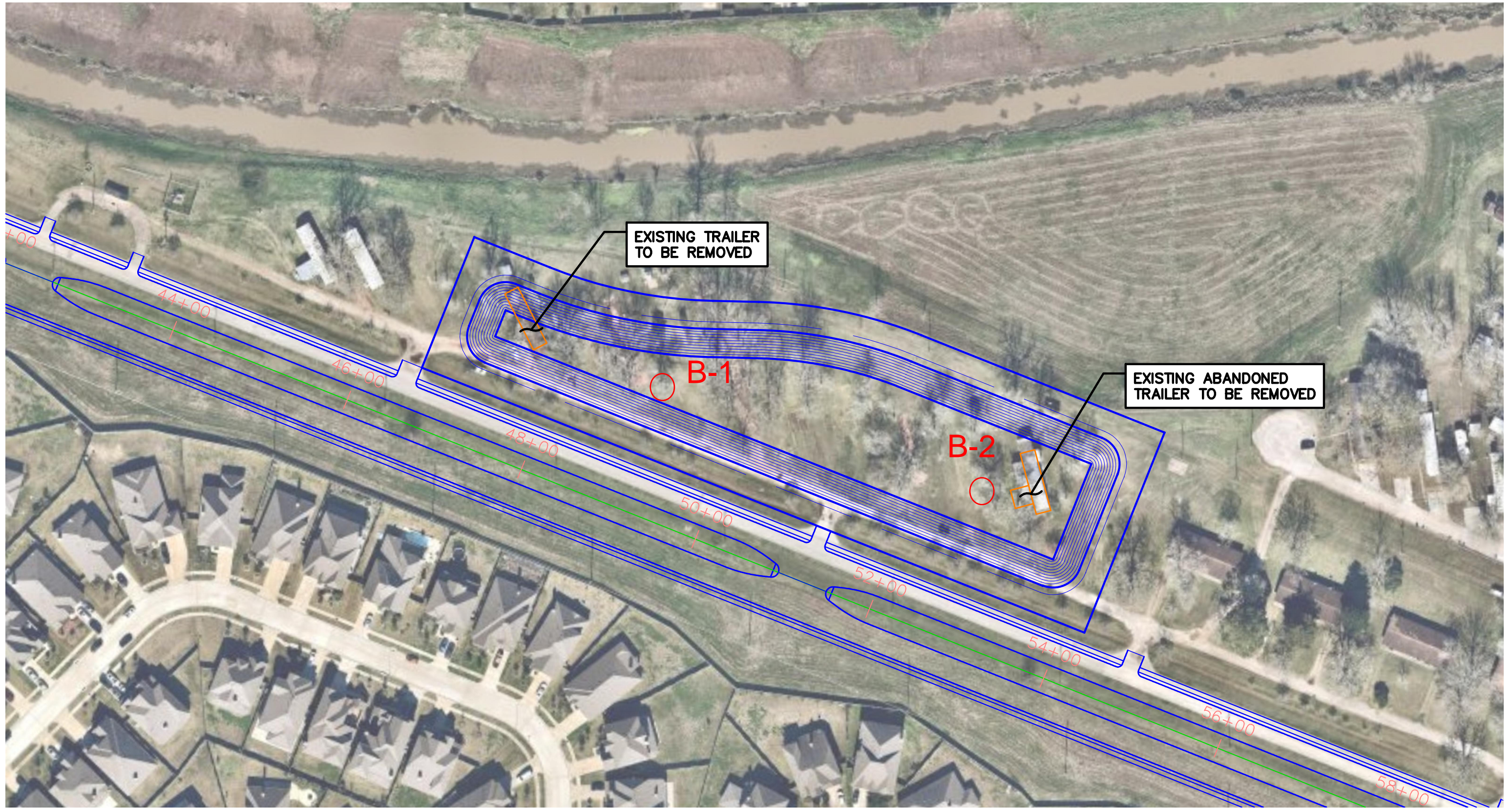


Figure Boring Location Plan

Geotechnical Investigation Proposal

Proposed Detention Pond
 Owens Road From FM 1464 to SH 99
 Fort Bend County, Texas
 ATL Proposal No. GP21-0706
 July 28, 2021

