

WORK CHANGE DIRECTIVE (WCD) NO. 4

PROJECT: **Storm Water Improvements 2013 – Nottingham and Interurban Ditches**

OWNER: City of League City

ENGINEER: Jackie L. Murphy, P.E.

CONTRACTOR: AECOM

You are directed to make the following changes in the Contract:

DESCRIPTION AND REASON FOR THIS WCD:

This work change directive modifies the Interurban ditch design parameters so as to avoid stream bank mitigation costs.

DESCRIBE CONTRACT PRICE (INCREASE/DECREASE) CHANGE FOR THIS WCD:

Increase is to provide for additional professional engineering services in the amount of \$193,110.00, an increase of \$193,110.00/\$320,451.00 = 60.26%.

ATTACHMENTS:

- A1 Proposal for Interurban redesign, AECOM Technical Services, Inc. (dated October 18, 2016) (## pp)
 - A2 Council Item 4/30/2012/10B approved for PE & E Services in the amount of \$320,451.00 (1p)
 - A3 Council Item 3/26/2013/10E approved for Environmental Permitting in the amount of \$61,100.00 (1p)
 - A4 Work Change Directive No.2 approved for Nottingham redesign to avoid environmental mitigation cost in the amount of \$32,740.75 (1 p)
 - A4 Work Change Directive No.3 approved for Nottingham to remove 16" A/C water main in the amount of \$ 81,180.26 (1p)
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CHANGES IN CONTRACT PRICE

ORIGINAL CONTRACT PRICE:	\$ 320,451.00
COUNCIL APPROVAL 3/26/13	\$ 61,100.00
CHANGE BY WCD #2	\$ 32,740.75
CHANGE BY WCD #3:	\$ 81,180.26
CHANGE BY THIS WCD #4:	\$ 193,110.00
CONTRACT PRICE WITH ALL APPROVED WCDs:	\$ 688,582.01

CHANGES OR EXTENSIONS IN CONTRACT TIME

ORIGINAL CONTRACT TIME:	322 Calendar Days
INCREASED TIME FROM PREVIOUS WCDs:	+729 to 960 Calendar Days
INCREASED TIME FROM THIS WCD:	150 Calendar Days
REVISED CONTRACT TIME:	960 to 1110 Calendar Days

SUBMITTED BY: _____
Jack Murphy, Sr. Civil Engineer

DATE: _____

RECOMMENDED BY: _____
City Engineer

DATE: _____

OWNER APPROVAL BY: _____
John Baumgartner, Deputy City Manager

DATE: _____



AECOM
19219 Katy Freeway
Suite 100
Houston, TX 77094-1009
www.aecom.com

281 646 2400 tel
281 646 2401 fax

October 18, 2016

Mr. Jack L. Murphy, PE
Senior Civil Engineer
City of League City
1535 Dickinson Ave.
League City, Texas 77573

**Subject: Interurban Channel Improvements, Supplement (DR1102)
Supplemental Proposal for Professional Engineering Services
Work Change Directive No. 4**

Dear Mr. Murphy:

In July 2012, AECOM Technical Services, Inc., and the City of League City entered into a contract for professional engineering services to design stormwater improvements for the Interurban Channel north of FM 518 and the Nottingham Channel. The goal for both channels was to determine constructable alternatives that would stabilize the side slopes of the channels and provide for maintenance access in a cost effective way. The contract included Preliminary Engineering, Design Phase, Bid Phase, Construction Phase, Coordination, Survey, Environmental Analysis, Hydrologic and Hydraulic Analysis, Development of First Flush Goals, Geotechnical Analysis and reimbursable expenses. The contract amount was \$320,451.00.

On March 26, 2013, City Council approved Amendment No. 1 in the amount of \$61,100.00 for a Department of the Army individual permit application to gain authorization for construction of improvements to the Interurban Channel and the Nottingham Channel. The proposed construction included a 6' x 3' reinforced concrete box culvert with a swale above it to capture extreme event overflow and add additional capacity in the Interurban Channel. The Nottingham Channel design included a concrete lined channel. In May of 2013 new guidelines for the Stream Assessment Tool were released and applied to these projects. The resulting cost of stream bank mitigation led the team to change the design approach to avoid interaction with "Waters of the US". After reviewing constructable alternatives, the City of League City elected to eliminate the Interurban Channel from the project and pursue a low profile steel sheet pile wall for the Nottingham Channel.

In July 2014, the City issued Work Change Directive No. 2 in the amount of \$32,740.75 to modify the Nottingham Channel design parameters to avoid the need for an environmental permit from the US Army Corps of Engineers and the mitigation costs associated with USACE stream bank mitigation. This included redesign of the construction plans and additional geotechnical services.

On October 11, 2016, City Council approved Change Directive No. 3 for \$81,180.26 to update the hydraulic model for the Nottingham Channel, modify the PS&E for the Nottingham Channel to include abandonment of the 16-inch water line, additional steel sheet pile wall in the area where the 16-inch

3
A1



October 18, 2016
Mr. Jack L. Murphy, P.E.
Page 2

water line is located, and other items needed to complete the improvements to the Nottingham Channel.

In September 2016, the City requested that AECOM apply the steel sheet pile wall design concept to the Interurban Channel to achieve the original project goals for maintenance access and slope stabilization. The Interurban Channel from FM 518 to Clear Creek shares a 100 foot wide right of way with two sets of CenterPoint Energy high voltage transmission lines and six pipelines. The steel sheet pile walls will have to be designed to be constructed under the transmission lines and near the pipelines which will require extensive coordination with CenterPoint Energy. AECOM expects that the sheet pile wall will be designed as a terraced system with two parallel walls at different elevations on each side of the channel. Ramps for maintenance access will be needed to access the bottom of the channel and work around the transmission line towers. AECOM is requesting approval of Work Change Directive No. 4 in the lump sum amount of \$193,110.00 to provide the professional services to achieve the City's goals for maintenance access and slope stabilization for approximately 1,150 linear feet of the Interurban Channel from FM 518 north to Clear Creek. The length of the project is subject to reduction based on the City's budgetary constraints and anticipated construction cost of the project.

Scope of Services

The Scope of Services proposed are as follows.

Basic Services

Drainage Study – AECOM will perform the necessary modifications to the existing and proposed hydrologic and hydraulic analyses for the Interurban Channel. This will include an update to the HEC-RAS and HEC-HMS models to update the base survey and add the McKibben drainage area and any other drainage areas that need to be added. The new concept for steel sheet pile walls on the Interurban Channel will be added to the HEC-RAS model. The proposed condition will include a double sheet pile wall offset ten and fourteen feet from the right-of-way at differing elevations on both sides of the channel. The hydraulic conditions resulting from adding sheet pile wall have not been previously modeled and impacts are expected. The impacts will need to be assessed and effective mitigation solutions added to the model and recalculated. This will be an iterative process until the appropriate mix of mitigation solutions is determined to resolve the impacts.

