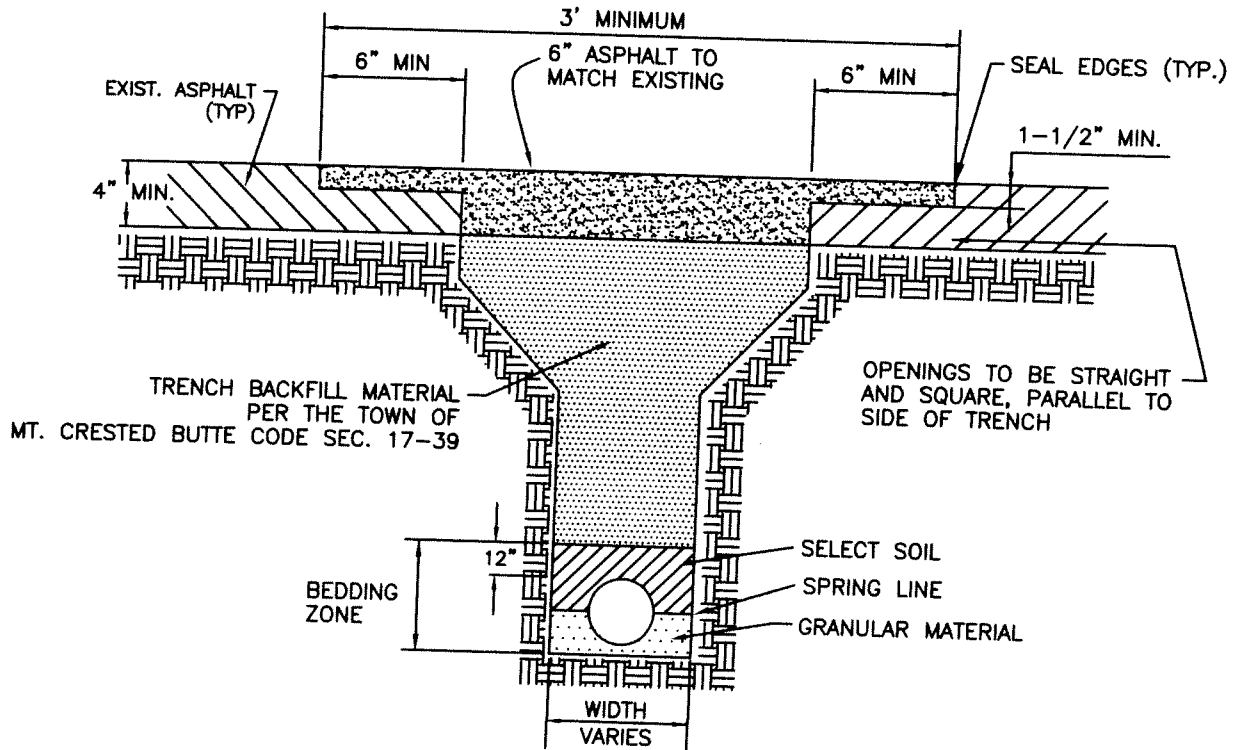


TYPICAL TRENCH - GRAVEL ROADWAYS AND EASEMENTS



TYPICAL TRENCH AND PAVEMENT REPLACEMENT

GENERAL NOTES

1. EXISTING PAVEMENT SHALL BE CUT WITH PAVEMENT SAW.
2. BEDDING MATERIAL SHALL EXTEND A MINIMUM OF 12-INCHES ABOVE OF PIPE.
3. GRANULAR MATERIAL SHALL BE A MINIMUM OF 4-INCHES BELOW PIPE INVERT.
4. PRIOR TO INSTALLATION OF PATCH, ALL EDGES OF EXISTING ASPHALT SHALL HAVE A TACK COAT APPLIED.
5. ALL SEAMS BETWEEN NEW AND EXISTING PAVEMENT SHALL BE SEALED WITH AN ASPHALT TACK COAT.
6. PAVEMENT SECTION SHALL MATCH EXISTING. NOT LESS THAN 4" OF FULL DEEP ASPHALT SHALL BE USED TO FILL A STREET CUT REGARDLESS OF THE EXISTING CROSS SECTION.
7. REFER TO THE TOWN OF MT. CRESTED BUTTE CODE SECTION 17-39.



TYPICAL TRENCH AND SURFACE REPLACEMENT

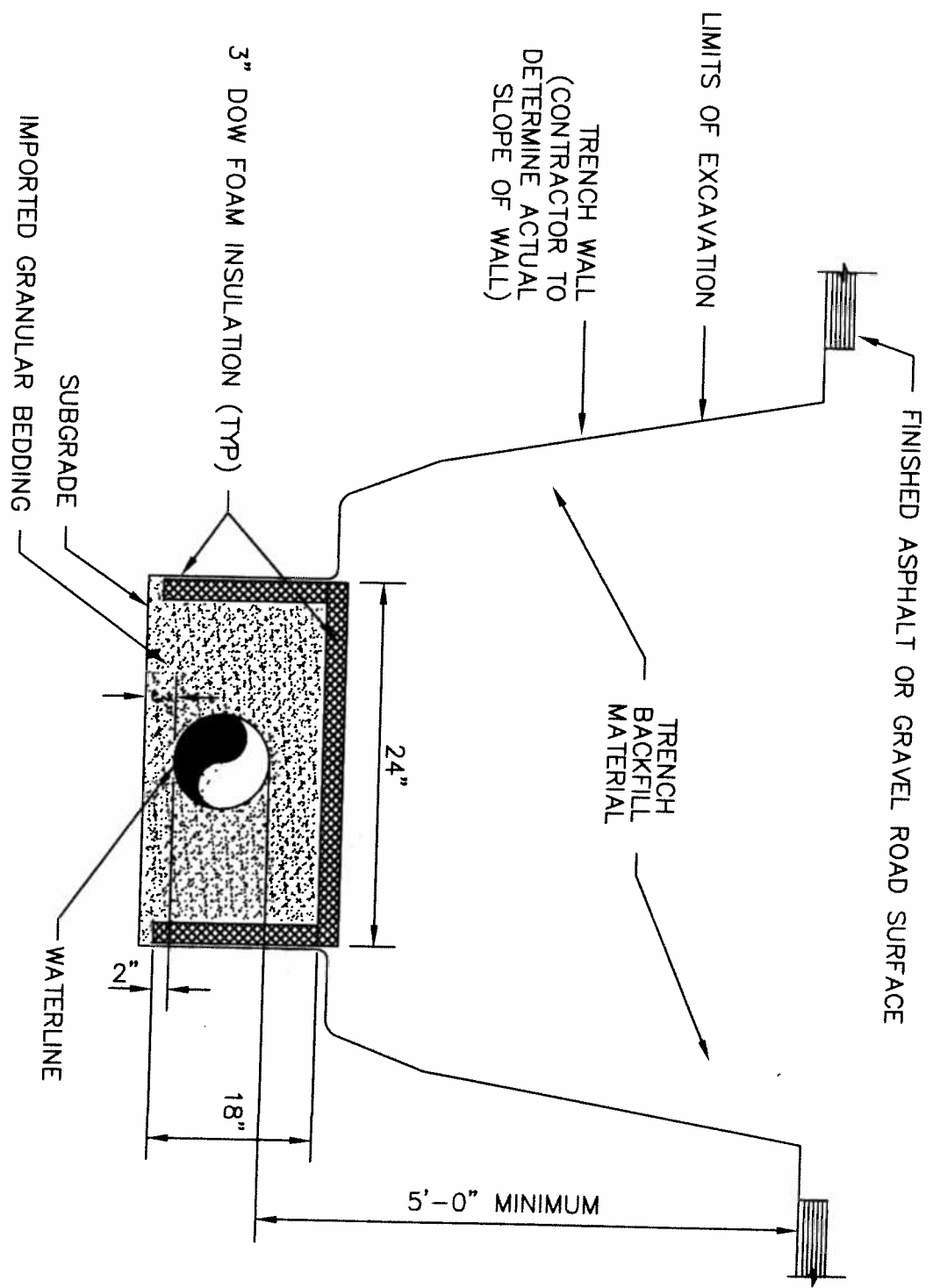
APPROVED _____ FLG _____

DATE APRIL 2008

DWG PAV-WAT

DETAIL W-1

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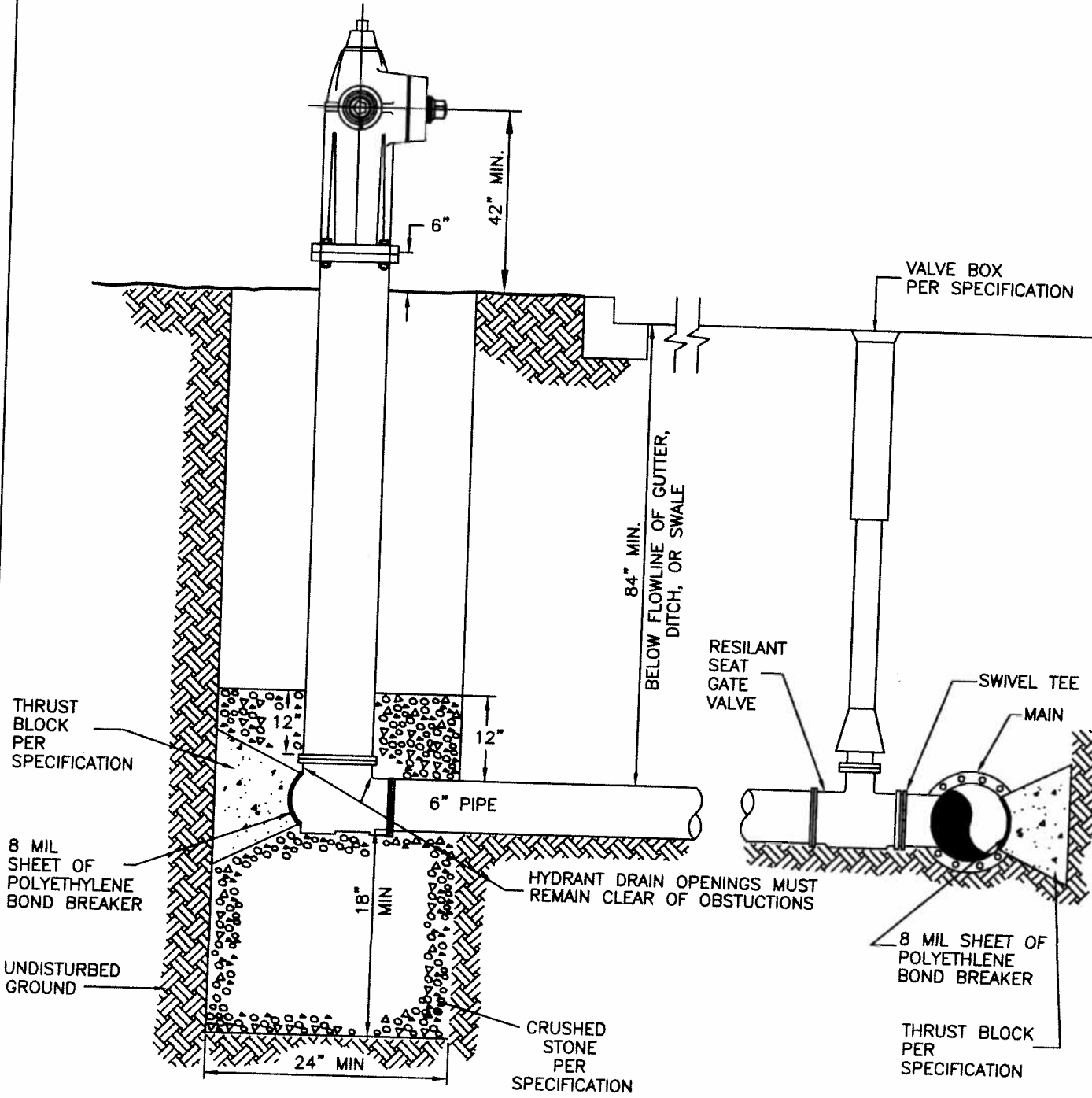
NTS

