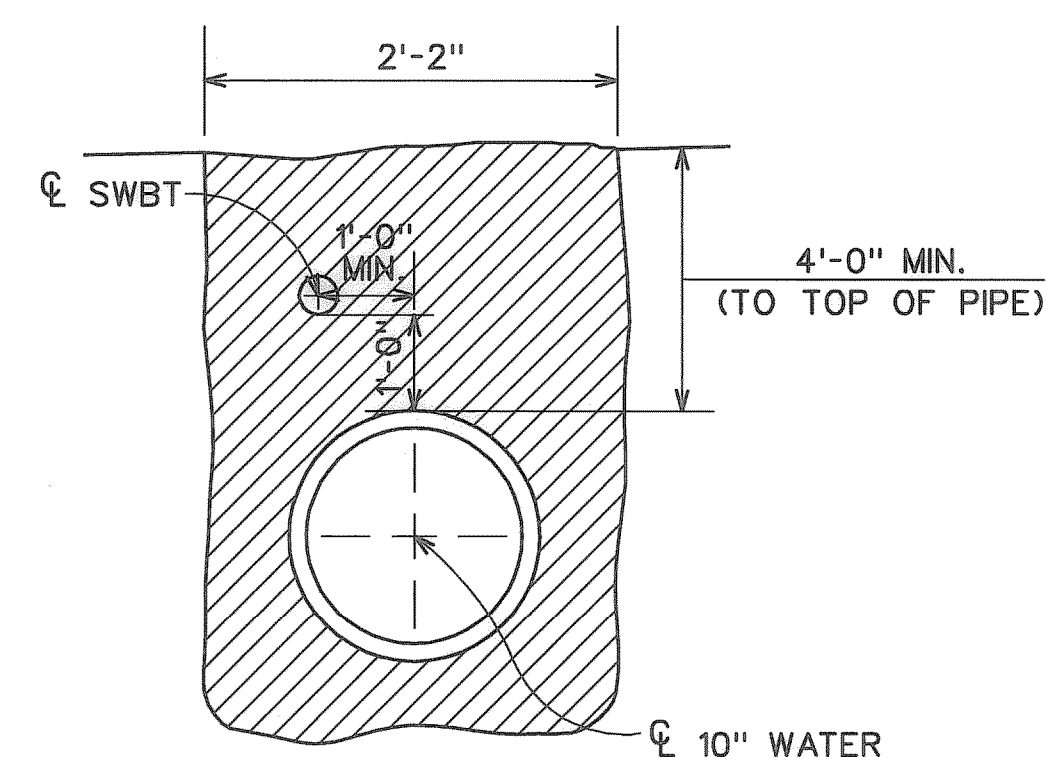
