

Document 00910

ADDENDUM NO. 2

Date of Addendum: 3/3/16

PROJECT NAME: Large Diameter Valve Replacement Contract – Package 1

PROJECT NO: WBS No. S-000701-0035-4

BID DATE: March 10, 2016 (There is no change in the Bid Date)

FROM: James T. Lincoln, P.E., City Engineer
City of Houston, Department of Public Works and Engineering
611 Walker Street
Houston, Texas 77002
Attn: Anh H. Hunter, 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

BIDDING REQUIREMENTS

1. Document 00410B – Bid Form Part B. Replace entire document.
2. Document 01110 – Summary of Work. Replace entire document.

SPECIFICATIONS

3. Section 01502S – Mobilization Supplement. Replace entire document.
4. Section 02521S – Gate Valves Supplement. Replace entire document.

5. Section 02522S – Butterfly Valves Supplement. Replace entire document.

CHANGES TO DRAWINGS

6. Add additional sheet, Sheet 158A Traffic Control Plan Water Barrier, to TCP details and add into Index.
7. Delete Sheet 153, Traffic Control Plan Location 14A, and replace with Sheet 153A. Changes to Location 14A Traffic Control Plan (TCP).
8. Delete Sheet 155, Traffic Control Plan Location 14C, and replace with Sheet 155A. Changes to Location 14C Traffic Control Plan (TCP).
9. Change to Note 2 on Sheets 94, 95, 152 & 154. "Work to begin from Friday at 7:00 PM and work around the clock until valve repair is completed."

ADDITIONAL DOCUMENTATION

10. Phase I Environmental Site Assessment – Large Diameter Valve Replacement Package 1. Report No. 1130022801, Geotest Engineering, Inc. Add report to bid documents.

END OF ADDENDUM NO. 2

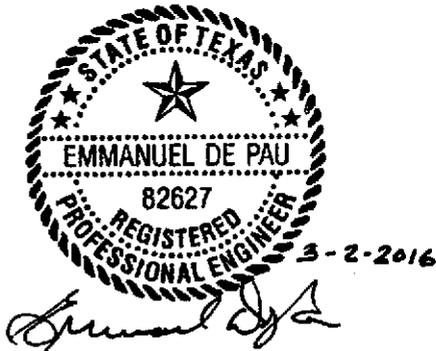
DATED:

Ravi Kaleyatodi

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

RD. Ken Acet
RK:SD:ACM:AHH:sdd

END OF DOCUMENT



Lockwood, Andrews & Newnam, Inc.
F-2614

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:

B.1 – All Locations						
Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
1	01502 01502S	Project Mobilization	LS	1	\$100,000 ⁽¹⁾	\$100,000 ⁽¹⁾
2	01562	Tree Protection	LS	1	\$10,000 ⁽¹⁾	\$10,000 ⁽¹⁾
TOTAL BASE UNIT PRICES						\$110,000 ⁽¹⁾
B.2 – Location 1 – Beamer Rd & Fuqua St						
Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
1	01502 01502S	Work Order Mobilization	LS	1	\$5,000 ⁽¹⁾	\$5,000 ⁽¹⁾
2	01110	Exploratory Excavation	EA	1		
3	01555 01555S	Traffic Control and Regulation	LS	1		
4	01555 01555S	Flagmen	LS	1		
5	01570	Filter Fabric Fence	LF	66		
6	02922	Sodding	SY	41		
7	02521	Procure 36-inch Gate Valve	EA	1		
8	02521 02521S	Procure 36-inch Pipe Sections	EA	1		

Addendum No. 2
00410B-1
03-02-2016

Bidder's Initials []

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
9	02519	Remove 36-inch Butterfly Valve	EA	1		
10	02521 02521S	Install 36-inch Gate Valve with Pipe Sections	EA	1		
11	02082	Water Line Access Manhole	EA	1		
12	15641 15641S	Install Valve Test Station	EA	1		
13	02519	Pipe Dewatering	LF	4,000		
14	02514 02514S	Pipe Disinfection Assistance	LF	4,000		
15	02514 02514S	Pipe Cleaning	LF	400		
16	02524 02524S	Remove and Replace 2-inch to 4-inch Air Valve, Vent Piping & Bollards	EA	2		
17	02519	Install Temporary Blow-Off	EA	1		
<u>TOTAL BASE UNIT PRICES for B.2 - Location 1</u>						\$ _____

REST OF PAGE INTENTIONALLY LEFT BLANK

Addendum No. 2
00410B-2
03-02-2016

Bidder's Initials []

B.3 – Location 2 – Kelley St & Batterson St						
Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
1	01502 01502S	Work Order Mobilization	LS	1	\$5,000 ⁽¹⁾	\$5,000 ⁽¹⁾
2	01555 01555S	Traffic Control and Regulation	LS	1		
3	01555 01555S	Flagmen	LS	1		
4	01570	Inlet Protection Barrier	LF	34		
5	02922	Sodding	SY	18		
6	02522 02522S	Remove and Replace Actuator on 84-inch Butterfly Valve Including Manhole	EA	1		
7	15641 15641S	Install Valve Test Station	EA	1		
8	02221	Remove/Dispose of Concrete Pavement (Curb or Asphalt) w/ or w/out Curbs (All Heights)	SY	25		
9	02751	Reinforced Concrete Pavement (All Heights)	SY	25		
10	02221	Remove and Dispose of Concrete Curb	LF	20		
11	02771	6-Inch Concrete Curb (Monolithic)	LF	20		
TOTAL BASE UNIT PRICES B.3 - Location 2						\$ _____

REST OF PAGE INTENTIONALLY LEFT BLANK

B.4 – Location 3 – Link Rd & Eastman St						
Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
1	01502 01502S	Work Order Mobilization	LS	1	\$5,000 ⁽¹⁾	\$5,000 ⁽¹⁾
2	01555 01555S	Traffic Control and Regulation	LS	1		
3	01555 01555S	Flagmen	LS	1		
4	01570	Reinforced Filter Fabric Barrier	LF	26		
5	01570	Inlet Protection Barrier	LF	12		
6	02522 02522S	Remove and Replace Actuator on 84-inch Butterfly Valve Including Manhole	EA	1		
7	15641 15641S	Install Valve Test Station	EA	1		
8	02221	Remove & Dispose of Asphalt Pavement, All Thicknesses	SY	12		
9	02741	Type D Hot Mix Asphaltic Concrete Surface, 2-inches Thick	SY	12		
TOTAL BASE UNIT PRICES for B.4 - Location 3						\$ _____

REST OF PAGE INTENTIONALLY LEFT BLANK

Addendum No. 2
00410B-4
03-02-2016

Bidder's Initials []

B.5 – Location 4 – IH-10 & IH-610						
Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
1	01502 01502S	Work Order Mobilization	LS	1	\$5,000 ⁽¹⁾	\$5,000 ⁽¹⁾
2	01110	Exploratory Excavation	EA	4		
3	01555 01555S	Traffic Control and Regulation	LS	1		
4	01555 01555S	Flagmen	LS	1		
5	01570	Filter Fabric Fence	LF	22		
6	01570	Inlet Protection Barrier	LF	34		
7	02922	Sodding	SY	73		
8	02233 02233S	Remove and Replace Iron Fence	LF	128		
9	02519	Confined Space Entry Assistance	DAY	4		
10	02522 02522S	Procure 42-inch Butterfly Valve	EA	4		
11	02522 02522S	Procure 42-inch Pipe Sections	EA	4		
12	02522 02522S	Install 42-inch Butterfly Valve with Pipe Sections	EA	4		
13	02082	Water Line Access Manhole	EA	8		
14	15641 15641S	Install Valve Test Station	EA	1		
15	02519	Pipe Dewatering	LF	27,200		
16	02514 02514S	Pipe Disinfection Assistance	LF	27,200		
17	02514 02514S	Pipe Cleaning	LF	2,720		
18	02221	Remove/Dispose of Concrete Pavement (Curb or Asphalt) w/ or w/out Curbs (All Heights)	SY	55		
19	02751	Reinforced Concrete Pavement (All Heights)	SY	55		

Addendum No. 2
00410B-5
03-02-2016

Bidder's Initials []

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
20	02221	Remove & Dispose of Asphalt Pavement, All Thicknesses	SY	112		
21	02741	Type D Hot Mix Asphaltic Concrete Surface, 2-inches Thick	SY	112		
22	02221	Remove and Dispose of Concrete Curb	LF	28		
23	02771	6-Inch Concrete Curb (Monolithic)	LF	28		
<u>TOTAL BASE UNIT PRICES B.5 - Location 4</u>						\$ _____

REST OF PAGE INTENTIONALLY LEFT BLANK

Addendum No. 2
00410B-6
03-02-2016

Bidder's Initials []

B.6 – Location 5 – Clay St & Fashion St						
Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
1	01502 01502S	Work Order Mobilization	LS	1	\$5,000 ⁽¹⁾	\$5,000 ⁽¹⁾
2	01110	Exploratory Excavation	EA	1		
3	01555 01555S	Traffic Control and Regulation	LS	1		
4	01555 01555S	Flagmen	LS	1		
5	01570	Filter Fabric Fence	LF	70		
6	01570	Inlet Protection Barrier	LF	12		
7	02922	Sodding	SY	51		
8	02233 02233S	Remove and Replace Chain Link Fence	LF	80		
9	02519	Confined Space Entry Assistance	DAY	1		
10	02522 02522S	Procure 60-inch Butterfly Valve	EA	1		
11	02522 02522S	Procure 60-inch Pipe Sections	EA	1		
12	02519	Remove 60-inch Butterfly Valve	EA	1		
13	02522 02522S	Install 60-inch Butterfly Valve with Pipe Sections	EA	1		
14	02082	Water Line Access Manhole	EA	1		
15	02519	Remove and Replace Manway Flange	EA	2		
16	15641 15641S	Install Valve Test Station	EA	1		
17	02519	Pipe Dewatering	LF	4,800		
18	02514 02514S	Pipe Disinfection Assistance	LF	4,800		
19	02514 02514S	Pipe Cleaning	LF	480		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
20	02524 02524S	Remove and Replace 2-inch to 4-inch Air Valve, Vent Piping & Bollards	EA	1		
21	02519	Install Temporary Blow-Off	EA	2		
22	02221	Remove/Dispose of Concrete Pavement (Curb or Asphalt) w/ or w/out Curbs (All Heights)	SY	17		
23	02751	Reinforced Concrete Pavement (All Heights)	SY	17		
24	02221	Remove and Dispose of Concrete Curb	LF	18		
25	02771	6-Inch Concrete Curb (Monolithic)	LF	18		
<u>TOTAL BASE UNIT PRICES for B.6 - Location 5</u>						\$ _____

