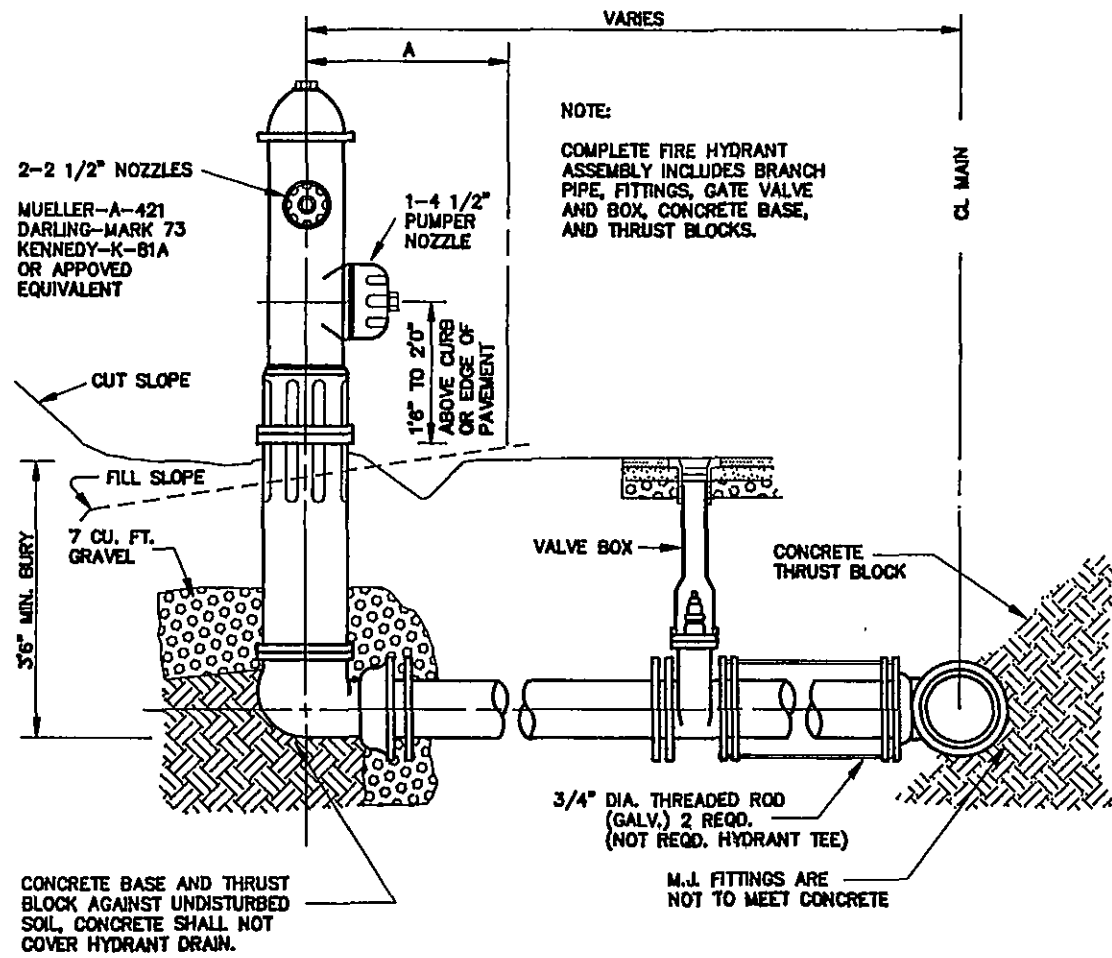
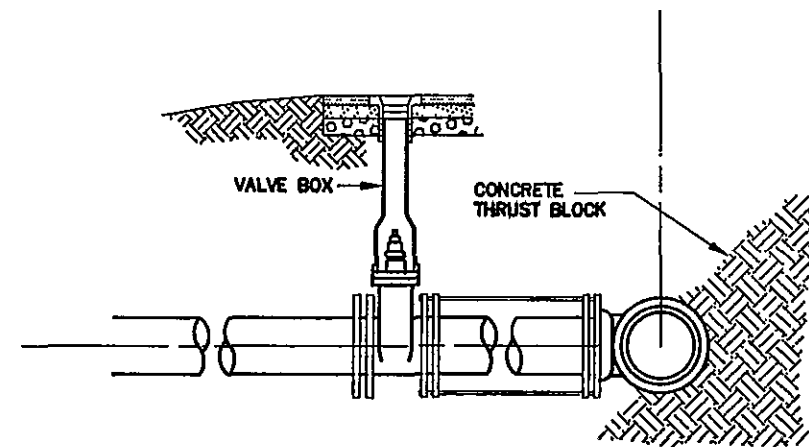