TYPICAL INSULATED TRENCH DETAIL



APPROVED _____	FLG	DATE JANUARY 2008	DWG INS-TRENCH	DETAIL W-2
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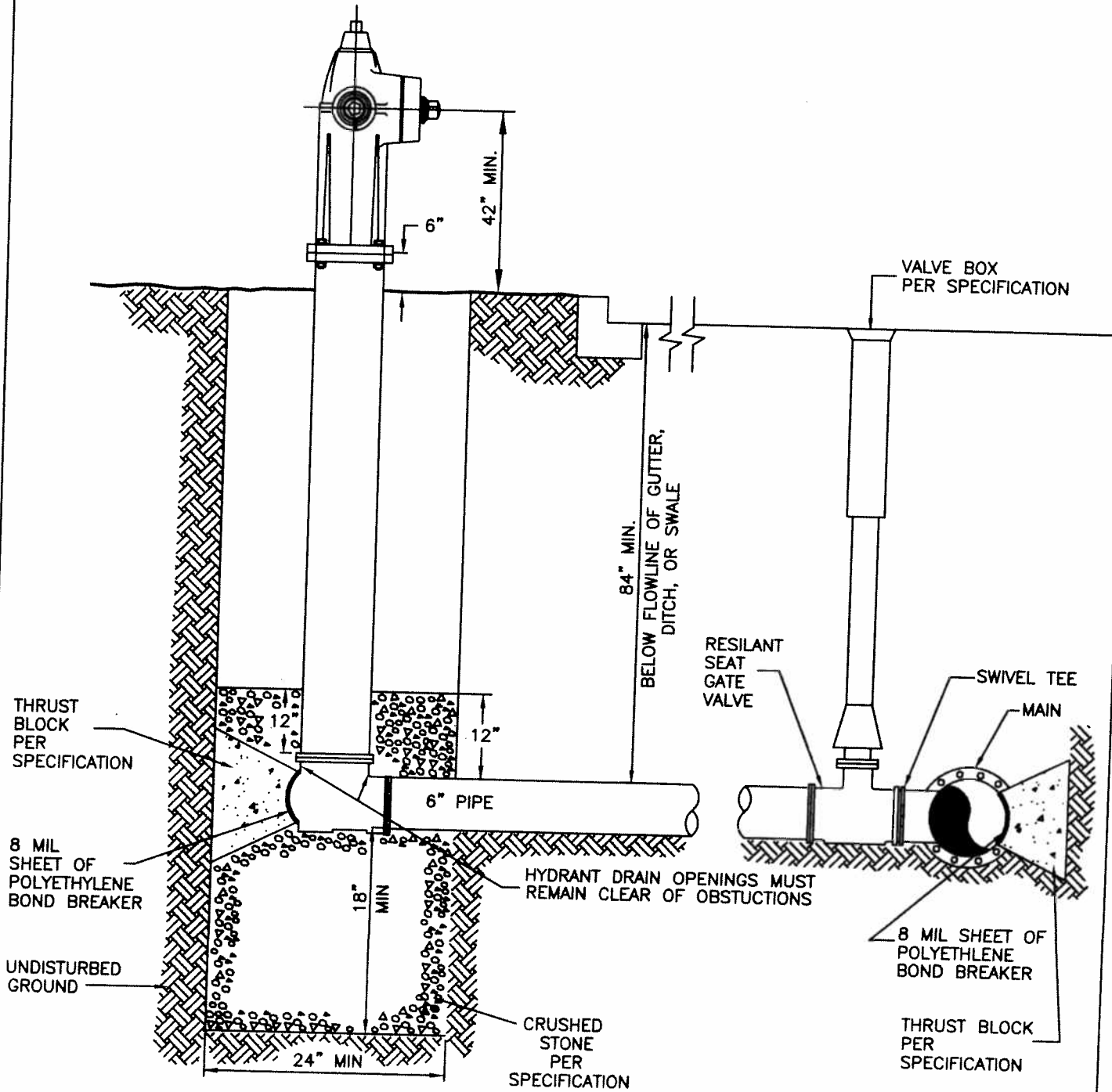


FIRE-HYDRANT DETAIL



APPROVED _____ FLG _____	DATE JANUARY 2008	DWG FIRE-HYD	DETAIL W-3
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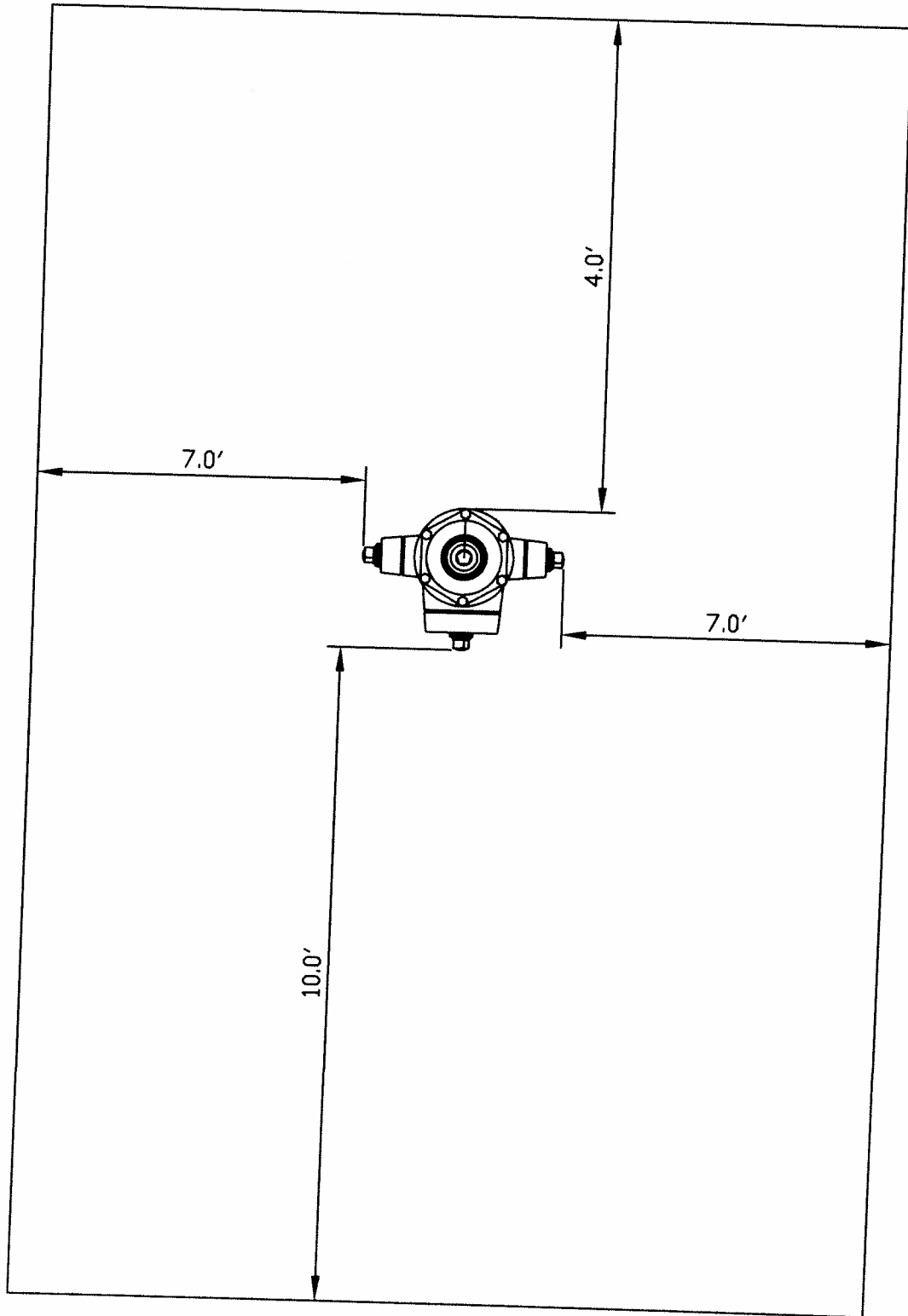
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FIRE-HYDRANT DETAIL

