

**AREAS REQUIRED FOR CONCRETE BLOCKING FOR TEES AND BENDS ETC.
BASED ON TEST PRESSURE OF 200 P.S.I.**

ALL AREAS GIVEN ARE IN SQUARE FEET (AGAINST UNDISTURBED EARTH)
AREA(S) FOR TEES ARE INDICATED FOR APPROPRIATE BRANCH SIZE

SIZE AND DEGREE OF BEND	STATIC THRUST IN POUNDS	FAIRLY DRY CLAY 4000 LBS./FT ²	SOFT CLAY 2000 LBS./FT ²	GRAVEL COARSE SAND 1600 LBS./FT ²	TIE RODS REQUIRED
6"					
11-1/4'	1,108	1	1	1	
22-1/2'	2,207	1	2	2	
45'	4,328	2	3	3	
90'/TEE	7,996	2	4	5	
PLUG	5,665	2	3	4	2-5/8" ϕ
8"					
11-1/4'	1,970	1	1	2	
22-1/2'	3,922	1	2	3	
45'	7,694	2	4	5	
90'/TEE	14,215	4	8	9	
PLUG	10,053	3	5	6	2-5/8" ϕ
12"					
11-1/4'	4,433	2	3	3	
22-1/2'	8,826	3	5	6	
45'	17,312	5	9	11	
90'/TEE	31,983	8	16	19	
PLUG	22,619	6	12	14	4-3/4" ϕ
16"					
11-1/4'	7,881	2	4	5	
22-1/2'	15,691	4	8	10	
45'	30,779	8	16	19	
90'/TEE	56,861	15	29	35	
PLUG	40,213	10	21	25	6-3/4"

REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90' TO THE THRUST VECTOR.

USE 6" - 90' BEND VALVE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTOR.

(2 - 5/8" ϕ ROD IS ADEQUATE FOR 6" F.H. LEG)

REVISED
1/6/05

F.B.

PG.

DATE: 12-11-84

SCALE: NONE

DRAWN BY: G.A.Q.

CHECKED BY: D.C.C.

CITY ENGINEER: D.E.C.

STANDARD DETAIL

**AREAS REQUIRED FOR CONCRETE BLOCKING FOR
TEES AND BENDS ETC.(BASED ON TEST PRESSURE
OF 200 P.S.I.)**

OFFICE OF THE
CITY ENGINEER
GASTONIA, N.C.

FILE NO.
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