A detailed level of effort including a fee schedule is attached. The deliverable products will include a letter report describing the results of the proposed and successfully mitigated design for Interurban Channel and an electronic copy of the models.

Plans, Specifications, and Estimate – The construction plans, project manual, and estimate of probable cost will be updated to include the removal of the previous design, addition of the sheet pile wall, the addition of a storm sewer outfall to serve the property between McKibben Lane and the pipelines, and implementation of the mitigation plan determined by the modeling. All of the plan and profile drawings and all of the cross section sheets will require modification. Since the sheet pile wall is expected to extend deeper than the prior solution, the profile drawings will be separated from the plan drawings. Additionally each side of the channel will be profiled separately. This will add 8 additional sheets. A new plan and profile drawing will be created to detail the McKibben storm sewer outfall. We expect that the McKibben Lane wooden bridge will require modification or replacement



October 18, 2016
Mr. Jack L. Murphy, P.E.
Page 3

and up to four P&P sheets have been included. It is assumed that if the bridge is replaced, it will be replaced with a wooden bridge to be detailed designed by a wooden bridge design/build company as a performance specification. It is planned for the sheet pile walls to be constructed using equipment based in the bottom of the channel and this equipment will need access to the bottom of the channel. A new sheet for temporary access is included. The construction work will be occurring under a series of 69 -138 kV electric transmission lines. OSHA and CenterPoint Energy have particular requirements for working near the transmission lines and a detail sheet for these requirements will be developed and added to the construction plans. Since the sheet pile walls will have a vertical drop greater than 2-feet, a fence will be needed to prevent accidental falls, and a new detail sheet for the fence is included.

A detailed level of effort including a fee schedule is attached. The deliverable products will include approved construction plans, sealed Project Manual, an Estimate of Probable Cost.

Nationwide Permit 33 – AECOM will make every effort to avoid impacts to jurisdictional waters of the US. However, the City of League City will need to provide notification to USACE of intent to utilize the bottom of the Interurban Channel for construction access. AECOM will prepare the notification letter and submit it to the USACE under Nationwide Permit No. 33. AECOM assumes that no additional environmental services will be necessary for completion of the project.

The NWP PCN preparation task includes time to coordinate with USACE – Galveston District Evaluation Section and Compliance Section personnel, through telephone, email, and/or mail correspondence. The majority of coordination will be conducted after the submittal of the NWP PCN. A copy of the NWP PCN as submitted to the USACE – Galveston District will be provided to the City of League City.

Bidding

AECOM will assist the City of League City with the public bidding of the project. AECOM will attend the Pre-Bid Meeting, prepare and issue Addenda in response to bidders' questions, attend the Bid Opening, prepare the bid tabulation, provide a recommendation of award, and prepare the contract documents for execution by the City and Contractor. AECOM will advertise the project on CivCast and the City of League City will need to advertise it in a local publication.

The deliverable products include the Addenda, if any, the bid tabulation, the recommendation of award letter, and the construction documents ready for execution by the City and the Contractor. A detailed level of effort and fee schedule is attached.

Construction Phase – The Construction Phase budget includes attendance at the Pre-Construction meeting, monthly construction meetings with the contractor for twelve months, up to fifteen submittals, ten RFIs, up to three unscheduled site visits, review of field changes, final walk-thru with recommendations, and as-built drawings. A detailed level of effort and fee schedule is attached for clarification.

Additional Services

Survey – McKim & Creed - AECOM has subcontracted with McKim & Creed to provide surveying services for the project. McKim & Creed will update their 2012 topographic study for the project,



October 18, 2016
Mr. Jack L. Murphy, P.E.
Page 4

coordinate with AECOM and the Subsurface Utility Exploration subcontractor to locate the pipelines in one location and tie this to the topographic survey. They will also provide the lowest elevation of the CenterPoint Energy transmission lines and the width of same between each set of towers for a total of five locations along the channel.

McKim & Creed will provide their surveyed data to AECOM for analysis with the overall project and inclusion in the construction plans.

Subsurface Utility Exploration – Lina T. Ramey & Associates

AECOM is pleased to add Lina T. Ramey & Associates (LTRA) to the team to provide non-destructive subsurface utility exploration services. LTRA will provide Level A location services to the pipelines located at the proposed location of the storm sewer from McKibben Lane. Level A includes a vacuum excavated, 8-inch diameter hole, to expose and identify each pipeline as well as photos of the pipe. The surveyor, McKim & Creed will measure the elevations and locations of the pipelines.

LTRA will mark each pipeline and their elevations with a 5/8" rebar with a cap labeled "LTRA" and provide test hole data sheets to AECOM.

Geotechnical Study – Terracon

AECOM has subcontracted with Terracon to provide geotechnical recommendations for the project. Terracon will need access to the northern reach of the Interurban channel to collect one additional bore sample. They will use the new sample with the previous two samples to provide recommendations for the steel sheet pile wall.

Proposed Basis of Compensation

AECOM requests a lump sum fee for each service identified below. AECOM recommends that these services be completed in a logical order so that the City has the opportunity to eliminate subsequent services if they are deemed to be unnecessary. A more detailed breakdown can be found in the attachments, but for ease of reference, it is included on the next page as well.

Description	Fee
BASIC SERVICES	
Drainage Study	\$ 27,000.00
PS&E	\$ 100,000.00
Nation Wide Permit 33	\$ 2,000.00
Bidding	\$ 9,650.00
Construction Phase	\$ 32,500.00
Subtotal	\$ 171,150.00
ADDITIONAL SERVICES	
GEOTECH-Terracon	\$ 3,850.00
SURVEY - McKim & Creed	\$ 9,530.00
SUE - LTRA	\$ 8,580.00
Subtotal	\$ 21,980.00
TOTAL REQUEST	\$ 193,110.00



October 18, 2016
Mr. Jack L. Murphy, P.E.
Page 5

We have included a detailed level of effort for the tasks associated with this work, copies of proposals from our subcontractors, and a schedule. The cost for any additional services beyond those detailed within this scope of work shall be established and agreed upon in writing prior to commencing the work.

We appreciate the opportunity to continue working with you and look forward to seeing this project through to completion. Should you have any questions or require additional information, please do not hesitate to contact our Project Manager, Sandy Lasser at (281) 675-1801.

Sincerely,

A handwritten signature in cursive script that reads "MR McCrary".

M.R. (Rod) McCrary, P.E., DBIA
Vice President

MRM:CLL:lf
Attachments

cc: Project file
Sandy Lasser, P.E.