WATER DETAILS

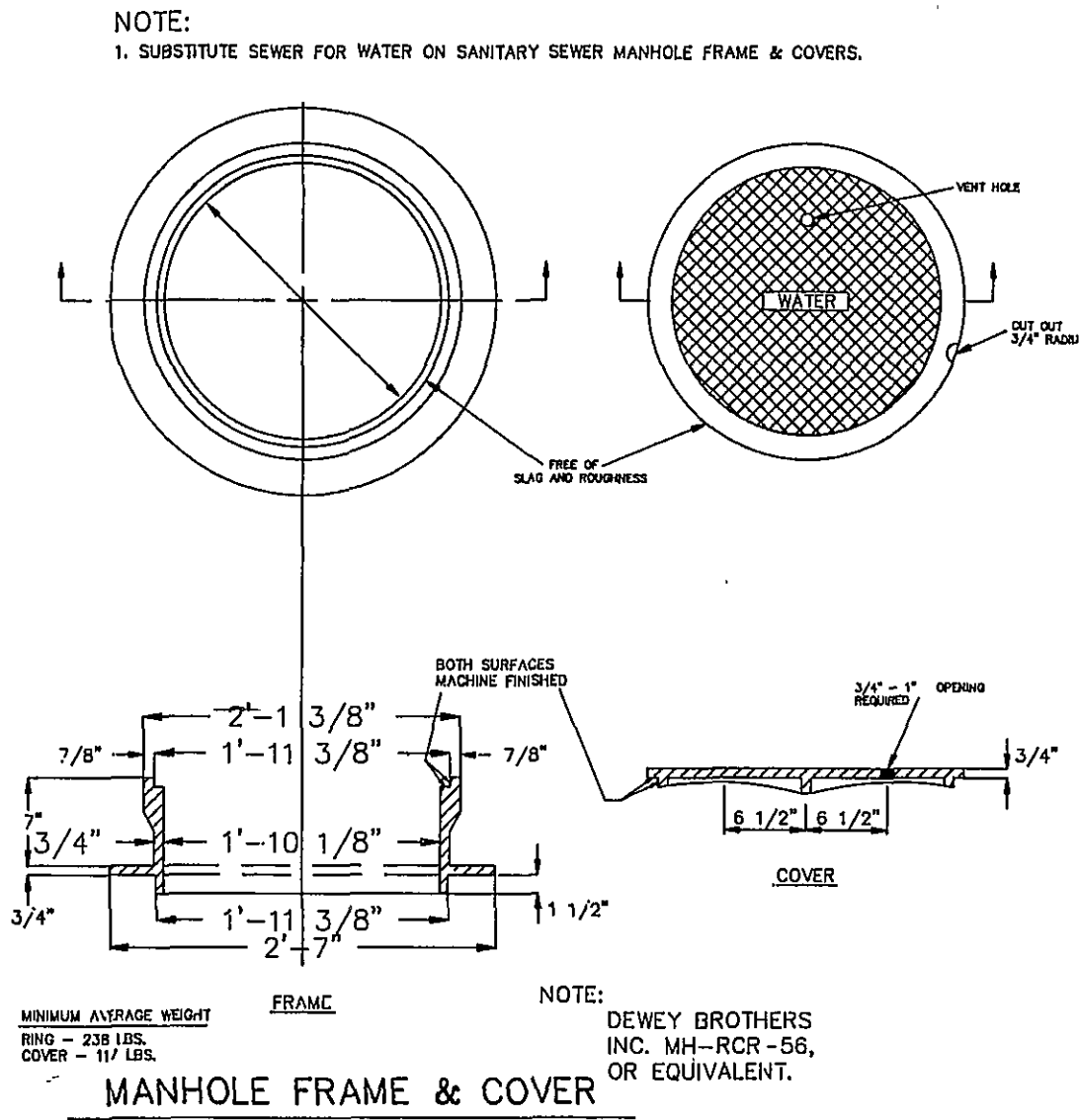
- NOTES:
- (1) MAIN BODY OF HYDRANT MUST BE SILVER AND HAVE RED CAPS AND BONNET.
 - (2) DISTANCE "A" WITH CURB AND GUTTER, 2' MIN., 4' MAX. FROM BACK OF CURB.
 - (3) DISTANCE "A" WITHOUT CURB AND GUTTER, 6' MIN., 12' MAX. FROM EDGE OF PAVEMENT.
 - (4) AREA AROUND HYDRANT AT A RADIUS OF 4' TO BE APPROXIMATELY LEVEL AND UNOBSTRUCTED FOR ROAD CONSTRUCTION.



