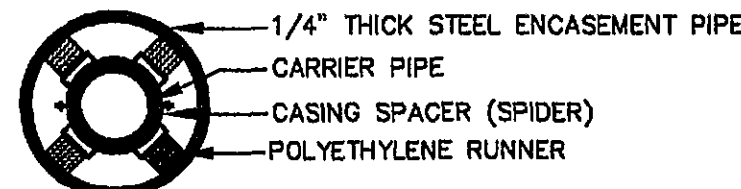
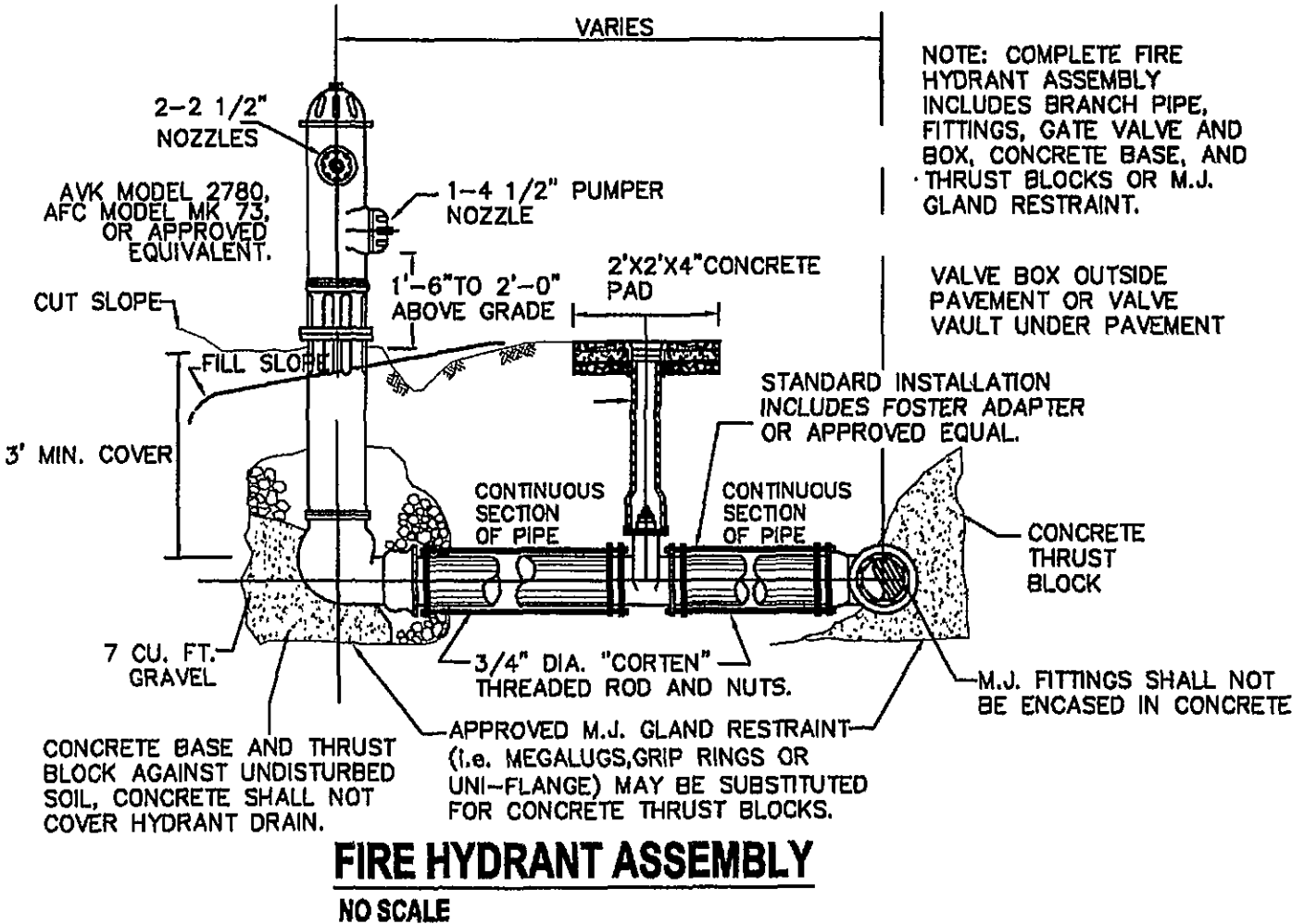


