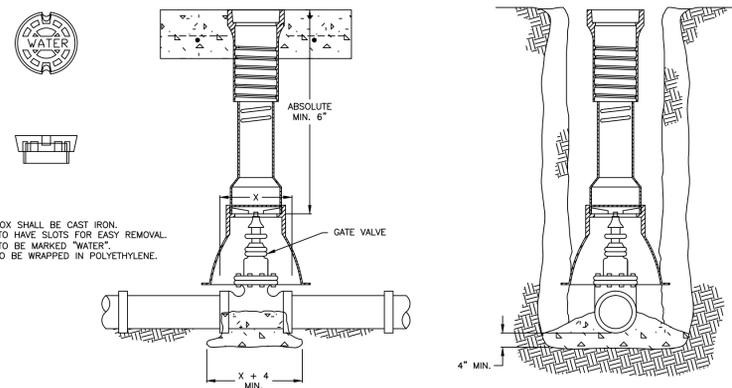


NOTE:  
THIS DETAIL COVERS WATER GATE VALVES,  
4" TO 12" INCLUSIVE, REGARDLESS OF TYPE  
OF PIPE USED.

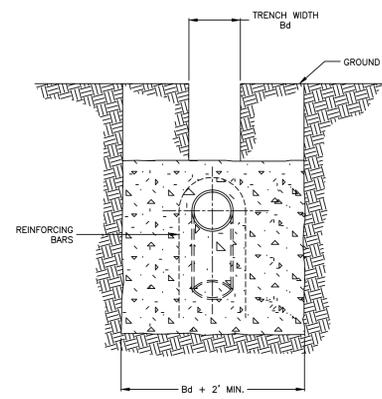
24" SQ. 3,500 PSI CONCRETE  
COLLAR 6" THICK REINFORCED  
w/ #4's @ 10" O.C.E.W.  
(REQUIRED IN PAVED SECTIONS)



NOTES:  
1. VALVE BOX SHALL BE CAST IRON.  
2. COVER TO HAVE SLOTS FOR EASY REMOVAL.  
3. COVER TO BE MARKED 'WATER'.  
4. VALVE TO BE WRAPPED IN POLYETHYLENE.

CONCRETE AS PER SPECIFICATIONS--  
FORM AS REQUIRED TO KEEP CLEAR OF JOINTS.

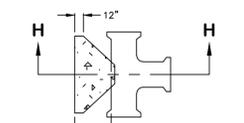
**WATER GATE VALVE - 12" & SMALLER**  
NOT TO SCALE



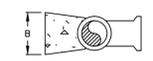
NOTE:  
KEEP CONCRETE CLEAR OF PIPE JOINTS AND BOLTS

Δ	11.25'	22.50'	30'	45'	67.5'	90'	Δ
I.D. (IN.)	11.25	22.50	30	45	67.5	90	I.D.
VOL. (C.Y.)	0.5	1.0	1.3	1.8	2.3	2.5	VOL.
VOL. (C.Y.)	1.1	2.2	2.8	4.0	5.2	5.7	VOL.