REST OF PAGE INTENTIONALLY LEFT BLANK

B.7 – Location 7 – Central St						
Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
1	01502 01502S	Work Order Mobilization	LS	1	\$5,000 ⁽¹⁾	\$5,000 ⁽¹⁾
2	01110	Exploratory Excavation	EA	1		
3	01555 01555S	Traffic Control and Regulation	LS	1		
4	01555 01555S	Flagmen	LS	1		
5	01570	Reinforced Filter Fabric Barrier	LF	140		
6	02922	Sodding	SY	50		
7	02519	Confined Space Entry Assistance	DAY	1		
8	02522 02522S	Procure 60-inch Butterfly Valve	EA	1		
9	02522 02522S	Procure 60-inch Pipe Sections	EA	1		
10	02519	Remove 60-inch Butterfly Valve	EA	1		
11	02522 02522S	Install 60-inch Butterfly Valve with Pipe Sections	EA	1		
12	02221	Remove and Dispose of Existing Manhole	EA	1		
13	02082	Water Line Access Manhole	EA	1		
14	02519	Remove and Replace Manway Flange	EA	1		
15	15641 15641S	Install Valve Test Station	EA	1		
16	02614	Procure 60-inch Tapping Sleeve for Temporary Line Stop Valve	EA	1		
17	02614	60-inch Temporary Line Stop Valve	EA	1		
18	02519	Pipe Dewatering	LF	2,200		
19	02514 02514S	Pipe Disinfection Assistance	LF	2,200		

Addendum No. 2
00410B-9
03-02-2016

Bidder's Initials []

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
20	02514 02514S	Pipe Cleaning	LF	220		
<u>TOTAL BASE UNIT PRICES for B.7 - Location 7</u>						\$ _____

REST OF PAGE INTENTIONALLY LEFT BLANK

Addendum No. 2
00410B-10
03-02-2016

Bidder's Initials []

B.8 – Location 8 – Doolittle Blvd & MLK Jr Blvd						
Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
1	01502 01502S	Work Order Mobilization	LS	1	\$5,000 ⁽¹⁾	\$5,000 ⁽¹⁾
2	01110	Exploratory Excavation	EA	1		
3	01555 01555S	Traffic Control and Regulation	LS	1		
4	01555 01555S	Flagmen	LS	1		
5	01570	Inlet Protection Barrier	LF	6		
6	02922	Sodding	SY	11		
7	02519	Confined Space Entry Assistance	EA	1		
8	02522 02522S	Procure 60-inch Butterfly Valve	EA	1		
9	02522 02522S	Procure 60-inch Pipe Sections	EA	1		
10	02519	Remove 60-inch Butterfly Valve	EA	1		
11	02522 02522S	Install 60-inch Butterfly Valve with Pipe Sections	EA	1		
12	02082	Water Line Access Manhole	EA	1		
13	15641 15641S	Install Valve Test Station	EA	1		
14	02519	Pipe Dewatering	LF	8,000		
15	02514 02514S	Pipe Disinfection Assistance	LF	8,000		
16	02514 02514S	Pipe Cleaning	LF	800		
17	02519	Install Temporary Blow-Off	EA	5		
18	02511 02511S	Remove 12-Inch Diameter Water Line	LF	4		
19	02511 02511S	12-Inch Diameter Water Line	LF	4		
20	02513	12-Inch Wet Connection	EA	2		
21	02221	Remove/Dispose of Concrete Pavement (Curb or Asphalt) w/ or w/out Curbs (All Heights)	SY	59		

Addendum No. 2
00410B-11
03-02-2016

Bidder's Initials []

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
22	02751	Reinforced Concrete Pavement (All Heights)	SY	59		
23	02221	Remove & Dispose of Asphalt Pavement, All Thicknesses	SY	17		
24	02741	Type D Hot Mix Asphaltic Concrete Surface, 2-inches Thick	SY	17		
25	02221	Remove and Dispose of Concrete Curb	LF	40		
26	02771	6-Inch Concrete Curb (Monolithic)	LF	40		
TOTAL BASE UNIT PRICES for B.8 - Location 8						\$ _____

REST OF PAGE INTENTIONALLY LEFT BLANK

B.9 – Location 9, 10 & 11 – Navigation Blvd & Everton St, Harrisburg Blvd & Dowling St, Everton St & Engelke St						
Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
1	01502 01502S	Work Order Mobilization	LS	1	\$5,000 ⁽¹⁾	\$5,000 ⁽¹⁾
2	01110	Exploratory Excavation	EA	3		
3	01555 01555S	Traffic Control and Regulation	LS	3		
4	015555 01555S	Flagmen	LS	3		
5	01570	Filter Fabric Fence	LF	28		
6	01570	Inlet Protection Barrier	LF	44		
7	02922	Sodding	SY	28		
8	02519	Confined Space Entry Assistance	DAY	3		
9	02522 02522S	Procure 72-inch Butterfly Valve	EA	1		
10	02522 02522S	Procure 72-inch Pipe Sections	EA	1		
11	02522 02522S	Install 72-inch Butterfly Valve with Pipe Sections	EA	1		
12	02614	Procure 72-inch Tapping Sleeve for Temporary Line Stop Valve	EA	1		
13	02614	72-inch Temporary Line Stop Valve	EA	1		
14	02522 02522S	84-inch Internal Valve Seat Replacement	EA	1		
15	02521 02521S	Procure 24-inch Gate Valve	EA	1		
16	02521 02521S	Procure 24-inch Water Line Pipe Sections	EA	1		
17	02521 02521S	Install 24-inch Gate Valve	EA	1		
18	02523 02523S	Demolition of Existing PRV Vault and Piping	EA	1		
19	02523 02523S	Procure PRV Station Valves and Piping	EA	1		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
20	02523 02523S	Install PRV Station Valves, Piping & Vault Top	EA	1		
21	02522 02522S	Procure 84-inch Butterfly Valve	EA	1		
22	02522 02522S	Procure 84-inch Pipe Sections	EA	1		
23	02519	Remove 84-inch Butterfly Valve	EA	1		
24	02522 02522S	Install 84-inch Butterfly Valve with Pipe Sections	EA	1		
25	02082	Water Line Access Manhole	EA	3		
26	02519	Remove and Replace Manway Flange	EA	1		
27	15641 15641S	Install Valve Test Station	EA	3		
28	02511 02511S	Remove 8-Inch Diameter Water Line	LF	24		
29	02511 02511S	8-Inch Water Line	LF	24		
30	02513	8-Inch Wet Connection	EA	2		
31	02519	Pipe Dewatering	LF	14,900		
32	02514 02514S	Pipe Disinfection Assistance	LF	14,900		
33	02514 02514S	Pipe Cleaning	LF	1,490		
34	02524 02524S	Remove and Replace 2-inch to 4-inch Air Valve, Vent Piping & Bollards	EA	1		
35	02524 02524S	Remove and Replace Vent Piping & Bollards	EA	1		
36	02519	Install Temporary Blow-Off	EA	3		
37	02221	Remove 36-inch Storm Sewer	LF	28		
38	02631	Install 36-inch Storm Sewer	LF	28		
39	02081 02087	Remove and Replace Storm Sewer Manhole	EA	2		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
40	02221	Remove & Dispose of Asphalt Pavement, All Thicknesses	SY	263		
41	02741	Type D Hot Mix Asphaltic Concrete Surface, 2-inches Thick	SY	263		
42	02221	Remove and Dispose of Concrete Curb	LF	81		
43	02221	Remove and Dispose of Concrete Curb	LF	81		
44	02771	6-Inch Concrete Curb (Monolithic)	LF	81		
45	02221	Remove and Dispose Concrete Sidewalk (4-Inch Thick or More)	SY	67		
46	02775	Sidewalk 4-1/2-Inch Thick	SY	67		
TOTAL BASE UNIT PRICES for B.9 - Location 9, 10 & 11						\$ _____

REST OF PAGE INTENTIONALLY LEFT BLANK

B.10 – Location 12, 13 & 14 – Genoa Red Bluff Rd/Allen Genoa Rd, Alameda Genoa Rd/Hwy 3, Fuqua St & Hwy 3						
Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
1	01502 01502S	Work Order Mobilization	LS	1	\$5,000 ⁽¹⁾	\$5,000 ⁽¹⁾
2	01110	Exploratory Excavation	EA	3		
3	01555 01555S	Traffic Control and Regulation	LS	3		
4	01555 01555S	Flagmen	LS	3		
5	01570	Inlet Protection Barrier	LF	36		
6	02922	Sodding	SY	47		
7	02519	Confined Space Entry Assistance	EA	1		
8	02522 02522S	Remove and Replace Actuator on 42-inch Butterfly Valve Including Valve Box	EA	4		
9	02221	Remove and Dispose of Existing Manhole	EA	1		
10	15641 15641S	Install Valve Test Station	EA	1		
11	02522 02522S	Procure 42-inch Butterfly Valve	EA	1		
12	02522 02522S	Procure 42-inch Pipe Sections	EA	1		
13	02519	Remove 42-inch Butterfly Valve	EA	1		
14	02522 02522S	Install 42-inch Butterfly Valve with Pipe Sections	EA	1		
15	02082	Water Line Access Manhole	EA	1		
16	02615	Install 6-inch Temporary Bypass	EA	1		
17	02614	Procure 42-inch Tapping Sleeve for Temporary Line Stop Valve	EA	1		
18	02614	42-inch Temporary Line Stop Valve	EA	1		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in Figures
19	02519	Pipe Dewatering	LF	2,200		
20	02514 02514S	Pipe Disinfection Assistance	LF	2,200		
21	02514 02514S	Pipe Cleaning	LF	220		
22	02524 02524S	Remove and Replace 2-inch to 4-inch Air Valve, Vent Piping & Bollards	EA	1		
23	02614	8-inch Temporary Line Stop	EA	1		
24	02521 02521S	Install 8-inch Gate Valve	EA	1		
25	02519	Install Temporary Blow-Off	EA	1		
26	02221	Remove/Dispose of Concrete Pavement (Curb or Asphalt) w/ or w/out Curbs (All Heights)	SY	53		
27	02751	Reinforced Concrete Pavement (All Heights)	SY	53		
28	02221	Remove & Dispose of Asphalt Pavement, All Thicknesses	SY	29		
29	02741	Type D Hot Mix Asphaltic Concrete Surface, 2-inches Thick	SY	29		
30	02221	Remove and Dispose Concrete Sidewalk (4-Inch Thick or More)	SY	10		
31	02775	Sidewalk 4-1/2-Inch Thick	SY	10		
TOTAL BASE UNIT PRICES for B.10 - Locations 12, 13 & 14						\$ _____

REST OF PAGE INTENTIONALLY LEFT BLANK

Addendum No. 2
00410B-17
03-02-2016

Bidder's Initials []