NOTES: 1. MAIN BODY OF HYDRANT MUST BE PAINTED SILVER WITH RED REFLECTIVE CAPS AND BONNET. 2. FIRE HYDRANT SHALL BE INSTALLED 2' MIN. AND 4' MAX. FROM BACK OF CURB OR 6' MIN. AND 12' MAX. FROM EDGE OF PAVEMENT, WHEN CURB IS NOT PRESENT. FIRE HYDRANT TO BE INSTALLED WITHIN RIGHT-OF-WAY OR EASEMENT LINE. 3. AREA AROUND HYDRANT AT A RADIUS OF 4' TO BE LEVEL AND UNOBSTRUCTED. 4. WATERPROOF BAGS SHALL BE PLACED OVER ALL NEWLY INSTALLED FIRE HYDRANTS. 5. HIGH PRESSURE (OVER 120 PSI) REQUIRES THE USE ALL 3 RESTRAINTS.

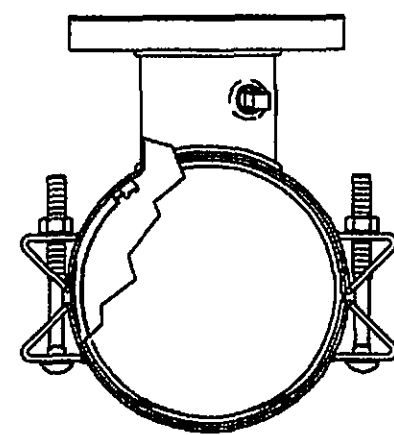
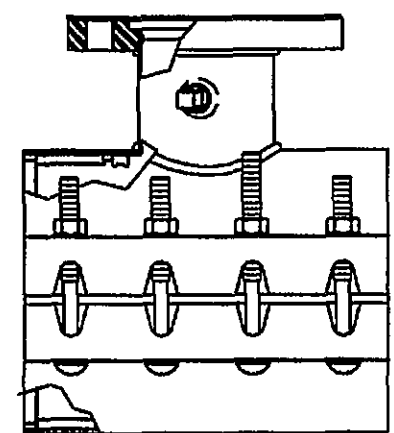


ALTERNATE PIPE SUPPORT IN CASING PIPE: 18" LONG TREATED TIMBER SKIDS OF APPROPRIATE WIDTH SO THAT BELLS OR FLANGES DO NOT REST ON CASING WITH MORE THAN 3/4" FREE PLAY. SKIDS TO BE PLACED AT 4'-0" O.C. AND SECURED WITH 2"x 1/4" GALV. STEEL STRAPS OR 1" S.S. BANDS. SOAP-BASED LUBRICANT MAY BE USED FOR SLIDING OF SKID WITH DUCTILE IRON PIPE AND FLAX-BASED LUBRICANT MAY BE USED FOR SLIDING OF SKID WITH PVC PIPE.

NOTE: A 1" DRAIN WILL BE REQUIRED ON THE LOWER END OF THE CASING IF THE CASING ENDS ARE SEALED WITH MORTAR AND BRICK.

