Document 00911

NOTICE OF
ADDENDUM No. 1

Date of Addendum: 6/1/16

PROJECT NAME: 24-inch Water Line Replacement along W. Airport Boulevard from Fondren Road to Braewick Drive

PROJECT NO: S-000900-0171-4

BID DATE: April 7, 2016 (There is no change to the Bid Date.)

FROM: J. Timothy Lincoln, P.E., City Engineer
City of Houston
Department of Public Works and Engineering
611 Walker, 15th Floor
Houston, Texas 77002
Attn: Kevin D. Tran, P.E., Project Manager

TO: Prospective Bidders

The referenced Addendum forms a part of the Bidding Documents and will be incorporated into the Contract documents, as applicable.

Written questions regarding this Addendum may be submitted to the Project Manager following the procedures specified in Document 00200 – Instructions to Bidders. Immediately notify the City Engineer through the named Project Manager upon finding discrepancies or omissions in the Bid Documents.

Ravi Kaleyatodi, P.E., CPM
Senior Assistant Director
Department of Public Works and Engineering

END OF DOCUMENT

Document 00910

ADDENDUM NO. 1

Date of Addendum: 4/1/16

PROJECT NAME: 24-inch Water Line Replacement along W. Airport Boulevard from Fondren Road to Braewick Drive

PROJECT NO: WBS No. S-000900-0171-4

BID DATE: April 7, 2016 (There is no change to the Bid Date.)

FROM: J. Timothy Lincoln, P.E., City Engineer
City of Houston, Department of Public Works and Engineering
611 Walker Street
Houston, Texas 77002
Attn: *Kevin D. Tran, P.E.*, Project Manager

TO: Prospective Bidders

This Addendum forms a part of the Bidding Documents and will be incorporated into the Contract documents, as applicable. Insofar as the original Project Manual and Drawings are inconsistent, this Addendum governs.

This Addendum uses the change page method: remove and replace or add pages, or Drawing sheets, as directed in the change instructions below. Change bars (|) are provided in the outside margins of pages from the Project Manual to indicate where changes have been made; no change bars are provided in added Sections. Reissued Drawing Sheets show the Addendum number below the title block and changes in the Drawing are noted by a revision mark and enclosed in a revision cloud.

CHANGES TO PROJECT MANUAL

INTRODUCTORY INFORMATION

1. Document 00010 – Table of Contents. Replace entire section.

BIDDING REQUIREMENTS

2. Document 00410 – Bid Form, Part A & B. Replace entire document.

SPECIFICATIONS

3. Section 01110 – Summary of Work. Replace entire section. All attachments (A thru J) will remain unchanged.

4. Section 01270S – Measurement and Payment Supplement. Add the following paragraph 1.08.A.8

   A. 8 Bid Item – "Remove and Replace Existing/Damaged Loop Detector System including Conduit to Pull box/Junction box" Payment is measured on a lump sum basis for replacing damaged loop detector system at each intersection. Payment includes labor, equipment and material necessary for installation of loop detector, conduit, pull box complete in place and re-routing to existing system. Splicing is not acceptable.

5. Section 02105 – Chemical Sampling and Analysis. Replace entire section.

CHANGES TO DRAWINGS

6. Drawing Sheet 8 – Revise Limits and Callout for Restrained Joints from "LIMITS OF WELDED RESTRAINED JOINTS STA 0+98.18 (BEGIN) TO STA 3+94" to "LIMITS OF WELDED RESTRAINED JOINTS STA 0+98.18 (BEGIN) TO STA 4+62".

7. Drawing Sheet 9 – Add following note "4. COMCAST UNDERGROUND CABLE MAY CROSS ALIGNMENT AT APPROX. STA 6+00, COORDINATE WITH COMCAST PER SECTION 01110 - ATTACHMENT F."

8. Drawing Sheet 17 – Add following note "6. COMCAST UNDERGROUND CABLE MAY CROSS ALIGNMENT AT APPROX. STA 27+00 AND RUN PARALLEL TO NORTH ROW FROM APPROX. STA 27+50 TO STA 34+50, COORDINATE WITH COMCAST PER SECTION 01110 - ATTACHMENT F."

9. Drawing Sheet 18 – Revise Limits and Callout for Restrained Joints from "LIMITS OF WELDED RESTRAINED JOINTS STA 26+53 TO STA 28+06" to "LIMITS OF WELDED RESTRAINED JOINTS STA 25+00 TO STA 31+00".

10. Drawing Sheet 19 – Add following note "5. COMCAST UNDERGROUND CABLE MAY RUN PARALLEL TO NORTH ROW FROM APPROX. STA 27+50 TO STA 34+50, COORDINATE WITH COMCAST PER SECTION 01110 - ATTACHMENT F."

11. Drawing Sheet 20 – Include Restrained Joint Limits and add Callout "LIMITS OF WELDED RESTRAINED JOINTS STA 25+00 TO STA 31+00".

12. Drawing Sheet 21 – Add following note "3. COMCAST UNDERGROUND CABLE MAY RUN PARALLEL TO NORTH ROW FROM APPROX. STA 27+50 TO STA 34+50, COORDINATE WITH COMCAST PER SECTION 01110 - ATTACHMENT F."

13. Drawing Sheet 23 – Revise Construction Notes 1 to following "1. WHERE FEASIBLE ELASTOMETRIC PADS AND BEARING FELT SHALL BE REMOVED & REPLACED WITH NEOPRENE PADS. WHRE NEOPRENE PADS CANNOT BE REPLACED, PROVIDE FILLER PUTTY MATERIAL INSERTED BETWEEN THE EXTERIOR OF THE EXISTING STEEL WATER LINE AND THE BEARING SURFACE AS APPROVED BY PROJECT MANAGER"

14. Drawing Sheet 81 – Replace entire sheet.

END OF ADDENDUM NO. 1

DATED: _____

Ravi Kaleyatodi, P.E., CPM
Senior Assistant Director
Department of Public Works and Engineering

RK:SD:ACM:VP:KT:sdd

END OF DOCUMENT

STATE OF TEXAS
TARA G. BURRER
99997
LICENSED
PROFESSIONAL ENGINEER
3/31/16

STATE OF TEXAS
JAIPAL R. MUSKU
108774
LICENSED
PROFESSIONAL ENGINEER
3/31/2016

FIRM: Lockwood, Andrews & Newnam, Inc.
FIRM No.: F-2614

FIRM: Nathelyne A. Kennedy & Associates
FIRM No.: F-357

Document 00010
TABLE OF CONTENTS

NOTE: Bold capitalized Specification Sections are included in the City of Houston Department of Public Works and Engineering Standard Construction Specifications for Wastewater Collection Systems, Water Lines, Storm Drainage, Street Paving, and Traffic located here: **http://documents.publicworks.houstontx.gov/document-center/cat_view/88-engineering-and-construction/92-specifications/208-division-02-16-standard-specifications.html**; and are incorporated in Project Manuals by reference as if copied verbatim. Documents listed "for filing" are to be provided by Bidder and are not included in this Project Manual unless indicated for example only. The Document numbers and titles hold places for actual documents to be submitted by Contractor during Bid, post-bid, or construction phase of the Project. Specification Sections marked with an asterisk (*) are amended by a supplemental specification, printed on blue paper and placed in front of the Specification it amends. Documents in the 200, 300 and 400 series of Division 00, except for Document 00410B – Bid Form, Part B, are not part of the Contract.

END OF DOCUMENT

Document 00410A

BID FORM – PART A

To: **The Honorable Mayor and City Council of the City of Houston**
City Hall Annex
900 Bagby Street
Houston, Texas 77002

Project: 24-inch Water Line Replacement along W. Airport Boulevard from Fondren Road to Braewick Drive

Project No.: WBS No. S-000900-0171-4

Bidder: _____

(Print or type full name of proprietorship, partnership, corporation, or joint venture.)

1.0 OFFER

A. Total Bid Price: Having examined the Project location and all matters referred to in Bid Documents for the Project, we, the undersigned, offer to enter into a Contract to perform the Work for the Total Bid Price shown on the signature page of this Document

B. Security Deposit: Included with the Bid is a Security Deposit in the amount of 10 percent of the Total Bid Price subject to terms described in Document 00200 – Instructions to Bidders.

C. Period for Bid Acceptance: This offer is open to acceptance and is irrevocable for 90 days from Bid Date. That period may be extended by mutual written agreement of the City and Bidder.

D. Addenda: All Addenda have been received. Modifications to Bid Documents have been considered and all related costs are included in the Total Bid Price.

E. Bid Supplements: The following documents are attached:

[X] Security Deposit *(as defined in Document 00200 – Instructions to Bidders)*
[X] Document 00450 - Bidder's Statement of MWSBE Status
[X] Document 00452 - Contractor's Submission List - Fair Campaign Ordinance Form A
[X] Document 00453 – Bidder's Statement of Residency *(not required for AIP funded project)*
[X] Document 00454 - Affidavit of Non-interest
[X] Document 00455 - Affidavit of Ownership or Control
[ ] Document 00456 - Bidder's Certificate of Compliance with Buy American Program *(required for AIP funded project)*
[X] Document 00457 – Conflicts of Interest Questionnaire (CIQ)
[ ] Document 00458 - Bidder's Certificate Regarding Foreign Trade Restriction *(required for AIP funded project)*
[ ] Document 00459 - Contractor's Statement Regarding Previous Contracts Subject to EEO *(required for AIP funded project)*

[X] Document 00460 – Pay or Play Acknowledgement Form (POP 1-A)
[X] Document 00470 – Bidder's MWSBE Participation Plan *(required unless no MWSBE participation goal is provided in Document 00800* (the "Goal")*)*.
[ ] Document 00471 – Bidder's Record of Good Faith Efforts *(required if the goal in Bidder's Participation Plan–Document 00470 is lower than the Goal).*
[ ] Document 00472 – Bidder's Goal Deviation Request *(required if the goal in Bidder's Participation Plan–Document 00470 is lower than the Goal).*
[X] Others as listed: Valid official letter from OBO with your designation as a City or Local Business *(Bidder's Participation Hire Houston First)*

2.0 CONTRACT TIME

A. If offer is accepted, Contractor shall achieve Date of Substantial Completion within 250 days after Date of Commencement of the Work, subject to adjustments of Contract Time as provided in the Contract.