C. EXTRA UNIT PRICE TABLE:

Item No.	Spec Ref.	Extra Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price	Total in Figures
EU.1	02317	Extra Excavation Around Obstructions & Leakages	CY	50	\$20 ⁽²⁾	\$1,000 ⁽²⁾
EU.2	02318	Extra Hand Excavation	CY	50	\$10 ⁽²⁾	\$500 ⁽²⁾
EU.3	02318	Extra Machine Excavation	CY	50	\$20 ⁽²⁾	\$1,000 ⁽²⁾
EU.4	02318	Extra Placement of Backfill Material	CY	500	\$7 ⁽²⁾	\$3,500 ⁽²⁾
EU.5	02521 02522	Extra Storage of Materials Per Item	MO	48	\$100 ⁽³⁾	\$4,800 ⁽³⁾
EU.6	01502	Demobilization/ Remobilization – Level 1	LS	1	\$10,000 ⁽²⁾	\$10,000 ⁽²⁾
EU.7	01502	Demobilization/ Remobilization – Level 2	LS	1	\$15,000 ⁽²⁾	\$15,000 ⁽²⁾
EU.8	02512	5/8-Inch to 1-Inch Diameter Copper Service Line with Meter Box, Short Side	EA	2	\$600 ⁽²⁾	\$1,200 ⁽²⁾
EU.9	02512	5/8-Inch to 1-Inch Diameter Copper Service Line with Meter Box, Long Side	EA	2	\$850 ⁽²⁾	\$1,700 ⁽²⁾
<u>TOTAL EXTRA UNIT PRICES</u>						\$38,700⁽²⁾

REST OF PAGE INTENTIONALLY LEFT BLANK

Addendum No. 2
00410B-18
03-02-2016

Bidder's Initials []

D. CASH ALLOWANCE TABLE:

Item No.	Spec Ref.	Cash Allowance Short Title	Cash Allowance in Figures ⁽¹⁾
CA.1	01110	Utility Relocations	\$50,000 ⁽¹⁾
CA.2	01110	Metro Flagger	\$5,000 ⁽¹⁾
CA.3	01110	Permits	\$10,000 ⁽¹⁾
<u>TOTAL CASH ALLOWANCES</u>			\$65,000⁽¹⁾

REST OF PAGE INTENTIONALLY LEFT BLANK

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				\$0.00
<u>TOTAL ALTERNATES</u>						N/A

REST OF PAGE INTENTIONALLY LEFT BLANK

F. TOTAL BID PRICE:

(Add Totals for Items A., B., C., D., and E. above)

\$ _____

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 by crossing out the Minimum and noting revised price on the line above.
- (3) Maximum Bid Price determined prior to Bid. Can be decreased but not increased by Bidder by crossing out the Maximum and noting revised price on the line above. A Bid that increases the Maximum Bid Price may be found non-conforming and non-responsive.
- (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.

Addendum No. 2

00410B-21
03-02-2016

Bidder's Initials []

SECTION 01110

SUMMARY OF WORK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Summary of the Work including Project Description, Definition, Work covered by Contract Documents, Cash Allowances, work by the City, City-furnished Products, Work Sequence, Future Work, Contractor use of Premises and City Occupancy.
- B. 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 Subsidence District's (HGSD) regulatory plan. Program includes transmission and distribution of surface water and associated consolidation of groundwater plants in the City of Houston.

1.02 PROJECT DESCRIPTION

- A. Work of the Contract includes replacement and rehabilitation of large diameter water line valves at the following locations:
- Location 1: Beamer Rd & Fuqua St (Key Map Grid: 576T)
 - Location 2: Kelley St & Batterson St (Key Map Grid: 453R)
 - Location 3: Link Rd & Eastman St (Key Map Grid: 453T)
 - Location 4A: 8207 N Loop E (Key Map Grid: 455X)
 - Location 4B: 9343 N Loop E (Key Map Grid: 495C)
 - Location 4C: Baca St & East Freeway (Key Map Grid: 496E)
 - Location 4D: Mae St & East Freeway (Key Map Grid: 496G)
 - Location 5: Clay St & Fashion St (Key Map Grid: 494T)
 - Location 7: Central St (Key Map Grid: 535L)
 - Location 8: Doolittle Blvd & Martin Luther King Jr. Blvd (Key Map Grid: 534S)
 - Location 9: Navigation Blvd & Everton St (Key Map Grid: 494P)

- Location 10: Harrisburg Blvd & Dowling St (Key Map Grid: 493R)
 - Location 11: Everton St & Engelke St (Key Map Grid: 494P)
 - Location 12: Genoa Red Bluff Rd & Allen Genoa Rd (Key Map Grid: 577N)
 - Location 13: Alameda Genoa Rd & HWY 3 (Key Map Grid: 576R)
 - Location 14: Fuqua St & HWY 3 (Key Map Grid: 576R)
- B. Two Work Orders will be issued for each location based on the City's ability to isolate existing water line segments. First Work Order is to perform exploratory excavation, to confirm existing conditions, and procure necessary materials. Second Work Order is to proceed with Work for that Location.
- C. Work will require manned entry into confined spaces by both Contractor personnel and City representatives at some locations.
- D. Work shown on existing Record Drawings, confirm site conditions and include cost in appropriate existing unit price bid.

1.03 DEFINITION

- A. Large Diameter Water Lines: Water lines 24-inch in diameter and larger. References to large diameter water lines shall apply to pipe, valves and appurtenances 24-inch and larger associated with projects involving water lines, plant and water facility construction.
- B. Small Diameter Water Lines: Water lines 20-inch in diameter and smaller. Unless otherwise noted in the Contract Documents, requirements pertaining to large diameter water lines do not apply to pipe, valves and appurtenances 20-inches in diameter and smaller. Work under this contract may include some rehabilitation or replacement of small diameter water lines and valves when necessary to complete the large diameter rehabilitation.

1.04 WORK COVERED BY CONTRACT DOCUMENTS

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

- A. Work includes replacing existing valve actuators at four (4) locations. Identify existing large diameter water line valve shown in Drawings and expose valve by removal of pavement and concrete manhole or by excavation to valve's actuator. Prior to purchasing new actuator, identify markings on existing actuator (make, model, serial number, etc.). Submit new actuator of similar or larger size, compatible with existing valve. New actuator to be in accordance to Section 02522 – Butterfly Valves.

1. The following locations are included:

Addendum No. 2
01110-2
03-02-2016

- a. Locations 2 (84-inch Valve) is located on Kelley Street, just west of Batterson Street. Work will include removing and replacing the valve operator manhole to replace the actuator. Also included is the installation of a valve test station.
 - b. Location 3 (84-inch Valve) is located at Link Rd and Eastman St. Work will include removing and replacing the valve operator manhole to replace the actuator. Also included is the installation of a valve test station.
 - c. Location 13 (42-inch Valve) is located at Alameda Genoa Rd & HWY 3. Work will include removing and replacing the valve box and replacing the actuator. Also included is the installation of an 8-inch gate valve and temporary line stop valve to remove & replace an existing ARV.
 - d. Location 14 (42-inch Valve) is located at Fuqua St & HWY 3 and includes three (3) valves. Work will include removing and replacing the valve box and replacing the actuator for three (3) butterfly valves.
- B. Work includes valve replacement or installation at nine (9) locations. Identify existing large diameter water line valve or location of proposed valve. Expose valve by excavation or removal of pavement or concrete manhole, if necessary. Install proposed large diameter valve in accordance with Section 02521 - Gate Valves or 02522 - Butterfly Valves.
1. The following locations are included for valve rehabilitation:
 - a. Location 1 (36-inch Valve) is located on Beamer Road, just south of Fuqua Street. Work will include replacing existing 36-inch butterfly valve with a 36-inch gate valve with valve box. Also included is the installation of a valve test station and removing & replacing an existing ARV.
 - b. Location 4 (4-42-inch Valves) is located along IH-610 and IH-10. All locations installing a new 42-inch butterfly valve with operator manhole and access manways with manhole. Existing valves will be left in place in the open position. Also included is the installation of a valve test station.
 - c. Location 5 (60-inch Valve) is located at Clay St & Fashion St. Work includes removing and replacing existing 60-inch butterfly valve with operator manhole and access manway with manhole. Also included is the installation of a valve test station & temporary blow-offs and removing and replacing existing manway flange & ARV.

- d. Location 7 (60-inch Valve) is located at Central St. Work will include removing and replacing existing 60" butterfly valve. A 60-inch temporary line stop valve will be installed to isolate the water line. Also included is the installation of a valve test station and removing and replacing a manway flange.
- e. Location 8 (60-inch Valve) is located at Doolittle Blvd & MLK Jr. Blvd. Work includes removing and replacing existing 60-inch butterfly valve with operator manhole and access manway with manhole. Also included is the installation of a valve test station.
- f. Location 9 (84-inch Valve) is located at Navigation Blvd and Everton Street. Work includes removing and replacing existing 84-inch butterfly valve with operator manhole and access manway with manhole. Also included is the installation of a valve test station.
- g. Location 10 (72-inch and 84-inch Valves) is located at Dowling St and Harrisburg Blvd. Work includes installing a temporary line stop to install a new 72-inch butterfly valve* with operator manhole and access manways with manholes and removing and replacing existing 84-inch butterfly internal valve seat. May involve coordination with METRO, due to the location of the existing 84-inch WL access manway near the METRORail Safety Zone. Metro coordination includes training of personnel, and may require schedule coordination and involvement of a METRO Flagman during work. Also included is the installation of a valve test station and removing and replacing ARV vent piping and bollards.
 - * Location of 72-inch butterfly valve and temporary line stop valve may be moved south to a new location on Dowling, north of Bell Street. Drawings will be revised identifying new location prior to issuance of Work Order.
- h. Location 11 (24-inch Valve & PRV #52) is located at Everton St and Engelke Street. Work includes installing a 24-inch gate valve and improvements on PRV Station #52 (piping, valves, PRV and vault). Also included is the installation of a valve test station and temporary blow-offs.
- i. Location 12 (42-inch Valve) is located at Genoa Red Bluff Rd and Allen Genoa Rd. Work includes installing a temporary line stop to remove and replace an existing 42-inch butterfly valve and installing an operator manhole and access manway with manhole. A 20-inch water line will be isolated and a temporary bypass will be installed to keep customers in service. Also

Addendum No. 2

01110-4

03-02-2016

included is the installation of a valve test station and temporary blow-off.

- j. Location 14 (8-inch Valve). On Fuqua, west of Galveston Rd, work is required within an existing valve vault. The vault will need to be drained of water and ventilated. This effort and any additional requirements for confined space entry are considered incidental to the work. The goal of the work is to install an 8-inch gate valve and replace a leaking 8-inch air release valve within a welded steel pipe. The pipe will need to be temporarily plugged to isolate it from the existing 96-inch WL located beneath the vault. The temporary plug may be completed with a TS&V or other method, such as pipe freezing. Contractor's method to be submit for approval.

C. Location 6 was removed from this contract.

D. General:

1. Work Orders include restoration of pavement and other utilities impacted by the Work. Compensation for specific work required in the Work Order but not addressed by Unit Price Work Items included in Document 00410 shall be in accordance with Article 7 of the Document 00700 - General Conditions.
2. Unless otherwise approved by Project Manager, use products on the City of Houston's approved products list (reference Document 00020) and shall perform work in accordance with the City of Houston's standard details (reference Document 00015).
3. Drawings identify location of additional valve manholes necessary to shut off flow into proposed work. Pump out and drain standing water in each manhole (identified on Drawings) to be operated to shut off flow (reference Section 02519 – Assessment and Rehab). Repeat as necessary to keep manholes dry during work operations. No separate pay.
4. Depth of existing water lines is based on best available information. Include in unit price bid, potential for water lines vary in depth than shown on Drawings. No separate pay.