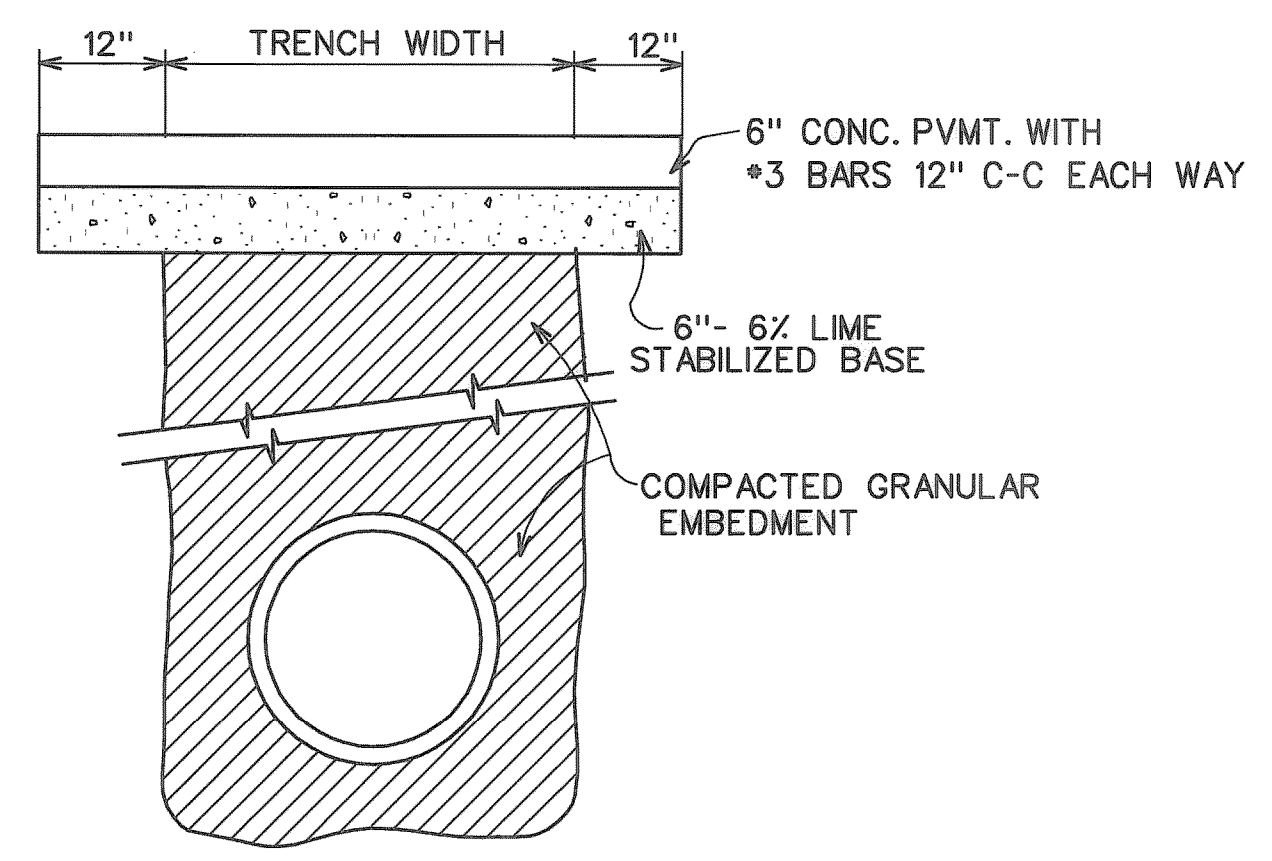