APPROVED _____	FLG _____	DATE JANUARY 2008	DWG FIRE-HYD	DETAIL W-3
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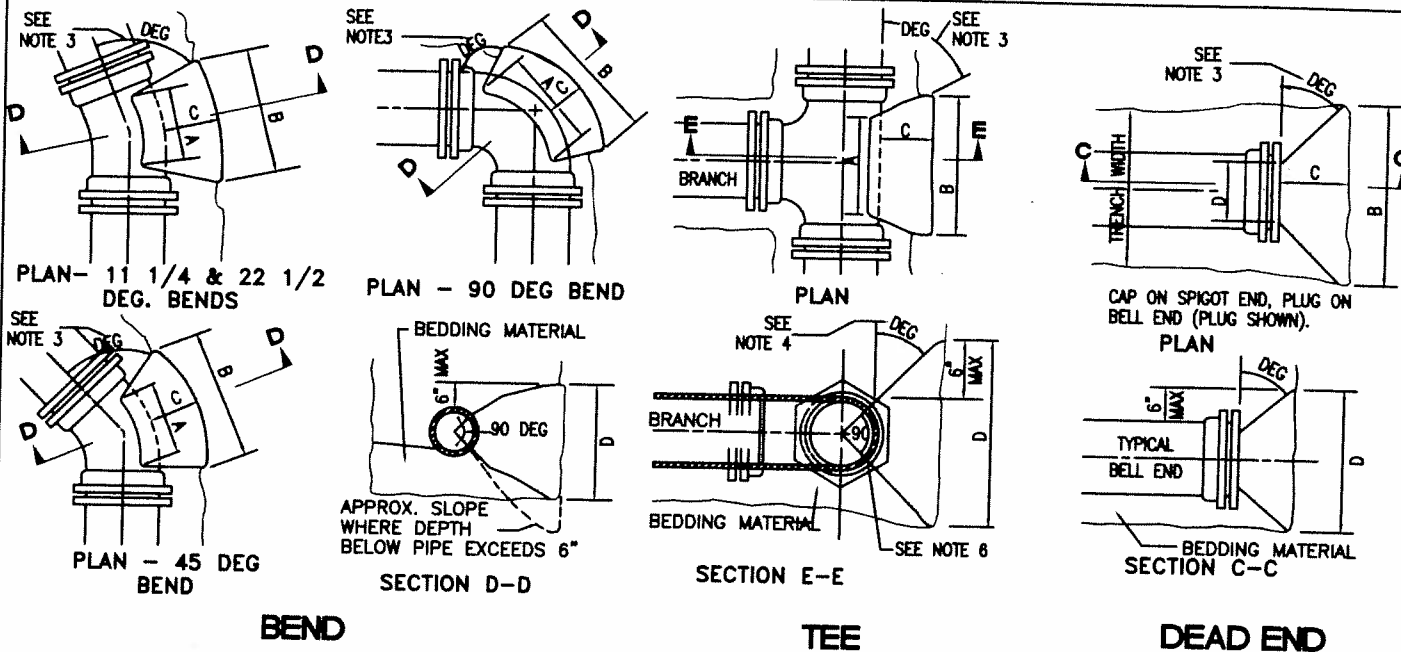
FIRE-HYDRANT CLEARANCE

APPROVED _____ FLG _____

DATE JANUARY 2008

DWG FIRE-HYD-CL

DETAIL W-4



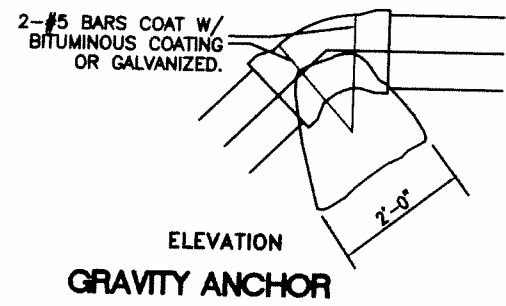
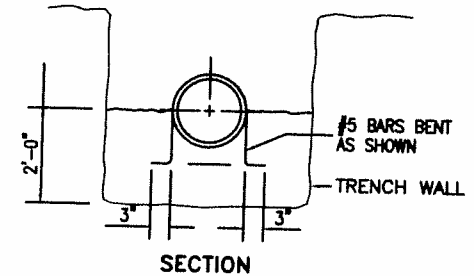
MINIMUM THRUST BLOCK DIMENSIONS
0 PSI TO 100 PSI

PIPE SIZE	DEAD END		TEE		90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND	
	B	D	B	D	B	D	B	D	B	D	B	D
8	2'-0"	1'-0"	2'-0"	1'-0"	2'-0"	1'-6"	2'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
8	2'-0"	1'-6"	2'-0"	1'-6"	2'-6"	2'-0"	2'-0"	1'-6"	2'-0"	1'-0"	2'-0"	1'-0"
10	2'-6"	2'-0"	2'-6"	2'-0"	3'-0"	2'-4"	2'-0"	2'-0"	2'-0"	1'-0"	1'-0"	1'-0"
12	3'-0"	2'-4"	3'-0"	2'-4"	3'-4"	3'-0"	2'-6"	2'-0"	2'-0"	1'-6"	2'-0"	1'-0"

100PSI TO 200PSI

PIPE SIZE	DEAD END		TEE		90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND	
	B	D	B	D	B	D	B	D	B	D	B	D
8	2'-0"	2'-0"	2'-0"	2'-0"	2'-6"	2'-4"	2'-0"	1'-6"	1'-6"	1'-0"	1'-0"	1'-0"
8	3'-0"	2'-2"	3'-0"	2'-2"	3'-3"	2'-10"	2'-6"	2'-0"	2'-0"	1'-4"	1'-6"	1'-0"
10	3'-4"	3'-0"	3'-4"	3'-0"	4'-0"	3'-6"	3'-0"	2'-6"	2'-0"	2'-0"	2'-0"	1'-0"
12	4'-0"	3'-6"	4'-0"	3'-6"	5'-6"	3'-7"	3'-6"	3'-0"	2'-6"	2'-2"	2'-0"	1'-6"

* ASSUMES SOIL BEARING PRESSURE OF 2000 PSF



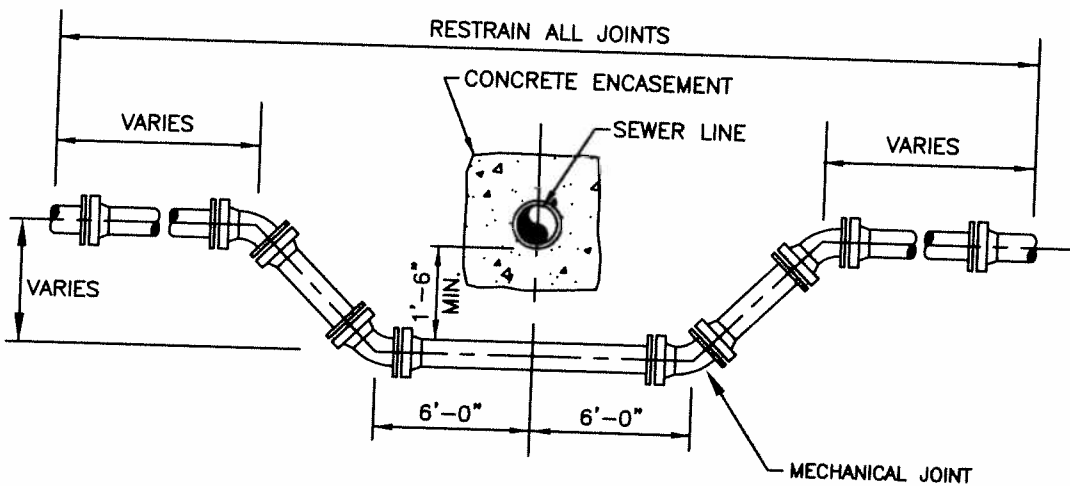
NOTES :

- WHERE A HORIZONTAL BEND IS MADE, THE PIPING SHALL BE RESTRAINED BY MEANS OF A THRUST BLOCK AS DETAILED. WHERE VERTICAL OFF-SETS ARE MADE, THE TOP BEND SHALL BE RESTRAINED BY RESTRAINING RODS AND STRAPS, CONCRETE THRUST ANCHOR BLOCKS AND RESTRAINING RODS, OR BOTH. THE BOTTOM BENDS SHALL BE RESTRAINED BY THRUST BLOCKS AS DETAILED.
- "A", "B", & "D" DIMENSIONS SHALL BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH THE MECHANICAL JOINTS OR THE M.J. BOLTS.
- "C" DIMENSIONS SHALL BE LARGE ENOUGH TO MAKE ANGLE (DEG) EQUAL TO OR LARGER THAN 45°.
- ANGLE (DEG) SHALL BE EQUAL TO OR LARGER THAN 45°.
- "B" & "D" DIMENSIONS SHALL PROVIDE REQUIRED BLOCKING AREA & BE DIMENSION LISTED IN TABLE FOR WORKING PRESSURE.
- CONCRETE SHALL BEAR ON ONE COMPLETE QUADRANT OF PIPE AS A MINIMUM; SEE DETAIL.
- WHERE THRUST BLOCKS ARE NOT POSSIBLE BECAUSE OF POOR SOIL CONDITIONS OR LACK OF ROOM, STRAPPING SHALL BE PERMITTED. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW, A LIST OF RESTRAINT MATERIAL, DETAILS OF THE RESTRAINT & METHODS OF CONSTRUCTION, AND SIZES OF ALL RESTRAINT MEMBERS HE DESIRES TO USE FOR THRUST ANCHOR BLOCKS, RESTRAINING RODS & STRAPS.
- THE THRUST DIMENSIONS SHOWN IN TABLES ARE CALCULATED USING A SOIL BEARING CAPACITY OF 2000 PSF. IF GREATER SOIL BEARING CAPACITY IS AVAILABLE, THE CONTRACTOR MAY, AFTER REVIEW BY THE ENGINEER, REDUCE THE THRUST BLOCK DIMENSIONS SHOWN. THE THRUST BLOCK AREA SHALL BE INCREASED IF THE SOIL IS NOT CAPABLE OF PROVIDING 2000 PSF SOIL BEARING CAPACITY.
- CONCRETE SHALL BE CLASS BZ, CONFORMING TO SECTION 600 OF "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", COLORADO STATE DEPARTMENT OF HIGHWAYS.