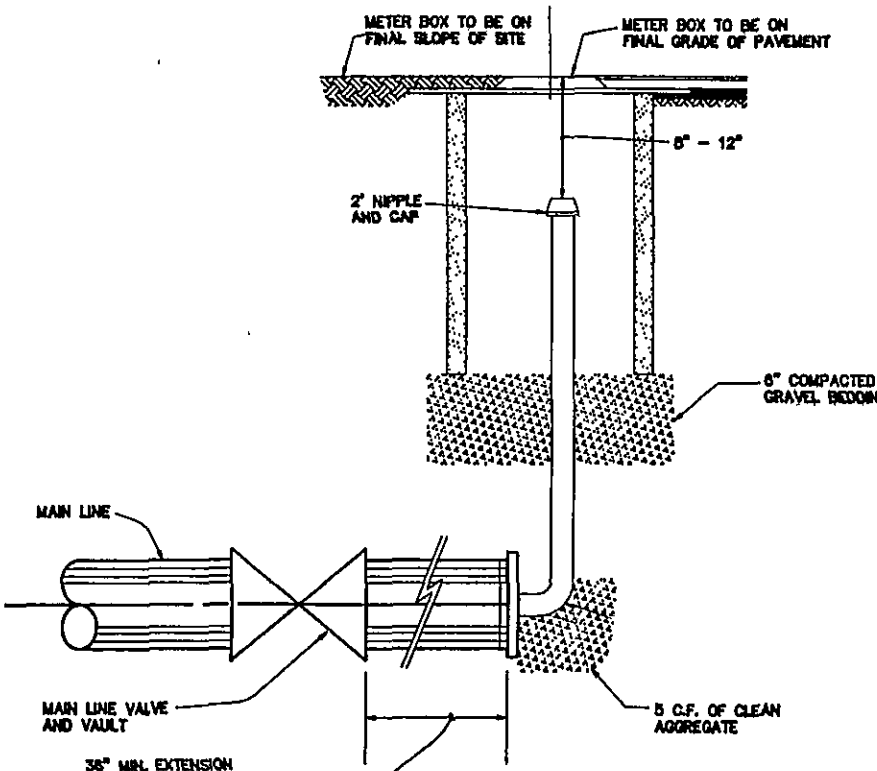
FIRE HYDRANT SETTING



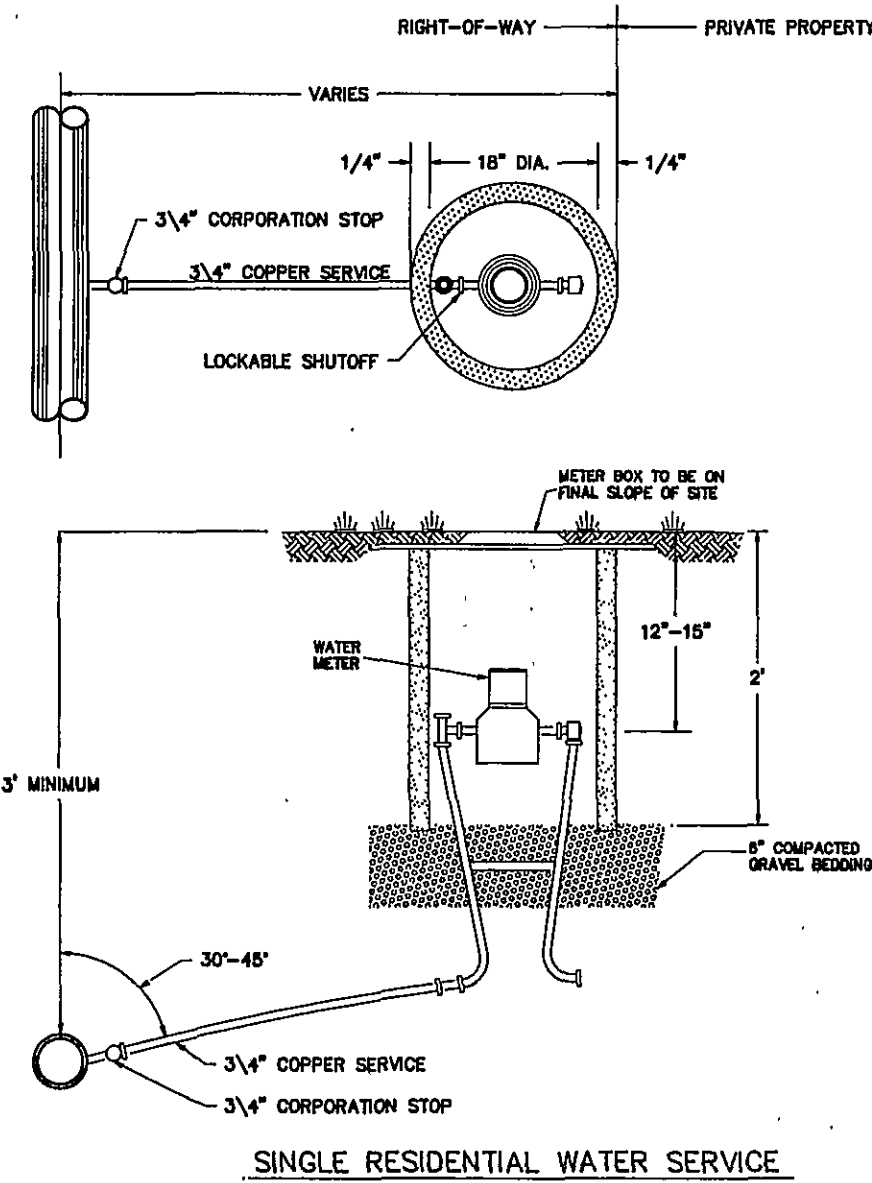
WATER LINE VALVE INSTALLATION



