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 Costello, 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 January 7, 2020, (hereinafter "Agreement") pursuant to SOQ 14-025; and

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

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

1. County shall pay Contractor an additional four hundred three thousand four hundred sixty-nine dollars and no/100 ($403,469.00), for the services as described in Contractor's Proposal dated September 30, 2020, attached hereto as Exhibit "A" and incorporated herein for all purposes.
2. The Maximum Compensation payable to Contractor for Services rendered is hereby increased to an amount not to exceed five hundred eleven thousand nine hundred thirteen dollars and no/100 ($511,913.00), authorized as follows:

   $108,444.00 under the Agreement; and
   $403,469.00 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 written agreement executed by both parties.
4. The Services to be provided under this Amendment shall begin upon Contractor's receipt of Notice to Proceed and end no later than December 31, 2021.

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

FORT BEND COUNTY

_____
KP George, County Judge

_____
Date

ATTEST:

_____
Laura Richard, County Clerk

APPROVED:

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

APPROVED AS TO LEGAL FORM:

_____
Marcus D. Spencer, First Assistant County Attorney

COSTELLO, INC

_____
Authorized Agent – Signature

Corbett L. Freeman
Authorized Agent – Printed Name

Vice President
Title

12-3-2020
Date

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:\Marcus\Agreements\Engineering\Bridge Reconstruction\Amend 1 - Pro Eng Svcs.Pecan Creek-Cedar Creek.CI.docx.11/23/2020. 17-Eng-500034-A1

EXHIBIT A

September 30, 2020

Mr. Stacy Slawinski, P.E.
Fort Bend County Engineer
310 Jackson St., #101
Richmond, Texas 77469

RE: Proposal for Engineering Services for Pecan Creek and Cedar Creek Road Bridge Reconstruction
Fort Bend County, Texas

Dear Mr. Slawinski:

Costello, Inc., (CI), is pleased to provide this proposal to provide Engineering services for the referenced project. Within this proposal letter are the project scope, scope of services, compensation, and the schedule for proposed services.

PROJECT OBJECTIVE

Fort Bend County Precinct 3 (County) is planning for the re-construction of the bridges on Pecan Creek Road and Cedar Creek Road over a Gulf Coast Water Authority Canal (Jones Creek). Per the Engineering Letter Report (ELR) for the Pecan Creek Road and Cedar Creek Road Bridge, dated June 11, 2020, the estimated construction cost to replace both existing culvert bridges with spanned bridges that meet the elevation requirements of the Fort Bend County Drainage District criteria exceeds the total project budget. Thus, the County has requested Costello to analyze and design two bridges that would be set a lower elevation and utilize a different, lower cost spanned structure than analyzed in the previous ELR.

Costello is to analyze the use of slab beam bridges with an initial low chord elevation set at the 50-year water surface elevation plus 1-foot. Costello will submit an amendment to the above mentioned ELR that provides the County a preliminary design and estimated construction cost for review. Upon acceptance of the amendment to the ELR, Costello will begin final design, bid phase, and limited construction phase services as well as associated additional services for removal and replacement of the existing bridges on Pecan and Cedar Creek Road and installation of a temporary access road (Alternative 3 mentioned in the ELR) between Woods Edge Section 3 and Pecan Creek subdivisions.

Engineering services will be performed in accordance with Fort Bend County, Fort Bend County Drainage District, and TxDOT design criteria, specifications, details, and standards, except where modified, as well as the TxDOT Manual for Uniform Traffic Control Devices.

SCOPE OF SERVICES

BASIC SERVICES

A. Amendment to Engineering Letter Report

1. The report will reflect the preliminary design for the two bridges (slab beam bridges) on Pecan Creek Road and Cedar Creek Road. The bridges are planned to be two lanes (2-12-feet wide lanes) with bridge rails but no sidewalks. Very limited driveway reconstruction may be necessary at tie-in points.

2. Evaluate potential right of way needs for the slope embankment of the bridges. Include exhibits for anticipated ROW needs based on 30% design. Fort Bend County to coordinate with residents, if required.

3. Develop a 30% set of conceptual drawings for plan and profile views.

4. Develop a preliminary engineering cost estimate for each bridge.

5. Receive Fort Bend County, Fort Bend County Drainage District, and agency review comments and incorporate into the final design phase of the project.

B. Final Design Services

1. Tasks associated with the development of plans, specifications, and estimates for replacement of the existing culvert bridges on Pecan Creek and Cedar Creek Road with slab beam bridges. CI will also develop an alignment and design the proposed access road between Woods Edge Section 3 and Pecan Creek subdivision as recommended in the engineering letter report.

2. Coordinate with the Gulf Coat Water Authority (GCWA) and private utility companies whose facilities may be affected by the proposed construction and obtain the location of their existing and planned facilities. When necessary, we will assist the County in negotiations with the GCWA and pipeline companies and authorities for adjustment of their facilities.

3. Provide the Fort Bend County with a 90% submittal of the project for review, which is to include plan set, project manual, and estimated construction cost for the submittal.

4. Receive Fort Bend County, Fort Bend County Drainage District, and agency review comments and incorporate into the final design phase of the project.

5. Provide 100% submittal documents to Fort Bend County which is to include plans, project manual, and estimated construction cost.

6. Environmental studies to be provided by Fort Bend County, if required.

7. Weisser Engineering Company will provide surveying services as well as metes and bound descriptions for right of way acquisition (see attached proposal).

