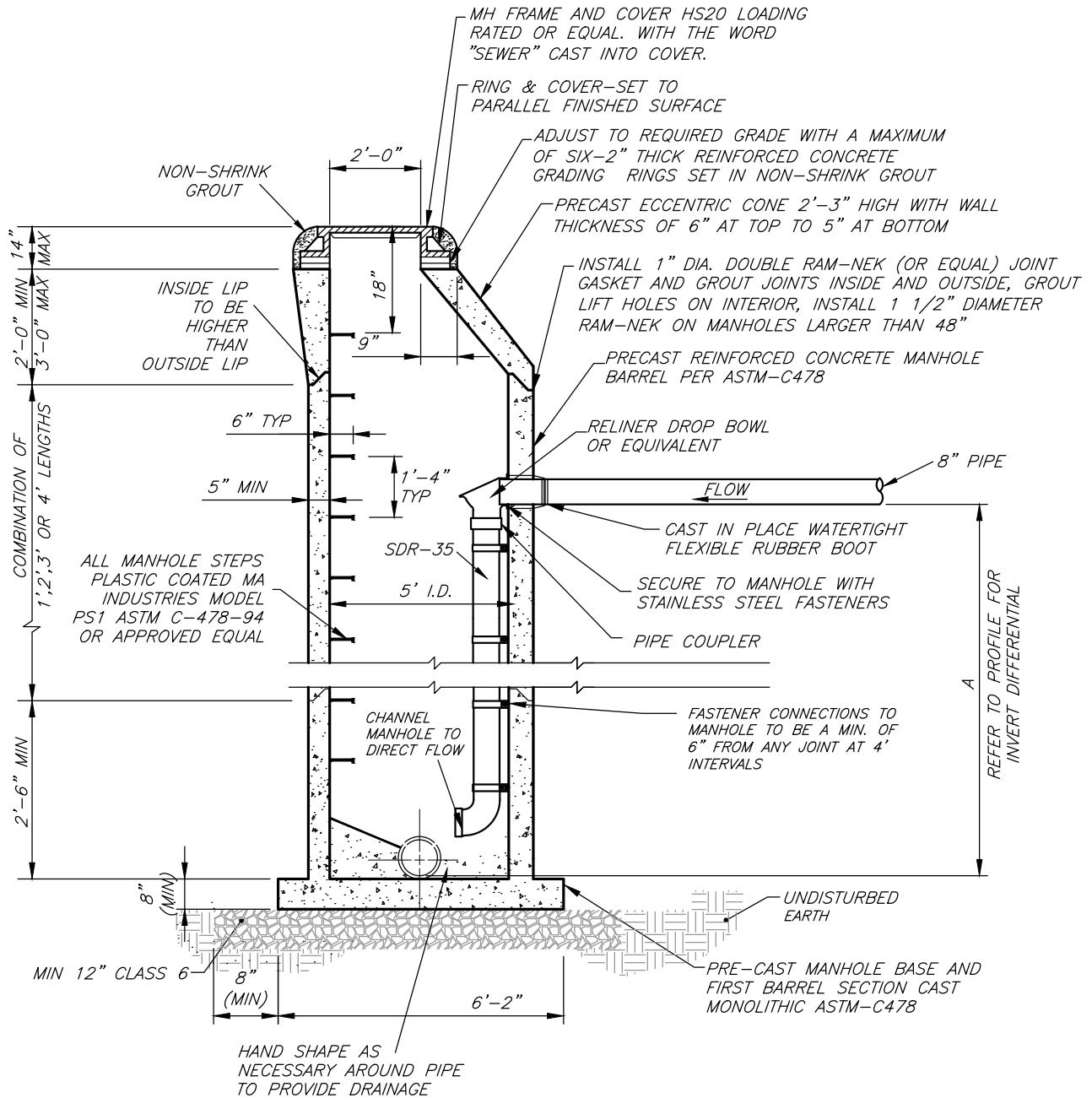


GENERAL NOTES:

1. ALL CONCRETE WORK SHALL COMPLY WITH LATEST CI-318 SPECIFICATIONS
2. USE 5' I.D. WHEN PIPE SIZE 15"- 24".
3. SET ECCENTRIC MANHOLE RIM SECTION SO THAT THE RIM IS AWAY FROM THE EDGE OF ASPHALT AS MUCH AS POSSIBLE.

DETAIL "S01"

NOTE: DROP LINE TO BE ORIENTED OPPOSITE MH RUNGS WITHIN MH.



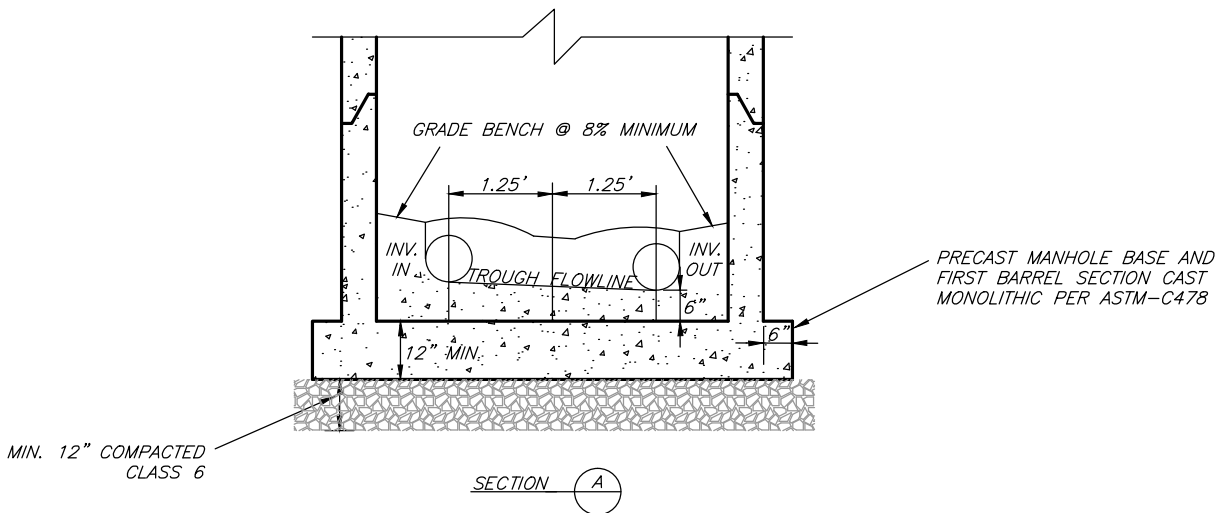
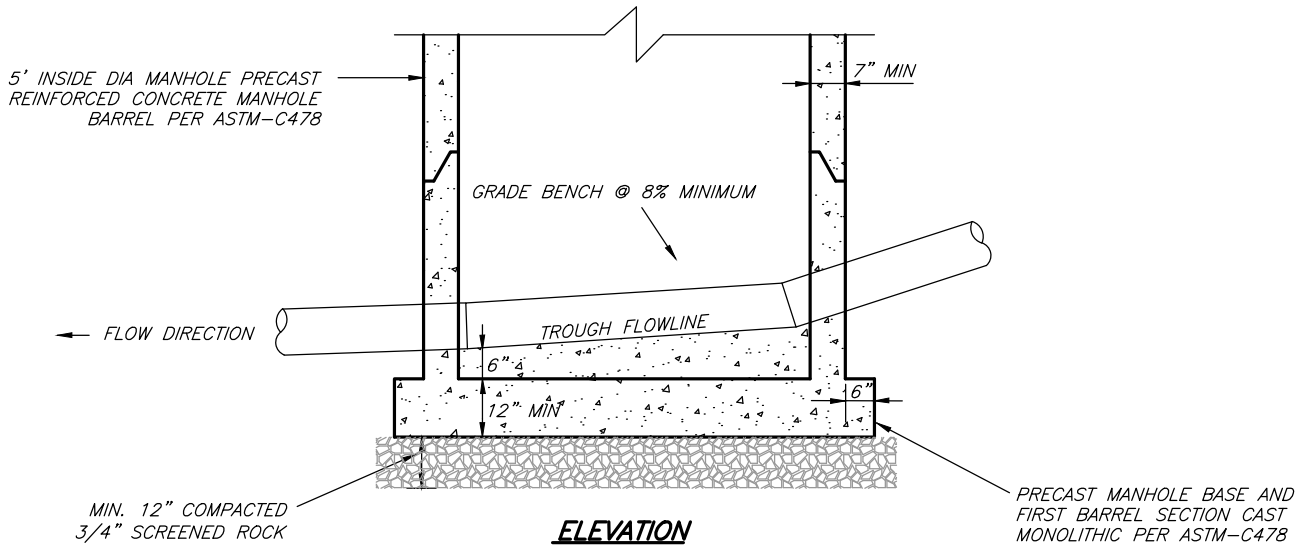
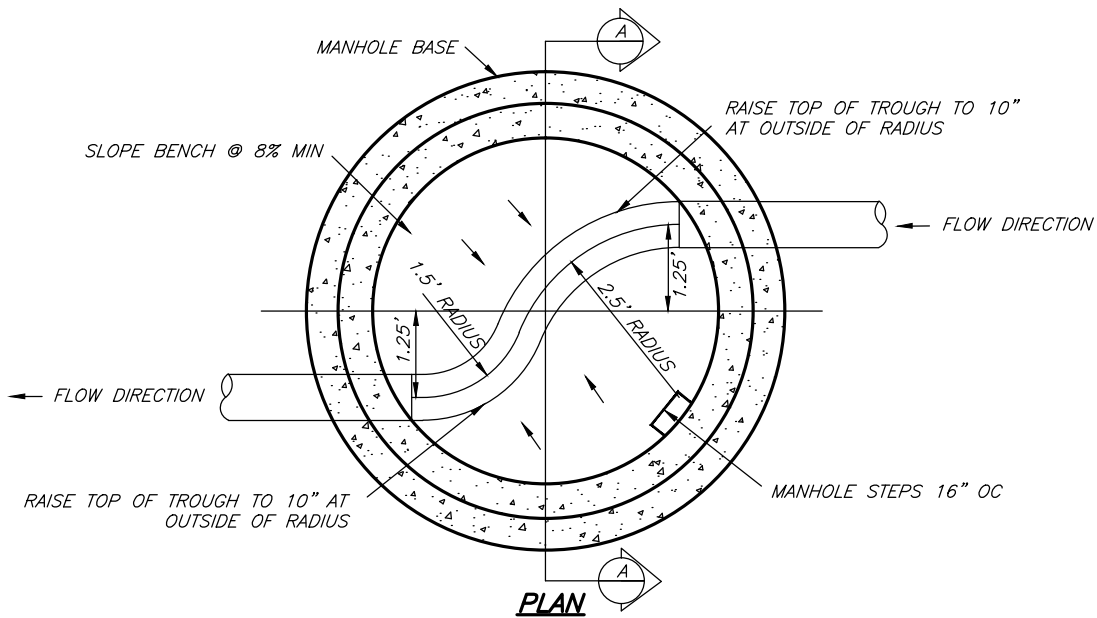
DROP MANHOLE

GENERAL NOTES:

1. ALL CONCRETE WORK SHALL COMPLY WITH LATEST CI-318 SPECIFICATIONS
2. A DROP MANHOLE IS REQUIRED WHEN THE "A" DIMENSION SHOWN ABOVE EXCEEDS 18"
3. SET ECCENTRIC MANHOLE RIM SECTION SO THAT THE RIM IS AWAY FROM THE EDGE OF ASPHALT AS MUCH AS POSSIBLE.

DETAIL "S02"

Fig. 1 (2013) 2013-321 SNOWMASS W&SD 001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\S03-ENERGYDISMH-DC

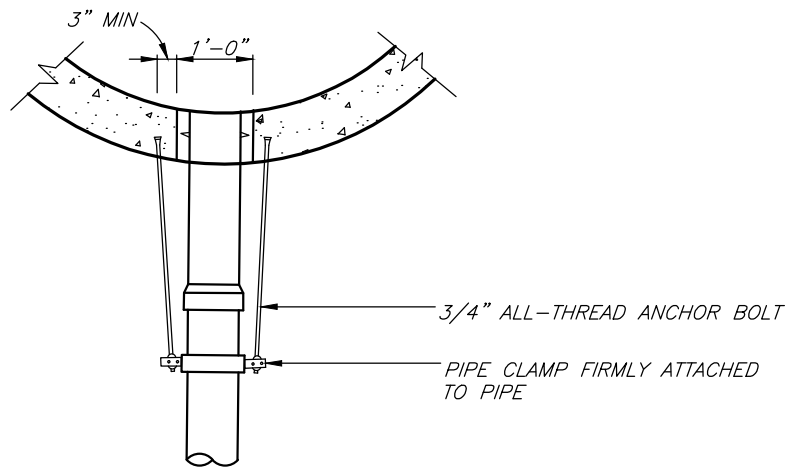


ENERGY DISSIPATOR MANHOLE

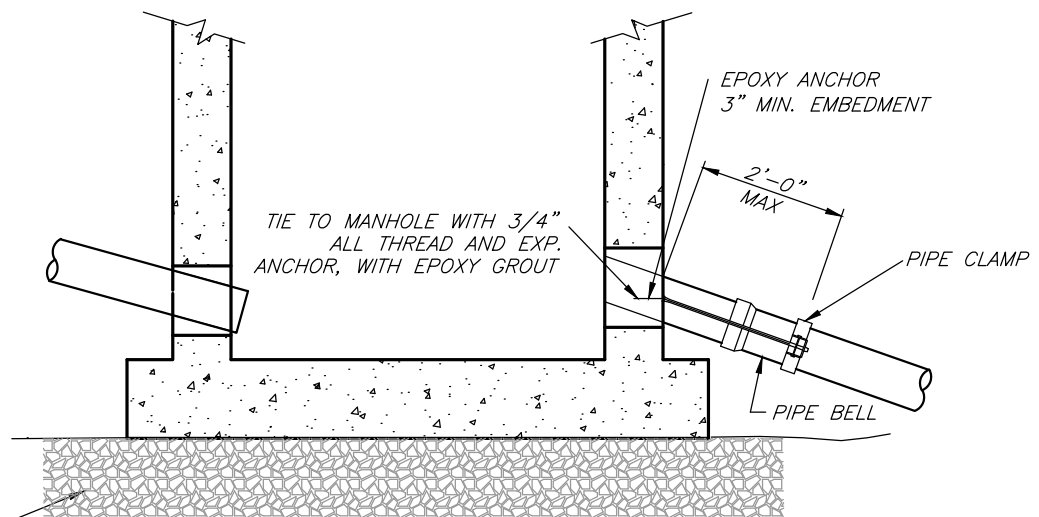
NOTE: SET ECCENTRIC MANHOLE RIM SECTION SO THAT THE RIM IS AWAY FROM THE EDGE OF ASPHALT AS MUCH AS POSSIBLE.

DETAIL "S03"

Fig: I:\2013\2013-321 SNOWMASS W&SD\001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\S04-ANCHORMH-DD



TOP VIEW



MIN 12" OF
COMPACTED CLASS 6

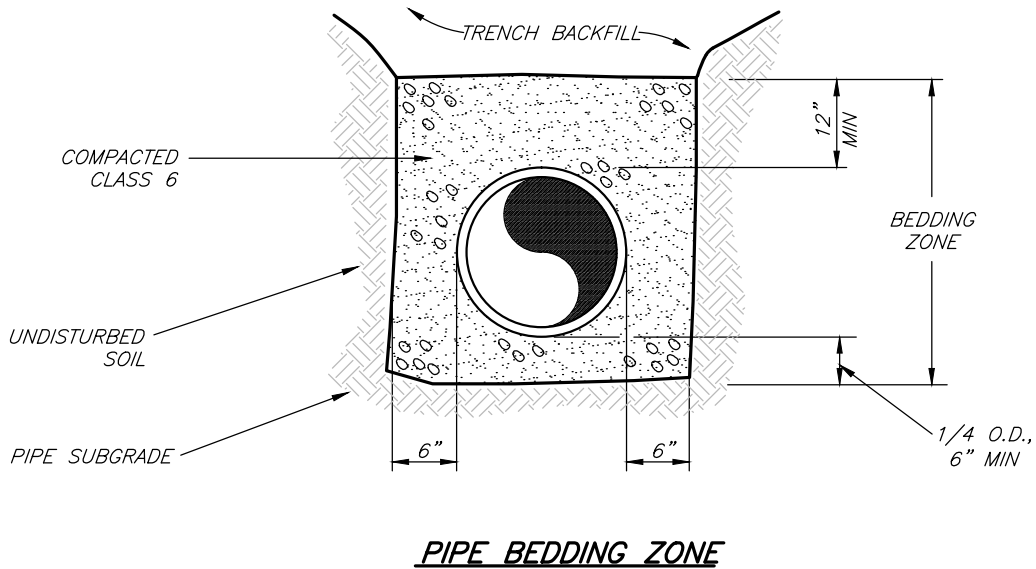
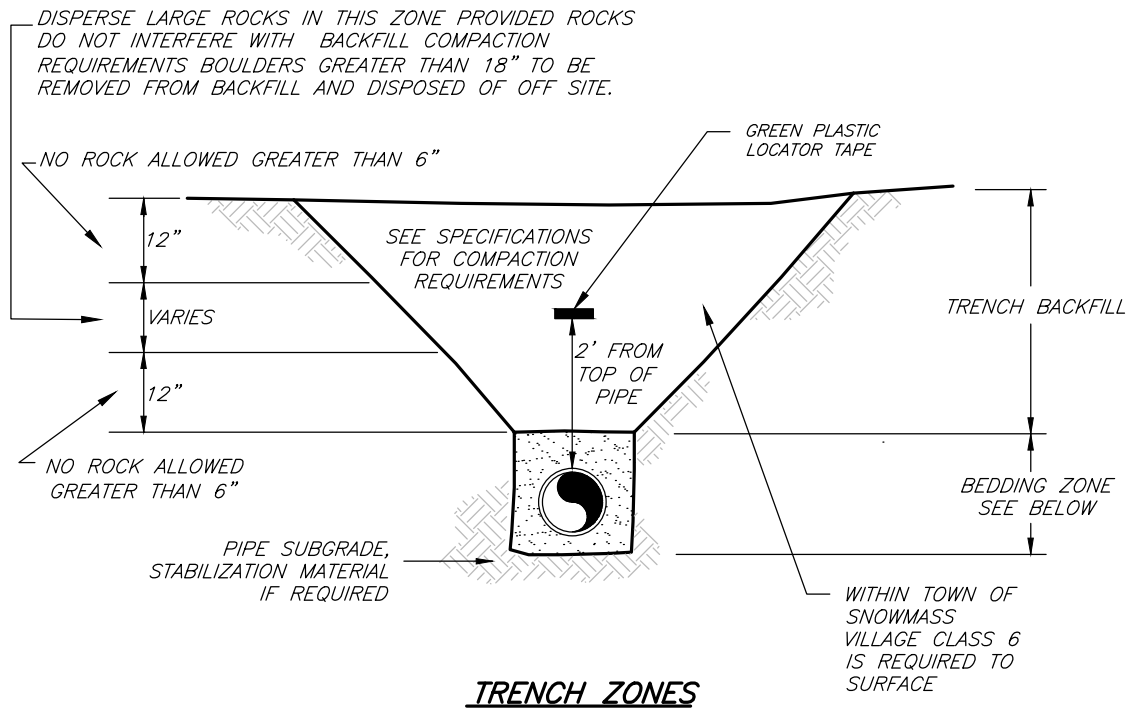
ELEVATION