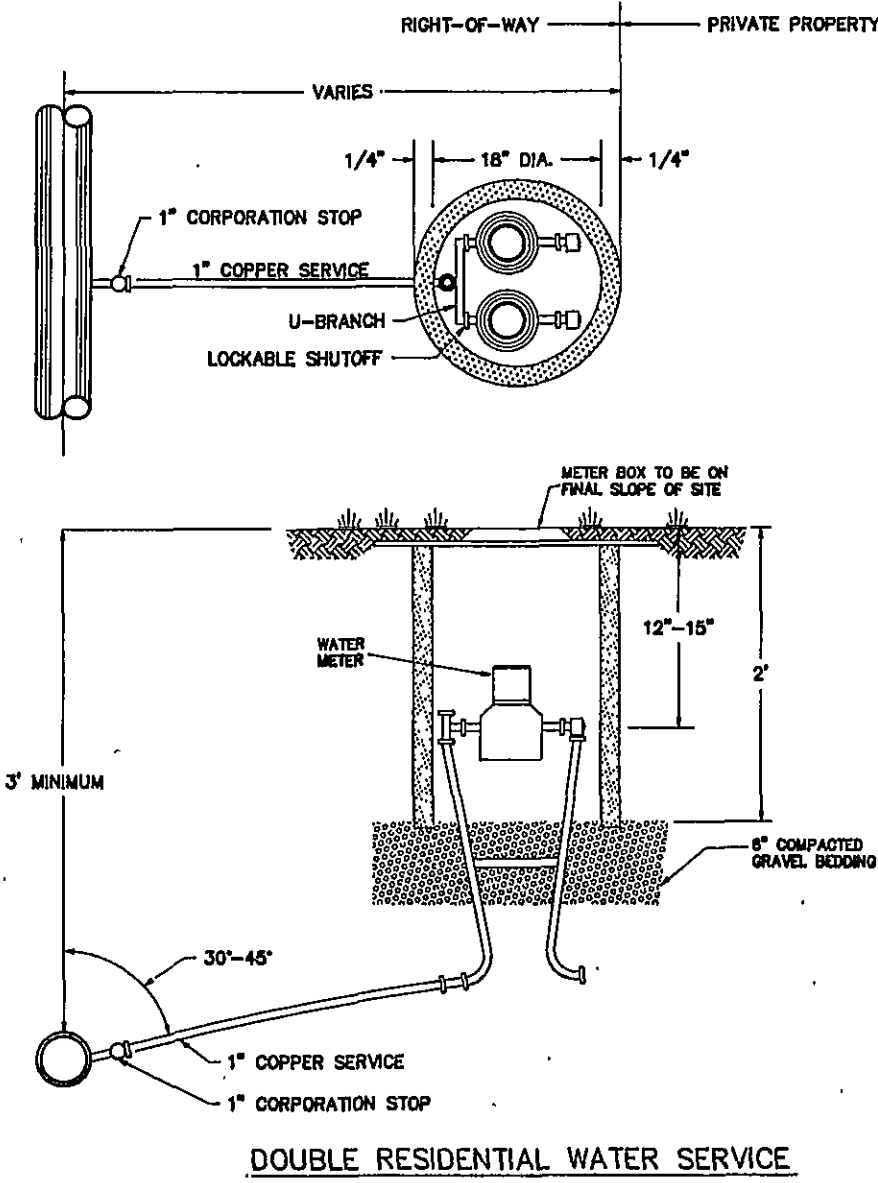
MANHOLE FRAME & COVER



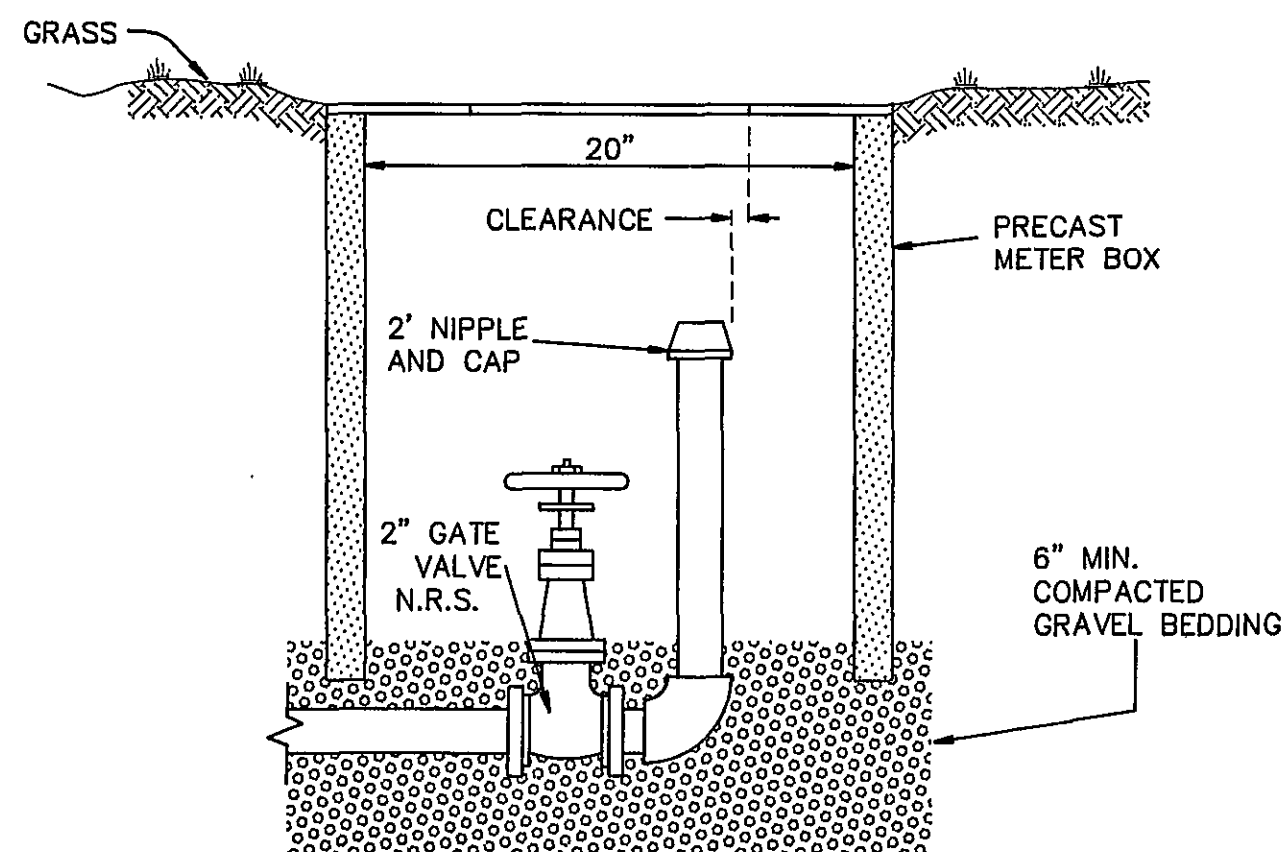
BLOW OFF ASSEMBLY FOR MAIN LINE
TEMPORARY TERMINATION