PIPE SUPPORT IN CASING PIPE

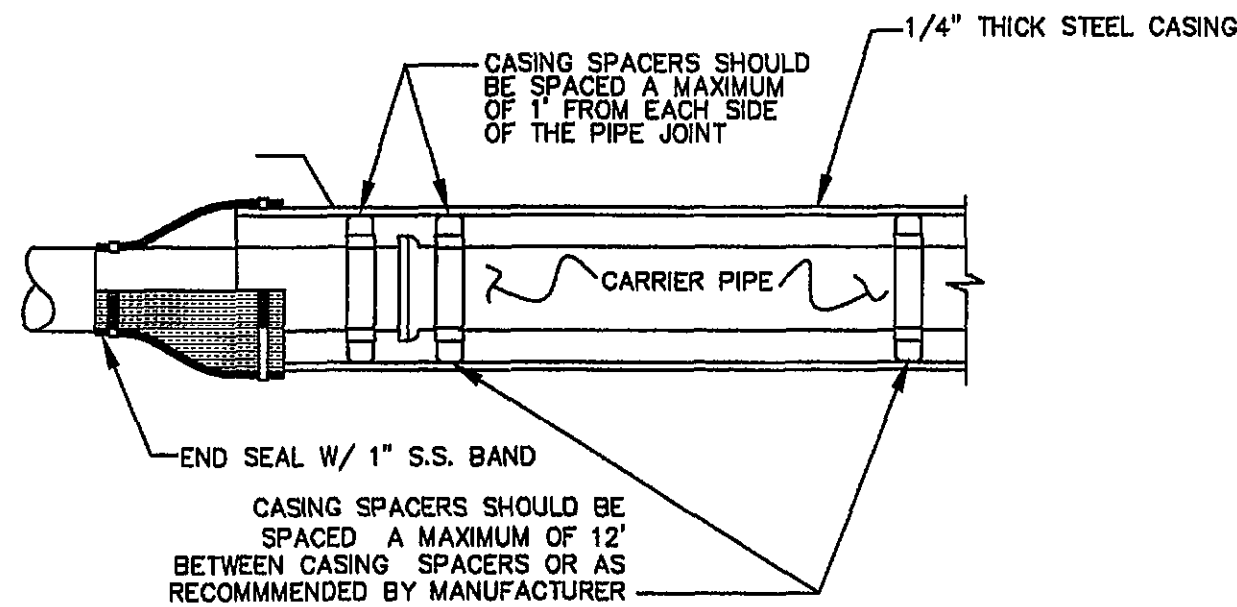
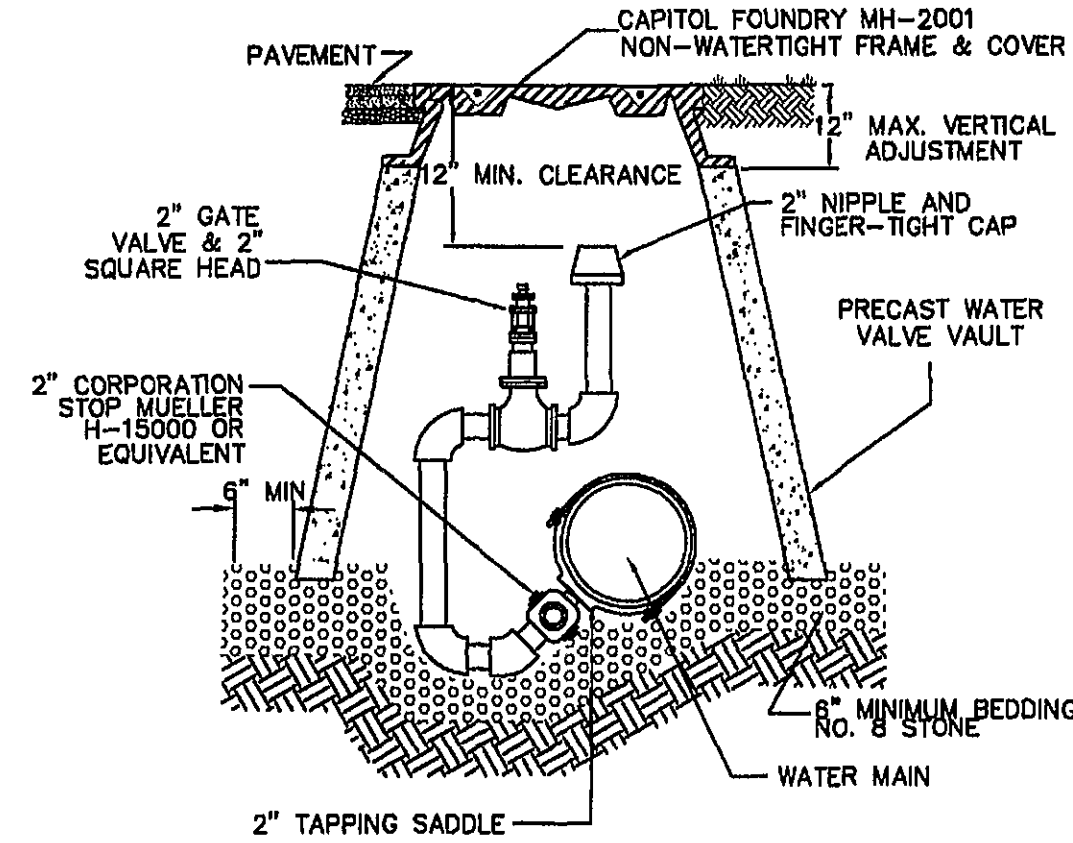
NO SCALE



1. TAPPING SLEEVE SHALL BE POWERSEAL MODEL 3490 TYPE 304 STAINLESS STEEL WITH CARBON STEEL FLANGE, ROMAC'S MODEL SST III OR APPROVED EQUIVALENT. SLEEVE SHALL BE RATED AT 250 PSI AND MUST HAVE A TEST PLUG.
2. TAPPING VALVE SHALL BE AVK RESILIENT SEATED GATE VALVE SERIES 25 MJFL OR MUELLER T-2360 RESILIENT WEDGE TAPPING VALVE WITH MJFL. VALVE SHALL BE RATED AT 250 PSI.
3. TAPPING SLEEVE AND VALVE SHALL BE FULL PORT TO ACCEPT FULL SIZE SHELL CUTTER.