CITY OF LEAGUE CITY
INTERURBAN DRAINAGE CHANNEL IMPROVEMENTS (REV OCT. 2016)

ESTIMATE OF PROBABLE
CONSTRUCTION COST

Bid Item Number	Spec Item Number	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Total Amount
Section 1- Site Preparation and Removal Items						
1	COH 01502	Mobilization	LS	1	\$100,000.00	\$100,000.00
2	COH 01555	Traffic Control and Regulation	LS	1	\$40,000.00	\$40,000.00
3	COH 01555	Flagmen	LS	1	\$40,000.00	\$40,000.00
4	HCFCF 02200	Site Preparation and Restoration	AC	4	\$2,000.00	\$8,000.00
5	HCFCF 02233	Clearing & Grubbing, includes removal and disposal.	AC	4	\$2,000.00	\$8,000.00
Section 1 - Site Preparation and Removal Items Subtotal						\$196,000.00
Section 2 - Channel Excavation and Sheet Pile Items						
5	HCFCF 02314	Imported Fill Material including haul, placement and compaction, complete in place.	CY	4,480	\$15.00	\$67,200.00
6	HCFCF 02315	Channel Excavation (Wet or Dry) and for Use Onsite, Including Placement and Compaction, Complete	CY	100	\$12.00	\$1,200.00
7	HCFCF 02315	Reshape and regrade existing ditches.	LF	50	\$15.00	\$750.00
8		Granular backfill	CY	2,987	\$30.00	\$89,600.00
9	HCFCF 02321	Cement Stabilized Sand	CY	26	\$29.00	\$754.00
10	HCFCF 02376	Reinforced Concrete Slope Paving (5 inches thick), Complete in Place	SY	2,231	\$75.00	\$167,333.33
11	HCFCF 02462	Steel Sheet Piling, SKS 13, fully coated, complete in place.	SF	73,920	\$23.00	\$1,700,160.00
12	HCFCF 02642	24-inch Corrugated Metal Pipe, polymer coated (min 10 mils) per ASTM A 742. Complete in place.	LF	75	\$37.00	\$2,775.00
13		Storm Manhole	EA	1	\$5,000.00	\$5,000.00
14	HCFCF 03310	Concrete - Offsite Ditch Interceptor Structure	EA	0.0	\$1,725.00	\$0.00
15	HCFCF 03310	Concrete Coping Cap including welded plates, complete in place.	LF	4,480	\$45.00	\$201,600.00
16		Wood Bridge Remove	LS	1	\$20,000.00	\$20,000.00
17		Wood Bridge Replacement	LS	1	\$120,000.00	\$120,000.00
Section 2 - Channel Excavation and Sheet Pile Items Subtotal						\$2,376,372.33

CITY OF LEAGUE CITY
INTERURBAN DRAINAGE CHANNEL IMPROVEMENTS (REV OCT. 2016)

ESTIMATE OF PROBABLE
CONSTRUCTION COST

Bid Item Number	Spec Item Number	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Total Amount
Section 3 - Storm Water Pollution Prevention Plan Items						
18	HCFCF 02241	Care and Control of Water	LS	1	\$60,000.00	\$60,000.00
19	HCFCF 02361	Installation and Removal of Filter Fabric Fence	LF	4,480	\$3.00	\$13,440.00
20	HCFCF 02365	Stabilized Construction Access Type I - Coarse Aggregate, Complete in place. Includes cleaning and removal.	SY	740	\$55.00	\$40,700.00
21	HCFCF 02379	Geotextile for Erosion Control Systems	SY	1,493	\$3.50	\$5,226.67
22	HCFCF 02396	Fertilizer	AC	4.0	\$3,500.00	\$14,000.00
23	HCFCF 02921	Hydromulch seeding, complete in place.	AC	4.0	\$2,000.00	\$8,000.00
Section 3 - Storm Water Pollution Prevention Plan Items Subtotal						\$141,366.67
Section 4 - Bid Tab Summary						
SECTION 1 - Site Preparation and Removal Items Subtotal						\$196,000.00
SECTION 2 - Channel Excavation and Sheet Pile Items Subtotal						\$2,376,372.33
SECTION 3 - Storm Water Pollution Prevention Plan Items Subtotal						\$141,366.67
Subtotal =						\$2,713,739.00
Total =						\$2,713,739.00