ANCHOR MANHOLE

NOTE: ANCHOR MANHOLES ARE REQUIRED WHERE PIPE SLOPE EXCEEDS 20% EXITING THE MANHOLE ONLY

DETAIL "S04"

Fig: I:\2013\2013-321 SNOWMASS W&SD\001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\S05-SEWERPIPEBED-DE

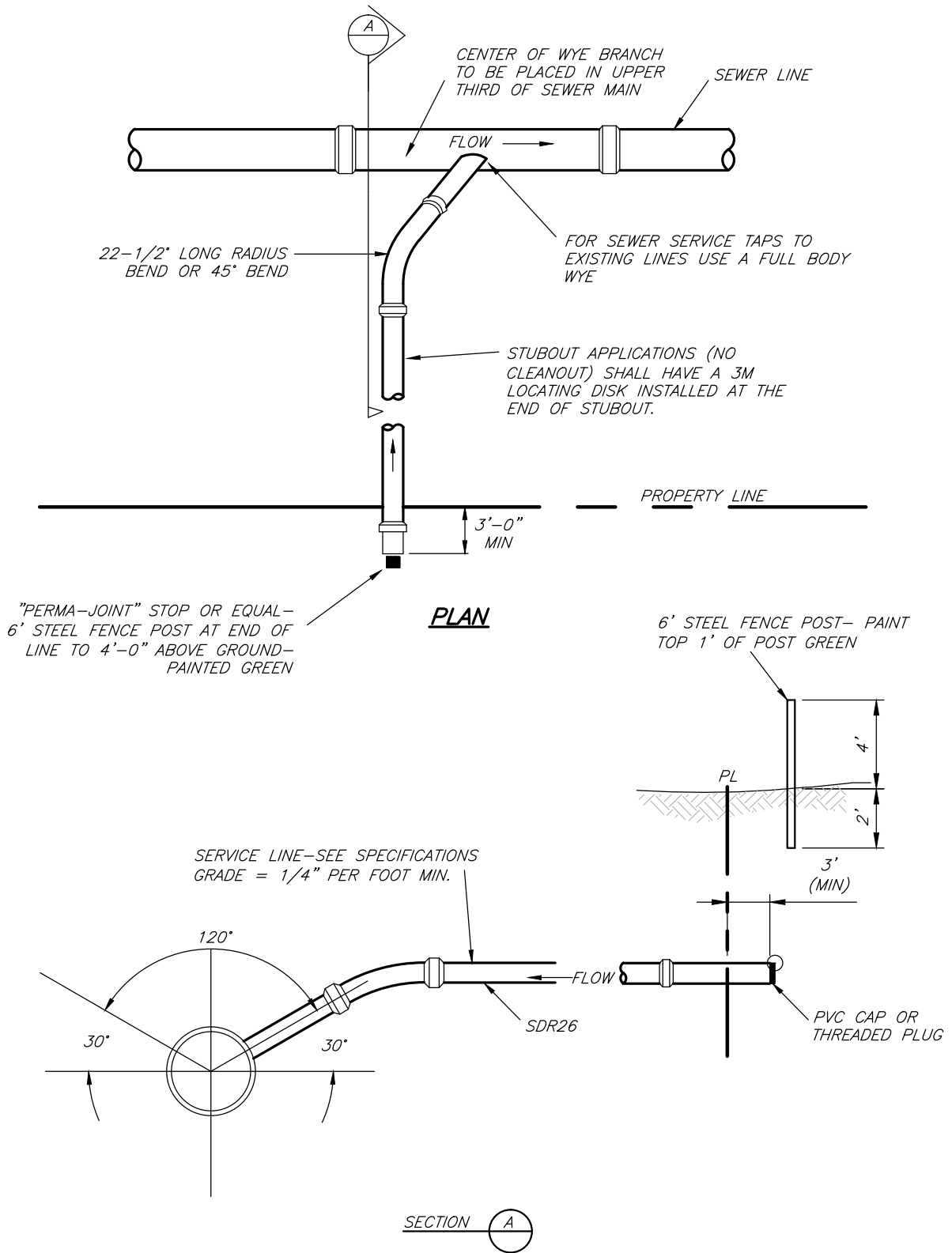


SEWER PIPE BEDDING

NOTE: 3/4 SCREENED ROCK IN WET AREAS IN PLACE OF CLASS 6 ONLY APPROVED AS NEEDED

DETAIL "S05"

File: I:\2013\2013-321 SNOWMASS W&SD\001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\S06-SEWERSERVICECON-DF



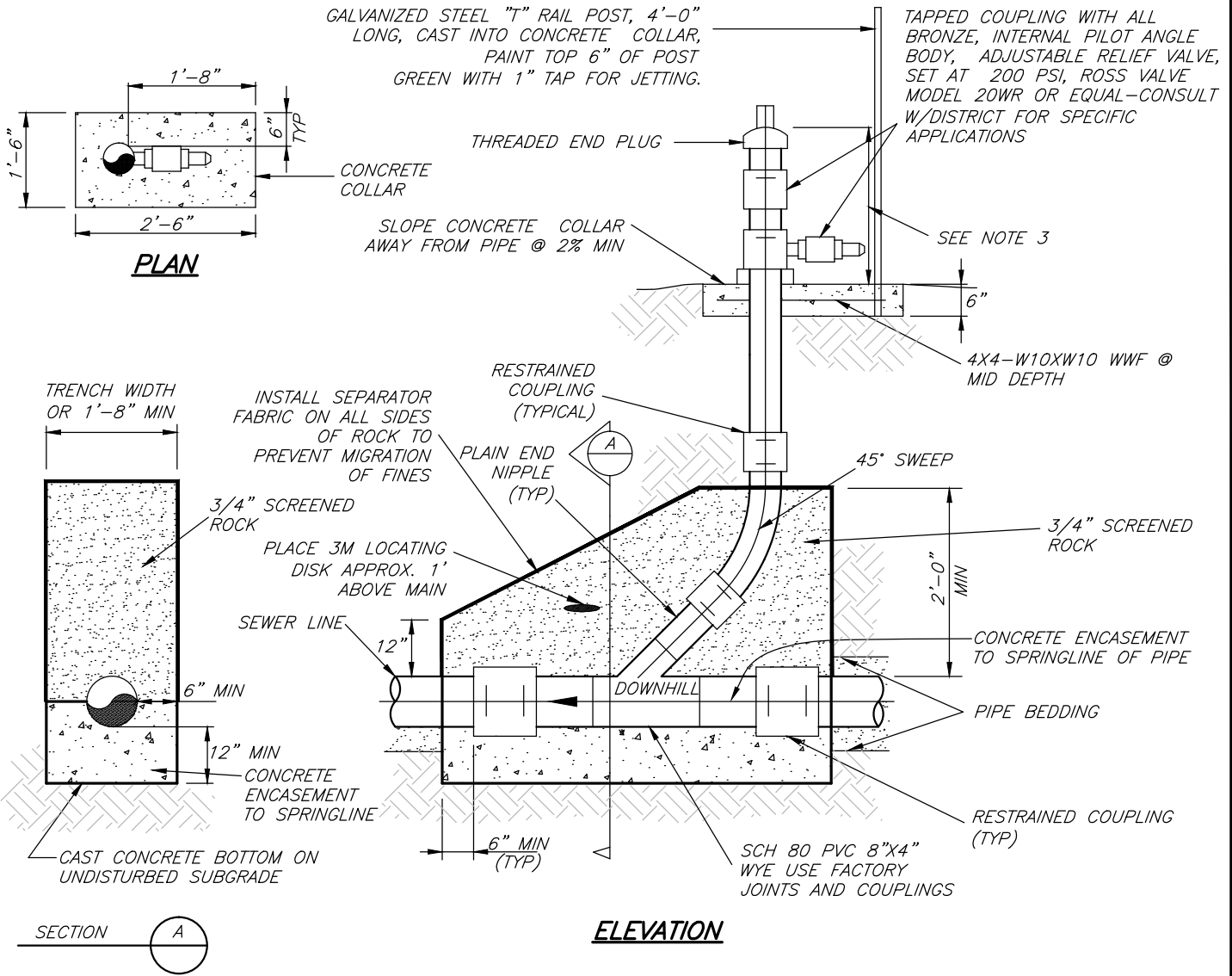
SEWER SERVICE CONNECTION

NOTES:

1. MINIMUM SEPARATION BETWEEN TAPS SHALL BE 18"
2. BACKFILL UNDER WYE TO BE CLASS 6 AGGREGATE BASE COURSE. 95% COMPACTION DENSITY PER ASTM D-698.

DETAIL "S06"

Fig. 1: 2013\2013-321 SNOWMASS W&SD\001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\S07-PRESSCO-DH



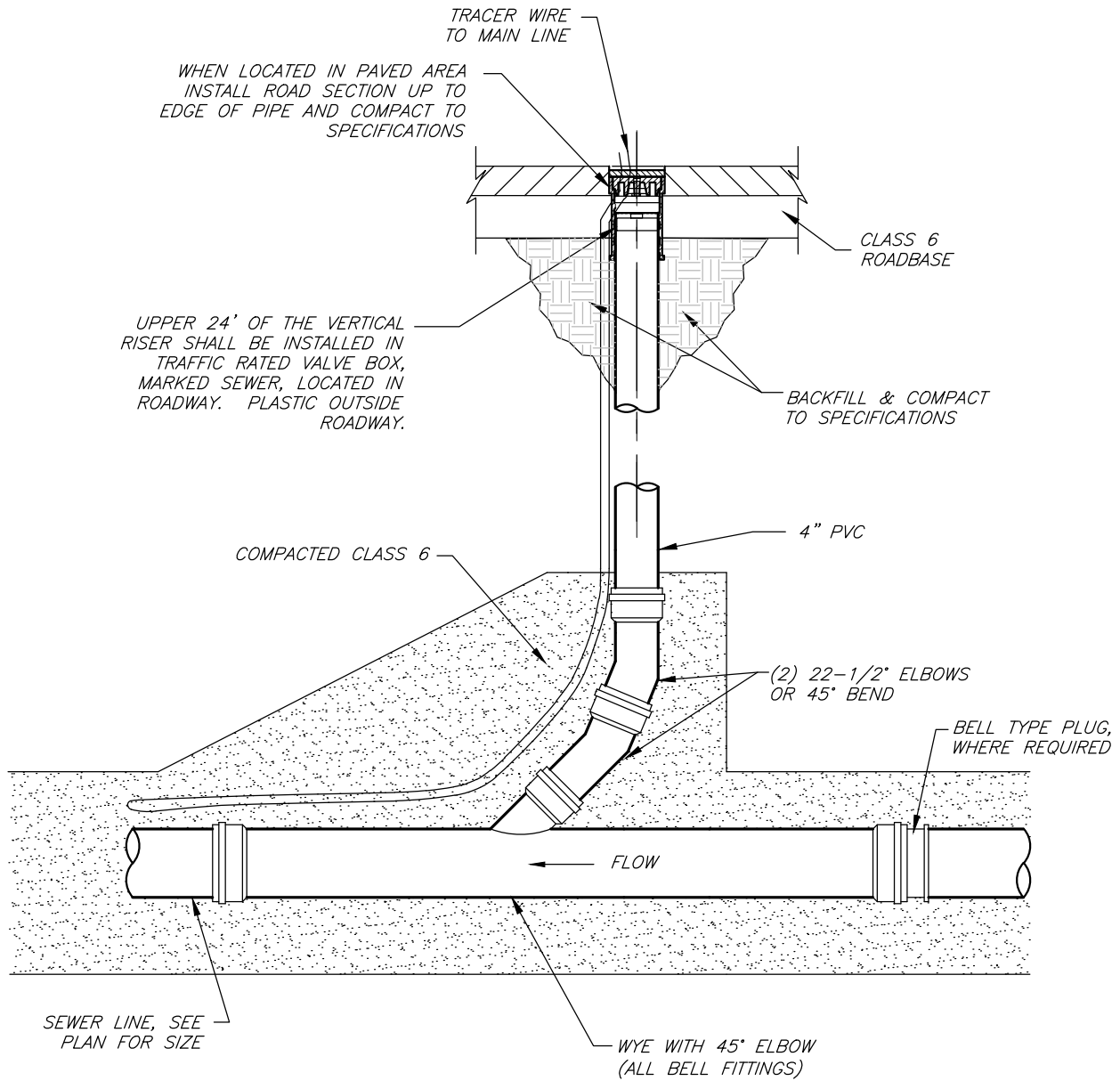
PRESSURE CLEAN-OUT

NOTES:

1. ENTIRE WYE SECTION AND ADJACENT COUPLINGS TO BE ENCASED IN CONCRETE
2. ENTIRE PRESSURE CLEANOUT SHALL BE PRESSURE RATED AT 200 PSIG MINIMUM
3. MAINTAIN MINIMUM HEIGHT REQUIRED FOR REMOVAL OF END PLUG FITTING ONLY
4. PRESSURE CLEANOUTS ARE REQUIRED AT THE BOTTOM OF MOST LOCATIONS WHERE PRESSURES MAY EXCEED BURSTING PRESSURE OF THE PIPE
5. FOR SKIWAY APPLICATIONS WHERE MANHOLE AND RINGS ARE USED TO COVER CLEANOUT, 3M LOCATING DISK SHALL ALSO BE INSTALLED 1' TO 2' BELOW MANHOLE RING AND COVER.

DETAIL "S07"

Fig: I:\2013\2013-321 SNOWMASS W&SD\001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\S08-SEWERCO-DG



SEWER CLEAN-OUT

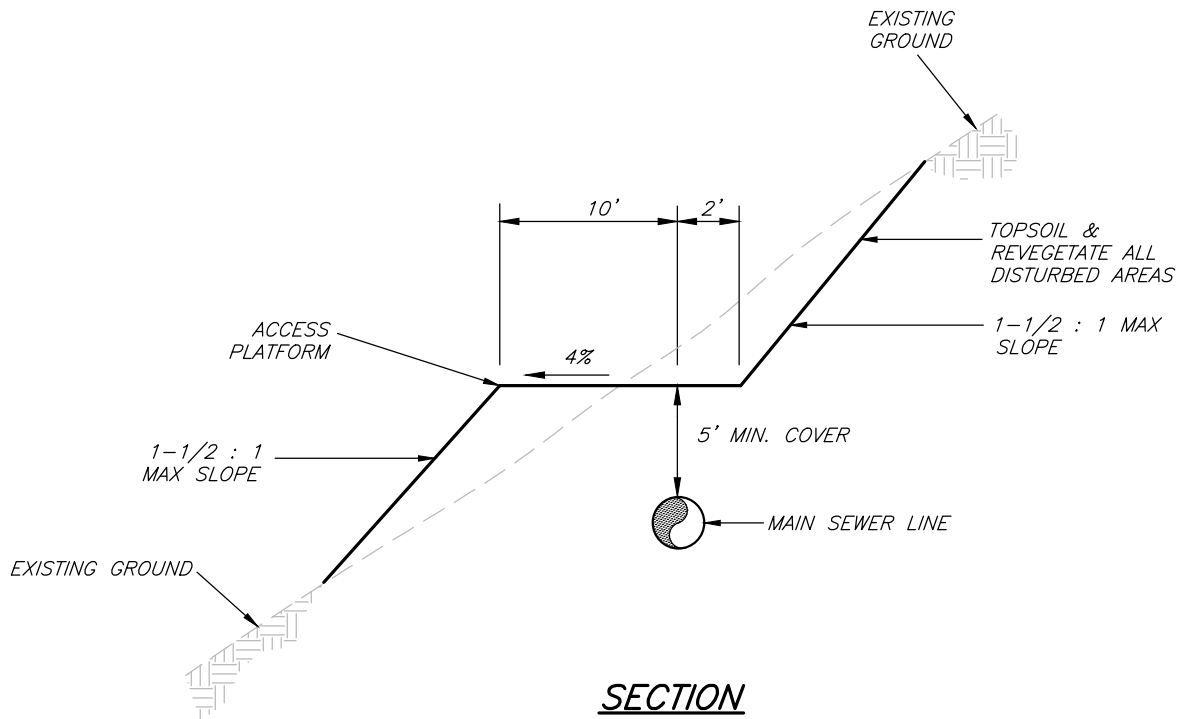
NOTES:

1. FOR SKIWAY APPLICATIONS WHERE MANHOLE AND RINGS ARE USED TO COVER CLEANOUT, 3M LOCATING DISK SHALL ALSO BE INSTALLED 1' TO 2' BELOW MANHOLE.
2. MUST BE TRAFFIC RATED IF INSTALLED IN TRAFFIC AREAS.

