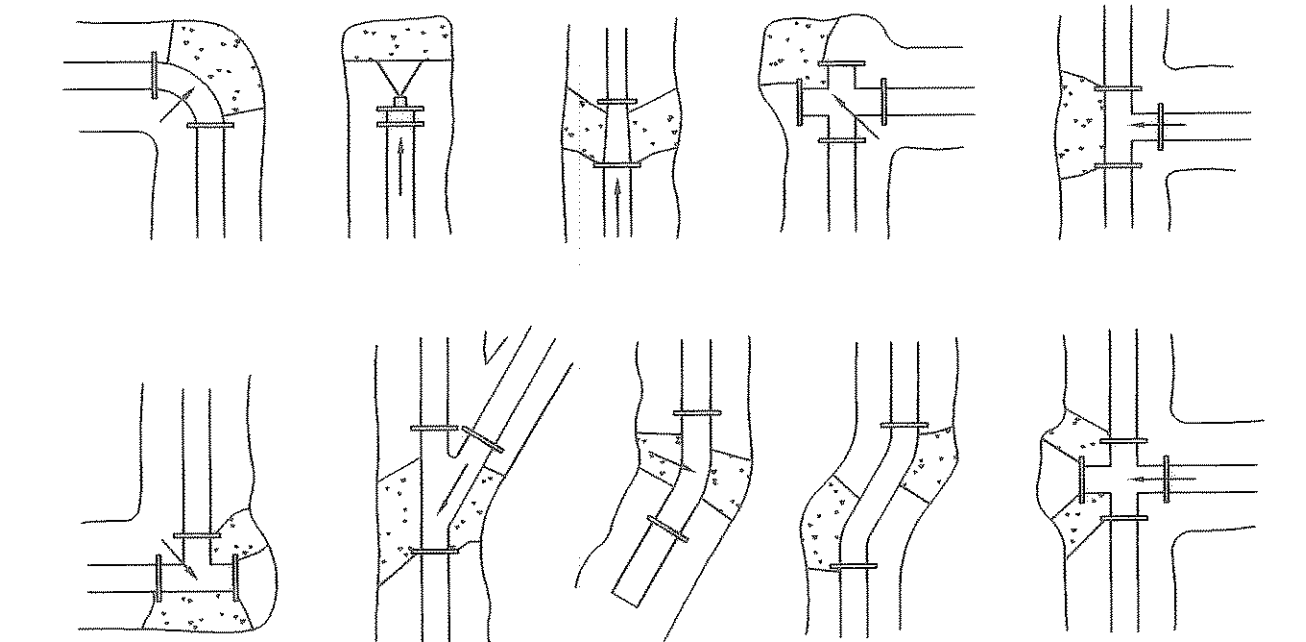


**HORIZONTAL BLOCKING TABLE**

PIPE SIZE (IN.)	THRUST (POUNDS) DEAD END AND TEE	BLOCKING (SQUARE FEET)					5° DEFLECT
		DEAD END	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	0.50
6	5,513	2.76	3.90	2.11	1.08	0.54	0.50
8	9,802	4.90	6.93	3.75	1.91	0.96	0.50
10	15,315	7.66	10.83	5.86	2.99	1.50	0.67
12	22,054	11.03	15.59	8.43	4.30	2.16	0.96
14	30,018	15.01	21.23	11.49	5.86	2.94	1.31
16	39,207	19.60	27.73	15.01	7.65	3.84	1.71

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.)

