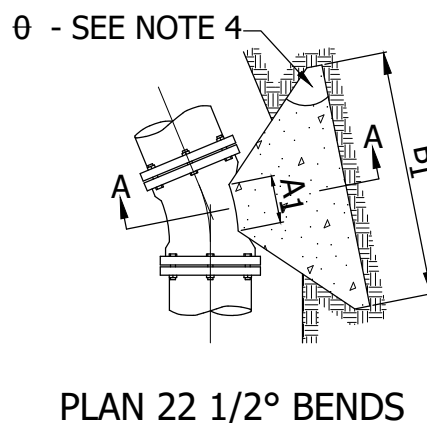
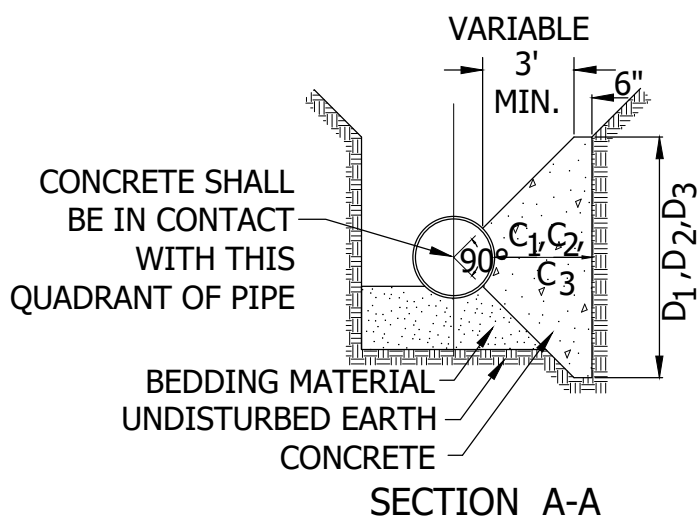
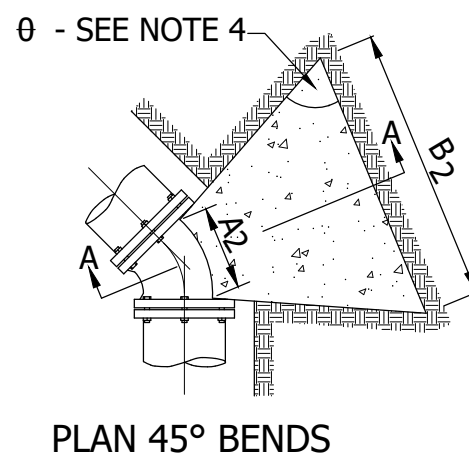
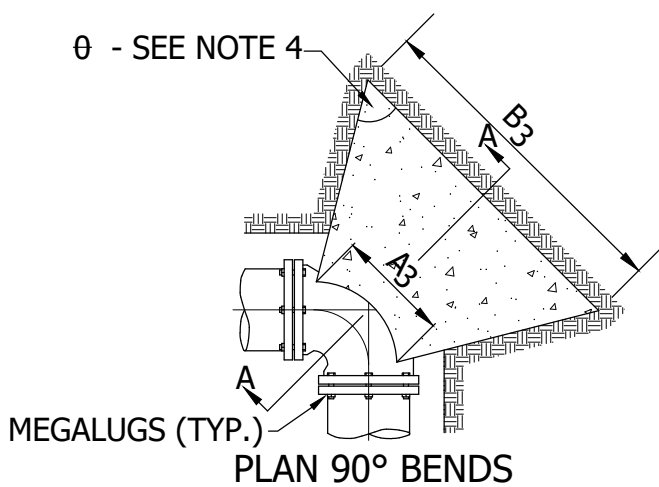


**NOTES:**

1. SHAPE OF BACK OF BUTTRESS MAY VARY AS LONG AS POURED AGAINST FIRM UNDISTURBED EARTH.
2. DIMENSION C1,C2,C3 SHOULD BE LARGE ENOUGH TO MAKE ANGLE  $\theta$  EQUAL TO OR LARGER THAN  $45^\circ$ .
3. DIMENSION A1,A2,A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH MJ BOLTS.
4.  $\theta = 45^\circ$  MINIMUM.
5. PLACE POLYETHYLENE BETWEEN CONCRETE & PIPE.

**BUTTRESS DIMENSIONS**

PIPE SIZE	22 1/2° BEND		45° BEND		90° BEND	
	B <sub>1</sub>	D <sub>1</sub>	B <sub>2</sub>	D <sub>2</sub>	B <sub>3</sub>	D <sub>3</sub>
6"	--	--	--	--	2'-1"	1'-6"
8"	--	--	--	--	2'-8"	2'-0"
12"	1'-10"	1'-10"	3'-4"	2'-0"	4'-9"	2'-6"
16"	3'-0"	2'-0"	3'-10"	3'-0"	6'-2"	3'-6"
20"	3'-6"	2'-8"	5'-6"	3'-4"	8'-4"	4'-0"
24"	4'-4"	3'-0"	6'-10"	3'-10"	9'-8"	5'-0"
30"	--	--	9'-3"	6'-0"	17'-0"	6'-0"



**STANDARD DETAILS**  
CONCRETE THRUST BLOCKING

COTTAGE GROVE, MINNESOTA

JANUARY 2022

PLATE NO.  
WAT-6