THRUST BLOCK DETAILS



APPROVED _____ FLG _____ DATE APRIL 1996 _____ DWG THST-BLK _____ DETAIL W-5 _____



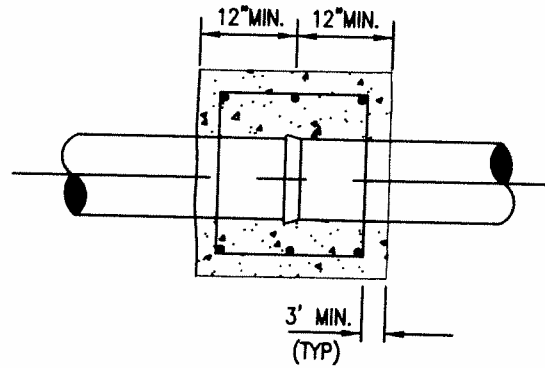
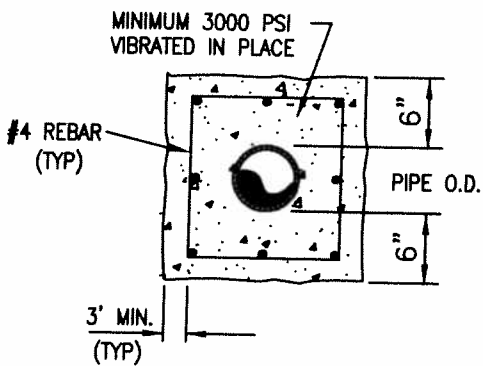
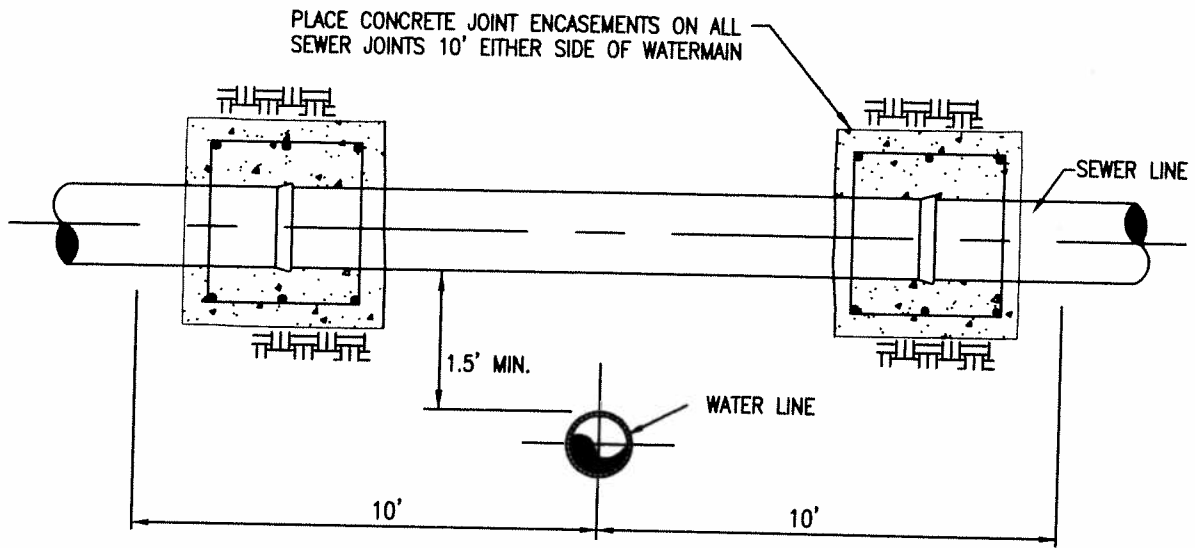
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VERTICAL REALIGNMENT OF WATERLINE

APPROVED _____	FLG _____	DATE APRIL 1996	DWG WAT-LOWR	DETAIL W-6
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BAR SIZING AND LOCATION TABLE

PIPE I.D.	NO. OF LONGITUDINAL BARS AND LOCATION		
8-15 IN.	8 - NO. 4 BARS	3 EACH	SIDE
18 IN.	8 - NO. 4 BARS	3 EACH	SIDE



SEWER JOINT ENCASUREMENT

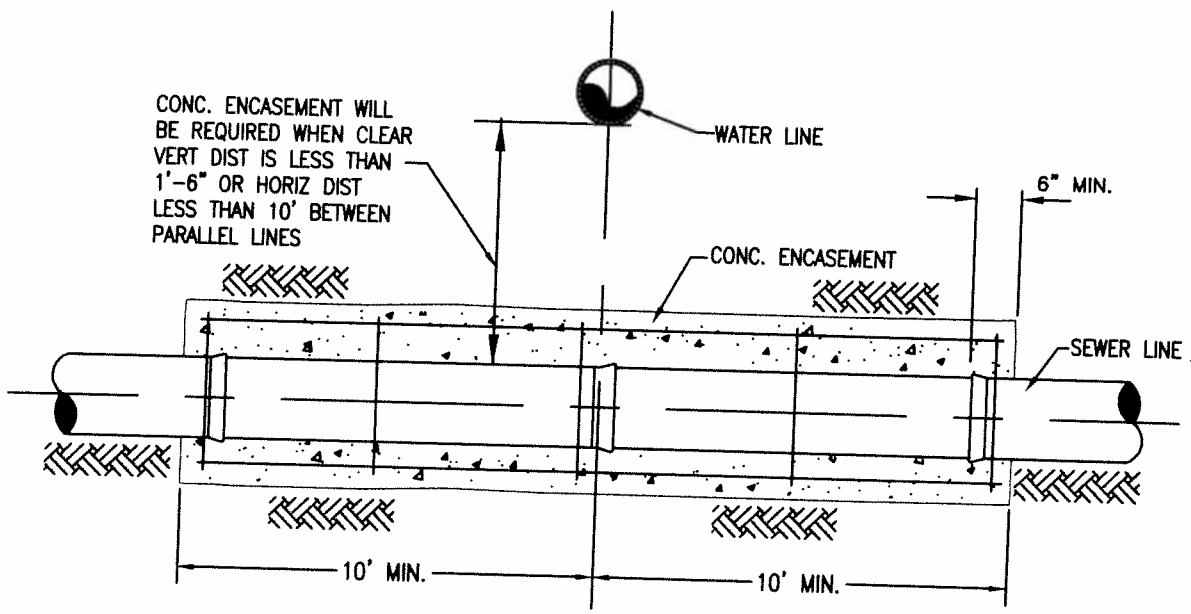
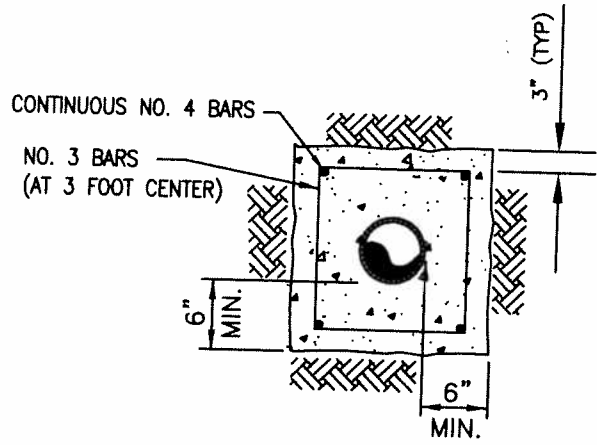
APPROVED _____ FLG _____

DATE JANUARY 2008

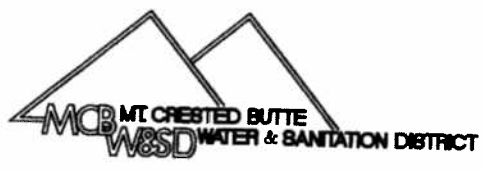
DWG SWJT-ENC

DETAIL W-7

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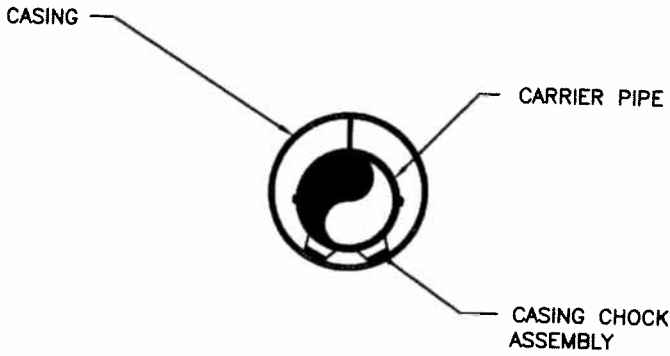


NOTE:
CONCRETE ENCASEMENT IS REQUIRED IN ALL CASES WHERE SEWER LINE IS ABOVE WATER LINE OR UNDER A WATER WAY.

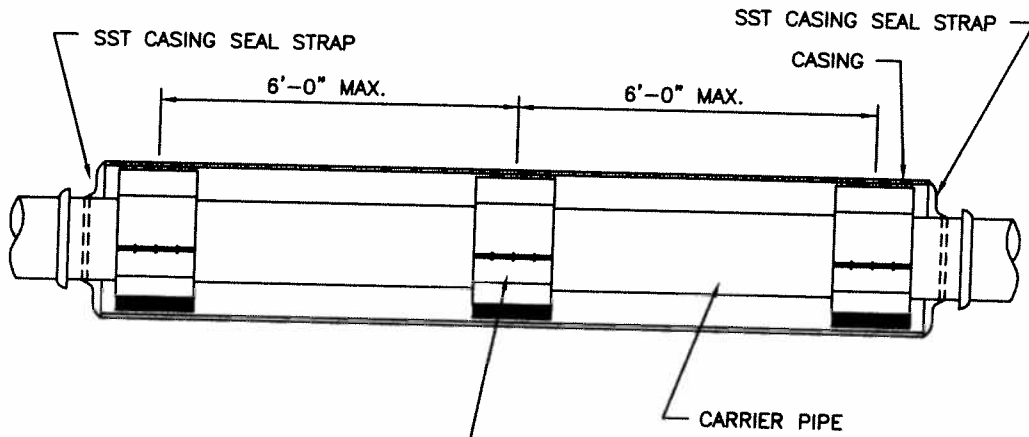


CONCRETE ENCASEMENT DETAIL

APPROVED _____	FLG	DATE JANUARY 2008	DWG CONC-ENC	DETAIL W-8
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END SECTION



POWERSEAL CASING CHOCKS BY
POWERSEAL PIPELINE PRODUCTS CORP.