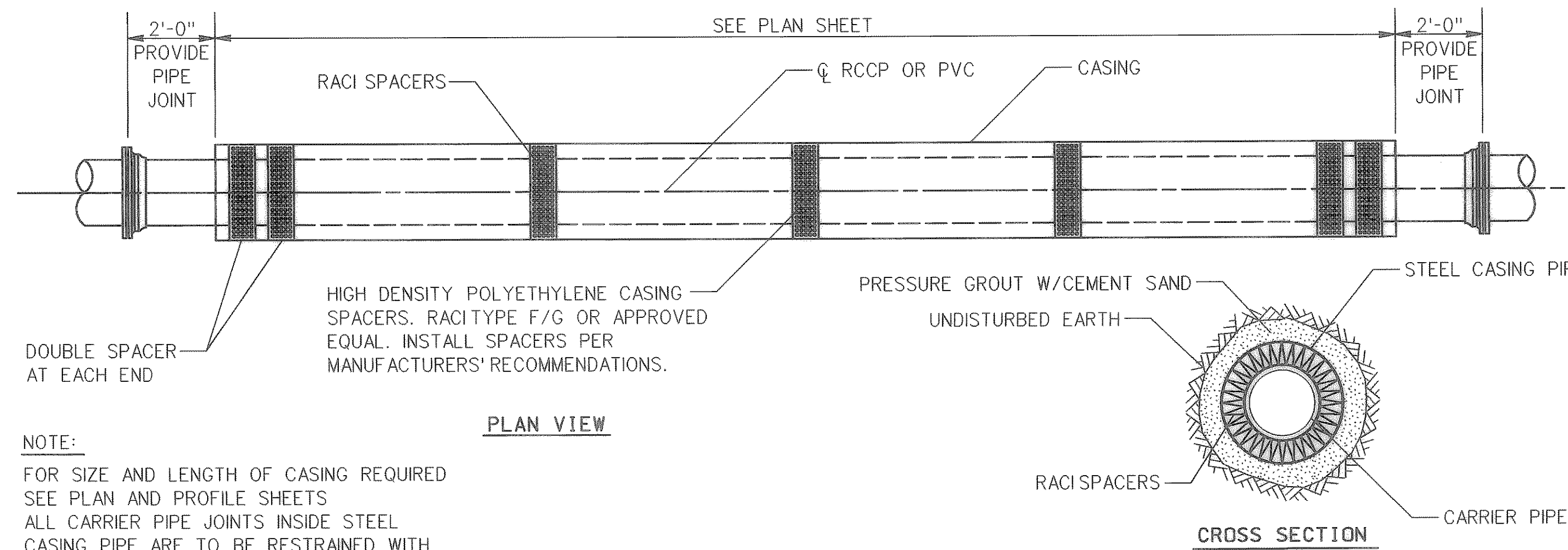


**TYPICAL THRUST BLOCKING DETAILS**

TYPICAL THRUST BLOCKING DETAILS

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.