1.05 CASH ALLOWANCES

A. Include the following specific Cash Allowances in the Contract Price under provision of General Conditions Paragraph 3.11:

1. Permits

2. METRO Flagman
 3. Utility Relocations
- 1.06 ALTERNATIVES
- A. Not Used.
- 1.07 WORK SEQUENCE
- A. The initial Work Order is anticipated to include authorization to proceed with Exploratory Excavation and critical location investigation (See Section 02317 – Excavation and Backfill for Utilities) effort and procurement long-lead time materials. The actual installation of those materials will be authorized under separate Work Orders. This initial Work Order is not entitled for Work Order Mobilization.
 1. Exploratory excavation is to confirm existing water line horizontal and vertical alignment, pipe material, and necessary measurements to complete Work. Exploratory excavation is to be paid under Exploratory Excavation in Bid Form 00410B for each location where major Work is to occur, including valve replacement. Work under this item includes, but not limited to:
 - a. Shoring, traffic control, dewatering, and permits required to perform Work under this item.
 - b. Backfill and site restoration.
 2. Subsequent Work Order is execution which includes valve rehabilitation. See Sections 02519, 02521 and 02522 for Method & Payment of all Work incorporated at each location.
 - B. Perform critical location investigation and provide major project submittals (large diameter pipe and valves) per Drawings within 30 days from Work Order issued for each Location. Field verify dimensions and conditions before commencing work. Report any discrepancies to Project Manager before commencing work. Submit documentation of work completion to the Project Manager.
 - C. 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.
 - D. Data for facilities and utilities shown were taken from survey, record drawings and plans from several accessible sources. Anticipate actual field locations of facilities and utilities may vary from what is shown on Drawings. Make a

Addendum No. 2

01110-6

03-02-2016

- complete and independent verification of utility locations prior to submittals of subsequent shop drawings.
- E. Field verify locations of all the construction excavations, check suitability for access of large diameter valve(s) and investigate all surface and underground utilities at each proposed excavation locations.
 - F. Coordinate with City of Houston Department of Water Operations (DWO) for the operation of valves. See Paragraph 1.08A.1.
 - G. Construction of project is based on utilization of multiple labor crews working concurrently in order to complete Work within specified time. Multiple crews will not be allowed to work in consecutive traffic control phases during construction.
 - H. Associated work with disinfection, testing, flushing or cleaning the new water line shall not begin without prior approval from the Project Manager. Payment for Disinfection shall be in accordance with Section 02514 - Disinfection of Water Lines. Payment for Disinfection shall not be made if bacteriological sample tests fail.
 - I. Location and limit of pipe cleaning will be determined during construction by EOR's assessment of existing pipe. Payment for pipe cleaning will be paid only for the extents the EOR determines.
 - J. Incorporate Traffic Control Plan and Traffic Control General Notes as shown in the Drawings in proposed sequence of work.
 - K. Coordination of Work: Refer to Section 01312 – Coordination and Meetings.
 - 1. Location 4C (42-inch Butterfly Valve): Coordinate with Texas Truck Sales, (713) 675-8585 prior to mobilizing at this location.
 - 2. Location 8 (60-inch Line Stop Valve, East of Sim's Bayou): Coordinate with Goodyear Tire & Rubber Company, Dick Pursley (713) 475-5438 prior to mobilizing at this location.
 - 3. Location 10 (84-inch Valve on Harrisburg): Begin coordination with METRO as soon as anticipated schedule for work is known. Notify assigned METRO representative again a minimum of 5 days before mobilizing to this location.
- 1.08 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 the 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.

1.09 CONTRACTOR USE OF PREMISES

- A. Comply with procedures for access to site and Contractor's use of right-of-way as specified in Section 01145 - Use of Premises.
- B. 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 outages and shutdown minimum of 14 days prior to proposed schedules outages/shutdowns. Conduct coordination meeting with City and other affected party's minimum of seven (7) days prior to proposed outage/shutdown.
- C. Notify by placing door hangers at impacted residents and businesses 48-hours prior to water shut down due to Work associated under this contract. Project inspector shall verify and sign off that notification has been made before the City's valve personnel will close any valves.
- D. Provide notification to City and private utility companies (when applicable) a minimum of 48 hours in advance of required utility shutdown, excluding weekends and holidays. Schedule all work as required.
- E. Submit for review and approval proposed plan for outages and shutdown minimum of 14 days prior to proposed schedules outages/shutdown. Conduct coordination meeting with City and other affected parties' a minimum of seven (7) days prior to proposed outages/shutdown.
- F. Prevent overstress of any structure, 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.

- G. Plan 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.
- H. Restore and sod all non-paved areas that are damaged during construction as per specification section 02922 - Sodding. The sodding should be placed one (1) foot from the 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. Hydromulch seeding should be placed in all other areas where sodding is not required as per Specification 02921 - Hydromulch Seeding.
- I. Match surface finish and bricks, all types and all kinds, of driveways and sidewalks throughout project limits that are damaged from construction activities.
- J. Contractor assumes all responsibilities for any damages to existing traffic signal equipment. Contractor shall be required to replace any or all equipment with approval from Project Manager. No separate pay.
- K. Provide temporary fencing to secure property affected by removal of existing fences. Temporary fence to provide same level of security as existing fence.
- L. Traffic Control:
 - 1. Submit letter confirming traffic control will be implemented without modification. If traffic control will be modified, submit traffic control plan in conformance with TMUTCD and sealed by a Registered Professional Engineer.
 - 2. Notify TxDOT when work is within TxDOT right-of-way before traffic control is established. Request for Approval of Traffic Control must be submitted to TxDOT once Work Order has been issued. Refer to Paragraph 1.25 for more information.
 - 3. Traffic Control Plans are for the proposed open cut large diameter valve work and are based on the minimum number of anticipated access excavations only. Specific traffic control plans are required for secondary excavations, pavement restoration or other utilities that are a part of the Work provided by the Contractor, sealed by Registered Professional Engineer and conforming to TMUTCD. Submit traffic control plan to Project Manager for approval.
 - 4. Traffic control provided is based on the assumption there is no conflict with traffic control from separate projects within construction limits.

Coordinate work to prevent traffic control conflicts or submit revised traffic control plans sealed by Registered Professional Engineer and conformed to TMUTCD at no additional cost. Submit traffic control plan to Project Manager for approval.

5. Implement groundwater control methods, while maintaining accessibility to driveways and cross streets.
6. 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.
7. 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. Schedule work with business owners and residents.
8. Excavations will be plated over and traffic control removed in the event of lane(s) needing to be reopened during heavy trafficked periods or weekdays.

1.10 FIELD OFFICE

- A. No field office is required for this contract.

1.11 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, Texas 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 Texas Ordinance No. 2006-0595, including the following fee schedule:

Schedule of Permit Application Fees*

Initial Application Fee:

- Tunneling, Jacking, and Bonding only	\$125.00
- All other Methods of Excavation	\$175.00

Permit Application Fee:

- Other than steel plate temporary surface	\$25.00
- Steel plate temporary surface	\$50.00

Data entry fee for non-electronic submission (per application) \$50.00

*All fees/charges are non-refundable

- 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 Infrastructure Design Manual 1st July 2015, entitled "Street Cut Requirements".
- D. The bid items for the cost of street cut pavement repair and replacement identified on Drawings are included in the Bid Form Part B (Document 00410 B).
- E. Obtain required permits and signs prior to performing any methods of construction involving street excavation in existing pavement.

1.12 WARRANTY

- A. Comply with warranty requirements in accordance with Document 00700 - General Conditions.
- B. In accordance with Document 00803 – Supplementary Conditions, Warranty for Contractor's work at each location will begin from the completion of the respective Work Order.

1.13 INTERPRETATION OF CONFLICTS

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

1.14 GENERAL CONSTRUCTION NOTES

- A. 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
- B. Field verify existing facilities shown on the 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.

- C. 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 at the City of Houston 713-881-3179 or 713-803-3070. Call at least five working days in advance.
- D. Comply with OSHA Regulations and State of Texas laws concerning excavation, trenching and shoring as specified in City of Houston Ordinance No. 87-1457.
- E. Drawings and the 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. 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.

1.15 EXISTING UTILITIES

- A. Underground utilities (public and private) exist in the 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 the vicinity of this project which are not shown on Drawings. The Consultant and the City do not warranty the accuracy and completeness of the existing utilities. The location and grades of existing utilities are either based on as-built drawings, Houston GIMS or survey information.
- B. Contractor shall field verify the location and elevation of all utilities prior to commencing construction or any excavation. Contractor shall field locate all un-metered fire lines, large water meters, and/or isolation valves before installing new water lines. No separate pay item is provided for this work. Contractor shall be responsible for any damage to the existing utilities and shall repair the damaged utilities to the existing condition or better with no additional cost.
- C. Profile(s) for existing private utilities and existing pipelines shown in Drawings are provided by respective utility owners. These profile depths are approximate and not field verified. Contractor shall exercise caution while doing work in vicinity of utilities and pipelines.
- D. Public and private utility lines and customer service lines may exist that are not shown on Drawings. It shall be the contractor's responsibility to locate, maintain and protect the integrity of these lines. Hand excavation may be

required. Anticipate service lines exist and repair them if damaged during construction. No separate pay will be made for repairs. Cost shall be incidental to Work.

- E. Existing utility lines less than 4-inch in diameter are not shown on the profile of Drawings but do exist. Contractor shall pre-locate as required.
- F. All private utilities should be relocated by private utility contractor. The contractor shall coordinate with the proper utility company and request them to relocate or divert any conflicts with proposed construction during construction.
- G. Public utility service lines (water) are not shown on the drawings. Contractor shall anticipate that such service lines exist and repair them if damaged during construction. No separate pay will be made for repairs. The cost shall be incidental to the work.
- H. Maintain existing water service within construction area until construction of the new system is complete.

1.16 STORM SEWERS

- A. Adequate drainage shall be maintained at all times during pipe dewatering and construction and any drainage ditch or structure disturbed during construction shall be restored to the satisfaction of the owning authority. All construction storm runoff shall comply with the final draft of Stormwater Management Handbook for construction activities, as prepared by Harris County, HCFCD and the City of Houston in compliance with NPDES requirements.
- B. Remove siltation in existing storm sewer systems that result from construction activities associated with this project.

1.17 SANITARY SEWERS

- A. Maintain service to all sewers during construction. Contractor is responsible for locating all sanitary sewer service lateral affected by construction.
- B. The City does not warranty the location, or number of any sanitary leads shown in Drawings.

1.18 STORM WATER POLLUTION PREVENTION PLAN

- A. The Storm Water Pollution Prevention Plan for this project is governed by Section 01410 TPDES Requirements.
- B. Comply with Storm Water Pollution Prevention Plan as detailed in the construction documents.

