

- 2. Added Pymt. Sect. Note: 11/08
- 1. Changed Company Name 1/00

REVISION HISTORY:

**Mount  
werner  
water**



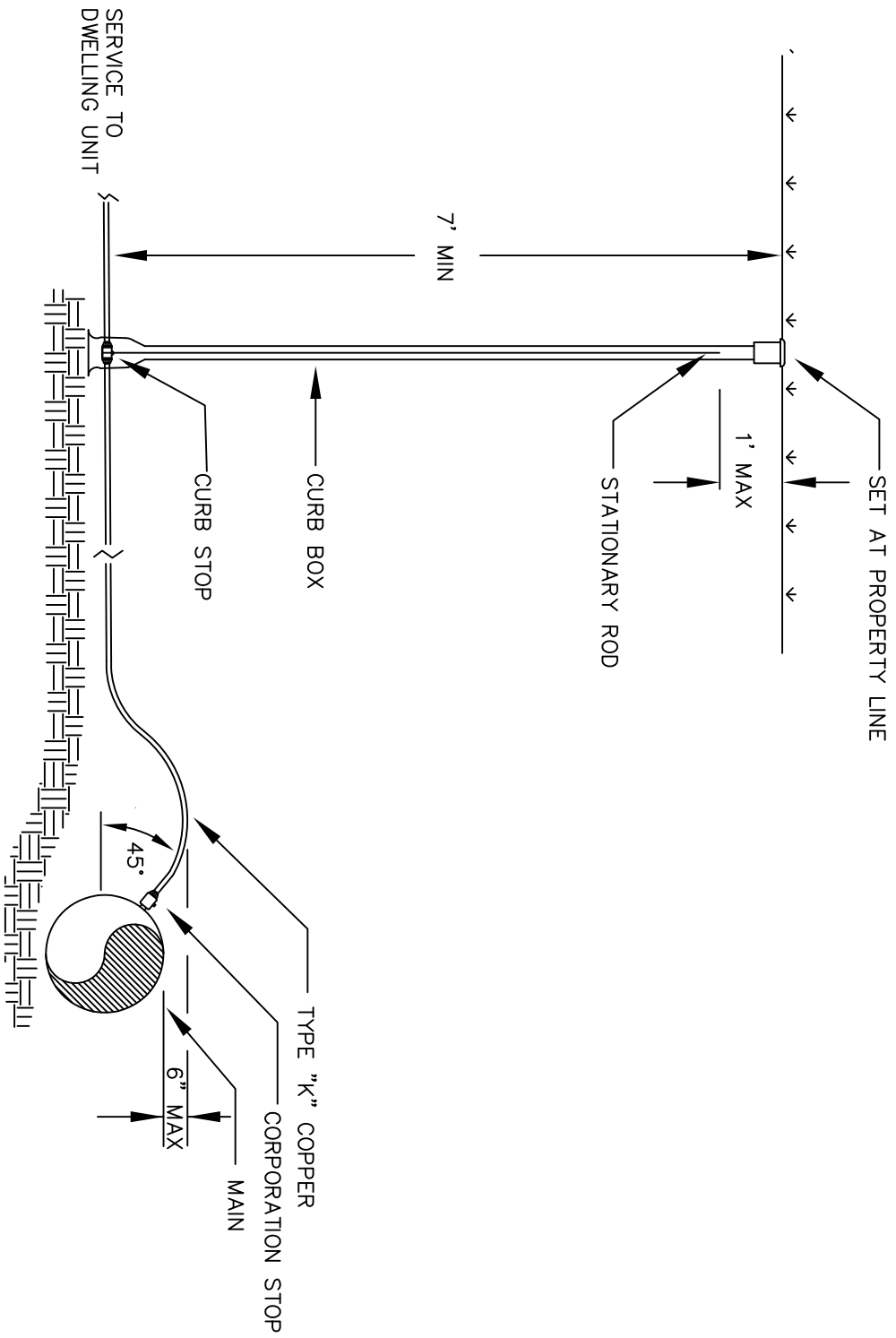
P.O. Box 880339  
 3310 Clear Water Trail  
 Steamboat Springs, CO 80488  
 (970) 879-2424 fax (970) 879-8169

