

**SUPPLEMENTAL AGREEMENT NO. 1
TO
ENGINEERING SERVICES AGREEMENT OF
OCTOBER 22, 2019
FOR
FORT BEND COUNTY TOLL ROAD AUTHORITY**

This Supplemental Agreement is signed in multiple counterparts to be effective on the date approved by the Fort Bend County Commissioners Court, and modifies the ENGINEERING SERVICES AGREEMENT dated October 22, 2019 (the “Agreement”) between the Fort Bend County Toll Road Authority, a Texas Local Government Corporation (the “Authority”), and IDCUS, Inc. (the “Engineer”).

The Agreement is hereby modified as follows:

1. The first sentence in Section 1 is replaced with the following sentence:

“The Engineer shall render professional services to FBCTRA related to the Project as defined in the Scope of Services in Attachment A & Attachment A-1.”

2. Section 2.a is replaced with the following paragraphs:

“The Maximum Compensation under this Agreement is \$995,224.15. The amount paid under this Agreement may not exceed the Maximum Compensation without an approved supplemental agreement.

Compensation for the performance of services within the Scope of Services described in Attachment A will be paid as a lump sum amount not to exceed \$860,876.42, as shown in Attachment B.

Compensation for the performance of services within the Scope of Services described in Attachment A-1 will be paid as a lump sum amount not to exceed \$134,347.73, as shown in Attachment B-1.


The Engineer shall furnish satisfactory documentation of such work (e.g. timesheets, billing rates, classifications, invoices, etc.) as may be required by FBCTRA.”

This Supplemental Agreement does not alter, modify, or otherwise change any part of the Agreement, except as specifically stated in this Supplemental Agreement.

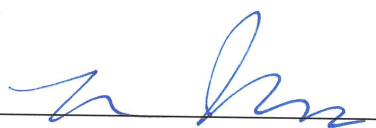
Supplemental Agreement No. 1
To Agreement of October 22, 2019

IN WITNESS WHEREOF, this Supplemental Agreement is hereby executed as of the date first set forth above.

FORT BEND COUNTY TOLL ROAD AUTHORITY, a
Texas local government corporation

By: 
By: Bobbie Tallas (May 21, 2020 08:53 CDT)
Name: Bobbie Tallas
Title: Vice Chairman

IDCUS, Inc.
ENGINEER

By: 
Name: Larry F. Jank
Title: President

EFFECTIVE DATE

THIS AGREEMENT IS EFFECTIVE ON THE DATE IT IS APPROVED BY THE FORT BEND COUNTY COMMISSIONERS COURT, AND IF NOT SO APPROVED SHALL BE NULL AND VOID.

DATE OF COMMISSIONERS COURT APPROVAL: _____

AGENDA ITEM NO.: _____

ATTACHMENT A-1 SCOPE OF SERVICES

**Supplement No. 1
Date: 05-06-2020**

SERVICES PROVIDED BY THE ENGINEER:

**Preliminary Engineering, Final Design & PS&E
Fort Bend Parkway Segment B-2 / Section B
From west of Sienna Parkway to Sienna Ranch Road
(From Station 925+00 to Station 981+50)**

The work to be performed by the Engineer under this supplement No. 1 scope of work consists of providing additional services for various engineering design and coordination services for the STA 925+00 to Sienna Ranch Road. Design will incorporate re-evaluation Flat Bank Creek Bridge analysis & design for updated ATLAS 14 Model based on New LID / Fort Bend Drainage District Requirement as of January 01, 2020. The scope will also include bridge design for crossing at Flat Bank Creek with three traffic lanes (2 thru and 1 auxiliary) with inside and outside shoulders in each direction and CTB center divider, Typical Sections, Bridge Layout, Bridge Structural Details, & Cost Estimates & Specification.

FUNCTION CODE 160(161) - DRAINAGE (ATLAS 14 Scope Change)

161.1. Hydrologic Studies. The Engineer shall provide the following services for the development of hydrology for roadway impact analysis:

1. Calculate peak discharges for ROW areas using new Atlas 14 rainfall amounts as recommended by FBCDD effective January 1, 2020.
2. Perform all hydraulic design and design using new Atlas 14 information.
3. Perform hydraulic impact analysis using new Atlas 14 information.
4. Develop Flat Bank Creek existing and proposed preliminary Atlas 14 hydraulic models for use in bridge hydraulic analysis.
5. Coordinate with LID Engineer (LJA Engineering, Inc.) to obtain preliminary Atlas 14 Flat Bank Creek hydraulic model.

FC 160 (170) – BRIDGE DESIGN

The work to be performed by the Engineer shall consist of providing engineering services required for the preparation of plan sheets and other miscellaneous documents for the following:

1. Bridge design for crossing at Flat Bank Creek with three traffic lanes with inside and outside shoulders in each direction and CTB center divider.

TASK DESCRIPTIONS AND FUNCTION CODES

The Engineer shall categorize each task performed to correspond with the Function Codes (FC) and Task Descriptions.

