

CITY OF SANTA FE GALVESTON CO. WCID NO. 8 WATER LINE IMPROVEMENTS CDBG PROJECT #7219399 APRIL 2020

WCID #8 BOARD MEMBERS

PRESIDENT - CT ANDERSON
VICE PRESIDENT - RALPH STENZEL, JR.
SECRETARY/TREASURER - DAVID TYNER
DIRECTOR - WILLIAM BARNETT
ASSISTANT SECRETARY/TREASURER - BOB WYLIE
SUPERINTENDENT - JAMES NEWMAN

CITY COUNCIL

MAYOR JASON TABOR
COUNCIL MEMBER - IV HOKE
COUNCIL MEMBER - JASON O'BRIEN
COUNCIL MEMBER - CORY JANNETT
COUNCIL MEMBER - FIDENCIO LEIJA
MAYOR PRO-TEM - BILL PITTMAN

CITY SECRETARY - JANET DAVIS
CITY MANAGER - GLEN ADAMS

JOHN D. MERCER & ASSOCIATES
CONSULTING ENGINEERS
TEXAS REGISTERED ENGINEERING FIRM F-324
118 E. MAIN ST.
EDNA, TX



BRIAN M. KRAMER, P.E. NO. 106117

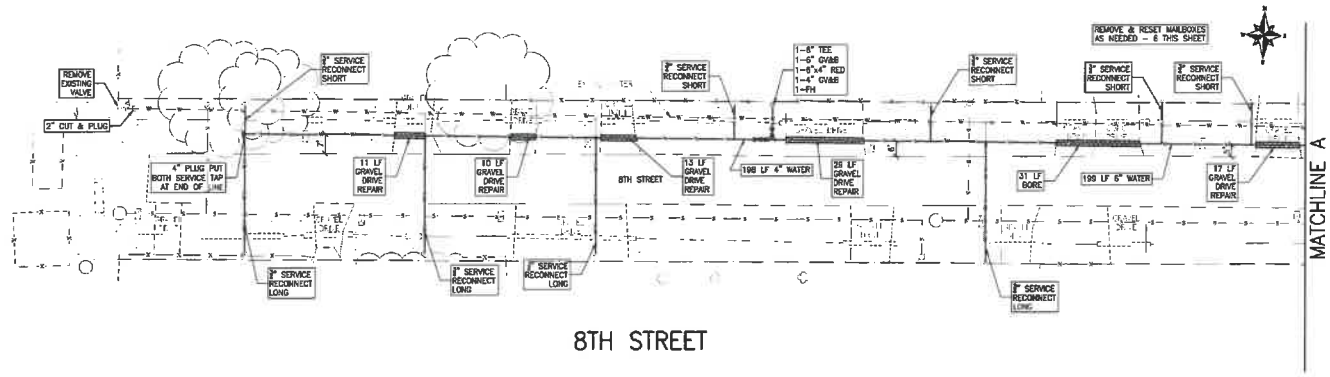
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COVER SHEET
8TH STREET
12TH STREET
23RD STREET
23RD STREET
AVENUE I
25TH STREET
AVENUE G 1/2
21ST STREET
WATER DETAILS

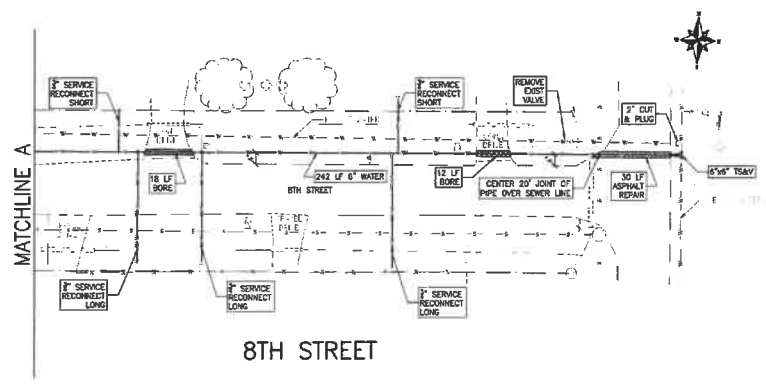
SHEET 1 OF 10
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POWER POLE	TELEPHONE BOX	CONTROL POINT	SEWER LINE
WATER METER	GAS METER	CABLE TELEVISION BOX	STORM SEWER LINE
CLEANKIT	ELECTRIC BOX	EXISTING BLDG.	FENCE MARK
MANHOLE	POST	GAS LINE	POWER LINE
PROPERTY CORNER	UTILITY WIRE	FENCE	UNDER GROUND TELEPHONE LINE
MAIL BOX	FRESHWATER	WATER LINE	UNDER GROUND ELECTRICAL LINE
SKIN	GATE VALVE		


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 118 EAST MAIN STREET
 DENVER, TX 77007



8TH STREET



8TH STREET

CITY OF SANTA FE GALVESTON CO. WCID NO. 8
 WATER LINE IMPROVEMENTS
8TH STREET



DRAWN BY: CM
 CHECKED BY: BMS
 SCALE: 1"=20'
 2 10
 E2399
 8 TH

POWER POLE	TELEPHONE BOX	CONTROL POINT	SEWER LINE
WATER METER	GAS METER	CABLE TELEVISION BOX	STORM SEWER LINE
CLEARCUT	ELECTRIC BOX	DOERING BLDG.	FURGE MAN
MANHOLE	POST	GAS LINE	POWER LINE
PROPERTY CORNER	OUT WIRE	FENCE	UNDER GROUND TELEPHONE LINE
LINE BOX	FRESHWATER	WATER LINE	UNDER GROUND ELECTRICAL LINE
SIGN	GATE VALVE		