8. Associated Testing Laboratories will provide geotechnical services (see attached proposal).

9. CI to provide SWPPP services including:

    1. Stormwater Pollution Prevention Plan – 2 Sheets and Detail Sheet

10. CI to provide Traffic Control Services as follows:

    1. Traffic Control Plan – 2 Sheets

        a. Detour Plan for Bridge Construction

        b. Traffic Control for Construction Zone at Access Road

11. H&H Model Review – CI will prepare a limited hydraulic analysis of the proposed bridge improvements for Pecan Creek and Cedar Creek utilizing the latest Jones Creek HEC-RAS model prepared in 2019. This analysis will determine the bridge geometric design hydraulic parameters (pier widths, abutment, low chord elevations, and deck elevations) required so the bridge will not impact the peak water surface elevations of the 10, 25, and 100-year storm events. The 100-year storm event rainfall data will be taken from the Fort Bend County Drainage Distract (FBCDD) interim drainage criteria point rainfalls to ensure the design demonstrates no impact to the Atlas 14 100-year rainfall. CI will coordinate with the FBCDD consultants preparing the Jones Creek Master Drainage Plan to allow for discussion of future channel improvements and possible impacts on the design elements of the bridge crossings. A technical letter will be developed summarizing the analysis and conclusions and submitted to Fort Bend County for their review and approval.

BID PHASE AND LIMITED CONSTRUCTION PHASE SERVICES

1. CI to provide bid phase services including attending pre-bid meeting, answer bidder questions during bidding, prepare addenda as needed, attend bid opening if needed, compile bid tab and letter of recommendation.

2. CI to provide limited construction phase services including attending pre-construction meeting, attend monthly progress meetings, review of submittals and RFIs, review change orders, project inspection including punch list, and record drawings.

ADDITIONAL SERVICES

1. CI to attend one (1) public outreach meeting.

COMPENSATION

BASIC SERVICES

CI's Basic Services fee will be based on the attached levels of effort for the final phase of the project:

1.	Amendment to Letter Report (Lump Sum)	= $27,250.00
2.	Final Design Services (Lump Sum)	= $330,219.00
3.	Bid Phase and Limited Construction Phase Services (CI) (T&M)	= $25,000.00
4.	Right of Way/Easement Acquisition Surveys (Weisser) (12 parcels @ $1,500/parcel)	= $18,000.00
	Total Basic Service	= $400,469.00

ADDITIONAL SERVICES

1.	Public Meeting (CI)(LS)	= $3,000.00
	Total Additional Services	= $3,000.00

Total Engineering Services Fees anticipated from the above scope of work are $403,469. Should additional services be requested at meeting, Costello, Inc. reserves the right to modify the proposal fee for such services.

PROJECT SCHEDULE

A.	Amendment to ELR	60 Calendar Days
B.	Final Design Services	90 Calendar Days*

* Calendar Days to 90% complete plans (140 Calendar Days to bid ready set based on geotechnical report schedule)

We would anticipate a 30 calendar day period for bidding, a 30 calendar day period for contract execution, and a 365 calendar day for final construction completion of the proposed Pecan Creek and Cedar Creek Road bridge and temporary asphalt access road.

We are pleased to provide this proposal to the County for this important infrastructure project and will be glad to answer any questions you may have.

Sincerely,
Costello, Inc.

Corbett L. Freeman, P.E.
Vice President, Structural Division

Prepared for:	Fort Bend County						
Prepared by:	***Costello, Inc.***						
Pecan Creek and Cedar Creek Road LOE							
		PIC/PM	**PE**	**EIT**	**CADD Operator**	**Admin**	
Description		**Hours**	**Hours**	**Hours**	**Hours**	**Hours**	
	BASIC SERVICES - AMENDMENT LETTER						
	PREPARE AMENDMENT TO LETTER REPORT	**5**	**20**	**10**		**5**	**$6,425**
	CONCEPTUAL BRIDGE DRAWINGS	**5**	**15**	**25**	**35**		**$10,400**
	RIGHT OF WAY REVIEW/EXHIBITS	**1**	**10**	**20**	**20**		**$6,450**
	COST ESTIMATES	**1**	**5**	**20**		**5**	**$3,975**
	SUBTOTAL AMENDMENT LETTER						**$27,250**
	BASIC SERVICES - FINAL DESIGN						
	PROJECT MANAGEMENT (INCLUDES 4 PROJECT MEETINGS)	**10**	**20**	**30**	**0**	**5**	**$10,175**
	UTILITY/AGENCY COOR	**2**	**15**	**10**	**0**	**6**	**$4,840**
	FINAL PAVING/DRAINAGE DESIGN	**5**	**20**	**45**	**0**	**0**	**$10,475**
	ACCESS ROAD ALIGNMENT/DESIGN/PLANS	**1**	**15**	**20**	**30**	**0**	**$8,300**
	BRIDGE DESIGN	**40**	**80**	**80**	**130**	**0**	**$46,750**
	90% PLANS	**5**	**20**	**50**	**100**	**5**	**$20,925**
	PROJECT MANUAL	**10**	**30**	**70**	**0**	**4**	**$16,910**
	CONST COST EST	**5**	**15**	**45**	**0**	**5**	**$9,900**
	REVIEW COMMENTS	**5**	**15**	**15**	**15**	**1**	**$7,315**
	100% DOCUMENTS	**5**	**15**	**35**	**60**	**5**	**$14,350**
	OBTAIN APPROVALS	**2**	**8**	**5**	**0**	**0**	**$2,565**
	H&H MODEL REVIEW	**15**	**35**	**40**	**0**	**0**	**$15,050.00**
	TRAFFIC CONTROL DESIGN	**5**	**15**	**20**	**40**	**0**	**$10,250.00**
	SW3P DESIGN	**5**	**15**	**15**	**25**	**0**	**$8,200.00**
	TOPOGRAPHIC SURVEY	**SEE ATATCHED PROPOSAL FROM WEISSER**					**$24,840.00**
	GEOTECHNICAL	**SEE ATATCHED PROPOSAL FROM ATL**					**$99,924.00**
	CONSULTANT MANAGEMENT	**15**	**40**	**20**	**0**	**0**	**$13,450**
	REIMBURSABLE EXPENSES	**LUMP SUM**					**$6,000.00**
	SUBTOTAL FINAL DESIGN						**$330,219**
	BID AND CONSTRUCTION PHASE SERVICES	**TIME AND MATERIALS NOT TO EXCEED**					**$25,000**
	ROW PARCEL SURVEY	**SEE ATATCHED PROPOSAL FROM WEISSER**					**$18,000.00**
	ADDITIONAL SERVICES						
	PUBLIC MEETING (1 MEETING)	**2**	**5**	**10**	**3**	**1**	**$3,000.00**
	SUBTOTAL ADDTL SERVICES						**$3,000**
Hours		144.00	413.00	585.00	458.00	42.00	
Billing Rate = Raw Labor Rate * Overhead Multiplier (3.0)		$250.00	$180.00	$125.00	$95.00	$65.00	
TOTAL COSTS		$36,000	$74,340	$73,125	$43,510	$2,730	**$403,469**