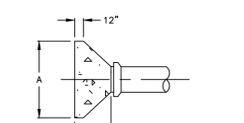
**VERTICAL TIE-DOWN BLOCK DETAIL**  
NOT TO SCALE



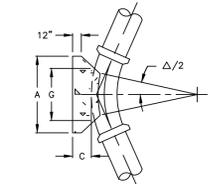
**TEE THRUST BLOCK**  
NOT TO SCALE



**SECTION H-H**  
NOT TO SCALE



**PLUG/CAP THRUST BLOCK**  
NOT TO SCALE

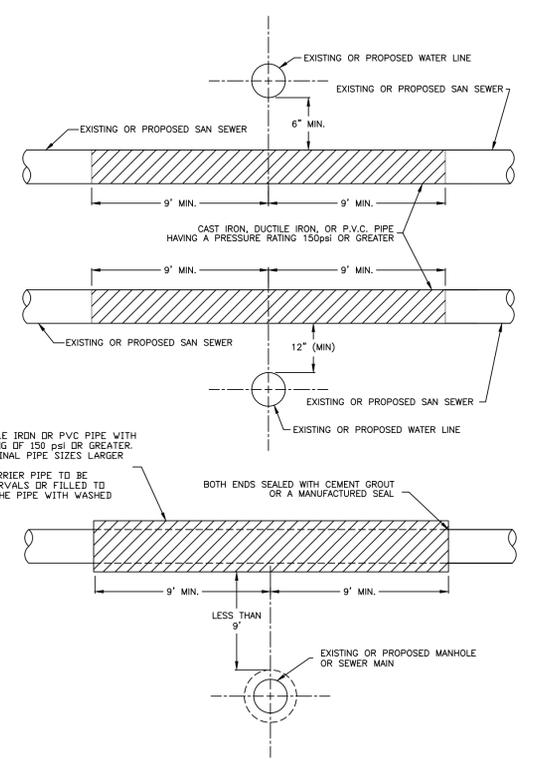


**BEND THRUST BLOCK**  
NOT TO SCALE

Δ = 11.25'				Δ = 22.50'				Δ = 45'				Δ = 90'				TEE/PLUG				
EARTH		EARTH		EARTH		EARTH		EARTH		EARTH		EARTH		EARTH		EARTH				
I.D. (IN.)	G (FT.)	A (FT.)	B (FT.)	VOL. (C.Y.)	I.D. (IN.)	G (FT.)	A (FT.)	B (FT.)	VOL. (C.Y.)	I.D. (IN.)	G (FT.)	A (FT.)	B (FT.)	VOL. (C.Y.)	I.D. (IN.)	G (FT.)	A (FT.)	B (FT.)	VOL. (C.Y.)	
4.6,8	0.4	1.0	1.5	0.1	4.6,8	0.8	1.5	1.5	0.1	4.6,8	1.5	2.0	2.0	0.2	4.6,8	2.7	5.0	1.5	0.4	4.6,8
10,12	0.6	1.5	1.5	0.1	10,12	1.1	2.0	2.5	0.3	10,12	2.2	3.5	2.5	0.5	10,12	4.0	6.5	2.5	1.0	10,12
16,18	0.8	2.0	2.5	0.2	16,18	1.6	3.0	3.5	0.6	16,18	3.2	4.5	4.5	1.2	16,18	6.0	9.0	4.0	2.4	16,18

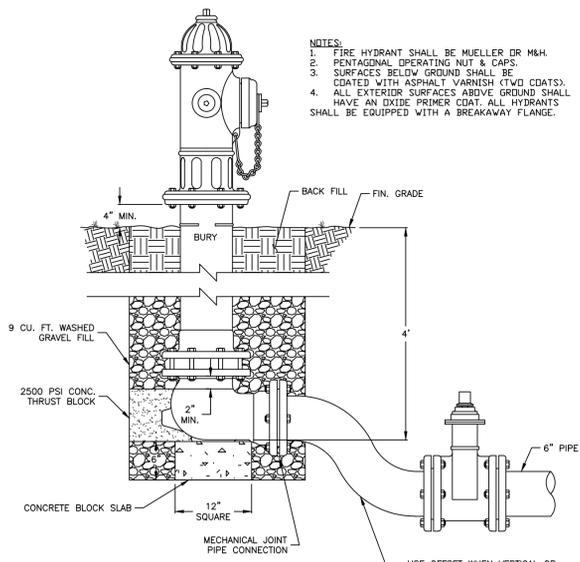
- GENERAL NOTES FOR ALL THRUST BLOCKS**
- CONCRETE FOR BLOCKING SHALL BE 2,000 PSI @ 30 DAYS.
  - ALL CALCULATIONS ARE BASED ON INTERNAL PRESSURE OF 150 PSI.
  - VOLUMES OF THRUST BLOCKS ARE NET VOLUMES OF CONCRETE TO BE FURNISHED. THE CORRESPONDING WEIGHT OF THE CONCRETE IS EQUAL TO OR GREATER THAN THE VERTICAL COMPONENT OF THE THRUST ON THE BEND.
  - DIMENSIONS MAY BE VARIED AS REQUIRED BY FIELD CONDITIONS. THE VOLUME OF CONCRETE BLOCKING, AND THE BEARING AREA SHALL NOT BE LESS THAN SHOWN IN TABLES.
  - THE CALCULATIONS ARE BASED ON BEARING PRESSURES EQUAL TO 1,000 LBS./S.F. IN SOIL.
  - USE POLYETHYLENE WRAP BETWEEN CONCRETE BLOCKING AND BENDS, TEES AND PLUGS.
  - CONCRETE SHALL EXTEND BEYOND JOINTS.

