STATE OF TEXAS §
§
COUNTY OF FORT BEND §

AMENDMENT TO AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES

THIS AMENDMENT (hereinafter "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 McDonough Engineering Corporation, (hereinafter "Consultant"), a company authorized to conduct business in the State of Texas (collectively referred to as the "parties").

WHEREAS, the parties executed and accepted that certain Agreement for Professional Engineering Services on November 9, 2021, (hereinafter "Agreement"), and incorporated fully by reference for all purposes, concerning the Bullhead Slough improvements at US 90A and State Highway 99 under 2020 Mobility Bond Project No. 20410 pursuant to SOQ 14-025; and

WHEREAS, the parties desire to amend the Agreement for additional professional engineering services to be provided and increase the total Maximum Compensation for such additional services.

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

1. County shall pay Consultant an additional Four Hundred Four Thousand, Seven Hundred Twenty-Seven dollars and 00/100 ($404,727.00) for the additional professional engineering services as described in Consultant's Proposal, dated July 18, 2023, attached hereto as Exhibit "A" and incorporated herein for all purposes.

2. The Maximum Compensation payable to Consultant for Services rendered is hereby increased to an amount not to exceed Eight Hundred Eighty Thousand, Fifty-Four dollars and 00/100 ($880,054.00), authorized as follows:

   $475,327.00 under the Agreement; and

   $404,727.00 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 further written agreement executed by the parties.

4. BY ACCEPTANCE OF AGREEMENT, CONSULTANT 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.

(Execution Page Follows)

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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	MCDONOUGH ENGINEERING CORPORATION
_____	_____
KP George, County Judge	Authorized Agent – Signature
_____	Austin McLean, P.E.
Date	Authorized Agent – Printed Name
ATTEST:	Project Manager
	Title
_____	8/15/2023
Laura Richard, County Clerk	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 Fort Bend County under this contract.

_____
Robert Ed Sturdivant, County Auditor

I:\AGREEMENTS\2023 Agreements\Engineering\McDonough Eng. Corp. (22-Eng-100230-A1)\Amend 1 - Pro Eng Svcs. McDonough Eng. Corp..docx.8/11/2023. aw

EXHIBIT A

McDONOUGH ENGINEERING CORPORATION
Civil Engineers

EXHIBIT "A" SCOPE OF SERVICES

July 18, 2023

LJA Engineering, Inc.
Robert T. McBride, P.E.
3600 W Sam Houston Parkway S
Suite 600
Houston, TX 77042

RE: Scope Amendment No. 1
Bullhead Slough Improvements at US 90A and SH 99
Precinct 4
Fort Bend County
FBC Project No. 20410
MEC Project No. 21150

Dear Mr. McBride,

Please accept this proposal letter to furnish engineering services for the additional scope amendment to the US 90A and SH 99 intersection in Precinct 4 of Fort Bend County.

PROFESSIONAL SERVICE TASKS

PHASE 1 – PRELIMINARY ENGINEERING DESIGN SUBTOTAL	$213,630.00
PHASE 2 – FINAL ENGINEERING DESIGN SUBTOTAL	$142,485.00
SURVEYING SUBTOTAL	$13,800.00
GEOTECHNICAL SERVICES SUBTOTAL	$27,862.00
ENVIRONMENTAL SERVICES SUBTOTAL	$6,950.00
TOTAL PROFESSIONAL SERVICES BUDGET	$404,727.00

Please see the manpower Level of Effort Estimate enclosed herein for a detailed breakdown of professional service fees.

PROPOSED SCOPE OF ADDITIONAL SERVICES RELATED TO MITIGATION BASIN

In response to project scope changes requested by Fort Bend County, a scope amendment for the Bullhead Slough Improvements at US 90A and SH 99 project has been prepared which includes the following items:

BASIC SERVICES- PHASE 1 – DRAINAGE IMPACT ANALYSIS FOR PRELIMINARY IMPACT ANALYSIS – UPDATED MITIGATION BASIN LOCATION AND PER

1. Per the meeting with FBCDD and FBC on 3/10/22, floodplain mitigation will be required to provide for local floodplain storage. The project was not originally scoped to provide floodplain mitigation due to meeting minutes from the feasibility study which indicate floodplain mitigation will not be required for the project, as well as not having the current models at the time of scoping. Based on preliminary analysis, it appears mitigation can be accomplished by means of a proposed basin along Bullhead Slough.
2. As drainage bond funds may be used for the project, this submittal includes preparing additions to the plan set for the mitigation basin in addition to the plan sheets for the berms. The mitigation basin location has been designated by LJA, and is in the referenced location per the proposal attachments. McDonough previously completed tasks to evaluate potential detention basin locations

McDonough Engineering Corporation proposes to complete the following tasks:

- MEC will prepare a study report documenting the project scope, findings and recommendations for the final design phase that will include a plan view schematic of recommended improvements, drainage impact analysis, ROW acquisition needs, potential utility conflicts, preliminary construction cost estimate, Environmental Phase 1 Site Assessment, and geotechnical report.