FC 160(170) – Bridge Design

170.1. Bridge Layout. The Engineer shall determine the location of each soil boring needed for foundation design in accordance with the *Geotechnical Manual*.

The bridge schematic layout and typical section discussed with the client consists of three (3) pre-stressed concrete beam spanning across Flat Bank Creek. The proposed span arrangement is currently set as (1@100', 1@130', 1@100'). The 112 feet wide typical section consists of concrete slab supported on pre-stressed concrete I-Girders.

The Engineer shall submit the bridge layout early in the plan preparation process to obtain approval from BGE/FBTRA. The Engineer shall comply with all relevant sections of the latest edition of TXDOT's LRFD Bridge Design Manual, Bridge Project Development Manual, Bridge Detailing Manual, and AASHTO LRFD Bridge Design Specifications and respective checklists. The bridge layout sheet shall include bridge typical sections, structural dimensions, abutment and bent locations, superstructure and substructure types. The Engineer shall locate and plot all soil borings and utilities and show proposed retaining walls (if applicable).

170.2. Bridge Detail Summary. The Engineer shall prepare bridge quantities, estimates and specifications in accordance to the above-listed manuals.

170.3. Bridge Structural Details. The Engineer shall prepare each structural design and develop detailed structural drawings of all required details in compliance with above-listed manuals.

Additionally, the Engineer shall perform the following tasks:

- Perform calculations for design of bridge abutments and bents.
- Perform calculations for bridge slab design.

- Perform calculations to determine elevations of bridge substructure and super structure elements.
- Perform calculations for I-Girder design and prepare beam design tables.
- Prepare necessary foundation details and plan sheets.
- Prepare plan sheets for abutment and bent design.
- Prepare plan sheets for additional abutment and bent details.
- Prepare framing plan and slab plan sheets.
- Compute and prepare tables for slab and bearing seat elevations, dead load deflections, etc.
- Prepare Bridge Summary Sheet.

Deliverables

Plans

The Engineer shall provide the above drainage updates and bridge design at Flat Bank Creek with the 30%, 60%, 90%, 95%, and 100% submittals.

Electronic Copies

The Engineer shall furnish the FBCTRA / GEC with a flash drive of the drainage updates and bridge design final plans in the current CADD system used by the FBCTRA / GEC, pdf format, and in the FBCTRA's File Management System (FMS) format.

Calculations

Provide a bound copy of all bridge design engineering calculations, analysis, input calculations, quantities, geometric designs (GEOPAK GPK files), etc. relating to the project's structural elements.

Provide working copies of all drainage updates and bridge design spreadsheets and output from any programs utilized on a universally reliable format.

The Engineer may provide the requested information on a flash drive. Submit elements normally bound using a .pdf format.

Prime Consultant: IDCUS, Inc.
Highway: Fort Bend Parkway Toll Road
SEGMENT: B-2
SECTION: B

Attachment B-1 - Fee Schedule
Method of Payment: Lump Sum

Limits:Sta. From 925+00 to Sta 981+50
Length: 1.07 Mile

Prime Provider: Highway: CSJ:		SUBTOTALS	IDCUS	IMS
FC 160 (161)	Total Labor Cost (Lump Sum)	\$26,380.48	\$26,380.48	\$0.00
FC 160 (170)	Total Labor Cost (Lump Sum)	\$106,768.50	\$0.00	\$106,768.50
	Other Direct Expenses	\$1,198.75	\$263.75	\$935.00
Grand Totals		\$134,347.73	\$26,644.23	\$107,703.50

TASK DESCRIPTION		PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER	ENGINEER IN TRAINING	SENIOR ENGINEERING TECH	SENIOR CADD OPERATOR	CADD OPERATOR	JUNIOR CADD OPERATOR	ADMIN/ CLERICAL	TOTAL LABOR HRS. & COSTS	NO OF DWGS	LABOR HRS PER SHEET
ROADWAY DESIGN - FC 160 (161)														
DRAINAGE (RHS)														
RECALCULATE PEAK DISCHARGES W/ NEW ATLAS 14 DATA AS REQUIRED BY FBCDD EFFECTIVE JAN. 1, 2020		2	16									18		
PERFORM HYDRAULIC DESIGN USING NEW ATLAS 14 DATA		2	12	16								30		
PERFORM HYDRAULIC IMPACT ANALYSIS USING ATLAS 14 DATA		2	16									18		
DEVELOP FLAT BANK CREEK EXIST / PROP ATLAS 14 HYDRAULIC MODELS FOR BRIDGE HYD. ANALYSIS		2	32	12								46		
COORDINATION WITH THE GEC / FBTRA / LD / LJA		12	8	12								32		
HOURS SUB-TOTALS														
CONTRACT RATE PER HOUR		20	84	40	0	0	0	0	0	0	0	144	0	
TOTAL LABOR COSTS		\$213.94	\$189.02	\$155.60	\$127.40	\$97.49	\$155.42	\$97.40	\$79.77	\$68.00	\$112.00	\$26,380.48		
% DISTRIBUTION OF STAFFING		\$4,278.80	\$15,877.68	\$6,224.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$26,380.48		
SUBTOTAL - FC 160 (161)		13.89%	58.33%	27.78%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	\$26,380.48		

