

NOTES:

1. FOR VERT. BEND DOWN IN EXCESS OF 11 1/4" BEND, ANCHORAGE SHALL BE 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 CONC.
5. THRUST BLOCKS WITH "B" DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED PIPE INSTALLED WITH A MINIMUM OF 4' OF COVER.

PRESSURE = 200 psi
 BEARING = 2000 psf
 FACTOR OF SAFETY = 1.5

PIPE SIZE	30° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	A	B
4"	8"	12"	8"	8"	8"	6"	6"	6"	11"	9"	10"	6"
6"	18"	12"	8"	10"	8"	8"	8"	8"	11"	10"	12"	18"
8"	18"	13"	10"	10"	8"	8"	8"	8"	11"	12"	12"	24"
10"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
12"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
16"	26"	20"	16"	18"	11"	13"	11"	13"	18"	20"	20"	36"
24"	82"	42"	62"	30"	44"	22"	22"	16"	82"	42"	82"	42"
30"	185"	42"	100"	42"	52"	42"	40"	30"	185"	42"	185"	42"

VARIES

RIGHT-OF-WAY OF EASEMENT LINE

PRIVATE PROPERTY

1/4"

18" DIA

1/4"

3/4" CORPORATION STOP

3/4" COPPER SERVICE

LOCKABLE SHUTOFF

DUAL CHECK VALVE

METER SETTER & BOX TO BE SET ON FINAL SLOPE OF SITE

GRASS

12'-15"

2'-0"

6" PIG TAIL TO BE CAPPED & MARKED OR STAKED

3'-0"

3/4" CORPORATION STOP

COMPACTED GRAVEL

30°-15°

6"

3/4" COPPER SERVICE

VARIES

RIGHT-OF-WAY OF EASEMENT LINE

PRIVATE PROPERTY

1/4"

18" DIA

1/4"

1" CORPORATION STOP

1" COPPER SERVICE

LOCKABLE SHUTOFF

DUAL CHECK VALVE

METER SETTER & BOX TO BE SET ON FINAL SLOPE OF SITE

GRASS

12'-15"

2'-0"

6" PIG TAIL TO BE CAPPED & MARKED OR STAKED

3'-0"

1" CORPORATION STOP

COMPACTED GRAVEL

30°-45°

6"