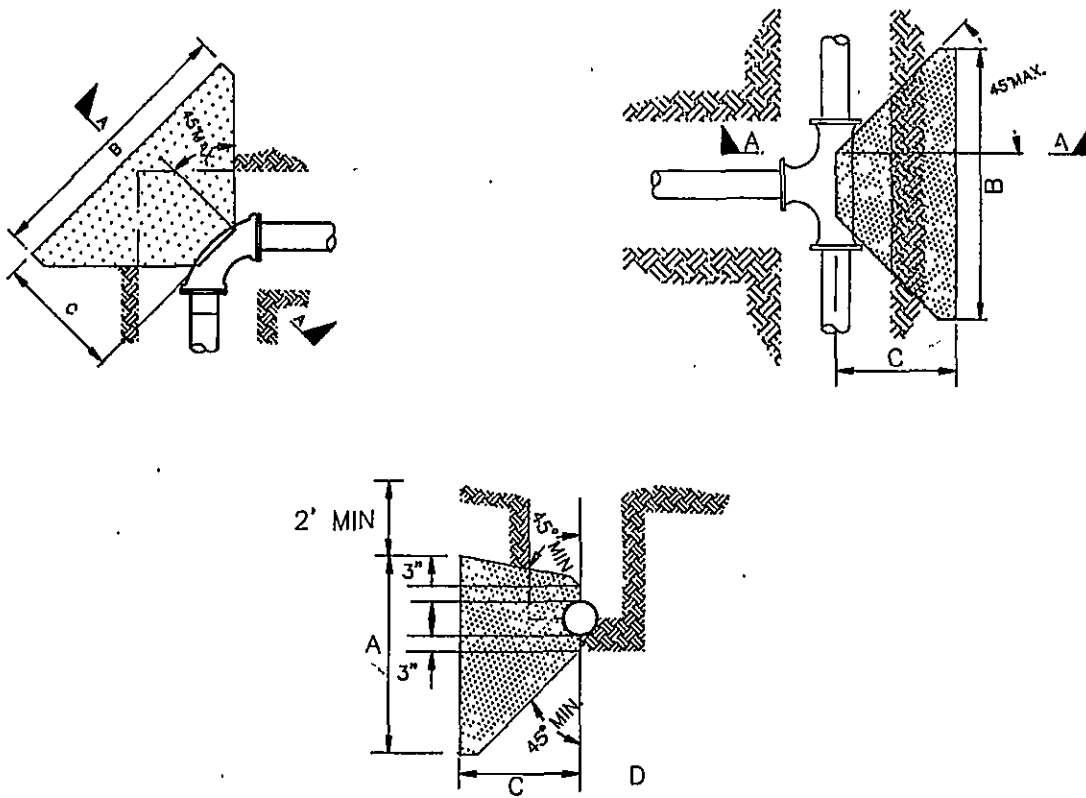
SINGLE RESIDENTIAL WATER SERVICE



DOUBLE RESIDENTIAL WATER SERVICE



TYPICAL BLOW-OFF ASSEMBLY
(OUT OF PAVEMENT)