**HORIZONTAL BLOCKING TABLE AND DETAILS**  
MECHANICAL JOINT

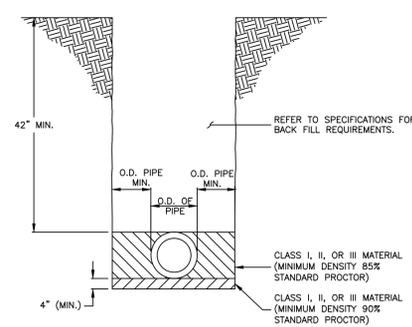


NOTE:  
1. CAST IRON, DUCTILE IRON OR PVC PIPE WITH A PRESSURE RATING OF 150 PSI OR GREATER.  
2. MINIMUM OF 3 NOMINAL PIPE SIZES LARGER THAN WATER LINE.  
3. SPACES AROUND CARRIER PIPE TO BE SUPPORTED AT 5' INTERVALS OR FILLED TO THE SPRING LINE OF THE PIPE WITH WASHED SAND.

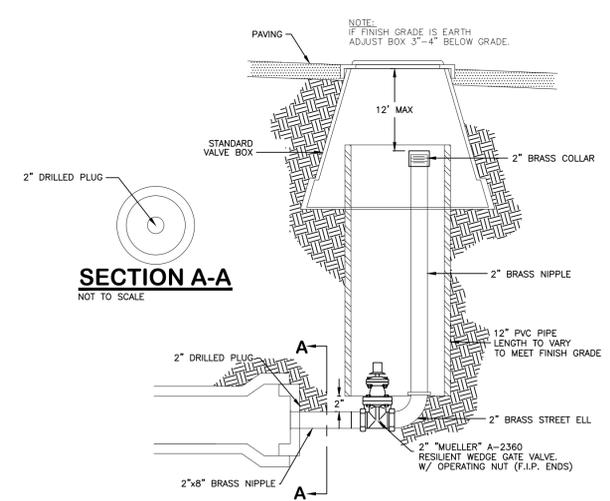
**WATER MAIN/SEWER MAIN CROSSING**  
NOT TO SCALE



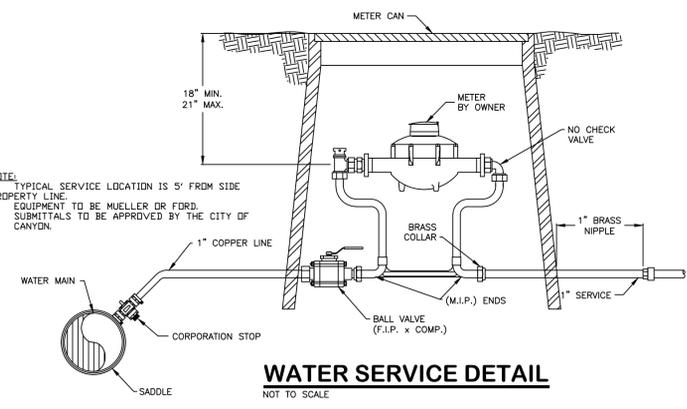
**FIRE HYDRANT DETAIL**  
NOT TO SCALE



**WATER DISTRIBUTION PIPE EMBEDMENT DETAIL**  
NOT TO SCALE



**TYPICAL FLUSH VALVE INSTALLATIONS**  
NOT TO SCALE



**WATER SERVICE DETAIL**  
NOT TO SCALE

**TYPICAL UNDERGROUND UTILITY PLACEMENT**  
NOT TO SCALE