Costello, Inc.
JN
9/30/2020

EXHIBIT "A"
RATE SCHEDULE
January 2017

Below are hourly rates for various job classifications. The billing rates are based upon a multiplier times salary cost. Salary Cost is defined as direct salary plus 40% for customary and statutory benefits such as social security contributions, unemployment, payroll taxes, worker's compensation, sick leave, vacation and holiday pay. A multiplier of 2.50 is used to obtain billing rates, except for field survey crews which are fixed rates per hour.

CLASSIFICATION	BILLING RATE		
Principal	$250.00	-	$300.00
Senior Project Manager	210.00	-	260.00
Project Manager	150.00	-	230.00
Assistant Project Manager	140.00	-	190.00
Senior Project Engineer	130.00	-	180.00
Project Engineer	90.00	-	160.00
Senior Hydrologist/Hydraulic Engineer	140.00	-	230.00
Hydrologist/Hydraulic Engineer	90.00	-	170.00
Senior Transportation Planner	210.00	-	260.00
Senior Transportation Engineer	160.00	-	230.00
Transportation Engineer	90.00	-	175.00
Senior Structural Engineer	160.00	-	230.00
Structural Engineer	90.00	-	180.00
Utility Coordinator	160.00	-	200.00
GIS Manager	160.00	-	220.00
GIS Technician	90.00	-	140.00
Land Planning Manager	210.00	-	260.00
Sr. Land Planner	150.00	-	200.00
Land Planner	120.00	-	150.00
IT Manager	130.00	-	180.00
IT Technician	90.00	-	150.00
Senior Designer	115.00	-	180.00
Designer	90.00	-	160.00
Sr. Computer Technician	80.00	-	150.00
Computer Technician	50.00	-	120.00
Construction Manager	120.00	-	160.00
Sr. Project Representative	110.00	-	150.00
Project Representative	75.00	-	140.00
Contract Administrator	110.00	-	200.00
Clerical	35.00	-	100.00
Survey Manager	210.00	-	250.00
Registered Surveyor	130.00	-	210.00
Plat Manager	150.00	-	190.00
Senior Survey Technician	90.00	-	160.00
Survey Technician	50.00	-	120.00
2-Man GPS/Robotic Survey Crew	170.00	-	180.00
3-Man GPS/Robotic Survey Crew	200.00	-	210.00

Mileage and expenses incurred will be billed at the following rates:

Normal Mileage	U.S. Government Standard mileage rate plus 10%
Survey Mileage	$ 0.75 per Mile
Expenses	Cost plus 10%

WEISSER Engineering & Surveying

TBPLS Reg. No. 10194324
TBPE Reg. No. F-68

PROPOSAL AGREEMENT FOR PROFESSIONAL SERVICES

Effective Date: September 15, 2020

Costello Engineering & Surveying
2107 CityWest Boulevard, 3rd Floor
Houston, TX 77042
713-783-7788
jnetardus@costelloinc.com

Proposal for Professional Services in Connection With: Cedar & Pecan Creek Bridge Access Road Alternatives across GCWA canal, Fort Bend County, Texas

Weisser Engineering & Surveying is pleased to submit this proposal and terms of service (together, the "Agreement") to Costello Engineers & Surveying (the "Client").

I. SCOPE OF SERVICES

Right-of-Way Surveying

The specific Survey limits are as follows:
The linear topographic and right-of-way survey will extend 10 feet outside of a proposed 50 feet wide right of way commencing from Carolyn Lane to Cherry Ridge Circle for an approx. total of **650 linear feet**.

