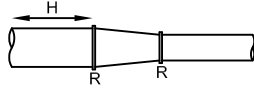
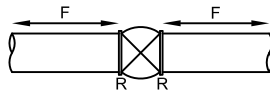


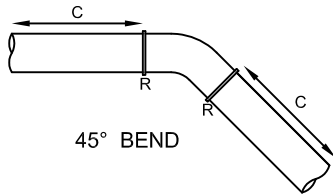
TEE



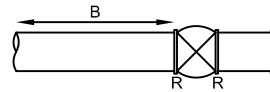
REDUCER



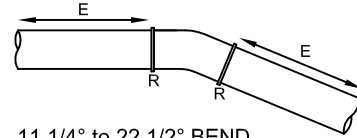
INLINE VALVE



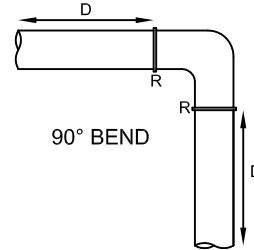
45° BEND



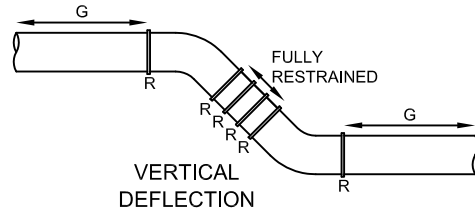
DEAD END



11 1/4° to 22 1/2° BEND



90° BEND



VERTICAL DEFLECTION

PVC PIPE THRUST RESTRAINT

MIN. LENGTH OF PVC WM. TO BE RESTRAINED (m)

PIPE DIA. LENGTH	100 mm (4")	150 mm (6")	200 mm (8")	250 mm (10")	300 mm (12")
A	7.0	7.0	7.0	14.0	14.0
B	14.0	14.0	20.0	20.0	25.0
C	7.0	7.0	7.0	14.0	14.0
D	7.0	7.0	14.0	14.0	14.0
E	7.0	7.0	7.0	7.0	7.0
F	7.0	14.0	20.0	20.0	25.0
G	7.0	7.0	7.0	14.0	14.0
H	7.0	7.0	7.0	7.0	7.0

NOTE:

- 'R' DENOTES RESTRAINT DEVICE
- RESTRAINT LENGTHS BASED ON CLAY TYPE SOIL CONDITIONS TYPICALLY FOUND AT A DEPTH OF 1.5M. REFER TO ASTM D2487 FOR COMPLETE DESCRIPTION, IN AREAS WHERE SAND IS PREVALENT OR PIPE IS SITUATED BELOW WATER TABLE, RESTRAINED LENGTHS WILL BE DETERMINED BY THE ENGINEER.
- REDUCER DIMENSION 'H' ASSUMES ONE REDUCTION IN PIPE SIZE. IF REDUCTION IS GREATER THAN ONE PIPE SIZE, RESTRAINED LENGTH WILL BE DETERMINED BY THE ENGINEER.
- RESTRAINT SYSTEMS OVER 300MMØ TO BE DETERMINED BY MANUFACTURER.
- PVC WATERMAIN PIPE WITH STANDARD GRANULAR 'A' EMBEDMENT MATERIAL.
- DESIGN FOR RESTRAINT SYSTEMS WHEN CONNECTING TO EXISTING INFRASTRUCTURE WILL BE AT THE DISCRETION OF THE CITY ENGINEER.
- ALL RESTRAINERS TO HAVE PETROLATUM AND PETROLEUM COATED SYSTEM.

REV.#	DESCRIPTION	DATE	AP.BY
<b>CITY OF SARNIA</b>			
<b>PVC PIPE THRUST RESTRAINTS</b>			
APPROVED BY: RW			BK.
DRAWN BY: OD		SCALE: N.T.S.	DWG.No.
CHK' BY: BL		DATE: MAR'14	2500