PIPE CASING DETAIL

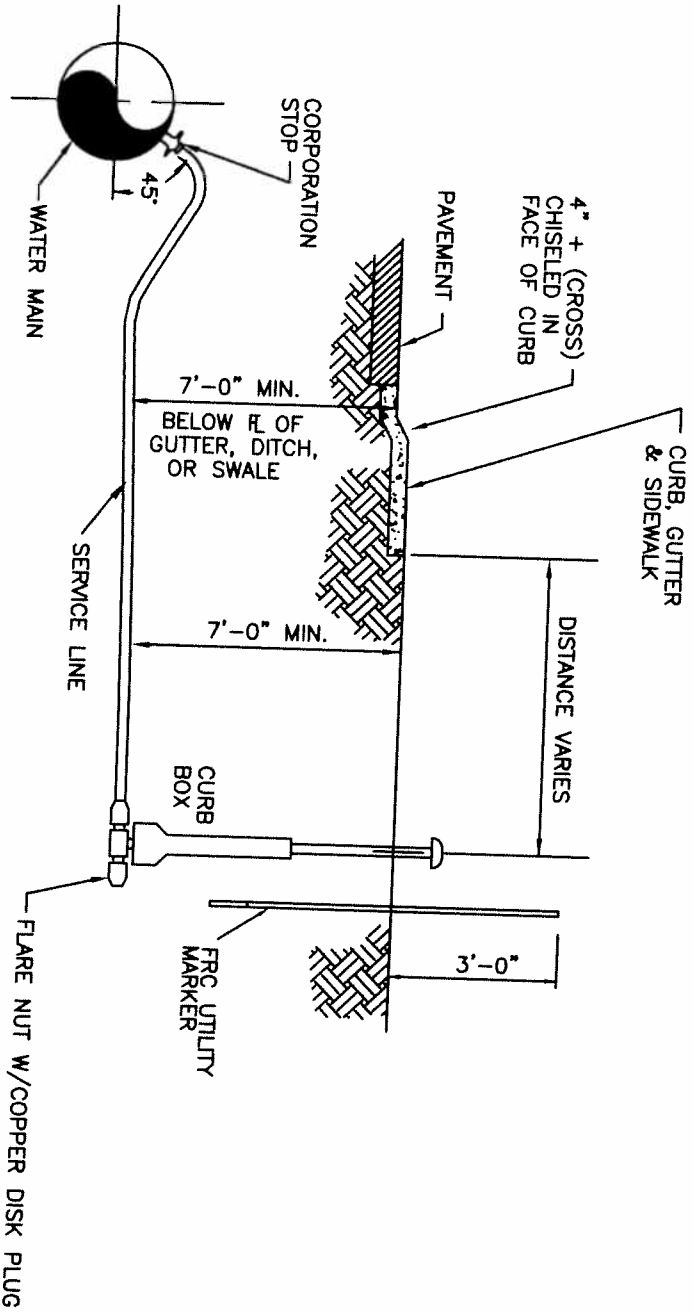
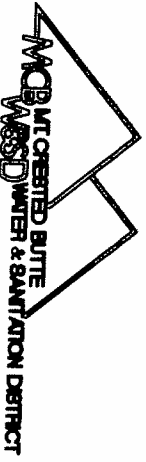


APPROVED _____ FLG _____

DATE APRIL 1996

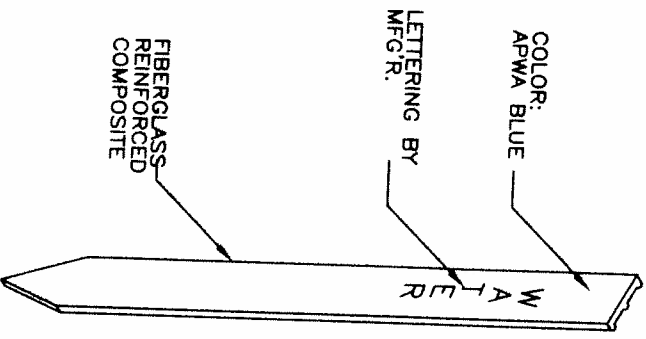
DWG PIPE-CAS

DETAIL W-9



- GEN NOTES:
1. FOR 3/4" AND 1" SERVICES, USE DIRECT TAP AS SHOWN.
 2. FOR 1 1/2" AND 2" SERVICES, INSTALL WITH TAPPED TEE AND CORPORATION STOP AT TIME OF CONSTRUCTION OR USE A TAPPING SADDLE.
 3. DISTRICT'S RESPONSIBILITY FOR MAINTENANCE SHALL BE THE WATER MAIN. OWNER'S RESPONSIBILITY SHALL BE THE ENTIRE LENGTH OF THE SERVICE LINE, INCLUDING THE CORPORATION STOP AND CURB STOP, FROM THE MAIN TO THE BUILDING.
 4. NO COUPLINGS SHALL BE ALLOWED BETWEEN CURB STOP AND METER SETTER.
 5. SERVICE SHALL BE TYPE K COPPER.

UTILITY MARKER



WATER SERVICE PRETAP DETAIL

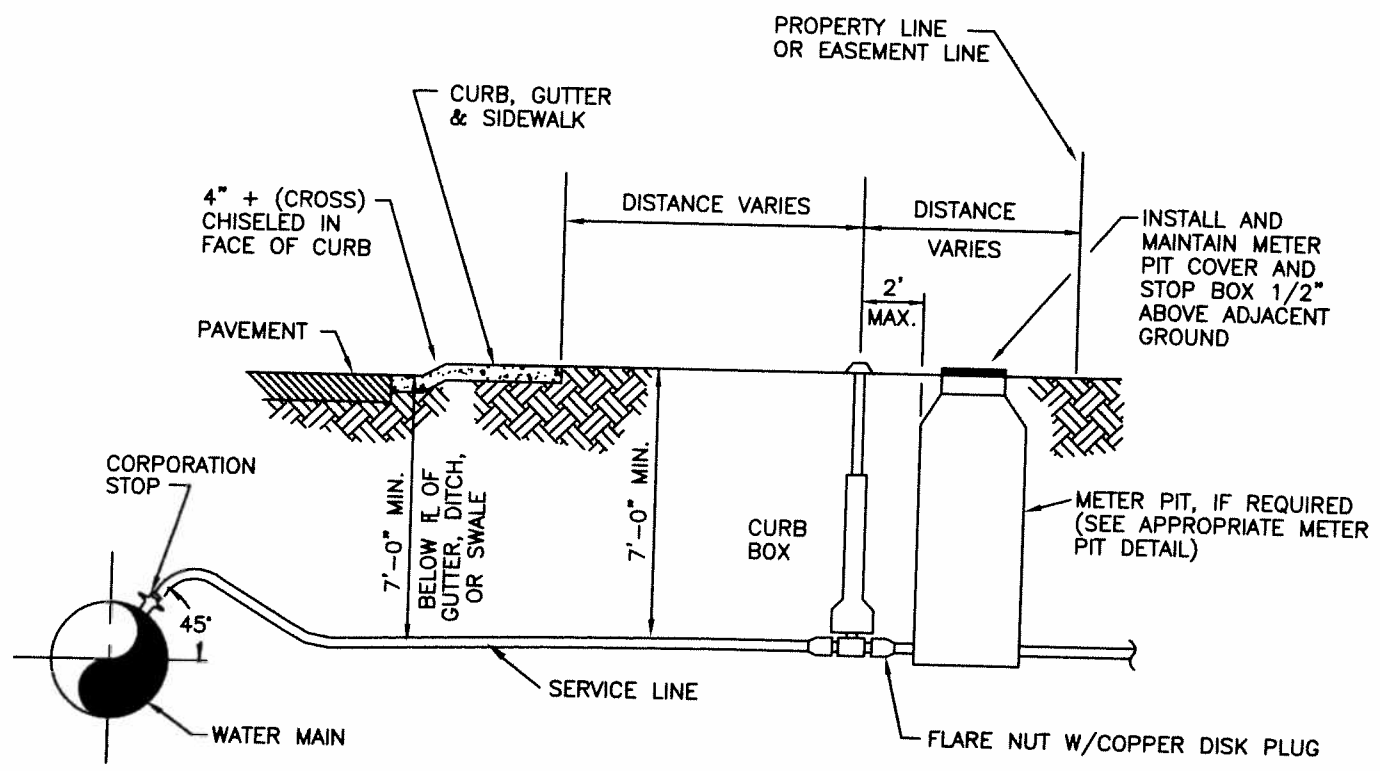
APPROVED _____ FLG _____

DATE AUG 2007

DWG WATSV-ST

DETAIL W-10

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GEN NOTES:

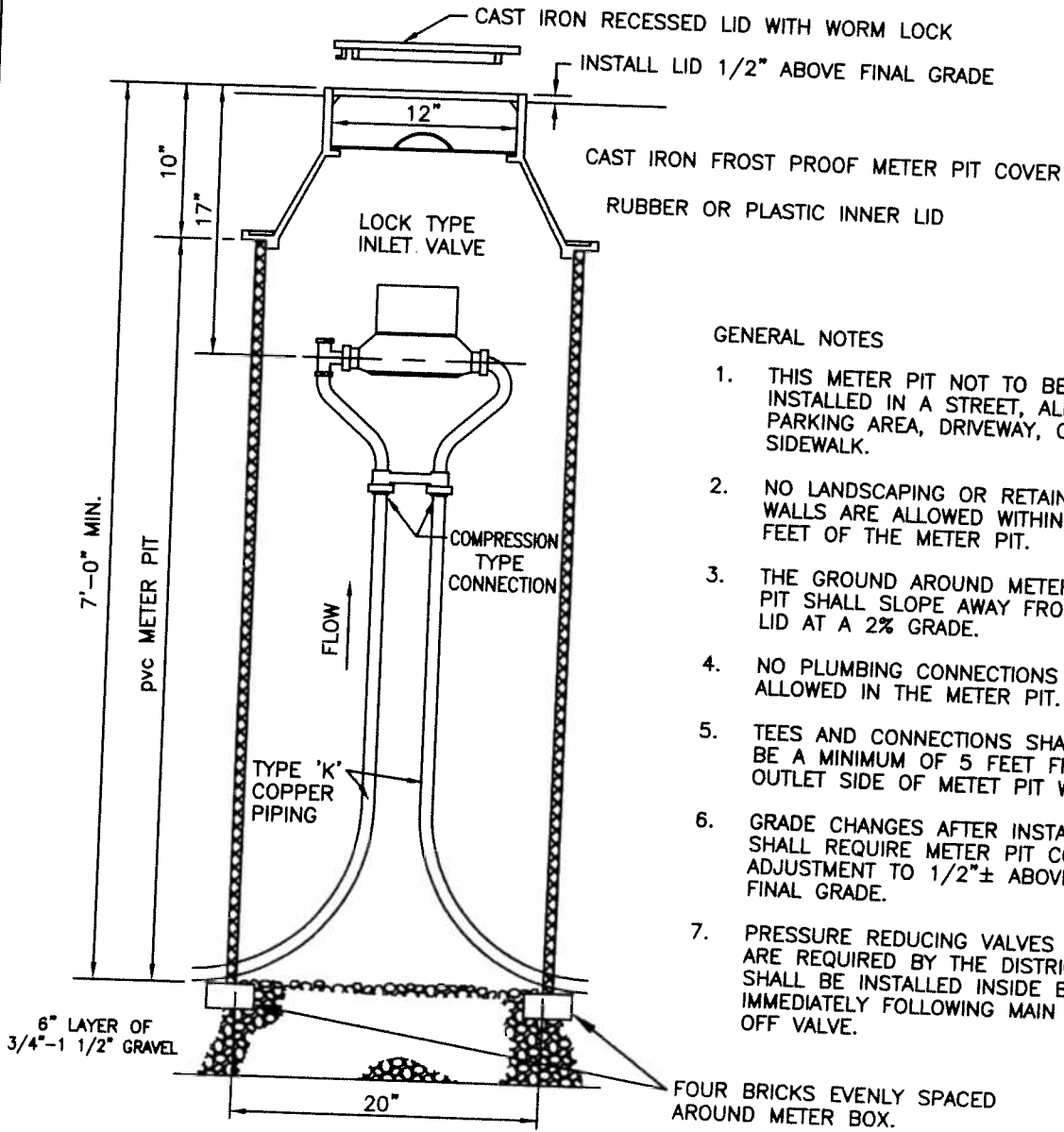
1. FOR 3/4" AND 1" SERVICES, USE DIRECT TAP AS SHOWN.
2. FOR 1 1/2" AND 2" SERVICES, INSTALL WITH TAPPED TEE AND CORPORATION STOP AT TIME OF CONSTRUCTION OR USE A TAPPING SADDLE.
3. DISTRICT'S RESPONSIBILITY FOR MAINTENANCE SHALL BE THE WATER MAIN. OWNER'S RESPONSIBILITY SHALL BE THE ENTIRE LENGTH OF THE SERVICE LINE, INCLUDING THE CORPORATION STOP AND CURB STOP, FROM THE MAIN TO THE BUILDING.
4. NO COUPLINGS SHALL BE ALLOWED BETWEEN CURB STOP AND METER SETTER.
5. SERVICE SHALL BE TYPE K COPPER FROM CORPORATION STOP TO 5 FEET PAST METER PIT (MIN.).