- Biweekly meetings with Program Manager. This Scope of Work assumes biweekly meetings for a period of five months during the PER phase (total of 10 meetings).

- Three coordination meetings with Fort Bend County Drainage District (FBCDD). Two coordination meetings each with Fort Bend County Toll Road Authority (FBCTRA), Railroad and Fort Bend County Levee Improvement District No. 7 (LID 7).

- Preliminary Engineering Report presentation meeting with Fort Bend County Precinct 4 and Fort Bend County Engineering Department.

- Obtain HEC-RAS models for City of Sugar Land's Oyster Creek Diversion Channel and Regional Detention project, as well as HEC-RAS models for Indigo development.

- One Site Visit.

- Incorporate City of Sugar Land's Oyster Creek Diversion Channel HEC-RAS model and the Indigo Development's HEC-RAS model into the FBCDD Revised Existing Conditions HEC-RAS Model.

- Prepare HEC-RAS model including drainage improvements required to mitigate the hydraulic impacts of the proposed berm. Mitigation storage is anticipated to be placed in new location as discussed with Fort Bend County and property owner. The mitigation model will be used to demonstrate that the project will cause "no adverse impact" to existing hydraulic conditions of Bullhead Slough. Potential improvements may include channel conveyance improvements, mitigation storage, or other improvements as determined by the study. The proposed improvements

will be coordinated with the design team and Program Manager. This Scope of Work anticipates up to two rounds of geometric revisions prior to submittal of the Drainage Impact Analysis report.

- Prepare a technical Drainage Impact Analysis (DIA) report with exhibits documenting the analysis for submittal to regulatory agencies. It is anticipated that the DIA report may be reviewed by Program Manager, Fort Bend County Engineering, FBCDD, TxDOT, Railroad, and LID 7 engineer. This Scope of Work includes QA/QC of the report prior to submittal.

- Consultant will address comments from regulatory agency review of the draft DIA report and prepare a final DIA report, sealed by a registered Texas Professional Engineer.

- Research and obtain record documents for all known existing utilities within the public ROW and project footprint. MEC will prepare a utility conflict table and update it during the final design phase as needed. MEC will submit milestone-level drawings to the applicable utility companies for their review. It is understood that the county and/or the project management consultant will contact and coordinate all utility adjustments.

- Surveying scope will include deed research, survey controls and levels, cross-section of Bullhead Slough, topo of 12 acres bounded by Bullhead Slough, tree survey (if required), and updating survey control map and sketches. This can be seen on the surveying attachments to the proposal.

- Geotechnical scope will include conducting basin borings to investigate soil stratigraphy and groundwater information. The proposed soil borings include 6 borings and one piezometer. This can be seen on the geotechnical attachments to the proposal.

- Environmental scope will consist of a Phase 1 ESA for the new mitigation basin area.

BASIC SERVICES: PHASE 2 – FINAL DESIGN

McDonough Engineering Corporation proposes to complete the following tasks:

- MEC will prepare additional plan sheets for the mitigation basin to be included in the original plan set. A separate plan set is not included.

- MEC will proceed with completion of the PS&E for 70%, 95%, and 100% submittals to LJA. MEC will address comments presented in the Preliminary Design Phase review meeting, and address and/or provide responses to 70% and 95% comments.

- Per the Fort Bend County Engineering Department Engineering Design Manual Aug 2020 Draft, 70% and 95% submittals shall include cover sheet, typical and non-standard cross-sections, overall project layout, survey control map, drainage area map with hydraulic calculations, plan and profile sheets, standard traffic control details, storm water pollution prevention plans, cross sections at 100' intervals, specification table of contents, and bid form with estimated unit and total costs. Three (3) copies of the 70% submittal will be submitted for County review in 11"x17" sheets along with a PDF of the drawings, cross sections at 100' intervals, specifications and estimate.