1" COPPER SERVICE

SADDLES MUST BE USE WITH ALL PLASTIC & CLASS 50 DUCTILE IRON PIPE

DOUBLE RESIDENTIAL

SINGLE RESIDENTIAL
WATER SERVICE

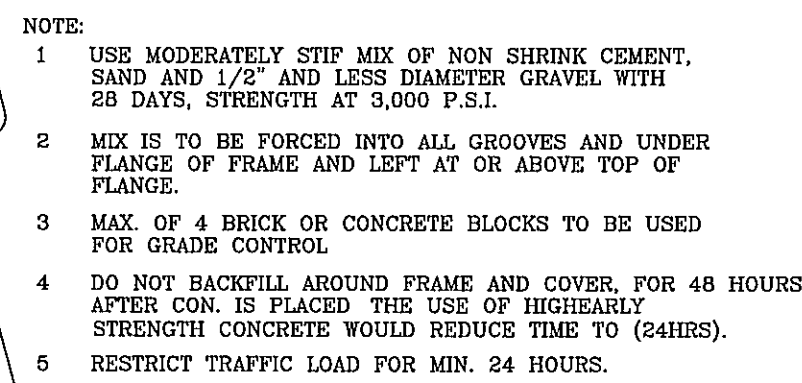
DOUBLE RESIDENTIAL
WATER SYSTEM



1. VAULTS, MANHOLE BASES, RISERS, TAPERS AND GRADE RINGS SHALL BE CAST REINFORCED CONCRETE MANUFACTURED IN ACCORDANCE WITH VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS, SECTION 503.
2. MANHOLE BASE AND RISER SECTIONS CONSTRUCTION SHALL BE VERTICAL WITH MAXIMUM 1" IN 4' TILT.
3. A MAXIMUM OF 2 CONSTRUCTION GRADE RINGS OR MAXIMUM OF 1' OF GRADE RINGS AND FRAME AND COVER ADJUSTMENT ARE ALLOWABLE.
4. FINAL ADJUSTMENT OF FRAME AND COVER SHALL BE IN ACCORDANCE TO GRADE AND COVER ADJUSTMENT DETAIL USING NON SHRINK CONCRETE WITH MAXIMUM OF 4 BRICKS OR CONCRETE BLOCKS FOR GRADE CONTROL. FRAME AND COVER ARE TO BE SET AT FINISH GRADE OR 1/4" ABOVE FINISH GRADE IN FILLMENT AND YARD AREAS AND MINIMUM 6" ABOVE FINISH GRADE IN OTHER AREAS. MANHOLE FRAMES AND COVERS ARE NOT TO BE SET IN DRAINAGE SWALE, VALLEY GUTTER, ETC.
5. JOINTS AND OPENINGS IN MANHOLE UNITS SHALL BE MADE WATERTIGHT BY USING BUTYL SEALANTS, "O" RING GASKETS OR MASTIC. THE CONCRETE SURFACE SHALL BE CLEANED PRIOR TO USE OF SEALANT.
6. FRAME AND COVERS
 - A) DEWEY BROTHERS INC. SERIES 2000 OR 2001.
 - B) APPROVED EQUAL.
7. ALL LIFT HOLES, OPENINGS AROUND PIPE, ETC. SHALL BE FILLED FROM INSIDE AND OUTSIDE TO THICKNESS OF STRUCTURE.
8. ALL UNITS USED IN MANHOLE AND VAULT CONSTRUCTION SHALL BE SECURELY CONNECTED BY INTERLOCKING BETWEEN UNITS, CONCRETE COLLARS OR OTHER APPROVED METHODS.
9. AREA AROUND METER BOX AT A RADIUS OF 4' TO BE ON FINISH GRADE AND UNOBSERVED.