City of League City Interurban Channel Revisions - BASIC SERVICES

Level of Effort

Item No.	Description / Task	Estimated Manhours						Subtotal (hrs)	Subtotal	Subs (cost)	Subs (cost+5%)	Other Direct Costs	Total Fee
		Principal (hrs)	Project Mgr. (hrs)	Project Egr. (hrs)	Sr Tech Coord (hrs)	CADD (hrs)	Admin. (hrs)						
1	Final Design												
1	Project Team Meetings	6	12	6				24	\$ 4,521.63		\$ -	\$ 210.00	\$ 4,731.63
2	Site Visits (1 during design)		6	6				12	\$ 1,890.87		\$ -	\$ 210.00	\$ 2,100.87
3	Utility Coordination (6 pipelines and CenterPoint Energy Overhead Power)		16	4		4		36	\$ 4,987.50		\$ -		\$ 4,987.50
4	Meet with contractors to discuss constructability issues under Overhead Power Lines		8	4				12	\$ 1,973.08		\$ -		\$ 1,973.08
5	Meet with material suppliers to discuss alternative design options		4	4				4	\$ 712.50		\$ -		\$ 712.50
6	Update Cover Sheet		2	2		2		4	\$ 575.48		\$ -		\$ 575.48
7	Update Construction Notes (2 sheets)		2	2				4	\$ 904.33		\$ -		\$ 904.33
8	Update Survey Control (1 Sheet)		1	4		4		5	\$ 726.20		\$ -		\$ 726.20
9	Update Typical Sections (3 Sheets)		4					12	\$ 1,808.85		\$ -		\$ 1,808.85
10	Add Typical Section for Slope Paving and Headwalls (1 Sheet)		6			4		18	\$ 2,603.37		\$ -		\$ 2,603.37
11	Update Sheet Layout (1 Sheet)		2	8		8		10	\$ 1,452.40		\$ -		\$ 1,452.40
12	Update Plan and Profile Sheets to be Plan only (4 Sheets)		8	24		16		48	\$ 6,467.31		\$ -		\$ 6,467.31
13	Create Profile North & South Sheets (8 Sheets)		16	40		20		76	\$ 10,523.08		\$ -		\$ 10,523.08
14	Add P&P for McKibben Storm Sewer		6	16		8		30	\$ 4,137.98		\$ -		\$ 4,137.98
15	McKibben Bridge Replacement P&P (3-4 sheets by others)		4	4				8	\$ 1,260.98		\$ -		\$ 1,260.98
16	Replace Cross Sections (10 sheets)		6	36				42	\$ 6,001.44		\$ -		\$ 6,001.44
17	Add Miscellaneous Slope Paving and Retaining Wall Details (2 Sheets)		8	16		16		40	\$ 5,371.15		\$ -		\$ 5,371.15
18	Add Sheet Pile Wall Detail Sheets (3 Sheets)		8	4		16		52	\$ 7,015.38		\$ -		\$ 7,015.38
19	Add Temporary Construction Access Sheet (1)		6			8		34	\$ 4,686.06		\$ -		\$ 4,686.06
20	Update HCFCD Interceptor Structure Detail Sheets (2 Sheets)		2			6		12	\$ 1,516.83		\$ -		\$ 1,516.83
21	Add CCLC Storm Sewer Details (Custom Sheet)		4	2		2		8	\$ 1,123.56		\$ -		\$ 1,123.56
22	Add Earthwork Quantities (1 Sheet)		4	12		4		20	\$ 2,795.19		\$ -		\$ 2,795.19
23	Update Storm Water PPP (1 Sheet)		4	8		8		20	\$ 2,685.58		\$ -		\$ 2,685.58
24	Add CCLC Storm Water PPP Details (SWPPP-01)(1 Sheet)		2	6		4		8	\$ 904.33		\$ -		\$ 904.33
25	Fence Details		6			4		18	\$ 2,603.37		\$ -		\$ 2,603.37
26	Construction Cost Estimate		4	12		4		28	\$ 3,891.35		\$ -		\$ 3,891.35
27	Project Manual (Specifications/Contract Documents)		24	8				56	\$ 7,508.65		\$ -		\$ 7,508.65
28	QA/QC and address Comments		24	8		4		36	\$ 5,919.23		\$ -		\$ 5,919.23
29	Plan Approval/Signatures (City of League City)		8					16	\$ 2,192.31	\$ 500.00	\$ 540.00	\$ 210.00	\$ 2,942.31
	Subtotal Drawings	0	0	6	205	52	20	693	\$ 98,659.38	\$ 500.00	\$ 540.00	\$ 630.00	\$ 100,029.38
2	Bidding												
1	Attend Pre-Bid Meeting		4					4	\$ 712.50		\$ -	\$ 70.00	\$ 782.50
2	Prepare & Issue Addenda		8					16	\$ 2,521.15		\$ -		\$ 2,521.15
3	Respond to City and Bidder Questions		6					10	\$ 1,516.83		\$ -		\$ 1,516.83
4	Attend Bid Opening		4					4	\$ 712.50		\$ -	\$ 70.00	\$ 782.50
5	Bid Evaluation / Bid Tabulation		1				2	9	\$ 931.73		\$ -		\$ 931.73
6	Recommendation of Award		4					6	\$ 1,233.17		\$ -		\$ 1,233.17
7	Const. Contract Preparation/As-Bld Document Prep.		6				8	14	\$ 1,781.25		\$ -		\$ 1,781.25
	Subtotal Bidding Phase	0	0	2	33	12	6	63	\$ 9,509.13	\$ -	\$ -	\$ 140.00	\$ 9,649.13
3	Construction Phase												
1	Attend Pre-Construction Meeting		4					8	\$ 1,260.98		\$ -	\$ 70.00	\$ 1,330.98
2	Attend Scheduled Construction Progress Meetings		48					48	\$ 8,550.00		\$ -	\$ 840.00	\$ 9,390.00
3	Submittals (max. of 15)		15					45	\$ 5,549.28		\$ -		\$ 5,549.28
4	RFIs (max. of 10)		10					30	\$ 3,699.52		\$ -		\$ 3,699.52
5	Site Visits		12					12	\$ 2,137.50		\$ -		\$ 2,137.50
6	Field Changes		20					28	\$ 4,658.65		\$ -	\$ 700.00	\$ 5,358.65
7	Subst./Final Completion Walk-Thru / Recommendations		12					18	\$ 2,959.62		\$ -		\$ 2,959.62
8	As-Built Drawings		2					16	\$ 2,055.29		\$ -		\$ 2,055.29
	Subtotal Phase III - Construction Phase Services	0	0	0	123	20	50	205	\$ 30,870.43	\$ -	\$ -	\$ 1,610.00	\$ 32,480.43
	TOTAL TASK 1 - PS&E HOURS		6	205	52	20	266	693					
	TOTAL TASK 2 - PS&E COST		\$ 1,562.02	\$ 36,515.63	\$ 7,125.00	\$ 1,918.27	\$ 13,153.85	\$ 2,137.50	\$ 98,859.38	\$ 500.00	\$ 540.00	\$ 630.00	\$ 100,029.38
	TOTAL TASK 2 - BIDDING HOURS		2	33	12	6	0	63					
	TOTAL TASK 2 - BIDDING COST		\$ 520.67	\$ 5,878.13	\$ 1,544.23	\$ 575.48	\$ -	\$ 890.63	\$ 9,509.13	\$ -	\$ -	\$ 140.00	\$ 9,649.13
	TOTAL TASK 3 - CONSTRUCTION PHASE HOURS		0	123	20	50	0	205					
	TOTAL TASK 3 - CONSTRUCTION PHASE COST		\$ -	\$ 21,909.38	\$ 2,740.38	\$ 4,795.67	\$ 548.08	\$ -	\$ 30,870.43	\$ -	\$ -	\$ 1,610.00	\$ 32,480.43
	TOTAL HOURS		8	361	84	76	128	961					
	TOTAL COST		\$ 2,082.69	\$ 64,303.13	\$ 11,509.62	\$ 7,289.42	\$ 36,995.19	\$ 3,028.13	\$ 135,238.94	\$ 500.00	\$ 540.00	\$ 2,380.00	\$ 142,158.94

September 30, 2016



AECOM
19219 Katy Freeway, Suite 100
Houston, Texas 77094

Attn: Cassandra L. Lasser, P.E.
E: sandy.lasser@aecom.com

Re: Cost Estimate for Geotechnical Engineering Services
Interurban Channel Improvements
Along Interurban Channel
League City, Texas
Terracon Document No. P91165093

Dear Ms. Lasser,

Terracon Consultants, Inc. (Terracon) understands that we have been selected based on qualifications to provide geotechnical services for the above referenced project. This document outlines our understanding of the scope of services to be performed by Terracon for this project and provides an estimate of the cost of our services.

1.0 PROJECT INFORMATION

Item	Description
Location	The project site is located along the existing Interurban Channel starting from its intersection with FM 518 and running northwest towards Clear Creek for approximately 1,200 feet in League City, Texas.
Existing conditions ¹	We understand erosion issues were observed along the bank of the existing Interurban Channel and the channel is encroaching into the adjacent private property. The depth of the channel is about 15 feet.
Proposed improvements ¹	Steel sheet piling on top of the high bank and within the channel adjacent to the toe. Based on information provided by the client, we understand that the walls are planned to be approximately 1,200 feet long along the channel. We request a typical cross section of the wall configuration be provided to us prior to our analysis.

¹ Information provided by AECOM.

We understand the proposed improvements are not planned to be designed or constructed in accordance with HCFCD standards.