- Additionally, the 95% submittal shall also include general notes sheet, signage and pavement marking plans, standard construction details, project manual, and responses to 70% comments. The 95% physical submittal will be the same as for the 70% submittal.

- The 100% submittal shall consist of one sealed and signed set of drawings delivered to the County, along with a PDF submittal of the drawings, specifications, and estimate sent to LJA.

- MEC will provide monthly progress reports.
- Biweekly meetings with Program Manager. This Scope of Work assumes biweekly meetings for a period of six months during the Final Design phase.
- Revise DIA HEC-RAS models as necessary based on design revisions that occur during Final Design phase.

Bid and Construction Phase

These items are included in the original project proposal scope.

Billing

The preliminary and final design efforts will be a lump sum fee to be billed monthly on a percent complete basis by tasks. The items included in this level of effort are all in addition to the yet to be performed original scope. Invoicing will be per direction provided in the Fort Bend County Engineering Department Engineering Design Manual May 2021 Draft.

Sincerely,

Austin McLean, P.E.
Project Manager
austinm@mectx.com

Bullhead Slough - Flood Protection Berms at US 90A/SH 99 - PCT 4
Level of Effort Estimate - Amendment No. 1

McDonough Engineering Corportation 7/18/2023

	Proj. Man.	Engineer	Senior Designer	Sr. CADD	CADD	Clerical	Fee	Total Hours per Task	Number of sheets	Hour per Sheet
Phase I - Preliminary Design Phase										
							$ -	0		
Biweekly Meeting w/ Program Manager (LJA) - 5 months @ 2 mtg/mo (PER Phase)	20	20	0	0	0	0	$ 8,800.00	40		
Meetings w/ FBCDD (3 meetings @ 3 hours each)	18	18	0	0	0	0	$ 7,920.00	36		
Meetings w/ FBCTRA and FBCID No. 7 (2 meetings @ 2 hours each)	8	8	0	0	0	0	$ 3,520.00	16		
Site Visit	8	8	4	0	0	0	$ 4,200.00	20		
Time developing detention basin potential locations							$ -	0		
Incorporate City of Sugar Land's Oyster Creek Diversion Channel HEC-RAS Model and Indigo Development Model into FBCDD Revised Existing Conditions HEC-RAS Model	4	20	60	0	0	0	$ 15,160.00	84		
Proposed Berm Model w/ Mitigation (No Impact Model)	4	20	80	0	0	0	$ 18,560.00	104		
Discuss w/ Client, Coordinate & Max. 2 revisions (prior to DIA Report)	4	10	40	0	0	0	$ 9,760.00	54		
Prepare Drainage Impact Analysis Report & Exhibits	6	12	50	0	0	0	$ 12,340.00	68		
QA/QC Report	8	12	16	0	0	0	$ 7,040.00	36		
Address Comments from Reviewing Agencies on Draft DIA Report (FBC Engineering, FBCDD)	4	12	40	0	0	0	$ 10,160.00	56		
Prepare and attend PER presentation meeting with Fort Bend County Pct 4 and Ft Bend County Engineering Department	4	4	0	0	0	0	$ 1,760.00	8		
Subconsultant Coordination, Geotech, Environmental, Survey	12	24	0	0	0	0	$ 7,680.00	36		
Coordination with Agencies and Entities (City of Rosenberg, MUD 148, City of Sugarland)	10	10	6	0	0	0	$ 5,420.00	26	N/A	N/A
Coordination with and Attend 2 Meetings with UPRR	12	10	0	0	0	0	$ 4,880.00	22	N/A	N/A
Coordination with and Attend 1 Meetings with LID 7	8	4	0	0	0	0	$ 2,720.00	12	N/A	N/A
Coordination meetings (2) with developer	4	4	0	0	0	0	$ 1,760.00	8	N/A	N/A
Attend 2 Meetings with TxDOT	4	4	0	0	0	0	$ 1,760.00	8	N/A	N/A
Survey Topo Site Walk Review	4	4	4	0	0	0	$ 2,440.00	12	N/A	N/A
Research Documentation for Existing Utilities within Project Limits	4	8	16	4	16	0	$ 7,780.00	48	N/A	N/A
Attend Utility Coordination Meetings (2 meetings budgeted)	8	8	4	0	0	0	$ 4,200.00	20	N/A	N/A
Prepare 30% plans/roll plots (Typical sections, plan and profile- proposed plan view only, 1"=40' scale 11x17)	12	18	28	35	85	0	$ 26,515.00	178	4	44.5
Prepare Preliminary Engineering Report with Drainage Impact Analysis	4	18	28	14	4	8	$ 12,670.00	76	N/A	N/A
QA/QC	8	12	0	0	0	0	$ 4,320.00	20	N/A	N/A
Attend a Preliminary Design Phase Meeting to Review PER	3	3	0	0	0	0	$ 1,320.00	6	N/A	N/A
Address Comments on PER	2	8	16	4	16	6	$ 7,930.00	52	N/A	N/A
Final Submittal of PER	2	2	6	1	4	2	$ 2,735.00	17	N/A	N/A
Construction Cost Estimate	2	8	20	0	0	0	$ 5,480.00	30	N/A	N/A
Additional out of scope investigation to determine potential mitigation basin locations and viability that took place between 03/2022 and 05/2022 to prepare for PER meeting	15	15	20	0	40	0	$ 14,800.00	90	N/A	N/A
Phase II - Final Design Phase										
Additional Project Administration Regarding Mitigation Basin	30	15	4	0	0	10	$ 11,930.00	59	N/A	N/A
H&H Revisions Req'd during Final Design	4	10	40	0	0	0	$ 9,760.00			
QA/QC										
Internal QA/QC (3 submittals)	12	24	24	9	12	0	$ 14,505.00	81	N/A	N/A
Construction Documents										
Additional or New Plan Sheets for Mitigation Basin										
Additional Survey Control Sheets	1	0	1	0	2	0	$ 650.00	4	2	2.0
Additional Overall Project Layout	1	3	1	1	6	0	$ 1,875.00	12	1	12.0
Additional Proposed Typical Sections	4	10	4	12	14	0	$ 7,060.00	44	2	22.0