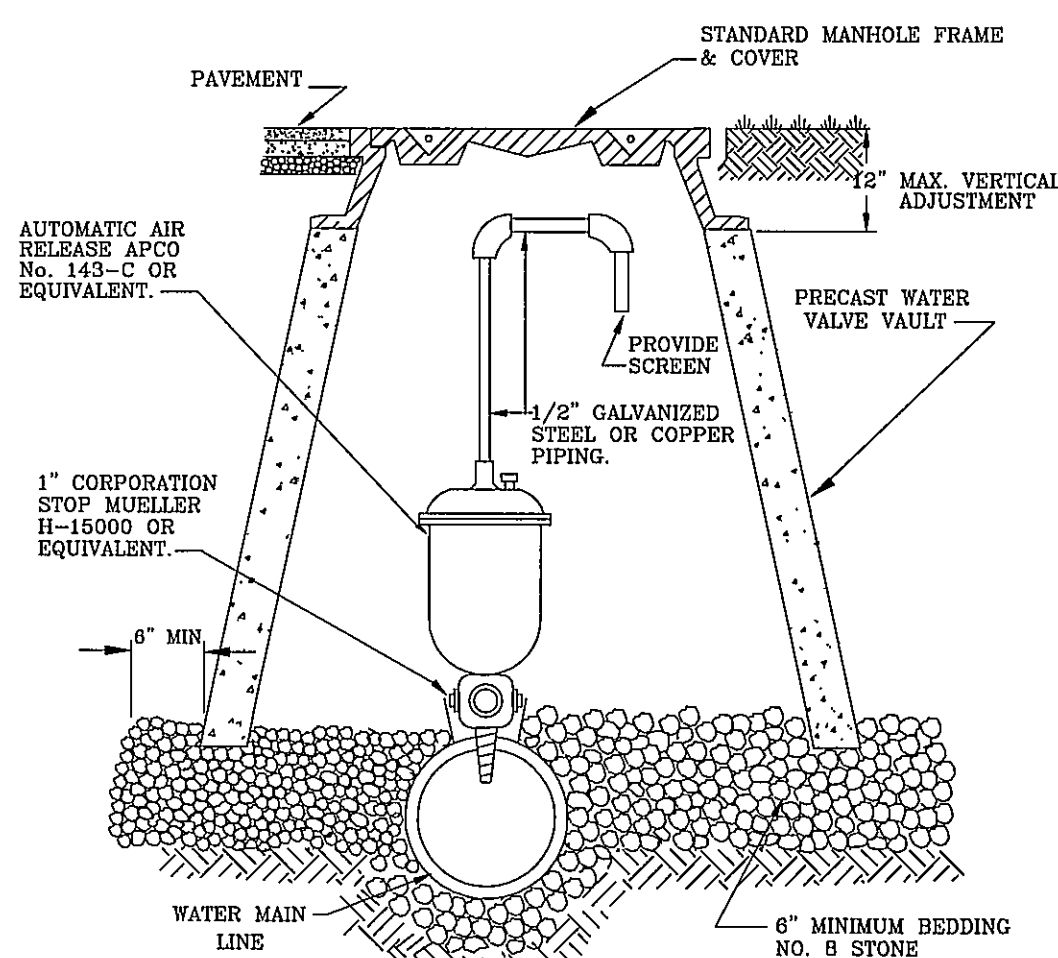
APPROVED MATERIALS

1. METER BOXES
 - A) FORD INCONCRETE METER BOX WITH NO. 2 IRONCRETE TOP OR APPROVED EQUIV.
 - B) SOUTHEASTERN DISTRIBUTOR MODEL MB-5 PLASTIC BOX WITH FORD OR CHARLOTTE MODEL C-32 CAST IRON BASE AND COVER (NOT APPROVED FOR ROADWAY AREA).
 - C) APPROVED EQUIV.
2. METER SETTER (INCLUDING INLET RISER VALVE AND DOUBLE CHECK VALVE ON OUTLET).
 - A) FORD VBHH 75-15-WD.
 - B) APPROVED EQUIV.
3. METER SETTER EXTENDER OR RISER
 - A) NOT ALLOWED UNLESS APPROVED BY THE UTILITY DIRECTOR.
4. CORPORATION STOP
 - A) MUELLER MODEL H-1500
 - B) FORD MODEL F-600
 - C) APPROVED EQUIV.
5. U-BRANCH
 - A) FORD MODEL U28-43
 - B) MUELLER MODEL H 15362
 - C) APPROVED EQUIV.
6. SERVICE SADDLES (FOR PVC PIPE)
 - A) FORD MODEL FS 202 AND FC 202 WITH STAINLESS STEEL BAND AND BOLTS
 - B) APPROVED EQUIV.