1.19 ADDITIONAL CONDITIONS FOR SUBSTANTIAL COMPLETION

- A. In additions 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, the following special conditions must be met or completed:
1. Hydrostatic testing and disinfection shall be completed and accepted by the Project Manager.
 2. All safety related work including pavement striping, signing and signalization shall be completed.
 3. All related systems and equipment shall be installed, accepted by manufacturer's representative and approved for use.
 4. All yards and sprinkler systems have to be restored or repaired to pre-construction condition or better.
 5. Complete report of all pay items.
 6. Contractor shall 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.
 7. "As-built mark-ups" of the construction drawings of all work performed within public right-of-ways shall be provided to the Project Manager as part of the project close-out procedures.

1.20 PIPELINES

- A. Refer to Section 02317 – Excavation and Backfill for Utilities for specific requirements on excavating near pipelines.
- B. Houston Pipeline Company - At Location 4D, coordinate with:
1. Calvin Dodd (Sr. Project Manager - Energy Transfer Partners, LLC):
 - a. (713) 898-2832/Calvin.Dodd@energytransfer.com
 2. Johnny James (Field Representative - Energy Transfer Company)
 - a. (281) 850-3129
- C. Notify Johnny James and the Texas Excavation Safety System (TESS), 811 or 1-800-344-8377, at least 48 hours in advance of any construction or maintenance activity.
- D. Unless otherwise agreed to by Energy Transfer Company (ETC) in writing, an ETC inspector is on site to monitor the excavation activities.

- 1.21 SOIL CONDITIONS & ENVIRONMENTAL SITE ASSESSMENTS (ESA)
- A. Bidder(s) must consider the soil conditions provided in the Geotechnical Report. These reports can be downloaded from the COH's website under BID SETS section.
- 1.22 SAFETY SYSTEMS
- A. Drawings and any other drawings (including shop drawings, as built drawings or record drawings), addenda, change orders and specifications, prepared for this project do not extend to or include designs or systems pertaining to the safety of the construction contractor or its employees, agents, or representatives in their performance of the work. The seals of the registered/licensed professional engineers hereon do not extend to any such safety systems that may now or hereafter be incorporated in Drawings. The construction contractor shall prepare or obtain the appropriate safety systems, including the drawings and specifications required by House Bill 662 and 665 enacted by the Texas Legislature.
- 1.23 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 and Service 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. Contractor shall hand dig within 18 inches of CenterPoint Energy underground electrical facilities.
- D. Overhead electric lines exist on and adjacent to the project site, which may be live during the construction period. Contractor shall facilitate his or her work so as not to interrupt services unless permitted by CenterPoint Energy.
- E. Contractor shall exercise caution when working in the vicinity of CenterPoint Energy electrical cable, underground wiring and overhead lines.
- F. When excavating within 5 feet and beneath a depth of 3 feet below existing grade of a utility pole or anchor to which CenterPoint Energy facilities are attached, CenterPoint Energy will secure or brace these poles and anchor

prior to excavation unless the pole requires relocation due to construction. The cost of CenterPoint Energy's efforts is incidental. No separate pay item.

1.24 CENTERPOINT ENERGY UNDERGROUND GAS FACILITIES

- A. Locations of CenterPoint Energy main lines (to include Unit Gas Transmission and/or Industrial Gas Supply Corporation where applicable) are shown in an approximate location only. Service lines are not usually shown. The contractor shall contact the Utility Coordinating Committee at 713-223-4567 or 1-800-669-8344 a minimum of 48 hours prior to construction to have main and service lines field located.
- B. When CenterPoint Energy pipeline markings are not visible, call 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. When CenterPoint Energy facilities are exposed, sufficient support must be provided to the facilities to prevent excessive stress on the piping.
- E. The contractor is fully responsible for any damages caused by his failure to exactly locate and preserve these underground facilities.
- F. All gas facilities are the property of CenterPoint Energy, unless otherwise noted.

1.25 TEXAS DEPARTMENT OF TRANSPORTATION

- A. Adhere to the following specifications which are standard Texas Department of Transportation Requirements:
 - 1. Backfill excavations within right-of-way and not under surfacing by compacting in layers sufficiently thin enough to achieve 95 percent density throughout backfill as determined by ASTM D698. Backfill within +5 percent of optimum moisture. Remove surplus material from right-of-way. Finish excavation flush with surrounding natural ground.
 - 2. Keep operating equipment and excavated material off pavement where possible.
 - 3. Provide barricades and warning signs, and flag-men when necessary. Keep one-half traveled portion of roadway open to traffic at all times.
 - 4. Where sodding is disturbed by excavation or backfilling operations, such areas shall be replaced by sodding. Replace slopes 4H:1V or

- steeper by solid block sodding. This work shall be in accordance with Texas Department of Transportation specifications.
5. Place highway crossings under surfaced roads and surfaced crossroads within right-of-way by boring, tunneling or jacking as allowed by contract documents. Such crossing shall extend from crown line to crown line. Enclose lines carrying pressure in satisfactory casing. Unless otherwise indicated, casing shall consist of smooth wall pipe with welded joints and seams and shall extend from centerline of ditch to centerline of ditch (where practical).
 6. Conduct work so that it will not interfere with any highway contract construction or repair work, or any State maintenance work that may be done on this road. In event such an interference occurs, Contractor will cease operations in area until such time as road-work referred to above is completed, and City will not be responsible for any down time caused by such incident.
 7. Use of water or other fluids in connection with boring operations will be permitted only in sufficient quantity to lubricate boring bit and to provide a smooth flow of cuttings. Jetting will not be permitted.
 8. Extend bored hole or tunnel for full width of pavement and 10 feet on each side thereof, or to limits shown on plans.
 9. For all sections of nonmetallic pipe installed within highway right-of-way and not within a metallic casing on this project, install a conductor along bottom centerline of water line for future use in pipeline location work. Conductor shall be soft-drawn bare copper wire, No. 14 AWG or larger, laid after sand bedding has been completed and prior to placing pipe in trench. Run wire continuously throughout length of line, including bore tunnel or jacked section. Connect to valves and hydrants by looping wire around a flange bolt, adding a flat washer and retightening bolt. Connect to fire hydrants at lower side of bury flange. Wire splices will be permitted providing wire is tightly wrapped and soldered, or approved wire clamp is used. After backfilling, a conductivity test shall be conducted on the system and must pass.
 10. In event Owner or Owner's representative (Contractor) fails to comply with requirements as set forth above, State may take such action as it deems appropriate to compel compliance.
 11. All Texas Department of Transportation Permit Requirements must be strictly adhered to. TxDOT may have additional site specific requirements. These shall include but not be limited to insurance, notification, etc.

12. Submit traffic control plan to TxDOT Area Engineer for approval before commencing construction.

1.26 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 or pruning any tree.
- B. Adhere to requirements of Specification Section 01562 - Tree and Plant Protection, Section 02915 – Tree Planting. 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 PRODUCTS

2.01 TYPE OF PIPE FOR REHABILITATION OF WATER LINES

- A. Mortar coated steel pipe will be used for large diameter pipe replacements and ductile iron pipe will be used for small diameter pipe replacements unless otherwise approved by Project Manager.
- B. Work Order specific Specifications, details and design criteria will be provided as appropriate for each Work Order.

PART 3 EXECUTION

3.01 WORK ORDERS

- A. This is a Work Order contract.
- B. Contractor to provide a preliminary schedule for planned work within 30 days of Notice-to-proceed, based on anticipated material delivery schedules.
- C. Shut down of all water lines is generally limited to the low water demand months of October to April.
- D. The actual start date of work at each location will be determined by the City, based on schedule to procure materials by the Contractor, and anticipated ability to isolate water line segments by the City. Each location will be given separate notice-to-proceed in the form of a Work Order. Liquidated Damages

will be assessed for each day if Work is not completed within time period stipulated in each Work Order.

3.02 STORAGE REQUIREMENTS

A. Materials with long delivery times shall be ordered as soon as practical following Work Order for procurement. Materials shall be stored by the manufacturer, supplier, or contractor until issuance of Work Order for installation. Storage facility must be local.

B. Storage requirements for large diameter valves include the following:

1. To be stored in the open (unseated) position.
2. Valves with adjustable packing glands should have the packing gland loosened prior to storage.
3. Valves shall be separately packaged in a sealed polyethylene plastic enclosure with a minimum of one package of desiccant inside, dependent upon valve size.
4. Stored in a clean, dry, indoor facility on concrete or raised racks, with temperature ranging from 35°F to 95°F (2°C to 35°C).
5. Stored away from electric motors or other equipment which may emit Ozone, which can cause deterioration of elastomers used for valve and actuator components.
6. Inspect periodically to replace the desiccant if required, and to repair any damage to the polyethylene plastic enclosures.
7. Valves with cylinder operators and control valves which are stored for extended periods may be subject to cylinder blow-by caused by permanent distortion of any of the seal. Valve(s) shall be operated prior to installation and damaged seals replaced.
8. Valves shall be enclosed in fully sheathed wooden crates or boxes.
9. Valves with electric motor operators, if applicable, shall be stored in accordance with the individual motor manufacturer's recommended long-term storage procedures in addition to 3.02.B 1-3.
10. All electrical components, if applicable, should be inspected and all electrical contacts cleaned before operation.

END OF SECTION

Addendum No. 2
01110-19
03-02-2016

SECTION 01502S

MOBILIZATION

The following supplement modifies Specification Section 01502 - Mobilization Standard Specification. Where a portion of the Specification is modified or deleted by this Supplementary Specification, the unaltered portions of the Specification shall remain in effect.

1.01 MEASUREMENT AND PAYMENT. Delete paragraph 1.02 A and replace with the following paragraph 1.02 A:

- A. Mobilization will be paid on a project basis and separately per Work Order subject to following provisions:
 - 1. Project Mobilization. Measurement for mobilization is on a lump sum basis.
 - 2. Work Order Mobilization
 - a. A single Mobilization will be paid for each Work Order. A Work Order may include multiple activities in one location or related activities in multiple locations. Multiple Work Orders may be issued to complete a Work Order to account for changes in scope.
 - b. Contractor will be paid as follows:
 - 1) 50% of Work Order Mobilization will be paid for Exploratory Excavation work.
 - 2) Remaining 50% of Work Order Mobilization will be paid for Work Order valve rehabilitation.
 - c. Failure to mobilize in required amount of time will result in liquidated damages per Document 00800 - Supplementary Conditions.

Replace the first sentence to paragraph C with the following:

- C. Project Mobilization payment will be included in monthly payment estimates upon written application by Contractor subject to following provision:

Add the following paragraphs D:

- D. Contractor will be required to mobilize equipment, materials and labor in a timely fashion for each Work Order.
 - 1. If directed by Project Manager, demobilize all equipment, materials, traffic control devices from site and protect all excavations and remobilize at a later date to continue work on the same Work Order (e.g., work hours may be limited to night only, which

may require removal of equipment, materials, etc. in order to re-open all traffic lanes during the day).