WATER SERVICE DETAIL

APPROVED _____	FLG	DATE NOV 1999	DWG WAT-SERV	DETAIL W-11
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GENERAL NOTES

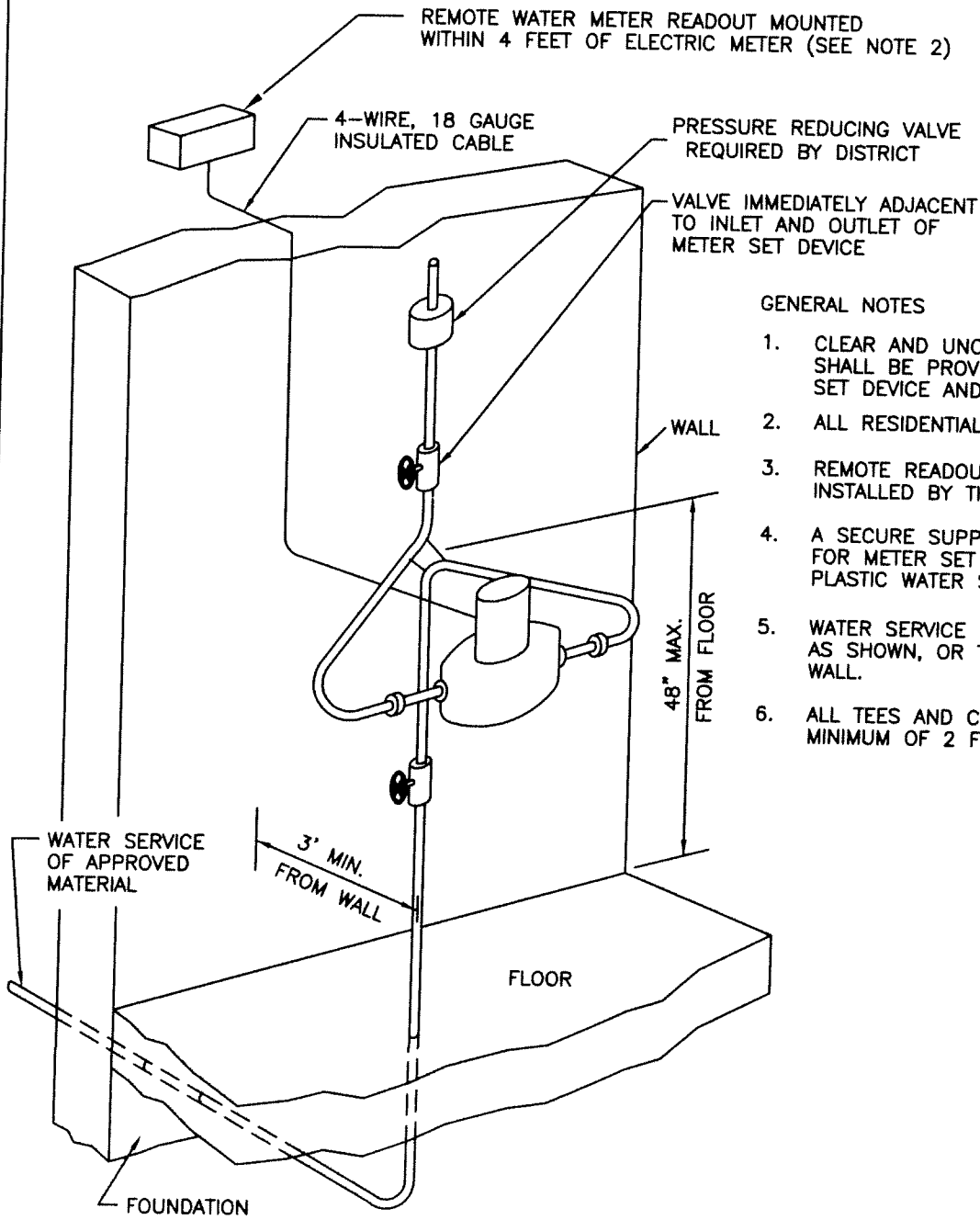
1. THIS METER PIT NOT TO BE INSTALLED IN A STREET, ALLEY, PARKING AREA, DRIVEWAY, OR SIDEWALK.
2. NO LANDSCAPING OR RETAINING WALLS ARE ALLOWED WITHIN 4 FEET OF THE METER PIT.
3. THE GROUND AROUND METER PIT SHALL SLOPE AWAY FROM LID AT A 2% GRADE.
4. NO PLUMBING CONNECTIONS ARE ALLOWED IN THE METER PIT.
5. TEES AND CONNECTIONS SHALL BE A MINIMUM OF 5 FEET FROM OUTLET SIDE OF METER PIT WALL.
6. GRADE CHANGES AFTER INSTALLATION SHALL REQUIRE METER PIT COVER ADJUSTMENT TO 1/2"± ABOVE FINAL GRADE.
7. PRESSURE REDUCING VALVES THAT ARE REQUIRED BY THE DISTRICT SHALL BE INSTALLED INSIDE BUILDING IMMEDIATELY FOLLOWING MAIN SHUT OFF VALVE.



STANDARD EXTERIOR SETTING FOR 3/4" AND 1" WATER METERS

APPROVED _____	FLG _____	DATE APRIL 1996	DWG EX-WAT-M	DETAIL W-12
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GENERAL NOTES

1. CLEAR AND UNOBSTRUCTED ACCESS SHALL BE PROVIDED TO THE METER SET DEVICE AND VALVES.
2. ALL RESIDENTIAL UNITS REQUIRE METERS.
3. REMOTE READOUT AND WIRING TO BE INSTALLED BY THE DISTRICT.
4. A SECURE SUPPORT SHALL BE REQUIRED FOR METER SET DEVICES INSTALLED ON PLASTIC WATER SERVICES LINES.
5. WATER SERVICE MAY ENTER THROUGH FLOOR AS SHOWN, OR THROUGH THE BASEMENT WALL.
6. ALL TEES AND CONNECTIONS SHALL BE A MINIMUM OF 2 FEET PAST OUTLET VALVE.



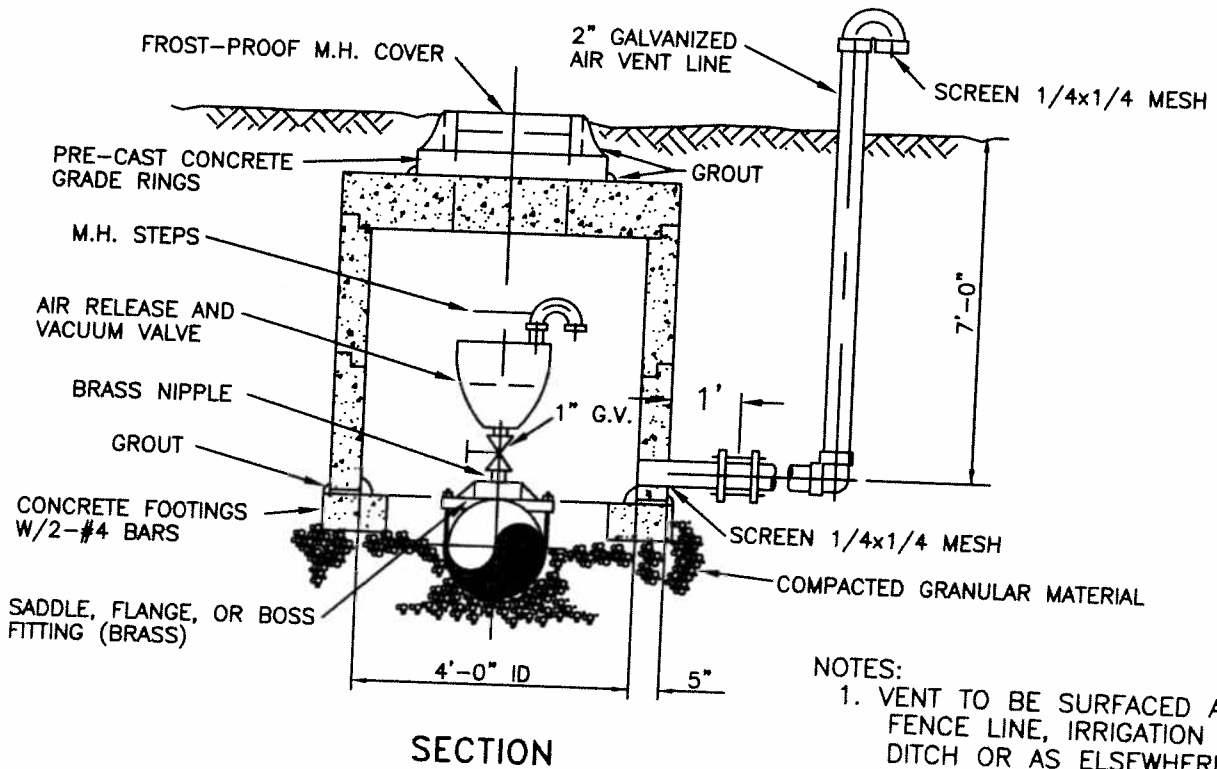
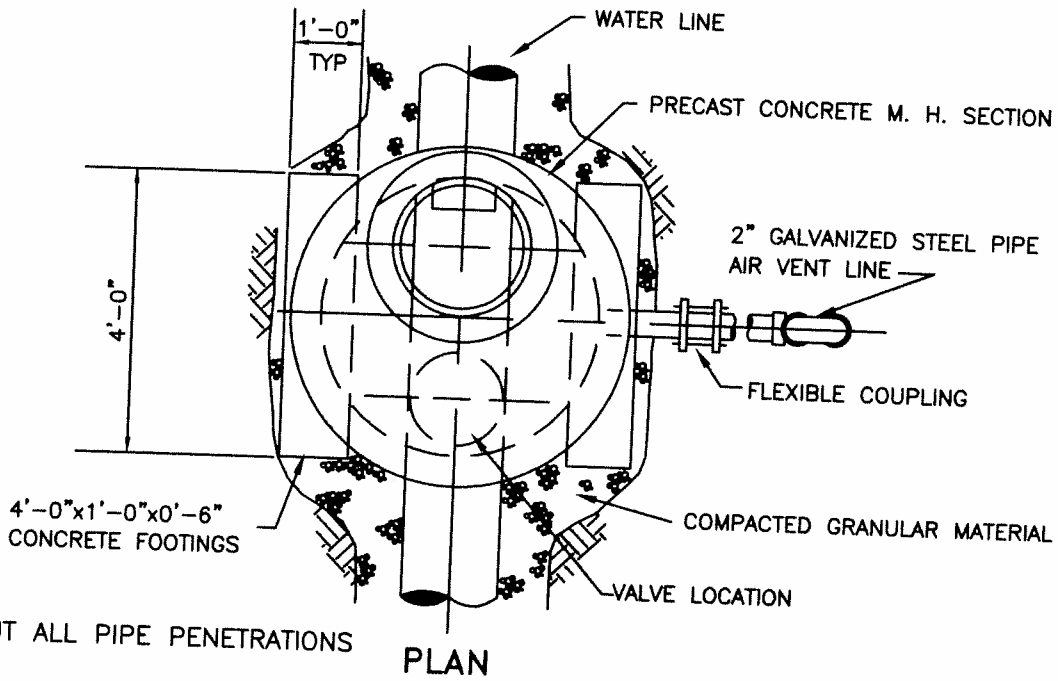
**STANDARD INTERIOR SETTING FOR
3/4" AND 1" WATER METERS**