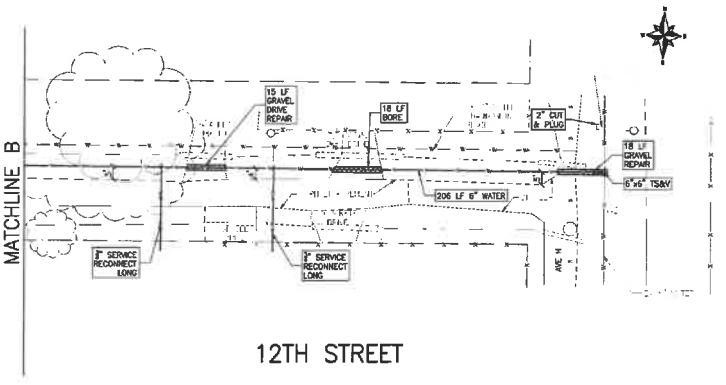
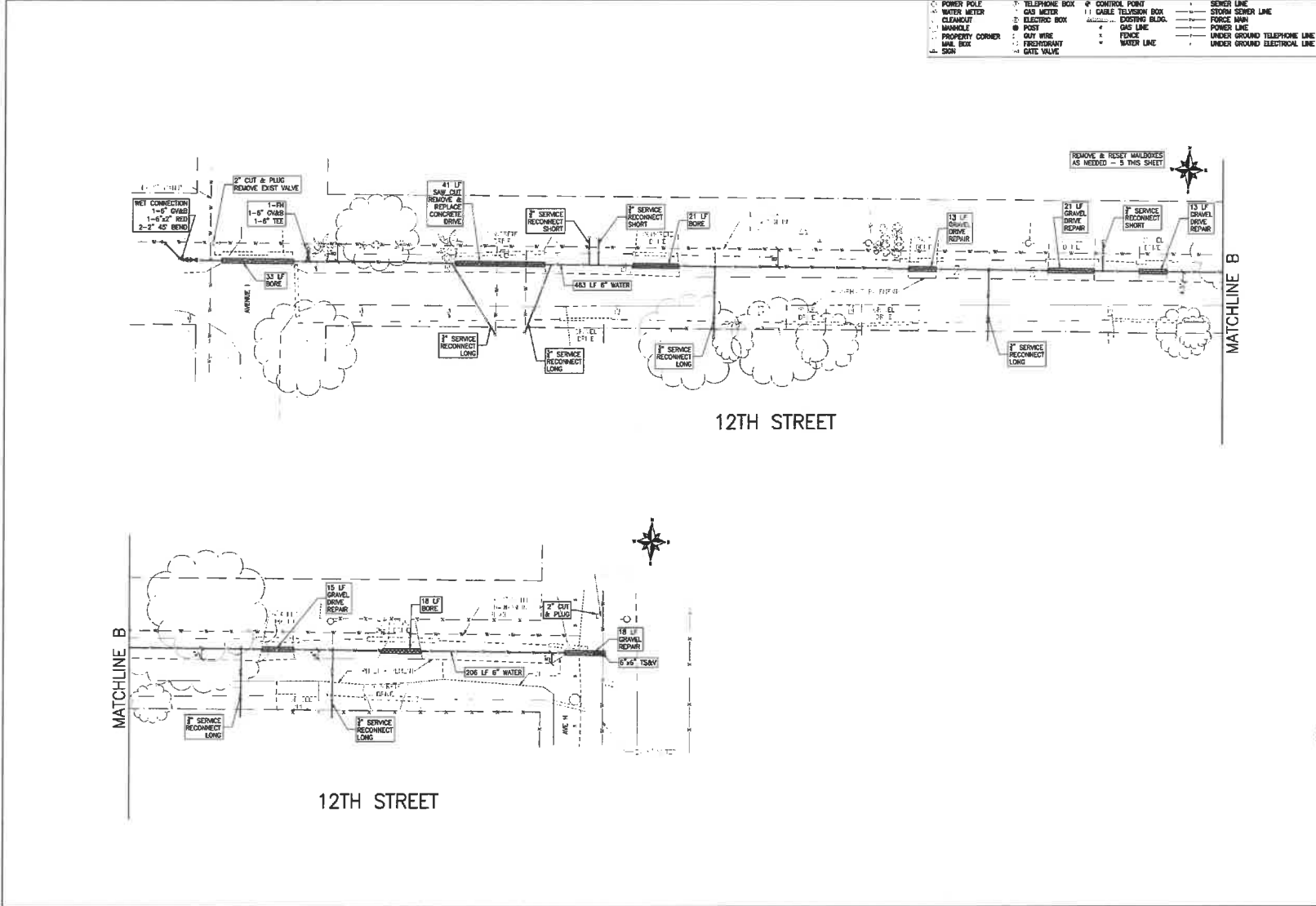


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 118 EAST WASHINGTON STREET
 DENVER, CO 80202
 303.733.2721