Terracon Consultants, Inc. 11555 Clay Road, Suite 100 Houston, Texas 77043 Registration No. F-3273
P (713) 690-8989 F (713) 690-8787 terracon.com

If our understanding of the project is not accurate, please let us know so that we may adjust our scope of services and estimated cost, if necessary.

2.0 SCOPE OF SERVICES

Based on discussions with the client, we understand that approximately 800 linear foot Interurban channel alignment between McKibben Lane up to Clear Creek is inaccessible. In addition, we also understand that the City of League City may provide right of entry to drill within the adjacent private property close to the inaccessible portions of the channel alignment.

As requested, we have included cost estimates for the following two options:

Option A: Providing geotechnical engineering recommendations for the portion of the channel alignment between its intersection with FM 518 and its intersection with McKibben Lane.

Option B: Drilling one additional boring in the adjacent private property (if access is granted) and providing recommendations for the channel alignment between FM 518 and the location where the proposed walls are planned to end (shown in the attachment).

We plan on utilizing boring logs B-5 and B-6 from Terracon Project No. 91125062, dated November 8, 2012. In order to provide recommendations for the entire extent of the sheetpile walls, an additional boring should be drilled at the end of the proposed sheetpile walls. If Option A is requested, the variation in soil type, if any, from what was observed in borings B-5 and B-6 will not be taken into account in our evaluation.

Field Program. If the client requests Option B and the City grants us right of entry to drill within the adjacent private property, the field program is planned to consist of drilling one boring to a depth of 40 feet at an accessible location near the alignment of the channel between McKibben Lane up to Clear Creek.

The GPS coordinates of the boring will be recorded using a hand-held GPS device with an accuracy of ± 25 feet. The boring depth will be measured from existing grade.

The drilling services for this project will be performed by a drilling subcontractor or Terracon's in-house drillers. During drilling, soil samples will generally be collected utilizing either open-tube samplers or the Standard Penetration Test. Once the samples have been collected and classified in the field, they will be properly prepared and placed in appropriate sample containers for transport to our laboratory. Upon completion of drilling, the boring will be backfilled with soil cuttings.

We anticipate that the site can be accessed with all-terrain vehicle (ATV) mounted drilling equipment. This document assumes that the site can be accessed during normal business hours and does not include services associated with obtaining permits/right of entry to drill, surveying of

boring location, site clearing, location of underground utilities, traffic control, or use of special equipment for unusually soft or wet surface conditions. If such conditions are known to exist on the site, Terracon should be notified so that we may adjust our scope of services and estimated fees if necessary.

We will take reasonable measures to minimize damage to any landscaped or flatwork areas during our field program. However, restoration from any damage that occurs is not part of our scope of services.

Terracon will notify Texas811, a free public utility locating service, to help locate public utilities within dedicated public utility easements. Location of private utilities on the property is not part of the one-call service or Terracon scope. All private utilities should be marked by others prior to the start of drilling. If underground utilities are known to exist within the site, Terracon should be notified so that we may review utility plans to help avoid the existing lines. Terracon cannot be responsible for damage to unmarked and/or unlocated utilities for which we are unaware or that are improperly located.

Laboratory Testing. The sample classifications will be reviewed by a geotechnical engineer in the laboratory, and a laboratory testing program will be assigned which will be specific to the project requirements and the subsurface conditions observed. The testing program could include moisture contents, Atterberg Limits, compressive strength tests, and grain size analyses.

Geotechnical Engineering Report. The results of our field and laboratory programs will be evaluated by a professional geotechnical engineer licensed in the state of Texas. Based on the results of our evaluation, a geotechnical engineering report will be prepared which details the results of the testing performed and provides Boring Logs, a Site Location Plan, and a Boring Location Plan. The report will also provide geotechnical engineering recommendations which will address the following:

- Global stability analyses at a critical cross-section of the channel with sheetpile wall in place;
- Lateral earth pressure values for the design of sheetpile wall; and
- D_{50} and D_{90} values of soils observed.

We request the client provide us the location and height of the proposed walls for our global stability analysis. This scope of services does not include a lateral load analysis on the sheetpiles, lateral earth pressure diagrams, or internal and external stability analysis for the sheetpile wall.

Schedule. If Option A is requested, we anticipate submittal of our report within two weeks following authorization to proceed and applicable cross sections are provided to us. If Option B is requested, we can initiate our field operations within five to seven working days following authorization to proceed, if site access and weather conditions will permit. We anticipate completion of our services and submittal of our report within three weeks after completion of our

field services. In situations where information is needed prior to submittal of our report, we can provide verbal information for specific project requirements directly after we have completed our field and laboratory programs.

2.0 COMPENSATION

For the scope of services outlined in this document, we estimate the following costs for Option A and Option B:

- Option A: \$3,500
- Option B: \$5,300

The cost of our services will not exceed these amounts without prior approval of the client. Additional consultation (such as attendance on a project conference call, engineering analysis, etc.) requested will be performed on a time-and-materials basis. The fee to provide additional consultation services will be in excess of the above provided fee to complete the geotechnical services and will not be incurred without prior approval of the client.

3.0 AUTHORIZATION

Environmental Considerations. In an effort to reduce the potential for cross-contamination of subsurface media and exposure of site workers to contaminants that might be present at the site, Terracon requests that prior to mobilization to the site, the Client inform Terracon of known or suspected environmental conditions at or adjacent to the site. If adverse environmental conditions are present, additional expenses may be necessary to properly protect site workers and abandon borings that penetrate affected groundwater-bearing units.

If Terracon is not informed of potentially adverse environmental conditions prior to the geotechnical services, Terracon will not be responsible for cross-contamination of groundwater aquifers, soil contamination, or any modification to the environmental conditions to the site that may occur during our geotechnical services. The geotechnical scope of services described above is based on our assumption that the site does not pose environmental risks to the personnel conducting the geotechnical exploration services.

Agreement for Services. The work will be performed under the mutually agreed upon client's "Agreement for Professional Services" which will be signed once the budget estimate is accepted, and upon completion of review by our legal department.

Cost Estimate for Geotechnical Engineering Services
Interurban Channel Improvements ■ League City, Texas
September 30, 2016 ■ Terracon Document No. P91165093

Terracon

We appreciate the opportunity to provide this cost estimate and look forward to the opportunity of working with you.