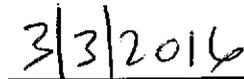
2. Demobilization/Remobilization – This Item is to be used in the event that the Project Manager requires the contractor to discontinue Work and return at a later date to complete Work. Some Unit Price Pay Items identified in Document 00410 may have to be repeated (i.e., Dewatering, Excavation). These repeated work items shall be paid under their respective Unit Price Items the appropriate number of times the work is performed. Contractor shall notify the Project Manager which items are anticipated to be repeated upon notice of demobilization and work conscientiously to minimize repeated work. Payment also includes effort to Remobilize following the demobilized period: All equipment and materials, including traffic control, should be returned to the site and temporary restoration measures will be removed.
 - a. Level 1 Demobilization/Remobilization: To be used prior to dewatering and valve rehabilitation. Payment will be made for each occurrence, and includes, but not limited to the following:
 - 1) Remove equipment, materials, waste products, temporary facilities, storage boxes, and other resources from site.
 - 2) Temporary backfill open excavations. Backfill shall comply with applicable specifications, including type of materials and compaction requirements.
 - 3) Reopen roads, driveways, sidewalks and other public facilities. Temporary restoration measures shall comply with applicable Federal, State and City regulatory requirements. Temporary restoration shall include but not limited to temporary asphalt, pavement striping, traffic control signage and street signage.
 - 4) Remove temporary traffic control from project site area.
 - 5) Coordination with and rescheduling of proposed work and subcontractors.
 - b. Level 2 Demobilization/Remobilization: To be used after dewatering and valve rehabilitation work has begun. Payment will be made for each occurrence, and includes, but not limited to the following:
 - 1) Level 1 Demobilization/Remobilization items
 - 2) Cleaning and removal of work-related debris from pipe interior
 - 3) Reinstallation of access manway flanges
 - 4) Remove Temporary Line Stop Valve, if applicable
 - 5) Contractor to work around the clock to complete any valve installation, if applicable
 - 6) Preparatory work to assist the City with flushing and disinfection to place line back in service.
3. Demobilization period shall not extend beyond original Work Order Contract Time without issuance of a supplemental Work Order.

END OF SUPPLEMENT

Approved by:



Arthur Morris, P.E.
Managing Engineer
Water Engineering Section
Engineering and Construction Division



Date

Section 02521S

GATE VALVES

The following supplements modifies Specification Section 02521 – Gate Valves Standard Specification. Where a portion of the Specification is modified or deleted by this Supplementary Specification, the unaltered portions of the Specification shall remain in effect.

PART 1 GENERAL

1.02 MEASUREMENT AND PAYMENT:

Delete paragraphs 1.02 A.1, 2 and 3 and replace with the following paragraph:

1. Payment for gate valves 20-inches and less is on a unit price basis for each installed for in-line and lateral line valves. Payment includes the cost of procuring and installing gate valve(s).
 - a. No separate payment will be made for gate valves that are part of item groupings or assemblies, such as; Air release valve or access manway assemblies, fire hydrant assemblies, TS&V assemblies, pressure reducing valve stations, temporary bypass, or other grouped items. Include cost of gate valves required for those groupings in associated pay items.
2. Payment for gate valves 24-inches and larger will be divided into:
 - a. Unit price Work Items are included for the procurement of gate valves based on the diameter of the gate valve required. Payment includes procurement, transit, and storage up to twelve (12) months for each valve assembly. Conform to requirements under Section 01110 – Summary of Work for storage of items.
 - b. Payment for procurement of pipe section, including fittings and adapter's necessary for installation regardless of pipe material, is for each diameter water line and for each valve being installed or replaced.
 - i. Pipe section may include 24-inch access manway, outlets, and other major features, and miscellaneous items required for proper fabrication or installation of pipe section such as blow off outlets and joint assemblies.
 - c. Unit price Work Items are also included for the installation of gate valves on either new or existing pipe, regardless of pipe material. Payment includes operator extension, and pipe section, fittings, and adapters, regardless of pipe material, including foundation and support for valve, and any welding necessary

to complete installation.

- d. Transit and storage is incidental to this work.
3. Extra Storage of Materials. Valves and piping that are unused in a Work Order within twelve (12) months, may be either delivered to a designated City of Houston facility, or stored at a facility owned or rented by the Contractor. Cost for this extra storage is to be paid under Extra Unit Cost for storage on unit price basis for each month for all valves and pipe materials, regardless of size and paid per item stored until installed or delivered to the City.
4. Cost of required valve box is incidental to work.

PART 2 PRODUCTS

2.01 MATERIALS:

Delete paragraph 2.01.H in its entirety and replace as follows:

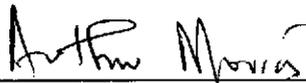
- H. Gate Valves 14- to 66-inches: Provide AWWA C515; reduced-wall, resilient seated gate valves with 250 psig pressure rating. Furnish with spur or bevel gearing.
 1. Mount valves horizontally if proper ground clearance cannot be achieved by normal vertical installation. For horizontally mounted gate valves, provide bevel operation gear mounted vertically for above ground operation.
 2. Use valve body, bonnet, wedge, and operator nut constructed of ductile iron. Fully encapsulate exterior of ductile iron wedge with rubber.
 3. Ensure wedge is symmetrical and seals equally well with flow in either direction.
 4. Provide ductile iron operator nut with four flats at stem connection to apply even input torque to the stem.
 5. Bolts: AWWA C515, Section 4.4.4, Stainless Steel.
 6. Provide high strength bronze stem and nut on 48-inch and 60-inch gate valves. Provide high strength bronze or stainless steel stem and nut on 66-inch gate valves.

Add the following paragraph O.

- O. Provide fusion-bonded –epoxy coating on all internal and external surfaces of valves in accordance with AWWA C550.

END OF SECTION

Approved by:



Arthur Morris, P.E.
Managing Engineer
Water Engineering Section
Engineering and Construction Division

3/03/2016
Date

Section 02522S

BUTTERFLY VALVES

The following supplement modifies Specification Section 02522 – Butterfly Valves Standard Specification. Where a portion of the Specification is modified or deleted by this Supplementary Specification, the unaltered portions of the Specification shall remain in effect.

1.02 MEASUREMENT AND PAYMENT:

Delete Paragraph 1.02 A.1 and A.2 and replace with the following:

1. Unit Price Work Items are included for the procurement of butterfly valves, with actuators, on either new or existing pipe based on the diameter of the butterfly valve required. Payment is on a unit price basis for each procured butterfly valve assembly.
 - a. Payment includes procurement, transit, and storage up to twelve (12) months for each valve. Conform to requirements under Section 01110 – Summary of Work for storage of items.
 - b. No separate payment will be made for procurement or storage for operator manhole.
2. Payment for procurement of pipe section, including fittings and adapter's necessary for installation regardless of pipe material, is for each diameter water line and for each valve being installed or replaced.
 - a. Pipe section may include 24-inch access manway, outlets, and other major features, and miscellaneous items required for proper fabrication or installation of pipe section such as blow off outlets and joint assemblies.
 - b. Transit and storage is incidental to this Work.
3. Unit Price Work Items are also included for the installation of butterfly valves, actuator and actuator manhole on either new or existing pipe, regardless of pipe material, or any welding necessary to complete installation.
 - a. The Unit Price includes the Installation of butterfly valve, actuator, bonnet extension and operating nut extension.
 - b. Payment includes pipe section, fittings, and adapters necessary for complete installation of valve.

Add the following paragraphs to 1.02 A:

4. Unit Price Work Items are also included for the removal and replacement of actuators on existing butterfly valves.

- a. Payment for a 42-inch diameter valve is on unit price basis for each removal and replacement, including removing and replacing valve box.
 - b. Payment for an 84-inch diameter valve is on unit price basis for each removal and replacement, including removing and replacing operator manhole.
 - c. Partial Unit Price Work Items for replacement of actuators will be paid for repairs and replacement parts, not for entire actuator.
5. Unit Price Work Items are included for the removal and replacement of an internal seat replacement on an 84-inch butterfly valve.
- a. Valve and valve seat type to be verified by contractor.
 - b. Replacement seat to be a Buna-N or approved equal manufactured to specifications or original product.
 - c. Payment includes the removal of seat retainer screws & components and cleaning seat cavity in the body & retainer.
6. Extra Storage of Materials. Valves and piping that are unused in a Work Order within twelve (12) months, may be either delivered to a designated City of Houston facility, or stored at a facility owned or rented by the Contractor. Cost for this extra storage is to be paid under Extra Unit Cost for storage on unit price basis for each month for all valves and pipe materials, regardless of size and paid per item stored until installed or delivered to the City.

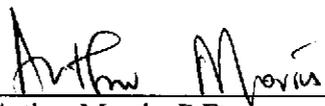
2.03 VALVE ACTUATOR CONSTRUCTION

Add the following paragraph to 1.03:

- I. For removal and replacement of existing butterfly valve actuator, conform to requirements of Section 02519 – Assessment and Rehab of Large Diameter Water Lines.

END OF SUPPLEMENT

Approved by:



Arthur Morris, P.E.
Managing Engineer
Water Engineering Section
Engineering and Construction Division