TRENCH CROSS SECTION  
 AND PIPE EMBEDMENT DETAIL

DRAWN BY: RBS      DATE: 2/2003

SCALE: NONE

SHEET: 1



2. Added Gooseneck Dim.: 11/08

1. Changed Company Name 1/00

REVISION HISTORY:



Mount  
Werner  
Water

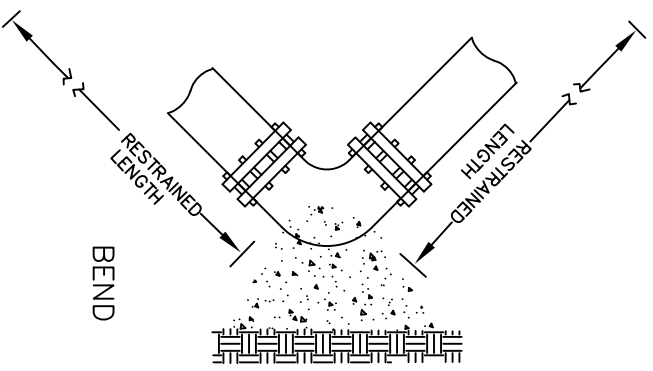
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SERVICE LINE  
DETAIL

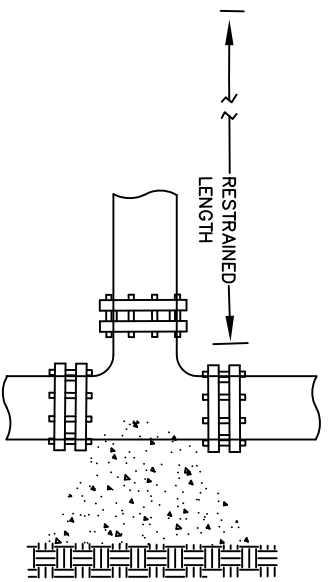
DRAWN BY: RBS DATE: 2/2003

SCALE: NONE

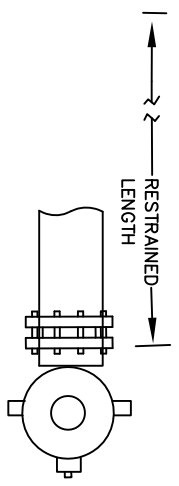
SHEET: 2



BEND



TEE



DEAD END OR FIRE HYDRANT

REQUIRED RESTRAINT LENGTH (FT)

MAIN SIZE (INCHES)

FITTING TYPE	4"	6"	8"	10"	12"
90° BEND, BRANCH OF TEE OR DEAD END	30'	45'	60'	73'	86'
45° BEND	18'	18'	18'	21'	25'
22 1/2° BEND	18'	18'	18'	18'	18'
11 1/4° BEND	18'	18'	18'	18'	18'

NOTE: THRUST BLOCKS ARE REQUIRED IN ADDITION TO JOINT RESTRAINT.