DETAIL "S08"

File: I:\2013\2013-321 SNOWMASS W&SD\001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\S9-SEWERMAINTACCESS-DI

CONSTRUCT HAMMERHEAD OR 90°SIDEARM TURN-AROUND AT THE END OF ALL DEAD END SEWER LINES.



SECTION

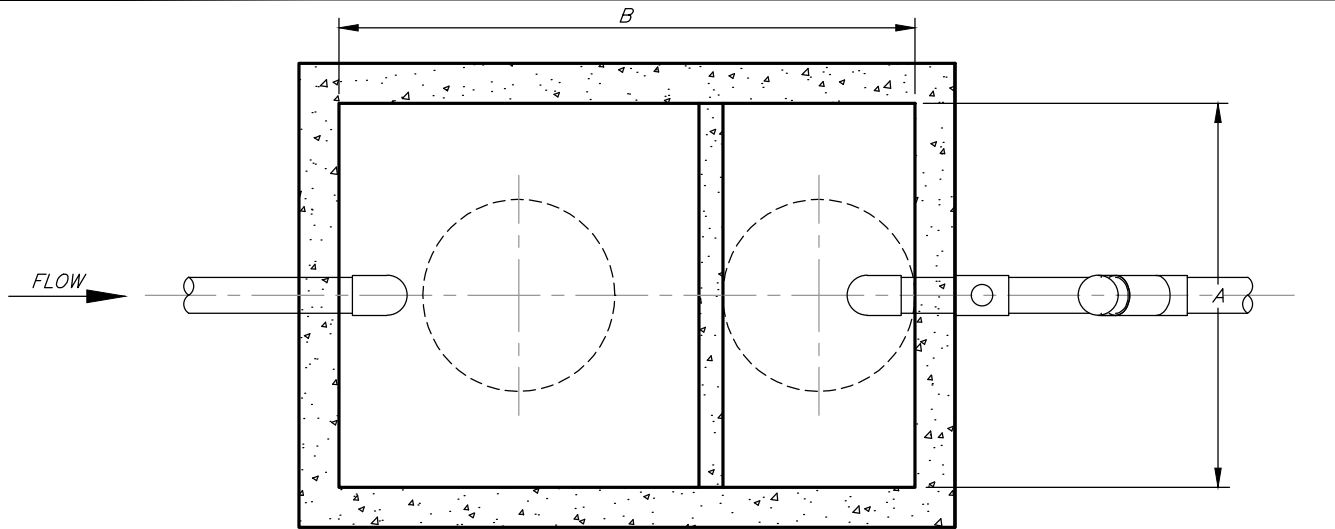
SEWER MAINTENANCE ACCESS

NOTES:

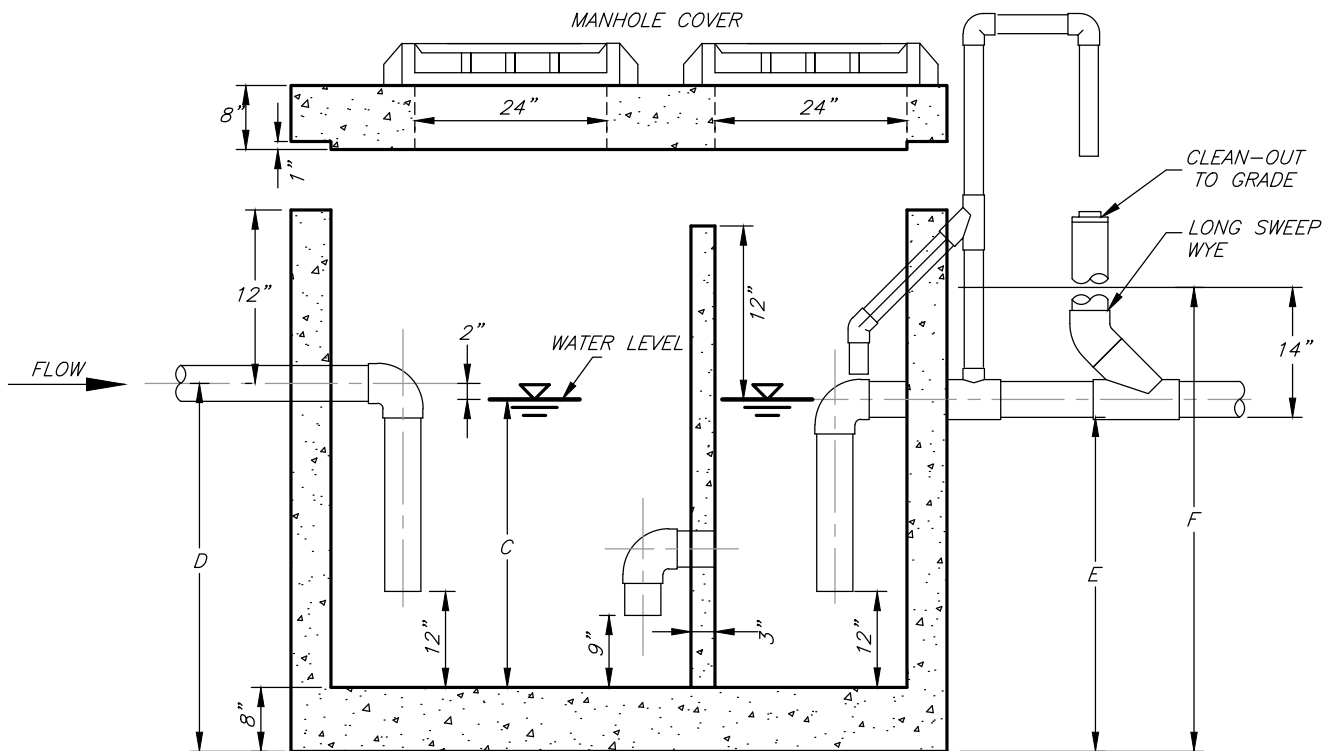
1. THE CONTRACTOR SHALL GRADE ALL OFFROAD SEWER LINE TRENCHES TO PROVIDE ACCESS PLATFORM.
2. ACCESS PLATFORMS SHALL BE GRADED TO MATCH ROAD GRADES TO PROVIDE VEHICULAR ACCESS AT ALL ROAD AND PLATFORM ACCESS INTERSECTIONS. MAXIMUM GRADE FOR BACKLOT ACCESS SHALL BE 7%.

DETAIL "S09"

Fig: (1:2013) 2013-321 SNOWMASS H&SD 001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\S10-GREASEINT



PLAN



SECONDARY COMPARTMENT

SECTION

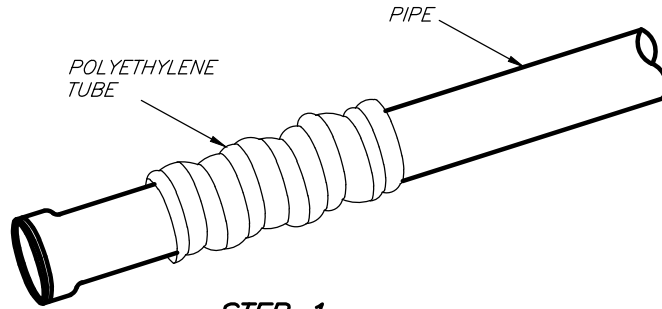
- 1) SECONDARY COMPARTMENT TO HAVE VOLUME 1/3 OF TOTAL CAPACITY
- 2) ALL PIPE AND FITTINGS TO BE SCHEDULE 40 PVC, 4" MINIMUM DIAMETER
- 3) ALL CONCRETE TO INCLUDE FIBERMESH REINFORCEMENT
- 4) COVERS TO BE REINFORCED LONGITUDINALLY WITH #6 REBAR ON 6" CENTERS, #4 REBAR ON 6" CENTERS WIDTHWISE AND #8 REBAR DIAGONALLY AROUND ACCESS HOLES
- 5) CLEAN OUT SHALL CONFORM TO STANDARD SEWER CLEAN-OUT DETAIL "24" OF THE SWSD RULES AND REGULATIONS
- 6) MANHOLE RING AND COVER SHALL CONFORM TO SECTION XI (SANITARY SEWERLINES) OF THE SWSD RULES AND REGULATIONS
- 7) A SHOP DRAWING DEPICTING ACTUAL DIMENSIONS, PENETRATION LOCATIONS AND REINFORCEMENT SIZE SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL.
- 8) NO BOLT DOWN COVERS ARE ALLOWED WITHOUT THE PRIOR AUTHORIZATION OF THE DISTRICT
- 9) ALL CONCRETE WALL PENETRATIONS TO BE FILLED WITH NON SHRINK GROUT SUBSEQUENT TO PIPE INSTALLATION
- 10) THE TOTAL CAPACITY SHALL ACCOMMODATE A 30 MINUTE DETENTION TIME AT PEAK HOUR FLOW.
- 11) CAPACITY IS ALSO DETERMINED BY FREQUENCY OF CLEANING.
- 12) FLOW SHALL BE DETERMINED BY A PROFESSIONAL ENGINEER.

WATER CAPACITY APPROXIMATE GALLONS	GREASE CAPACITY APPROXIMATE CUBIC FEET	DIMENSIONS						
		TWO COMPARTMENT TANK, INCHES						
		A	B	C	D	E	F	G
320	17	48	72	22	32	30	44	24
500	32	48	72	36	46	44	58	24
780	47	48	96	40	40	48	62	20
1060	74	72	102	34	34	42	56	30
1250	87	80	112	35	45	48	57	36
2000	142	80	128	46	56	54	68	42

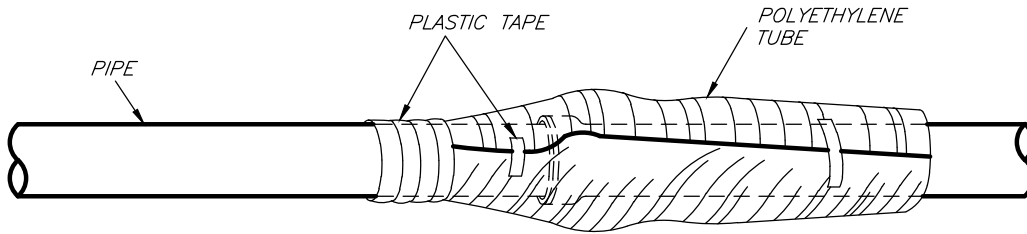
GREASE INTERCEPTOR

DETAIL "S10"

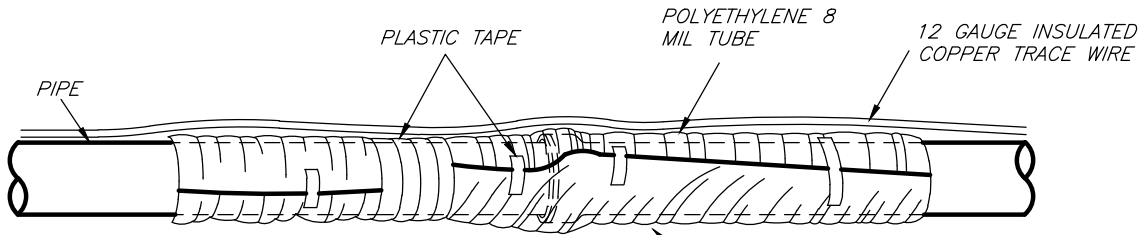
Fig: 1\2013\2013-321 SNOWMASS W&SD\001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\W01-POLYWRAP



STEP 1



STEP 2



STEP 3

EXERCISE CARE TO PREVENT PENETRATION OF PE WRAP WITH GRAVEL, ROCKS, ETC.

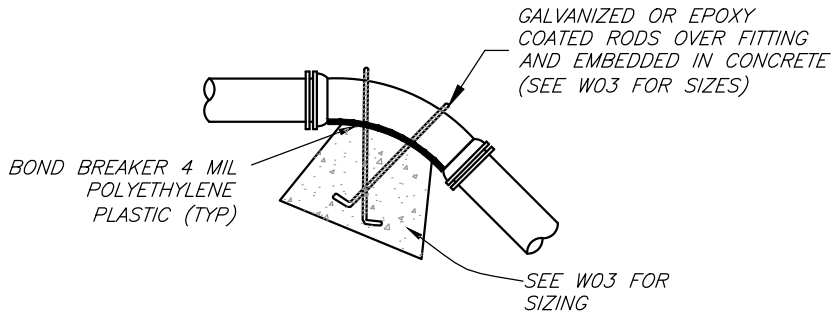
POLYETHYLENE WRAP

FIELD INSTALLATION – POLYETHYLENE WRAP
WHERE SPECIFICALLY REQUIRED FOR SOIL APPLICATIONS

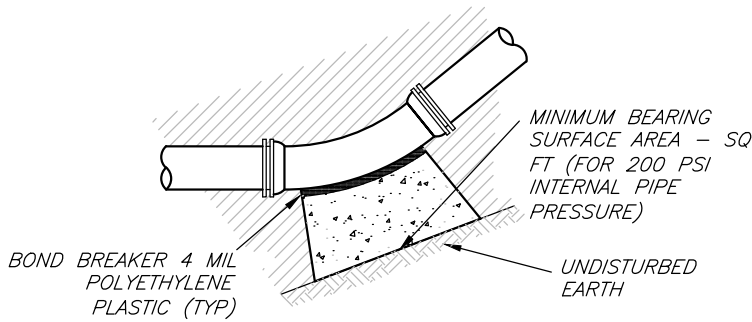
- STEP 1 – PLACE TUBE OF POLYETHYLENE MATERIAL ON PIPE PRIOR TO LOWERING IT INTO PLACE
- STEP 2 – PULL THE TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE.
- STEP 3 – OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE SHALL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP OF PIPE AND TAPED IN PLACE.

DETAIL "W01"

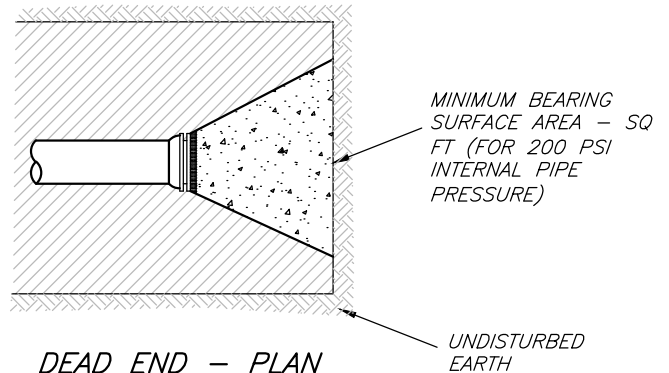
Fig: 1\2013\2013-321 SNOWMASS W&SD\001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\W02-CONCTRUSTBLK



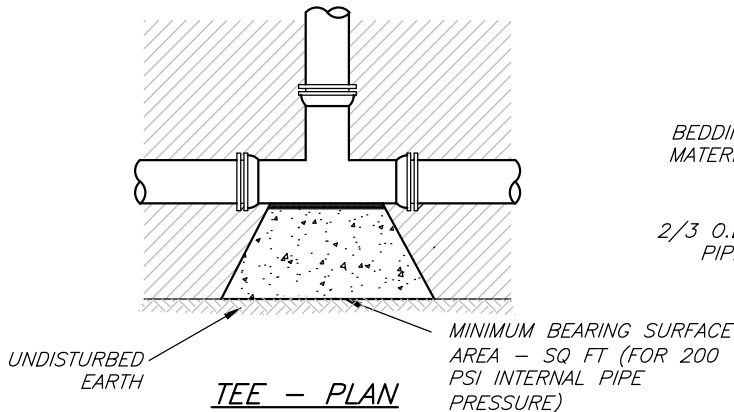
VERTICAL THRUST BLOCK - SECTION



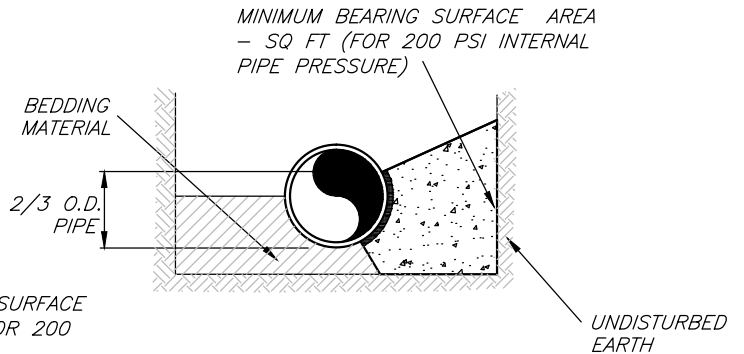
BENDS - PLAN



DEAD END - PLAN



TEE - PLAN



TYPICAL CROSS SECTION

MINIMUM BEARING SURFACE (SF) FOR 200 PSI AND LESS

SIZE OF PIPE	BENDS				TEE OR DEAD END
	11-1/4°	22-1/2°	45°	90°	
6"	1.3	2.5	5.0	9.0	6.4
8"	1.3	2.5	5.0	9.0	6.4
10"	1.9	3.8	7.4	13.7	9.7
12"	2.7	5.4	10.5	19.3	13.7
16"	4.7	9.3	9.1	33.6	23.8
20"	7.2	14.3	28.0	51.8	36.6

