

METROPOLITAN UTILITIES DISTRICT

No. 1.8.11
 Page: 1 of 2
 Effective: 2-1-06
 Prepared by: WRT
 Approved by: JGL

CONSTRUCTION STANDARD FOR: Typical Backing Blocks for Water Mains

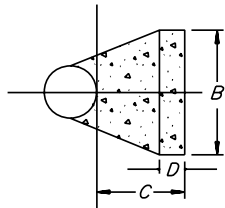
Supersedes: 11-1-02

General

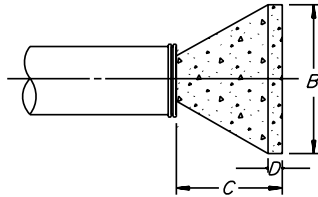
- * This Construction Standard specifies the materials and installation of concrete backing blocks for common fittings for 6" through 16" pipe. Backing blocks shall cure a minimum of 72 hours before subjected to water main pressure. If mains need to be pressurized within 72 hours of placing a backing block, immediate support backing shall be used (see Construction Standard 1.8.12).

HORIZONTAL BACKING BLOCKS

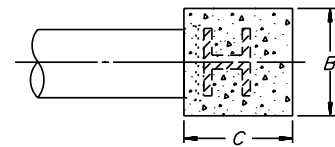
SIDE VIEW FOR TEE OR BEND



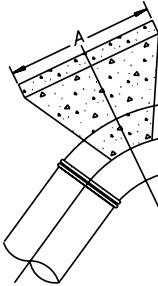
SIDE VIEW FOR PLUG OR CAP (6" & 8")



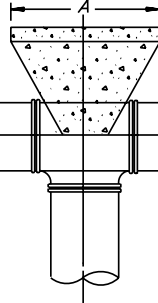
SIDE VIEW FOR PLUG OR CAP (12" & 16")



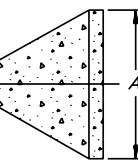
TOP VIEW FOR BEND



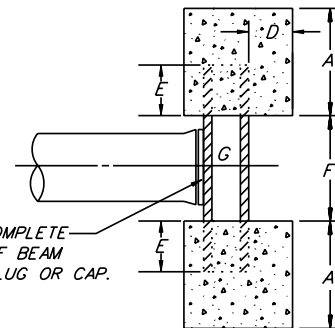
TOP VIEW FOR TEE



TOP VIEW FOR PLUG OR CAP (6" & 8")

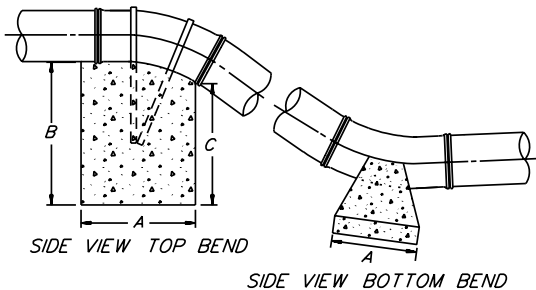


TOP VIEW FOR PLUG OR CAP (12" & 16")



ENSURE COMPLETE BEARING OF BEAM AGAINST PLUG OR CAP.

VERTICAL BACKING BLOCKS



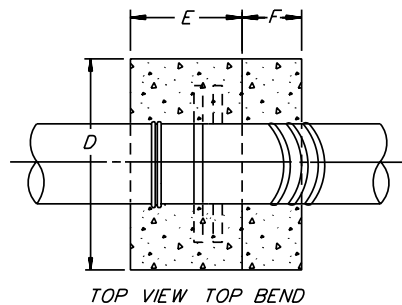
SIDE VIEW TOP BEND

SIDE VIEW BOTTOM BEND

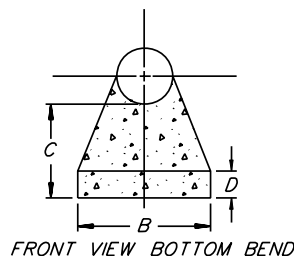
NOTES

WRAP ALL JOINTS WITH POLYWRAP PRIOR TO PLACING CONCRETE BACKING BLOCKS.

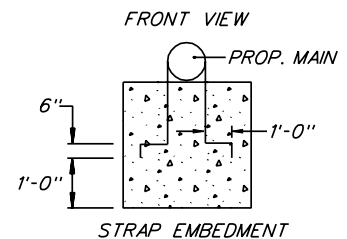
COVER ALL STRAPS AND BEAMS OUTSIDE OF CONCRETE W/ POLYWRAP OR TAPE.