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PIPE RESTRAINT  
 DETAIL

DRAWN BY: RBS DATE: 2/2003

SCALE: NONE

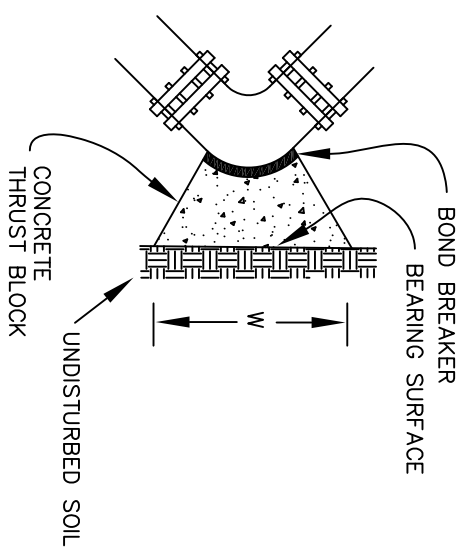
SHEET: 3

2. Changed Restraint Lengths: 11/08

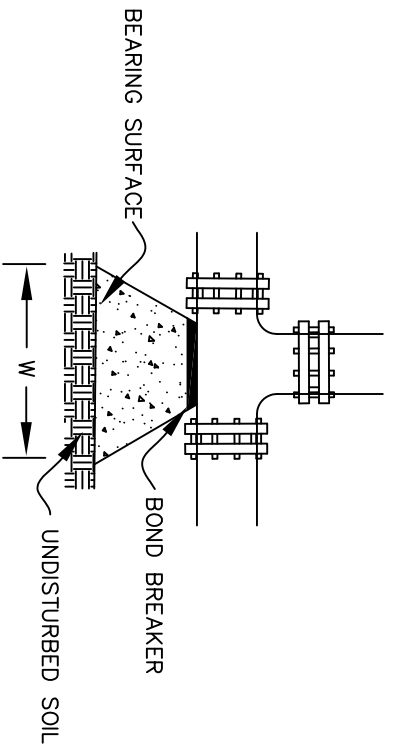
1. Changed Company Name 1/00

REVISION HISTORY:

BEND



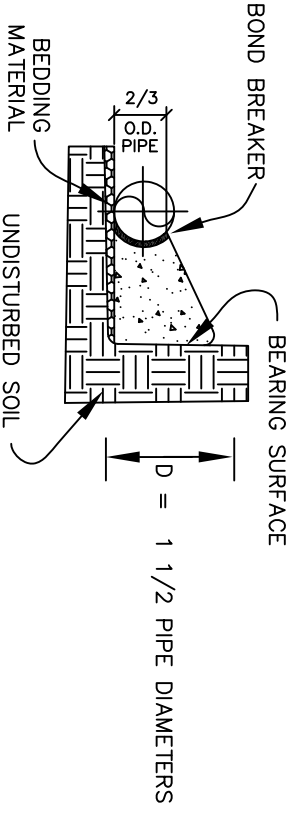
TEE



**NOTES:**

1. THRUST BLOCKS ARE REQUIRED IN ADDITION TO JOINT RESTRAINTS.
2. ALL THRUST BLOCKS TO BE SUITABLY FORMED. EARTH EXCAVATED FORMS WILL NOT BE ACCEPTED.
3. WRAP FITTINGS WITH POLYETHYLENE PRIOR TO POURING. THRUST BLOCKS SO THAT CONCRETE DOES NOT COME IN CONTACT WITH JOINT BOLTS.
4. THRUST BLOCKS SHALL BE INSTALLED SO THAT ALL JOINTS ARE ACCESSIBLE.

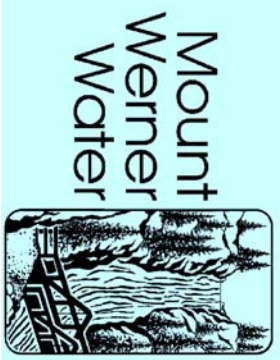
CROSS SECTION



**MINIMUM BEARING SURFACE AREA**  
(IN SQUARE FEET)  
(AREA = W X D)

FITTING TYPE	MAIN SIZE (INCHES)					
	<6"	8"	10"	12"		
45° OR LESS BEND	3	3	3	3	5	
90° BEND	3	4	6	9		
TEE OR PLUG	3	3	4	6		

NOTE: THRUST BLOCKS ARE REQUIRED IN ADDITION TO JOINT RESTRAINT.