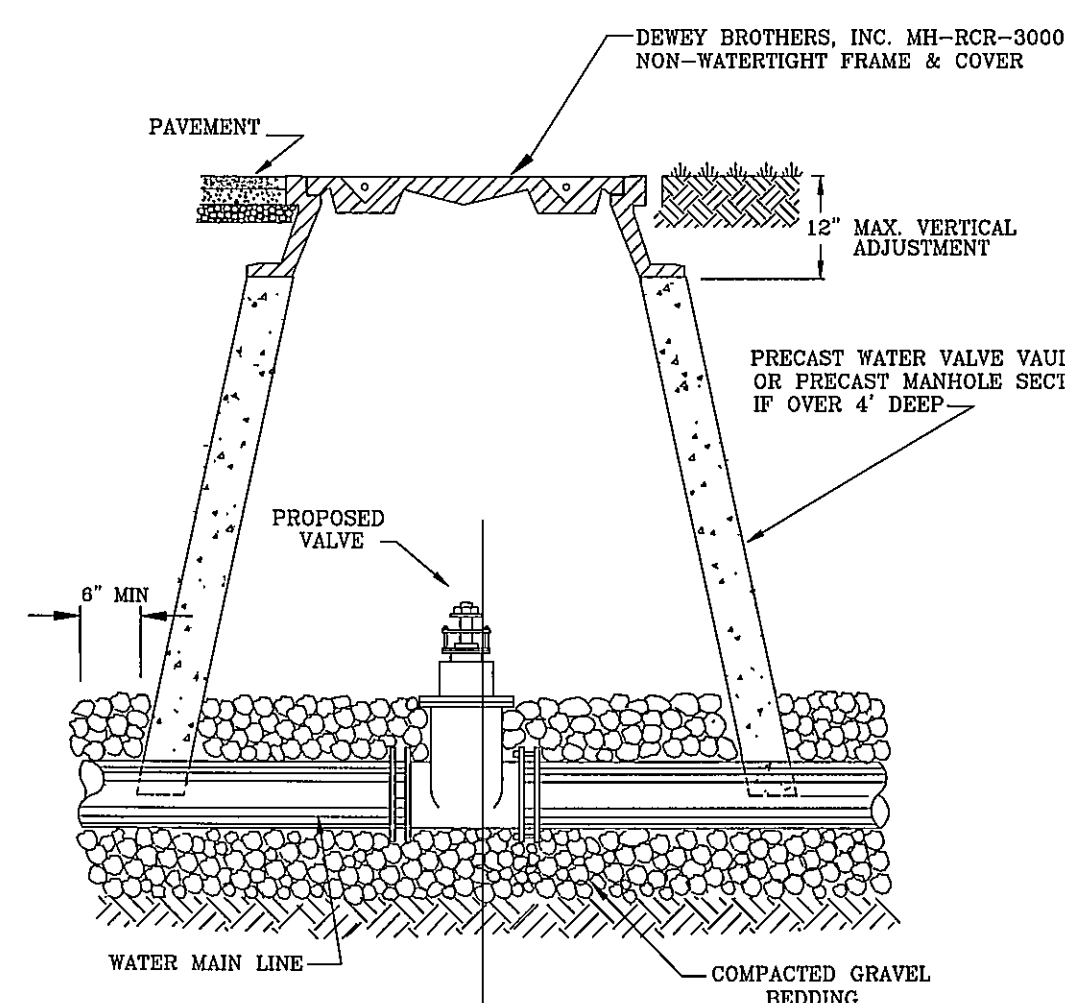


INSTALLATION DETAIL

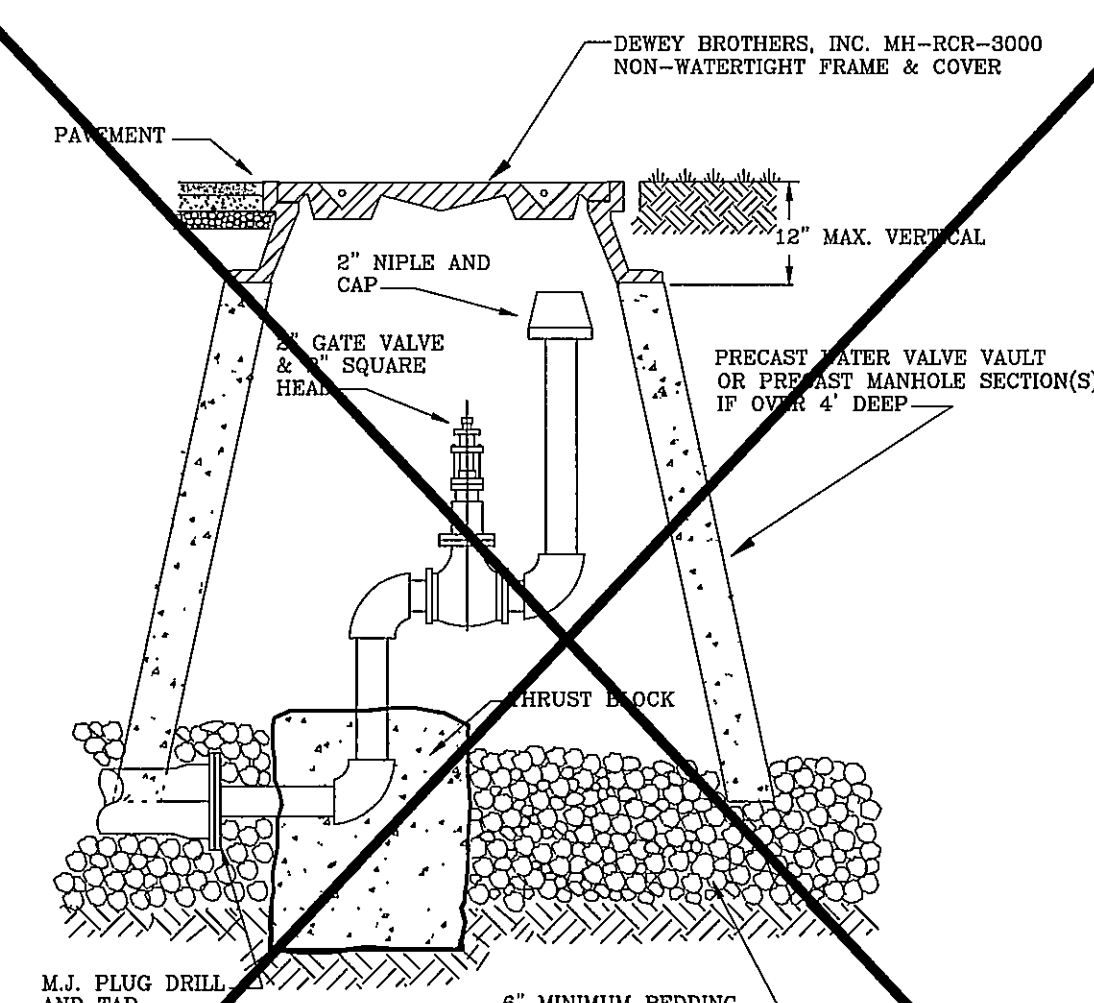
FOR ALL FRAMES AND COVERS



AUTOMATIC AIR
RELEASE ASSEMBLY

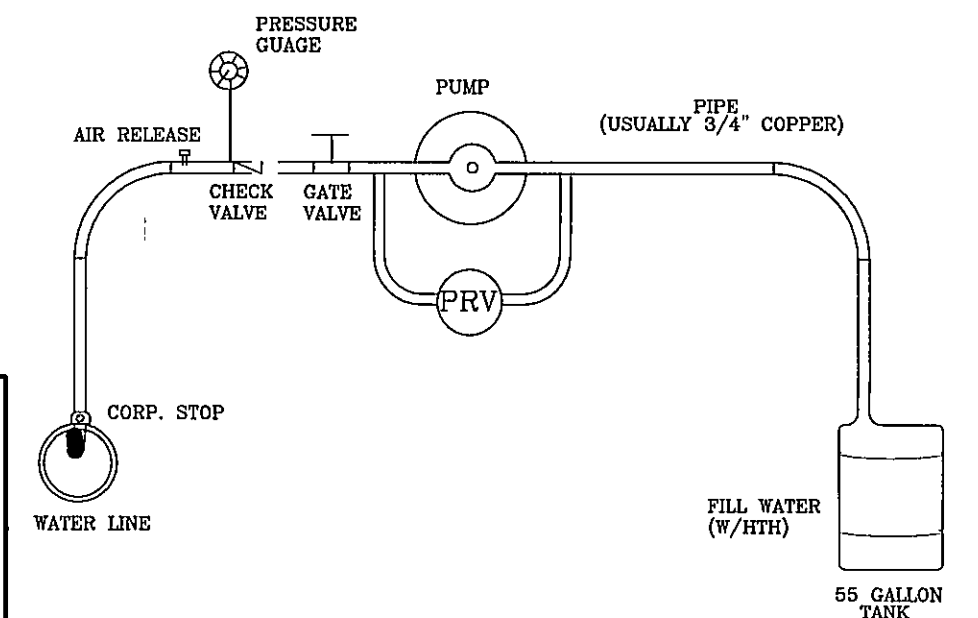


WATER LINE VALVE INSTALLATION