CITY OF SANTA FE / GALVESTON CO. WCID NO. 8
 WATER LINE IMPROVEMENTS
12TH STREET



DRAWN BY:
 CHECKED BY:
 SCALE: 1"=20'
 3 10
 E2399
 12 ST



- | | | | |
|-------------------|-----------------|------------------------|--------------------------------|
| ○ POWER POLE | □ TELEPHONE BOX | □ CONTROL POINT | — SIDER LINE |
| ○ WATER METER | ○ GAS METER | □ CABLE TELEVISION BOX | — STORM SEWER LINE |
| ○ CLEARCUT | □ ELECTRIC BOX | □ EXISTING BLDG. | — FORCE MAIN |
| ○ MANHOLE | ○ POST | — GAS LINE | — POWER LINE |
| ○ PROPERTY CORNER | ○ CITY WIRE | — FENCE | — UNDER GROUND TELEPHONE LINE |
| ○ MAIL BOX | ○ FRESHWATER | ○ WATER LINE | — UNDER GROUND ELECTRICAL LINE |
| ○ SIGN | ○ GATE VALVE | | |

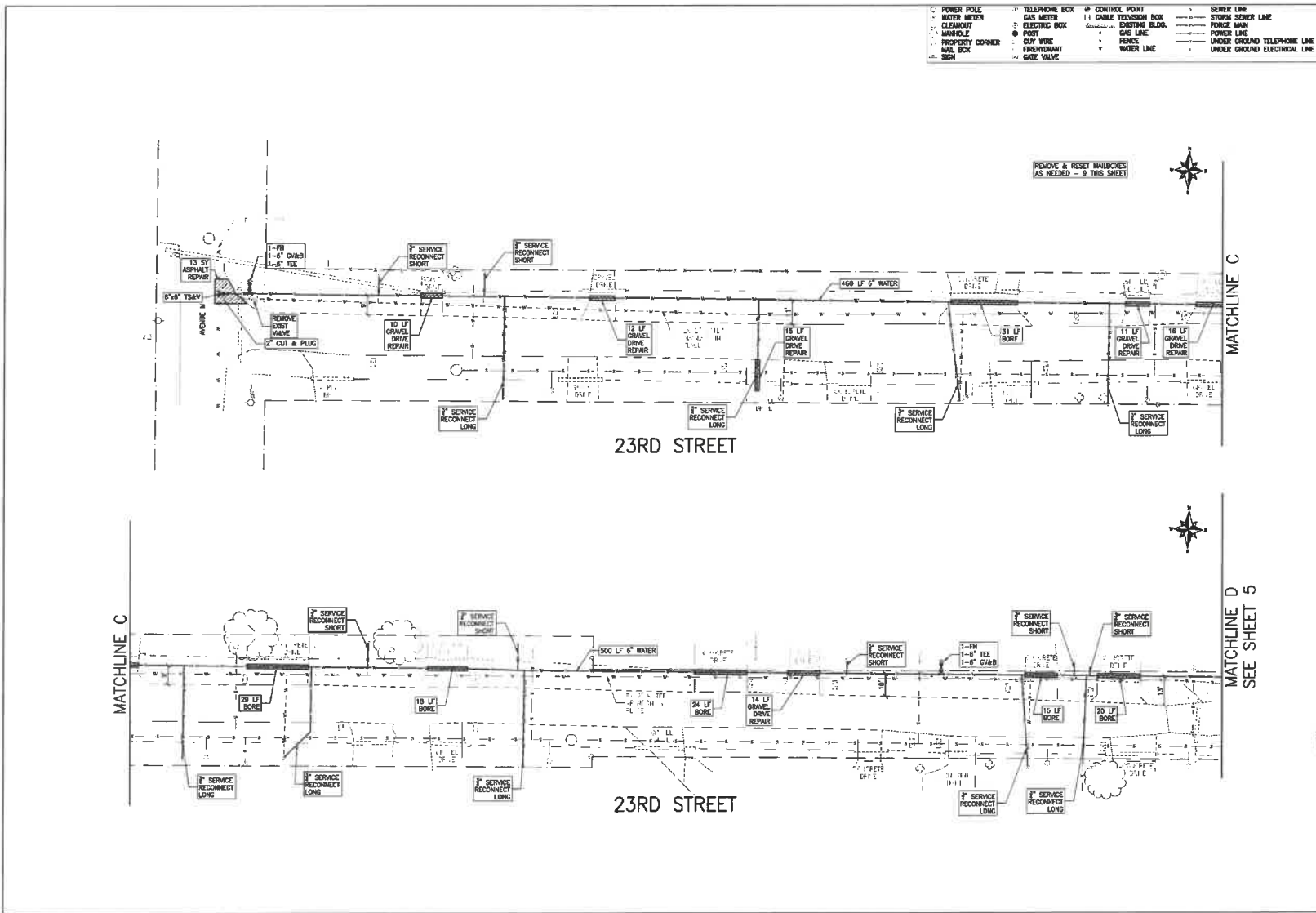

JOHN D. MERCER & ASSOCIATES
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 110 EAST MAIN STREET
 DENVER, TEXAS 77009
 361-262-7121

CITY OF SANTA FE GALVESTON CO. WCD NO. 8
 WATER LINE IMPROVEMENTS
23RD STREET

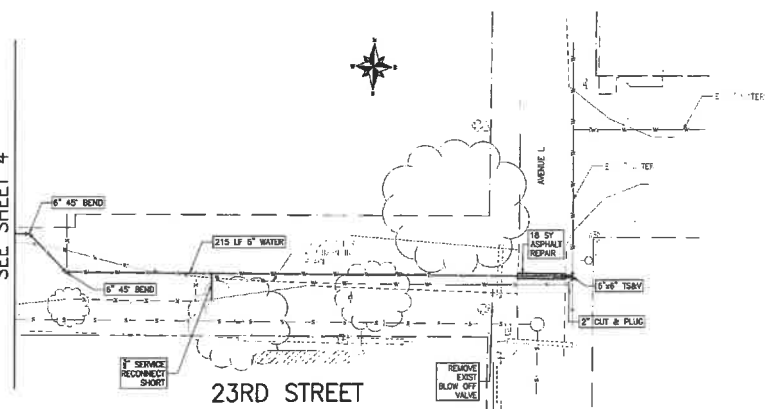


DRAWN BY: CM
 CHECKED BY: RMB
 SCALE: 1"=20'
 4 10

E2399
23RD (1)