TAPPING SLEEVE AND VALVE

NO SCALE

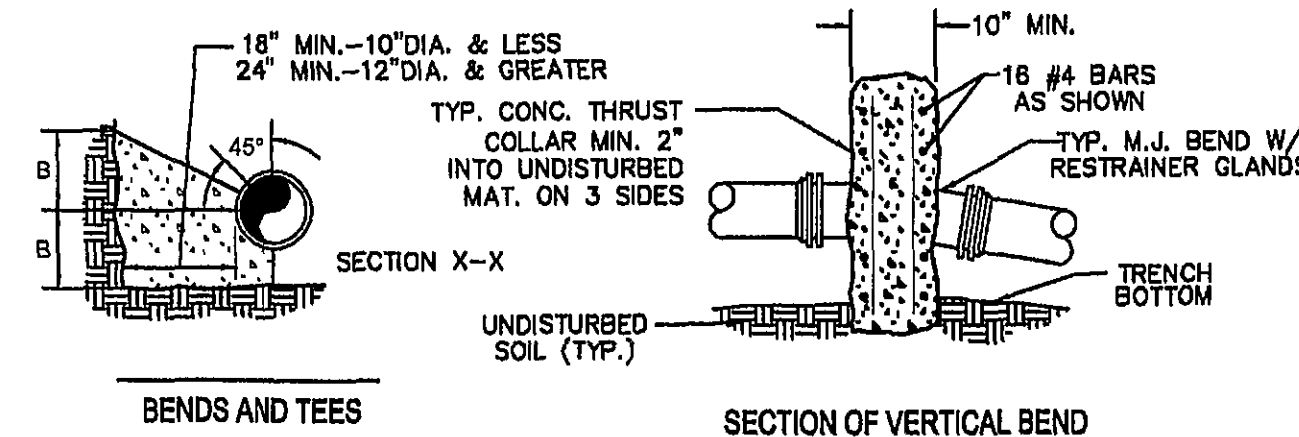
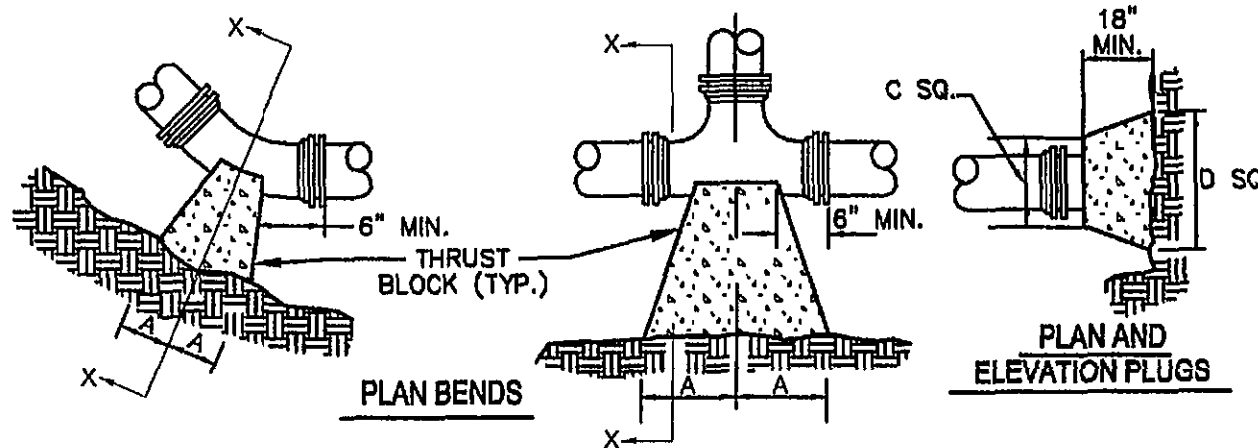
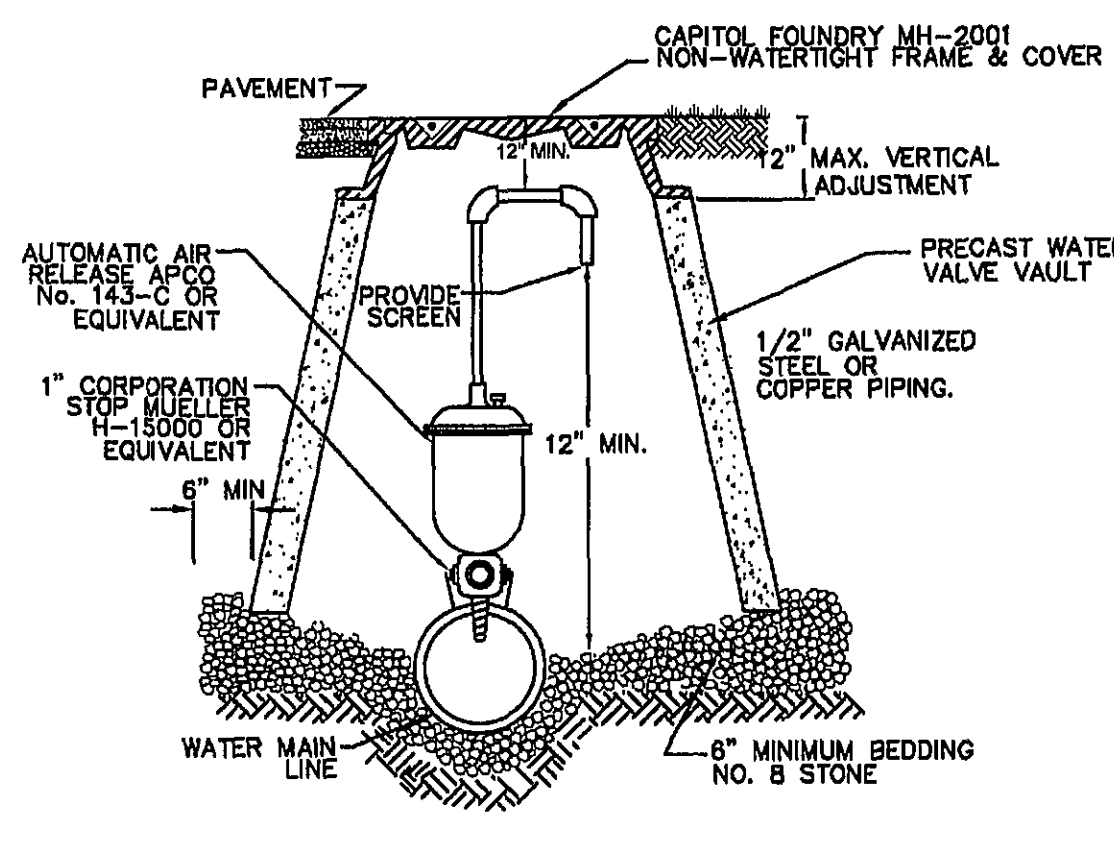