Document 00410B

BID FORM – PART B

1.0 TOTAL BID PRICE HAS BEEN CALCULATED BY BIDDER, USING THE FOLLOWING COMPONENT PRICES AND PROCESS (PRINT OR TYPE NUMERICAL AMOUNTS):

A. STIPULATED PRICE: **$**N/A

(Total Bid Price; minus Base Unit Prices, Extra Unit Prices, Cash Allowances and All Alternates, if any)

B. BASE UNIT PRICE TABLE:

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
GENERAL						
1	01502	Mobilization See foot note 1	LS	1	$100,000.00(1)	$100,000.00(1)
2	01555	Flagmen See foot note 2	LS	1	$13,000.00(2)	$13,000.00(2)
3	01555	Traffic Control and Regulation See foot note 2	LS	1	$70,000.00(2)	$ 70,000.00(2)
4	01555	Portable Concrete Low Profile Traffic Barrier (provide and install)	LF	800		
5	01555	Portable Concrete Low Profile Traffic Barrier Moved and Reset	LF	2,085		
6	01555	Portable Concrete Low Profile Traffic Barrier Removed	LF	800		
7	01562	Tree and Plant Protection	LS	1		
8	01562	Zero Curb Cutback	LF	30		
9	01570	Filter Fabric Fence	LF	3,489		
10	01570	Reinforced Filter Fabric Barrier	LF	87		
11	01570	Inlet Protection Barrier	LF	288		
12	01575	Stabilized Construction Access	SY	445		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
13	01578	Ground Water control for Open-Cut Construction See foot note 2	LF	1,784	$15.00(2)	$ 26,760.00(2)
14	02105	Preparatory Work for sampling and analysis in PPCA	LS	1		
15	02120	Transportation and Disposal of Class I Contaminated Soils at Approved Facility in PPCA	CY	2,799		
16	02120	Transportation and Disposal of Contaminated Groundwater at Approved Facility in PPCA	GAL	112,200		
17	02260	Trench Safety System for Trench Excavations	LF	3,137		
18	02921	Hydromulch Seeding	AC	1.00		
19	02922	Sodding	SY	394		
20	01270	Sodding within HCFCD Limits	SY	20		
WATER						
21	02082	Extra Depth Manhole	VF	19		
22	02221	Remove and Dispose 24-inch water line	LF	10		
23	02221	Remove Existing Air Valve including outlet on Exist 24-inch Aerial Crossing	EA	1		
24	02511	6-inch diameter DIP water line by open cut with restrained joints	LF	39		
25	02511	8-inch diameter water line by trenchless construction with restrained joints	LF	162		
26	02511	8-inch diameter DIP water line by open cut with restrained joints	LF	66		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
27	02511	8-inch diameter DIP water line by trenchless construction with restrained joints	LF	121		
28	02511	8-inch diameter DIP water line by trenchless construction with restrained joints within limits of PPCA	LF	100		
29	02511	12-inch diameter water line by open cut with restrained joints	LF	7		
30	02511	12-inch diameter DIP water line by trenchless construction with restrained joints within limits of PPCA	LF	46		
31	02511	24-inch diameter water line by open-cut	LF	2,378		
32	02511	24-inch diameter water line by open-cut within limits of PPCA	LF	759		
33	02512	3/4-inch to 1-inch diameter water taps and copper service line with meter box within limits of PPCA, short side	EA	2		
34	02512	3/4-inch to 1-inch diameter water taps and copper service line with meter box, long side	EA	1		
35	02513	6-inch diameter wet connection	EA	3		
36	02513	8-inch diameter wet connection	EA	6		
37	02513	8-inch diameter wet connection within limits of PPCA	EA	1		
38	02513	12-inch diameter wet connection	EA	1		
39	02513	12-inch diameter wet connection within limits of PPCA	EA	1		
40	02516	Cut, plug, and abandon existing 6-inch diameter water line	EA	4		
41	02516	Cut, plug, and abandon existing 8-inch diameter water line	EA	6		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
42	02516	Cut, plug, and abandon existing 8-inch diameter water line within limits of PPCA	EA	1		
43	02516	Cut, plug, and abandon existing 12-inch diameter water line	EA	1		
44	02516	Cut, plug, and abandon existing 12-inch diameter water line within limits of PPCA	EA	1		
45	02516	Cut, plug, and abandon existing 24-inch diameter water line	EA	6		
46	02517	24-inch diameter water line in tunnel	LF	113		
47	02517	24-inch diameter water line in tunnel within limits of PPCA	LF	112		
48	02520	Fire hydrant assembly, all depths, including 6-inch diameter gate valve and box	EA	8		
49	02520	Fire hydrant assembly, all depths, including 6-inch diameter gate valve and box within limits of PPCA	EA	1		
50	02520	6-inch diameter fire hydrant branch by open-cut	LF	64		
51	02520	6-inch diameter fire hydrant branch by open-cut within limits of PPCA	LF	8		
52	02520	Remove and salvage existing fire hydrant	EA	4		
53	02520	Remove and salvage existing fire hydrant within limits of PPCA	EA	1		
54	02522	24-inch diameter butterfly valve w/ Manhole	EA	3		
55	02522	24-inch diameter butterfly valve w/ Valve Box	EA	1		
56	02524	2-inch diameter AI/VR Valve assembly w/ Service Manhole	EA	4		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
57	02524	2-inch diameter AI/VR Valve assembly w/ Service Manhole within limits of PPCA	EA	2		
58	01270	2-inch diameter AI/VR Valve w/ 2" outlet on Exist 24-inch Aerial Crossing	EA	2		
59	02525	6-inch by 6-inch diameter tapping sleeve and valve with box	EA	1		
60	02525	24-inch by 24-inch diameter tapping sleeve and valve with box	EA	1		
61	02525	24-inch by 24-inch diameter tapping sleeve and valve with box within limits of PPCA	EA	1		
62	09903	Pipe Coating Rehabilitation	LS	1		
63	09903	New Pipe Guard	EA	2		
64	09903	Removal of Lead-Based Coating	LS	1		
65	09903	Health and Safety Plan for Pipe Deleading	LS	1		
66	16640	Cathodic protection system	LS	1		
SANITARY						
67	02221	Remove and dispose 10 inch sewer line	LF	54		
68	02221	Remove and dispose 10 inch sewer line within limits of PPCA	LF	18		
69	02221	Remove and dispose 15 inch sewer line	LF	18		
70	02531	10-inch sanitary sewer (pressure rated), by open cut	LF	54		
71	02531	10-inch sanitary sewer (pressure rated), by open cut within limits of PPCA	LF	18		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
72	02531	15-inch sanitary sewer (pressure rated), by open cut	LF	18		
STORM						
73	02221	Remove/dispose storm pipe 24-inch dia	LF	88		
74	02221	Remove/dispose storm pipe 24-inch dia within limits of PPCA	LF	16		
75	02221	Remove/dispose inlets all sizes/depth	EA	4		
76	02221	Remove/dispose inlets all sizes/depth within limits of PPCA	EA	1		
77	02631	24-inch diameter storm sewer by open-cut	LF	88		
78	02631	24-inch diameter storm sewer by open-cut within limits of PPCA	LF	16		
79	02633	Type BB inlet	EA	4		
80	02633	Type BB inlet within limits of PPCA	EA	1		
PAVING						
81	01554	Remove and Replace Traffic Signs with foundation	EA	1		
82	01270	Adjust existing Electrical/ Communication box to new grade	EA	1		
83	02221	Removing and disposing of concrete pavements (including all thickness, w/or w/o asphalt, including base & subgrade, w/ or w/o curb, all depths)	SY	4,891		
84	02221	Remove and dispose of concrete sidewalks and driveways, all thicknesses	SY	341		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
85	02336	Lime stabilized subgrade 8-inch thick	SY	5,710		
86	02336	Lime for lime stabilized subgrade (dry weight)	TON	113		
87	01270	13-inch Reinforced Concrete Pavement (Approach Slab)	SY	56		
88	02741	Temporary Asphalt Concrete Pavement for Detour/Roadway and Shoulder (install and remove)	SY	400		
89	02751	Reinforced concrete pavement 9-inch thick	SY	4,108		
90	02751	High Early Strength Reinforced concrete pavement 9-inch thick	SY	784		
91	02752	Street pavement expansion joint with load transfer	LF	640		
92	02752	Horizontal dowels, 24-inch	EA	4,340		
93	02752	Sidewalk horizontal dowels	EA	104		
94	02754	High Early Strength Concrete driveways including excavation 7-inch thick	SF	456		
95	02754	Concrete driveways including excavation 7-inch thick	SF	1,155		
96	02754	Concrete driveways including excavation 6-inch thick	SF	169		
97	02771	6-inch Concrete Curb	LF	3,424		
98	02772	Concrete Medians and Driectional Islands (nose)	SY	150		
99	02775	Wheel Chair Ramp	SF	627		
100	02775	Sidewalk 4 1/2-inch thick	SF	794		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
101	02951	Pav Repairs/Replacement with Base material/Conc surface	SY	222		
102	01270	Remove and Replace Existing/Damaged Loop Detector System including conduit to pull box /junction box at W. Airport and Fondren Intersection	LS	1		
103	01270	Remove and Replace Existing/Damaged Loop Detector System including conduit to pull box /junction box at W. Airport and Bob White Intersection	LS	1		
104	01270	Design and Installation of Street Light Conduit	LS	1		

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C. EXTRA UNIT PRICE TABLE:

Item No.	Spec Ref.	Extra Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
105	02120	Transportation and Disposal of Class II Contaminated Soils at Approved Facility in PPCA See foot note 2	CY	400	$25.00(2)	$ 10,000.00(2)
106	02317	6" Over excavate trench bottom See foot note 2	LF	1,200	$4.00(2)	$ 4,800.00(2)
107	02317	6" Over excavate trench bottom in PPCA See foot note 2	LF	300	$4.00(2)	$1,200.00(2)
108	02317	Excavation around obstructions See foot note 2	CY	370	$30.00(2)	$11,100.00(2)
109	02317	Excavation around obstructions within limits of PPCA See foot note 2	CY	30	$30.00(2)	$900.00(2)
110	02317	Extra hand excavation See foot note 2	CY	370	$15.00(2)	$5,550.00(2)
111	02317	Extra hand excavation within limits of PPCA See foot note 2	CY	30	$15.00(2)	$450.00(2)
112	02317	Extra machine excavation See foot note 2	CY	180	$20.00(2)	$3,600.00(2)
113	02317	Extra machine excavation within limits of PPCA See foot note 2	CY	20	$20.00(2)	$400.00(2)
114	02317	Extra placement of backfill material See foot note 2	CY	180	$6.00(2)	$1,080.00(2)
115	02317	Extra placement of backfill material within limits of PPCA See foot note 2	CY	20	$6.00(2)	$120.00(2)
116	02511	Extra 24-inch diameter cylinder pipe angle adapters See foot note 2	EA	4	$2,500.00(2)	$10,000.00(2)