**ITEMIZED GEOECHANICAL FEE ESTIMATE****Proposed Detention Pond**

Borings: 2@30' [60LF] & 1 @ 30-ft Piezometer				
A. FIELD EXPLORATION	Current Qty.	Unit	Unit Rate	Amount
Mobilization/Demobilization (Truck Rig)	1	LS	\$500.00	\$500.00
Mobilization/Demobilization (ATV Rig)	1	LS	\$250.00	\$250.00
Technician for Staking, Utilities Clearance, Coordination	0	hrs.	\$90.00	\$0.00
Soil Drilling and Sampling (continuous; <up to 20')	40	ft.	\$21.00	\$840.00
Soil Drilling and Sampling (intermittent; >20' to 50')	20	ft.	\$21.00	\$420.00
Surcharge for ATV	0	ft.	\$10.00	\$0.00
Logging (NICET II)	0	hr.	\$90.00	\$0.00
Grouting Holes	0	ft.	\$7.00	\$0.00
Piezometer Installation	30	ft.	\$16.00	\$480.00
Piezometer Abandonment	30	ft.	\$16.00	\$480.00
24-Hour, 7- and 30-day PZ Water Level Readings	8	hrs.	\$65.00	\$520.00
Vehicle Charge	8	hrs.	\$12.00	\$96.00
		SUBTOTAL		\$3,586.00
B. GEOTECHNICAL LABORATORY TESTING		Unit	Unit Rate	Amount
Moisture Content (ASTM D-2216)	24	ea.	\$9.00	\$216.00
Atterberg Limits (ASTM D-4318)	5	ea.	\$60.00	\$300.00
Passing No. 200 Sieve (ASTM D-1140)	5	ea.	\$46.00	\$230.00
Unconfined Compression (ASTM D-2166)	2	ea.	\$44.00	\$88.00
Unconsolidated-Undrained Triaxial Test (ASTM D-2850)	8	ea.	\$61.00	\$488.00
Consolidated-Undrained Triaxial Test (ASTM D-4767) *3-stage w/3 samples/set	0	ft.	\$1,800.00	\$0.00
Double Hydrometer Tests (ASTM D-4221), with D ₉₀ and D ₅₀	2	ea.	\$177.00	\$354.00
Crumb Tests (ASTM D-6572)	8	ea.	\$38.00	\$304.00
		SUBTOTAL		\$1,980.00
C. ENGINEERING ANALYSES & REPORT PREPARATION		Unit	Unit Rate	Amount
Senior Engineer-Project Manager (P.E.)	4	hrs.	\$150.00	\$600.00
Project Engineer (P.E.)	12	hrs.	\$105.00	\$1,260.00
Civil Engineer	24	hrs.	\$83.00	\$1,992.00
Draftsman	24	hrs.	\$60.00	\$1,440.00
Word Processor	24	hrs.	\$60.00	\$1,440.00
		SUBTOTAL		\$6,732.00
D. ADDITIONAL OPTIONAL SERVICES	Qty.	Unit	Unit Rate	Amount
Clearing Using Dozer or Hydro-axe	0	days	\$3,200.00	\$0.00
Traffic Control Signs and Setup (Work Off Shoulder)	0	days	\$250.00	\$0.00
Traffic Control Signs and Setup (Work On Shoulder with Crash Truck)	0	days	\$1,800.00	\$0.00
Traffic Control Signs and Setup (One Lane Closure with Crash Truck)	0	days	\$2,250.00	\$0.00
Other Traffic Control Equipment (if needed)	0	Cost + 10%		\$0.00
Flagman	0	hrs.	\$26.50	\$0.00
Peace Officer	0	hrs.	\$55.00	\$0.00
Pavement Coring and Patching (up to 6" thick)	0	ea.	\$150.00	\$0.00
Pavement Coring and Patching (> 6" thick)	0	inches	\$13.50	\$0.00
		SUBTOTAL		\$0.00
TOTAL ESTIMATED FEE OF PROPOSED SCOPE				\$12,298.00