FACTOR OF SAFETY = 1.5													
PIPE SIZE	PIPE MAT'L	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	VALVE /PLUG	TEE BRANCH (NOTE 2)	REDUCER 45°	VERT. 22 1/2°	VERT. 11 1/4°	VERT. 45°	VERT. 22 1/2°	VERT. 11 1/4°
6"	D.I.	28'	12'	8'	3'	38'	34'	20'	23'	11'	5'		
8"	D.I.	37'	15'	7'	4'	51'	47'	21'	30'	15'	7'		
10"	D.I.	45'	19'	9'	4'	61'	57'	20'	37'	18'	9'		
12"	D.I.	53'	22'	11'	5'	73'	69'	38'	43'	21'	10'		
6"	PVC	30'	12'	8'	3'	56'	38'	29'	35'	17'	8'		
8"	PVC	40'	16'	8'	4'	74'	56'	31'	46'	22'	11'		
10"	PVC	47'	20'	9'	5'	89'	82'	30'	56'	27'	13'		
12"	PVC	56'	23'	11'	6'	106'	88'	56'	66'	32'	16'		

1. ALL JOINTS SHALL BE RESTRAINED ON BOTH SIDES OF THE FITTING FOR THE LENGTH SHOWN UNLESS OTHERWISE INDICATED.
2. REDUCER IS ONE SIZE SMALLER THAN PIPE LISTED. RESTRAINED LENGTH IS UPSTREAM ON THE LARGE SIDE OF THE REDUCER.

