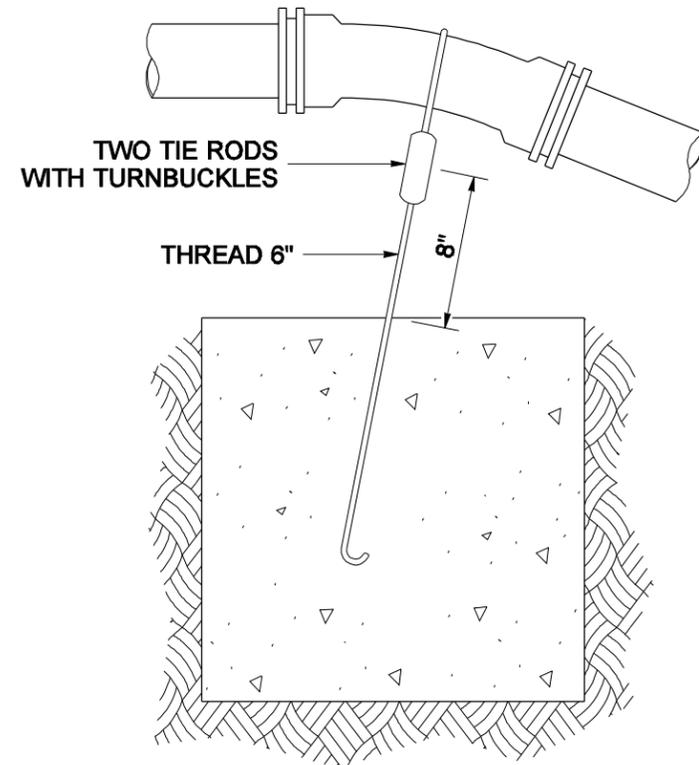
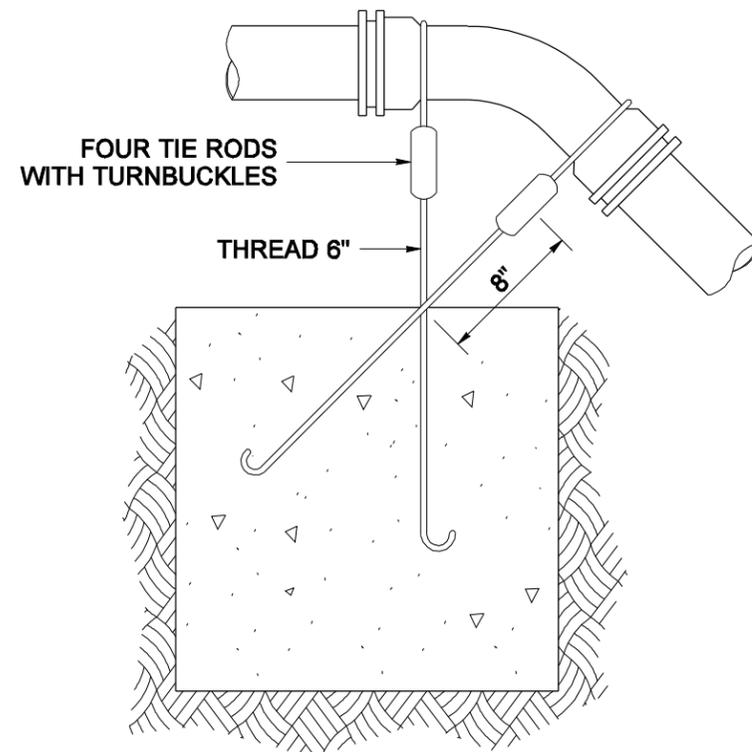


**NOTE**

Steel tie rods to be heavily coated with asphalt after installation.



**BLOCKING FOR 11.25° OR 22.5° VERTICAL BENDS**



**BLOCKING FOR 45° VERTICAL BENDS**

DIMENSION TABLE						
PIPE DIAM.	TEST PRESSURE (PSI)	BEND ANGLE	CONCRETE VOLUME (Ft <sup>3</sup> )	CUBE SIZE (Ft)	TIE ROD DIAM.	TIE ROD EMBEDMENT
4"	250	11.25°	6	1.8	5/8"	17"
		22.5°	12	2.3		
		45°	22	2.8		
6"	250	11.25°	14	2.4	5/8"	17"
		22.5°	27	3.0		
		45°	50	3.7		
8"	250	11.25°	25	2.9	5/8"	17"
		22.5°	48	3.6		
		45°	89	4.5		
10"	250	11.25°	38	3.4	5/8"	17"
		22.5°	75	4.2		
		45°	139	5.2		
12"	250	11.25°	55	3.8	5/8"	17"
		22.5°	108	4.8		
		45°	200	5.8	7/8"	24"
14"	250	11.25°	75	4.2	5/8"	17"
		22.5°	147	5.3	3/4"	20"
		45°	272	6.5	1"	27"
16"	250	11.25°	98	4.6	5/8"	17"
		22.5°	192	5.8	7/8"	24"
		45°	355	7.1	1 1/8"	30"



EXPIRES JULY 1, 2007

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

**CONCRETE THRUST BLOCK FOR CONVEX VERTICAL BENDS  
STANDARD PLAN B-90.50-00**

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

**Harold J. Peterfeso** 06-08-06  
STATE DESIGN ENGINEER DATE

