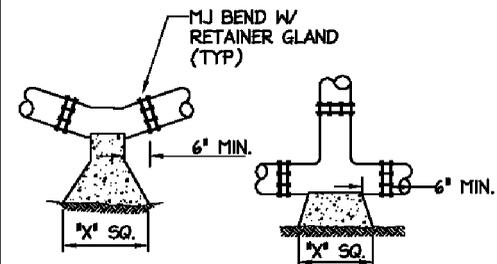
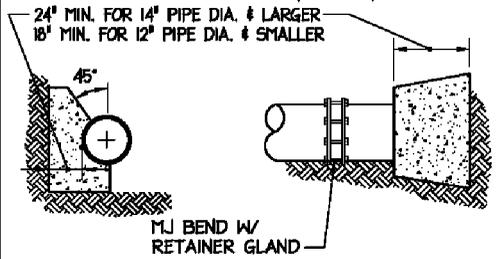


BUTTRESSES FOR VERTICAL BENDS



BEND	DIMENSION	LENGTH
11.25°	A	25'
	B	17'
	C	9'
	CY	0.06
22.5°	A	34'
	B	23'
	C	12'
	CY	0.14
45°	A	48'
	B	32'
	C	16'
	CY	0.34



PIPE SIZE	DIMENSION X
6"	18"
8"	24"
10"	30"
12"	36"
14"	42"
16"	48"

HORIZONTAL BEND DETAIL

SEE WS_05, SHEET 2 OF 2 FOR NOTES AND ADDITIONAL DETAILS.

STANDARD THRUST BLOCKS

NOT TO SCALE

REFERENCE 200, 801, 803	CATEGORY WATER & SANITARY	DATE 01/03	SHEET No. 1 OF 2	DETAIL No. WS_05
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SHEET 1 OF 2

	DESIGN AND CONSTRUCTION STANDARDS	
	STANDARD THRUST BLOCKS	
08/15/03	REV. FOR INTERNET 2003	DR. BY: DATE:
DATE	REVISIONS	CHK. BY: DATE:
		APP. BY: DATE:

WS_05

07