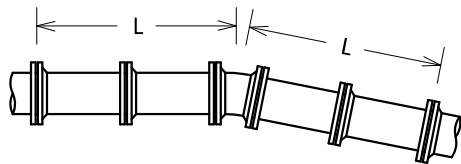
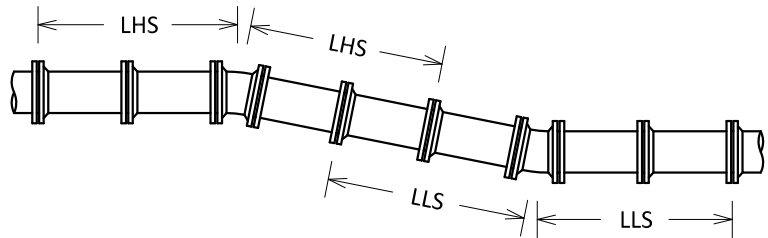


MINIMUM RESTRAINED LENGTH FOR WATER MAIN PIPE ADJACENT TO FITTINGS (IN FEET) (BASED ON INTERNAL PRESSURE OF 150 PSI) (SEE NOTE 1)								
PIPE SIZE (INCHES)	MINIMUM LENGTH *	90°	45°	22-1/2°	11-1/4°	REDUCER	TEE	CAP PLUG
4" - 6"	L	16	7	3	2	29	16	56
	LHS	49	24	12	6	---	---	---
	LLS	16	6	3	2	---	---	---
8"	L	20	9	4	2	31	33	74
	LHS	64	31	15	8	---	---	---
	LLS	20	8	4	2	---	---	---
12"	L	28	12	6	3	56	64	105
	LHS	91	44	21	11	---	---	---
	LLS	28	11	5	3	---	---	---

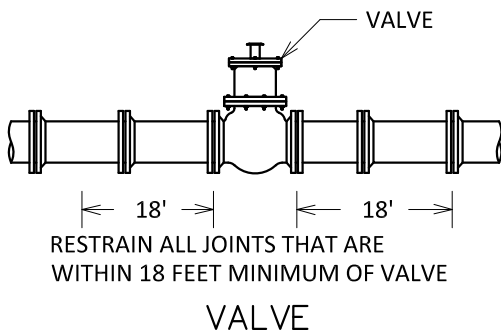
* L = HORIZONTAL LENGTH
LHS = VERTICAL HIGH SIDE LENGTH
LLS = VERTICAL LOW SIDE LENGTH



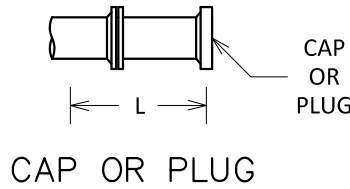
HORIZONTAL BEND



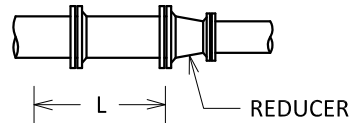
VERTICAL BEND



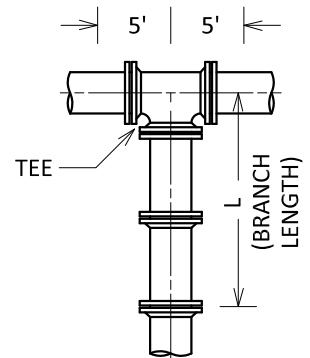
VALVE



CAP OR PLUG



REDUCER



RESTRAIN ALL JOINTS IN RUN DIRECTION THAT ARE WITHIN 5 FEET MINIMUM OF TEE

TEE

NOTES:

- SPECIAL DESIGN IS REQUIRED FOR FITTINGS ON DOMESTIC WATER MAIN PIPE LARGER THAN 12 INCHES AND FOR REDUCERS HAVING MORE THAN ONE PIPE SIZE DIFFERENCE.
- CONCRETE THRUST BLOCK IS TO BE USED IN ADDITION TO MECHANICAL RESTRAINT DEVICES, SEE DETAILS S900-4 AND S900-5.
- ALL PLASTIC AND POLYETHYLENE WRAPPED DUCTILE IRON DOMESTIC WATER MAIN PIPE AND FITTING JOINTS WITHIN L-LHS-LLS DIMENSIONS MUST BE RESTRAINED USING APPROVED MECHANICAL RESTRAINT DEVICE.
- ASSUMPTION: SP SOILS, 4.50 FEET COVER, AND TYPE 4 LAYING CONDITION.

CITY OF ROCHESTER		
WATER MAIN PIPE RESTRAINT DOMESTIC SYSTEM		
ISSUED	5-8-08	NON-STANDARD DWG.NO.S900-7
REVISED	9-1-09	