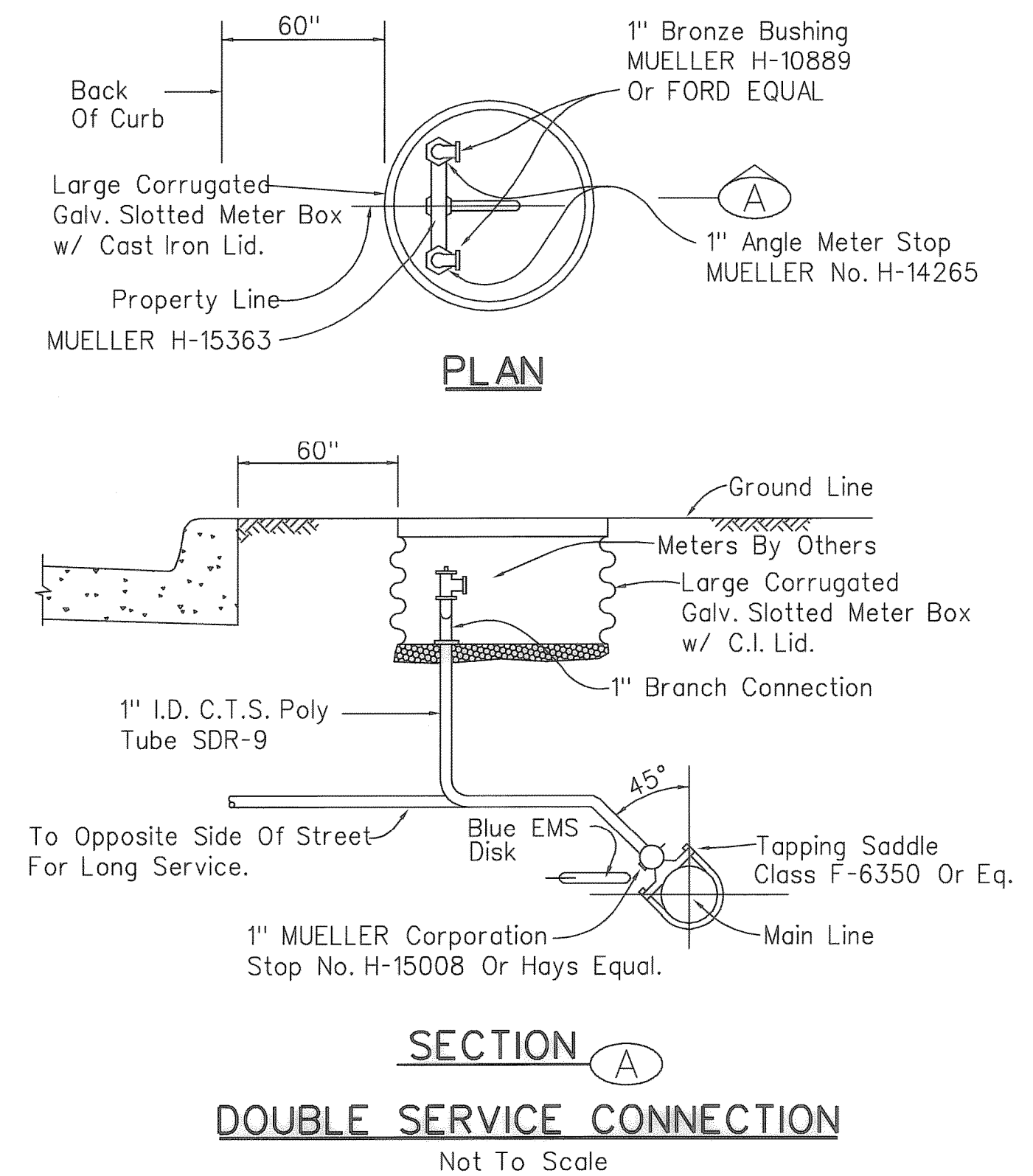
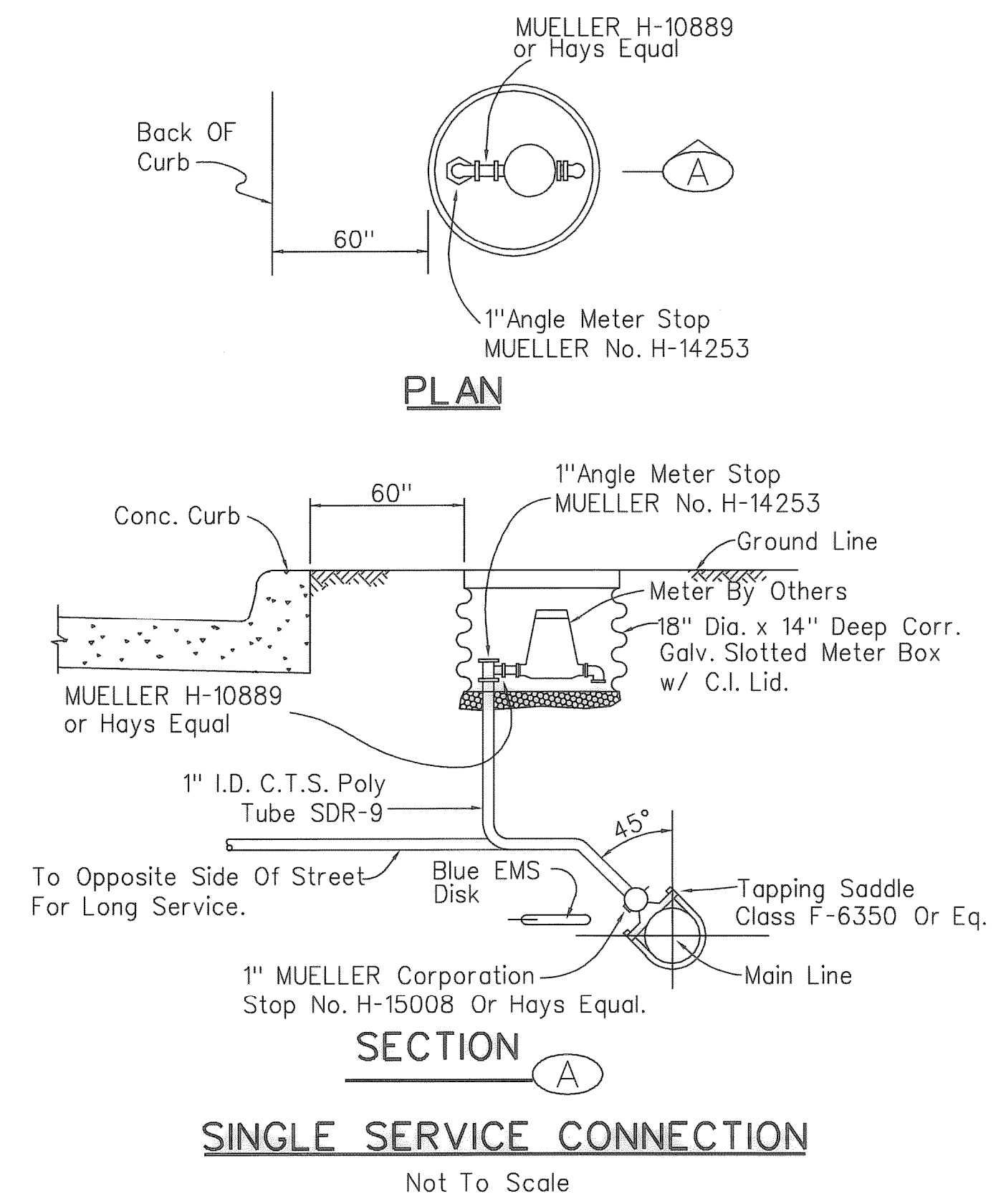