1. **Survey Control and Existing Right of Way Mapping (Cat. 1B; Cond. II)**
    a. Perform abstract survey; obtain deeds of records, and plats for Carolyn Lane right-of-way, Cherry Ridge Road right-of-way and tracts of land adjoining the project location.
    b. Establish the existing right-of-way of Carolyn Lane and Cherry Ridge Road.

COST: $7,000.00 (non-taxable)

2. **Topographic Surveying**
    The Surveyor will provide the following within the surveying limits:
    a. Establish horizontal and vertical project control. Control shall be relative to the North American Datum of 1983 (NAD 83, 2001 adjustment) and the North American Vertical Datum of 1988 (NAVD 88, 2001 adjustment/FBCGPS Monuments datum).
    b. Obtain cross-sections at 50-foot intervals with grade breaks. Cross-sections shall extend 10 feet beyond the proposed easement lines where accessible. Identify locations and elevations of physical features to include buildings, fences, walls, trees, sidewalks, driveways and driveway curbs, power poles, light poles, water meters, water wells, ponds, sprinklers, off-site drain pipe, etc. Horizontally and vertically locate existing utilities within, crossing, and adjoining project limits. Utilities will be located and tied based on visual evidence and utilities based on maps, plans, and marked by "One Call" within the project limits, flow line elevations, sizes, material types and directions of pipes will be obtained on storm sewer lines, sanitary sewer lines and culverts. The rim (top) and flow line elevations will be obtained on inlets, manholes, and drainage structures.
    c. The Surveyor will coordinate with pipeline companies, municipal utility districts (MUDs), homeowner's associations (HOA's), Fort Bend County, and private utility agencies to obtain

locations of existing utilities and depths of existing pipelines and provide Level B Subsurface Utility Surveying.

COST: $7,200.00 (non-taxable)

3. **Additional Services**
   a. 50-feet Temporary Access Easement (Cat. 1A; Cond. II) – Prepare temporary access easement exhibit and metes and bounds descriptions in accordance with Fort Bend County guidelines.

COST: $1,500.00 per parcel (non-taxable)

   b. Right-of-Way Parcel (Cat. 1A; Cond. II) – Prepare right-of-way exhibit and metes and bounds descriptions in accordance with Fort Bend County guidelines.

COST: $12,000.00 (non-taxable) 8- total parcels

   c. Additional topographic services along the Cedar & the Pecan Creek Bridges billed on time and materials basis as authorized by Engineer.

3 Person Crew	10 hrs @ $165.00/hr	$ 1,650.00
Survey Technician	2 hrs @ $105.00/hr	$ 210.00
CADD Technician	4 hrs @ $90.00/hr	$ 360.00
Clerical	1 hrs @ $60.00/hr	$ 60.00
Field Supervisor	1 hrs @ 100.00/hr	$ 100.00
Project Manager (RPLS)	2 hrs @ $140.00/hr	$ 280.00
	Cost per Day	$2,660.00

COST (4 Days) $10,640.00

II. TERMS AND CONDITIONS

1. This Agreement may only be modified by a writing acknowledging agreement of modification by both parties.
2. The Responsible Party signing this Agreement agrees to be fully responsible for the timely and complete payment for Services within thirty (30) days of invoicing. Any requests for modification of this provision must be signed by an officer or department director of Weisser Engineering & Surveying.
3. Weisser Engineering & Surveying is an independent contractor. Nothing in this Agreement forms a partnership, joint venture, employment, franchise, master-servant, or agency relationship between Client and Weisser Engineering & Surveying.
4. WEISSER ENGINEERING & SURVEYING SHALL ONLY BE LIABLE FOR DAMAGE OR LOSS TO ANY PERSON OR PROPERTY TO THE EXTENT SUCH DAMAGE OR LOSS IS CAUSED BY WEISSER ENGINEERING & SURVEYING'S NEGLIGENT ACT OR OMISSION IN CONNECTION WITH THE SERVICES. WEISSER ENGINEERING & SURVEYING'S LIABILITY TO CLIENT OR ANY OTHER PARTY FOR CLAIMS OF ANY KIND, WHETHER BASED ON CONTRACT OR TORT OR OTHERWISE RELATING TO THIS AGREEMENT, SHALL NOT EXCEED THE COMPENSATION PAID OR OWED TO WEISSER ENGINEERING & SURVEYING FOR SERVICES UNDER THIS AGREEMENT.
5. Client shall not solicit Weisser Engineering & Surveying employees for purposes of employment during the course of the Agreement or for a period of twelve (12) months thereafter. Client acknowledges and agrees that breach of this provision may result in irreparable and continuing damage to Weisser Engineering & Surveying, for which there would be no adequate remedy at law, and that, in the event of

such breach, Weisser Engineering & Surveying may be entitled to equitable or injunctive relief and/or a decree for specific performance, in addition to all such other and further relief as may be available at law, in equity, or otherwise.

