

**SUPPLEMENTAL AGREEMENT NO. 11
TO
AGREEMENT OF FEBRUARY 20, 2008
FOR
ENGINEERING SERVICES for
Fort Bend Parkway Toll Road Segment B (Phase 1)**

This Supplemental Agreement is made and entered into this 21st day of September, 2011, and modifies the ENGINEERING SERVICES AGREEMENT made with Brown & Gay Engineers, Inc., dated February 20, 2008 for engineering design, environmental assessment, geotechnical and survey services for the extension of the Fort Bend Parkway Toll Road, Segment B (Phase 1).

The agreement is hereby modified as follows:

1. The Scope of Services are amended to include the additional service as described in Attachment A-1, which are made part of this Supplemental Agreement.
2. The first sentence of Paragraph 2.a is replaced with the following:

“Compensation for performance of the Services defined in Attachment A-1 will be as follows: The Additional Services compensation shall be increased by \$62,126.00, for the additional work shown in Attachment A-1 which provides for additional design engineering work for the Knight Road Regional Outfall Channel. The maximum amount payable under this agreement shall not exceed \$1,409,890.23 for all work except by separate agreement in accordance with the provisions of this agreement.”
3. The paragraphs contained in Section 13. Insurance are deleted and replaced with the following:

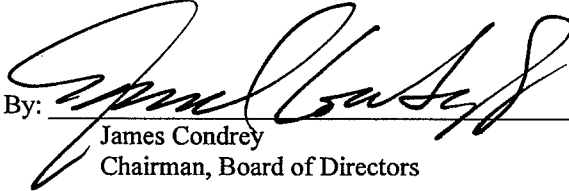
“The Engineer shall obtain and maintain, throughout the term of the Agreement, Insurance of the types and in the minimum amounts set forth in Attachment C.”
4. Attachment C attached hereto is added as an exhibit to the Agreement.
5. The first sentence of Section 3 , Time of Performance, is replaced with the following:

“It is understood and agreed that the time for performance of the Engineer’s services under this Agreement shall begin with receipt of the Notice to Proceed and end December 31, 2012.”

[Remainder of page intentionally left blank.]

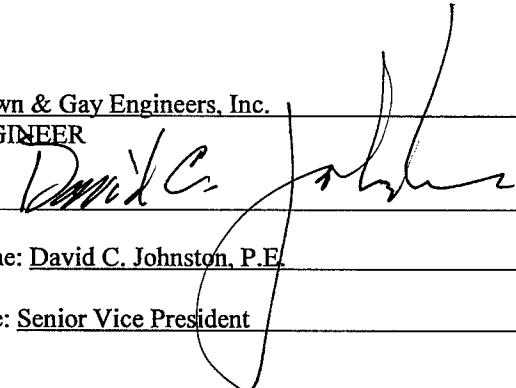
IN WITNESS WHEREOF, this Supplemental Agreement is hereby executed as of the date first set forth above.

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

By: 
James Condrey
Chairman, Board of Directors

ATTEST:

By 

Brown & Gay Engineers, Inc.
ENGINEER
By: 
Name: David C. Johnston, P.E.
Title: Senior Vice President

SUPPLEMENTAL AGREEMENT NO. 11
ATTACHMENT A-1
SCOPE OF SERVICES

General:

The additional work covered by this supplemental agreement covers:

I. Fort Bend Knight Road Regional Drainage Impact Study

The proposed drainage impact study consists of analyzing alternatives of new and existing outfall locations into Oyster Creek using open channel and storm sewer conveyance options. The alternatives will be analyzed to provide conveyance of ultimate condition flows of the watershed collected at a detention pond at Knight Road. Discharges from the detention pond will be restricted to existing condition flow which will be discharged to the existing Oyster Creek outfall channel as well as provide an outfall for improvements being made to regional drainage along Knight Road. Resulting impacts to Oyster Creek will be identified.

The Engineer will provide a Drainage Impact Study describing and analyzing alternatives to the regional drainage along Knight Road. The Engineer will provide conceptual layouts (exhibits) portraying the alternatives studied as needed to provide a drainage outfall into Oyster Creek.

The Engineer will coordinate with Fort Bend County Drainage District, City of Missouri City, and all other governmental agencies. The Engineer will be required to complete the proposed work in an orderly manner according to the milestone schedule. A monthly progress report will be provided by the Engineer, together with evidence of work accomplished during the period since the previous report. The Engineer will report progress to FBTRA representatives on a regularly scheduled basis. The Engineer will provide MicroStation files, SWMM files, and HEC-RAS files, MSWord report and exhibit files, and all other software electronic files in support of the project design.