Item No.	Spec Ref.	Extra Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
117	02511	Extra 24-inch diameter cylinder pipe angle adapters within limits of PPCA See foot note 2	EA	4	$2,500.00(2)	$10,000.00(2)
118	02511	Extra 24-inch water fittings in place See foot note 2	EA	4	$2,500.00(2)	$10,000.00(2)
119	02511	Extra 24-inch water fittings in place within limits of PPCA See foot note 2	EA	4	$2,500.00(2)	$10,000.00(2)
120	02501	Extra ductile iron compact fittings in place See foot note 2	TON	0.50	$2,000.00(2)	$1,000.00(2)
121	02501	Extra ductile iron compact fittings in place within limits of PPCA See foot note 2	TON	0.25	$2,000.00(2)	$500.00(2)
122	05091	Extra 6-inch diameter patch plate including welding in place See foot note 2	LB	30	$100.00(2)	$3,000.00(2)
123	05091	Extra Welding See foot note 2	LF	20	$200.00(2)	$4,000.00(2)
124	01270	Remove and Replace Air Valve Manhole See foot note 2	EA	1	$10,000.00(2)	$10,000.00(2)
125	01270	Demobilize/Remobilize See foot note 2	EA	1	$30,000.00(2)	$30,000.00(2)
TOTAL EXTRA UNIT PRICES						**$ 127,700.00**(2)

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D. CASH ALLOWANCE TABLE:

Item No.	Spec Ref.	Cash Allowance Short Title	Cash Allowance in figures (1)
126	01110	Street cut permit fee	$5,000.00
127	01110	Centerpoint Energy Street Lighting	$30,000.00
128	01110	Harris County Flood Control permit fee	$5,000.00
TOTAL CASH ALLOWANCES			$40,000.00

E. ALTERNATES TABLE:

Item No.	Spec Ref.	Alternate Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total Price for Alternate in figures
		N/A				
TOTAL ALTERNATES						$_____

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F. TOTAL BID PRICE: **$**_____
(Add Totals for Stipulated Price, Base Unit Price, Extra Unit Price, Cash Allowance, and All Alternates, if any)

2.0 SIGNATURES: By signing this Document, I agree that I have received and reviewed all Addenda and considered all costs associated with the Addenda in calculating the Total Bid Price.

Bidder: _____
(Print or type full name of your proprietorship, partnership, corporation, or joint venture.*)

**By: _____
Signature Date

Name: _____
(Print or type name) Title

Address: _____
(Mailing)

_____
(Street, if different)

Telephone and Fax Number: _____
(Print or type numbers)

* If Bid is a joint venture, add additional Bid Form signature sheets for each member of the joint venture.

** Bidder certifies that the only person or parties interested in this offer as principals are those named above. Bidder has not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding.

Note: This document constitutes a government record, as defined by § 37.01 of the Texas Penal Code. Submission of a false government record is punishable as provided in § 37.10 of the Texas Penal Code.

Footnotes for Tables B through E:
(1) Fixed Unit Price determined prior to Bid. Cannot be adjusted by the Bidder.
(2) Minimum Bid Price determined prior to Bid. Can be increased by the Bidder, but not decreased, by crossing out the Minimum and inserting revised price on the line above. **Cannot** be decreased by the Bidder.
(3) Maximum Bid Price determined prior to Bid. Can be decreased by the BIdder, but not increased, by crossing out the Maximum and inserting revised price on the line above. A Bid that increases the Maximum Bid Price may be found non-conforming and non-responsive. **Cannot** be increased by the Bidder.
(4) Fixed Range Bid Price determined prior to Bid. Unit Price can be adjusted by Bidder to any amount within the range defined by crossing out prices noted and noting revised price on the line above.

Section 01110

SUMMARY OF WORK

PART 1 G E N E R A L

1.01 SECTION INCLUDES

A. Summary of the Work including Project Description, Work covered by Contract Documents, Definitions, Cash Allowances, work by the City, City-furnished Products, Work Sequence, Future Work, Contractor use of Premises, and City Occupancy.

1.02 PROJECT DESCRIPTION

A. Surface Water Transmission Program (SWTP) consists of major improvements to transmission system to convert from primarily groundwater to surface water in order to comply with the Harris-Galveston Coastal Subsidence District's (HGCSD) regulatory plan. Program includes transmission and distribution of surface water and associated consolidation of groundwater plants in the City.

B. The project is a combination of water line construction, public utility adjustments and paving which initiates at the intersection of Fondren Road and W. Airport Blvd, then extends east along W. Airport Blvd. to Braewick Drive.

1.03 DEFINITIONS

A. Large Diameter Water Lines: Water lines 24-inches in diameter and larger. References to large diameter water lines shall apply to pipe, valves and appurtenances 24-inches and larger.

B. Small Diameter Water Lines: Water lines 20-inches in diameter and smaller. Unless otherwise noted in Contract Documents, requirements pertaining to large diameter water lines do not apply to pipe valves and appurtenances 20-inches in diameter and smaller.

1.04 WORK COVERED BY CONTRACT DOCUMENTS

This work will include, but not be limited to, the following:

A. Construction of approximately 3,300 linear feet of 24-inch water line by combination of open cut and tunneling; including valves, connections and appurtenances along W. Airport Blvd. from Fondren Road to Braewick Drive. Proposed 24-inch water line to be in service and services transferred prior to abandonment of existing 24-inch

water line.

B. Construction of approximately 475 LF of 8-inch and 12-inch water lines by combination of open cut and trenchless; including valves, connections and appurtenances along W. Airport Blvd. from Fondren Road to Braewick Drive

C. Rehabilitation of existing 24-inch steel water line aerial across HCFCD ditch D140-00-00 (Fondren Diversion Channel), including cleaning and new coating.

1. Rehabilitation of existing 24-inch water line in accordance with Section 09903 – Pipe Coating Rehabilitation.

2. Anticipate lead is present on the existing 24-inch water line aerial crossing pipe. Conform to requirements of Section 13280 – Removal of Lead-Based Coatings.

3. Provide access for City inspector to perform testing on pipe and coating.

4. Anticipate asbestos is present and for removal of asbestos-containing materials, refer to Supplementary Specification Section 02221 – Removing Existing Pavements, Structures, Wood and Demolition Debris.

5. See Paragraph 1.09 – WORK SEQUENCE for additional requirements.

D. Removal and replacement of storm sewer pipe, storm sewer inlets, sanitary sewer pipe impacted by installation of 24-inch water line.

E. Removal and replacement of mostly one lane of concrete pavement along W. Airport Boulevard west bound lanes from Fondren Road to Braewick Drive, including replacement of wheelchair ramps.

F. Pavement Repairs (spot repairs) on east bound lanes and inner lane of west bound lane per construction drawings and/or as approved by Project Manager.

G. Removal and Replacement of Existing Street Light Poles (9 poles) along W. Airport Boulevard with in project limits (see locations exhibit in street light Attachment J).

1. Contractor is responsible for following items:

a. Street lighting plan designed and sealed by Contractor’s Professional Engineer registered in State of Texas.

b. Installation of pullboxes, conduits, and appurtenances for underground electrical services to street lights in accordance with approved street light plan and CenterPoint’s Specifications for Installation of Conduit System for Thoroughfare Street Lighting (see Attachment J).

2. CenterPoint will be responsible for removal and replacement of street lights poles and installation of electrical cables.

1.05 WORK BY CITY

A. The Water Maintenance Division will perform the following work without cost to the Contractor.

1. Operate water line valves. VALVES (including new valves connected to existing water lines that are in service) ARE TO BE OPERATED ONLY BY PUBLIC WORKS - UTILITY MAINTENANCE BRANCH PERSONNEL.

2. Operate valves for disinfection, hydrostatic testing, wet connections, shut-downs, and placing lines in service.

3. Valving off lines: City crews will operate all valves for closing down sections of lines to be repaired. The City cannot guarantee a complete shutdown of the section to be repaired and, under certain conditions, work may have to proceed with water flowing past the existing isolation valves.

1.06 CASH ALLOWANCES

A. Include the following specific Cash Allowances in the Contract Price under provision of Document 00700 - General Conditions, Paragraph 3.11.

1. Lane Closure Permit Fee Allowance – This allowance to be used only for reimbursement of actual Lane Closure Permit fees.

2. Stipulated sum of $ 5,000.00 for Street Cut Permit Fee(s) as described in Street Cut Ordinance.

3. Centerpoint Energy Street Lighting – Allow stipulated sum of $30,000.00 for removal and relocation/replacement and re-circuit of street light poles (metal pols only) through Centerpoint.

4. Harris County Flood Control District (HCFCD) Permit Fee – This allows stipulated sum of $5,000.00 for Contractor to obtain HCFCD permit as per the HCFCD Policy, Criteria and Procedure Manual.

B. Contractor is responsible for obtaining the above mentioned permits prior to any construction activities. In Document 00410B of this package, cash allowances have been allocated for these purposes.

1.07 INCENTIVE ALLOWANCES (Not Used)

1.08 CITY FURNISHED PRODUCTS

A. Item Furnished by City for Installation and Final Connection by Contractor:

1. None

1.09 WORK SEQUENCE

A. Coordination of the Work: Refer to Section 01312 – Coordination and Meetings.

B. Prior to beginning construction, survey and photograph parking lots, concrete pads, decorative landscape and gravel ground cover areas to establish pre-existing conditions for purpose of restoring to existing or better conditions after construction. Refer to Section 01321 – Construction Photographs

C. Perform critical locates per Contract Drawings within 30 days from Notice to Proceed. Field verify dimensions and conditions before commencing work. Report any discrepancies to Project Manager before commencing work. Submit documentation of work completion to Project Manager.

D. Due to overall project complexity and numerous active utility interface requirements, submit a sequence of construction for review by Project Manager. Proposed sequence of construction shall address proposed method and timing of major construction activities. Refer to Section 01326 – Construction Schedule (Bar Chart) for specific details.

E. Begin Work on the project from the one end of the project and continue towards other end in following sequence.

1. Spot repair east bound lanes and inner lane of west bound lanes along W. Airport Blvd. per Drawings and/or as approved by Project Manager prior to transferring traffic for 24-inch water line construction.

2. Construct 24-inch water line in a sequence to minimize service interruption.

3. Construct 24-inch water line from either sides up to existing aerial crossing across HCFCD ditch D140-00-00, including valves on either side of existing aerial crossing.

4. Prior to working on the connections to existing aerial crossing, transfer services to proposed 24-inch water line and complete 24-inch interconnection at Sandpiper Drive. A temporary blind flange is required at 24-inch interconnection during shift in phasing, blind flange installation and removal to be provided at no additional cost.

5. Aerial crossing may be rehabilitated during any phase of the project.

F. Incorporate Traffic Control Plan and Traffic Control General Notes as shown in the construction drawings in proposed sequence of work.

G. Provide temporary asphalt pavement (including temporary transition in connecting one phase to the other and transition to driveways) along the alignment as shown in the traffic control plans to facilitate traffic movement during construction. No separate pay for additional cut or fill necessary to construct temporary paving.