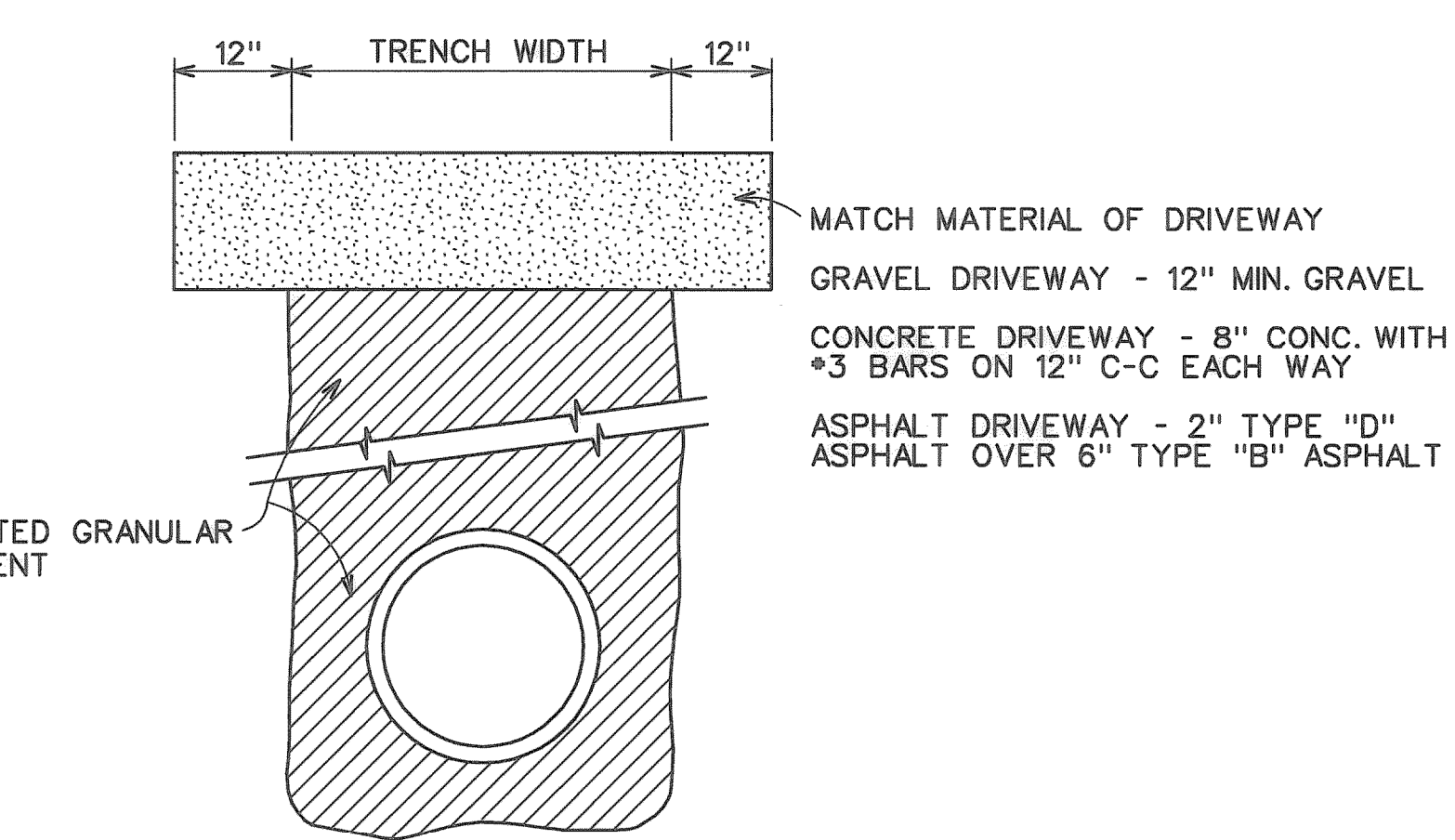