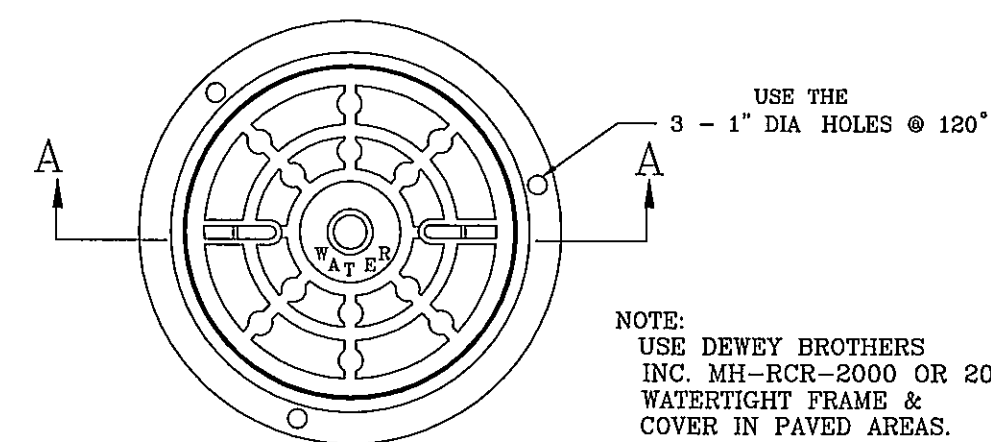


~~PERMANENT~~ END OF LINE

- 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 CUTTER, 6' MIN., 12' MAX. FROM EDGE OF PAVEMENT.
 - (4) AREA AROUND HYDRANT AT A RADIUS OF 4' TO BE APPROXIMATELY LEVEL AND UNOBSTRUCTED.