Sincerely,
Terracon Consultants, Inc.
(Texas Firm Registration No. F-3272)



Rehan Khan, E.I.T.
Staff Engineer (League City)



Brett A. Pope, P.E.
Project Manager (Houston)



Patrick M. Beecher, P.E.
Geotechnical Services Manager (Houston)



N:\EN\2012\2012\Drafting\91125-062\91125-062 Plan of Borings.dwg

Project Mng.	DM	Project No.	91125062
Drawn By:	RW	Scale:	AS SHOWN
Checked By:	AM	File No:	91125062
Approved By:	TS	Date:	11-13-2012

Terracon
Consulting Engineers & Scientists

511 Link Road, Suite F League City, Texas 77573
PH: (281) 557-2900 FAX: (281) 557-2990

BORING LOCATION PLAN	Exhibit
Drainage Ditch Improvements League City, Texas	A-2

ATTACHMENT 1 STATEMENT OF WORK

Subcontractor (McKim & Creed) represents that it has the expertise, experience, personnel, and resources to perform the desired Work, and that all personnel engaged in the work hereunder shall be fully qualified and authorized or permitted under applicable laws or regulations to perform such services. No work or services shall be subcontracted without the prior written approval of Consultant.

Subcontractor will perform or cause to be performed the Work described below in accordance with all laws, regulations, applicable codes and with the provisions of the Agreement and the Prime Contract. Subcontractor shall use its best efforts to conduct the Work in an expeditious and timely manner.

Consultant must issue the negotiated Work Authorization and Subcontractor must execute such Work Authorization prior to Subcontractor's commencement.

Specific Scope of Work is detailed as follows:

- 1) The work will be performed along the Interurban drainage channel between FM 518 and Clear Creek.
- 2) Contact One Call and/or contact directly the owners of the existing pipelines that run along the west side of the Interurban Channel.
- 3) Arrange to meet the pipeline owners in the field to have them mark the location of each pipeline at location of the proposed new storm sewer. The proposed location of the new storm sewer and outfall structure is approximately 400 feet north of FM 518.
- 4) There are multiple pipelines along the west side of the Interurban Channel including Air Liquide, Enterprise, Shell, Buckeye, Genesis in addition to an unknown pipeline company.
- 5) Field tie the horizontal and vertical location on the top of each pipe as it is exposed in the field by LTRA, which is the SUE company that will be contracted by AECOM to perform the SUE work. The horizontal and vertical ties to the pipelines will be referenced to the existing control previously established by McKim & Creed for the Interurban Channel topographic survey.
- 6) Prepare a spreadsheet showing the name of the pipeline, x,y,z information at each location, top of pipe elevation, pipe size & type of material being transported through the pipe. The material will be shown only if the information is made available to McKim & Creed by the pipeline companies.
- 7) Field tie the low wire elevation between each of the five CenterPoint towers that are located along the Interurban Channel from 600 feet south of FM 518 to the north side of Clear Creek.
- 8) Field tie the outside wires between the five CenterPoint towers.

Fee Schedule /Budget

McKim & Creed Task Description	2-Person Field Crew Hours	3-Person Field Crew Hours	4-Person Field Crew Hours	Field Supervisor Hours	Project Surveyor Hours	Senior Technician Hours	Administrative Assistant Hours	Total Labor Hours & Cost
Locate and verify existing control monuments		3				1		4
Coordinate with pipeline companies to have them mark their lines in the field so LTRA can expose the pipes.				6	4			10
Field tie pipelines horizontally and vertically as they are exposed in the field by LTRA		11		1	1	3		16
Tie in CenterPoint tower low wires and outside wires from 600 feet south of FM 518 to the north side of Clear Creek		10		1	1	3		15
Prepare spreadsheets and revised the topographic CAD drawings					2	4	3	9
QA/QC					2	2		4
HOURS SUB-TOTALS	0	24	0	8	10	13	3	58
CONTRACT RATE PER HOUR	\$130.00	\$170.00	\$200.00	\$130.00	\$165.00	\$105.00	\$55.00	
TOTAL LABOR COSTS	\$0.00	\$4,080.00	\$0.00	\$1,040.00	\$1,650.00	\$1,365.00	\$165.00	\$8,300.00
OTHER DIRECT EXPENSES	# OF UNITS		COST/UNIT					
Vehicle Mileage -		300		\$0.54				\$162.00
Boat with motor				\$175.00				\$0.00
4-wheel ATV				\$150.00				\$0.00
GPS Reciever (Static)				\$150.00				\$0.00
GPS Reciever (RTK)		8		\$25.00				\$200.00
Subtotal Other Direct Expenses								\$362.00
TOTAL TASK COST - McKim & Creed	\$8,662.00							

September 21, 2016

David Dow, PE
AECOM
19219 Katy Freeway, Suite 100
Houston, TX

RE: Subsurface Utility Engineering investigation
COLC Interurban Ditch Improvements

Dear Mr. Dow:

Thank you for requesting this cost proposal for Subsurface Utility Engineering (SUE), required on the above referenced project. Lina T. Ramey and Associates (LTRA) prepared this cost proposal based on map provided.

SUE has emerged over the last few decades as a means to characterize the risks associated with utility mapping. The American Society of Civil Engineers (ASCE), in publication CI/ASCE 38-02, defines SUE as a branch of Civil Engineering that involves mapping existing subsurface utilities and depicting those utilities to certain quality levels. These different quality levels can be defined as follows:

- Quality Level "D": Information derived from existing records and/or oral recollections,
- Quality Level "C": Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to quality level D information.
- Quality Level "B": Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate horizontal position of subsurface utilities (aka Designating).
- Quality Level "A": Precise horizontal and vertical location of utilities obtained by the actual exposure and subsequent measurement of subsurface utilities, usually at a specific point (aka Locating).

The scope of this project will attempt to achieve utility mapping to Quality Level "A" as specified below.

This proposal involves vacuum excavating up to 6 test holes on gas pipelines within the defined area provided. It is assumed we will be able to coordinate all the gas companies to be on site in consultative time frames as to not have multiple mobilizations to achieve all 6 test holes.

LEVEL A

LTRA will vacuum excavate to 6 test holes at various locations throughout the project area. These areas are assumed to be in areas that are easily accessible with our VacMasters System 4000 vacuum excavation trucks. Test holes within the streets will be evaluated on a case by case basis and may require additional fees to complete due to additional traffic control requirements/permits.

AECOM will provide the location of each test hole. LTRA will contact one-call prior to begin work. LTRA will attempt to designate each line prior to completing a test hole. If the line is non toneable, LTRA will dig on the one call marks or location based on site personnel. LTRA will open width of test hole 1' of each side of the center line of the one call marks attempting to expose the utility. If no utility is found this will be considered a dry hole and counted as a completed test hole. LTRA will also contact AECOM and have the location remarked or suggest a new location for the test hole. If rock or "dirty backfill" is encountered LTRA will contact AECOM to determine if the test hole should be relocated or abandoned.

Upon completion of each test hole two pictures will be taken, one of the utility and one of the test hole board showing the depth. LTRA will mark each test hole with a 5/8" rebar with cap or PK nail with brass washer labeled LTRA test hole if the test hole under pavement. Upon receipt of survey data we will provide a test hole data form for each utility exposed. The forms will include: depth of utility, surface elevation, top of utility elevation, pavement thickness, coordinates of the test hole, size and type of utility, owner, bench marks and pictures of the utility.