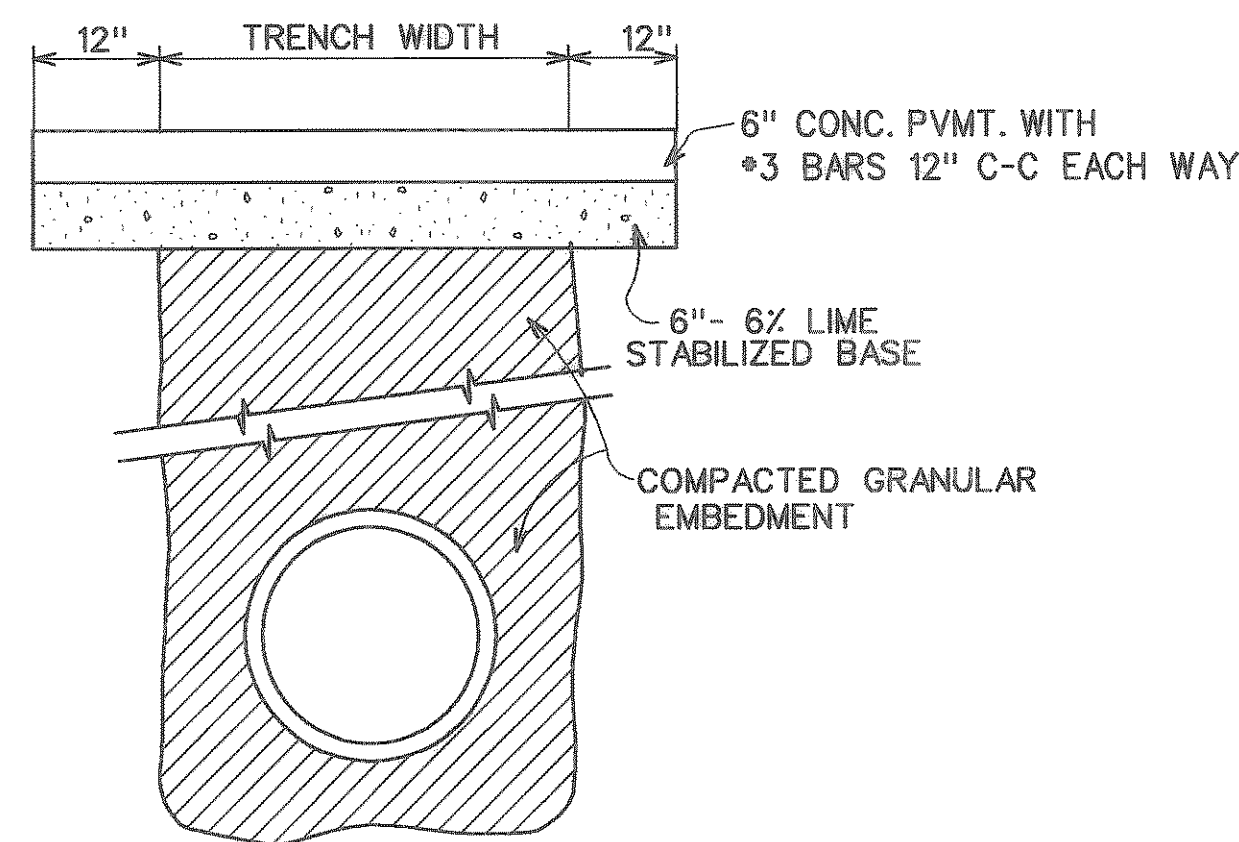


**PLAN VIEW**

**CASING DETAIL**

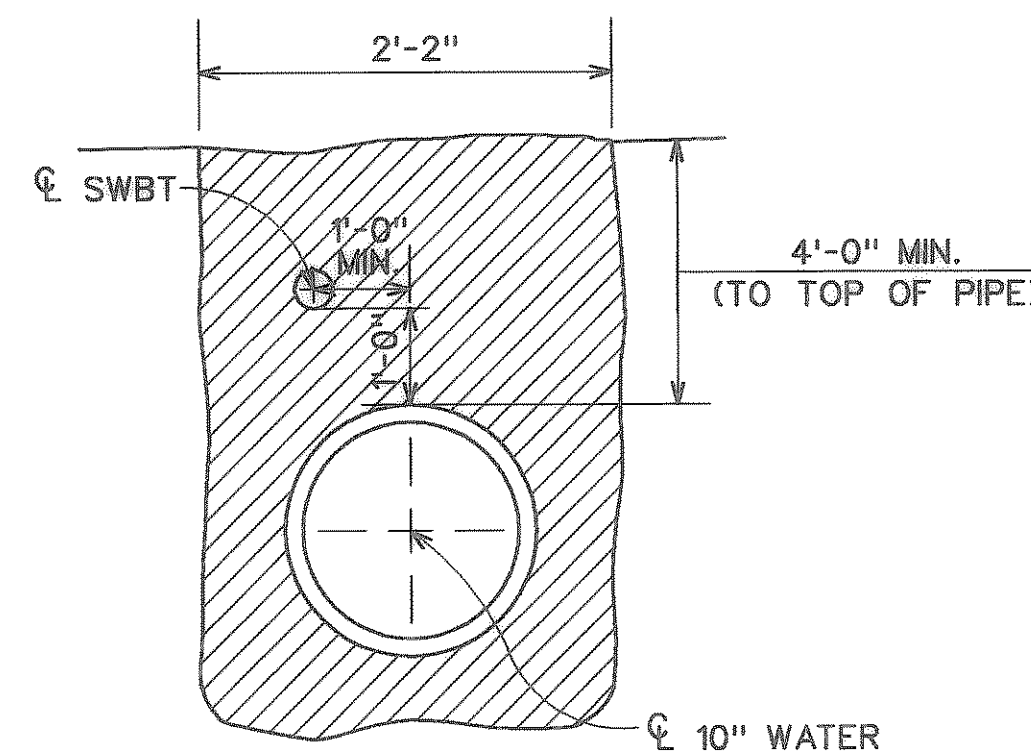
Not To Scale

