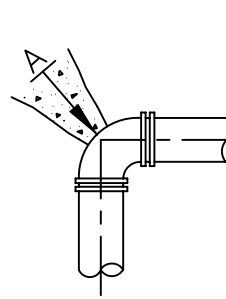
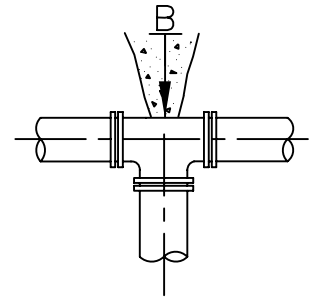


THRUST BLOCK - TABLE

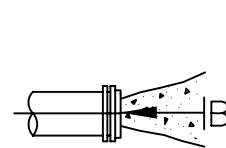
PIPE SIZE	PRESSURE PSI	MINIMUM BEARING AREA AGAINST UNDISTURBED SOIL SQUARE FEET						X (100 PSI)
		A	B	C	D	E		
4"	200	2/(1)	1/(NONE)	1/(NONE)	NONE	NONE	NONE	NONE
	300	3/(2)	2/(2)	2/(1)	1/(1)	1/(NONE)		
6"	200	4/(3)	3/(2)	3/(1)	1/(1)	1/(NONE)	NONE	
	300	6/(4)	4/(3)	3/(2)	2/(1)	1/(NONE)		
8"	200	7/(5)	5/(3)	4/(3)	2/(2)	1/(1)	3/(2)	
	300	11/(8)	8/(5)	6/(4)	3/(2)	2/(1)		
10"	200	11/(8)	8/(6)	6/(4)	3/(2)	2/(1)	4/(3)	
	275	16/(11)	11/(7)	9/(6)	5/(3)	3/(2)		
12"	200	16/(11)	11/(8)	9/(6)	5/(3)	3/(2)	5/(4)	
	250	24/(16)	17/(11)	13/(9)	7/(5)	4/(3)		
14"	200	22/(13)	16/(11)	12/(8)	6/(4)	3/(2)	7/(6)	
	250	33/(22)	23/(16)	18/(12)	9/(6)	5/(3)		
16"	200	29/(19)	21/(14)	16/(11)	8/(6)	5/(3)	10/(7)	
	225	23/(16)	23/(16)	17/(12)	9/(6)	5/(3)		
18"	200	36/(24)	26/(17)	20/(13)	10/(7)	5/(4)	13/(9)	
20"	200	45/(29)	32/(21)	24/(16)	13/(8)	7/(4)	16/(11)	
24"	200	64/(43)	46/(30)	35/(23)	18/(12)	9/(6)	23/(16)	



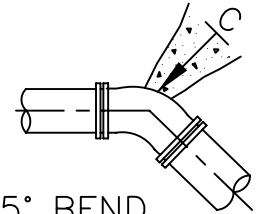
90° BEND



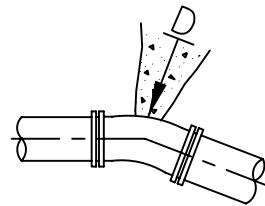
TEE



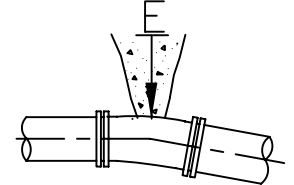
CAP



45° BEND



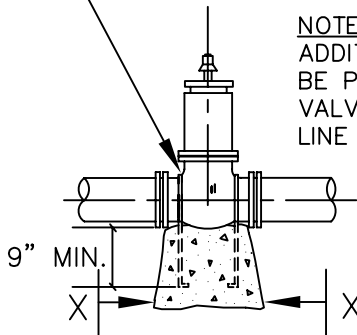
22 1/2° BEND



11 1/4° BEND

2 - 3/4" DIA. RODS FOR 10" SIZE & SMALLER
2 - 1" DIA. RODS LARGER THAN 10" SIZE

NOTE:
ADDITIONAL BLOCKING MUST BE PROVIDED IF GATE VALVE IS AT END OF LINE LINE DURING TESTING.



GATE VALVE

NOTES:

1. SQUARE FEET OF CONCRETE THRUSTS - BLOCK AREA BASED ON SAFE BEARING LOAD OF 2000/(3000) POUNDS PER SQUARE FOOT.
2. AREAS MUST BE ADJUSTED FOR OTHER SIZE PIPE, PRESSURES & SOIL CONDITIONS.
3. CONCRETE BLOCKING SHALL BE CAST IN PLACE & HAVE MINIMUM OF 1/4 SQUARE FOOT BEARING AGAINST THE FITTING.
4. BLOCK SHALL BEAR AGAINST FITTINGS ONLY & SHALL BE CLEAR OF JOINTS TO PERMIT TAKING UP OR DISMANTLING JOINT.
5. CONTRACTOR SHALL INSTALL BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND OPERATING PRESSURE UNDER ALL CONDITIONS OF SERVICE.

SAFE BEARING LOADS IN LB./SQ. FT.
THE SAFE BEARING LOADS GIVEN IN THE FOLLOWING TABLE ARE FOR HORIZONTAL THRUSTS WHEN THE DEPTH OF COVER OVER THE PIPE EXCEEDS 2 FEET.

SOIL SAFE BEARING LOAD
 LB. PER SQ. FT.

* MUCK, PEAT, ETC.	0
SOFT CLAY	1,000
SAND	2,000
SAND & GRAVEL	3,000
SAND & GRAVEL CEMENTED WITH CLAY	4,000
HARD SHALE	10,000

* IN MUCK OR PEAT, ALL THRUSTS SHALL BE RESTRAINED BY PILES OR TIE RODS TO SOLID FOUNDATIONS OR BY REMOVAL OF MUCK OR PEAT AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THRUST.

CITY OF KIRKLAND

PLAN NO. CK-W.02



CONCRETE THRUST
BLOCKING