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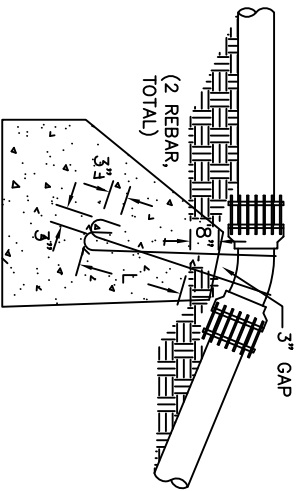
THRUST BLOCK  
DETAIL

DRAWN BY: RBS DATE: 2/2003

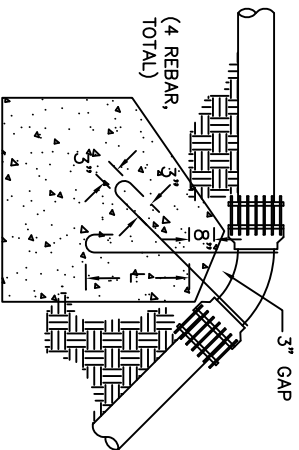
SCALE: NONE

SHEET: 4

2. Added Notes: 11/08
1. Changed Company Name 1/00
REVISION HISTORY:



TYPE A RESTRAINT  
11-1/4" & 22-1/2" VERTICAL OVER-BENDS



TYPE B RESTRAINT  
45° VERTICAL OVER-BENDS

TABLE OF DIMENSIONS				
PIPE SIZE NOMINAL DIAMETER - INCH	VERTICAL BEND DEGREES	NO. OF CU. FT. OF CONC. BLOCKING	DIAMETER OF REBAR, "d" INCH	DEPTH OF RODS IN CONCRETE, "L" FT.
4"	11-1/4"	5	5/8"	1.5
	22-1/2"	10	5/8"	2.0
6"	11-1/4"	11	5/8"	2.0
	22-1/2"	22	5/8"	2.0
8"	11-1/4"	20	5/8"	2.0
	22-1/2"	39	5/8"	2.0
12"	11-1/4"	45	3/4"	2.0
	22-1/2"	88	3/4"	3.0
16"	11-1/4"	79	3/4"	3.0
	22-1/2"	156	3/4"	4.0
20"	11-1/4"	123	3/4"	3.5
	22-1/2"	243	1"	4.0
24"	11-1/4"	177	3/4"	4.0
	22-1/2"	350	1"	4.0
30"	11-1/4"	277	1"	4.0
	22-1/2"	546	1-1/4"	4.0

TABLE OF DIMENSIONS				
PIPE SIZE NOMINAL DIAMETER - INCH	VERTICAL BEND DEGREES	NO. OF CU. YD. OF CONC. BLOCKING	DIAMETER OF REBAR, "d" INCH	DEPTH OF RODS IN CONCRETE, "L" FT.
4"	45°	0.7	5/8"	2.0
	45°	1.5	5/8"	2.5
6"	45°	2.7	5/8"	3.0
	45°	6.1	3/4"	4.0
12"	45°	10.9	3/4"	4.0
	45°	24.6	1"	4.0
20"	45°	17.1	1"	4.0
	45°	38.4	1-1/4"	4.0
30"	45°	1.5	5/8"	2.5
	45°	2.7	5/8"	3.0
6"	45°	6.1	3/4"	4.0
	45°	10.9	3/4"	4.0
12"	45°	24.6	1"	4.0
	45°	38.4	1-1/4"	4.0

NOTES:

- THRUST BLOCKS ARE REQUIRED IN ADDITION TO JOINT RESTRAINT.
- SPECIAL REQUIREMENTS:
  - THRUST BLOCKS FOR PIPE SIZES OR CONFIGURATIONS NOT SHOWN REQUIRE SPECIAL DESIGN.
  - BEARING AREAS, VOLUMES, AND SPECIAL THRUST BLOCKING DETAILS SHOWN ON DRAWINGS TAKE PRECEDENCE OVER THIS TYPICAL DETAIL.
  - REINFORCING STEEL BARS TO BE EPOXY COATED, AT LEAST 15 MILS THICK, MINIMUM YIELD STRENGTH OF REBAR IS 60,000 PSI.
  - RESTRAINT SIZING IS BASED UPON A MAXIMUM OPERATING PRESSURE OF 150 PSI, A TEST PRESSURE OF 200 PSI, AND A MINIMUM SOIL BEARING STRENGTH OF 2000 PSF. OPERATING PRESSURES IN EXCESS OF 150 PSI OR SOILS WITH LESS THAN 2000 PSF BEARING WILL REQUIRE SPECIAL DESIGN.
- FOR VERTICAL UNDER-BEND FOLLOW HORIZONTAL THRUST BLOCK DETAIL

1. Initial Release 3/07

REVISION HISTORY:

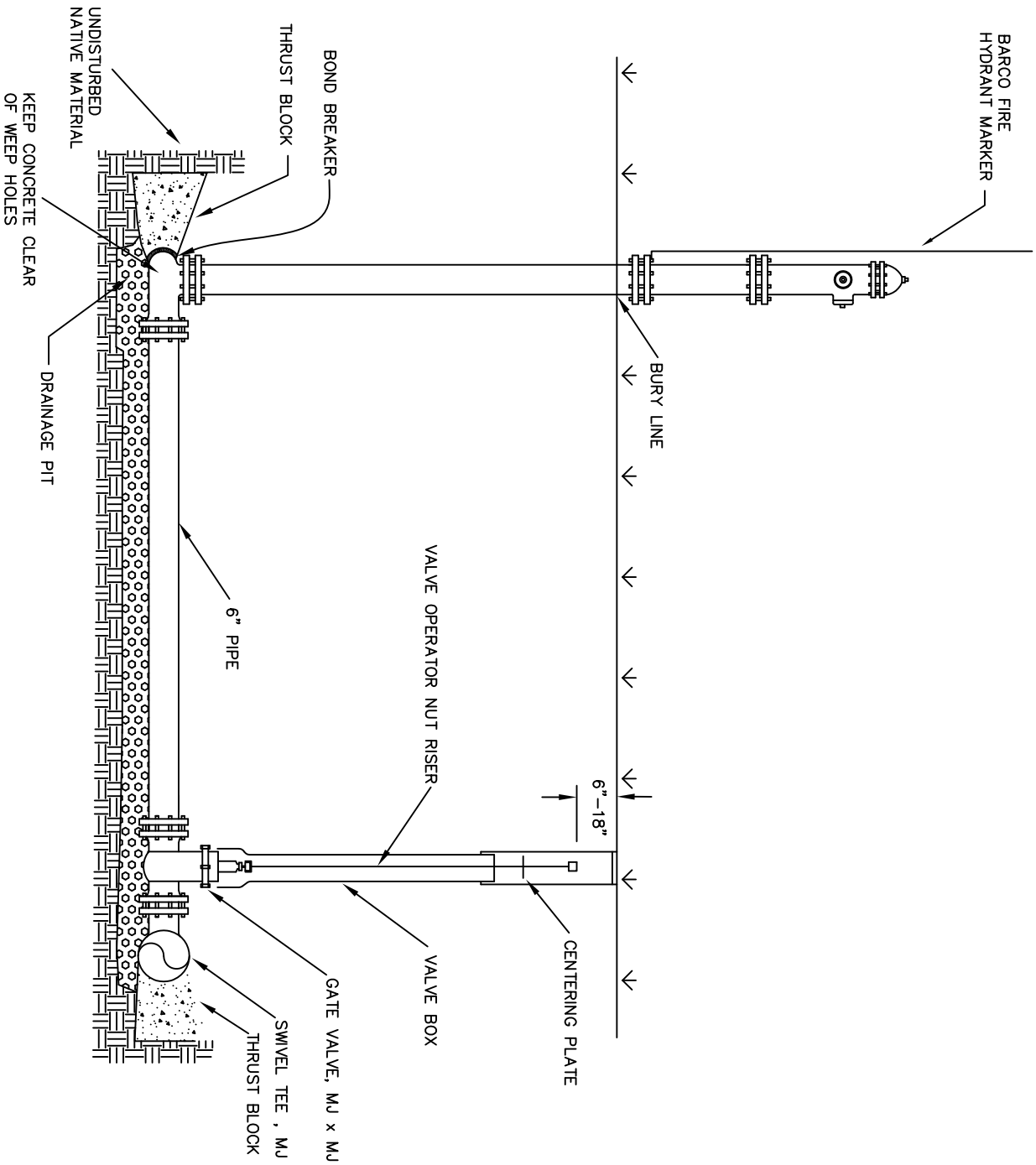
P.O. Box 880339  
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(970) 879-2424 fax (970) 879-8169