MATCHLINE D
SEE SHEET 4



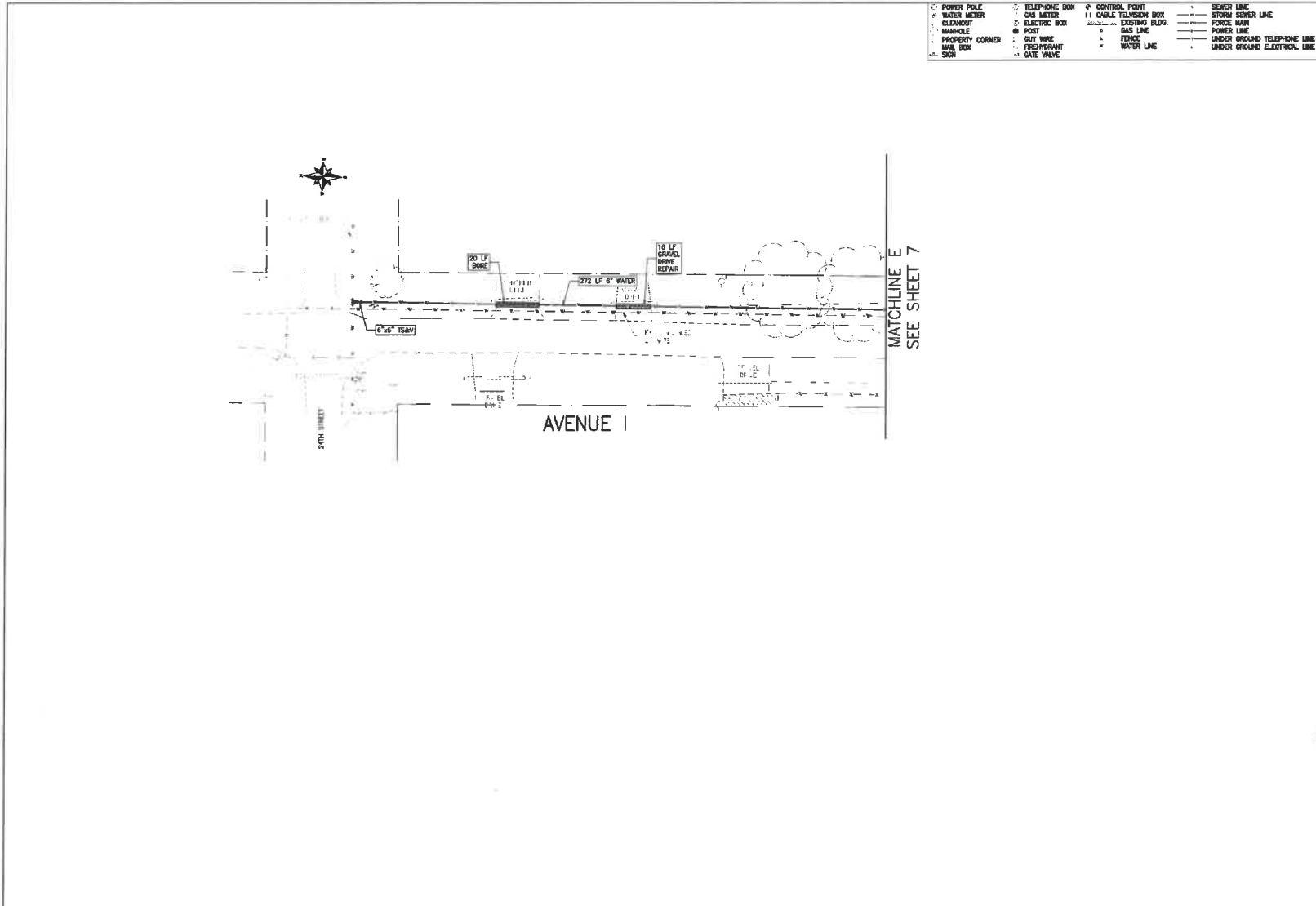
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| POWER POLE | TELEPHONE BOX | CONTROL POINT | SEWER LINE |
| WATER METER | GAS METER | CABLE TELEVISION BOX | STORM SEWER LINE |
| CLEANOUT | ELECTRIC BOX | EXISTING BLDG. | FORCE MAIN |
| MANHOLE | POST | GAS LINE | POWER LINE |
| PROPERTY CORNER | GUY WIRE | FENCE | UNDER GROUND TELEPHONE LINE |
| MAIL BOX | FIREHYDRANT | WATER LINE | UNDER GROUND ELECTRICAL LINE |
| SIGN | GATE VALVE | | |


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 116 EAST MAIN STREET
 DENVER, TX 75007
 281-766-2111


CITY OF SANTA FE GALVESTON CO. WCID NO. 8
 WATER LINE IMPROVEMENTS
23RD STREET



DRAWN BY: CM
 CHECKED BY: BML
 SCALE: 1"=20'
 5 10
 E2399
 23RD (2)