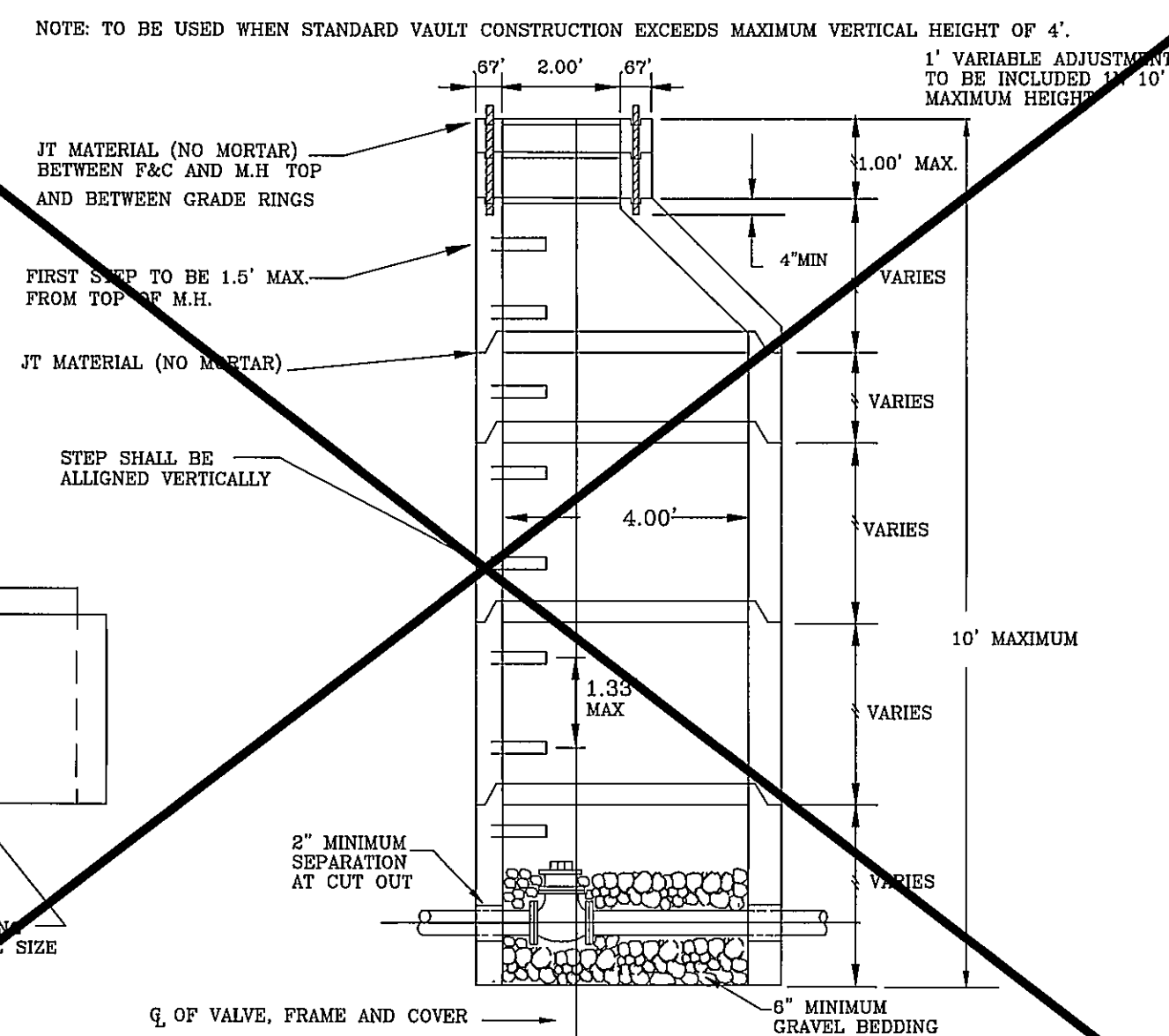


TYPICAL WATER PRESSURE TEST RIG

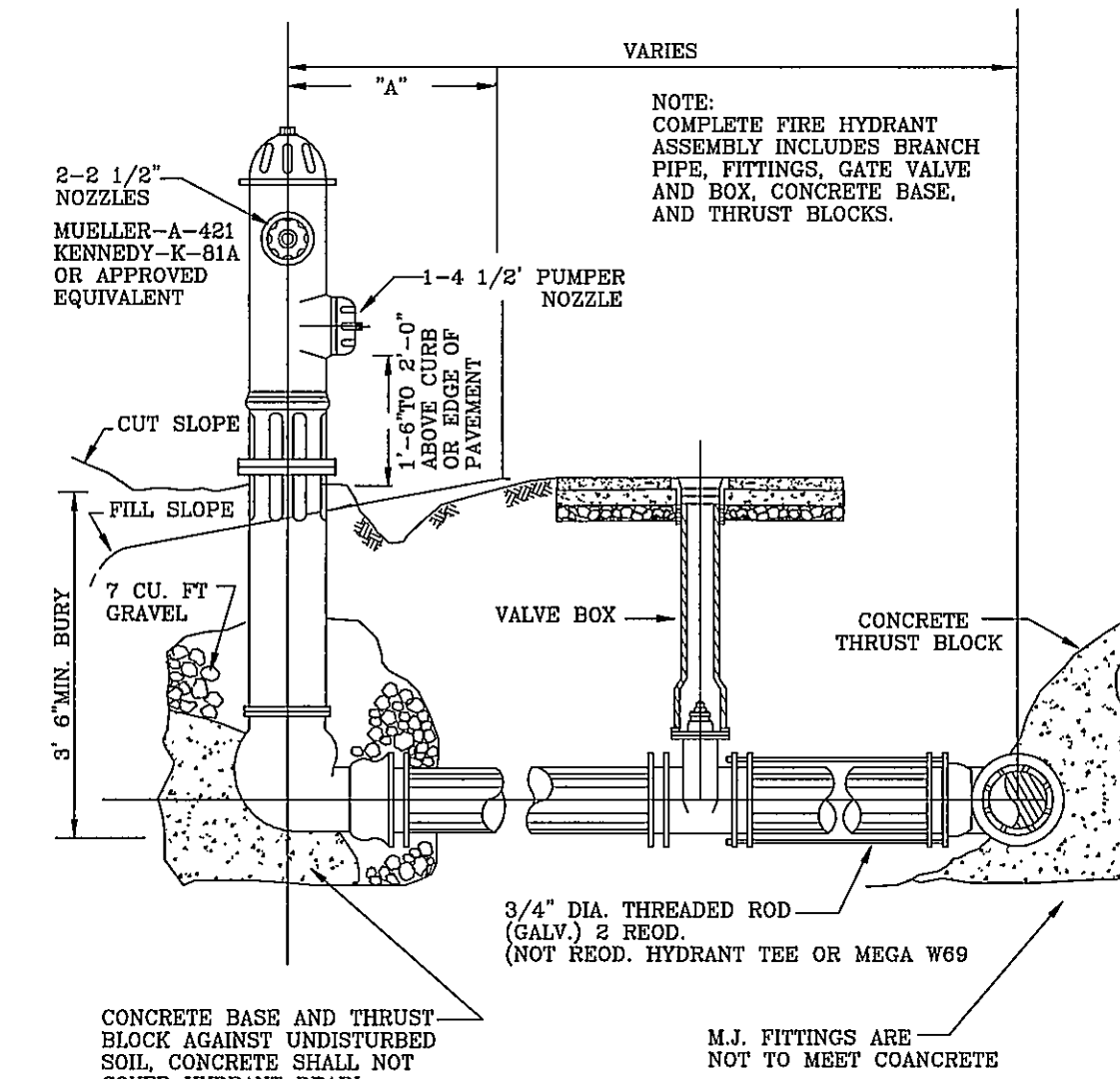


SECTION A-A