VERTICAL THRUST BLOCK  
DETAIL

DRAWN BY: CL, RM DATE: 2/2003

SCALE: NONE

SHEET: 5



- 2. Added Riser Length: 11/08
- 1. Changed Company Name 1/00

REVISION HISTORY:

P.O. Box 880339  
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 Steamboat Springs, CO 80488  
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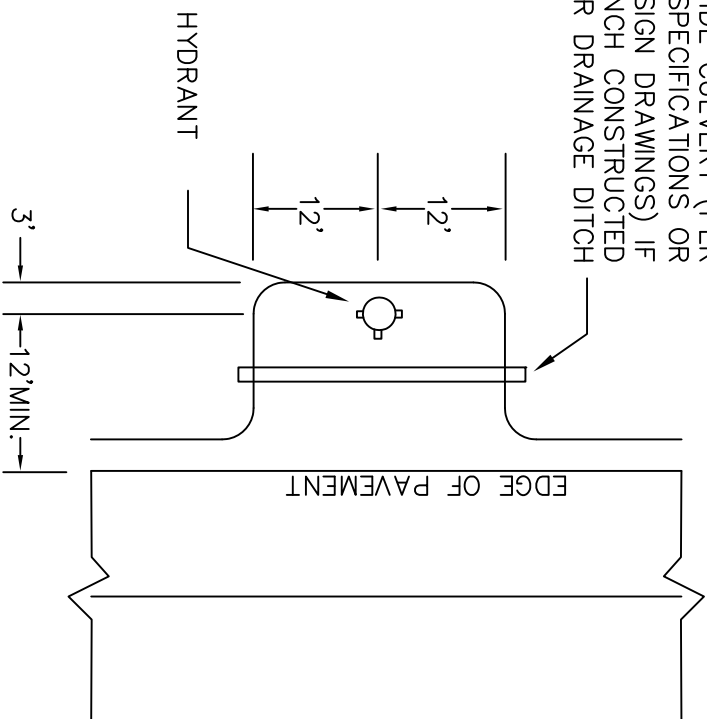
FIRE HYDRANT  
 DETAIL

DRAWN BY: RBS      DATE: 2/2003

SCALE: NONE

SHEET: 6

PROVIDE CULVERT (PER CITY SPECIFICATIONS OR DESIGN DRAWINGS) IF BENCH CONSTRUCTED OVER DRAINAGE DITCH



NOTES:  
 NO OBSTRUCTIONS SUCH AS TREES, PEDESTALS, FENCES OR OTHER OBJECTS MAY BE PLACED WITHIN A 15-FOOT RADIUS OF A HYDRANT.