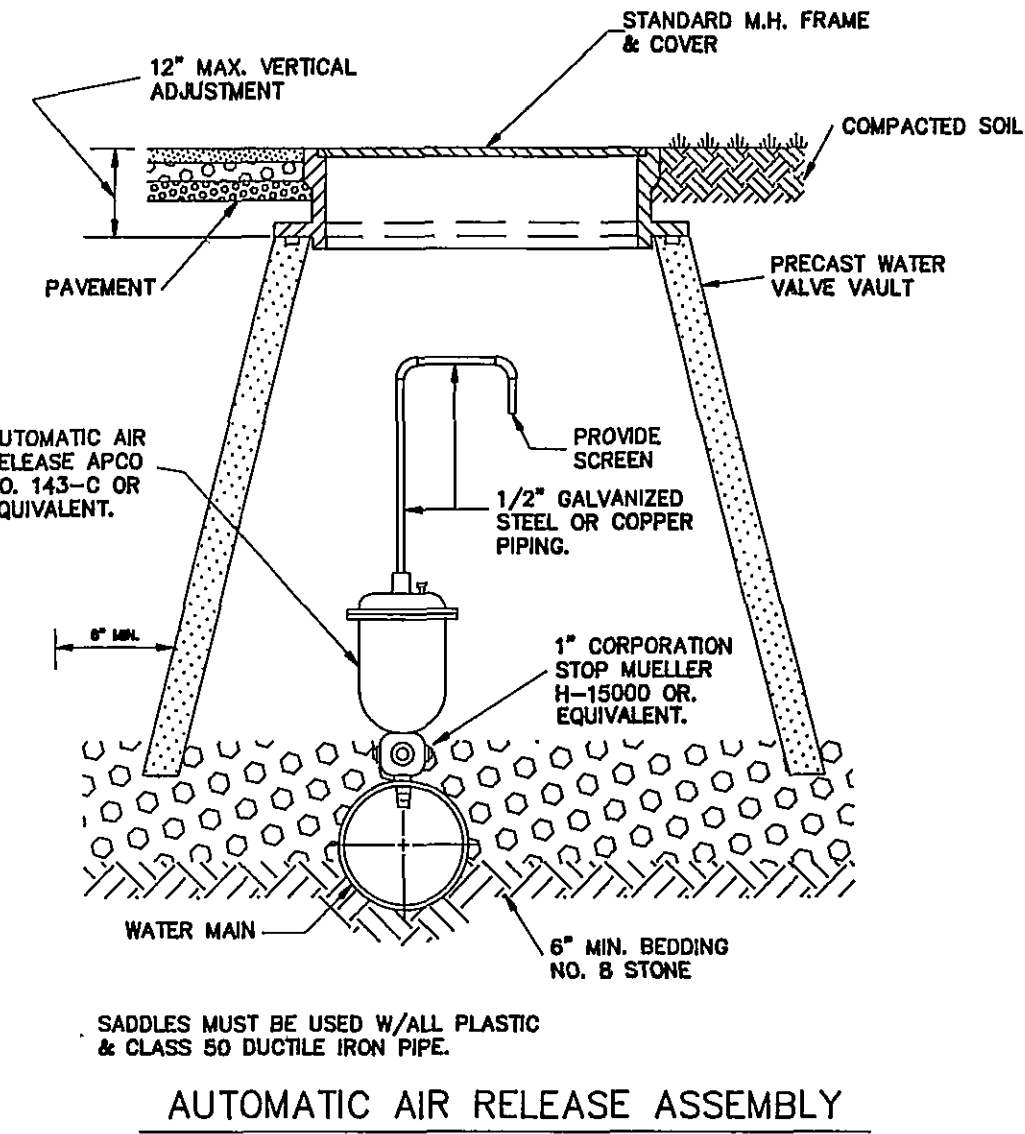


SECTION A-A

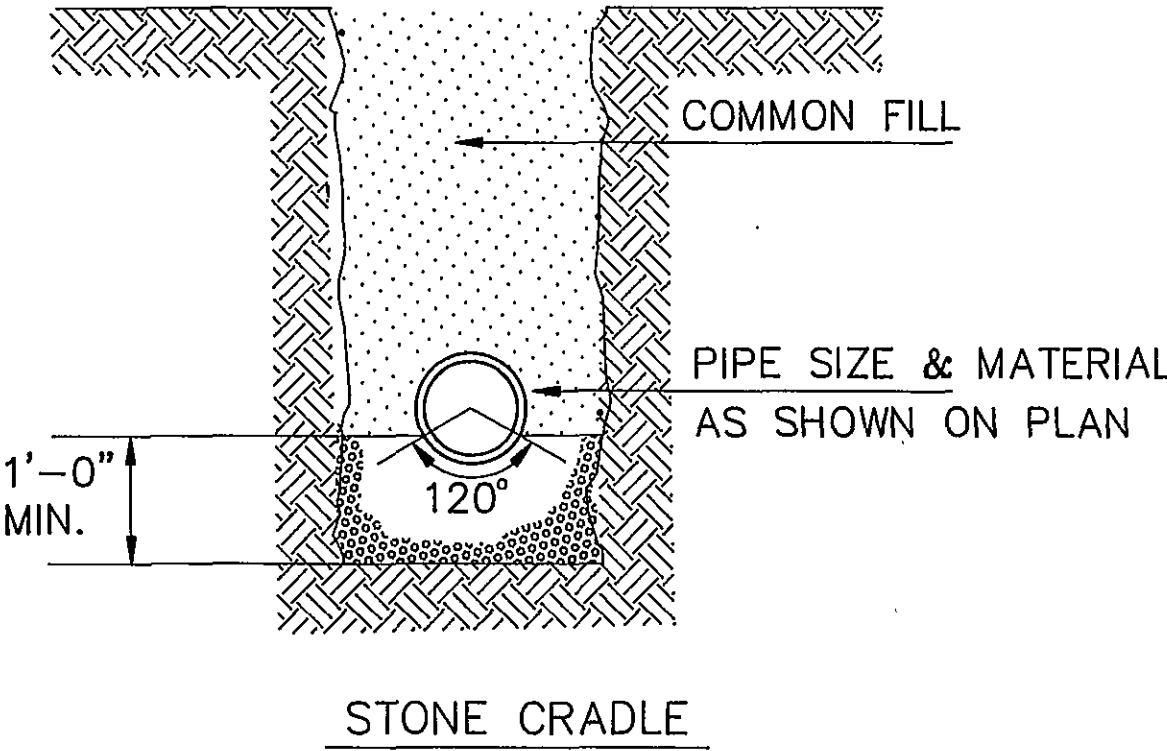
PIPE SIZE	TEE OR DEAD END			90° BEND			45° BEND			22.5° LESS BEND		
	A	B	C	A	B	C	A	B	C	A	B	C
6" OR LESS	1.2'	3.0'	1.0'	1.5'	3.3'	2.0'	1.2'	2.3'	1.0'	1.2'	2.0'	1.0'
8"	1.7'	3.8'	1.5'	2.0'	4.5'	2.0'	1.3'	3.6'	1.5'	1.3'	2.0'	1.0'
10"	2.0'	4.9'	2.0'	3.0'	4.7'	2.0'	1.7'	4.5'	2.0'	1.5'	2.6'	1.5'
12"	2.5'	5.7'	2.0'	3.5'	5.8'	2.5'	2.2'	5.0'	2.5'	1.7'	3.3'	1.5'
16"	3.5'	7.0'	3.0'	4.5'	8.0'	3.5'	3.0'	6.5'	3.0'	2.5'	4.0'	2.0'