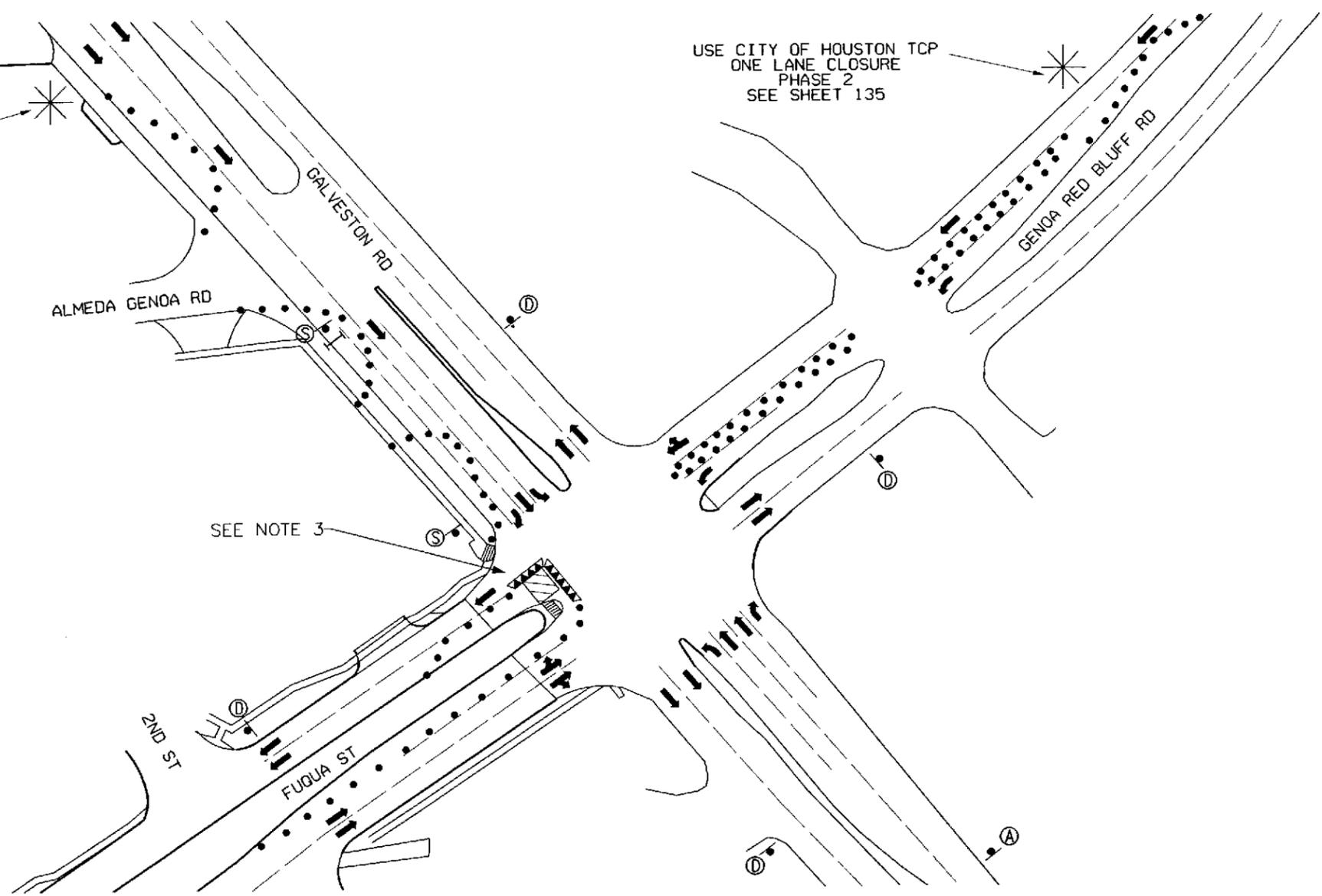
3/03/2016
Date

Addendum No. 02
02522S-2
03-02-2016



USE TXDOT TCP
 ONE LANE CLOSURE
 SEE SHEET 136

USE CITY OF HOUSTON TCP
 ONE LANE CLOSURE
 PHASE 2
 SEE SHEET 135



- LEGEND**
- WATER FILLED BARRIER (T.L.S.) OR APPROVED EQUAL
 - WORK ZONE
 - DRUMS
 - DIRECTION OF TRAFFIC
 - TEMPORARY GROUND MOUNTED SIGNS
 - TYPE III BARRICADE W/ ROAD CLOSED SIGN AND TYPE A FLASHING WARNING LIGHTS

- NOTES:**
1. PROVIDE ACCESS TO ALL BUSINESSES AND RESIDENTS AT ALL TIMES.
 2. WORK TO BEGIN FROM FRIDAY AT 7:00 PM AND WORK AROUND THE CLOCK UNTIL VALVE REPAIR IS COMPLETED.
 3. MAINTAIN A MINIMUM 10 FOOT LANE.

- SPEED LIMITS:**
1. GALVESTON RD: 50 MPH
 2. FUQUA ST: 40 MPH

- A** UTILITY WORK AHEAD
CW21-7D (48"x48")
- B** ROAD CLOSED AHEAD
CW20-3D (48"x48")
- C** DETOUR AHEAD
CW20-2D (48"x48")
- D** END ROAD WORK
G20-2A (48"x24")
- E** RIGHT LANE CLOSED AHEAD
CW20-5R (36"x36")
- F** LEFT LANE CLOSED AHEAD
CW20-5L (48"x48")
- G** M4-9N (30"x12")
ST. NAME
DETOUR
M4-9R (30"x30")
- H** M4-9N (30"x12")
ST. NAME
DETOUR
M4-9L (30"x30")
- I** M4-9N (30"x30")
ST. NAME
DETOUR
M4-9 (30"x30")
- J** END DETOUR
M4-8 (24"x12")
- K** R3-1 (24"x24")
- L** R3-2 (24"x24")
- M** R3-5L (30"x36")
- N** R3-5R (30"x36")
- O** LEFT LANE MUST TURN LEFT
R3-7L (30"x30")
- P** RIGHT LANE MUST TURN RIGHT
R3-7R (30"x30")
- Q** TYPE III BARRICADE W/TYPE "A" FLASHING WARNING LIGHTS

SWTP
 Surface Water Transmission Program

IGN
 Lockwood, Andrews & Newnam, Inc.
 A LEO A DALY COMPANY
 2825 Baypark Drive Houston, TX 77042

EMMANUEL DE PAU
 82627
 LICENSED PROFESSIONAL ENGINEER

SURVEYED BY: *Emmanuel De Pau*
 Lockwood, Andrews & Newnam, Inc.
 10/2/2014

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
 LARGE DIAMETER VALVE REPLACEMENT CONTRACT - PKG 1
 TRAFFIC CONTROL PLAN LOCATION 14A

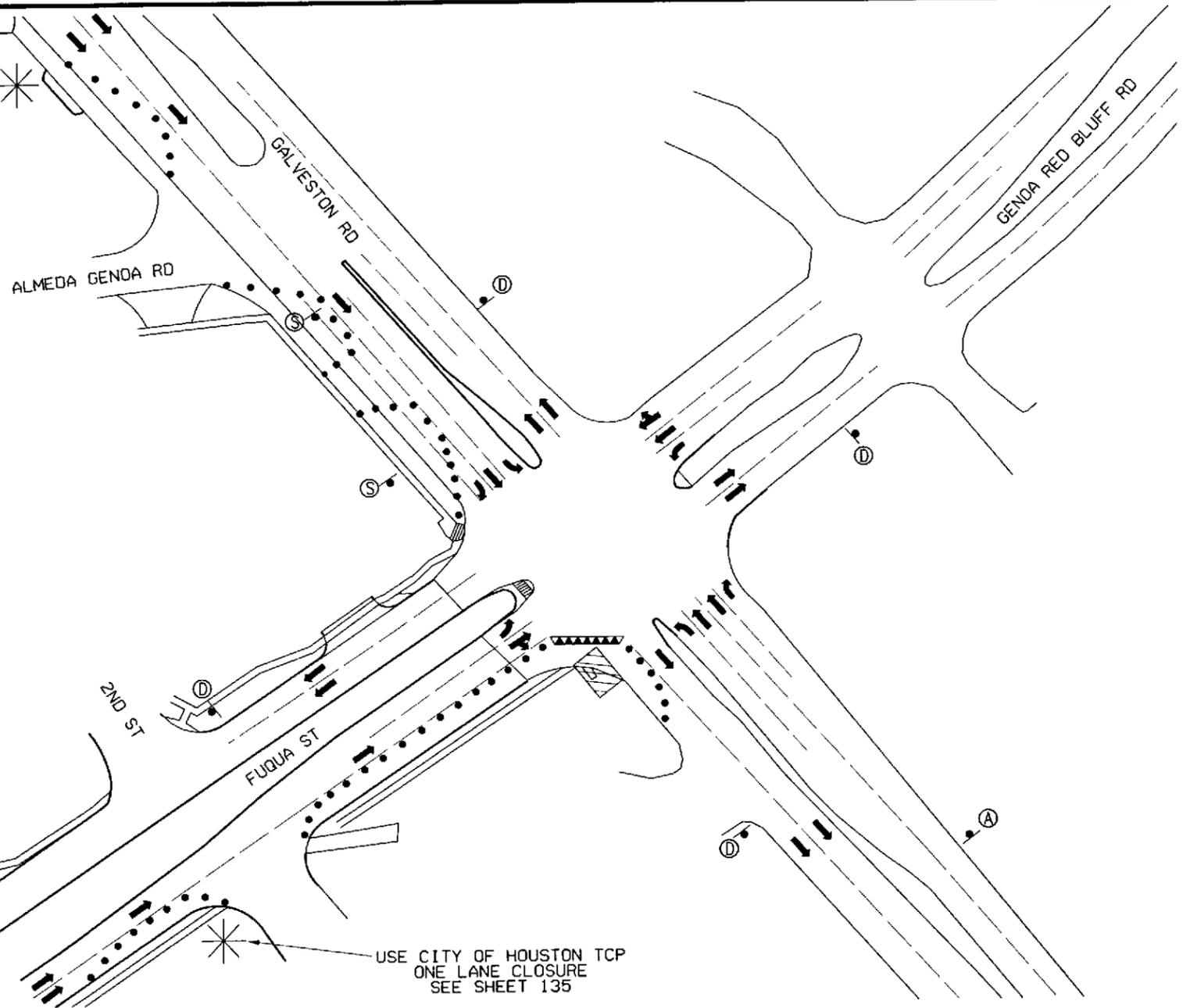
WBS NO. S-000701-0035-4
 DRAWING SCALE NOT TO SCALE
 CITY OF HOUSTON PM ANH HUNTER, P.E.
 SHEET NO. 153A OF 158

55453

DATE PLOTTED: 3/2/2016 3:14:00 PM



USE TXDOT TCP
 ONE LANE CLOSURE
 SEE SHEET 136



- LEGEND**
- WATER FILLED BARRIER (TL3) OR APPROVED EQUAL
 - WORK ZONE
 - DRUMS
 - DIRECTION OF TRAFFIC
 - TEMPORARY GROUND MOUNTED SIGNS
 - TYPE III BARRICADE W/ ROAD CLOSED SIGN AND TYPE A FLASHING WARNING LIGHTS

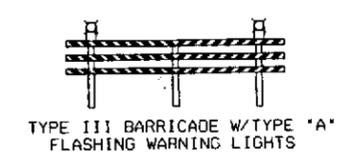
- NOTES:**
1. PROVIDE ACCESS TO ALL BUSINESSES AND RESIDENTS AT ALL TIMES.
 2. CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS THROUGH AND AROUND WORK ZONE DURING CONSTRUCTION.
 3. WORK TO BEGIN FROM FRIDAY AT 7:00 PM AND WORK AROUND THE CLOCK UNTIL VALVE REPAIR IS COMPLETED.