MINIMUM BEARING SURFACE (SF) FOR 250 PSI AND LESS

SIZE OF PIPE	BENDS				TEE OR DEAD END
	11-1/4°	22-1/2°	45°	90°	
6"	1.6	3.1	6.2	11.4	8.0
8"	1.6	3.1	6.2	11.4	8.0
10"	2.4	4.7	9.25	17.1	12.0
12"	3.4	6.7	13.1	24.2	17.1
16"	5.8	11.6	22.7	42.0	29.7
20"	9.0	17.9	35.0	64.8	45.8

CONCRETE THRUST BLOCKS

NOTES:

1. FOR 200 PSI INTERNAL PRESSURE, INCLUDING WATER HAMMER
2. MEGALUG RESTRAINTS MAY BE USED IN CONJUNCTION WITH THRUST BLOCKS WITH PRIOR APPROVAL FROM THE DISTRICT
3. MINIMUM AREA REQUIRED WILL BE THAT OF AN 8-INCH MAIN
4. ALL THRUST BLOCKS SHALL BE FORMED. THE MINIMUM THICKNESS FORM MATERIAL SHALL BE 3/8" PLYWOOD
5. BEARING AREA BASED ON SOIL BEARING PRESSURE OF 2000 LB/SF
6. CONCRETE SHALL HAVE A 28 DAY COMPRESSION STRENGTH OF 3000 PSI

DETAIL "W02"

VOLUME OF THRUST BLOCK IN CUBIC YARDS (VERTICAL DOWNWARD BENDS)

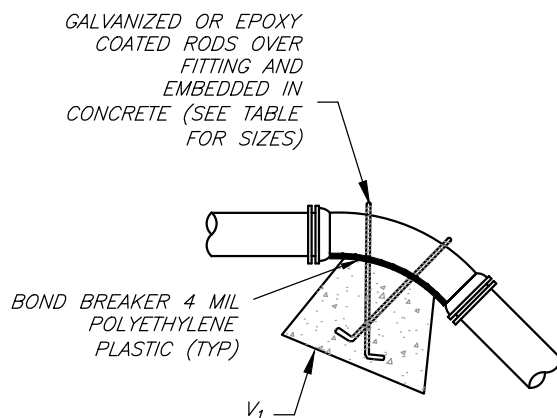
FITTING SIZE (IN)	V ₁			ROD SIZE	EMBEDMENT (FT)
	45° BEND (CY)	22 1/2° BEND (CY)	11 1/4° BEND (CY)		
6	2.0	1.1	0.5	#6	2.5
8	2.0	1.1	0.5	#6	2.5
10	3.1	1.7	0.9	#6	2.5
12	4.4	2.4	1.2	#6	2.5
14	6.1	3.3	1.7	#8	3.0
16	7.9	4.3	2.2	#8	3.0

VERTICAL DOWNWARD BENDS:

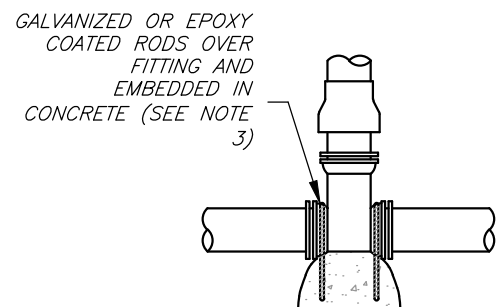
1. VERTICAL BENDS THAT REQUIRE A THRUST BLOCK VOLUME EXCEEDING 5 CUBIC YARDS, REQUIRE SPECIAL BLOCKING DETAILS. SEE DRAWINGS FOR VOLUMES SHOWN TO LEFT OF HEAVY BOLD LINE IN TABLE.
2. THRUST BLOCK VOLUMES (IN TABLE) FOR VERTICAL DOWNWARD BENDS HAVING UPWARD RESULTANT THRUSTS ARE BASED ON TEST PRESSURE OF 150 PSI, THE WEIGHT OF CONCRETE = 4050 LBS/CUBIC YARD, AND A SAFETY FACTOR OF 1.5. TO COMPUTE VOLUMES FOR DIFFERENT TEST PRESSURES AND CONCRETE WEIGHTS, USE THE FOLLOWING EQUATION:

$$\text{VOLUME} = (\text{TEST PRESSURE} / 150) \times (4050 / \text{CONCRETE WEIGHT}) \times (\text{TABLE VALUE})$$

3. VOLUME OF THRUST BLOCK IN CUBIC YARDS FOR VALVES SHALL BE THE SAME VOLUME USED FOR 11 1/4 BENDS.



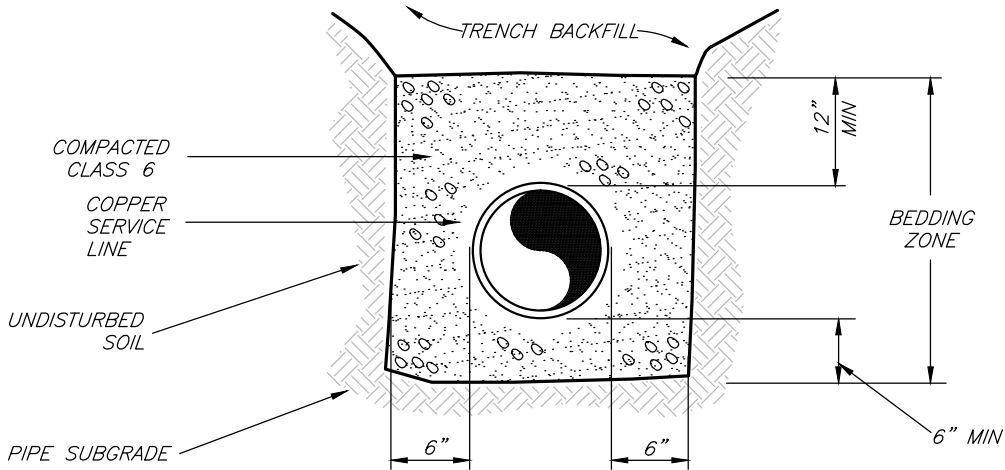
VERTICAL DOWNWARD BEND



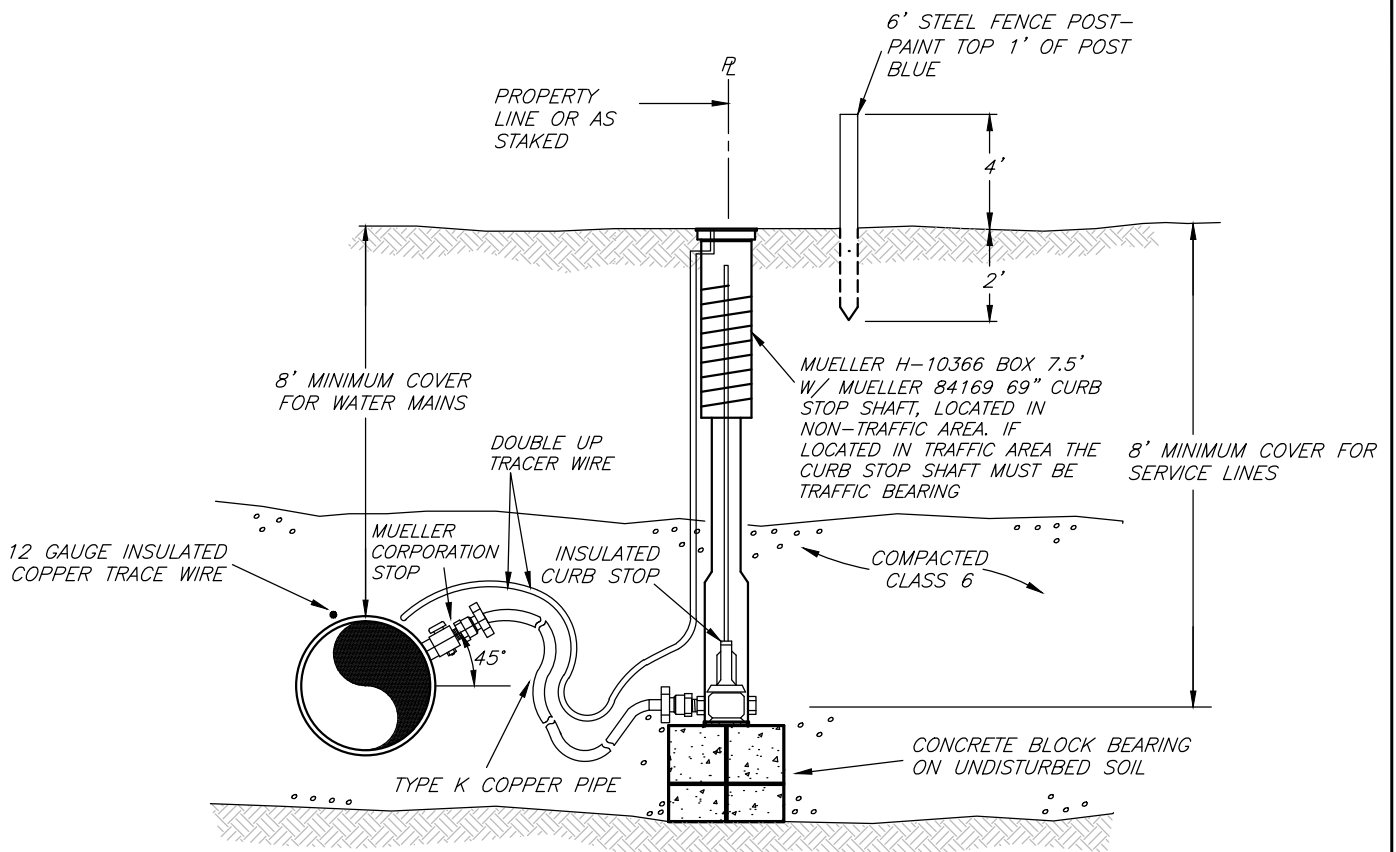
VALVE

DETAIL "W03"

Fig: 1: 2013\2013-321 SNOWMASS W&SD\001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\W04-WATERSERVSTUBOUT



SERVICE STUB-OUT BEDDING



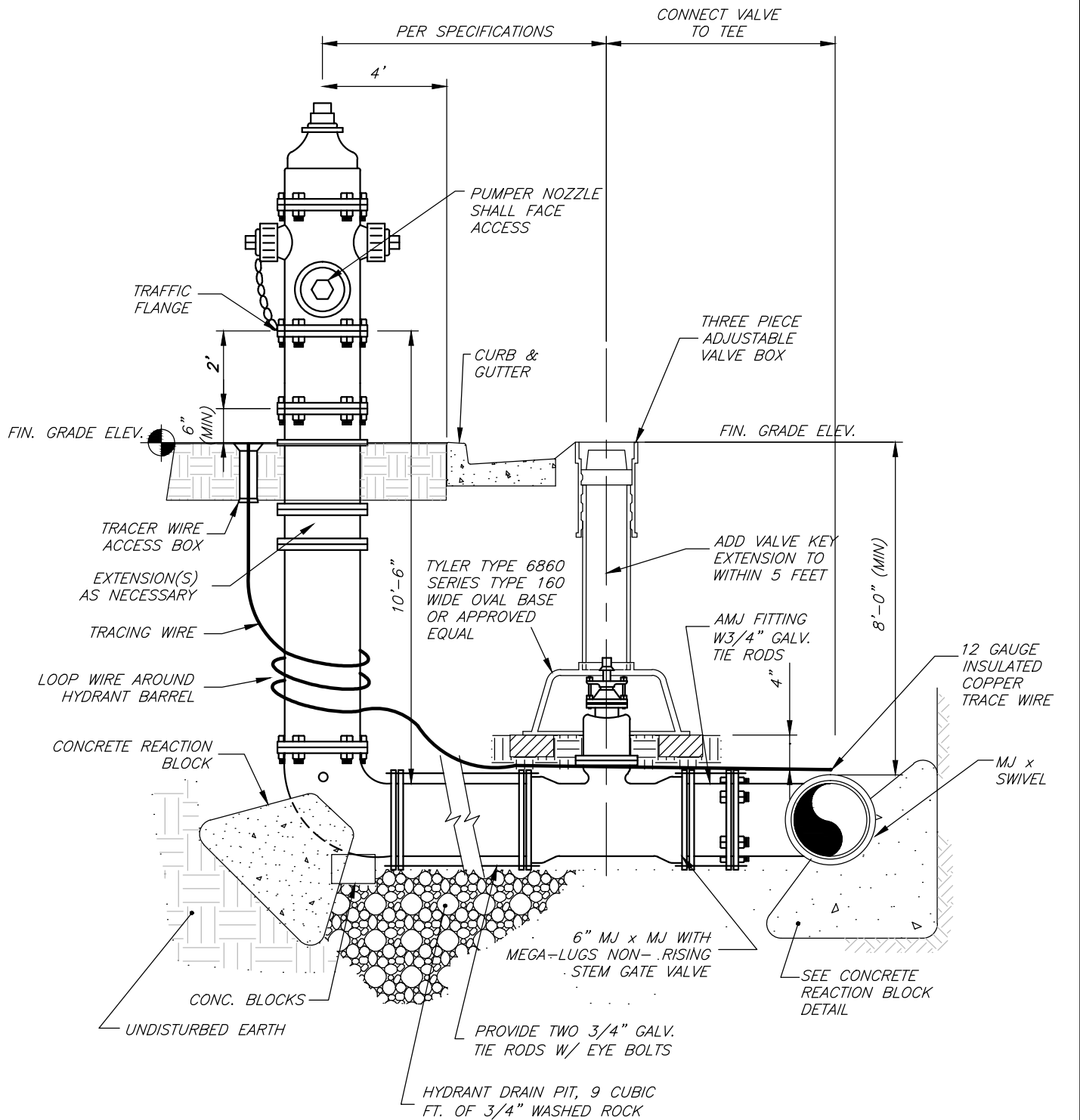
ELEVATION

WATER SERVICE STUB OUT

GENERAL NOTES

1. CURB STOP TO BE LOCATED WITHIN THE PROPERTY LINE OR AT THE EDGE OF EASEMENT-WHICHEVER IS CLOSER TO THE MAIN.
2. CURBSTOP - ALL FITTINGS SHALL BE COMPRESSION FITTINGS.
3. CURBSTOP - MANUFACTURER REFERENCE MUELLER B25204 OR APPROVED EQUAL.
4. CURB BOX AND LID MUST BE TRAFFIC RATED NOT THE CURBSTOP SHAFT. SHAFT MUST NOT BE IN CONTACT WITH CURB BOX.