Drainage Impact Study

The objective of the study is to determine alternatives and impacts to Oyster Creek if a regional outfall (open channel or storm sewer conveyance system) is provided along Knight Road that discharges into Oyster Creek. The proposed alternatives to be analyzed are as follows:

- A. The Engineer will perform an analysis of the watershed subareas in Lower Oyster Creek and Long Point Creek as designated LOC2, LPC5, and LPC6 and described in the Missouri City Drainage Plan Update: Mustang Bayou & Lower Oyster Creek, revised in February 2010. Ultimate condition flows for the 10-, 50-, and 100-year will be used to size a detention pond facility at Knight Road which intercepts flows on Long Point Creek Tributary and includes flow from Upper Long Point Creek (LPC5). The discharge from the detention pond will be restricted to the existing conditions 100-year flow and will follow a new location (open channel) outfall to Oyster Creek parallel to Knight Road. A second alternative will analyze and size a storm sewer system parallel to Knight Road using the existing condition 100-year flow discharge from the proposed Knight Road detention pond. The discharge location into Oyster Creek for these two alternatives will be upstream of Cross Section 5104.422. Oyster Creek will be analyzed for impacts using HEC-RAS for these two alternatives.

- B. A third alternative will analyze and size a storm sewer system along Knight Road that will convey 1000 cubic feet per second (cfs). This system will discharge into Oyster Creek upstream of Cross Section 5104.422. Oyster Creek will be analyzed for impacts using HEC-RAS.
- C. A fourth alternative will include a HEC-RAS analysis of the existing 100-year condition outflow from the proposed Knight Road detention pond into the existing receiving stream serving LPC5 and LPC6 subareas that outfall into Oyster Creek. Oyster Creek will be analyzed for impacts using HEC-RAS.
- D. The analysis will be based on the Fort Bend County Drainage Criteria Manual, the City of Missouri City Public Infrastructure Design manual, and the TxDOT Hydraulic Design Manual. The analysis will be performed by using the EPA-SWMM and US Army Corps of Engineers' HEC-RAS software program.
- E. According to the FIRM, the 100-year floodplain appears to be contained within the channel banks in Oyster Creek. The outfall channel crosses Long Point Creek Tributary (preliminary map panel 48157C0295L dated October 2009) which is a studied stream outfalling to Oyster Creek. The Engineer will coordinate with the local floodplain administrator to determine if a conditional letter of map revision (CLOMR) or letter of map revision (LOMR) is needed in the future. Work to perform a CLOMR or LOMR will be considered additional work and is not part of this scope.

II. Revise Plans to coordinate with SH 6 underpass design

After various coordination meetings with the SH 6 underpass design team, the Parkway B-1 plans should be revised to avoid conflicts with the proposed underpass design. The revisions include the following:

- Design of a temporary asphalt northbound frontage road in lieu of the permanent concrete frontage road
- Redesign the south detention pond to accommodate the temporary frontage road
- Revise the following sheets:
 - Roadway plan and profiles
 - Alignment data
 - Storm sewer
 - Hydraulic calculations
 - Drainage area maps
 - Detention pond
 - Signing and pavement markings
 - Quantity summaries
 - Index of sheets
 - Illuminations
 - Culvert and headwall details
 - Knight road intersection layout
 - SH 6 u-turn details and layout
 - Traffic control sheets

Supplemental Agreement No. 11
Attachment A-1
Compensation - Fee Schedule
Fort Bend Parkway Toll Road B-1

Fort Bend Knight Road Regional Drainage Impact Study	PM	SR ENG	EIT	Des	Admin	Total Hours
Coordination with FBPTR underpass design team, FBCDD, CoMC and other regulatory agencies	4	16				20
Hydrology (Drainage Areas LOC2, LPC5) - SWMM modeling (10 year, 50 year, and 100 year ultimate flows restricted to 100 existing flows)	2	8	32			42
HEC-RAS modeling Knight Road Proposed Channel & HEC-RAS Oyster Creek Impacts (Hydrology from previous Task: 10-year, 50-year, and 100-year ultimate flows restricted to 100-year existing flow)	8	8	40	24		80
Storm Sewer modeling Knight Road & HEC-RAS Oyster Creek Impacts (1000 cfs discharge at Knight Rd)	2	8	14			24
Size Detention Pond at Knight Road- SWMM modeling (10 year, 50 year, and 100 year ultimate flows restrict to existing 100-year flows)	2	8	24			34
HEC-RAS modeling Detention Pond Knight Rd outflow to Existing Stream (LPC5 to LPC6)	4	8	24			36
Storm Sewer modeling Knight Road & HEC-RAS Oyster Creek Impacts (10-yr, 50-yr, and 100-year ultimate flows restricted to 100-year existing flows)	2	6	32			40
Letter Report and Management	16				4	20
Total Hours	40	62	166	24	4	276
Rate	\$ 219	\$ 175	\$ 95	\$ 125	\$ 65	
Subtotal	\$ 8,760	\$ 10,850	\$ 15,770	\$ 3,000	\$ 260	\$ 38,640