H. Completely restore and provide a serviceable pavement section in each traffic control phase prior to performing construction activities in the subsequent traffic control phases. Refer to Traffic Control Plan General Notes for further instruction.

I. Provide temporary drainage facilities as necessary at all phases during construction to maintain positive drainage. No separate pay unless included as a bid item in the Document 00410B.

J. Repair or replace, existing PVC drain lines encountered or disturbed by work. No separate pay item.

K. Verify with Project Manager, proposed locations of vent piping prior to installation. Adjust locations as directed. No separate pay. Mount vent piping for air release valves on a single bollard, if directed by Project Manager.

1.10 COORDINATION OF WORK

A. Schedule the Work with any other contractors of any trade of discipline working adjacent to the project site prior to and during construction.

B. Schedule construction operations with City Project Manager, Traffic Management, Maintenance Division, and private utilities.

C. Valves will be operated by City personnel only. Coordinate with City of Houston Drinking Water Operations (DWO) to operate valves. Coordinate with Project Manager to obtain DWO contact information.

D. Coordinate with CenterPoint Energy Street Light Division to schedule the street light rehabilitation and installation. Submit phasing plan to Project Manager for approval.

E. Coordinate with CenterPoint Energy Electric to schedule de-energize power lines, if power lines are assumed to be in conflict construction equipment during construction activities.

F. Water Line Shutdown: Contractor to provide the construction schedule within 30

days of Notice to Proceed, and Project Manager to forward to the following departments: Drinking Water Operations, Infrastructure Planning Branch and Water Engineering. Departments will review the shutdown process and verify current operating conditions support shutdown of existing water line. Project Manager to confirm shutdown schedule with Contractor and City departments 21 days prior to the existing water line shutdown.

G. Contact METRO regarding facilities and bus routes that may be affected during construction activities.

1. Coordinate work around METRO bus stops (if any) with Carl Taylor at Carl.Taylor@ridemetro.org and 713-615-7219 or Shirley Mitchell at Shirley.Mitchell@ridemetro.org and 713-615-7212 at least one month prior to beginning construction.

2. Contact Carl Taylor at Carl.Taylor@ridemetro.org and 713-615-7219 or Shirley Mitchell at Shirley.Mitchell@ridemetro.org and 713-615-7212 for bus operations, minimum of seven (7) to ten (10) business days prior to construction.

3. Maintain access to all METRO bus stops. Replace METRO bus sign (stop) and temporary pedestrian pad/ shelter along rerouted road for METRO passenger pick-up/drop-off.

4. METRO bus shelter (if any) to be temporarily relocated during construction activities.

5. Evaluate with METRO and Project Manager about bus turning radius. If required, Project Manager may direct Contractor to install temporary pavement. Payment for temporary pavement and restored site shall be with appropriate bid items contained in Document 00410 – Bid Form.

H. Contact HISD School facilities that may be affected in the area during construction activities. Coordinate with the school district at (713) 556 6000 or (713) 613 3040 in regards to any bus routes that may be affected by constriction activities a minimum of 10 working days advance notice.

I. Coordinate with Townhomes, Home Owners Association (HOA), Apartments and residents and businesses that may be effected by construction activities a minimum of 10 working days prior to construction. Coordinate with property management of Townhomes HOA and apartments, but not limited to the following:

1. Fondren Crossing HOA (Phone: 713-728-0464)
2. Airport Landing Apartments (Phone: 713-728-1538)
3. Sunswept Townhomes (Phone: 713-728-1190)
4. Reserve at 63 Sixty Three (Phone: 713-723-6300)

5. Cattails Homeowners Associates (Phone: 713-726-9864)
6. Village of Fondren Apartments (Phone: 713-726-1113)
7. Coppertree Townhomes HOA (E-Mail: admin@coppertreehoa.com)

J. Coordination of the Work: Refer to Section 01312 – Coordination and Meetings.

K. Obtain Harris County Public Infrastructure right of way permit prior to performing any work within Harris County Flood Control District (HCFCD) right of way. Notify the HCFCD's Property Management Department in writing at least 48 hours prior to construction. Submit the HCFCD 48-hour preconstruction notification form and a copy of the approved construction drawings to HCFCD, 9900 Northwest Freeway, Houston, Texas 77092, Attn: Property Management Dept., by hand delivery or FAX to 713-684-4212. Contractor must obtain bond covering construction of facilities within Harris County and HCFD rights-of-way. See Attachment E at the end of Section 01110 for HCFCD Notification Form and Bond form. No separate payment will be made for purchase of bonds.

L. Schedule testing and inspection of cathodic protection system and protective coatings for pipe, valves, and tanks with the City's independent consultant. Contact David Pedersen at 832-395-3833.

1.11 CONTRACTOR USE OF PREMISES

A. Comply with procedures for access to site and Contractor's use of rights-of-way as specified in Section 01145 - Use of Premises

B. Construction Operations: City's rights-of-way, existing easements, and proposed easements in the vicinity of the HCFCD ditch.

C. Utility Outages and Shutdown: Provide notification to City and private utility companies (when applicable) a minimum of 48 hours, excluding weekends and holidays, in advance of required utility shutdown. Schedule all work as required. Submit for review and approval proposed plan for outages and shutdown minimum of 14 days prior to proposed scheduled outages/shutdown. Conduct coordination meeting with City and other affected parties minimum of seven (7) days prior to proposed outage/shutdown.

D. Work to be done to lines, grades, elevations, and locations as shown on Drawings.

E. Prevent overstress of any structure including bridge over the HCFCD ditch, and any part or member of it, during construction. This applies to existing work and structures affected by operations. Check effect of operations in this regard, and provide temporary supports and connections required to assure safety and stability of both new and existing work and to prevent overstress of any part, no separate pay item.

F. Coordinate activity schedule and extend full cooperation to other contractors who have responsibilities either concurrent with, proceeding, or following this Contractor's time along work site. Ensure availability of access, availability of selected portions of this area to others and provide appropriate information for planning purposes to other contractors.

G. Restore and sod all non-paved areas that are damaged during construction as per specification section 02922-Sodding. The sodding should be placed for one (1) foot from back of median curb, and from back of curb to the right-of-way for the entire limits of the project, except those special areas of Tree and Plant Protection as indicated on the construction drawings. Restore and sod all with in HCFCD right-of-way that are damaged during construction as per specification section 01270 and HCFCD Specification Section 02922-Sod (included in Attachment B).

H. Traffic Control:

1. Traffic control plan responsive to Texas Manual on Uniform Traffic Control Devices (TMUTCD) and sealed by Registered Professional Engineer is incorporated into Drawings. If traffic control will be implemented without modification to plan provided, submit letter confirming that decision. If traffic control will be modified from what is shown, submit traffic control plan in conformance with TMUTCD and sealed by Registered Professional Engineer.

2. Traffic Control Plan is provided for installation of water lines only. Specific traffic control plan required for pavement restoration must be provided by Contractor, sealed by Registered Professional Engineer and conforming to TMUTCD. Submit traffic control plan to Project Manager for approval.

3. Traffic control provided is based on assumption there is no conflict with traffic control from separate projects within construction limits. Adjust work sequence as necessary to prevent traffic control conflicts, or submit revised traffic control plans sealed by Registered Professional Engineer and conform to TMUTCD at no additional cost. Submit traffic control plan to Project Manager for approval.

4. Maintain vehicular and pedestrian success to adjacent properties throughout work.

5. For temporary pavement provide necessary backfill, subgrade, base and surface in accordance with City of Houston Standard specification 02741 and continuously maintain, as directed by Project Manager.

6. Do no impede flow in roadside ditches with temporary pavement.

7. Modifications to Traffic Control Plan included in Drawings, specific Traffic Control Plan for pavement restoration with drainage, and adjustment in work

sequence as necessary to prevent traffic control conflicts, require a submission of revised traffic control plans sealed by Registered Professional Engineer and conform to TMUCD at no additional cost. Submit plan to Project Manager for approval.

8. Refer to Traffic Control Plan General Notes for further instruction.

I. Work will be allowed which pertains to any tunneling operation 24 hours per day, provided above ground activities do not conflict with provisions of City of Houston Code of Ordinances, Section No. 40-28 and work does not occur on a Sunday or holiday without prior written approval. No night work shall occur in residential areas. A non-inclusive list of work pertaining to tunneling operation is as follows:

1. Tunnel Excavation and incidental work such as muck removal and hauling, ventilation, lighting, survey control of tunnel line and grade, etc.

2. Tunnel Primary Liner.

3. Ground Water Control and Ground Stabilization.

4. Pipe Installation.

5. Tunnel Grouting.

Project Manager will answer all questions where confusion may exist as to whether any such work pertains to tunneling operation.

J. Implement groundwater control methods, while maintaining accessibility to driveways and cross streets.

K. Maintain local driveway access to residential and commercial properties adjacent to work areas. Provide temporary driveway access to driveways in accordance with Section 01555 – Traffic Control and Regulation and Section 01145 – Use of Premises. Coordinate with business owners and residents.

L. City's Utility Maintenance Division is not bound to assist Contractor in locating existing utilities during construction. Contractor must verify location of existing utility lines prior to commencement of pipe laying operations.

M. Working multiple and separate crews during construction is allowed, as approved by Project Manager.

N. Field Office: A Field Office is required on this project. See Section 01520 – Temporary Field Office.

O. Protect existing street lights and power poles along project limits. Support as required to accomplish Work. Reestablish power to lights within 24 hours should power be disrupted. No separate pay item.

P. Unmetered fire protections for businesses are not shown in Contract Drawings. Buildings shall retain fire protection flows at all times. Contractor shall notify City Fire Department Marshal and Project Manager 48-hours in advance of intended transfer of any metered or unmetered fire protection services. No separate pay.

Q. All mail boxes, if necessary, should be temporarily relocated and restored. No separate pay item.

R. Install and maintain Project Identification Sign in accordance with the Section 01580. No Separate pay, include cost of such work in the contract price listed for Mobilization.

1.12 STREET CUT ORDINANCE

A. Excavations on or under pavement in the City's right-of-way must have a permit. Comply with City of Houston Ordinance No. 2000-1115, an ordinance amending Chapter 40 of the Code of Ordinances, Houston, Texas, relating to excavating in the Public right-of-way and comply with amendments provided by City of Houston Ordinance No. 2006-0595.

B. Comply with the latest edition of street cut "New Pavement Repair and Pavement Replacement details".

C. Contractor shall comply with requirements from Chapter 12 of the City of Houston's Infrastructure Design Manual (dated July, 2015), entitled Street Cut Requirements".

D. Bid items for cost of street cut pavement repair and replacement identified on the drawings are included in Bid Form Part B (Document 00410 B).

E. Obtain all required permits and signs prior to performing any methods of construction involving street excavation in the existing pavement.