DETAIL "W04"



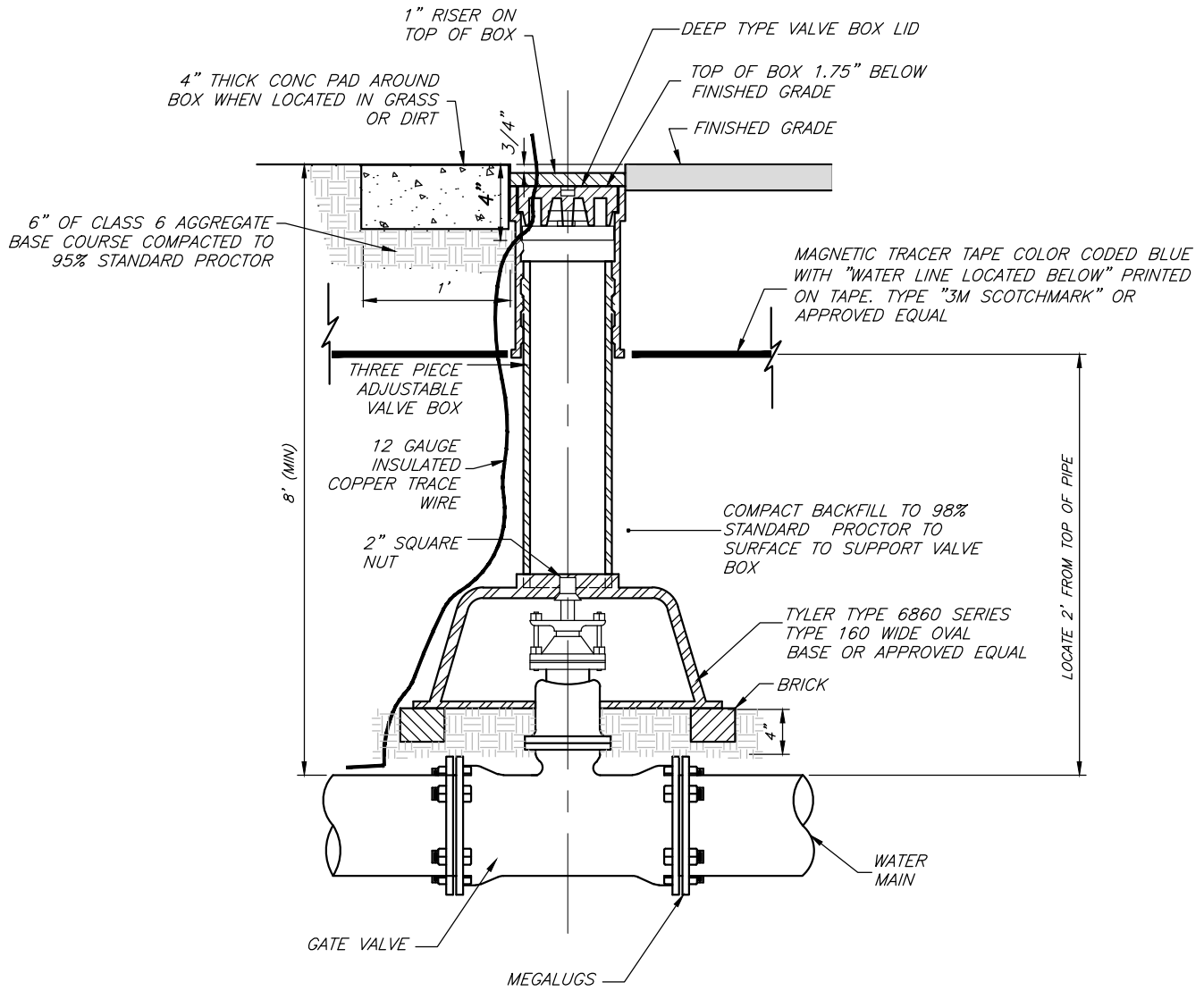
FIRE HYDRANT ASSEMBLY INSTALLATION DETAIL

NOTES:

- 1) ALL JOINTS FROM MAIN TO HYDRANT SHALL BE RESTRAINED MECHANICAL JOINTS.
- 2) HYDRANT, VALVE AND FITTINGS TO BE 250 P.S.I. RATED.
- 3) POLYETHYLENE WRAP SHALL COVER D.I.P. ASSEMBLY FROM HYDRANT BASE TO WATER MAIN. DO NOT BLOCK WEEP HOLE.
- 4) ALL HYDRANT LEAD PIPING TO BE 6" CLASS 250 D.I.P. UNLESS OTHERWISE NOTED
- 5) CENTERLINE OF HYDRANT TO BE 4'-0" FROM BACK OF CURB UNLESS OTHERWISE NOTED.
- 6) INSTALL VALVE STEM EXTENSION AS NEEDED TO INSURE THE DISTANCE FROM VALVE BOX LID TO TOP OF NUT SHALL NOT EXCEED 5'-0"

DETAIL "W05"

File: I:\2013\2013-321_SNOWMASS W&SD\001_MISCELLANEOUS ENGINEERING SERVICES\09_RULES AND REGULATIONS\DETAILS\DWG\W05-FHYD



TYPICAL GATE VALVE

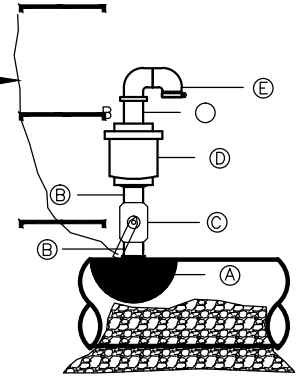
NOTES:

1. ALL VALVES ADJACENT TO FITTING SHALL BE MJ. IN LINE VALVES TO BE MJ x MJ. DESIGN LOCATIONS OF VALVES ARE OUTSIDE OF CONCRETE, CURB/GUTTER AND VALLEY PANS.
2. INSTALLED VALVES WHICH CONFLICT WITH CONCRETE AREAS SHALL BE RELOCATED AT THE CONTRACTOR'S EXPENSE.
3. THIS DETAIL DOES NOT APPLY TO HYDRANT ASSEMBLY VALVES.
4. INSTALL VALVE STEM EXTENSION AS NEEDED TO INSURE THE DISTANCE FROM VALVE BOX LID TO TOP OF NUT SHALL NOT EXCEED 5'-0"
5. THE TRACER WIRE SHALL BE EXTENDED TO THE SURFACE AT ALL VALVES AND FIRE HYDRANTS. THE WIRE SHALL BE EXTENDED TOWARDS THE GROUND ON THE OUTSIDE OF THE VALVE BOX UNTIL THE WIRE IS WITHIN FOUR INCHES (4") OF THE TOP OF THE LID, AT WHICH POINT IT SHALL BE BROUGHT BACK INSIDE THE BOX AND SECURELY FASTENED. SUFFICIENT SLACK IN THE OUTSIDE OF THE WIRE SHALL BE PROVIDED TO COMPENSATE FOR ANY FUTURE ADJUSTMENT TO THE VALVE BOX.
6. ADD SOLID PIPE FOR VALVE BOX OVER 9 FEET

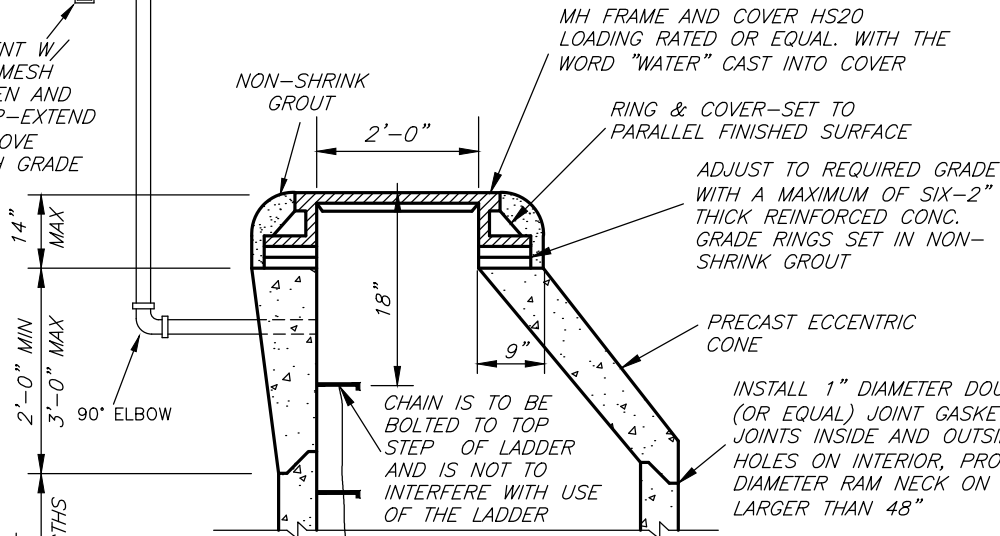
DETAIL "W06"

CHAIN TO BE BOLTED TO HANDLE OF BALL VALVE. CHAIN IS TO BE CLEAR FROM INTERFERENCE OF THE AIR-VAC ASSEMBLY. CHAIN SHOULD HANG LOOSELY WHEN NOT IN USE.

USE SCH 40 GALVANIZED STEEL
 3" VENT W/ WIRE MESH SCREEN AND CLAMP-EXTEND 3' ABOVE FINISH GRADE

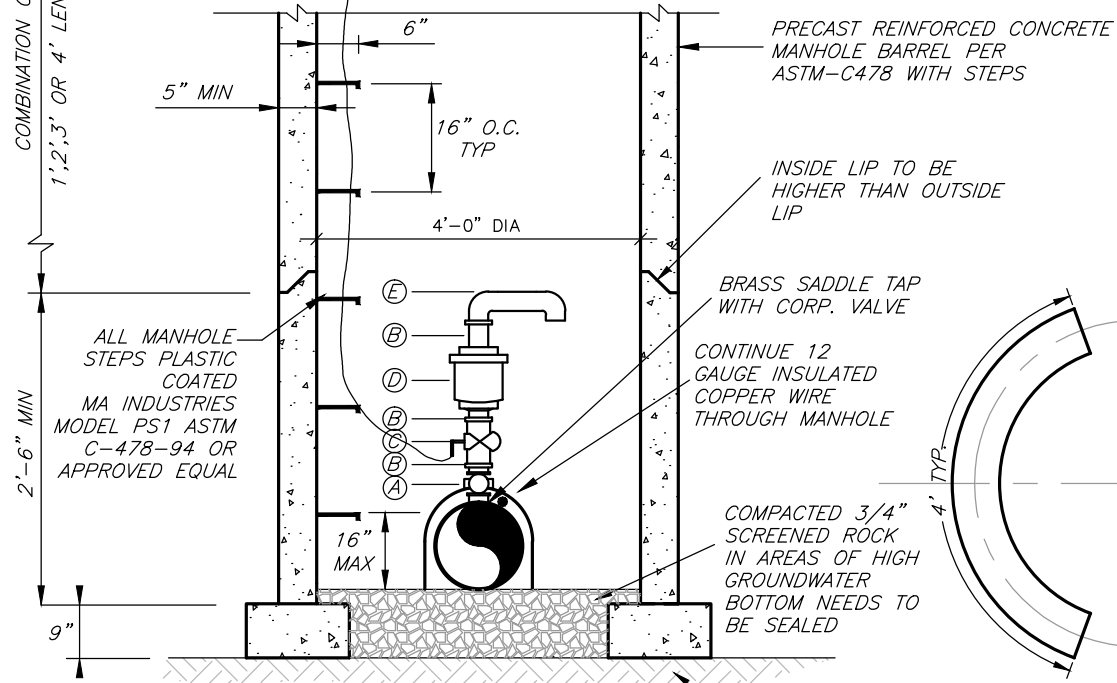


SIDE DETAIL



MH FRAME AND COVER HS20 LOADING RATED OR EQUAL. WITH THE WORD "WATER" CAST INTO COVER
 RING & COVER-SET TO PARALLEL FINISHED SURFACE
 ADJUST TO REQUIRED GRADE WITH A MAXIMUM OF SIX-2" THICK REINFORCED CONC. GRADE RINGS SET IN NON-SHRINK GROUT

INSTALL 1" DIAMETER DOUBLE RAM NECK (OR EQUAL) JOINT GASKET AND GROUT JOINTS INSIDE AND OUTSIDE, GROUT LIFT HOLES ON INTERIOR, PROVIDE 1 1/2" DIAMETER RAM NECK ON MANHOLES LARGER THAN 48"



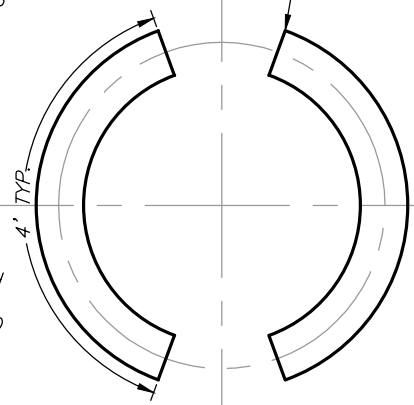
CONCRETE FOOTING, 9"x12"x8'-0"

BRASS SADDLE TAP WITH CORP. VALVE

CONTINUE 12 GAUGE INSULATED COPPER WIRE THROUGH MANHOLE

COMPACTED 3/4" SCREENED ROCK IN AREAS OF HIGH GROUNDWATER BOTTOM NEEDS TO BE SEALED

UNDISTURBED SOIL



FOOTING PLAN

SECTION

2" COMBINATION AIR VALVE & MANHOLE

LEGEND

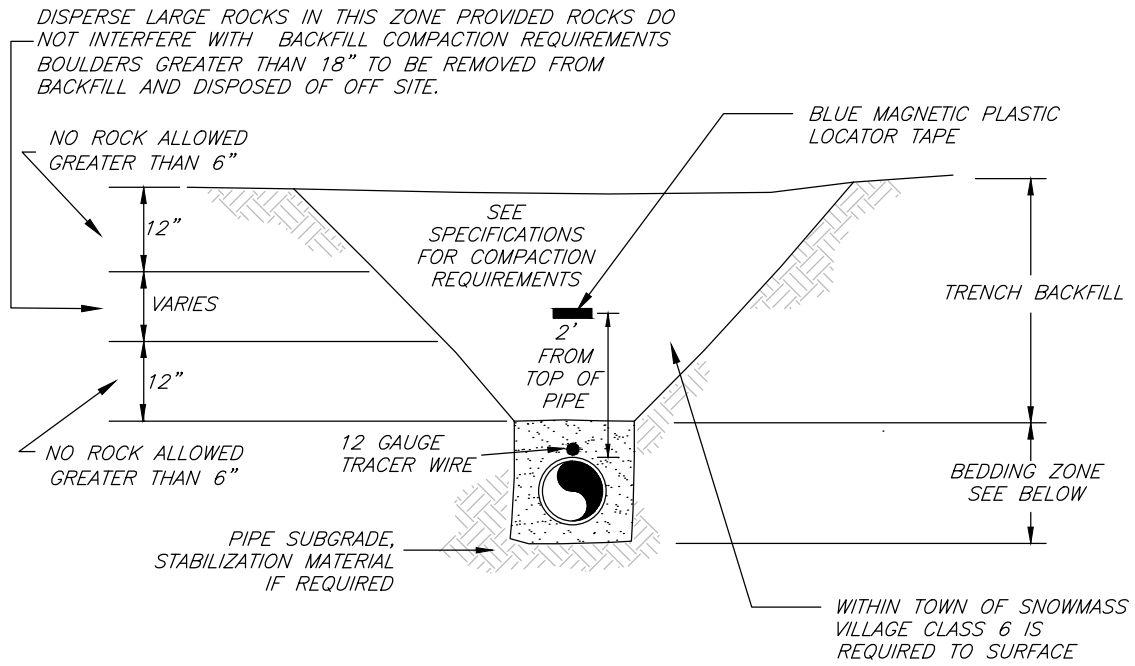
- (A) 2" CORPORATION TAPERED THREADS INLET
- (B) 2" X 4" THREADED BRASS NIPPLE
- (C) 2" THREADED BALL VALVE
- (D) 2" THREADED INLET APCO 144 AIR AND VACUUM RELEASE VALVE
- (E) 2" X 90° PLASTIC ELBOW

GENERAL NOTES

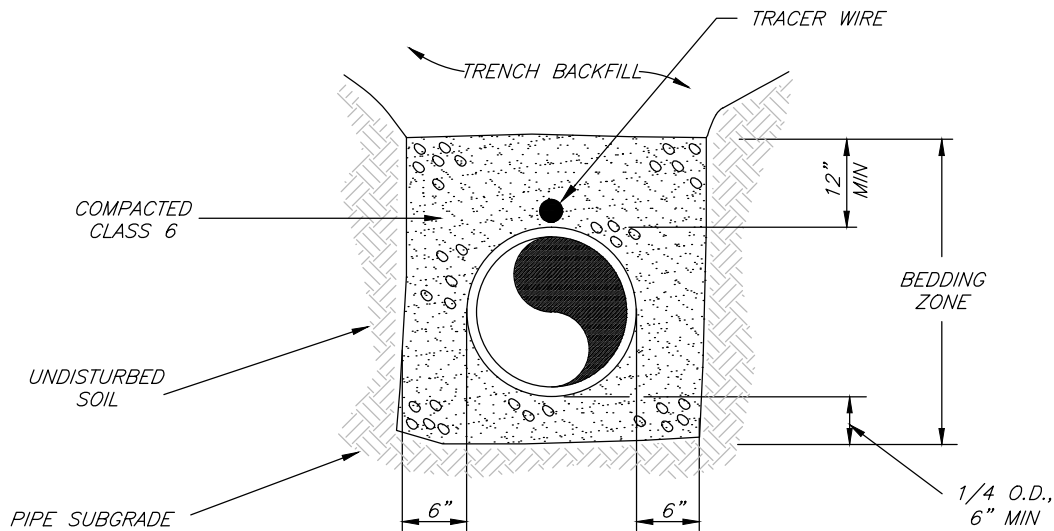
1. ALL CONCRETE WORK SHALL COMPLY WITH LATEST ACI-318 SPECIFICATIONS
2. AIR VALVE ASSEMBLY LARGER THAN 2" SIZE SHALL BE SPECIALLY DESIGNED AND MEET WATER DEPARTMENT REQUIREMENTS

DETAIL "W07"

Fig: 1, 2013, 2013-321 SNOWMASS W&SD 001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\W08-WATERPIPEBED