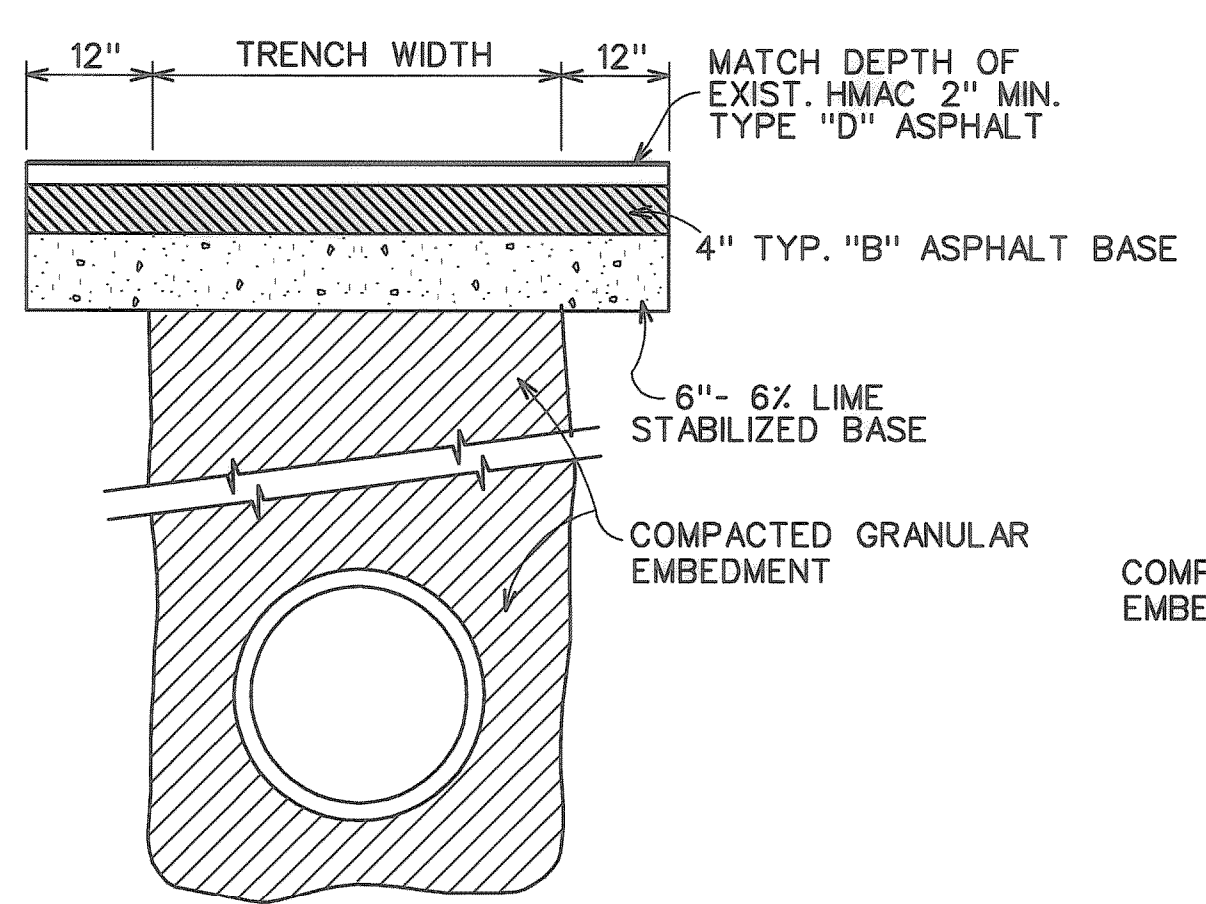