For this proposal, it is estimated that up to 4 test holes can be completed in the a depth range of 0-6 feet, 3 test holes in the 6'-10', 2 test holes in the 10'-15' and 1 test hole in the 15'-20'. These may also change if we are working within restricted hours of a lane closure.

LTRA's Responsibilities

- *Vacuum excavate up to 6 test holes as requested*
- *Upon receipt of survey data provide test hole data sheets*
-

AECOM's Responsibilities

- *Provide LTRA with an electronic CAD background file of the project area*
- *Provide access to any easements, ie locked gates.*
- *Provide any available records information*
- *Provide test hole locations*
- *Survey completed test holes*

Schedule

Test holes – up to 3 days or as stated above.

Work to begin within one week after receipt of notice to proceed

Estimated Fees

LTRA proposed to complete this project for a Lump Sum fee of \$7,800.

Additional Test holes can be completed on a daily rate basis of \$3,000/day.

If you agree to this proposal, please sign and date below and email back to this office. Your signature below will also serve as a written notice to proceed with the work. If you have any questions or require additional information, please contact me.

Sincerely,



Joseph A. Murphy, PE
Sr VP Utilities Division

Accepted: _____ **2016**

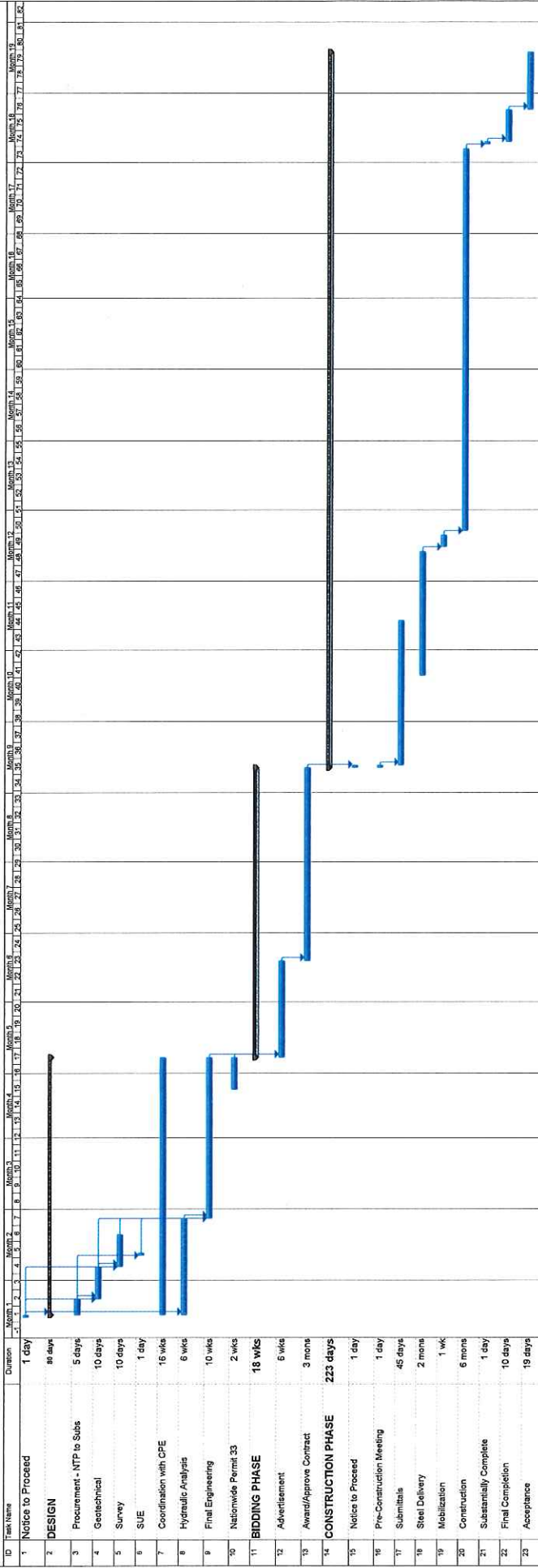
(Company)

By: _____
(Authorized Signature)
Title: _____

League City - InterUrban Re-design - Hydrology and Hydraulics

Task #	Task Descriptions	Estimated Manhours					Total Fee
		QA/QC	Sr Hydrologist	Hydrologist	EIT	GIS/CADD	
1	Update HEC-HMS model		2	4	4	2	\$ 1,512.50
2	Update HEC-RAS model		2	6	12	6	\$ 2,970.00
3	Concept development - determine feasible alternatives	1	4	8			\$ 2,035.00
4	Model up to two feasible channel improvement alternatives with mitigation needs	1	6	16	24	4	\$ 6,187.50
5	Model and design accompanying outfalls/pipes/inlets		2	4	8	2	\$ 1,897.50
6	Interim approval - present findings to League City for concurrence	1	2	2	2	4	\$ 1,512.50
7	Detailed design support - update models as detailed design proceeds (assume 3 iterations)		4	8	16	4	\$ 3,795.00
8	Prepare final analysis reflecting proposed construction drawings	1	2	4	8	4	\$ 2,337.50
9	Prepare signed/sealed letter report for hydraulic analysis	2	4	8	8	4	\$ 3,465.00
10	General coordination with design team and League City		4	4			\$ 1,320.00
TOTAL		6	32	64	82	30	\$ 27,032.50

Interurban Channel Improvements October 18, 2016





City of League City, TX

300 West Walker
League City TX 77579

Text File

File Number: 12-0258

10B.

Introduced: 4/30/2012

Current Status: Consent Agenda

Version: 1

Matter Type: Agenda Item

Title

Consider and take action to enter into a professional services agreement with ABCOM Technical Services, Inc. for the Storm Water Improvements 2012-2013 Project [DR1102] (Director of Engineering).

Staff recommends approval.

Background:

Staff solicited the proposal for the Storm Water Improvements 2012-2013 Project from ABCOM (ABCOM being a "short-listed" in the evaluation process of the RPQ's received for the City's FY 2012-2016 CIP). ABCOM was short-listed primarily because of their successful performance on a prior City CIP drainage project (the Clear Creek Heights Channel Improvements project).

For the City's FY 2012-2016 CIP, the Storm Water Improvements 2012-2013 Project (see attached CIP worksheets) was to include the design of the following four channels: (1) Interurban Channel North of FM 518; (2) Nottingham Ditch (between Calder Road and the Interurban Channel); (3) Nowport Channel North of FM 518; and (4) the Bradshaw Ditch. Design for all 4 channels was originally planned for 2012, with construction planned for 2013 and 2014.

Project scope for design has been increased to include environmental assessment to USACE standards and to meet Storm Water Pollution Prevention Plan Best Management Practices First Flush requirements. These design items were not included in the original project descriptions. With inclusion of these items to the project scope, staff proposes that two channels be designed in 2012 (Interurban North of FM 518 and Nottingham Ditch) and the remaining two be designed in 2013. Proposed construction would still be split between 2013 and 2014, based on updated construction cost estimates resulting from design efforts.