TRENCH ZONES

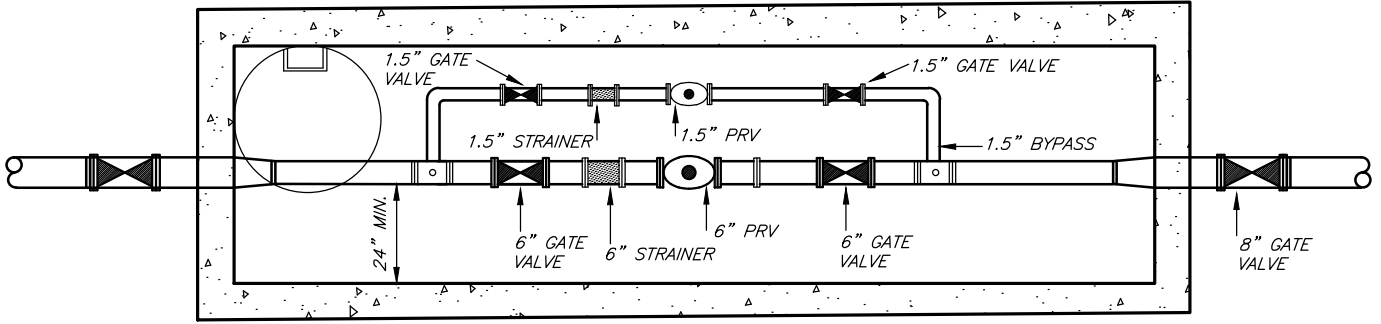


PIPE BEDDING ZONE

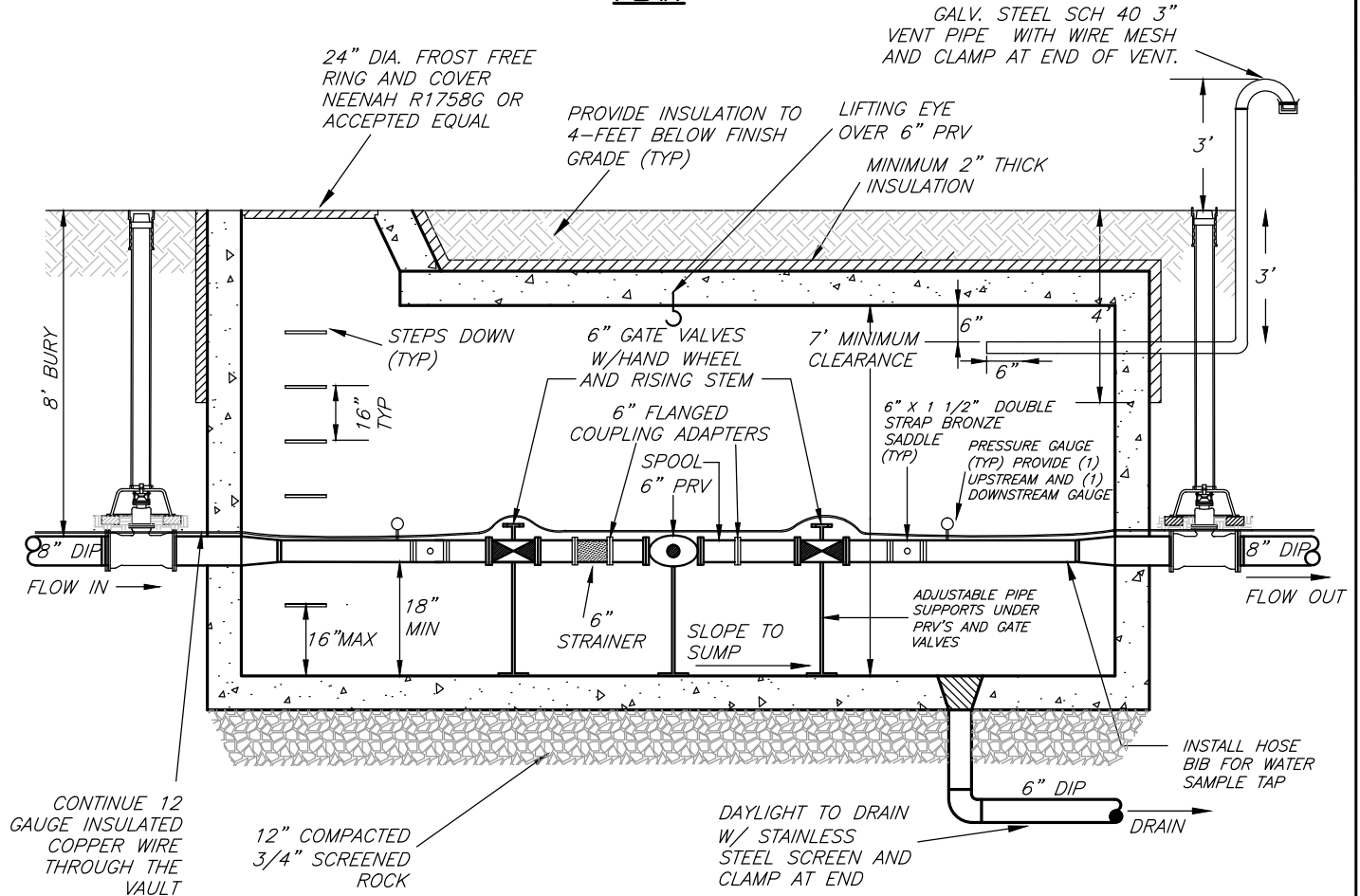
NOTE: 3/4 SCREENED ROCK IN WET AREAS IN PLACE OF CLASS 6 ONLY APPROVED AS NEEDED

WATER PIPE BEDDING

DETAIL "W08"



PLAN



ELEVATION

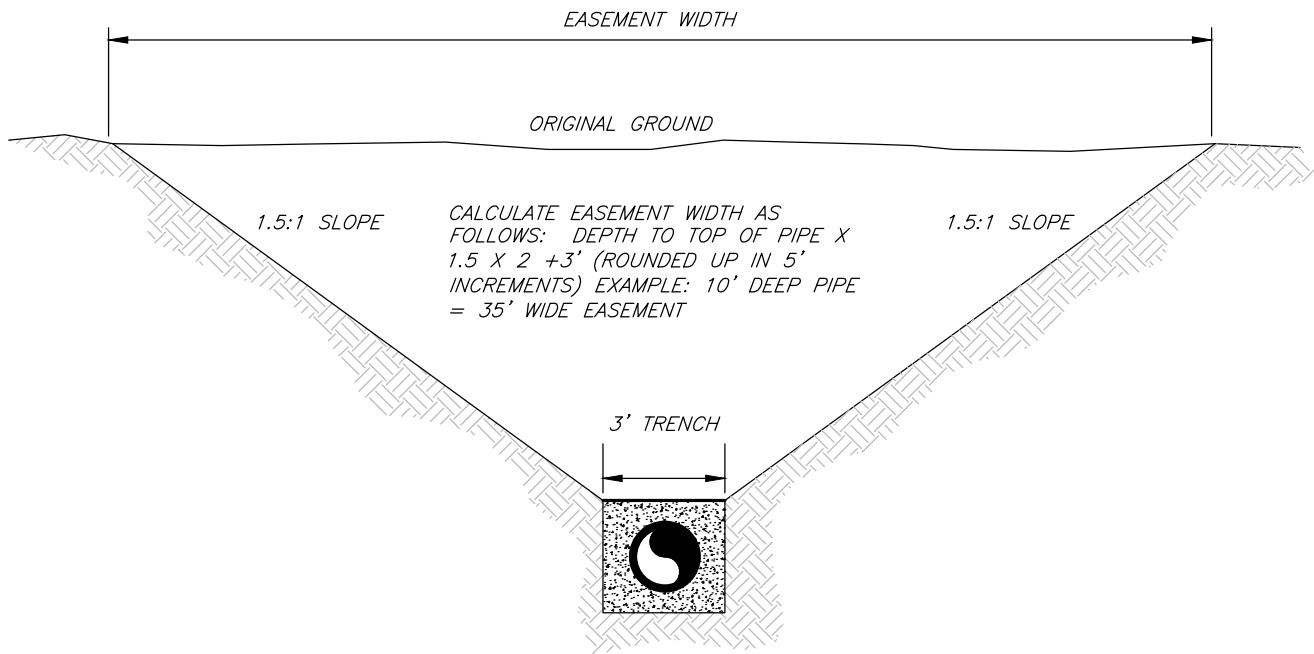
MAIN LINE PRV VAULT

NOTES

1. VAULT SHALL BE POURED IN PLACE CONCRETE AND CAPABLE OF WITHSTANDING HS 20-44 TRAFFIC LOADING CONDITIONS
2. WHERE PIPES PENETRATE WALLS, USE LINK SEAL OR FILL ANNULAR SPACE W/ NON-SHRINK GROUT
3. COAT ALL EXTERIOR VAULT SURFACES WITH BITUMINOUS DAMPROOFING
4. ALL 1 1/2" PIPE SHALL BE BRASS W/ALL OTHER PIPE AND FITTINGS BEING FLANGED DUCTILE IRON
5. ALL TIE-RODS SHALL BE 3/4" ALL-THREAD OR MEGA-LUGS ON EXTERIOR CONNECTIONS
6. CONTRACTOR SHALL SUBMIT VAULT PIPING SCHEMATIC W/ VAULT DIMENSIONS PRIOR TO ORDERING
7. IT SHALL BE THE OWNER'S RESPONSIBILITY TO VERIFY ALL PRV SIZING AND PRESSURE SETTINGS SIZES OF PRV'S SHOWN IS FOR ILLUSTRATION PURPOSES ONLY
8. THE DISTRICT SHALL APPROVE FINAL SIZING OF ALL PRV'S AND VALVES
9. PIPE MATERIAL TO BE OR RESTRAINED JOINT OR FLANGED PIPE.
10. INCLUDE A BYPASS PRV IN PIPING.
11. PROVIDE 120 VOLT POWER TO VAULT

DETAIL "W09"

File: I:\2013\2013-321 SNOWMASS W&SD\001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG W10-EASEWIDTH



MINIMUM EASEMENT WIDTH

EASEMENT WIDTH

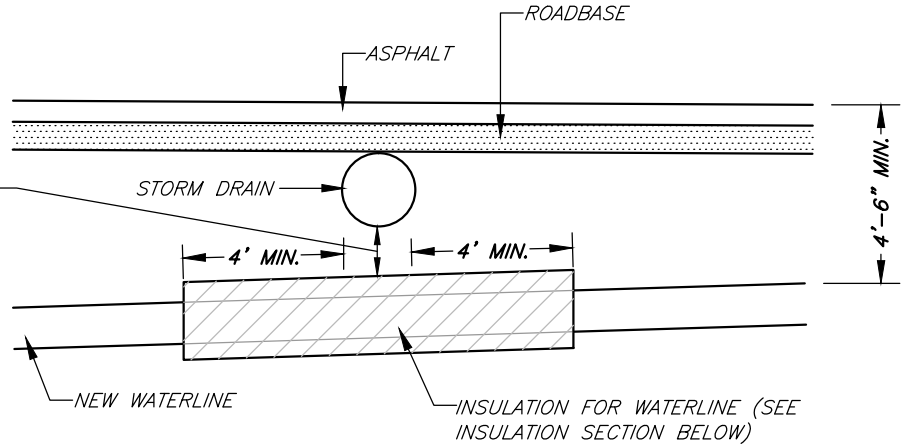
GENERAL NOTES:

1. MINIMUM EASEMENT WIDTH OF 20 FEET FOR 1 LINE
2. MINIMUM EASEMENT WIDTH OF 30 FEET FOR 2 LINES
3. NO PERMANENT IMPROVEMENTS SHALL BE INSTALLED WITHIN EASEMENT AREA SUCH AS LANDSCAPING, CONCRETE, ETC.

DETAIL "W10"

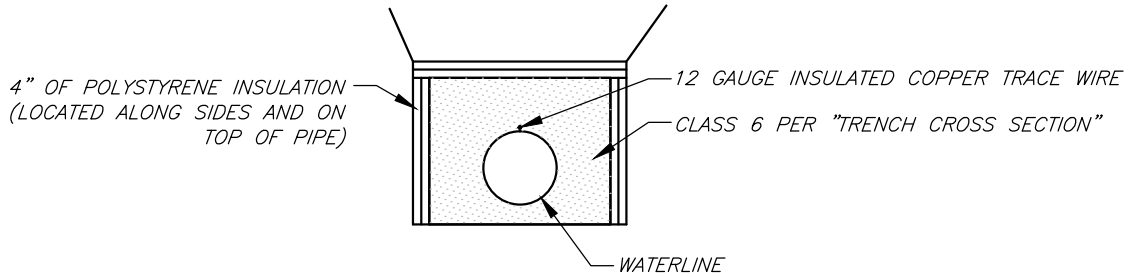
Fig: I:\2013\2013-321 SNOWMASS W&SD\001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\W11-INSULATION

CONTRACTOR TO DEFLECT JOINTS AS REQUIRED TO MAINTAIN 18" MIN. SEPARATION W/ NO ADDITIONAL HIGH POINTS OR LOW POINTS CREATED



ELEVATION WATERLINE/CULVERT CROSSING

NO SCALE



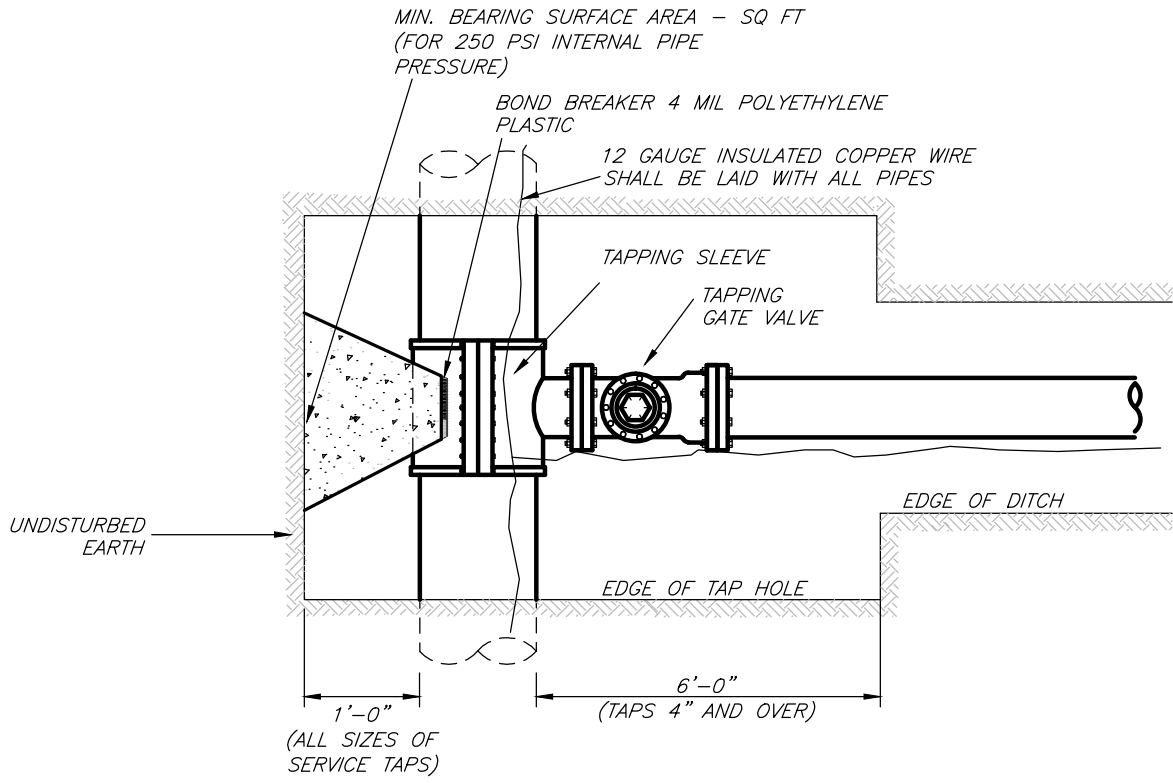
INSULATION SECTION

NO SCALE

INSULATION DETAIL

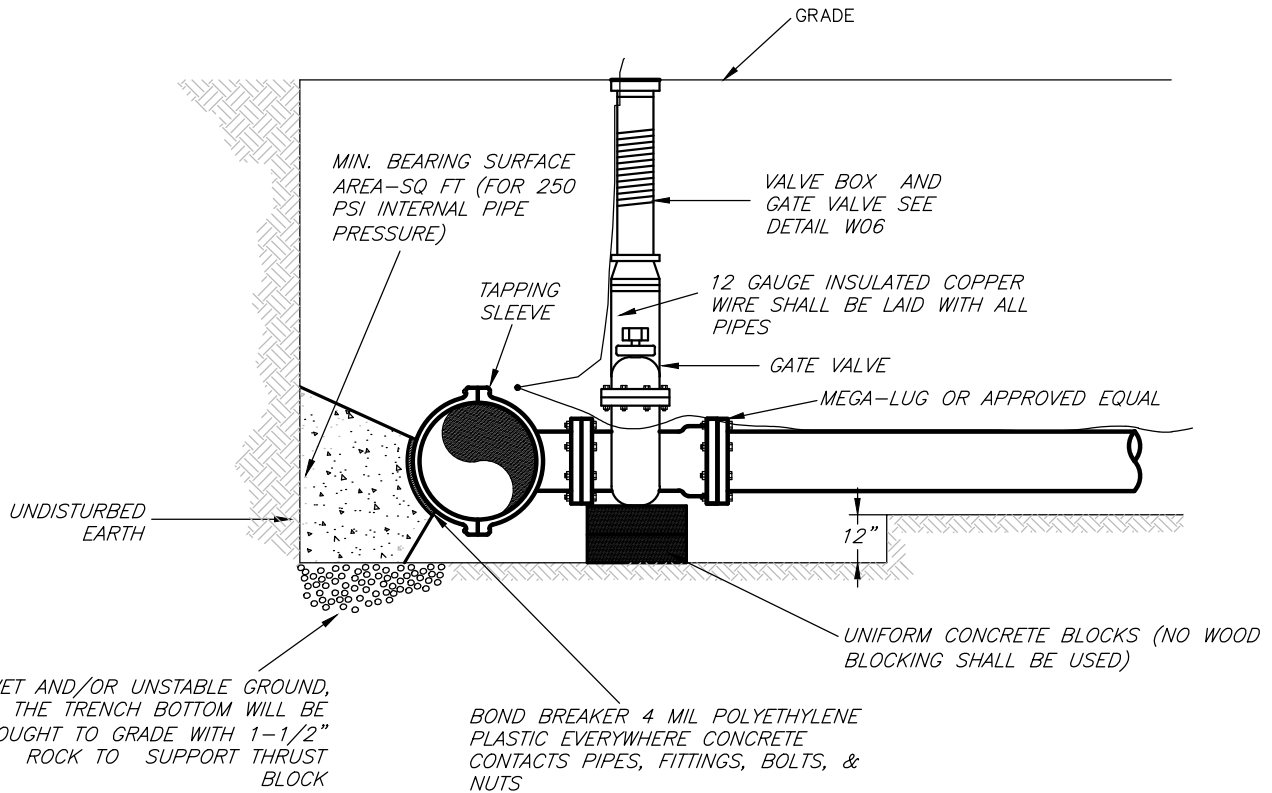
DETAIL "W11"