6. Upon request, Weisser Engineering & Surveying may make electronic files of its CAD drawings available to Client on an "as is" basis for informational purposes only that may not be relied upon for any other purpose. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND WITH REGARD TO ELECTRONIC FILES ARE DISCLAIMED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE. Since revisions or additions to design file drawings may occur at any time, Client agrees to indemnify, defend and hold harmless Weisser Engineering & Surveying, its officers, directors, agents, shareholders, and employees from and against any and all claims, suits, losses, damages or costs, including reasonable attorney's fees, arising from the use of outdated or amended design file drawings by Client or any third party, and such indemnification shall survive acceptance of said file(s) by Client or the termination of this Agreement. Client promises to notify any third party that the third party may not reasonably rely on electronic files, drawings, or documents not directly provided to such third party by Weisser Engineering & Surveying.
7. This Agreement shall be deemed entered into in Texas and shall be governed by and construed and interpreted in accordance with the laws of the State of Texas, without reference to any rules of conflict of laws. Venue shall be in Houston, Harris County, Texas.
8. In the event that any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provisions, and the Agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained in it.
9. This Agreement may be executed by facsimile or scanned and electronically transferred signatures. A copy of this Agreement bearing such a signature or signatures shall have the same force and effect as an original agreement with inked original signatures. Once signed, any reproduction of this Agreement made by reliable means (e.g., photocopy, scan, facsimile) is considered an original.
10. Client's failure to sign and return this Agreement to Weisser Engineering & Surveying within fifteen (15) days of Effective Date renders the Agreement voidable by Weisser Engineering & Surveying.
11. Notwithstanding anything to the contrary in this Agreement or any other ancillary documents, Weisser Engineering & Surveying shall not be responsible for delays caused by factors beyond Weisser Engineering & Surveying's reasonable control, including but not limited to delays because of strikes, lockouts, work slowdowns or stoppages, government ordered industry shutdowns, power or server outages, acts of nature, widespread infectious disease outbreaks (including, but not limited to epidemics and pandemics), failure of any governmental or other regulatory authority to act in a timely manner, failure of the Client to furnish timely information or approve or disapprove of Weisser Engineering & Surveying's services or work product, or delays caused by faulty performance by the Client or by contractors of any level. When such delays beyond Weisser Engineering & Surveying's reasonable control occur, Client agrees that Weisser Engineering & Surveying shall not be responsible for damages, nor shall Weisser Engineering & Surveying be deemed in default of this Agreement or any other agreement.

We appreciate the opportunity to provide this proposal. If you have any questions or comments, please do not hesitate to contact Laurie Young (lyoung@weissereng.com).

The Client, by signing below, represents that he or she has the authority to enter into this Agreement, agrees to the terms and conditions in this Agreement, is willing to be the Responsible Party, promises to pay the invoiced amount within thirty (30) days of invoicing, and authorizes Weisser Engineering & Surveying to proceed with the Services as described above.

CLIENT	**WEISSER ENGINEERING & SURVEYING**
Costello Engineering & Surveying	
By: _____	By: _____
Printed Name: _____	Printed Name: Walter P. Sass
Title: _____	Title: Principal
Date of Acceptance: _____	Date of Acceptance: 09/15/2020

ASSOCIATED TESTING LABORATORIES

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

September 8, 2020
Proposal No: CP19-1102

Mr. Joshua Netardus, P.E.
Assistant Project Manager
Costello Engineering & Surveying
2107 City West Blvd.
Houston, Texas 77042

Reference: Proposal for Geotechnical Investigation
Pecan Creek & Cedar Creek Bridges
Fort Bend County, Texas

Dear Mr. Netardus,

Associated Testing Laboratories, Inc. (ATL) is pleased to submit the proposal for the above-referenced project. The scope of work entails a Geotechnical Investigation in accordance with procedures and guidelines of Fort Bend County Guidelines. We anticipate no Texas cone penetrometer testing will be performed as per Texas Department of Transportation (TXDOT). Our scope work will include channel improvements.

Based on the information and site plan provided, we understand that the project entails constructing the following paving and bridges. The boring locations for Pecan Creek and Cedar Creek bridges are shown in Figures 1 & 2.

PROJECT DESCRIPTION

Based on the information provided by Costello Engineering & Surveying, the right of way (ROW) width is about 34-ft, 2-lane asphalt road and the approximate length of the roadway is about 500-ft. The existing culvert crossing spanning over a GCWA canal Northeast 359/753 intersection will received improvement. The combination of asphalt road will be removed and replaced with 10-in thick concrete pavement.

Proposed Bridge Structures: Based on information available at this time, the proposed Pecan and Cedar bridges will have a 200-ft span each and a width of 34-ft, with 2-lanes and overpasses Pecan & Cedar Creek, with 125' embankment on each side.

Channel improvements: The slope stability analyses will be performed for the channel improvements for two (2) selective cross-sections along each project alignment and evaluating global and local slope stability in terms of End of Construction, Long Term and Rapid Drawdown conditions. The protection of sideslopes of the channel will depend on flow velocity and soil conditions by providing clay liner, concrete liner, rip rap and possibly gabion walls if necessary, at critical locations of the slopes. The site photos are presented in Appendix A.

SCOPE OF WORK

The proposed scope of this geotechnical investigation per each site will entail conducting a geotechnical investigation involving two (2) at 80-ft deep soil borings near the abutments of each of the proposed bridge, two (2) at 20-ft paving, soil borings to evaluate the subsurface soils and groundwater conditions. Two (2) at 50-ft deep piezometers, (one piezometer on Pecan bridge and one piezometer on Cedar bridge) will be installed to collect the 24-hr, 7- and 30-days groundwater level information. The boring locations and depths may be field adjusted as necessary.

ATL will provide bridge foundation design recommendations (including feasible foundation type, allowable bearing capacity curves), and construction recommendations for the proposed bridge foundation.

ATL will also provide recommendations for the proposed construction of the embankments, including preparation of the foundation soils, bearing capacity, settlement analyses and construction recommendations for the embankments.