Bullhead Slough - Flood Protection Berms at US 90A/SH 99 - PCT 4
Level of Effort Estimate - Amendment No. 1

McDonough Engineering Corportation

7/18/2023

	Proj. Man.	Engineer	Senior Designer	Sr. CADD	CADD	Clerical	Fee	Total Hours per Task	Number of sheets	Hour per Sheet
Additional Plan and Profile (1"=40' scale 11x17)	15	30	34	60	120	0	$ 38,480.00	259	7	37.0
New Mitigation Basin Layout Sheets	4	8	12	8	24	0	$ 8,640.00	56	2	28.0
New Mitigation Basin Excavation Plan	4	8	12	8	24	0	$ 8,640.00	56	2	28.0
New Mitigation Basin Point Table	4	8	12	8	24	0	$ 8,640.00	56	1	56.0
Additional Overall Drainage Area Map	1	2	4	0	4	0	$ 1,800.00	11	1	11.0
Additional Drainage Area Map Sheets (1"=100' scale, double stacked, 11x17)	2	4	6	1	4	0	$ 2,925.00	17	1	17.0
Additional Hydraulic Calculations	4	12	6	1	4	0	$ 5,005.00	27	2	13.5
New Details										
Storm Sewer Construction Details	1	1	1	0	1	0	$ 730.00	4	1	4.0
Interceptor Structure and Concrete Pilot Channel	1	2	4	2	6	0	$ 2,330.00	15	2	7.5
Collection Structure Detail	3	6	8	6	12	0	$ 5,590.00	35	3	11.7
Additional Storm Water Pollution Prevention Plans (1"=100' scale)	2	4	8	5	16	0	$ 5,285.00	35	2	17.5
Additional Cross Sections	4	8	12	8	24	0	$ 8,640.00	56	2	28.0

Total Hours Phase I - Preliminary Design Phase	202	304	438	58	165	16	Total Hours	1183
Rate ($/HR)	240	200	170	145	120	105	Total Sheets	4
Phase I - Pre-Design Phase Subtotal (Lump Sum)	$ 48,480.00	$ 60,800.00	$ 74,460.00	$ 8,410.00	$ 19,800.00	$ 1,680.00	**$ 213,630.00**	
	23%	28%	35%	4%	9%	0.8%		
Total Hours Phase II - Final Design Phase	97	155	193	129	297	10	Total Hours	881
Rate ($/HR)	240	200	170	145	120	105	Total Sheets	31
Phase II - Design Phase Subtotal (Lump Sum)	$ 23,280.00	$ 31,000.00	$ 32,810.00	$ 18,705.00	$ 35,640.00	$ 1,050.00	**$ 142,485.00**	
	16%	22%	23%	13%	25%	0.7%		
Phase III - Bid/Construction Phase Subtotal (Hourly, Not-To-Exceed)	-	-	-	-	-	-	**$ -**	