APPROVED _____ FLG _____

DATE APRIL 1996

DWG IN-WAT-M

DETAIL W-13



AIR RELEASE AND VACUUM VALVE WITH VAULT



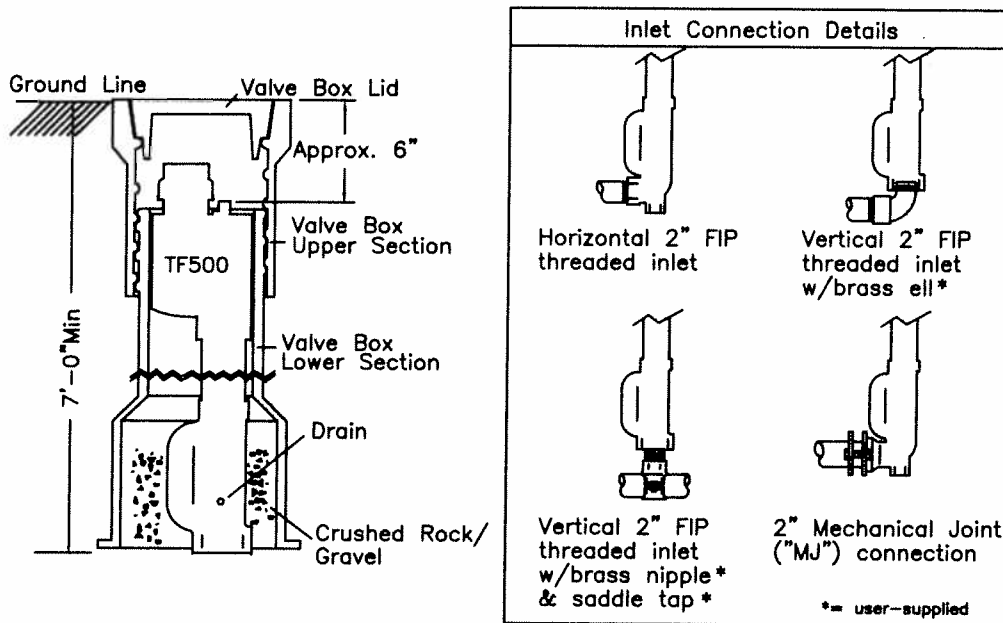
APPROVED _____ FLG _____

DATE APRIL 1996

DWG AIR-VAC

DETAIL W-14

TF500 HYDRANT



Hydrant depth shall be as indicated, with (2" Vertical FIP/2" Horizontal FIP / 2" MJ) inlet and 2" NPT nozzle outlet. Hydrant shall fit in a 5-1/4" ID valve box. Hydrant shall be non-freezing and self-draining. Hydrant shall be operated by turning a top-mounted 9/16" square operating nut counterclockwise to open, clockwise to close. Hydrant must seal the drain outlet in all positions from 1/4"-open to fully-open. All internal working parts, the inlet, and the outlet shall be lead-free brass. All working parts shall be serviceable from above with no digging required. Disassembly must be accomplished with no turning forces applied to the hydrant barely. All wear parts (o-rings and valve seat) shall be of commonly available dimensions and material, and none may be of vendor-unique design. Hydrant shall be the Model TF500 as manufactured by The Kupferle Foundry Co., St. Louis, MO 63102.

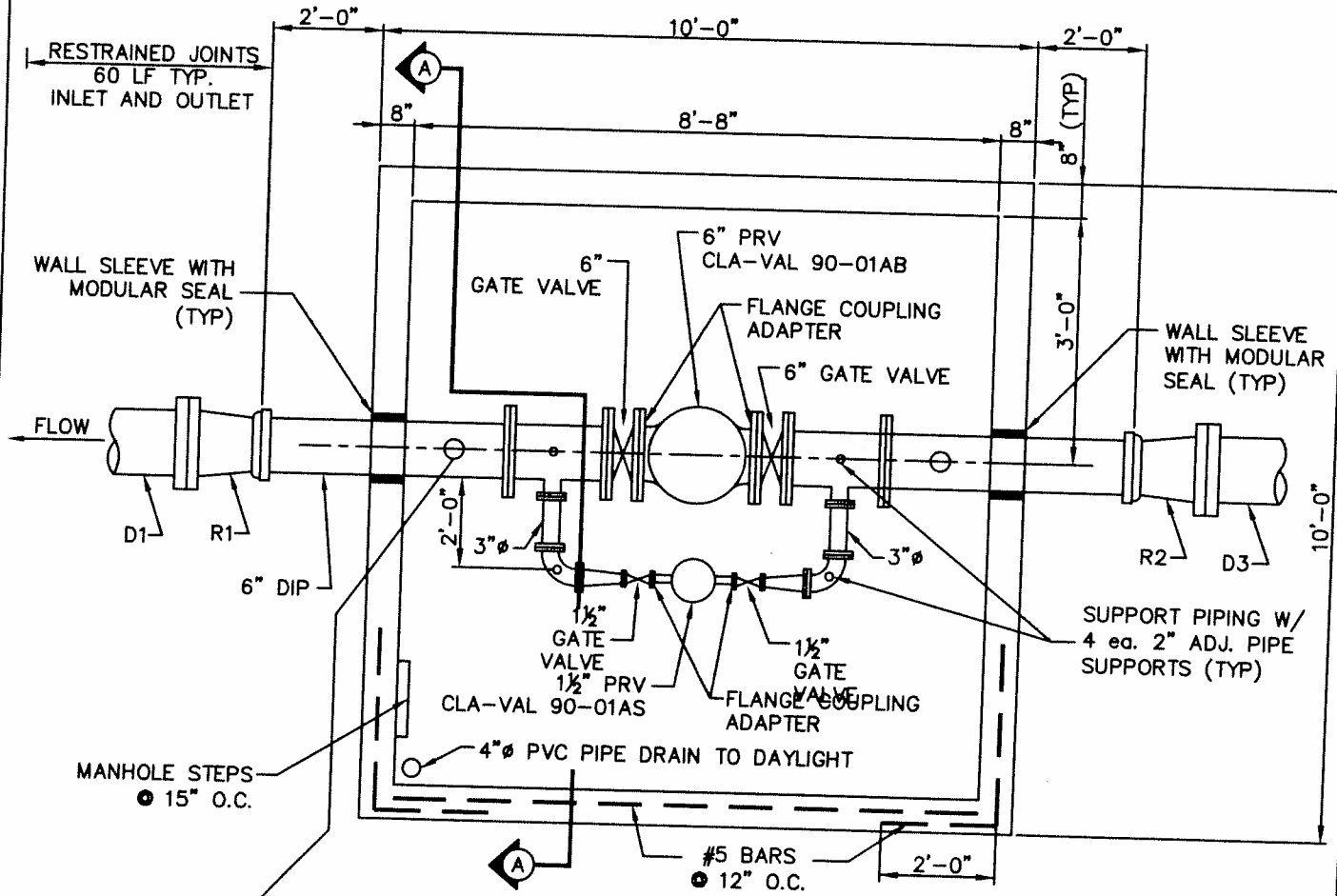
- Insure that the hydrant is free to move vertically within the valve box. In order to prevent the transmission of traffic loads to the hydrant, it should not be jammed or wedged against the valve box ID.
- The normal position of the top of the operating nut is about 6" below the top of the valve box, but you can freely adjust this position to suit your circumstances. Just keep in mind that maintenance procedures are best performed when the bolts attaching the top cap are within an easy reach.
- Follow the suggestions of the AWWA for hydrant installation. In particular, surrounding the drain port with a sufficient amount of crushed rock/gravel to provide an adequate drain field.