GEOTECHNICAL INVESTIGATION

Field Exploration

Based on the available project information, ATL proposes the following borings to investigate the subsurface soils and groundwater conditions along the site boring locations and are presented in Figures 1 & 2.

Site	Borings	Total No of Boring	Boring Designation	Depth (ft)	Total Depth (ft)
Pecan Creek Road Bridge	Bridge	2	P-1 & P-2	80	160
	Paving	2	P-3 thru P-4	20	40
	Piezometer	1	P-1 (PZ-1)	50*	50*
Pecan Creek Road (Total Depth, ft.)					200
Cedar Creek Road Bridge	Bridge	2	C-1 & C-2	80	160
	Paving	2	C-3 thru C-	20	40
	Piezometer	1	C-1 (PZ-2)	50*	50*
Cedar Creek Road (Total Depth, ft)					200
Pecan & Cedar Creek Road (Total Depth, ft.)					400

The proposed borings are located within existing pavement thus coring will be required. Soil samples will be obtained continuously to a depth of 20 feet, and at 5-ft intervals thereafter. 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 groundwater 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 boreholes will be left open for 24 hours, and 24-hour water level will be recorded, and the boreholes will be grouted after the completion of drilling and sampling. two (2) 50-ft deep piezometers will be installed to monitor the 24-hr, 7- and 30-day ground water level. The piezometers will be pulled and plugged after the 30-day water level reading. Consolidated-undrained Triaxial Test (ASTM D 4767) 3-stage with 3 samples set, and soil dispersiveness tests (double hydrometer Test, Crumb Tests) are required at channel cross section.

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, density and percent finer than No. 200 sieve, dry density, and one-dimensional consolidation test.

Advanced testing such as consolidated-undrained Triaxial test, and soil dispersiveness tests (double hydrometer Test, Crumb Tests) will be performed at channel cross section.

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 Fort Bend 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 the following:

- Boring logs and boring logs profiles showing the generalized soils stratigraphy and groundwater levels.
- Description of onsite soil types and potential use of these materials for fill in structural and non-structural areas.
- Preliminary fault review based on the review of the available fault maps.
- Recommendations for the site preparation and embankment construction.
- Pavement design in accordance with Harris County criteria and forecast traffic, including required pavement and subbase thicknesses, subgrade preparation and stabilization, reinforcement design, and pavement construction criteria.
- Geotechnical parameters for the design of embankments, and global slope stability analyses

of the embankments.

- Deep foundation recommendations for the bridge, including capacity curves for driven piles and drilled shafts, and foundation construction recommendations.
- Feasible foundation types and allowable bearing capacity and lateral load analyses for the embankment.
- Discussion of the results of slope stability analyses for the design cross-sections along the project alignment and evaluating global and local slope stability in terms of End of Construction, Long Term and Rapid Drawdown conditions.
- Discussion of the onsite soils dispersiveness, and recommendations for erosion protection of the repaired slope soils.
- Discuss of onsite soil types and the suitability of onsite soils for use as fill in the slope.
- Dewatering considerations and recommendations.
- Construction considerations

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. Two (2) copies of final report and an electronic copy (PDF) of the final report will also be issued.

COST ESTIMATE

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

Project	Estimated Fee
Geotechnical Investigation for Proposed Pecan Creek Road, Bridge and Channel Improvements	**$49,962.00** (includes additional cost of $**10,964.00**).
Geotechnical Investigation for Proposed Cedar Creek Road, Bridge and Channel Improvements	**$49,962.00** (includes additional cost of $**10,964.00**).
TOTAL Budget	**$99,924.00** (includes additional cost of $**21,928.00**).

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 One Call Service and/or private property maintenance personnel; (ii) the sites will be accessible to our truck-mounted rig equipment; (iii) permission/permit to access site, if needed, will be arranged by others at no cost to ATL.

ASSOCIATED TESTING LABORATORIES

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

TIME SCHEDULES

We estimate that the fieldwork can be started immediately after authorization is received. The field staking and utilities clearance will take about two weeks, the field investigation will require about 5 weeks (assuming no complications in site access or site clearing), and the regular laboratory testing will take about 6 weeks; the triaxial consolidated-undrained shear tests will require about 8 weeks. The draft geotechnical report will be submitted approximately 12 weeks from the day we receive the official notice to proceed.