Survey - Tejas Surveing

Phase 1 - Deed Research, Survey Controls and Levels, Topo, Survey Control Maps, Tree Survey, if required	$ 9,400.00
Phase 2 - Additional Parcel Sketches and Description, and Additional Access/Maintenance Easement	$ 4,400.00
Survey Services Subtotal (Lump Sum)	**$ 13,800.00**

Geotechnical Report - Associated Testing Laboratories

Geotechnical Investigation for Mitigation Basin	$ 27,862.00
Geotechnical Services Subtotal (Lump Sum)	**$ 27,862.00**

Environmental Services - Assocaited Testing Laboratories

Phase 1 Environmental Site Assessment For Mitigation Basin	$ 6,950.00
Environmental Services Subtotal (Lump Sum)	**$ 6,950.00**

Total Professional Services Budget	**$ 404,727.00**

2020 Mobility Project Status Report

period ending May 31, 2023

- PER
- Design Phase
- Bid Phase
- Enviro, ROW & Utilities
- Construction

No.	Project	Mobility Budget	2023				2024				2025				PM	Design Firm	CM	Contractor
			1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th				
Precinct 4																		
20410	Bullhead Slough	$3,980,000													LJA	Mcdonough		

ASSOCIATED TESTING LABORATORIES

3143 Yellowstone Blvd., Houston, Texas 77054 Tel: (713) 748-3717 Fax: (713) 748-3748

May 26, 2023
Proposal No: GP23-0508

Mr. Austin McLean, P.E.
Project Manager
Mc Donough Engineering Corporation
5625 Schumacher Lane
Houston, Texas 77057

Reference: Proposal for Geotechnical Investigation
FBC PCT 4 – Bullhead Slough Project- Detention Basin
Fort Bend County, Texas

Dear Mr. McLean,

Associated Testing Laboratories, Inc. (ATL) is pleased to submit the proposal for the above-referenced project. The scope of work entails a Geotechnical Investigation for the Bullhead Slough Project - Detention Basin in Fort Bend County, Texas.

Project Description

Based on the information provided, ATL understands that the detention basin is based on a previous project to mitigate flooding the depressed intersection of US 90A due to Bullhead Bayou overflow such scenario as the Hurricane Hurvey. The detention basin is located on the northwest side of the Bullhead Slough Project, approximately 9 acres open land at blue-highlighted shown on the Figure below.

ATL will conduct a geotechnical study of the proposed detention pond according to the requirement of FBC drainage criteria manual, FEMA, USACE, etc.

Scope of Work:

ATL will conduct detention pond borings to investigate soil stratigraphy and groundwater information. Groundwater recorded in low permeability clay soils that might not be observable during the time of drilling is expected to be more conveniently monitored with the piezometer installed in the 7-day and 30-day readings. The proposed soil borings recommended to evaluate the subsurface soils and groundwater conditions and are summarized in the table below:

Location	Proposed Boring No.	Depth, ft	Total Depth, ft
Borings B-1 to B-6	6	20	120
Piezometer: PZ-1	1	20	20*

**Piezometer PZ-1 will be installed on Boring B-1 after drilling.*

GEOTECHNICAL INVESTIGATION

Field Exploration

ATL assumes that the permission to access to the proposed boring locations, if necessary, will be arranged by others at no cost to ATL. Soils stratigraphy and groundwater conditions at the proposed detention pond location will be evaluated by drilling six (6) soil borings.

ATL plans to drill the soil borings located in the proposed location using an All-Terrain vehicle (ATV) rig. Soil samples will be obtained continuously to a depth of 20 feet below the existing surface.

Standard Penetration Tests (SPT) will be performed in sands, if encountered, and clays will be sampled by Shelby tube. 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.

Depth to ground water will be important for the design and construction of this project. For this reason, the borings will be drilled dry and the depth at which groundwater is encountered will be recorded. The borehole will be grouted after the completion of drilling and sampling.

One (1) piezometer is proposed by ATL to investigate the groundwater information of the site, including groundwater in low permeability clay soils that might not be observable during drilling but will be observable in the 7- and 30-day reading. Water level after 24-hours and 7- and 30-day will be recorded. The piezometer will be pulled and plugged after the 30-day water level reading.

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, dry density, Consolidated undrained triaxial test, crumb tests, Double hydrometer tests, and specific gravity of soils.