ABCOM proposes to provide engineering services for the Interurban North of FM 518 and the Nottingham Ditch for \$320,451.00, an increase of \$20,451 from the budgeted amount of \$300,000 as illustrated in the attached CIP worksheet. This difference is to be absorbed by cost under-runs in other CIP projects. A detailed cost breakdown for their services is provided in their proposal included as part of the attached proposed professional services agreement.

FUNDING

() NOT APPLICABLE

(X) Funds are available from 2008A CO Fund 237

() Requires Budget Amendment to transfer from Account # _____ to Account # _____

APPROVED

MAY 22 2012

CITY COUNCIL

3
A2



City of League City, TX

306 West Wallis
League City, TX 77678

Text File

File Number: 13-0903

Agenda Date: 3/26/2013

Version: 1

Status: Consent Agenda

In Control: Public Works

File Type: Agenda Item

Agenda Number: 10E.

Title

Consider and take action to amend the professional services agreement with AECOM Technical Services, Inc. for the Storm Water Improvements 2012-2013 Project [DR1102] (Assistant City Manager, Public Works)

Staff recommends approval.

Background:

On April 22, 2012, Council approved the Professional Services Agreement with AECOM Technical Services, Inc. for restoration of the Interurban Channel (north of FM 517), and Nottingham Ditch (Calder Rd to the Interurban Channel). The first phase of the approved services included the development of a Preliminary Engineering Report (PER) to evaluate the physical properties of the drainage features and develop design alternatives.

The PER identified environmental issues (wetlands and tidal influence) in both streams which will be impacted and require mitigation submittal to the United States Army Corp of Engineers for approval. This level of mitigation was not anticipated in the original proposal; therefore, the agreement should be amended to provide for the additional effort.

Attached is AECOM's description of the environmental permitting process and their permitting process proposal for that effort. Staff recommends approval of option one, both channels, in the amount of \$61,100, which will also add 12-18 months to the design permitting process.

FUNDING

() NOT APPLICABLE

(x) Funds are available from Account 2012A CO Fund 240

() Requires Budget Amendment to transfer from Account # _____ to Account # _____

APPROVED

MAR 26 2013

CITY COUNCIL

3
43

WORK CHANGE DIRECTIVE (WCD) NO. 002

PROJECT: Storm Water Improvements 2013 -- Nottingham and Interurban Ditches

OWNER: City of League City

ENGINEER: Jackie L. Murphy, P.E.

CONTRACTOR: AECOM

You are directed to make the following changes in the Contract:

DESCRIPTION AND REASON FOR THIS WCD:

This work change directive modifies the ditch design parameters so as to avoid "the need for an environmental permit from the USACE" and the "mitigation cost and those associated with USACE stream bank mitigation" (estimated to be in the \$300,000 dollars range).

DESCRIBE CONTRACT PRICE (INCREASE/DECREASE) CHANGE FOR THIS WCD:

Price increase is to provide for additional professional engineering services in the amount of \$32,740.75, an increase of $\$32,740.75/\$320,451.00 = 10.2\%$.

ATTACHMENTS:

Proposal for Professional Engineering Services, AECOM Technical Services, Inc. (dated June 2, 2014) ; and Council Item 4/30/2012/10B approved for PE & E Services in the amount of \$320,451.00; and Council Item 3/26/2013/10E approved for Environmental Permitting in the amount of \$61,100.00.

CHANGES IN CONTRACT PRICE

ORIGINAL CONTRACT PRICE:	\$ 320,451.00
NET CHANGES FROM PREVIOUS WCDs:	\$ 61,100.00
CHANGE BY THIS WCD:	\$ 32,740.75
CONTRACT PRICE WITH ALL APPROVED WCDs:	\$ 414,291.75

CHANGES OR EXTENSIONS IN CONTRACT TIME

ORIGINAL CONTRACT TIME:	322 Calendar Days
INCREASED TIME FROM PREVIOUS WCDs:	+365 to 547 Calendar Days
INCREASED TIME FROM THIS WCD:	42 Calendar Days
REVISED CONTRACT TIME:	729 to 911 Calendar Days

SUBMITTED BY:

Jackie Murphy, Sr. Civil Engineer

DATE: 7-7-14

RECOMMENDED BY:

Jackie Murphy, Sr. Civil Engineer

DATE: 7-7-14

OWNER APPROVAL BY:

John Baumgartner, Deputy City Manager

DATE: 7-8-14

3
A4

WORK CHANGE DIRECTIVE (WCD) NO. 003

PROJECT: Storm Water Improvements 2013 – Nottingham and Interurban Ditches

OWNER: City of League City

ENGINEER: Jackie L. Murphy, P.E.

CONTRACTOR: AECOM

You are directed to make the following changes in the Contract:

DESCRIPTION AND REASON FOR THIS WCD:

This work change directive modifies the ditch design parameters so as to incorporate removal of an existing 12" asbestos cement water main which was not scheduled for abandonment in the initial proposal.

DESCRIBE CONTRACT PRICE (INCREASE/DECREASE) CHANGE FOR THIS WCD:

Price increase is to provide for additional professional engineering services in the amount of \$81,180.26, an increase of $\$81,180.26 / \$320,451.00 = 25.33\%$.

ATTACHMENTS:

Proposal for Professional Engineering Services, AECOM Technical Services, Inc. (dated June 2, 20214) ; and Council Item 4/30/2012/10B approved for PE & E Services in the amount of \$320,451.00; and Council Item 3/26/2013/10E approved for Environmental Permitting in the amount of \$61,100.00. Work Change Directive No.2 approved for avoidance of cost of environmental mitigation in the amount of \$32,740.75

CHANGES IN CONTRACT PRICE

ORIGINAL CONTRACT PRICE:	\$ 320,451.00
NET CHANGES FROM PREVIOUS WCDS:	\$ 61,100.00
CHANGE BY WCD #2	\$ 32,740.75
CHANGE BY THIS WCD #3:	\$ 81,180.26

CONTRACT PRICE WITH ALL APPROVED WCDS: \$ 495,472.01

CHANGES OR EXTENSIONS IN CONTRACT TIME

ORIGINAL CONTRACT TIME:	322 Calendar Days
INCREASED TIME FROM PREVIOUS WCDS:	+729 to 911 Calendar Days
INCREASED TIME FROM THIS WCD:	49 Calendar Days
REVISED CONTRACT TIME:	729 to 960 Calendar Days

SUBMITTED BY:


Jack Murphy, Sr. Civil Engineer

DATE: 10/13/16

RECOMMENDED BY:


Earl Smith, Director of Engineering

DATE: _____

OWNER APPROVAL BY:


John Baumgartner, Deputy City Manager

DATE: 10-13-16