- | | | | |
|-----------------|---------------|----------------------|------------------------------|
| POWER POLE | TELEPHONE BOX | CONTROL POINT | SEWER LINE |
| WATER METER | GAS METER | CABLE TELEVISION BOX | STORM SEWER LINE |
| CLEANOUT | ELECTRIC BOX | EXISTING BLDG. | FORCE MAIN |
| MANHOLE | POST | GAS LINE | POWER LINE |
| PROPERTY CORNER | CITY WIRE | FENCE | UNDER GROUND TELEPHONE LINE |
| MAIL BOX | FIREHYDRANT | WATER LINE | UNDER GROUND ELECTRICAL LINE |
| BOX | GATE VALVE | | |

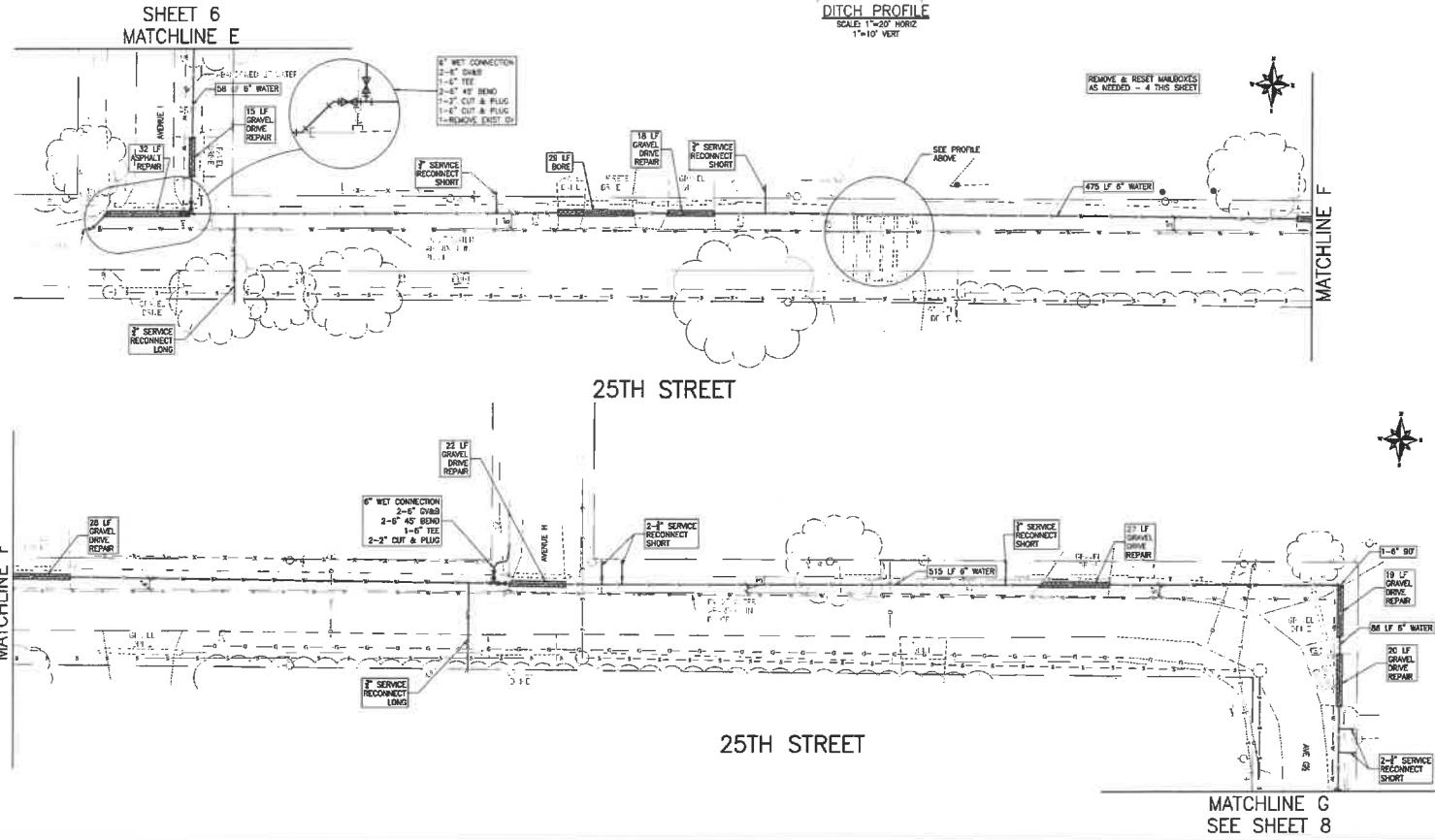
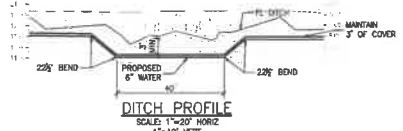

JOHN D. MERCIER & ASSOCIATES
 TEXAS REGISTERED ENGINEERS
 CONSULTING ENGINEERS
 118 BUCKMAN STREET
 EDWEN, TX 79727
 261-743-5721