Engineering Analyses and Reporting

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 and groundwater levels.
- Discussion of the onsite soils dispersiveness, and recommendations for erosion protection of the detention basin slope soils.
- Evaluate the erosion potential (dispersiveness) and the slope stability (short and long term as well as rapid drawdown loading conditions) of the slope soils, and recommendations for the detention basin.
- Discuss of onsite soil types and the suitability of onsite soils for use to the detention basin, and in other structural and non-structural areas.
- 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.

Construction Related Observations

Field observations will include the following:

1) Proper stripping and preparation of detention pond

2) Fill material selection and testing to assess compaction and permeability.

If on-site materials are found to have high permeabilities (dispersive soils) which are above acceptable limits, these provisions will be made for reducing the overall permeability of the pond. These decisions will require an experienced geotechnical technician to observe and document the field activities and to discuss the soil conditions with the design team. We propose to provide a full-time senior geotechnical technician to observe and test as outlined above, with regular site visits from an experienced geotechnical engineer to confirm the soil conditions and to develop recommendations for the design team.

COST ESTIMATE

Based on the scope of geotechnical work outlined above, we estimate the following costs:

3143 Yellowstone Blvd., Houston, Texas 77054
Tel: (713) 748-3717 Fax: (713) 748-3748

Project	Estimated Fee
Geotechnical Investigation for Proposed Detention Basin	**$27,862.00** (Including additional cost of clearing site access)

The cost estimates using the project quantities and requirements is presented in the enclosed **Itemized Geotechnical Fee Estimate** spreadsheet. This estimate assumes that: (i) underground utilities at proposed boring locations will be cleared by Texas 811 Call Service and/or private property maintenance personnel; (ii) the sites will be accessible to our All-terrain (ATV) equipment; (iii) permission/permit to access site, if needed, will be arranged by others at no cost to ATL.

TIME SCHEDULES

We estimate that the fieldwork can be started immediately after authorization is received. The field staking and utilities clearance will take about one week, and the regular laboratory testing will take about 2 weeks; the triaxial consolidated-undrained shear tests will require about 4 to 6 weeks. The draft geotechnical report will be submitted approximately 8 to 10 weeks from the day we receive the official notice to proceed.

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: Proposed Boring Location Plan
Itemized Fee Estimates

NORTH

Location	Proposed Boring No.	Depth, ft	Total Depth, ft
Borings B-1 to B-6	6	20	120
Piezometer: PZ-1	1	20	20*

Note:
Borings B-1 to B- 6 require ATV & Hydro-Axle for Access

All boring at 20-ft deep, will convert one boring into Piezometer

Proposal: Bullhead Slough – Detention Basin Project Fort Bend, Texas	ASSOCIATED TESTING LABORATORIES	**Proposal No.:** GP23-0508 **SCALE: Not to Scale**
Client: McDonough Engineering Corporation Houston, Texas	Boring Location Plan Proposed Detention Basin	**FIGURE 1**

Geotechnical Investigation Proposal
Proposed Detention Pond_Bullhead Slough Project
SH 99 & US 90A
Fort Bend County, Texas
ATL Proposal No. Gp23-0508
May 26, 2023

ESTABLISHED 1959

ITEMIZED GEOECHNICAL FEE ESTIMATE

Proposed Detention Pond_Bullhead Slough Project

Borings:6@20' [120 LF]; Piezometer: 1@20'[20 LF]

	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	8	hrs.	$90.00	$720.00
Soil Drilling and Sampling (continuous; <up to 20')	120	ft.	$21.00	$2,520.00
Surcharge for ATV	120	ft.	$10.00	$1,200.00
Logging (NICET II)	8	hr.	$90.00	$720.00
Grouting Holes	100	ft.	$10.00	$1,000.00
Piezometer Installation	20	ft.	$24.00	$480.00
Piezometer Abandonment	20	ft.	$20.00	$400.00
24-Hour, 7- and 30-day PZ Water Level Readings	16	hrs.	$65.00	$1,040.00
Vehicle Charge	16	hrs.	$12.00	$192.00
	SUBTOTAL			**$9,022.00**
B. GEOTECHNICAL LABORATORY TESTING		**Unit**	**Unit Rate**	**Amount**
Moisture Content (ASTM D-2216)	60	ea.	$9.00	$540.00
Atterberg Limits (ASTM D-4318)	24	ea.	$60.00	$1,440.00
Passing No. 200 Sieve (ASTM D-1140)	16	ea.	$46.00	$736.00
Sieve Analysis (ASTM D-7928)	6	ea.	$55.00	$330.00
Unconfined Compression (ASTM D-2166)	6	ea.	$44.00	$264.00
Unconsolidated-Undrained Triaxial Test (ASTM D-2850)	12	ea.	$61.00	$732.00
Consolidated-Undrained Triaxial Test (ASTM D-4767) *3-stage w/3 samples/set	2	ft.	$1,500.00	$3,000.00
Double Hydrometer Tests (ASTM D-4221), with D_{90} and D50	2	ea.	$250.00	$500.00
Crumb Tests (ASTM D-6572)	16	ea.	$43.00	$688.00
Specific Gravity	2	ea.	$67.00	$134.00
	SUBTOTAL			**$8,364.00**
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.)	20	hrs.	$105.00	$2,100.00
Civil Engineer	32	hrs.	$83.00	$2,656.00
Draftsman/Admin Assistant	32	hrs.	$60.00	$1,920.00
	SUBTOTAL			**$7,276.00**
D. Additional Required Services	**Qty.**	**Unit**	**Unit Rate**	**Amount**
Clearing Using Dozer or Hydro-axe	1	days	$3,200.00	$3,200.00
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			**$3,200.00**
TOTAL ESTIMATED FEE OF PROPOSED SCOPE				**$27,862.00**