**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.



**CONCRETE PAVING REPLACEMENT**

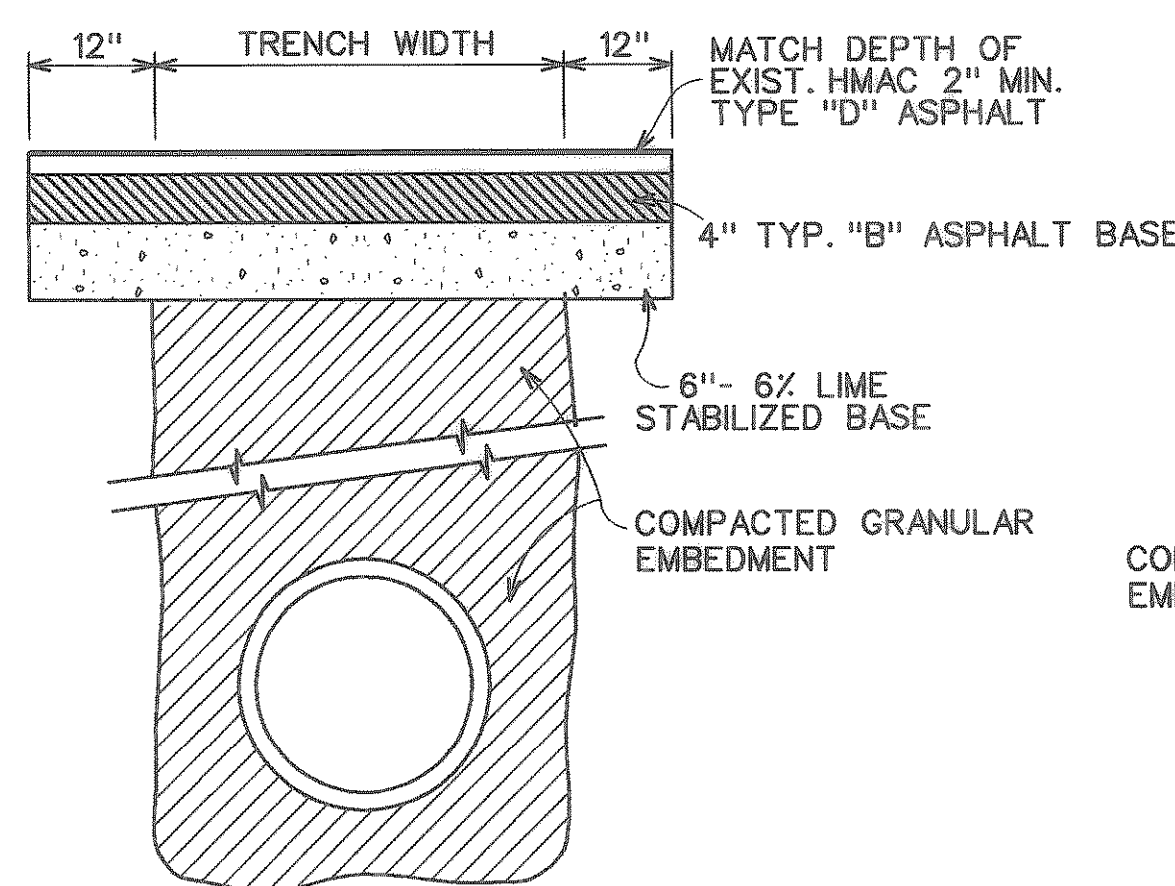
(FOR ALL TYPES OF PIPES)  
N.T.S.