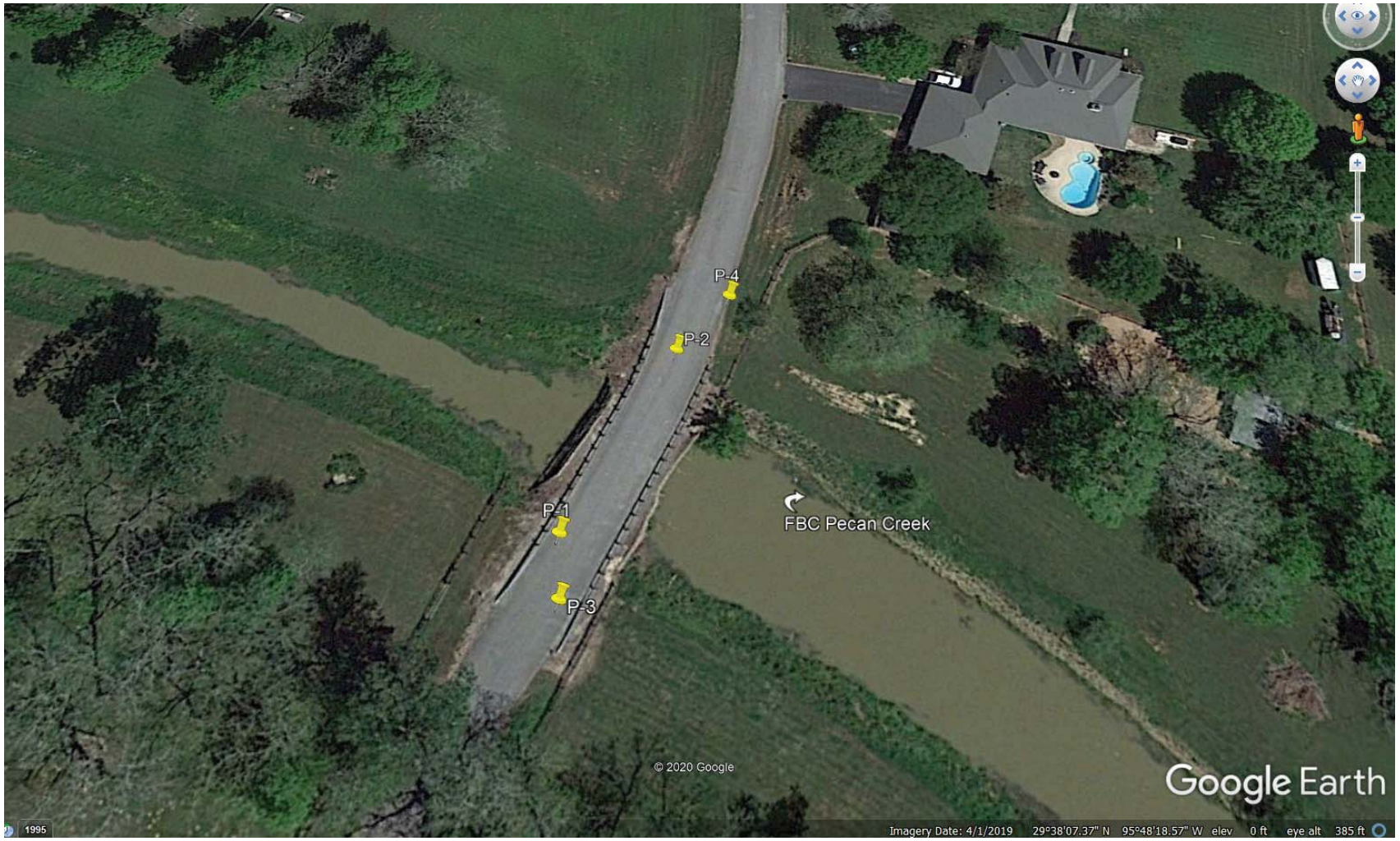
We appreciate the opportunity to submit this proposal and look forward to being of service to you on this project.

Very truly yours,
ASSOCIATED TESTING LABORATORIES, INC.

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

- Figure 1: Proposed Boring Location Plan for Pecan Creek Road Bridge
- Figure 2: Proposed Boring location Plan for Cedar Creek Road Bridge
- Itemized Fee Estimates – Pecan Creek Road Bridge
- Itemized Fee Estimates – Cedar Creek Road Bridge
- Appendix A: Site photos

Figure 1



Note:

1. Borings: P-1 & P-2 are 80-ft, [160 LF]
2. Borings: P-3 through P-4 are 20-ft, [40LF]
3. After drilling and sampling, we will convert Boring P-1 into 50-ft deep Piezometer, PZ-1

Proposal: Pecan Creek Road Bridge & Channel Improvements, Fort Bend County, Texas	ASSOCIATED TESTING LABORATORIES ATL	Proposal No.: CP 19-1102
		Scale: 1 inch : 500 feet
Client: Costello Engineering & Surveying Houston, TX	Boring Location Plan Pecan Creek Road Bridge	FIGURE 1

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

Figure 2

Note:

1. Borings: C-1 & C-2 are 80-ft, [160 lf}]
2. Borings: C-3 through C-4 are 20-ft, [40 lf]
3. After drilling and sampling, we will convert Boring C-1 into 50-ft deep Piezometer, PZ-2

Proposal: Cedar Creek Road Bridge & Channel Improvements, Fort Bend County, Texas	ASSOCIATED TESTING LABORATORIES	Proposal No.: CP 19-1102
		Scale: 1 inch : 500 feet
Client: Costello Engineering & Surveying Houston, TX	Boring Location Plan Cedar Creek Road Bridge	FIGURE 2

Geotechnical Investigation Proposal
Pecan Creek Bridge
Fort Bend County, Texas

September 8, 2020

ESTABLISHED 1959

ITEMIZED GEOECHNICAL FEE ESTIMATE

Pecan Creek Bridge

Borings: 2@80'; 2@20' [200 LF]; Piezometers: 1@50' [50']