CITY OF SANTA FE GALVESTON CO. WCID NO. 8
 WATER LINE IMPROVEMENTS
AVENUE I



DRAWN BY: CM
 CHECKED BY: BMK
 SCALE: 1"=12'
 6 / 10
E2309
 AVE I

- | | | | |
|-----------------|---------------|----------------------|------------------------------|
| POWER POLE | TELEPHONE BOX | CONTROL POINT | SEWER LINE |
| WATER METER | GAS METER | CABLE TELEVISION BOX | STORM SEWER LINE |
| CLEANOUT | ELECTRIC BOX | EXISTING BLVD. | FORCE MAIN |
| MANHOLE | POST | GAS LINE | POWER LINE |
| PROPERTY CORNER | CITY WIRE | FENCE | UNDER GROUND TELEPHONE LINE |
| MAIL BOX | FREIGHTWAY | WATER LINE | UNDER GROUND ELECTRICAL LINE |
| SIGN | DATE VALVE | | |

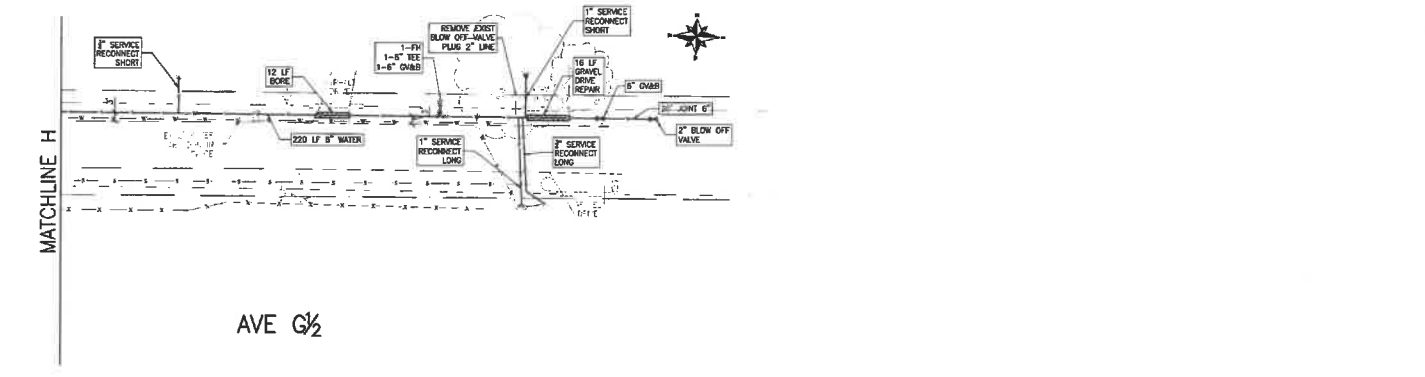
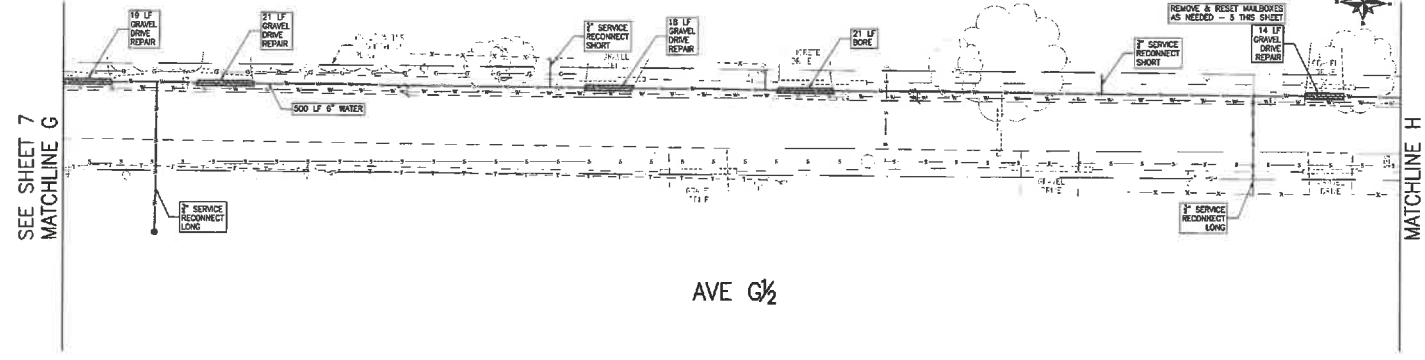



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 110 EAST HANCOCK STREET
 DENVER, CO 80202

CITY OF SANTA FE GALVESTON CO. WCID NO. 8
 WATER LINE IMPROVEMENTS
25TH STREET


 DRAWN BY: CML
 CHECKED BY: BMB
 SCALE: 1"=20'
 7 10
 E2399
 25 TH

POWER POLE	TELEPHONE BOX	CONTROL POINT	SEWER LINE
WATER METER	GAS METER	CABLE TELEVISION BOX	STORM SEWER LMC
CLEANOUT	ELECTRIC BOX	EXISTING BLDG.	FORCE MAIN
MANHOLE	POST	GAS LINE	POWER LINE
PROPERTY CORNER	OUT WIRE	FENCE	UNDER GROUND TELEPHONE LINE
MAIL BOX	FIREHYDRANT	WATER LINE	UNDER GROUND ELECTRICAL LINE
SIGN	GATE VALVE		




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 2610-2311
 118 EAST MAIN STREET
 DENVER, TX 75017