**JOINT TRENCHING DETAIL**

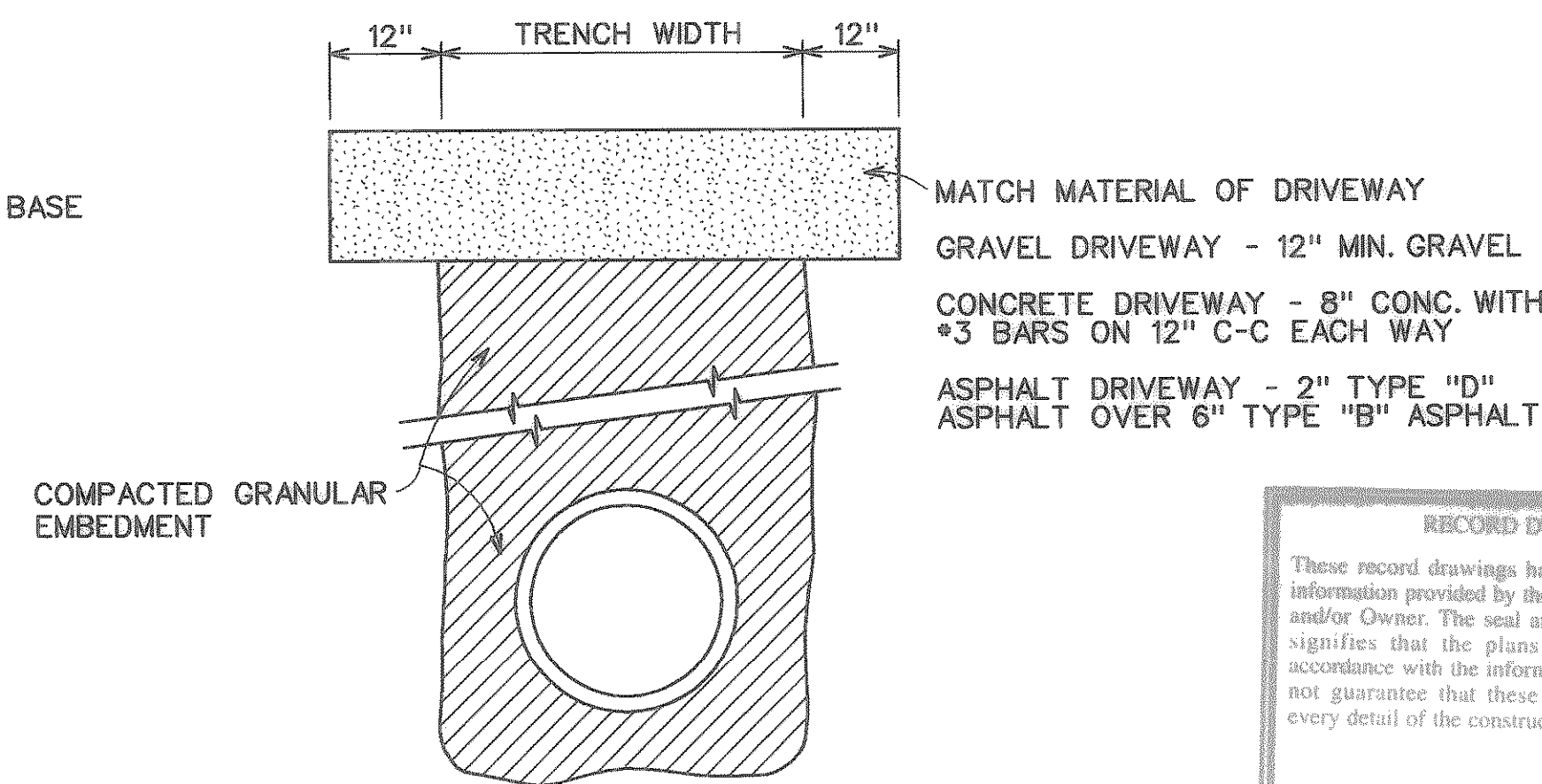
N.T.S.