NOTE:
 FOR SIZE AND LENGTH OF CASING REQUIRED SEE PLAN AND PROFILE SHEETS
 ALL CARRIER PIPE JOINTS INSIDE STEEL CASING PIPE ARE TO BE RESTRAINED WITH MEGA-LUG RESTRAINTS OR APPROVED EQUAL. NO EXTRA PAY ITEM.



NOTE: ALL GAS LINES MUST BE LOCATED BELOW WATER AND SANITARY SEWER LINES. GAS LINES MUST HAVE A MINIMUM OF 2'-0" HORIZONTAL AND VERTICAL CLEARANCE TO WATER AND SANITARY SEWER LINES.

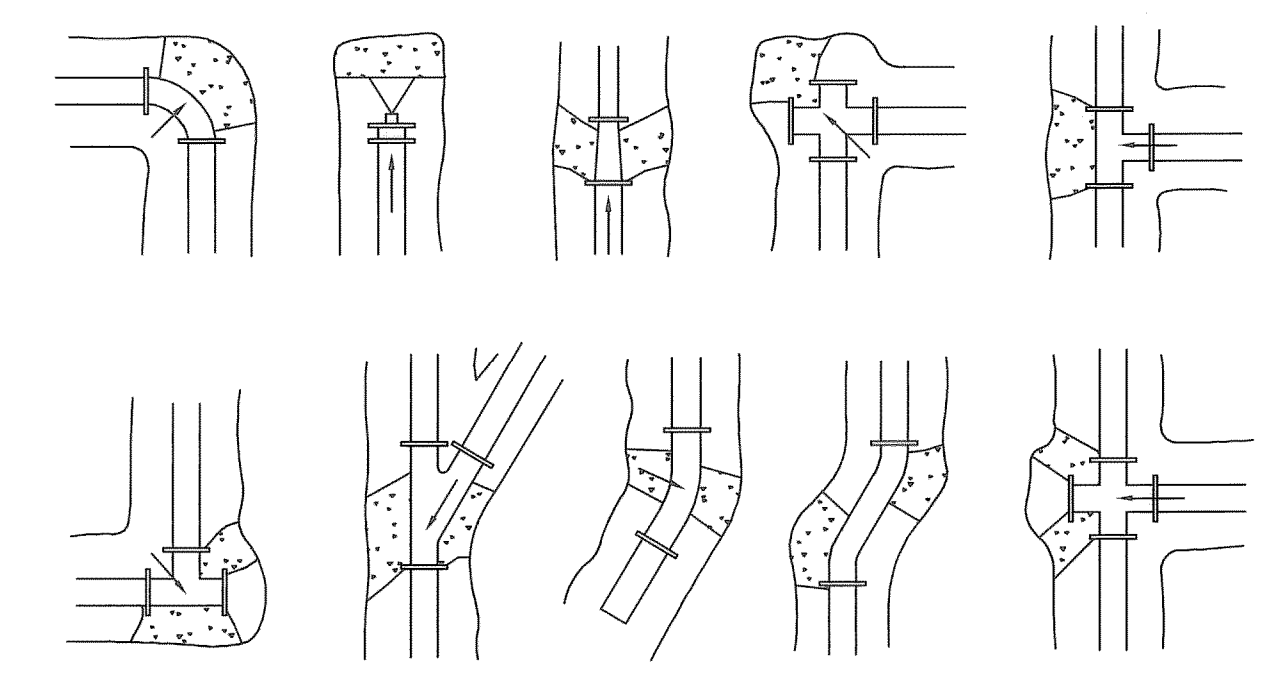


HORIZONTAL BLOCKING TABLE

AREA REQUIRED (IN SQUARE FEET) BEARING AGAINST UNDISTURBED TRENCH WALL

PIPE SIZE (IN.)	THRUST (POUNDS) DEAD END AND TEE	BLOCKING (SQUARE FEET)				
		DEAD END AND TEE	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
4	2,450	1.23	1.73	0.94	0.50	0.50
6	5,513	2.76	3.90	2.11	1.08	0.54
8	9,802	4.90	6.93	3.75	1.91	0.96
10	15,315	7.66	10.83	5.86	2.99	1.50
12	22,054	11.03	15.59	8.43	4.30	2.16
14	30,018	15.01	21.23	11.49	5.86	2.94
16	39,207	19.60	27.73	15.01	7.65	3.84

BASED ON 2,000 P.S.F. SOIL BEARING CAPACITY AND 195 P.S.I. LINE PRESSURE (150 P.S.I. WORKING PRESSURE PLUS 30% FOR WATER HAMMER.)



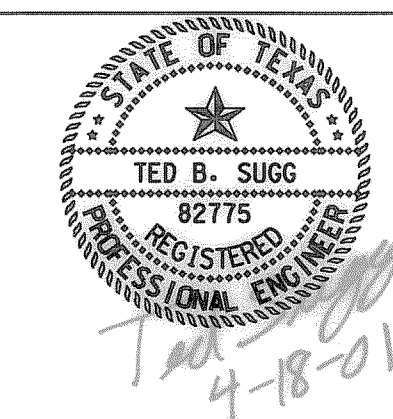
- NOTES:
- The earth bearing surface shall be undisturbed material. Keep all joints free from concrete. Thrust block to be constructed of 1,500 P.S.I. (28 day) concrete and placed as shown on "Typical Blocking Details" above.
 - It shall be the responsibility of the contractor to install adequate thrust blocking. The HORIZONTAL BLOCKING TABLE shows the minimum thrust blocking area required (in square feet) bearing against undisturbed trench wall.
 - All fittings shall be blocked regardless of the angle or direction, except as noted in the chart.
 - Soil bearing strength is assumed to be 2,000 P.S.F. Site conditions may vary which will require modifications to the blocking calculations.
 - No concrete shall be placed over pipe joints, nuts, or bolts.

CITY OF ROCKWALL
 "THE NEW HORIZON"

S.H. 66
 UTILITY RELOCATIONS

STANDARD WATER DETAILS

TurnerCollie & Braden Inc.
 ENGINEERS • PLANNERS • PROJECT MANAGERS



Unit	A123	Scale:	Horz. N.T.S.	Vert. N.T.S.	Date	APRIL • 2001
Designed	VVS	Checked	TBS	Job No.	15-98925-300	
Drawn	GBA	Approved	RCR	SHEET	17 OF 19	

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