Survey Tasks for Drainage Study	2 - Man Crew w/GPS	3 - Man Crew	RPLS	Senior Tech	Tech/ Drafter	Total
Right of Entry			2		2	
Review Existing Data			1	2		
Verify Exist BM's, Set new BM's & Acquire Sta & O/S. Tie to TxDOT Datum.	10		2	2		
Flow Lines on culvert	2					
Oyster Creek X-Sec.outfalls @ 100' intervals for 500'		5		2	2	
Vertical correlation to FEMA "Prelem" FIRM	10		2	3		
Total Hours	22	5	7	9	4	
Rate	\$155	\$130	\$120	\$85	\$65	
Subtotal	\$3,410	\$650	\$840	\$765	\$260	\$5,925

Supplemental Agreement No. 11
Attachment A-1
Compensation - Fee Schedule
Fort Bend Parkway Toll Road B-1

Revise Plans to Coordinate with SH 6 Underpass Project	PROJECT MANAGER	PROJECT ENG	DESIGN ENG			TOTAL
Ramp A Geometrics	2		8			10
Design New Temporary Ramp A Plan & Profile Sheets	1		8			9
Revise SH 6 U-turn, and Knight Road Intersection Layouts	1		8			9
Revise Storm Sewer Sheets	1		8			9
Revise Winstorm (Storm Sewer calculations)	1		8			9
Revise open ditch drainage profiles			4			4
Revise Detention Pond Sizing (hydraulic calculations)	4		24			28
Revise Detention Pond Plan Sheet	2		16			18
Revise Culvert Design and Culvert Detail		4	8			12
Update and Revise Various Affected Sheets	10		48			58
Project Layout, Roadway Alignment Data, Traffic Control,						
Signing and Pavement Markings, Illumination, Traffic Control,						
Illumination, Drainage Area Maps, Index of Sheets, Summary of Sheets						
Total Hours	22	4	140			0
Rate	\$ 187.50	\$ 132.80	\$ 92.18			
Subtotal	\$ 4,125	\$ 531	\$ 12,905			\$ 17,561

TOTAL \$ 62,126.00

Attachment C

The Engineer shall furnish certificates of insurance to the FBCTRA evidencing compliance with the insurance requirements hereof. Certificates shall indicate name of the Engineer, name of insurance company, policy number, term of coverage and limits of coverage. The Engineer shall cause its insurance companies to provide the FBCTRA with at least 30 days prior written notice of any cancellation or non-renewal of the insurance coverage required under this Agreement. The Engineer shall obtain such insurance from such companies having a Bests rating of B+/VII or better, licensed or approved to transact business in the State of Texas, and shall obtain such insurance of the following types and minimum limits:

- a. Workers' Compensation insurance in accordance with the laws of the State of Texas, or state of hire/location of Services, and Employers' Liability coverage with a limit of not less than \$1,000,000 each employee for Occupational Disease, \$1,000,000 policy limit for Occupational Disease; and Employer's Liability of \$1,000,000 each accident.

- b. Commercial General Liability insurance including coverage for Products/Completed Operations, Blanket Contractual, Broad Form Property Damage, Personal Injury/Advertising Liability, and Bodily Injury and Property Damage with limits of not less than:
 - \$2,000,000 general aggregate limit
 - \$1,000,000 each occurrence, combined single limit
 - \$2,000,000 aggregate Products, combined single limit
 - \$1,000,000 aggregate Personal Injury/Advertising Liability
 - \$50,000 Fire Legal Liability
 - \$5,000 Premises Medical

- c. Business Automobile Liability coverage applying to owned, non-owned and hired automobiles with limits not less than \$1,000,000 each occurrence combined single limit for Bodily Injury and Property Damage combined.

- d. Umbrella Excess Liability insurance written as excess of Employer's Liability, with limits not less than \$2,000,000 each occurrence combined single limit.

- e. Professional Liability insurance with limits not less than \$2,000,000 each claim/annual aggregate.

The FBCTRA and the FBCTRA's Directors shall be named as additional insureds to all coverages required above, except for those requirements in paragraphs "a" and "e." All policies written on behalf of the Engineer shall contain a waiver of subrogation in favor of the FBCTRA and the FBCTRA's Directors, with the exception of insurance required under paragraph "e."