ASSOCIATED TESTING LABORATORIES, INC.

3143 Yellowstone Blvd, Houston, Texas 77054
Tel: (713) 748-3717 Fax: (713) 748-3748
www.associatedtesting.com

Date: May 30, 2023

Mr. Connor McBride, PE
McDonough Engineering Corporation
5625 Schumacher Lane
Houston, Texas 77057

Reference: **Phase- I Environmental Site Assessment**
Bullhead Slough Project- Fort Bend County Precinct 4, Texas

Proposal Number: **23-104**

Dear Mr. McBride,

Associated Test Laboratories, Inc. (ATL) is pleased to submit this proposal to provide environmental consulting services for the additional streets added for the above referenced project area.

According to the information pertaining to the project referenced above; the proposed alignment is

Bullhead Slough Project- Fort Bend County Precinct 4, Texas

For a project of this type, ATL proposes an amount of **$6,950.00** for the report.

SCOPE OF THE PHASE I ESA

The purpose of the project is, to identify the suspected presence of hazardous and/or non-hazardous industrial/commercial waste or materials such as hydrocarbons, chemicals, PCB's, and to conform to ASTM E1527-13.

During the site visit, ATL will look for evidence of past and present environmental concerns along the project area. ATL also will perform an automobile tour of surrounding areas to search for adjacent land use, which might pose obvious environmental concerns at the project area.

Based on the site reconnaissance and the information gathered during this environmental site assessment, **Associated Testing Laboratories, Inc.** will prepare a **Phase I Environmental Site Assessment** report with appropriate recommendations regarding the project areas.

TIME SCHEDULE

We estimate that the work required will take approximately six (6) weeks.

TERMS AND CONDITIONS

Referenced compensation includes ***one (1) electronic copy***, unless otherwise stated and agreed upon to the preparation of report submittal. Should additional original copies be required, please inform us in advance, there will be a charge of $100 per hard copy.

If you find this proposal of services acceptable, please execute the Proposal and return the original copy to our office in order that we may complete our files. Although fax copies of the proposal acceptance sheet will be sufficient to initiate our investigation, we require the original copy of this document for our files prior to issuance to the final report. If you have any questions regarding this proposal, or require adjustments to our approach or schedule, please contact us at (713) 748-3717.

Sincerely,

ASSOCIATED TESTING LABORATORIES, INC.