CITY OF SANTA FE GALVESTON CO. WCID NO. 8
 WATER LINE IMPROVEMENTS
AVENUE G 1/2



DRAWN BY: CM
 CHECKED BY: BMK
 SCALE: 1"=20'
 8 / 10
E2399
 AVE G 1/2

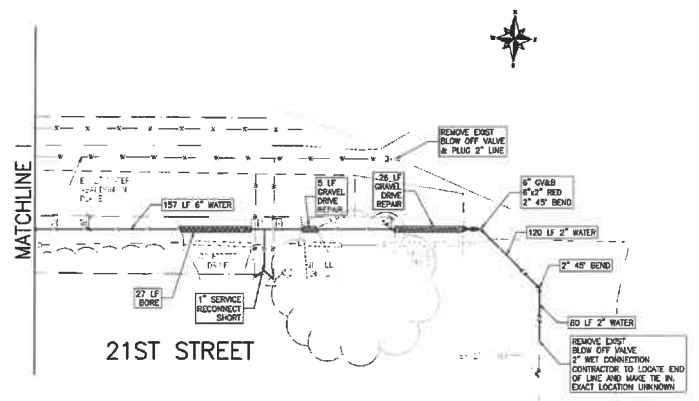
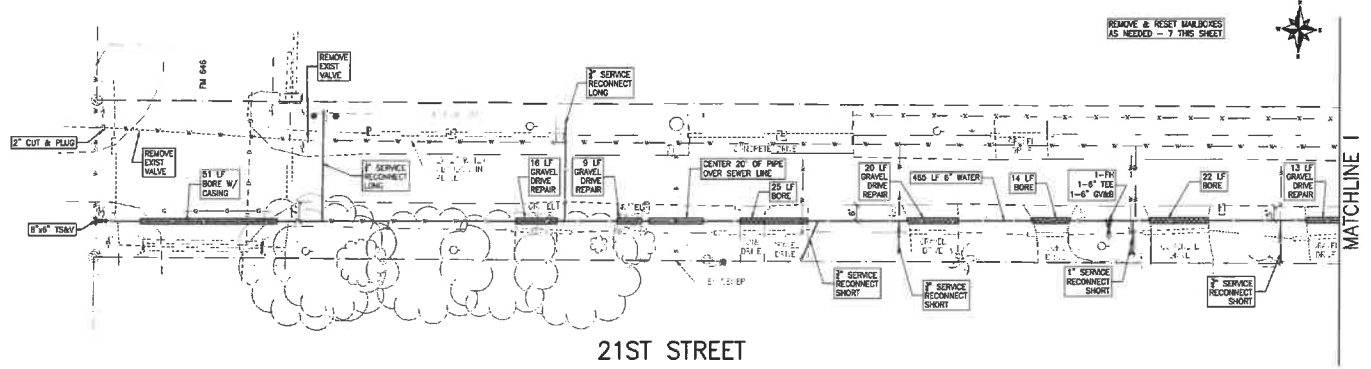
- | | | | |
|-----------------|---------------|----------------------|------------------------------|
| POWER POLE | TELEPHONE BOX | CONTROL POINT | SEWER LINE |
| WATER METER | GAS METER | CABLE TELEVISION BOX | STORM SEWER LINE |
| CLEARCUT | ELECTRIC BOX | EXISTING BLDG. | FURGE MAN |
| MANHOLE | POST | GAS LINE | POWER LINE |
| PROPERTY CORNER | STAY WIRE | FENCE | UNDER GROUND TELEPHONE LINE |
| MAIL BOX | DISCONTINUIT | WATER LINE | UNDER GROUND ELECTRICAL LINE |
| SIKH | GATE VALVE | | |

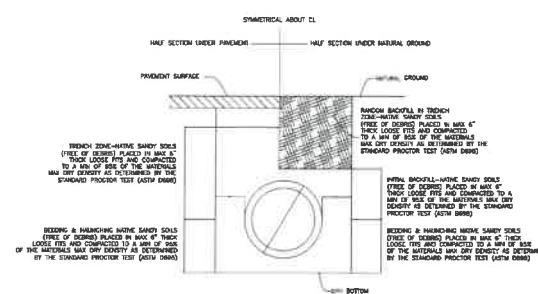

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 118 EAST WALNUT STREET
 DENVER, CO 80202
 303.733.2121

CITY OF SANTA FE GALVESTON CO. WCID NO. 8
WATER LINE IMPROVEMENTS
21ST STREET

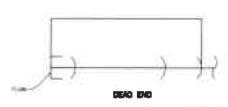


DRAWN BY: CM
 CHECKED BY: BMK
 SCALE: 1"=20'
 9 10
 E2399
 21 ST

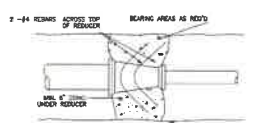




WATERLINE BEDDING & BACKFILL FOR DRY STABLE TRENCH
 SCALE: N.T.S.



C-900 PIPE THRUST RESTRAINT
 SCALE: N.T.S.