THRUST RESTRAINT OF PIPE JOINTS

NO SCALE

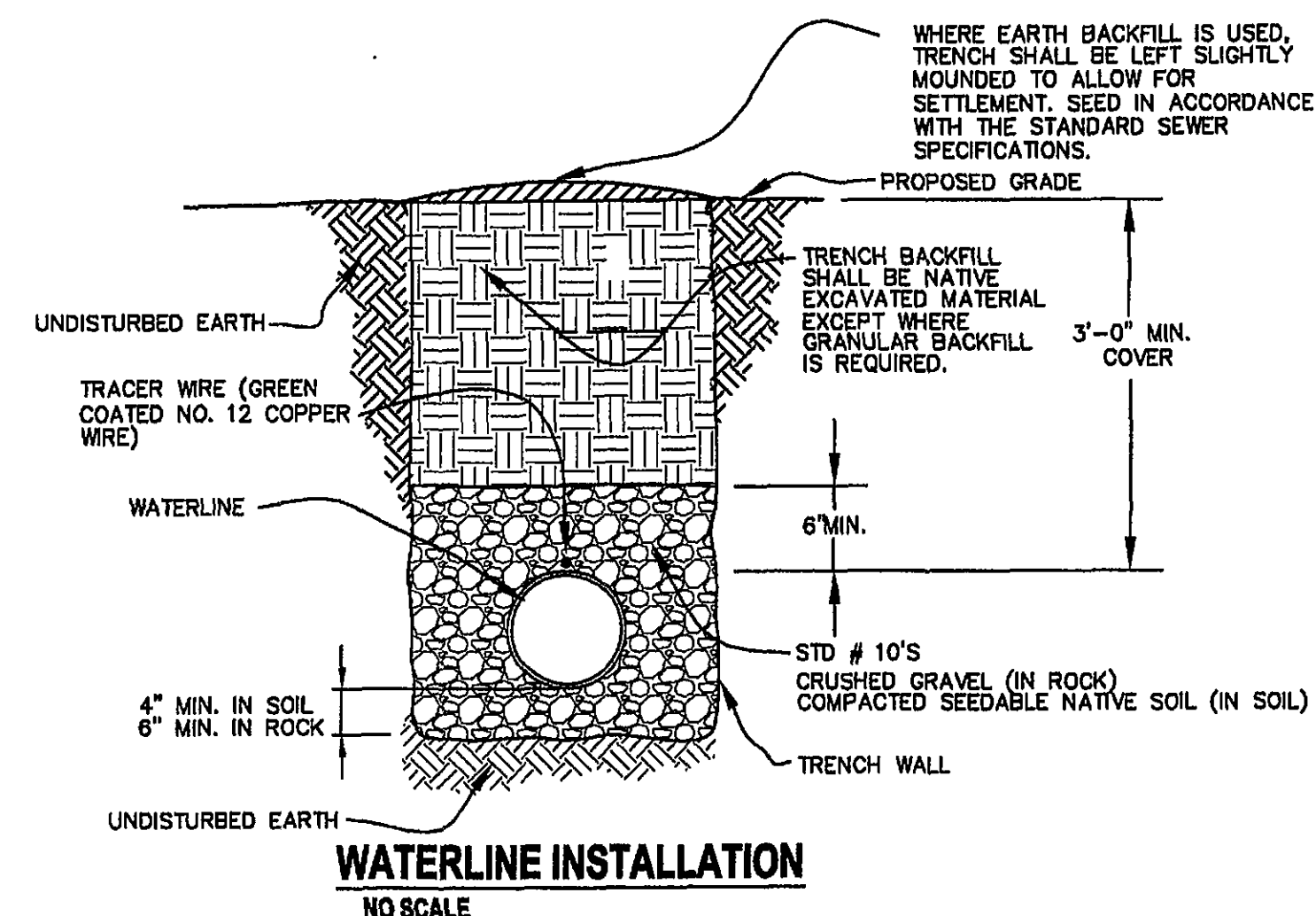