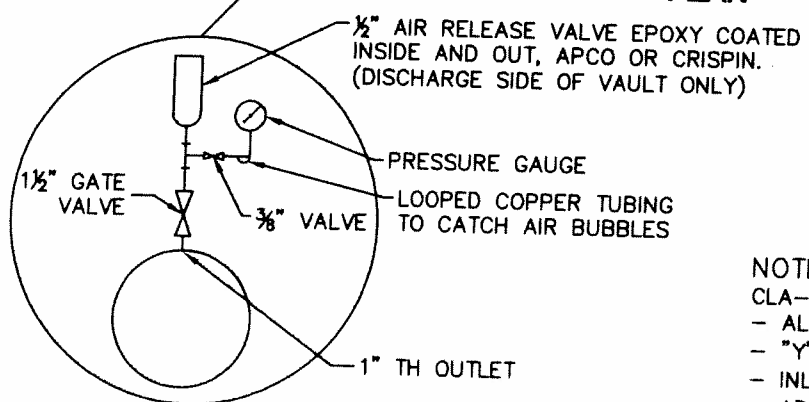
DISTRIBUTION SYSTEM BLOW OFF

APPROVED _____ FLG _____ DATE FEBRUARY 2006 DWG BLOW-OFF DETAIL W-15

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PLAN



TYP. EACH SIDE OF VAULT

NOTE:
 CLA-VAL TO INCLUDE THE FOLLOWING OPTIONS:
 - ALL BRONZE PILOT PIPING
 - "Y" STRAINER, 200 MESH WITH FLUSH VALVE
 - INLET/OUTLET FLOW CONTROL ISOLATION VALVES
 - ADJUSTABLE SPEED OPENING/CLOSING



PRV VAULT

APPROVED _____	FLG _____	DATE JANUARY 2008	DWG PRV-PLAN	DETAIL W16-1
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SET TOP OF MANHOLE RING AT STREET GRADE
OR 0.1' ABOVE GROUND WHEN NOT IN ROADWAY.

MORTAR

REMOVABLE LID

6"

8"

1" CI

3" CI

#5 BARS @ 12" O.C.

#4 BARS @ 12" O.C.

7'-8"

9'-0"

2'-0"

3'-0"

PS38 ADJUSTABLE
PIPE SADDLE SUPPORT

SLOPE TO DRAIN

WATER STOP (TYP)

2'-0"

3" CI

#5 BARS @ 12" O.C.
EACH WAY

WATER STOP (TYP)

2"

6"

4" PVC PIPE WITH A
STAINLESS STEEL
SCREEN RODENT COVER.
DRAIN TO DAYLIGHT.

SECTION A-A

SHEET 2 of 3

PRV VAULT



APPROVED _____ FLG _____

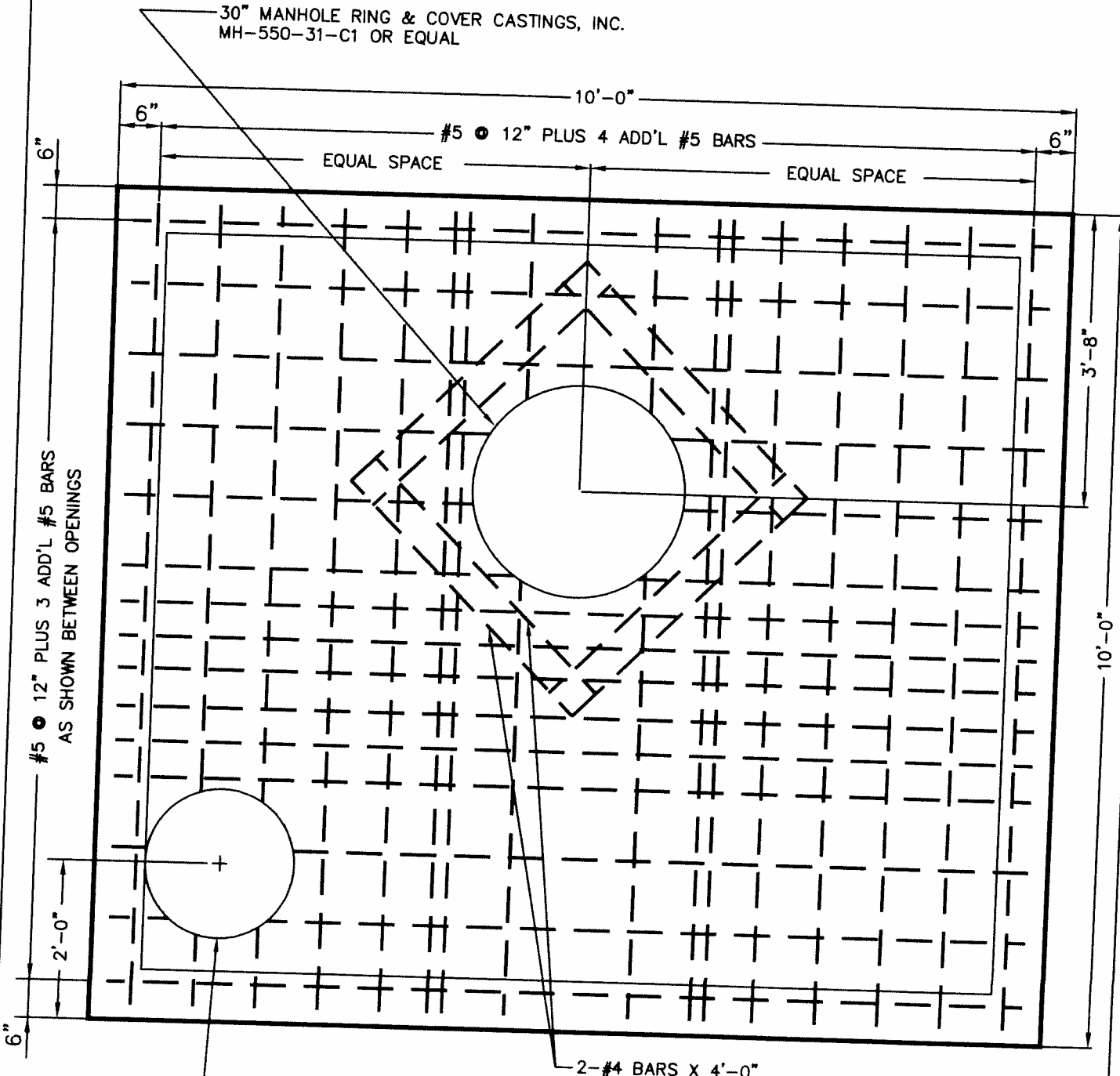
DATE JANUARY 2008

DWG PRV-SEC

DETAIL W16-2

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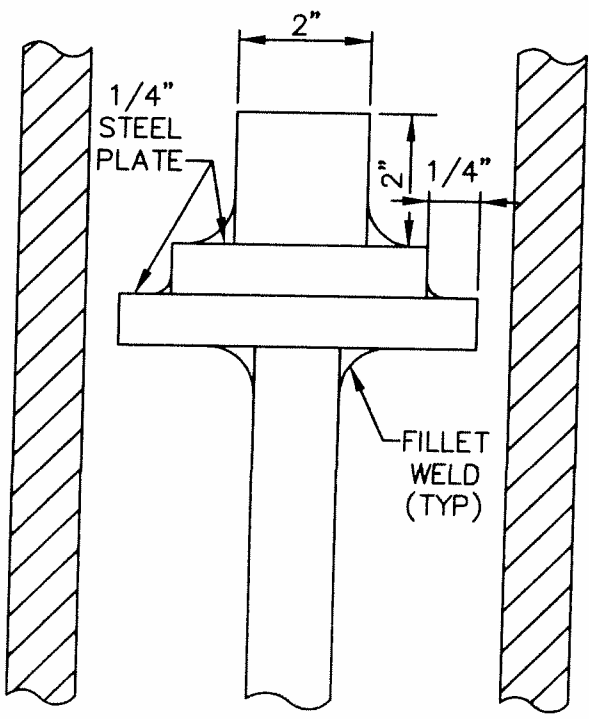
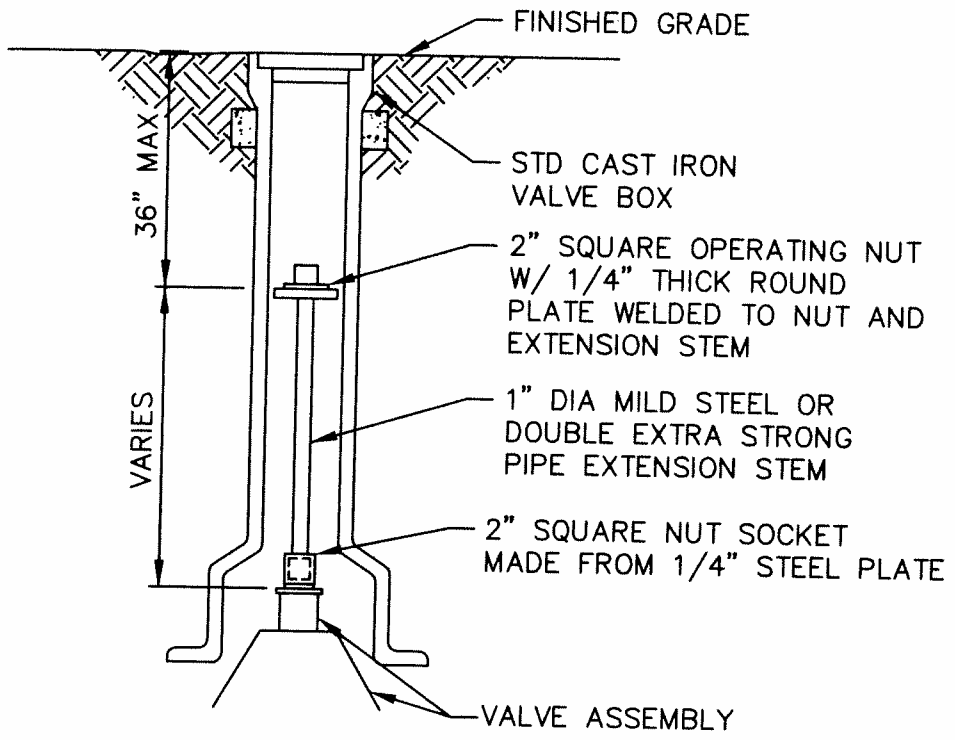
TOP SLAB PLAN

SHEET 3 of 3

PRV VAULT 3/3



APPROVED _____ FLG _____	DATE JANUARY 2008	DWG PRV-TOP	DETAIL W16-3
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NOTE: VALVE EXTENSIONS ARE ONLY REQUIRED IF THE DEPTH FROM THE FINISHED GRADE TO THE TOP OF THE OPERATING NUT IS GREATER THAN 5'.

EXTENSION DETAIL

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WATER VALVE EXTENSION

APPROVED _____	FLG _____	DATE AUGUST 2007	DWG WAT-VALX	DETAILW-17
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