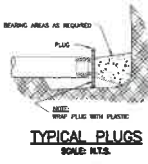
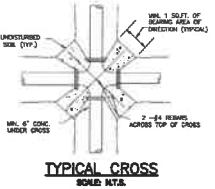
FITTING	22 1/2"	45"	90"	TEE & PLUG				
PIPE SIZE	BEARING AREA	DIM	BEARING AREA	DIM	BEARING AREA	DIM	BEARING AREA	DIM
2"	2 SF (2X1)	2 SF (2X1)	2 SF (2X1)	2 SF (2X1)	2 SF (2X1)	2 SF (2X1)	2 SF (2X1)	2 SF (2X1)
4"	2 SF (2X1)	2 SF (2X1)	3 SF (2X1.5)	2 SF (2X1)	2 SF (2X1)	2 SF (2X1)	2 SF (2X1)	2 SF (2X1)
6"	2 SF (2X1)	3 SF (2X1.5)	4.5 SF (2X2.25)	4 SF (2X2)	4 SF (2X2)	4 SF (2X2)	4 SF (2X2)	4 SF (2X2)
8"	3 SF (2X1.5)	4 SF (2X2)	7 SF (3.5X2)	6 SF (3X2)	6 SF (3X2)	6 SF (3X2)	6 SF (3X2)	6 SF (3X2)
10"	3 SF (2X1.5)	4 SF (2X2)	7 SF (3.5X2)	5 SF (2.5X2)	5 SF (2.5X2)	5 SF (2.5X2)	5 SF (2.5X2)	5 SF (2.5X2)
12"	3 SF (2X1.5)	6 SF (3X2)	10 SF (4X2.5)	7 SF (3.5X2)	7 SF (3.5X2)	7 SF (3.5X2)	7 SF (3.5X2)	7 SF (3.5X2)
14"	4 SF (2X2)	8 SF (4X2)	14 SF (4X3.5)	10 SF (4X2.5)	10 SF (4X2.5)	10 SF (4X2.5)	10 SF (4X2.5)	10 SF (4X2.5)
16"	13 SF (4X3.25)	26 SF (5.5X4)	49 SF (7X7)	34 SF (5X2.67)	34 SF (5X2.67)	34 SF (5X2.67)	34 SF (5X2.67)	34 SF (5X2.67)
24"	24 SF (6X4)	47 SF (7.8X8)	87 SF (8.67X9)	62 SF (6X7.75)	62 SF (6X7.75)	62 SF (6X7.75)	62 SF (6X7.75)	62 SF (6X7.75)
	RED. 8x6 DIM 2.5 (2.5X1)	8x4 DIM 2.5 (2.5X1)	6x4 DIM 1.0 (1X1)					

NOTE:
 FOR ALL PIPE SMALLER THAN 4" DIAMETER, USE 2 SQ.FT. BEARING AREA FOR ALL TEES, TEE'S & PLUGS.

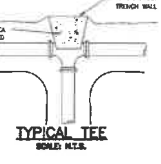
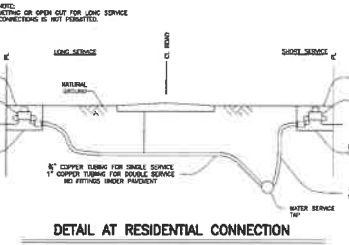
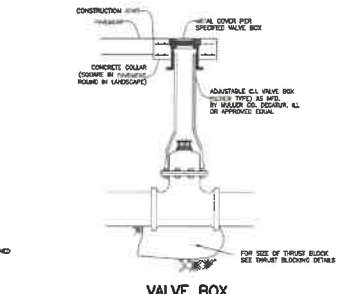
THRUST BLOCK AREAS SHOULD BE DOUBLED FOR SOFT SOIL OR FILL. THE TABLE IS BASED ON A 2,000 P.S.F. SAFE BEARING VALUE FOR THE SOIL.

CONCRETE FOR THRUST BLOCKS SHALL BE A "CLASS II" CONCRETE IN ACCORDANCE WITH ITEM 501 OF THE TECHNICAL SPECIFICATIONS.

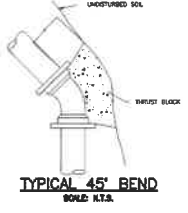
ALL VERTICAL BENDS CONNECTING TO PVC PIPE SHALL BE RESTRAINED WITH SERIES DBT, PVC PIPE JOINT RESTRAINT SYSTEM MANUFACTURED BY SMITH BLAIR, INC.



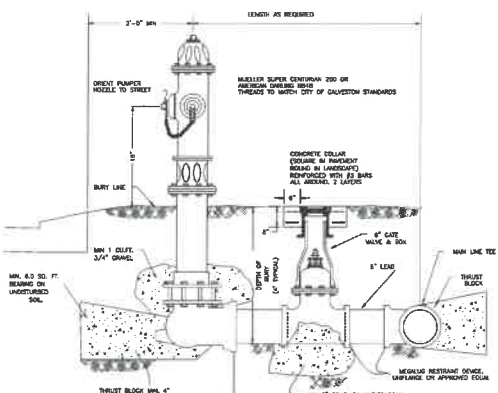
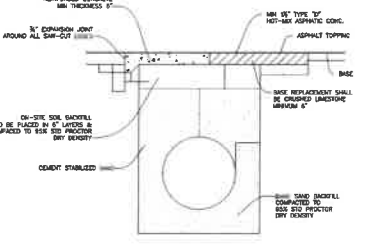
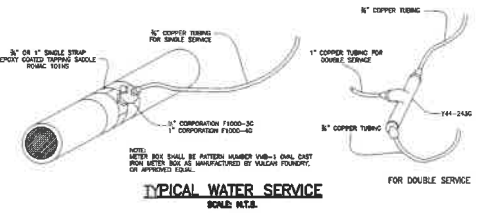
CONCRETE HORIZONTAL THRUST BLOCKS



TYPICAL 90° BEND
 SCALE: N.T.S.



TYPICAL FOR TEES & BENDS
 SCALE: N.T.S.



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CITY OF SANTA FE GALVESTON CO. WCD NO. 8
 WATER LINE IMPROVEMENTS
WATER DETAILS

SCALE: N.T.S.

10 10

E2399

WATER DETAILS