DESCRIPTION	TOTAL MH BY FC	TOTAL COSTS BY FC
ROADWAY DESIGN - FC 160 (162)	144	\$26,380.48
SUBTOTAL LABOR EXPENSES	144	\$26,380.48

OTHER DIRECT EXPENSES	COST/UNIT
Mileage (# of miles) (current state rate)	
Toll Charges	\$0.580
Photo Copies (B/W)(11X17)	\$2.00
Photo Copies (Color)(11X17)	\$0.25
Photo Copies (B/W) (8" X 11-1/2")	\$0.75
Photo Copies (Color)(8" X 11-1/2")	\$0.12
	\$0.45
SUBTOTAL DIRECT EXPENSES	
SUBCONTRACTS:	
OTHER PROVIDERS (FC 160 (170) INPUT TOTAL \$ FROM IHS ENGINEERS SEPARATE SPREADSHEET	
SUBCONTRACT TOTAL	

SUMMARY	
TOTAL COSTS FOR PRIME ONLY	\$26,380.48
NON-SALARY (OTHER DIRECT EXPENSES) FOR PRIME ONLY	\$263.75
SUBCONTRACTS (includes labor costs and direct expenses)	\$0.00
GRAND TOTAL	\$26,644.23

TASK DESCRIPTION	PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER	ENGINEER IN TRAINING	SENIOR ENGINEERING TECH	ENGINEERING TECHNICIAN	JUNIOR ENGINEERING TECH	SENIOR CADD OPERATOR	CADD OPERATOR	JUNIOR CADD OPERATOR	ADMIN/ CLERICAL	TOTAL LABOR HRS. & COSTS	NO OF DWGS	LABOR HRS PER SHEET
BRIDGE DESIGN - FC 160 (170)															
BRIDGE DESIGN															
BRIDGE LAYOUTS (H: 1"=20' and V:1"=20') (2 sheets)	3	3	18	54	18				96			8	200	2	100
BRIDGE TYPICAL SECTION - 1 sheet)	1	1	2	3	2				10			8	27	1	27
BRIDGE SLABS (SUPERSTRUCTURE - 4 sheets)	3	3	6	15	6				38				71	4	18
BRIDGE BEAM LAYOUT AND DETAILS - 1 sheets)	4	4	12	18	8				60			8	114	1	114
BRIDGE ESTIMATE QUANTITIES AND BEAM SEAT ELEVATIONS (1 SHEET)	4	4	8	12	8				36			8	80	1	80
BRIDGE APPROACHES (SLABS, RETAINING STRUCTURES - 4 sheets)	3	3	6	14	6				48				80	4	20
BRIDGE FOUNDATION LAYOUT (1 SHEET)	1	1	3	4	2				12			8	31	1	31
BRIDGE ABUTMENTS (2 sheets)	5	5	9	18	8				72				125	2	63
BRIDGE BENT DETAILS (2 sheets)	5	5	12	18	8				72			8	128	2	64
TWOOT BRIDGE STANDARDS (Sheets As Required)	0.5	0.5	9										10	5	2
HOURS SUB-TOTALS	29.5	29.5	85	156	66	0	0	0	444	0	0	56	866	23	38
CONTRACT RATE PER HOUR	\$225.00	\$180.00	\$165.00	\$120.00	\$80.00	\$90.00	\$75.00	\$60.00	\$120.00	\$90.00	\$60.00	\$51.00			
TOTAL LABOR COSTS	\$6,637.50	\$5,310.00	\$14,025.00	\$18,720.00	\$5,940.00	\$0.00	\$0.00	\$0.00	\$53,280.00	\$0.00	\$0.00	\$2,856.00	\$106,768.50		
% DISTRIBUTION OF STAFFING	3.41%	3.41%	9.82%	18.01%	7.62%	0.00%	0.00%	0.00%	51.27%	0.00%	0.00%	6.47%			
SUBTOTAL - FC 160 (170)													\$106,768.50		

DESCRIPTION	TOTAL MH BY FC												TOTAL COSTS BY FC
BRIDGE DESIGN - FC 160 (170)												866	\$106,768.50
SUBTOTAL LABOR EXPENSES												866	\$106,768.50
OTHER DIRECT EXPENSES	COST/UNIT												
Mileage (¢ of miles) (current state rate)	\$0.580											750	\$435.00
Miscellaneous Items Not Otherwise Detail	\$500.00											1	\$500.00
													\$0.00
													\$0.00
SUBTOTAL DIRECT EXPENSES													\$935.00

SUMMARY		
TOTAL COSTS FOR PRIME ONLY	\$106,768.50	
NON-SALARY (OTHER DIRECT EXPENSES) FOR PRIME ONLY	\$935.00	
SUBCONTRACTS (includes labor costs and direct expenses)		
GRAND TOTAL	\$107,703.50	