A. FIELD EXPLORATION	Current Qty.	Unit	Unit Rate	Amount
Mobilization/Demobilization (Truck Rig)	1	LS	$700.00	$700.00
Mobilization/Demobilization (ATV Rig)	0	LS	$500.00	$0.00
Technician for Staking, Utilities Clearance, Coordination	8	hrs.	$65.00	$520.00
Soil Drilling and Sampling (continuous; <up to 20')	80	ft.	$21.00	$1,680.00
Soil Drilling and Sampling (continuous; >20' to 50')	0	ft.	$25.00	$0.00
Soil Drilling and Sampling (continuous; 51' to 100')	0	ft.	$35.00	$0.00
Soil Drilling and Sampling (20'-50' intermittent)	60	ft.	$19.00	$1,140.00
Soil Drilling and Sampling (intermittent; > 50')	60	ft.	$21.00	$1,260.00
Surcharge for Drilling and Sampling Over 100'	0	ft.	$7.00	$0.00
ATV Drilling and Sampling Surcharge	0	ft.	$7.00	$0.00
Cost for Collecting and Transporting Composite Soil Samples	0	bags	$75.00	$0.00
Grouting Holes	200	ft.	$10.00	$2,000.00
Piezometer Installation	50	ft.	$24.00	$1,200.00
Piezometer Abandonment	50	ft.	$20.00	$1,000.00
24-Hour, 7- and 30-day PZ Water Level Readings	16	hrs.	$65.00	$1,040.00
Vehicle Charge	40	hrs.	$10.00	$400.00
	SUBTOTAL			**$10,940.00**

B. GEOTECHNICAL LABORATORY TESTING		Unit	Unit Rate	Amount
Moisture Content (ASTM D-2216)	64	ea.	$9.00	$576.00
Atterberg Limits (ASTM D-4318)	24	ea.	$62.00	$1,488.00
Passing No. 200 Sieve (ASTM D-1140)	24	ea.	$48.00	$1,152.00
Unconfined Compression (ASTM D-2166)	12	ea.	$45.00	$540.00
Unconsolidated-Undrained Triaxial Test (ASTM D-2850)	20	ea.	$63.00	$1,260.00
	SUBTOTAL			**$5,016.00**

C. ANALYSES & REPORT PREPARATION		Unit	Unit Rate	Amount
Senior Engineer-Project Manager (P.E.)	16	hrs.	$183.00	$2,928.00
Project Engineer (P.E.)	46	hrs.	$149.00	$6,854.00
Civil Engineer	60	hrs.	$101.00	$6,060.00
Draftsman	60	hrs.	$60.00	$3,600.00
Word Processor	60	hrs.	$60.00	$3,600.00
	SUBTOTAL			**$23,042.00**

D. ADDITIONAL COSTS	Qty.	Unit	Unit Rate	Amount
Consolidated-Undrained Triaxial Test (ASTM D-4767) *3-stage w/3 samples/set	4	sets	$1,500.00	$6,000.00
one Dimensional Consolidation Tests	4	ea.	$600.00	$2,400.00
Double Hydrometer Tests (ASTM D-4221), with D_{90} and D50	4	ea.	$177.00	$708.00
Crumb Tests (ASTM D-6572)	16	ea.	$38.00	$608.00
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)	4	ea.	$150.00	$600.00
Pavement Coring and Patching (> 6" thick)	48	inches	$13.50	$648.00
	SUBTOTAL			**$10,964.00**
TOTAL ESTIMATED FEE OF PROPOSED SCOPE				**$49,962.00**
TOTAL ESTIMATED FEE WITHOUT ADDITIONAL COST				**$38,998.00**

Geotechnical Investigation Proposal
Cedar Creek Bridge
Fort Bend County, Texas

September 8, 2020

ESTABLISHED 1959

ITEMIZED GEOECHNICAL FEE ESTIMATE

Cedar Creek Bridge

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ATV Drilling and Sampling Surcharge	0	ft.	$7.00	$0.00
Cost for Collecting and Transporting Composite Soil Samples	0	bags	$75.00	$0.00
Grouting Holes	200	ft.	$10.00	$2,000.00
Piezometer Installation	50	ft.	$24.00	$1,200.00
Piezometer Abandonment	50	ft.	$20.00	$1,000.00
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Appendix A





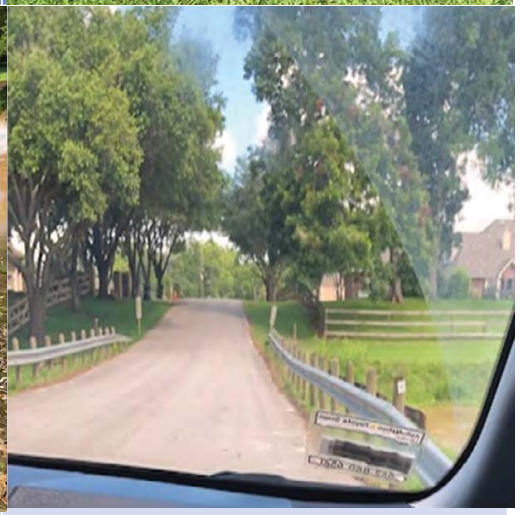



Proposal: Pecan Creek Road Bridge & Channel Improvements, Fort Bend County, Texas	ASSOCIATED TESTING LABORATORIES | ATL	Proposal No.: CP 19-1102
		Not to Scale
Client: Costello Engineering & Surveying Houston, TX	Site Photos Pecan Creek Road Bridge	Appendix B







Proposal: Cedar Creek Road Bridge & Channel Improvements, Fort Bend County, Texas	ASSOCIATED TESTING LABORATORIES | ATL	Proposal No.: CP 19-1102
		Not to Scale
Client: Costello Engineering & Surveying Houston, TX	Site Photos Cedar Creek Road Bridge	Appendix B