1.13 WARRANTY

A. Comply with warranty requirements in accordance with Document 00700 – General Conditions.

1.14 INTERPRETATION OF CONFLICTS

A. Should conflicts occur in Contract Documents, request interpretation before proceeding with Work. Such requests shall first be preceded by a diligent investigation into Contract Documents. Contain evidence of such investigation in

requests for interpretation.

1.15 ADDITIONAL CONDITIONS FOR SUBSTANTIAL COMPLETION

A. In addition to requirements outlined in Document 00700 – General Conditions, for Contractor to be substantially complete with the Work and call for inspection by Project Manager to confirm, following conditions must be met or completed in accordance with Contract Documents:

1. Hydrostatic testing and disinfection shall be completed and accepted by Project Manager.

2. All safety related work including pavement stripping, signing and signalization shall be completed.

3. All safety related systems and equipment shall be installed, accepted by manufacturer's representative and approved for use.

4. Contractor is required to conduct on-site topographical survey and submit an as-built drawing (redline markups on the construction drawing sheet(s)) of the aerial crossing sealed and signed by a Texas Board Certified Registered Professional Land Surveyor (RPLS) showing the location of the concrete piles, elevations of top of each concrete pile cap or bottom of the pipe at each concrete pile (whichever is lower), along with the date of the onsite survey. In addition, Contractor is further required to stake the HCFCD right-of-way line on both sides of a crossing for inspection by HCFCD. The Certificate of Final Completion will not be issued until the work with in HCFCD right of way/easement is inspected and approved by the HCFCD.

5. All yards and sprinkler systems have to be restored or repaired to pre-construction condition or better. Not a separate pay item incidental to the cost of the project.

6. Transfer services.

7. Complete report of all pay items.

8. Contact and notify the Engineer/ Construction Project Manager no later than thirty (30) days after completion of the project to complete Texas Department of Licensing and Registration post construction inspection of pedestrian elements for Texas Accessibility Standards.

9. Submit all post TV inspection tapes/ DVDs for approval.

10. Provide to Project Manager Construction drawing's "as-built mark-ups" of work performed within public rights-of-ways as part of the project close-out procedures.

11. Draft O&M Manuals shall be delivered to Project Manager.

12. Inspection and acceptance by Harris County Flood Control District (HCFCD) for all work within HCFCD right-of-way.

1.16 GENERAL CONSTRUCTION NOTES

A. Contractor shall give notice to all authorized inspectors, superintendents or persons in charge of private and public utilities or rights-of-way affected by his or her operations, prior to commencement of work.

B. Notify the Utility Coordinating Committee at 1-800-669-8344 or 713-223-4567, and the City of Houston Department of Public Works and Engineering, Civil Construction via fax at 832-394-9620, at least 48 hours prior to commencement of work.

C. Field verify existing facilities shown on Drawings by whatever means necessary (metal detection, probes, excavation, survey, others) prior to excavation for proposed utilities. Field verification work and utility adjustments shall be completed prior to excavation for proposed utilities. No separate pay item.

D. Call the Traffic Management and Maintenance Division of the City of Houston Public Works and Engineering Department when work is scheduled near traffic signal conduits the City of Houston 713-881-3179 or 713- 803-3070. Call at least five working days in advance.

E. These plans and surveys upon which they are based are tied into official City of Houston survey system in compliance with ordinance No. 69-1978. City of Houston survey markers and monuments referenced have been included in this plan set.

F. Comply with OSHA Regulations and State of Texas laws concerning excavation, trenching and shoring as specified in City of Houston Ordinance No. 87-1457.

G. Any pavement (such as wheel chair ramps, pavement curbs, sidewalks, driveways, bikeways, etc.), fences, gates, lawns, irrigation utilities, landscapes, culverts, inlets, manholes, signs or mail boxes and other improvements that have been disturbed due to utility construction shall be replaced with same quality material or better, according to City of Houston standard specifications. Contractors are required to bid accordingly.

H. Adequate drainage shall be maintained by contractor at all times during construction. All construction run-offs shall comply with the 2006 Standard of “Storm Water Management Handbook for Construction Activities” as prepared by Harris County/ HCFCD and the City of Houston. All in compliance with the Texas pollutant discharge elimination system requirements. Contractor shall be responsible for preventing debris from falling into the HCFCD ditches while doing any work.

I. Contractor shall be responsible for removal of siltation in existing and proposed storm sewer systems that result from construction activities associated with this project. Not a separate pay item incidental to the cost of the project.

J. HCFCD ditch # D140-00-00 – Contractor shall be responsible for preventing any debris from falling into the HCFCD ditch while doing any work. Contractor shall submit the following documents to Harris County Flood Control District.

1. Drawing(s)/ exhibit(s) depicting work in HCFCD ROW.

2. Completed “Notice Application for Right-of-Way Construction” application

3. “All Users Bond – October 2004” (Power of Attorney is needed for the bond).

4. 48-hour pre-construction notification form – for work within Harris County Flood Control right of way prior to any construction work near Sims Bayou.

1.17 EXISTING UTILITIES

A. Underground utilities exist in vicinity of this project. While every effort has been made to show locations for existing utilities, they are approximate and other utilities may exist in vicinity of this project, which are not shown on these plans. The location and grades of existing utilities are based on as-built information. Field verify location prior to commencing construction.

B. Public and private utility lines and customer service lines may exist not shown on construction drawings. Locate, maintain and protect the integrity of these lines. Hand excavation may be required. Anticipate such service lines exist and repair them if damaged during construction. No separate pay will be made for repairs.

C. Coordinate with proper utility company to relocate or divert any utility in conflict with proposed construction so as not to disrupt service of same. Restore relocated or diverted utility to its original condition and location upon completion of construction.

D. Do not interrupt existing water service. Construct proposed water lines and transfer service per City of Houston requirements prior to commencement of any underground construction that may interfere with existing water service.

E. Maintain existing water service and sanitary sewer service within construction area until construction of new system is complete.

F. Verify sizes of water meters that are found in field.

1.18 STORM WATER POLLUTION PREVENTION PLAN

A. The Storm Water Pollution Prevention Plan (SWPPP) for this project is governed by

sections 01410, 01570, 01575 and the layouts provided in this project manual. Contractor shall comply with Storm Water Pollution Prevention Plan as detailed in the drawings included in this project manual. These plans are prepared per the Traffic Control plans phases and steps. There is no separate pay item or cash allowance for Storm Water Pollution Prevention Plan implementation and maintenance / clean up; the cost is incidental to unit price of filter fabric fence and inlet protection barrier. The SWPPP report and applicable permits are included in Attachment A of Section 01110.

1.19 ALTERNATE CONSTRUCTION METHODS

A. Alternate construction methods will be allowed in accordance with applicable details and specifications in Contract Documents at no additional cost to City of Houston provided City will receive substantial benefit from alternate construction method(s). Contractor accepts responsibility for all additional cost of geotechnical investigations and incidental items, including any re-design that may be necessary. Submit following for review by Project Manager prior to commencement of any construction activity if such alternate construction methods are to be considered. All modifications as listed below must be signed and sealed by a Licensed Professional Engineer registered in State of Texas prior to submittal to Project Manager.

1. Revisions to horizontal or vertical alignment.
2. Revisions to access manhole details, if applicable.
3. Revisions to line valve and operator manhole details, if applicable.
4. Revisions to vacuum relief valve vault details, if applicable.
5. Revisions to cathodic protection system, if applicable.
6. Proposed construction method and detailed plan of approach.
7. Location of access shafts, if applicable.
8. Proposed traffic control plan.
9. Revisions to material specifications.
10. Impact of revised alignment on hydraulic surge potential on line segment in question and all adjacent line segments, existing or proposed.

Failure of agreement between Contractor and Project Manager over proposed alternate construction methods would require construction to vertical and horizontal

alignment, and details as per original contract documents.

1.20 SOIL CONDITIONS & ENVIRONMENTAL SITE ASSESSMENTS (ESA)

A. Bidder(s) must consider soil conditions and ESA findings provided in Geotechnical Report, and ESA Phase I & II Reports, respectively. These reports have been provided on a CD, which is attached to the Project Manual.

1.21 POTENTIALLY PETROLEUM CONTAMINATED AREAS

A. PPCA was identified within project limits. Refer to Phase I and II ESA Reports prepared by Aviles Engineering Corporation for additional information.

B. Provide Preparatory Work in PPCA as required in Specification 02105, Chemical Sampling and Analysis. In the event soil or groundwater contamination is found that exceeds the limits given in Specification 02105, comply with requirements of Specification 02120, Off-site Transportation and Disposal.

C. Inform Project Manager of any observed soil or groundwater contamination. Where soil and/or groundwater contamination exists, take proper action as described in Specification 02105, Chemical Sampling and Analysis, and 02120, Off-Site Transportation and Disposal.

1.22 CENTERPOINT ENERGY ELECTRICAL FACILITIES

A. Overhead lines may exist on property. We have not attempted to mark those lines since they are clearly visible. All lines should be located prior to construction. Texas law, section 752, health & safety code, forbids all activities in which persons or things may come within six (6) feet of live overhead high voltage lines. Parties responsible for work, including contractors, are legally responsible for safety of construction workers under this law. This law carries both criminal and civil liability. To arrange for lines to be turned off or removed call Centerpoint Energy at (713) 207-2222.

B. Location of CenterPoint Energy electrical facilities, are approximate and have not been verified by actual field check

C. Hand dig within one (1) foot of CenterPoint Energy underground electrical facilities.

D. Overhead lines exist on and adjacent to project site, which may be live during construction period. Facilitate work so as not to interrupt services unless permitted by CenterPoint Energy.

E. Exercise caution when working in vicinity of CenterPoint Energy electrical cable, underground wiring and overhead lines.

F. When excavating within 5 feet and depth of 3 feet below existing grade of utility pole or anchor to which CenterPoint Energy facilities are attached, CenterPoint Energy will secure or brace these poles and anchor prior to excavation. Cost of CenterPoint Energy's efforts is incidental. No separate pay item.

1.23 CENTERPOINT ENERGY UNDERGROUND GAS FACILITIES

A. Locations of Center Point Energy main lines (to include United Gas Transmission and/or Industrial Gas Supply Corporation where applicable) shown in an approximate location only. Service lines are usually shown. Contact Utility Coordinating Committee at 1-800-545-6005 or 811 a minimum of 48 hours prior to construction to have main and service lines field located.

B. When Center Point Energy pipeline markings are not visible, call (713) 967-8036 or (713) 967-8037 (7:00 am to 4:30 pm) for status of line location request before excavation begins.

C. When excavating within eighteen inches (18") of the indicated location of CenterPoint Energy facilities, all excavation must be accomplished using non-mechanized excavation procedures.