- SPEED LIMIT:**
1. GALVESTON RD: 50 MPH

USE CITY OF HOUSTON TCP
 ONE LANE CLOSURE
 SEE SHEET 135

- | | | | | | | | |
|--|--|--|---|--|--|--|--|
| <p>A</p> <p>CW21-7D
(48"x48")</p> | <p>B</p> <p>CW20-3D
(48"x48")</p> | <p>C</p> <p>CW20-2D
(48"x48")</p> | <p>D</p> <p>G20-2A
(48"x24")</p> | <p>E</p> <p>CW20-5R
(36"x36")</p> | <p>F</p> <p>CW20-5L
(48"x48")</p> | <p>G</p> <p>M4-9N
(30"x12")
ST. NAME
DETOUR
M4-9R
(30"x30")</p> | <p>H</p> <p>M4-9N
(30"x12")
ST. NAME
DETOUR
M4-9L
(30"x30")</p> |
| <p>I</p> <p>M4-9
(30"x30")
ST. NAME
DETOUR
M4-9
(30"x30")</p> | <p>J</p> <p>M4-8
(24"x12")</p> | <p>K</p> <p>R3-1
(24"x24")</p> | <p>L</p> <p>R3-2
(24"x24")</p> | <p>M</p> <p>R3-5L
(30"x36")</p> | <p>N</p> <p>R3-5R
(30"x36")</p> | <p>O</p> <p>R3-7L
(30"x30")</p> | <p>P</p> <p>R3-6L
(30"x36")</p> |

- S**
-
- R3-7R
(30"x30")

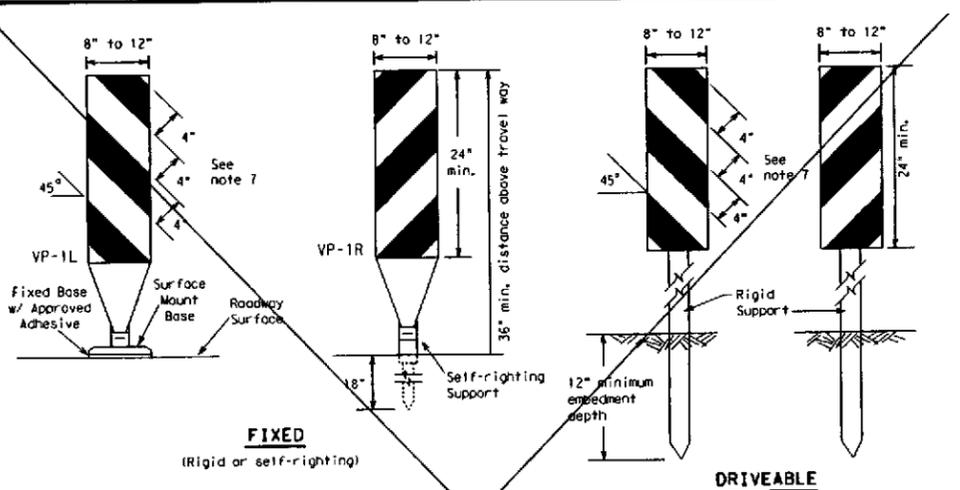


Surface Water Transmission Program

<p>Lockwood, Andrews & Newnam, Inc. A LEO A DALY COMPANY 2325 Shepley Drive Houston, TX 77042</p>	
<p>SURVEYED BY: <i>Emmanuel De Pau</i> Lockwood, Andrews & Newnam, Inc. ID # 2614</p>	
<p>CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING</p>	
<p>LARGE DIAMETER VALVE REPLACEMENT CONTRACT - PKG 1</p>	
<p>TRAFFIC CONTROL PLAN LOCATION 14C</p>	
<p>WBS NO. S-000701-0035-4</p>	
<p>DRAWING SCALE NOT TO SCALE</p>	
<p>CITY OF HOUSTON PM ANG HUNTER, P.E. <i>AH</i></p>	
<p>SHEET NO. 155A OF 158</p>	

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

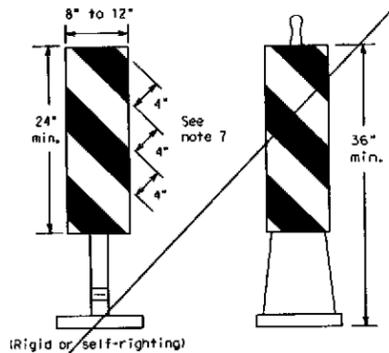
DATE: FILE:



FIXED
(Rigid or self-righting)

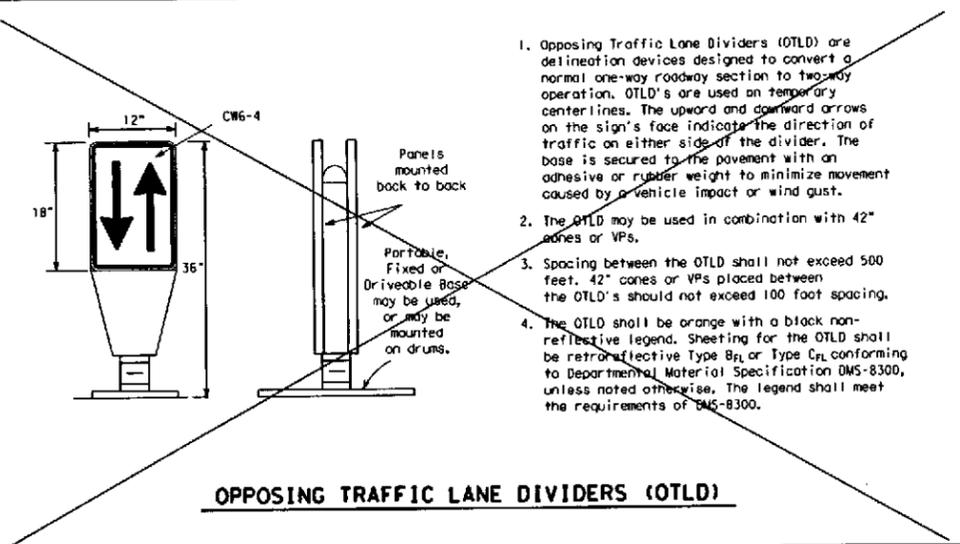
DRIVEABLE

- Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
- VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual Appendix B "Treatment of Pavement Drop-offs in Work Zones" for additional guidelines on the use of VP's for drop-offs.
 - VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
 - VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.
 - Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
 - Sheeting for the VP's shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
 - Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.



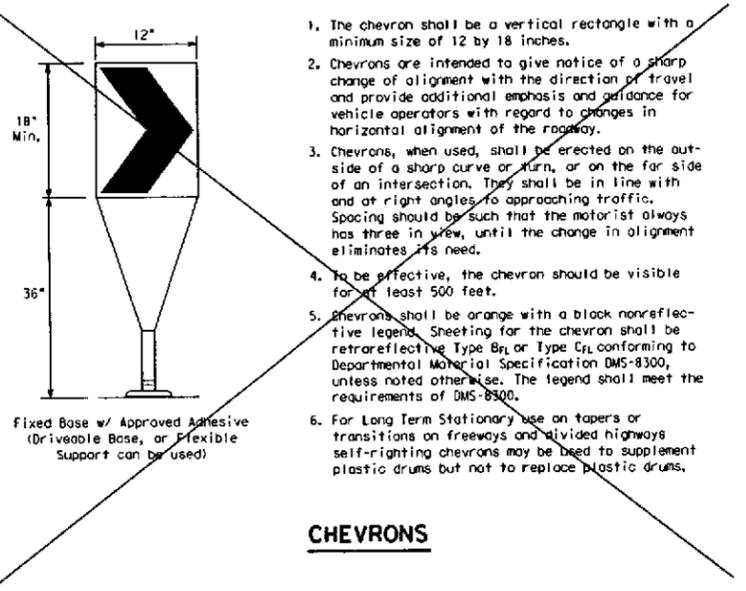
PORTABLE

VERTICAL PANELS (VPs)



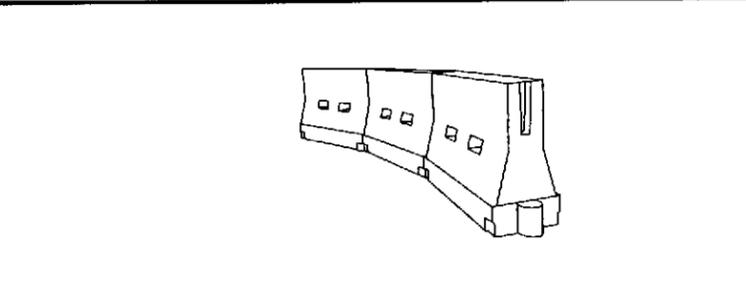
OPPOSING TRAFFIC LANE DIVIDERS (OTLD)

- Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
- The OTLD may be used in combination with 42" cones or VPs.
- Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
- The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type B₁ or Type C_L conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.



CHEVRONS

- The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
- Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
- Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
- To be effective, the chevron should be visible for at least 500 feet.
- Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type B₁ or Type C_L conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.
- For Long Term Stationary use on tapers or transitions on freeways and divided highways self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.



LONGITUDINAL CHANNELIZING DEVICES (LCD)

- LCDs are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. They are not designed to contain or redirect a vehicle on impact.
- LCDs may be used instead of a line of cones or drums.
- LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
- LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
- LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
- LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10) placed near the top of the LCD along the full length of the device.

WATER BALLASTED SYSTEMS USED AS BARRIERS

- Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate NCHRP 350 crashworthiness requirements based on roadway speed and barrier application.
- Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
- Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
- Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
- When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long cones and the top of the unit shall not be less than 32 inches in height.

HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

GENERAL NOTES

- Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
- Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
- Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
- The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
- Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh a minimum of 30 lbs.
- Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
- The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.

Posted Speed X	Formula	Minimum Desirable Taper Lengths X %			Suggested Maximum Spacing of Channelizing Devices	
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent
30	L = WS / 60	150'	165'	180'	30'	60'
35		205'	225'	245'	35'	70'
40	L = WS	265'	295'	320'	40'	80'
45		450'	495'	540'	45'	90'
50	L = WS	500'	550'	600'	50'	100'
55		550'	605'	660'	55'	110'
60	L = WS	600'	660'	720'	60'	120'
65		650'	715'	780'	65'	130'
70	L = WS	700'	770'	840'	70'	140'
75		750'	825'	900'	75'	150'
80	L = WS	800'	880'	960'	80'	160'
85		850'	935'	1020'	85'	170'

*Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

Texas Department of Transportation
Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC (9) - 14

FILE: bc-14.dgn	DATE: 11/07/02	BY: TxDOT	CHK: TxDOT	APP: TxDOT	CRK: TxDOT
REVISED: November 2002	CONT: 1	SECT: 1	JOB: 1	PROJECT: 1	HIGHWAY: 1
9-07	8-14	DEST: 1	COUNTY: 1	SHEET NO: 1	
7-13					

SWTP
Surface Water Treatment Program

Lockwood, Andrews & Newnam, Inc.
A LEO A DALY COMPANY
2525 Blalock Drive Houston, TX 77042

SURVEYED BY: *[Signature]*
Lockwood, Andrews & Newnam, Inc. ID # 2514

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

LARGE DIAMETER VALVE REPLACEMENT CONTRACT - PKG 1

TRAFFIC CONTROL PLAN
WATER BARRIER

WBS NO. S-000701-0035-4

DRAWING SCALE: NOT TO SCALE

CITY OF HOUSTON PM: ANH HUNTER, P.E.

SHEET NO. 158A OF 158

55453

ISSUE ADDENDUM NO. 2
1 3/27/16
DATE

3/27/2016 11:13 PM

ESA I Report

Phase I Environmental Site Assessment Report can be downloaded from:

https://bidsets.publicworks.houstontx.gov/index.php/bid-sets/view_category?layout=columns