- NOTES:
1. THE ABOVE NOTED DIMENSIONS ARE MINIMUM BASED ON CONCRETE ANCHOR EXTENDING TO UNDISTURBED SOIL, WATER PRESSURE NOT TO EXCEED 150 PSI AND, MINIMUM SOIL BEARING CAPACITY OF 2500 PSF. UNSATISFACTORY SOIL BEARING OR EXCESS PRESSURE WILL REQUIRE ADDITIONAL DESIGN.
 2. CONCRETE SHALL NOT BE POURED ON JOINTS OR BOLTS.
 3. CONCRETE TO BE MINIMUM 3000 PSI - 28 DAY COMPRESSIVE STRENGTH.

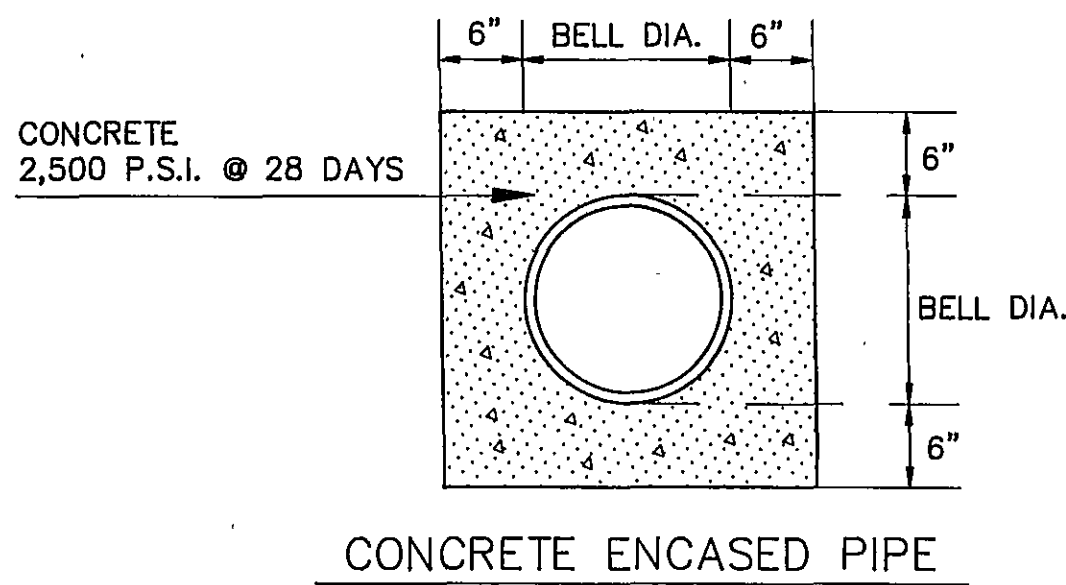
THRUST BLOCK FOR HORIZONTAL
& LOWER VERTICAL BENDS



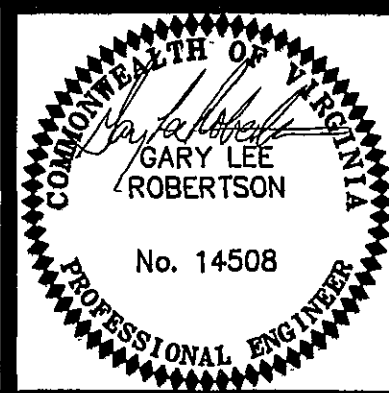
AUTOMATIC AIR RELEASE ASSEMBLY



STONE CRADLE



CONCRETE ENCASED PIPE



REVISION	DATE	DESCRIPTION
1		ADDED WATER SYSTEM & FORCE MAINS
DESIGNED --		WATER DETAILS FOR
DRAWN --		SECTION No. 11
CADD DESIGN --		"THE WATERFRONT"
CHECKED --		PREPARED FOR
		WILLARD CONSTRUCTION OF ROANOKE VALLEY, INC.
		GILLS CREEK MAGISTERIAL DISTRICT
		FRANKLIN COUNTY, VIRGINIA
LUMSDEN ASSOCIATES, P.C.		
ENGINEERS-SURVEYORS-PLANNERS		
ROANOKE, VIRGINIA		
SCALE: 1" = AS SHOWN		
DATE: 18 DEC. 1990		
COMM: *82-342		
SHEET 13 of 13		