File: I:\2013\2013-321 SNOWMASS W&SD\001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\W12-TAPPINGDETAIL



PLAN

12 GAUGE INSULATED COPPER WIRE SHALL BE LAID WITH ALL PIPES

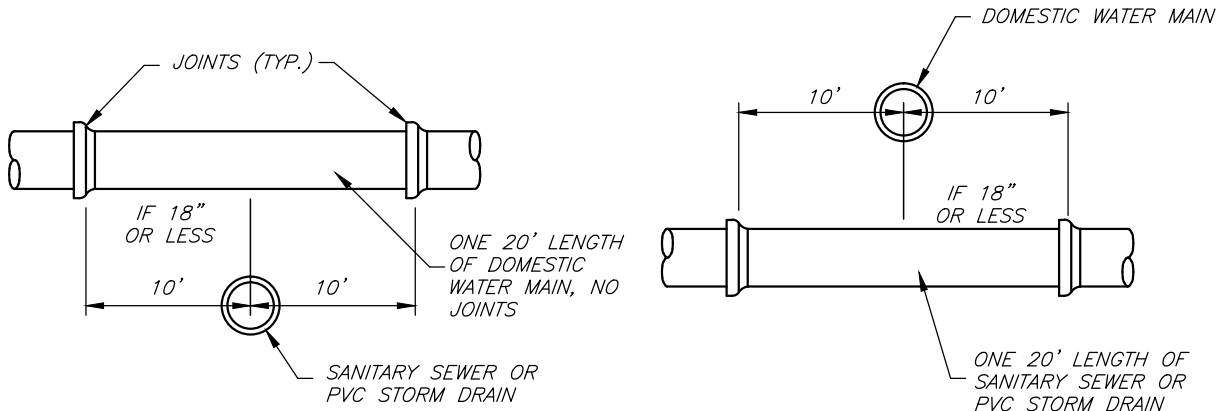


ELEVATION

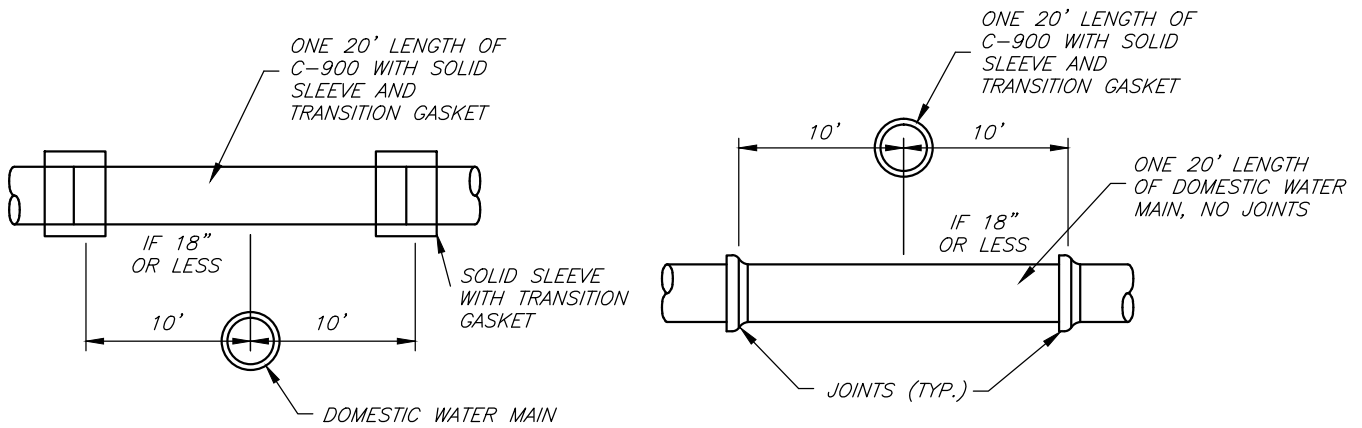
TAPPING DETAIL

DETAIL "W12"

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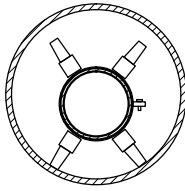
WATER MAIN ABOVE



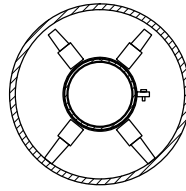
WATER MAIN BELOW

WATER/SEWER CROSSING

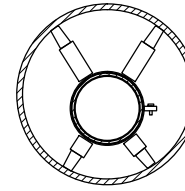
DETAIL "W13"



STANDARD

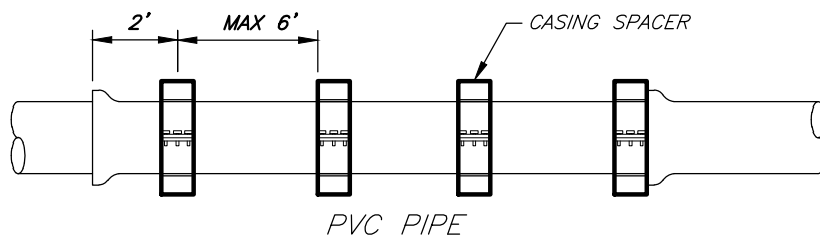


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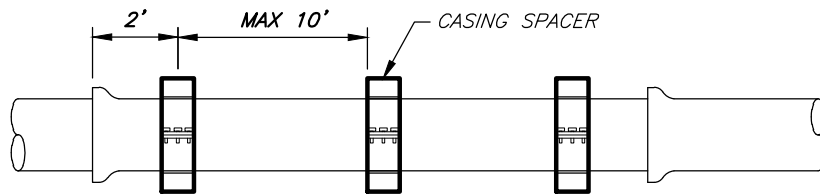


RESTRAINED

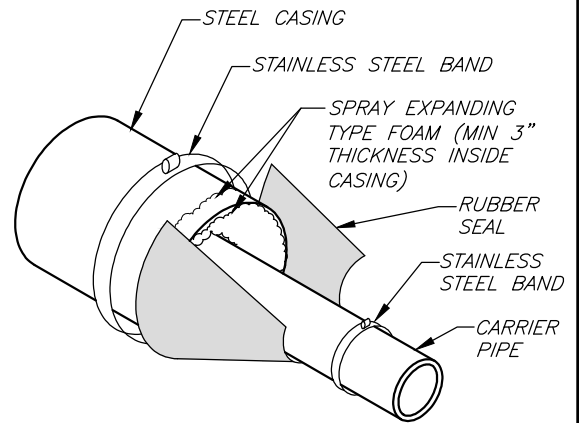
BASIC POSITIONS



PVC PIPE



DUCTILE IRON PIPE



END SEAL

PLACEMENT OF SPACERS ON CARRIER PIPE

PIPE CASING DETAIL

NTS

NOTES:

GENERAL: ONE SPACER SHALL BE PLACED NOT MORE THAN TWO FEET FROM EACH END OF THE CASING SUBSEQUENT SPACERS SHALL BE PLACED AT 10' INTERVALS WITHIN THE CASING.

PVC CARRIER: ONE SPACER SHALL BE PLACED ON THE SPIGOT END OF EACH SEGMENT AT THE LINE MARKING THE LIMIT OF INSERTION INTO THE BELL. WHEN THE JOINT IS COMPLETE, THE SPACER SHALL BE IN CONTACT WITH THE BELL OF THE JOINT SO THAT THE SPACER PUSHES THE JOINT AND RELIEVES COMPRESSION WITHIN THE JOINT. SUBSEQUENT SPACERS SHALL BE PLACED AT 6' INTERVALS.

1. CARRIER PIPE SHALL BE INSERTED WITHIN CASING BY USE OF MODEL CCS STAINLESS STEEL CASING SPACERS AS MANUFACTURED BY CASCADE WATERWORKS MFG. CO. OF YORKVILLE, IL OR APPROVED EQUAL BY DISTRICT ENGINEER.

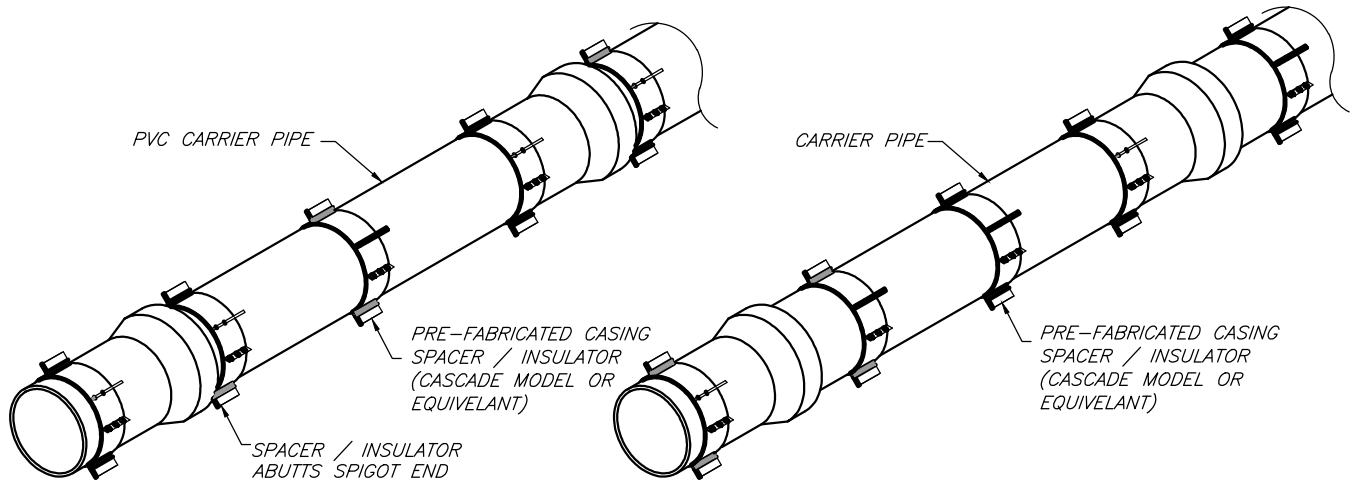
2. ALL PIPE JOINTS LOCATED WITHIN THE CASING AND THE FIRST JOINT EITHER SIDE OF CASING SHALL BE RESTRAINED BY USING SNAP LOCK TYPE GASKETS MANUFACTURED BY US PIPE OR APPROVED EQUAL BY DISTRICT ENGINEER. ALL RESTRAINED PIPE IS TO BE TYPE TYTON-JOINT AS MANUFACTURED BY US PIPE OR APPROVED EQUAL BY DISTRICT ENGINEER. ALL RESTRAINED PIPE IS TO BE INSTALLED USING THE RESTRAINED POSITION OF CARRIER INSTALLATION.

3. CONTRACTOR TO INSTALL PER SPECIFICATIONS SUPPLIED BY CASCADE WATERWORKS MANUFACTURING COMPANY OR APPROVED EQUAL BY DISTRICT ENGINEER.

DETAIL "W14"

Fig: 1, 2013, 2013-321, SNOWMASS #8&SD, 001, MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\W14-ENGASE02

Fig: I:\2013\2013-321 SNOWMASS W&SD\001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\W15-ENCASE03

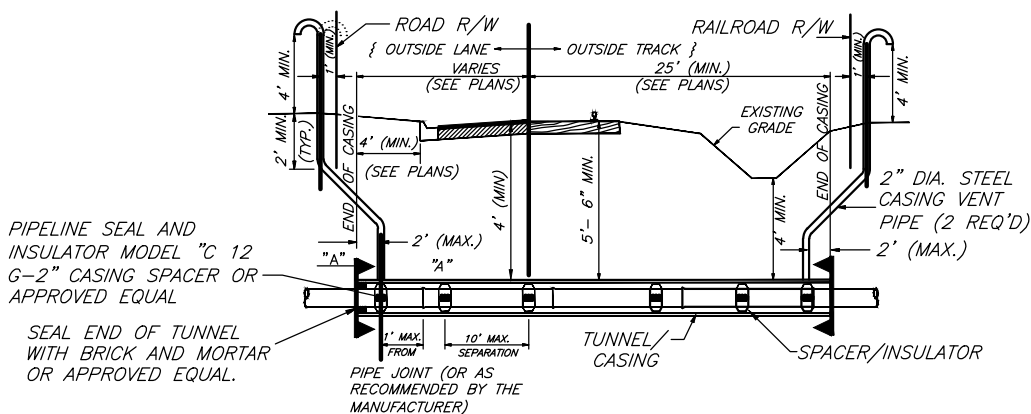
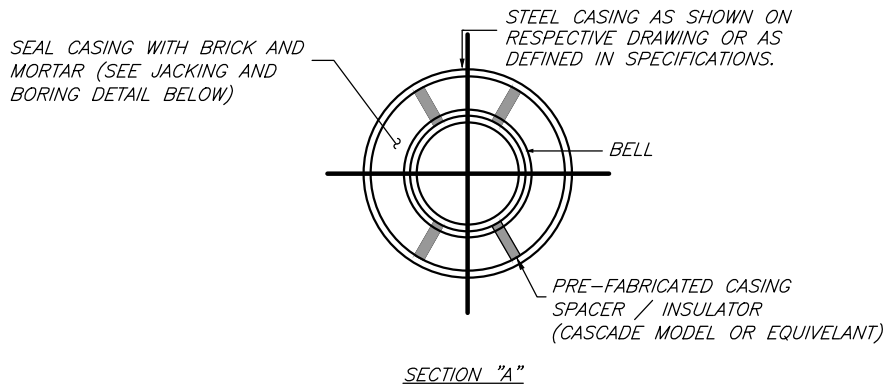


GENERAL NOTES

1. ONE SPACER SHALL BE PLACED NOT MORE THAN TWO FEET FROM EACH END OF THE CASING. SUBSEQUENT SPACERS SHALL BE PLACED AT 10' ENTRVALS WITHIN CASING
2. PVC CARRIER: ONE SPACER SHALL BE PLACED ON THE SPIGOT END OF EACH SEGMENT AT THE LINE MARKING THE LIMIT OF INSERTION INTO THE BELL WHEN THE JOINT IS COMPLETE, THE SPACER SHALL BE IN CONTACT WITH THE BELL OF THE JOINT SO THAT THE SPACER PUSHES THE JOINT AND RELIEVES COMPRESSION WITHIN THE JOINT. SUBSEQUENT SPACERS SHALL BE PLACED AT 6' INTERVALS

RECOMMENDED PLACEMENT ON PVC PIPE

RECOMMENDED PLACEMENT ON OTHER PIPE



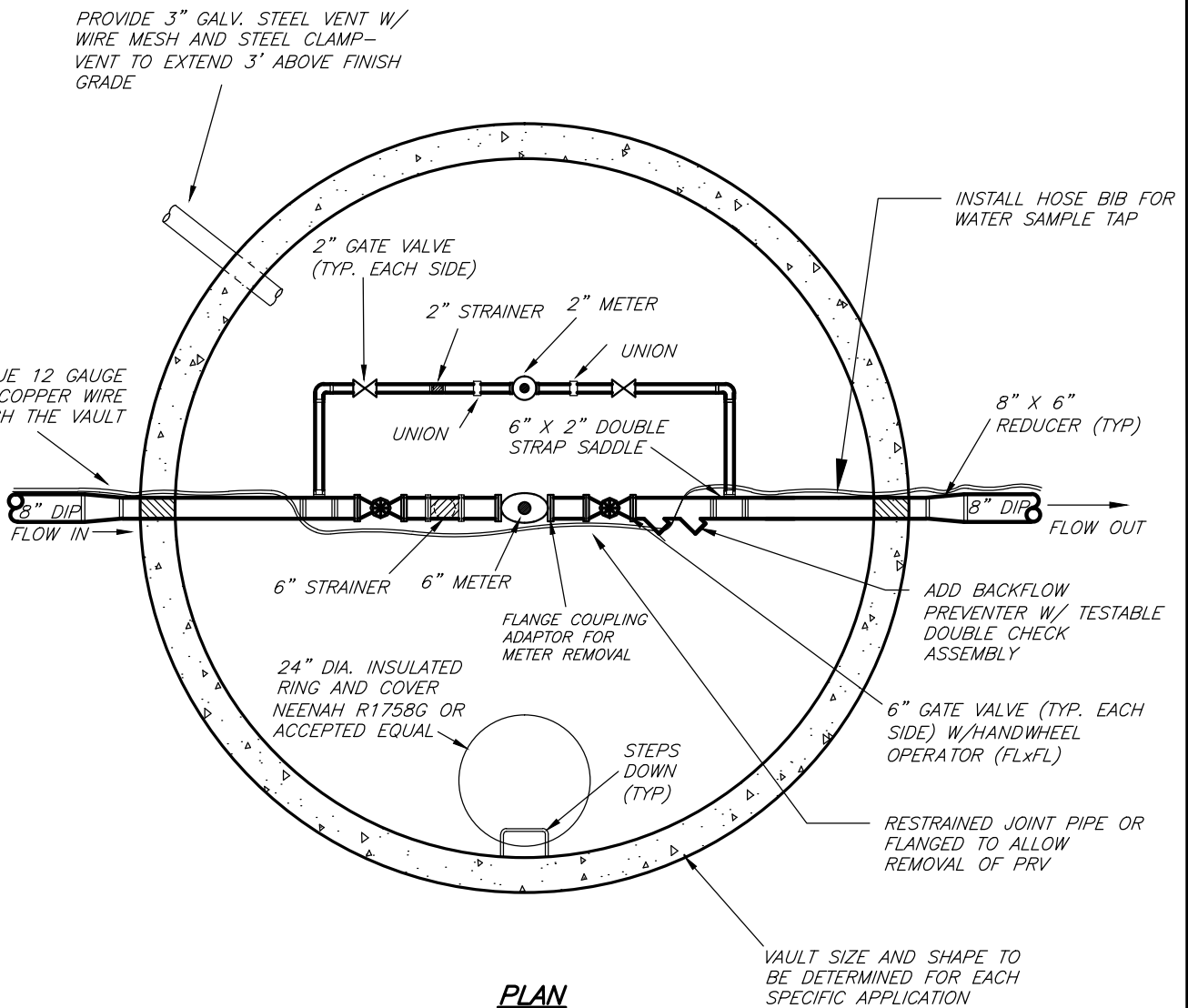
JACK AND BORE DETAILS FOR CROSSINGS
N.T.S.