D. For emergencies regarding gas lines call (713) 659-3552 or (713) 207-4200.

E. When CenterPoint Energy facilities are exposed, sufficient support must be provided to facilities to prevent excessive stress on the piping. No separate pay.

F. The contractor is fully responsible for any damages caused by his failure to exactly locate and preserve these underground facilities.

G. All gas facilities are the property of CenterPoint Energy, unless otherwise noted.

1.24 AT&T TEXAS / SWBT (Telephone Facilities)

A. Locations of AT&T Texas/SWBT utilities are shown in approximate way only. Contractor shell determine the exact location before commencing work. Contractor agrees to be fully responsible for any and all damages, which might be occasioned by his failure to exactly locate and preserve these underground utilities.

B. Call 1-800-344-8377 minimum of 48 hours prior to construction to have underground lines field located.

C. When excavation within eighteen inches (18") of an indicated location of AT&T Texas/SWBT facilities, all excavations must be accomplished by using non-mechanized excavation procedures. When boring, contractor shall expose SBC facilities.

D. When AT&T Texas/SWBT facilities are exposed, contractor will provide support to prevent damage to conduit ducts or cables. When excavating near telephone poles, contractor shall brace pole for support. No separate pay.

E. Presence or absence of AT&T Texas/SWBT underground conduit facilities shown on Drawings does not imply that there are no buried cable facilities or other cables in the area.

F. Contact AT&T Texas Damage Prevention Manager Mr. Roosevelt Lee Jr. at (713) 567-4552 or E-Mail at r17259@att.com, regarding questions about boring or excavating near AT&T Texas/SWBT facilities.

1.25 TREE PROTECTION

A. Notify City of Houston Parks and Recreation Department representative Mr. Dale Temple, City Forester, at (832) 395-2205, at least two (2) weeks in advance of clearing, cutting, pruning, or planting any tree.

B. Adhere to requirements of Specification Section 01562 - Tree and Plant Protection, Section 02915 – Tree Planting, and Tree Protection Plan provided in Contract Drawings. Protect existing trees, landscaping, and sprinkler systems. Repair damaged sprinkler systems and replace damaged landscaping to original condition or better. No separate payment.

C. Live trees removed must be replaced with equivalent size in inches or with multiple trees whose cumulative size equates to size of tree being replaced. Tree replacement includes cost of new tree, installation, watering and warranty per Specification Section 02915, at no additional cost.

PART 2 P R O D U C T S

2.01 TYPE OF PIPE FOR CONSTRUCTION OF WATER LINE

A. Drawings have been prepared for large diameter water line on basis of Prestressed Concrete Cylinder Pipe (PCCP) except where specific pipe material is identified. Certain details pertaining to all types of pipe have been included when a specific difference exists. Include costs associated with changes in installation and construction, tie-ins, valves, vaults, and other appurtenances to accommodate alternate pipe in unit cost of water line construction.

B. Only one type of pipe material may be used where material alternates are allowed. When adjoining proposed large diameter water line to existing large diameter water line of different pipe material and/or coating, provide a flanged connection insulating kit, and isolation test station, unless otherwise approved by Project Manager.

Specifications and design criteria have been provided for these types of pipe. It is Contractor's responsibility to ensure that type of pipe selected and resulting methods and means complies with requirements and limitations set forth herein and on Drawings including traffic control.

C. Unless specifically identified on Drawings, types of materials used are Contractor's option. Manufacturer and subcontractor selection are within Contractor's control and will not warrant time extensions due to failure to produce required deliverables within Contract Time. Extension of Contract Time due to non-delivery of Contractor's choice of pipe material, which affects Contractor's schedule, will not be allowed. Contractor to submit pipe material and other critical submittals in a timely manner to allow sufficient review time by Project Manager and to maintain construction schedule.

D. If contractor chooses Ductile Iron as pipe material, he has to install both Cathodic Protection system as specified in drawings (sacrificial anodes / rectifier system) and Polyethylene encasement material in accordance with specification section 02501.

E. Call out for bends and fittings are not identified on Drawings in profile view. Provide bends and fittings as required complying with invert elevations shown in profile view of Drawings.

F. Clearly identify different pipe classes of the same pipe material using colored concrete or similar marking as approved by Project Manager.

G. Provide electrical isolation when adjoining to pipe with different material or coating. Coating on the welded restrained portions of the piping shall be identical to the coating on the adjoining pipe sections.

H. No separate payment for restrained or welded joints for large diameter water lines.

PART 3 E X E C U T I O N (Not Used)

END OF SECTION

Section 02105

CHEMICAL SAMPLING AND ANALYSIS

PART 1 G E N E R A L

1.01 SECTION INCLUDES

A. Preparatory work related to site remediation and excavation in a Potentially Petroleum Contaminated Area (PPCA).

B. Sampling and analysis of site material.

1.02 MEASUREMENT AND PAYMENT

A. Unit Prices

1. Preparatory work is paid on a lump sum basis. Item includes hiring environmental consultants, preparing Environmental Health and Safety Plan, preparing Environmental Work Plan, training personnel, and obtaining permits and additional insurance.

2. Underground Utility Construction in PPCA.

a. Underground utility construction and appurtenances in areas identified within PPCA limits is on a linear foot basis, each basis, or lump sum basis, as shown in Document 00410 – Bid Form.

b. Payment includes compensation for labor, equipment, and supervision for mobilization, environmental monitoring and field screening, handling, sampling, and testing of contaminated soil and groundwater. Contaminated soil may be Category I or II. Contaminated groundwater will be that encountered during excavation for underground utilities and flowing at a rate not greater than 20 gallons per minute. Included in this pay item is incremental cost for upgraded piping, gaskets, and appurtenant materials.

c. Limits of measurement under this section are noted on Drawings as ‘Begin PPCA Excavation’ and ‘End PPCA Excavation’ and other areas determined by Project Manager during the course of the work.

d. Payment will be made upon receipt of field test reports from approved analytical laboratory.

3. A force account for Extra Work for PPCA Handling will be used to compensate for time and materials required for additional work associated with PPCA when directed by Project Manager to perform such work and for which there is no bid item. Authorization and compensation for this work will be in accordance with Document 00700 - General Conditions.

4. Refer to Section 01270 - Measurement and Payment for unit price procedures.

B. Stipulated Price (Lump Sum). If the Contract is a Stipulated Price Contract, payment for work in this Section is included in the total Stipulated Price.

1.03 REFERENCE STANDARDS

A. ASTM D 5092 - Practice for Design and Installation of Groundwater Monitoring Wells.

B. Code of Federal Regulation (CFR), Title 40, Section 261.24. - Protection of the Environment.

C. CFR, Title 29, Section 1910.120. - Occupational Safety and Health Administration, Department of Labor.

D. CFR, Title 29, Section 1926. - Occupational Safety and Health Administration, Department of Labor.

E. CFR, Title 40, Section 261, Appendix II. - Protection of the Environment.

F. Texas Administrative Code (TAC), Title 30, Chapter 335. - Industrial Solid Waste and Municipal Hazardous Waste.

G. TAC, Title 30, Chapter 334. - Underground and Aboveground Storage Tanks.

H. TAC, Title 30, Chapter 106.533. - Exemptions from Permitting, Subchapter X. Waste Processes and Remediation.

I. U.S. Environmental Protection Agency (EPA), (SW-846) Test Methods for Evaluating Solid Waste, Office of Solid Waste and Emergency Response, Washington, D.C. (P1388-239223, November 1986).

J. Texas Commission on Environmental Quality (TCEQ) Interoffice Memo, dated 4/12/94, by Chris Chandler, RPR Section, PST Division, regarding ‘Revised

Procedures for Classifying and Assigning Waste Codes for Underground and Aboveground Petroleum Storage Tank Wastes' (text attached following this section).

1.04 DEFINITIONS

A. Petroleum: Crude oil, natural gas, natural gas liquids, liquefied natural gas, and synthetic gas usable for fuel, as well as distillates of crude oil including gasoline, kerosene, diesel oil, motor oil, waste oil, jet fuels, and fuel oil.

B. Potentially Petroleum Contaminated Area (PPCA): An area within station-to-station locations identified on Drawings where petroleum contamination has been detected in the soil or groundwater. PPCA also includes areas where contamination is suspected or encountered during utility installation outside areas identified on Drawings, and such contamination has been verified by Project Manager.

C. Category I Soil: Soil containing visual or physical evidence of contamination, as described in paragraph 3.01, and that is not Category II Soil.

D. Category II Soil: Soil that contains petroleum contamination in excess of levels identified in paragraph 3.04, and is consistent with a classification as Special Waste-PST as defined by TCEQ in their interoffice memo dated 4/12/94, or soil that contains visible free product or is impacted with non-petroleum compounds detected above Risk Reduction Standard Number 2 levels as defined in Texas Administrative Code, Title 30, Chapter 335.

E. Potentially Contaminated Groundwater: Water recovered in a groundwater control system located in PPCA or groundwater that contains visual or physical evidence of contamination, as described in paragraph 3.01, and such contamination has been verified by Project Manager.

1.05 SUBMITTALS

A. Conform to requirements of Section 01330 - Submittal Procedures.

B. Submit an Environmental Work Plan within 30 days after issuance of Notice to Proceed.

1. The Environmental Work Plan shall be prepared by a Corrective Action Project Manager licensed in Texas, who has completed 40-hours of Health and Safety Training and the required annual refresher training, and in the employment of a registered Corrective Action Specialist firm.

2. The Environmental Work Plan shall include the following items. Compile and arrange in a format that can be reviewed by TCEQ.

a. Proposed sequence of construction through PPCA;

b. Procedures for screening soil in PPCA, identifying Category I or II Soil;

c. Procedures for handling material from PPCA;

d. Proposed location of stockpile areas;

e. Proposed reuse of Category I Soil as trench backfill below depths of 30 inches;

f. Proposed methods for disposal or recycling of Category I or II Soil;

g. Proposed carriers of Category I or II Soil or potentially contaminated groundwater with verification each is properly licensed;

h. Proposed recycle/disposal sites for Category I or II Soil or potentially contaminated groundwater with verification that each is properly licensed;

i. Copy of permit required for discharge of potentially contaminated groundwater in sanitary sewer system, if to be disposed in sanitary sewer;

j. Name and qualifications of Corrective Action Project Manager and professional environmental consultants for health, environmental, and safety issues regarding operations within PPCA; and,

k. Proposed analytical laboratory with verification it is accredited by A2LA or other recognized association, or it is a participant in the EPAs Performance Evaluation Program.

3. Do not commence work in PPCA until Environmental Work Plan has been reviewed and accepted by Project Manager.

C. Submit Environmental Health and Safety Plan within 30 days after issuance of Notice to Proceed.

1. The Health and Safety Plan shall be prepared by a Corrective Action Project Manager licensed in Texas, who has completed 40 hours of

health and safety training, and required annual refresher training, or a Certified Industrial Hygienist.

