



NOTES:

1. THRUST BLOCKS ARE REQUIRED ON WATERMAIN LESS THAN 12" DIA., REGARDLESS OF ANY OTHER RESTRAINT METHODS
2. THRUST BLOCKS ARE TO BE USED FOR ALL FITTINGS, INCLUDING: PLUGS, CAPS, TEES, HYDRANTS, AND BENDS OVER 22-1/2°.
3. RESTRAINT METHODS ON WATERMAIN 12" AND LARGER SHALL BE MEGALUGS, LOCKING GASKETS OR APPROVED EQUAL. THE LENGTH OF RESTRAINT SHALL BE AS COMPUTED BY THE MOST CURRENT VERSION OF THE DIPRA STANDARDS.
4. FITTINGS MUST BE COVERED WITH V-BIO POLY (8MIL) PRIOR TO POURING CONCRETE.
5. TESTING OF LINES SHALL NOT PROCEED UNTIL CONCRETE THRUST BLOCKS HAVE HAD SUFFICIENT TIME TO ATTAIN DESIGN STRENGTH. HIGH EARLY STRENGTH CONCRETE MAY BE USED. THE MINIMUM COMPRESSIVE STRENGTH SHALL BE 4000 PSI.
6. FOR 4"-10" PIPE, THE USE OF COMPOSITE BLOCKING WILL ONLY BE PERMISSIBLE WITH PRIOR AUTHORIZATION FROM THE ENGINEER.
7. ALL BLOCKING SHALL BE PLACED AGAINST UNDISTURBED SOIL. WHERE IT IS NOT POSSIBLE, THE FILL BETWEEN THE BEARING SURFACE AND UNDISTURBED SOIL MUST BE COMPACTED TO 100% OF STANDARD PROCTOR DENSITY.
8. BLOCK HEIGHT (h) SHOULD BE EQUAL TO OR LESS THAN ONE-HALF THE TOTAL DEPTH TO THE BOTTOM OF THE BLOCK, (H), BUT NOT LESS THAN THE PIPE DIAMETER (D).
9. BLOCK HEIGHT (h) SHOULD BE CHOSEN SUCH THAT THE CALCULATED BLOCK WIDTH (b) VARIES BETWEEN ONE AND TWO TIMES THE HEIGHT (h).
10. UNLESS OTHERWISE SPECIFIED, THRUST BLOCKING AND THE MATERIALS REQUIRED WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION

MINIMUM THRUST BLOCK BEARING SURFACE AREA (h x b) in (sf)				
HYDROSTATIC TESTING AT 150 PSI AND SAFETY FACTOR OF 1.5				
IN SOFT CLAY SOIL (1000 psf)				
PIPE DIA. (INCHES)	BENDS (DEGRESS)			TEE AND STUBS
	22-1/2	45	90	
4	2	3	6	4
6	4	7	12	9
8	6	11	21	15
10	9	17	31	22
IN SANDY SILT SOIL (3000 psf)				
PIPE DIA. (INCHES)	BENDS (DEGRESS)			TEE AND STUBS
	22-1/2	45	90	
4	2	2	2	2
6	2	3	4	3
8	2	4	7	5
10	3	6	11	8
IN SANDY SOIL (4000 psf)				
PIPE DIA. (INCHES)	BENDS (DEGRESS)			TEE AND STUBS
	22-1/2	45	90	
4	2	2	2	2
6	2	2	3	3
8	2	3	6	4
10	3	5	8	6

310 - THRUST BLOCKING
310 - Thrust Blk (Std).dwg 6/2015

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**ENGINEERING DIVISION
PUBLIC WORKS DEPARTMENT**

PLATE NAME:

310 - Thrust Blocking

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