TOP VIEW TOP BEND



FRONT VIEW BOTTOM BEND



STRAP EMBEDMENT

* Denotes revised text

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FITTING	DIMENSION						BEAM	VOLUME	STRAPS		
	A	B	C	D	E	F	G	CU. YD.	NO.	SIZE	EMBED.
	16" x 16" Tee	5'-6"	4'-6"	4'-0"	1'-0"				2.31		
16" x 12" Tee	3'-6"	3'-6"	4'-0"	1'-0"				1.18			
16" x 8" Tee	2'-6"	2'-6"	3'-0"	0'-6"				.37			
16" x 6" Tee	2'-0"	2'-0"	2'-6"	0'-6"				.22			
12" x 12" Tee	3'-6"	3'-6"	4'-0"	1'-0"				1.18			
12" x 8" Tee	2'-6"	2'-6"	3'-0"	0'-6"				.37			
12" x 6" Tee	2'-0"	2'-0"	2'-6"	0'-6"				.22			
8" x 8" Tee	2'-6"	2'-6"	3'-0"	0'-6"				.37			
8" x 6" Tee	2'-0"	2'-0"	2'-6"	0'-6"				.22			
6" x 6" Tee	2'-0"	2'-0"	2'-6"	0'-6"				.22			
16" Plug or Cap	3'-6"	3'-6"	4'-0"	2'-0"	1'-6"	5'-0"	W 14 x 34 8' L	3.63			
12" Plug or Cap	2'-6"	2'-6"	3'-6"	1'-6"	1'-0"	5'-0"	W 14 x 22 7' L	1.62			
8" Plug or Cap	2'-6"	2'-6"	3'-0"	0'-6"				.37			
6" Plug or Cap	2'-0"	2'-0"	2'-6"	0'-6"				.22			
End of Main Hydt. For 8" Main	2'-6"	2'-6"	3'-0"	0'-6"				.37			
End of Main Hydt. For 6" Main	2'-0"	2'-0"	2'-6"	0'-6"				.22			
HORIZONTAL BENDS:											
16" x 90°	6'-6"	5'-0"	4'-6"	1'-0"				3.79			
16" x 45°	4'-6"	4'-0"	4'-0"	1'-0"				1.73			
16" x 22-1/2°	3'-6"	3'-6"	3'-6"	1'-0"				1.26			
16" x 11-1/4°	2'-3"	2'-3"	3'-3"	1'-0"				.46			
12" x 90°	4'-0"	4'-0"	4'-0"	1'-0"				1.63			
12" x 45°	3'-0"	3'-0"	3'-0"	1'-0"				.81			
12" x 22-1/2°	2'-6"	2'-6"	3'-0"	1'-0"				.53			
12" x 11-1/4°	1'-9"	1'-9"	2'-9"	1'-0"				.24			
8" x 90°	3'-0"	3'-0"	3'-6"	0'-6"				.59			
8" x 45°	2'-0"	2'-0"	2'-6"	0'-6"				.22			
8" x 22-1/2°	1'-6"	1'-6"	2'-0"	0'-6"				.11			
8" x 11-1/4°	1'-3"	1'-3"	1'-9"	0'-6"				.07			
6" x 90°	2'-0"	2'-0"	2'-6"	0'-6"				.22			
6" x 45°	1'-6"	1'-6"	2'-0"	0'-6"				.10			
6" x 22-1/2°	1'-0"	1'-0"	1'-6"	0'-6"				.04			
6" x 11-1/4°	1'-0"	1'-0"	1'-6"	0'-6"				.04			
VERTICAL BENDS:											
16" x 45° Top	6'-0"	6'-0"	3'-0"	7'-0"	3'-0"	3'-0"		9.33	2	2" x 3/8"	30"
16" x 45° Bottom	4'-6"	4'-0"	4'-0"	1'-0"				1.73			
12" x 45° Top	6'-0"	5'-0"	2'-0"	5'-0"	3'-0"	3'-0"		4.72	2	2" x 1/4"	24"
12" x 45° Bottom	3'-0"	3'-0"	4'-0"	1'-0"				.81			
8" x 45° Top	4'-0"	4'-0"	2'-0"	4'-6"	2'-0"	2'-0"		2.33	2	1" x 1/4"	18"
8" x 45° Bottom	2'-0"	2'-0"	2'-0"	0'-6"				.22			
6" x 45° Top	3'-6"	3'-0"	1'-6"	3'-6"	2'-0"	1'-6"		1.43	2	1" x 1/4"	18"
6" x 45° Bottom	1'-6"	1'-6"	1'-6"	0'-6"				.10			
16" x 22-1/2° Top	5'-6"	5'-6"	4'-6"	4'-6"	3'-0"	2'-6"		5.13	2	2" x 3/8"	30"
16" x 22-1/2° Bottom	3'-6"	3'-6"	3'-6"	1'-0"				1.26			
12" x 22-1/2° Top	4'-6"	5'-0"	4'-2"	3'-6"	2'-6"	2'-0"		2.88	2	2" x 1/4"	24"
12" x 22-1/2° Bottom	2'-6"	2'-6"	3'-0"	1'-0"				.53			
8" x 22-1/2° Top	3'-0"	4'-0"	3'-6"	3'-0"	1'-6"	1'-6"		1.33	2	1" x 1/4"	18"
8" x 22-1/2° Bottom	1'-6"	1'-6"	2'-0"	0'-6"				.11			
6" x 22-1/2° Top	2'-0"	3'-3"	3'-0"	3'-0"	1'-3"	0'-9"		.72	2	1" x 1/4"	18"
6" x 22-1/2° Bottom	1'-0"	1'-0"	1'-6"	0'-6"				.04			
16" x 11-1/4° Top	4'-0"	4'-0"	3'-6"	4'-0"	2'-0"	2'-0"		2.37	2	2" x 3/8"	30"
16" x 11-1/4° Bottom	2'-3"	2'-3"	3'-3"	1'-0"				.46			
12" x 11-1/4° Top	3'-0"	3'-0"	2'-9"	3'-6"	2'-0"	1'-0"		1.17	2	2" x 1/4"	24"
12" x 11-1/4° Bottom	1'-9"	1'-9"	2'-9"	1'-0"				.24			
8" x 11-1/4° Top	3'-0"	2'-0"	1'-9"	3'-0"	2'-0"	1'-0"		.56	2	1" x 1/4"	18"
8" x 11-1/4° Bottom	1'-3"	1'-3"	1'-9"	0'-6"				.07			
6" x 11-1/4° Top	2'-0"	2'-0"	1'-9"	2'-8"	1'-0"	1'-0"		.40	2	1" x 1/4"	18"
6" x 11-1/4° Bottom	1'-0"	1'-0"	1'-6"	0'-6"				.04			

* Revised Table