**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.



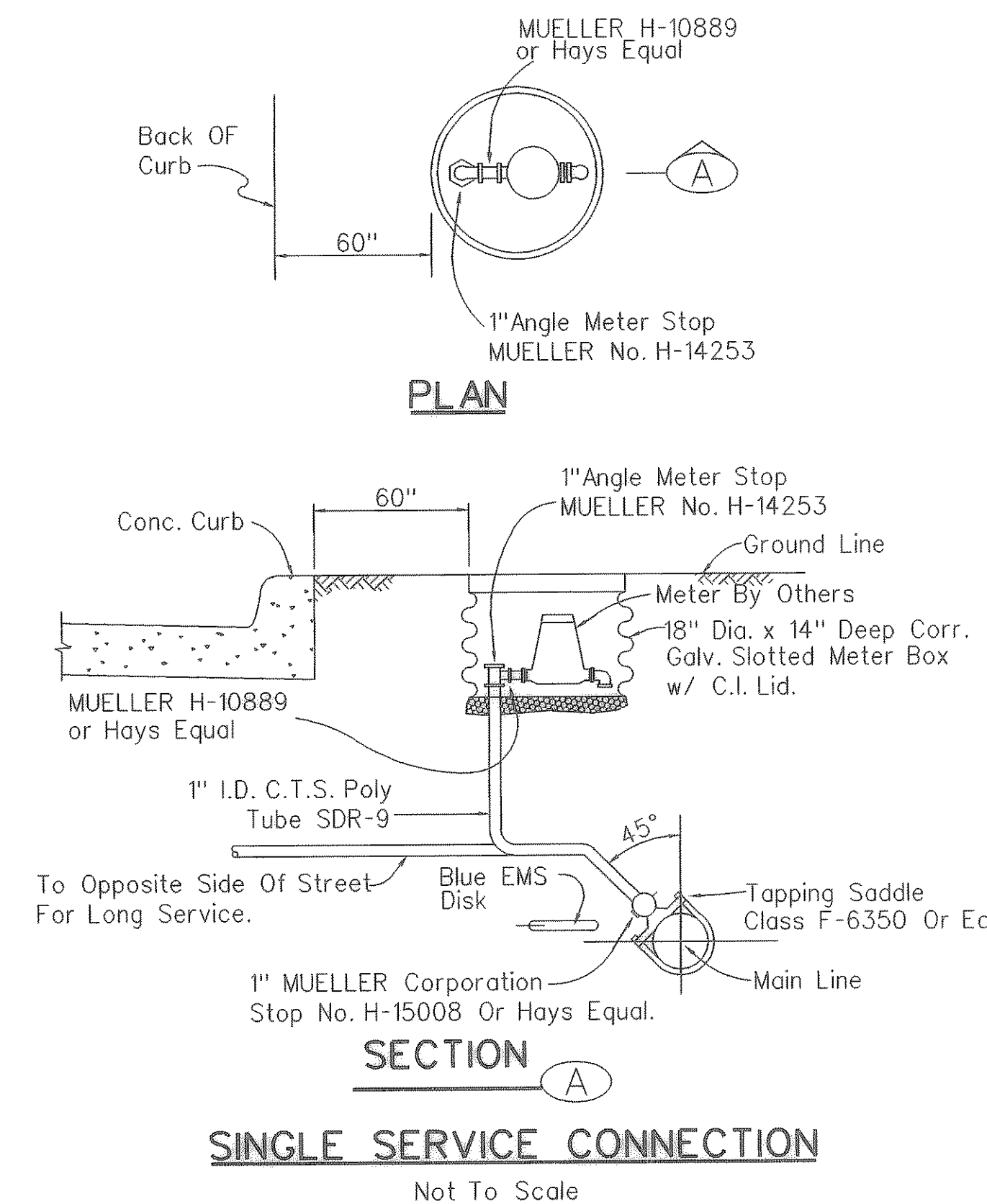
**ASPHALT PAVING REPLACEMENT**

(FOR ALL TYPES OF PIPES)  
N.T.S.



**DRIVEWAY PAVING REPLACEMENT**

(FOR ALL TYPES OF PIPES)  
N.T.S.