NOTES

1. WATER MAIN TO BE RESTRAINED THROUGH TUNNEL / CASING.
2. PIPELINE SHALL BE PROMINENTLY MARKED AT RAILROAD RIGHT-OF-WAY BY SIGNS WORDED, "HIGH PRESSURE MAIN BURIED BELOW".
3. VENT PIPES SHALL BE FITTED WITH SCREENED DOWN-TURNED ELBOWS.
4. VENT PIPES SHALL BE INSTALLED ONLY IF TUNNEL / CASING IS NOT FILLED.

DETAIL "W15"

File: I:\2013\2013-321-SNOWMASS W&SD\001-MISCELLANEOUS ENGINEERING SERVICES\09-RULES AND REGULATIONS\DETAILS\DWG\W16-WATERMETER



PLAN

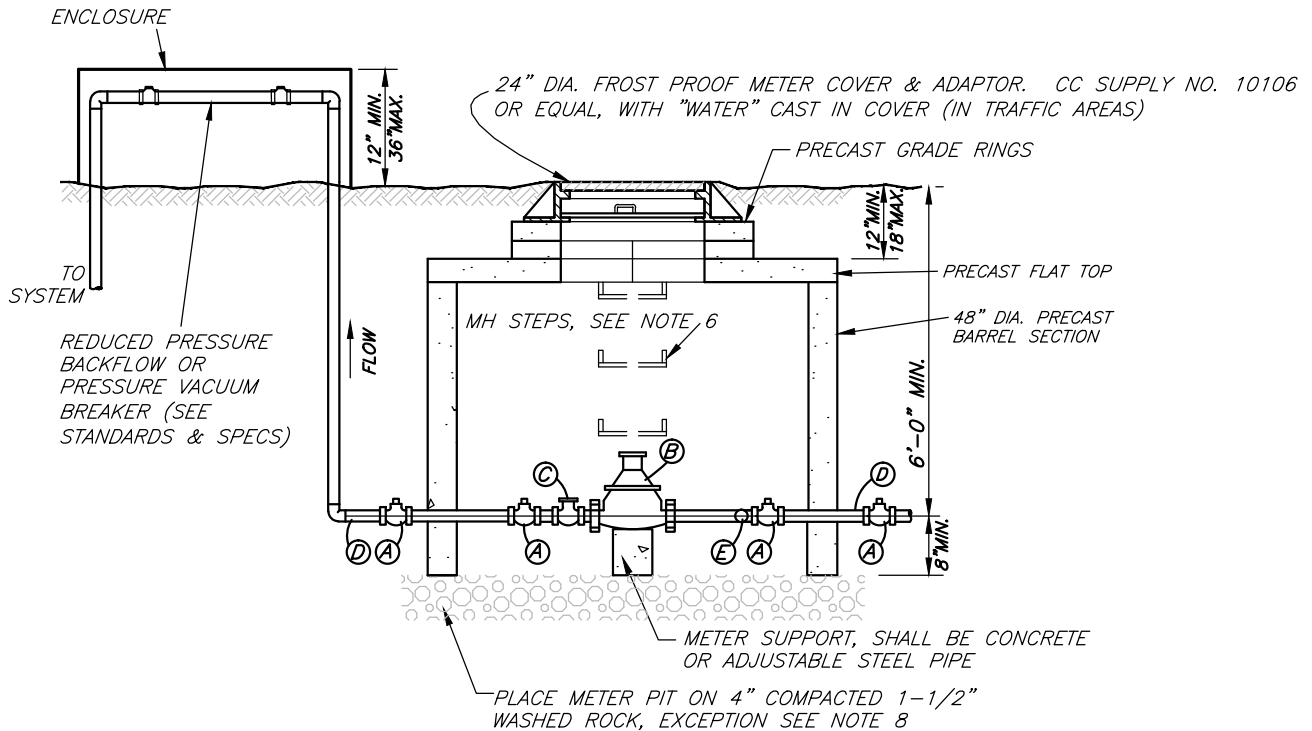
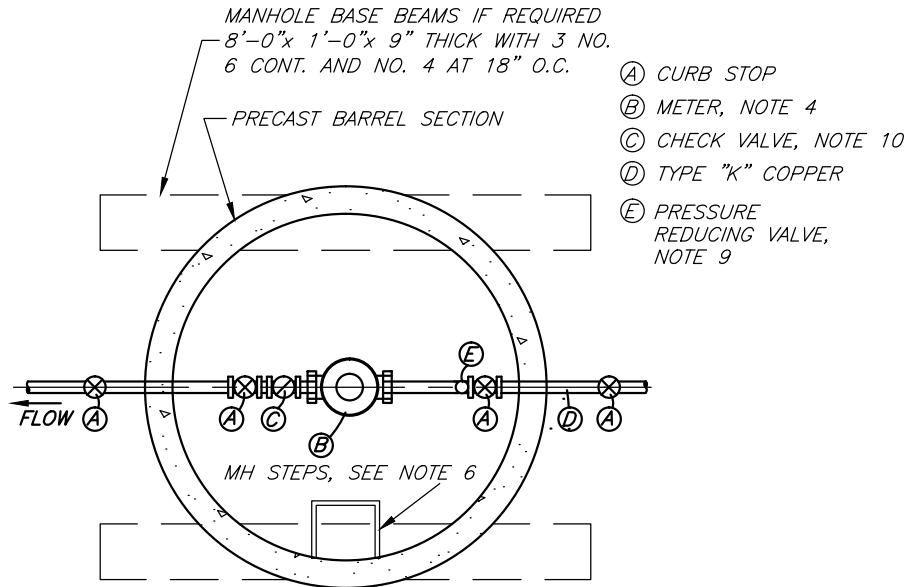
MAINLINE WATER METER

NOTES

1. VAULT SHALL BE PRECAST CONCRETE AND CAPABLE OF WITHSTANDING HS 20-44 TRAFFIC LOADING CONDITIONS
2. WHERE PIPES PENETRATE WALLS, USE LINK SEAL OR FILL ANNULAR SPACE W/ NON-SHRINK GROUT
3. COAT ALL EXTERIOR VAULT SURFACES WITH BITUMINOUS DAMPROOFING
4. ALL 2" PIPE SHALL BE BRASS W/ ALL OTHER PIPE AND FITTINGS BEING FLANGED DUCTILE IRON
5. ALL TIE-RODS SHALL BE 3/4" ALL-THREAD OR MEGA-LUGS ON EXTERIOR CONNECTIONS
6. CONTRACTOR SHALL SUBMIT VAULT PIPING SCHEMATIC W/ VAULT DIMENSIONS TO DISTRICT PRIOR TO ORDERING MATERIALS OR EQUIPMENT
7. PIPE MATERIAL TO BE FLANGED OR RESTRAINED JOINT PIPE.

DETAIL "W16"

File: I:\2013\2013-321 SNOWMASS H&SD\001 MISCELLANEOUS ENGINEERING SERVICES\09 RULES AND REGULATIONS\DETAILS\DWG\W17-IRRIMETERPITDETAIL



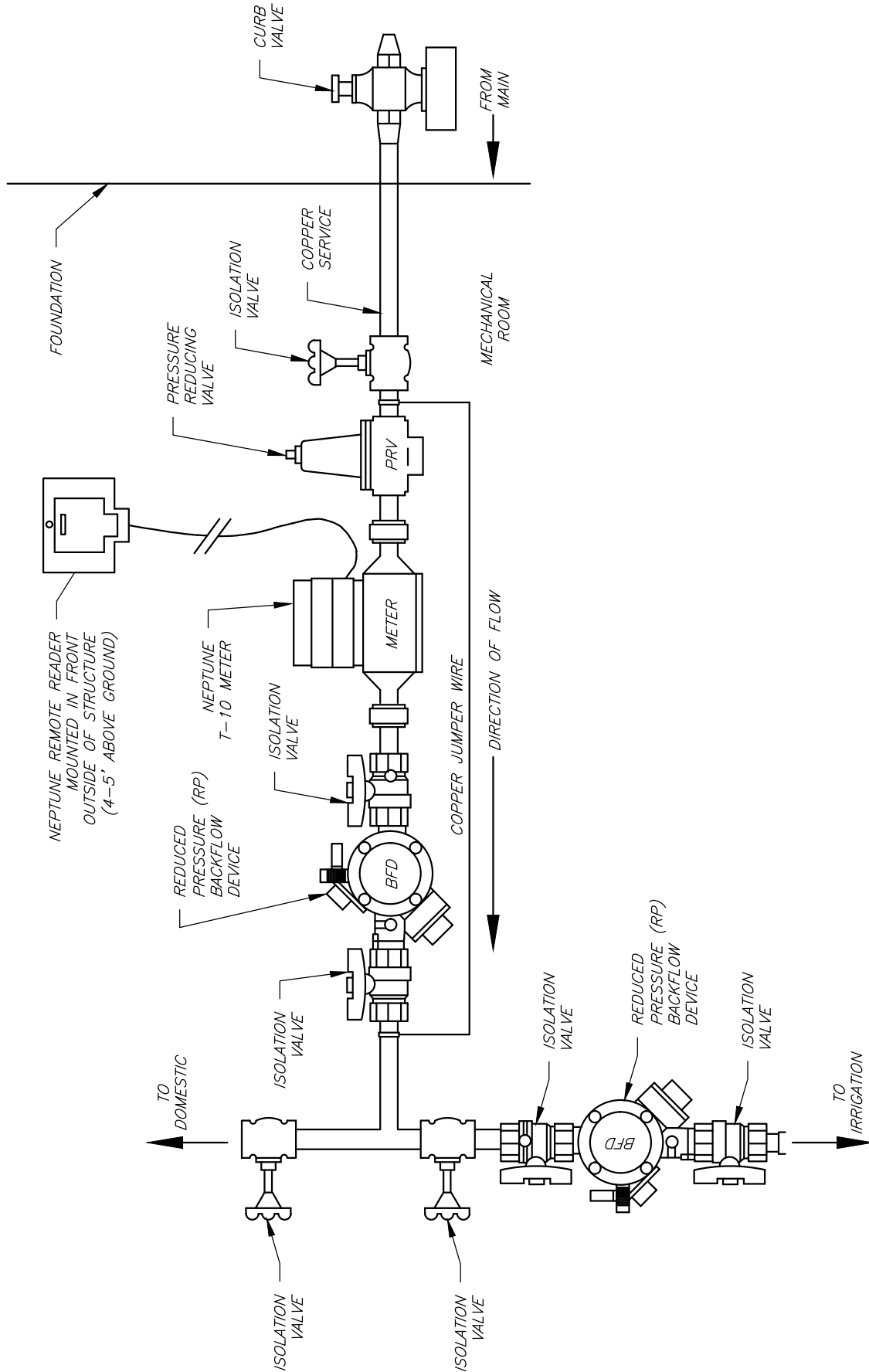
IRRIGATION METER PIT DETAIL

GENERAL NOTES

1. MANHOLE BASE BEAMS SHALL BE REQUIRED FOR INSTALLATIONS IN DRIVEWAYS OR PARKING AREAS
2. A 48" DIA. MANHOLE PIT WILL ACCOMODATE 1-1/2" & 2" SPLIT CASE METERS.
3. JOINTS INSIDE METER VAULT SHALL BE EITHER THREADED OR SOLDERED WITH 95/5% TIN/ANTIMONY SOLDER.
4. METER SHALL BE A NEPTUNE T-10 WITH PROREAD ECODER PIT REGISTER WITH A RF STYLE REMOTE. METERS SHALL BE FLANGES WITH BRASS COMPANION FLANGES.
5. NO CONNECTIONS OR CHANGES IN PIPE DIAMETER SHALL BE MADE IN THE METER PIT OR IN THE DISTANCE OF FIVE FEET BEYOND THE METER PIT ON THE OUTLET SIDE.
6. MANHOLE STEPS SHALL BE PLACED ON THE OPPOSITE SIDE OF BYPASS AT 16" O.C., STEPS TO BE NEENAH R-1982-W OR EQUAL.
7. IF SURFACE IS NOT TO FINAL GRADE AT THE TIME OF INSTALLATION OF METER, OWNER MUST RAISE OR LOWER PIT WHEN SURFACE IS GRADED.
8. IN AREAS OF GROUND WATER, CAST IN PLACE 6" THICK CONCRETE BASE, 6'-0" DIA, WITH NO. 4 BARS AT 12" O.C. EA. WAY. INSTALL 4" PVC DRAIN TO DAYLIGHT. PLACE BASE ON UNDISTURBED GROUND OR 1-1/2" COMPACTED WASHED ROCK FOR STABILIZATION.
9. PRESSURE REDUCING VALVE-WATTS U-5-B
10. CHECK VALVE-FORD H SERIES (TESTABLE).

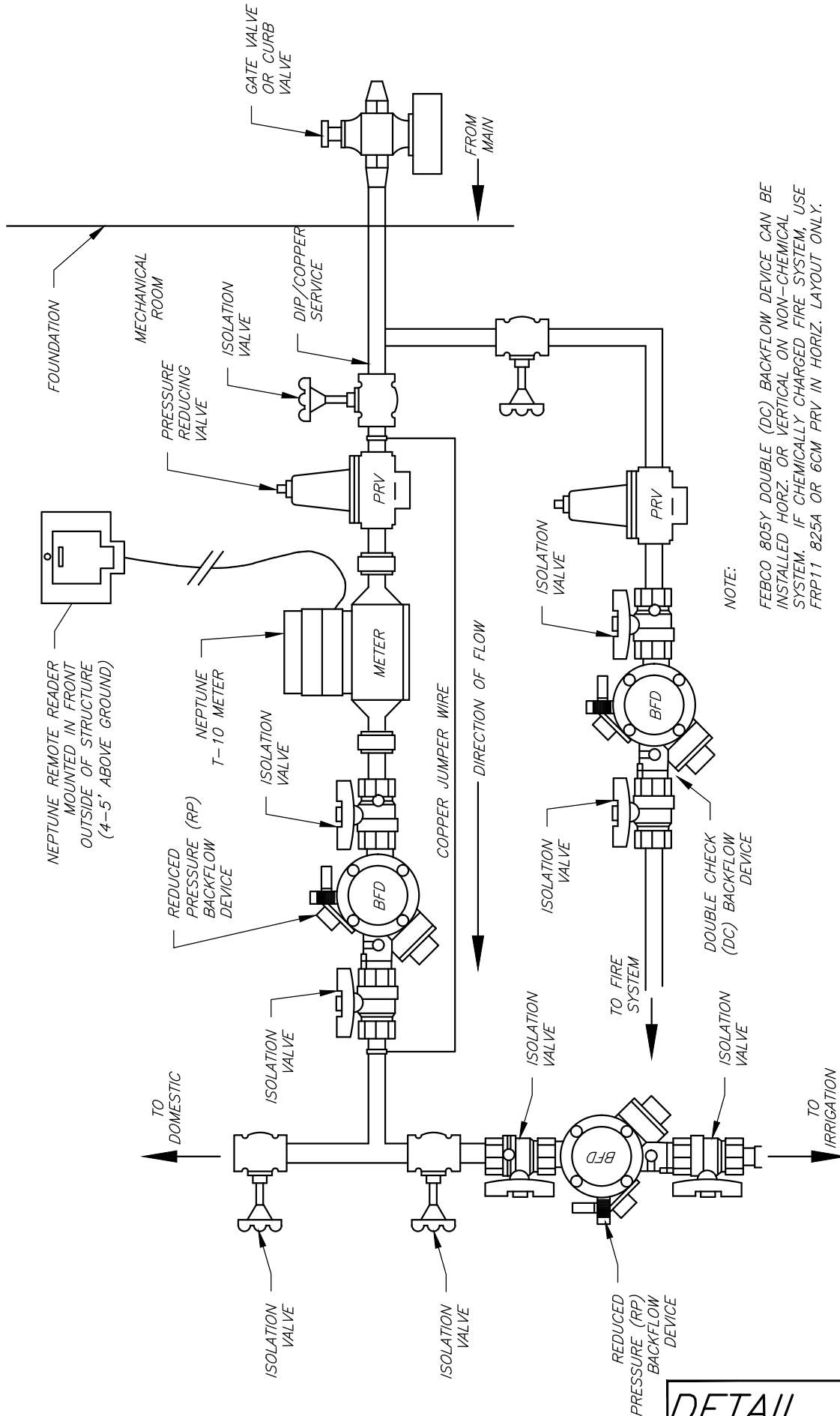
DETAIL "W17"

RESIDENTIAL WITHOUT FIRE SYSTEM



DETAIL "W18"

RESIDENTIAL/COMMERCIAL WITH FIRE SYSTEM



DETAIL "W19"