2. Include methods and procedures for assuring work, which will be conducted under conditions expected in the field, is safe.

D. As work proceeds, submit field screening, monitoring and analytical laboratory test results on a weekly basis for soil and on a daily basis for groundwater. Summarize test results in tables together with applicable regulatory criteria.

E. Submit copies of correspondence, reports, permits and other documents provided to, or received from, regulatory agencies.

1.06 PERSONNEL REQUIREMENTS

A. Provide trained personnel who have completed minimum health and safety programs specified by the Occupational Safety and Health Administration in 29 CFR 1910.120. Before beginning work at the site, each employee that will work in PPCA is required to have completed 40 hours health and safety training and the required annual refresher training.

PART 2 P R O D U C T S

2.01 MATERIALS

A. Do not use polyvinyl chloride or other plastic material, unless approved by Project Manager.

B. Water Line Pipe Material.

1. Furnish ductile-iron pipe, steel pipe, bar wrapped steel cylinder pipe or prestressed concrete cylinder pipe material within station-to-station locations identified as PPCA on Drawings.

2. Provide restrained joints for ductile-iron pipe or welded joints for steel pipe, bar wrapped steel cylinder pipe or prestressed concrete cylinder pipe.

3. Provide pipe material conforming to Section 02501 – Ductile Iron Pipe; Fittings or Section 02502 - Steel Pipe and Fittings; Section 02518 - Steel Pipe and Fittings for Large Diameter Water Line; Section 02613 – Bar Wrapped Steel Cylinder Pipe; Section 02507 – Prestressed Concrete Cylinder Pipe.

C. Sanitary Sewer Pipe Material.

1. Furnish ductile iron pipe, fiberglass reinforced pipe, or equivalent protective materials approved by Project Manager.

2. Provide restrained joints.

3. Provide pipe material conforming to Section 02501 – Ductile Iron Pipe and Fittings or Section 02504 - Fiberglass Reinforced Pipe. Use pipe with a minimum pressure rating of 150 psi.

D. Use Viton (FKM) type gaskets, or approved equal, for water lines and appurtenances requiring gaskets. Use Nitrile Rubber type gaskets, or approved equal, for sanitary and storm sewer pipe, precast concrete manhole joints and appurtenances requiring gaskets

PART 3 E X E C U T I O N

3.01 POTENTIALLY PETROLEUM CONTAMINATED AREAS

A. Conduct operations in PPCA in accordance with the accepted Environmental Work Plan and the Environmental Health and Safety Plan and to minimize the spread of contamination. In other areas which are either detected or suspected to be potentially petroleum contaminated areas, immediately notify Project Manager and proceed with work in accordance with this Section, unless otherwise directed by Project Manager.

B. Immediately notify Project Manager and TCEQ's Region 12 Field Office whenever Category I or II Soil or potentially contaminated groundwater are encountered.

1. Provide location, depth, type (soil or groundwater), source (if known), and evidence of suspected contamination.

2. Determine if Category I Soil or potentially contaminated groundwater is present by visual or physical evidence of contamination. Visual or physical evidence includes:

a. Petroleum or chemical odor.

b. Indication of levels of contamination by air monitoring devices employed as part of the Environmental Health and Safety Plan.

c. Soil or groundwater discoloration.

d. Material oozing/dripping into excavation.

e. Liquid or oily sheen floating on groundwater.

f. Buried containers or refuse.

g. Field screening 'head-space' results in excess of a 25 ppm reading on a photoionization detector (PID) or flame ionization detector (FID).

C. Install piping and gasket materials and appurtenances in conformance with appropriate section, except as modified in this Section.

D. Construct trench dams within a utility trench at each boundary of PPCA and laterals to minimize potential for contaminant transport within pipe bedding material. A trench dam shall consist of at least 24 inches of cement stabilized sand with 10 percent bentonite clay added, extending from 6 inches below bottom of trench to within 12 inches of limits of topsoil or pavement.

3.02 ENVIRONMENTAL MONITORING

A. An environmental consultant shall monitor conditions in PPCA, as specified in the Environmental Health and Safety Plan. Maintain safe working conditions in accordance with OSHA requirements (29 CFR 1926).

3.03 SCREENING PPCA SOILS

A. An environmental consultant shall perform field screening of soil removed from excavation or tunneling in PPCA.

B. Screening Procedures.

1. Place samples in a sealed plastic bag and place in a warm location for 15 minutes prior to screening.

2. Properly calibrate the PID/FID using a calibration gas. For PID use 100 ppm isobutylene and for FID use 100 ppm methane.

3. Open bag just enough to insert instrument probe and take maximum headspace reading.

4. Screen at least twice per hour while removing soils in open cut areas or shafts.

5. During tunneling, screen once for each pipe length in pipe jacked tunnels or each advance of tunnel shield in primary lined tunnels. Screen at least once per shift when excavating.

3.04 SAMPLING AND TESTING

A. Frequency.

1. Sample soil in PPCA at a rate of not less than one composite sample for every 20 cubic yards of excavation or volume corresponding to every 50 linear feet of installed underground utility, whichever is more frequent.

2. Sample water from PPCA to be discharged to a sanitary sewer one week prior to initiation of discharge, and at a rate of one grab sample once per day during discharge to sanitary sewer.

B. Analyze soil samples for parameters listed in Section 02120 – Off-Site Transportation and Disposal, Table 02120-1, Soil Criteria - Petroleum Only, and in accordance with SW-846. Handle as a Category II Soil if analytical results indicate any one, or more, parameters exceed allowable Maximum Concentration listed in Table 02120-1. If benzene concentration from composite sample is greater than 5 milligrams per kilogram (mg/kg) or lead concentration is greater than 30 mg/kg, perform Toxicity Characteristic Leaching Procedure (TCLP) analysis of appropriate compound for that sample to determine if a more stringent disposal classification is warranted. If contaminants other than petroleum are suspected, immediately notify Project Manager who will determine the list of parameters to be analyzed. If such are encountered, compensation will be made under the Allowance for PPCA Handling. Use a 4-part representative composite sample for analysis of parameters, except when inconsistent with SW-846.

C. Analyze groundwater samples for discharge to sanitary sewers. Analyze samples for BTEX by EPA Method 602, 8020, or 8021; TPH by EPA Method 418.1 or Method TX 1005; and Lower Explosive Limit (LEL) in accordance with EPA Method 1010.

D. Conduct analyses by proposed analytical testing laboratory listed in Environmental Work Plan.

3.05 AIR MONITORING REQUIREMENTS

A. Ensure health and safety of workers at the construction site. Maintain air quality within the construction zone to conform to exposure limits specified in Code of Federal Regulations (CFR) Title 29, Section 1910.120 enforceable by OSHA.

B. Provide adequate shoring and sufficient escape ladders in accordance with applicable trench safety regulatory requirements.

C. In the trench, continuously operate a combustible gas indicator (CGI) with LEL/O_2 meter to monitor vapor and oxygen levels. Properly calibrate CGI and provide an alarm that sounds if greater than or equal to 20 percent Lower Explosive Limit (LEL), less than or equal to 19.5 percent oxygen, or greater than or equal to 25 percent oxygen is reached. Record monitoring data from CGI every 15 minutes to ensure safe work conditions.

D. Take appropriate measures during construction to keep LEL levels below 20 percent in the trench. If vapor concentrations exceed 20 percent of LEL stop construction work, turn off equipment, and have workers immediately vacate the PPCA in an upwind direction.

E. Take readings with PID/FID 50 feet downwind of area during excavation or work in contaminated excavation areas and until one hour after cessation of such work. Take readings within breathing zone at approximately 4 feet above ground level. Record readings, date, time, initials of person taking reading, PID/FID serial number and last calibration date of PID/FID in bound field book.

END OF SECTION

Attachment to Section 02105

PETROLEUM CONTAMINATION

Following, for informational purposes only, is the text of the 4/12/94 Interoffice Memo from Chris Chandler of the Texas Commission on Environmental Quality (TCEQ), RPR Section, PST Division, regarding Revised Procedures for Classifying and Assigning Waste Codes for Underground and Aboveground Petroleum Storage Tank Wastes:

This document is a revision of the waste classification memo dated July 18, 1991 which revised the original March 11, 1991 document. The main difference between the first two documents was the elimination of the distinction between industrial and nonindustrial petroleum substance wastes. This latest version has been revised to reflect changes in the rules and in the agency itself. Significant changes are denoted by underlines. Please discard the previous document.

An appropriate response to any leaking petroleum storage tank incident must always include the proper handling and disposal of all generated wastes. In the majority of cases these wastes include contaminated soils and/or wastewater. Before a disposal destination can be determined for a particular waste, the waste must be classified based on the concentrations of contaminants. The procedures for classification of petroleum contaminated wastes are detailed in the attached Guidance Document for the proper Management of Wastes Associated With Underground and Aboveground Petroleum Storage Tanks. The waste first must be analyzed by a laboratory and then, based upon the results of the analysis, a classification can be assigned to the waste with its corresponding waste code number. The waste code is a predesignated number based upon both the waste's classification and the type of contaminants.

Many disposal facilities are now requiring the generator of any petroleum substance waste to obtain a waste classification from TCEQ that assigns a waste code number to that particular waste before the facility will accept it (even though this is not a regulatory requirement for nonhazardous PST wastes). In order to receive this waste code, the generator first must submit laboratory reports and other information providing the results of analysis for the waste. This information should be attached to a completed copy of TCEQ Form No. 0197. Only after receipt of this documentation should the waste code assignment be made. Waste code numbers should never be issued based upon analytical results unsupported by laboratory documentation.

Laboratory reports should include a description of the analytical procedures utilized, the condition in which the sample was received, and the signature of the laboratory personnel. Also, reports must be accompanied by a description of the sample collection and handling procedures. If the procedures described are not in accordance with EPA-approved and/or TCEQ-accepted procedures, the results should be rejected as invalid.

Soil samples should be collected at the rate of one sample for every fifty cubic yards of material, and each sample should be a composite which is representative of the fifty cubic yard unit. Water samples from inside storage vessels should be collected from

the top of the water column in order to identify the highest contaminant level. Water should be sampled at the rate of one sample per 3000 gallons of water, or a minimum of one sample per container if there is more than one container.

When a waste is categorized as Class II PST or Special Waste-PST, the generator must document the volume, means of transportation, and ultimate destination for the waste. Once all of the proper information has been received by the PST of FO Division in writing, the waste classification and code number can be verbally issued to the generator. The number should be written on the submitted Form No. 0197 in the space marked TCEQ Use Only, and a copy of the form mailed or faxed to the Responsible Party (not the contractor or consultant). Also include the date, the person issuing the code number and the Regional Office number on the form. A copy of the completed form and all submitted information should be sent to the Central Office (or regional office as appropriate).