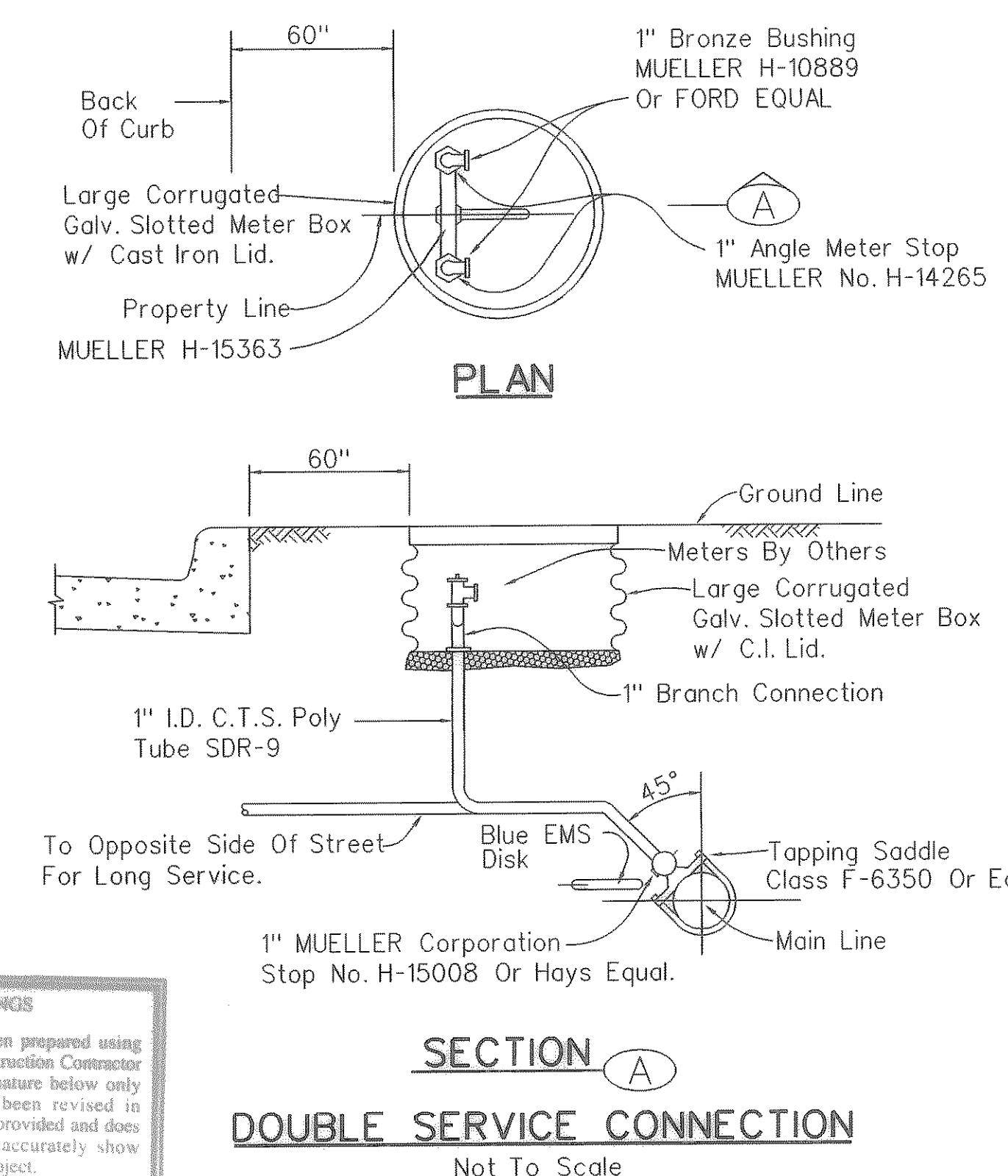


**PLAN**

**SECTION A**

**SINGLE SERVICE CONNECTION**

Not To Scale



**PLAN**

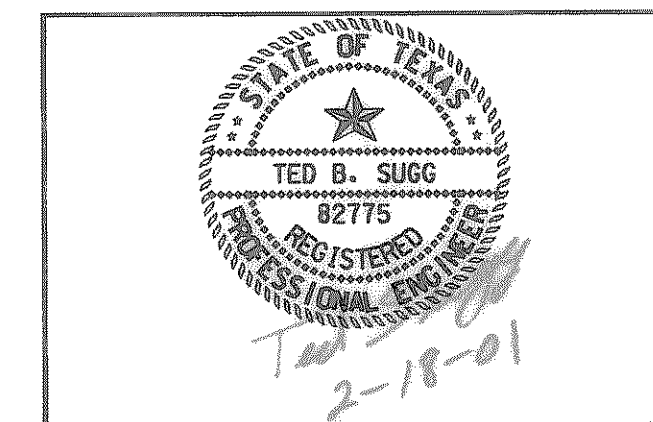
**SECTION A**

**DOUBLE SERVICE CONNECTION**

Not To Scale

**RECORD DRAWINGS**  
These record drawings have been prepared using information provided by the Construction Contractor and/or Owner. The seal and signature below only signifies that the plans have been revised in accordance with the information provided and does not guarantee that these plans accurately show every detail of the constructed project.

*Vanessa Lim* 4-30-02  
Signature Date



4			
3			
2			
1			
NO.	DATE	REVISION	APPROV.
<b>CITY OF ROCKWALL</b> "THE NEW HORIZON"			
TOWNSEND DRIVE			
STANDARD WATER DETAILS			
<b>Turner Collie &amp; Braden Inc.</b> ENGINEERS • PLANNERS • PROJECT MANAGERS			
Unit	A123	Scale	1" = 20'
Designed	VVS	Checked	TBS
Drawn	GBA	Approved	RCR
Date	FEBRUARY, 2001	Job No.	15-00925-200
		Sheet	55 of 72

P:\Rockwall\Townsend Drive\Drawings\Phase1\Townsend-Detail.dwg