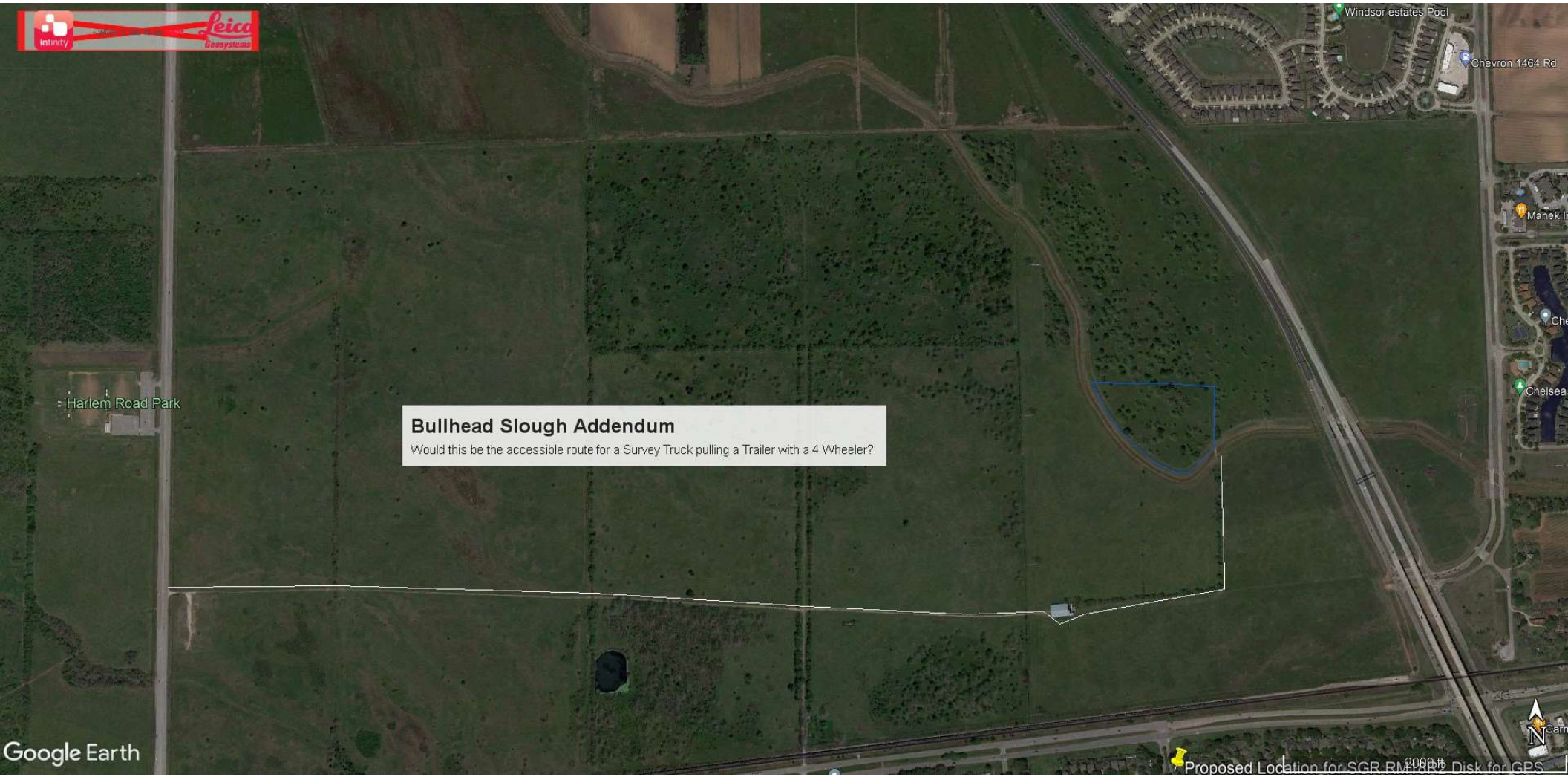
Jasbir Singh P.E.
Principal

Bullhead Slough Addendum

Approximately 12 acres including the Top of Bank of Bullhead Slough on both sides.
About 1500 LF of slough CL.
Approximately 85 trees.
Add 2-3 Control Points
Plat of Survey w/M&B for tract
Easement Parcel Sketch & Description for Maintenance Easement

th

500 ft


Windsor estates Pool
Chevron 1464 Rd
Harlem Road Park
Bullhead Slough Addendum
Would this be the accessible route for a Survey Truck pulling a Trailer with a 4 Wheeler?
Chelsea
Google Earth
Proposed Location for SGR RM#BS2 Disk for GPS

rsm

61-2104 McDonough Engineering BULLHEAD SLOUGH
ADDENDUM No 1 SURVEYING BUDGET
5-23-2023

TASK	Budget
PHASE I - SURVEYING	
Deed Research	$0.00
Survey Controls and Levels	$1,500.00
Cross-Section Bullhead Slough	$3,600.00
Topo 12 acres bounded by Bullhead Slough	$2,000.00
Tree Survey, if required	$1,400.00
Update Survey Control Map and Sketches	$900.00
Sub-Total Phase I	**$9,400.00**
PHASE II - PROVISIONAL SURVEYING	
Additional Parcel Sketches and Description	$2,200.00
Additional Access/Maintenance Easement	$2,200.00
Sub-Total Phase II	**$4,400.00**
SURVEYING TOTAL	**$13,800.00**