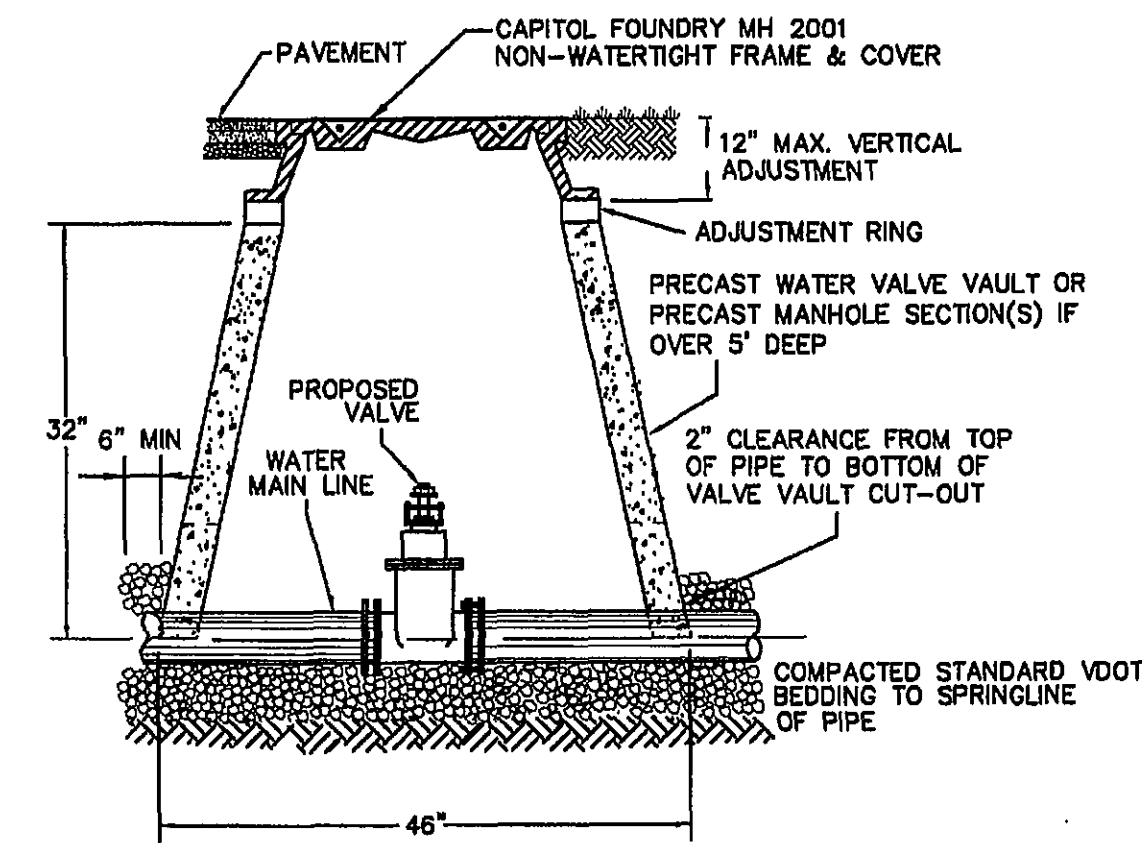
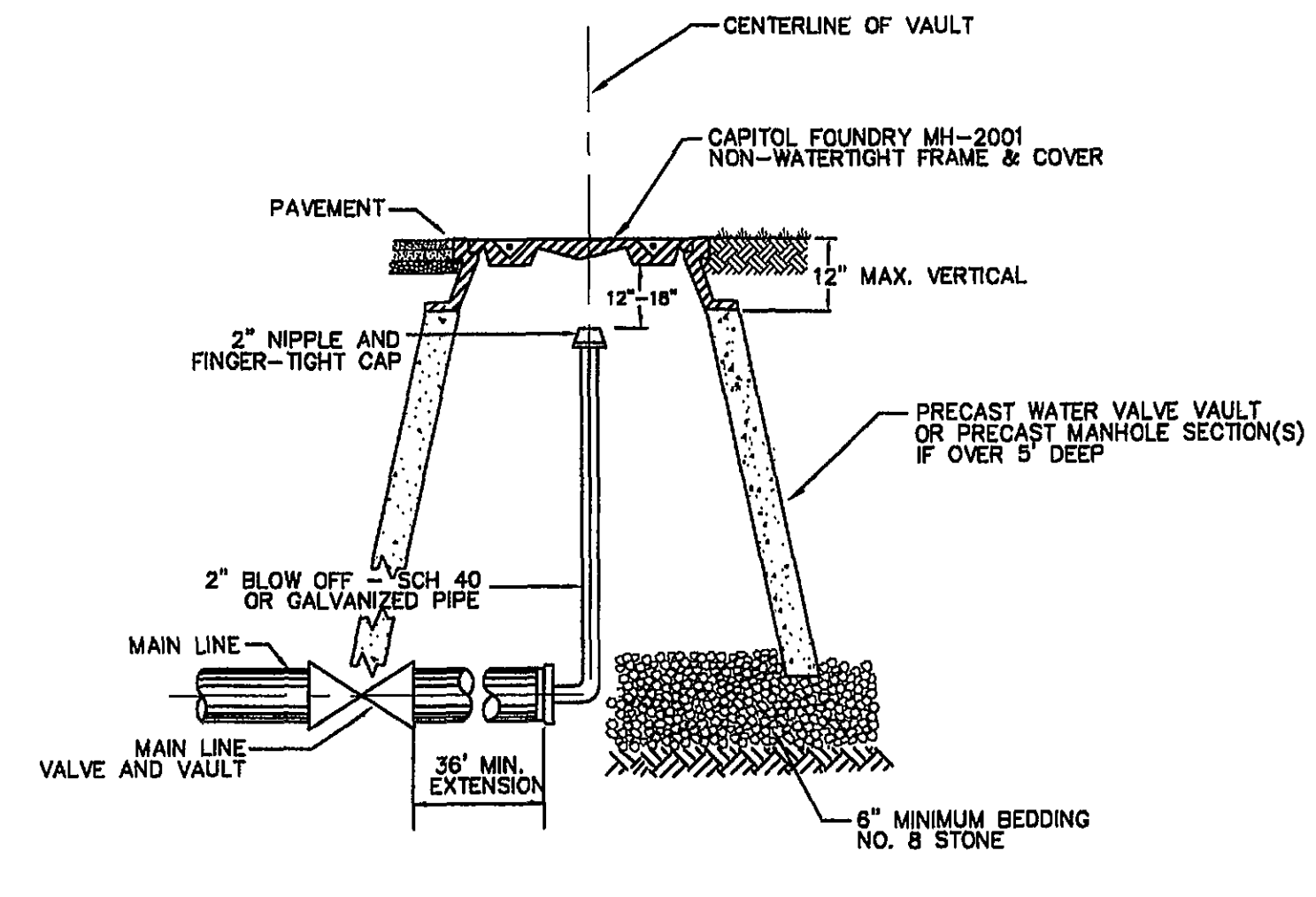