Regional Field Inspectors as well as PST Division Coordinators should issue waste classifications and code numbers for only Class II PST and Special Wastes-PST on cases they are responsible for coordinating.

Additionally, for all waste classification requests which are not associated with LPST sites (such as for disposal of water used to clean tanks or for disposal of soil/backfill material not associated with a confirmed release), the I&HW Division or the appropriate Regional Office should oversee the waste classification. All hazardous and industrial Class I waste must be manifested in accordance with the Industrial Solid Waste Rules, Chapter 335, Texas Administrative Code. Generators of any hazardous wastes or industrial Class I waste should be referred to the Waste Evaluation Section of the TCEQ Industrial and Hazardous Waste Division at (512) 239-6832.

Following are the waste classification and code numbers for typical nonhazardous wastes generated at leaking underground and aboveground petroleum storage tank sites involving the release of petroleum substances only (i.e., gasoline, diesel, kerosene, jet fuel, etc.).

CONTAMINATED SOILS

Contaminant Level	**Classification**	**Waste Code Number**
If greater than 150 ppm BTEX **OR** 600 ppm TPH	Special Waste PST	PSTW4891
If less than 150 ppm BTEX **AND** 600 ppm TPH	Class II PST Waste	PSTW4892

Note Soils saturated ('drippy') with gasoline are likely to be ignitable. Contaminated soils analyzed as ignitable are classified as hazardous waste and therefore

can only be transported by a registered hazardous waste hauler and only disposed of at a permitted facility authorized to receive hazardous wastes.

CONTAMINATED WATER

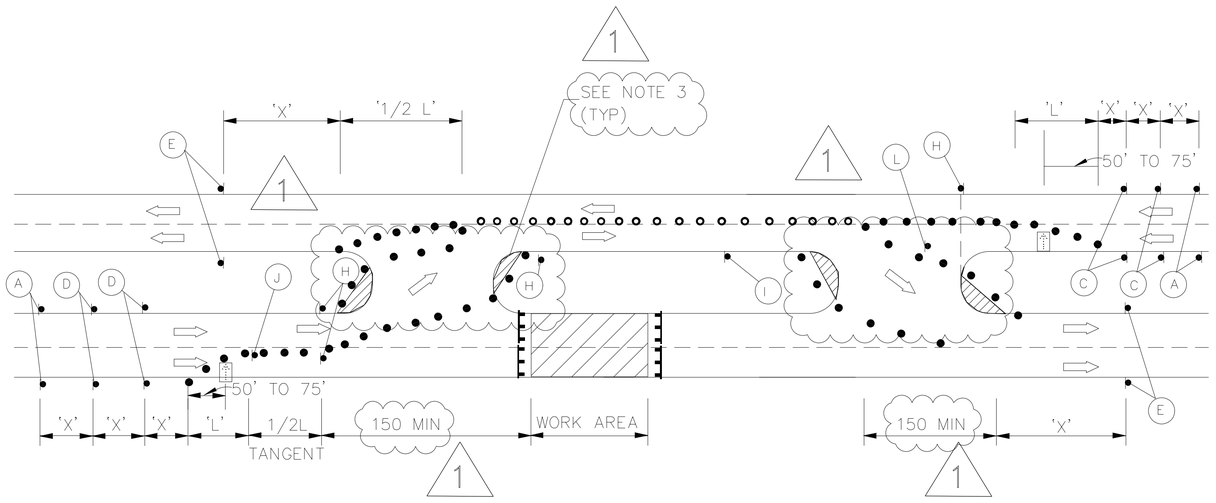
Contaminant Level	**Classification**	**Waste Code Number**
Any concentration of dissolved contamination with no phase-separated product	Class II PST Waste	PSTW1021

As routinely requested in TCEQ's letters, documentation of the handling and disposition of all wastes generated in a LPST response action must be provided to TCEQ. It is essential that we track PST wastes through signed receipts and, when required, manifests to prevent their illegal dumping.

Should you have any questions or comments, please contact me at 512/239-2245 or the Waste Evaluation Section at 512/239-6832.

(Signed) Chris Chandler

END OF ATTACHMENT



TYPICAL CLOSURE OF ONE ROADWAY OF A 4-LANE DIVIDED STREET

SPECIAL TRAFFIC REQUIREMENTS

1. Contractor shall provide and install traffic control devices in conformance with part VI of the Texas Manual on Uniform Traffic Control Devices (Texas MUTCD, most recent edition with revisions) during construction.
2. Contractor will be responsible for replacing and maintaining pavement markings which include centerline, barrier lines, lane lines and raised pavement markings.
3. This traffic control plan represents the minimum required by traffic conditions in the field. Contractor to maintain access to adjacent properties at all times.

4a. No lanes shall be closed from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. Monday thru Friday.

4b. No lanes shall be blocked between 7:00 a.m. to 6:00 p.m. Monday thru Friday in downtown area. Exception to these times, if necessary, should be sought during lane closure permit application.

5. Contractor shall cover open pavement excavations with anchored steel plates during non-working hours, and open lanes for normal traffic flow.
6. Off-duty Uniformed Police Officers are required to direct traffic when lanes are blocked.
7. Lane closure time(s) shall be specified on the lane closure permit.
8. If the contractor chooses to use a different method of "Traffic Control Plans" during the construction than what is outlined in the contract drawings, they shall be responsible to prepare and submit an alternate set of plans* to Plan Review Section for approval ten working days prior to implementation.
   *These plans shall be drawn to scale on reproducible mylars and sealed by a Licensed Engineer in the State of Texas. Plans will become a part of the contract drawings.
9. Approved copies of Traffic Control Plans and lane closure permits shall be available for inspection at job site at all times. Contractor must secure 'Lane Closure Permits' from City's Traffic Management and Maintenance Branch before closing a lane/sidewalk. The request must be made at least three business days prior to the date for which the closure is sought. Note that working hours may be restricted or the request may be denied. Call 713-837-7280 for an application.
10. Lanes shall be kept closed during pavement surface restoration and opened only after pavement is restored completely.

SPACING FOR CHANNELIZING DEVICES

1. Plastic drums on merging taper @ 30' c-c with chevron sign @ 60' c-c and type 'C' warning light (for overnight closure)
2. Plastic drums on downstream taper @ 35' c-c
3. Plastic drums on radii @ 5' c-c
4. Plastic drums on tangent @ 35' c- c with vertical panel @ 70' c-c and type 'C' warning light @ 70' c-c (for overnight closure)
5. Plastic drums in front of construction zone @ 20' c-c with vertical panel @ 40' c-c and Type 'A' warning light @ 40' c-c (for overnight closure)
6. Concrete traffic barrier (CTB) or low profile concrete traffic barrier (lpctb) with reflectors @ 10' c-c if pavement drop is more than twelve inches (12")
7. Tubular marker @ 20' C-C.

Note: Spacing shown on traffic control plans shall supersede the above spacings.

Length for Longitudinal Buffer	
Posted Speed (mph)	Length in Feet (B)
20	35
25	55
30	85
35	120
40	170

LEGEND (TYPICAL)

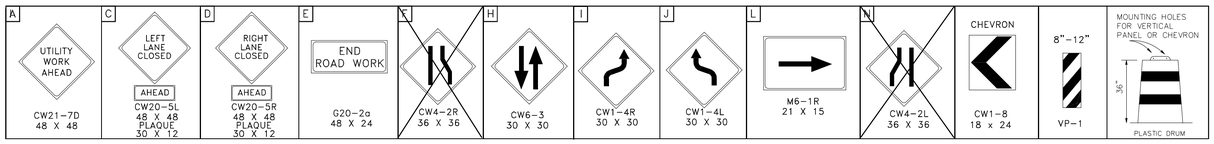
- PLASTIC DRUM (see spacing for channelizing devices)
- OFF-DUTY UNIFORMED POLICE OFFICER
- TYPE III BARRICADE
- FLASHING ARROW PANEL
- TUBULAR MARKER

TYPICAL SIGN SPACING AND TAPER LENGTHS.

Posted Speed (mph)	Sign Spacing "X"	Min. Desirable Taper Length "L" 10' Offset	11' Offset	12' Offset
30	120'	150'	165'	180'
35	160'	205'	225'	245'
40	240'	265'	295'	320'

* ENGINEER TO STRIKE THROUGH ALL SPEED LIMITS NOT APPLICABLE

W. AIRPORT	35 MPH
STREET NAME	SPEED LIMIT



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NOTES:

1. THIS DETAIL MAY BE USED ON WORKING DAYS BETWEEN THE HOURS OF 9AM AND 4 PM. UNLESS PRIOR APPROVAL IS OBTAINED FROM CITY OF HOUSTON TRAFFIC OPERATIONS DIVISION, BY 4PM THE CONTRACTOR MUST RETURN TRAFFIC TO CONFIGURATION DEPICTED IN THE TRAFFIC CONTROL PLANS, PHASES 1 AND 2.

2. WESTBOUND TRAFFIC MUST REMAIN IN ITS EXISTING INNERMOST LANE BETWEEN STA 0+00 TO STA 5+80 AND STA 27+80 TO STA 30+00, AS SHOWN IN TRAFFIC CONTROL PLAN PHASE 1-STEP 2 AND PHASE 1-STEP 7. SHIFT BACK TO ITS EXISTING LANE AT THE MEDIAN OPENING PRIOR TO THE INTERSECTIONS OF BOB WHITE AND FONDREN.

3. REMOVE CONCRETE CURB AND INSTALL TEMPORARY ASPHALT PAVEMENT AS NECESSARY TO PROVIDE A SHIFTING TAPER THROUGH THE MEDIAN OPENING. SHIFTING TAPER SHALL BE A MINIMUM 150-FOOT IN LENGTH.

No.	DATE	REVISIONS	APP'D
1	4/2016	ADDENDUM #1	

3/30/2016 5:32:16 PM $USERNAME$

SWTP Surface Water Transmission Program

Lockwood, Andrews & Newnam, Inc. A LEO A DALY COMPANY

FRAYRE ENGINEERING CONSULTING PLLC

STATE OF TEXAS · PATRICIA FRAYRE · 91783 · LICENSED PROFESSIONAL ENGINEER

03.31.16

Engineer of Record
Texas Registered Engineering Firm F-1504

SURVEYED BY:
MARTINEZ, GUY & MAYBIK, INC.
C.O.H. FIELD BOOK P-5957

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

24-INCH WATER LINE ALONG W. AIRPORT BLVD.

TRAFFIC CONTROL PLAN
TYPICAL CLOSURE DETAILS
(TCP-10)

WBS NO.
S-000900-0171-4

DRAWING SCALE
NOT TO SCALE

CITY OF HOUSTON PM
ARTHUR C. MORRIS, P.E.

SHEET NO. 81 OF 86

$FILE$