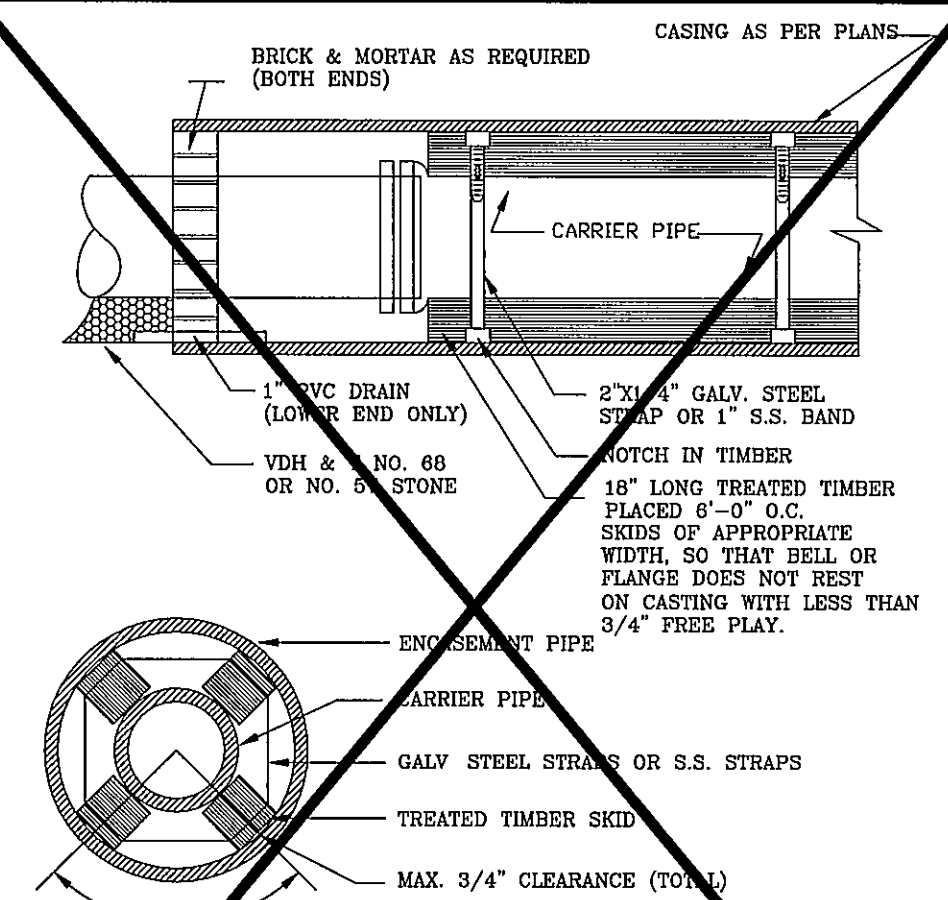
NOTE:
USE DEWEY BROTHERS
INC. MH-RCR-2000 OR 2001
WATERTIGHT FRAME &
COVER IN PAVED AREAS.