1. FOR VERT. BEND DOWN IN EXCESS OF 11 1/4", BEND ANCHORAGE SHALL BE CONC. DESIGNED BY ENGINEER.
2. FOR VERT. BEND UPWARD, BLOCKING TO BE SIMILAR TO THAT FOR HORIZ. BEND.
3. GLANDS & BOLTS SHALL BE PROTECTED FROM CONC. BY PLASTIC SHEETING WHEN POURING THRUST BLOCKS.
4. ALL THRUST BLOCK & SUPPORT CONC. SHALL BE 3000 PSI READY MIX.
5. THRUST BLOCKS WITH "B" DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED PIPE INSTALLED WITH A MINIMUM OF 4' OF COVER.

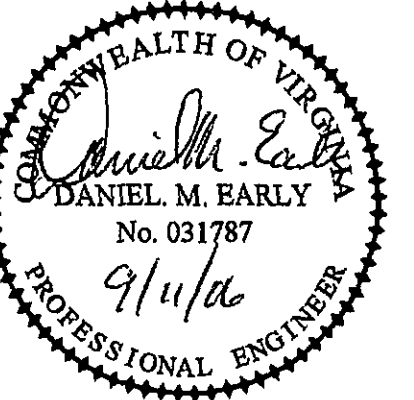
FACTOR OF SAFETY = 1.5													
PIPE SIZE	PIPE MAT'L	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	VALVE /PLUG	TEE BRANCH (NOTE 2)	REDUCER 45°	VERT. 22 1/2°	VERT. 11 1/4°	VERT. 45°	VERT. 22 1/2°	VERT. 11 1/4°
4"	8"	12"	8"	8"	6"	6"	6"	11"	9"	10"	6"		
6"	18"	12"	8"	10"	8"	8"	8"	11"	10"	12"	18"		
8"	18"	13"	10"	10"	8"	8"	8"	11"	12"	12"	24"		
10"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	30"		
12"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	30"		
16"	26"	20"	16"	18"	11"	13"	11"	13"	18"	20"	36"		
24"	82"	42"	30"	44"	22"	22"	16"	82"	42"	82"	42"		
30"	185"	42"	100"	42"	82"	42"	40"	30"	185"	42"	42"		

THRUST BLOCK CONSTRUCTION

NO SCALE



1. SETTER TO BE A.Y. McDONALD #20-215 WDLL33, FORD VBH72-15W-1133 OR APPROVED EQUAL.
2. METER BOX MUST BE MID-STATES PLASTICS, INC. PLASTIC BOX WITH FORD A32-T (ELECTRONIC READ LID) OR A. Y. McDONALD MODEL 74M32C-TC CAST IRON BASE & COVER OR APPROVED EQUAL.
3. CORPORATION STOP MUST BE FORD F1000-4-6 OR APPROVED EQUAL.



ACS DESIGN

ENGINEERING • SURVEYING
LANDSCAPE ARCHITECTURE
CONSTRUCTION MANAGEMENT

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INFO@ACSDSIGNLLC.COM
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LAKEWATCH PLANTATION
WATER AND SEWER EXTENSION
FRANKLIN COUNTY, VIRGINIA

DRAWN BY: CEK
DESIGNED BY: CEK
CHECKED BY: DME
DATE: 31 AUG 2009
JOB NUMBER: 06090a

REVISIONS:
No. 1 8/31/09
No. 2 REV. PER SMLGP
No. 3
No. 4

SHEET NO.:
C4.1

WATERLINE
DETAILS