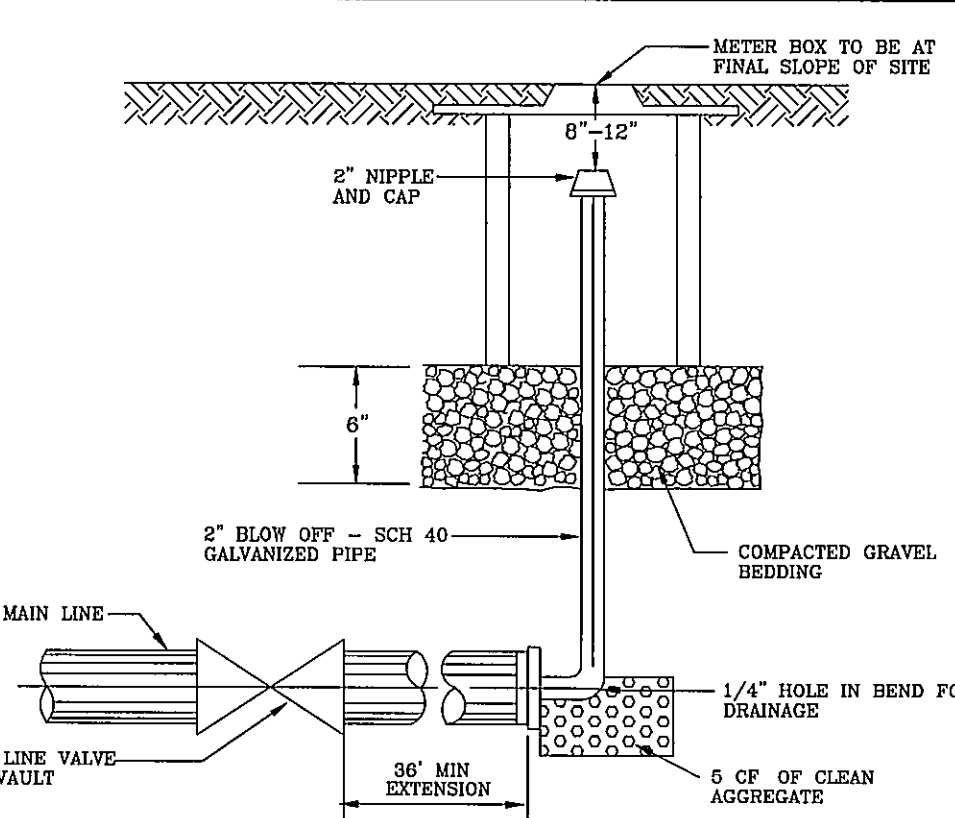
ALTERNATE VALVE VAULT (MANHOLE)



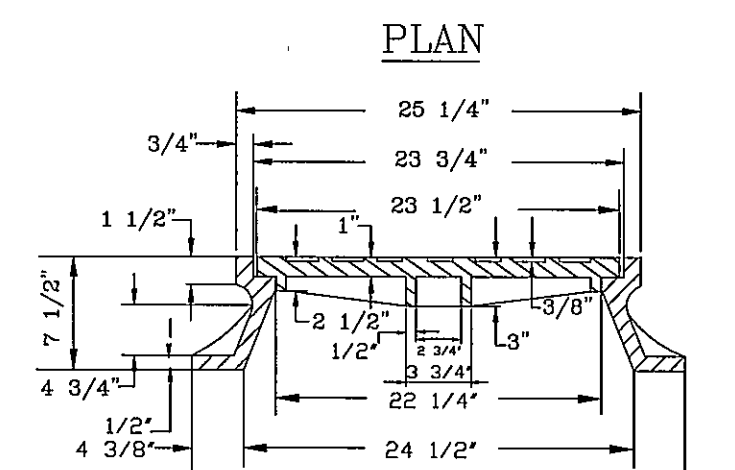
FIRE HYDRANT ASSEMBLY



PIPE SUPPORT IN CASING PIPE

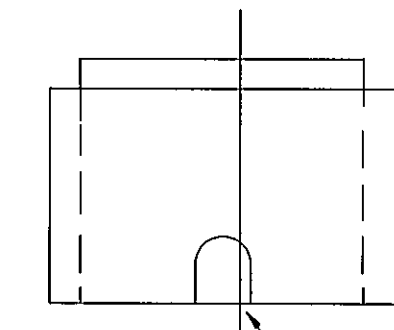


BLOW OFF ASSEMBLY FOR MAIN LINE
TEMPORARY TERMINATION



MANHOLE FRAME AND COVER

PAVED 2001EC
UNPAVED 2001(ABOVE)



MANUFACTURED OPENING
AS REQUIRED BY PIPE SIZE