1. Changed Notes: 11/08

REVISION HISTORY:



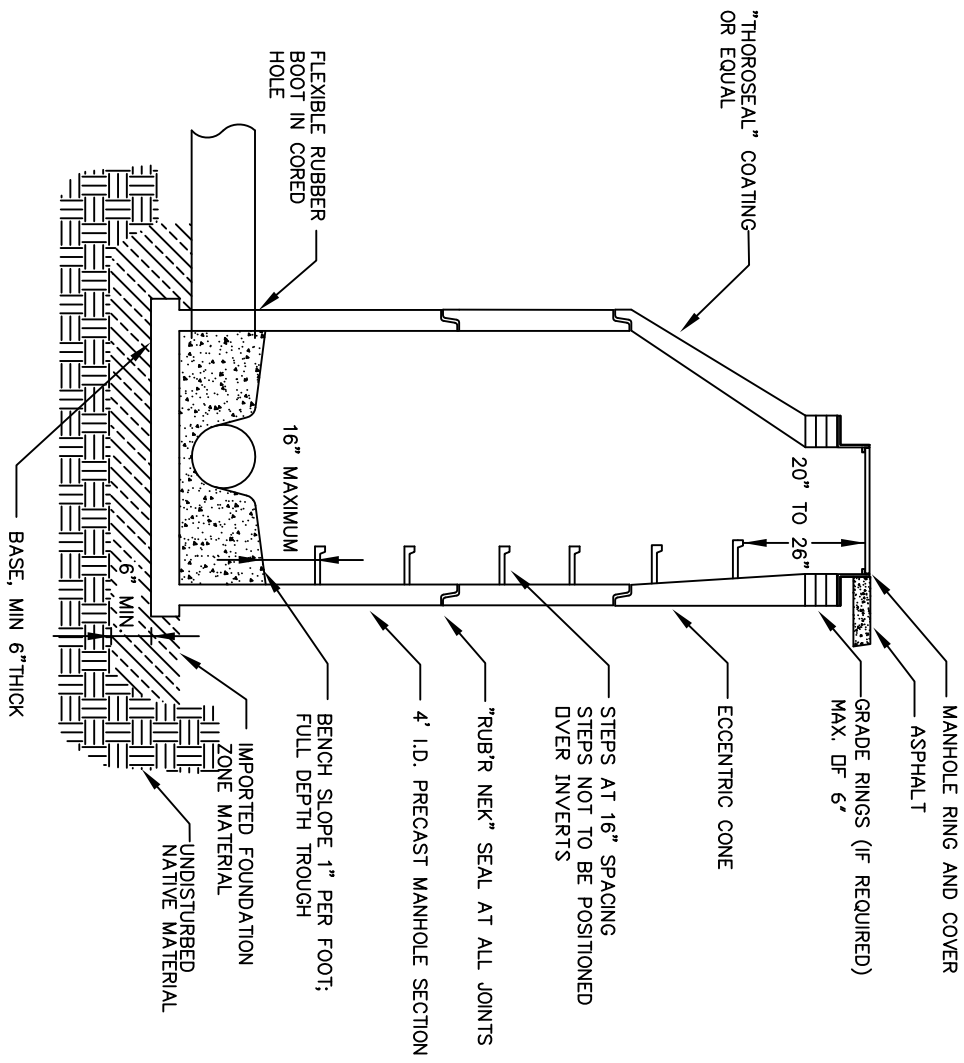
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 3310 Clear Water Trail  
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 (970) 879-2424 fax (970) 879-8169

FIRE HYDRANT BENCH  
 DETAIL

DRAWN BY: RBS DATE: 2/2003

SCALE: NONE

SHEET: 7



**NOTE:**  
 RUB'R NECK SEALS AT ALL JOINTS; INCLUDING CASTING TO GRADE RING, BETWEEN ALL GRADE RINGS AND AT ALL PRECAST JOINTS.

- 2. Added Note: 11/08
- 1. Revised MH Trough: 5/07

**REVISION HISTORY:**

**Mount Werner Water**

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 3310 Clear Water Trail  
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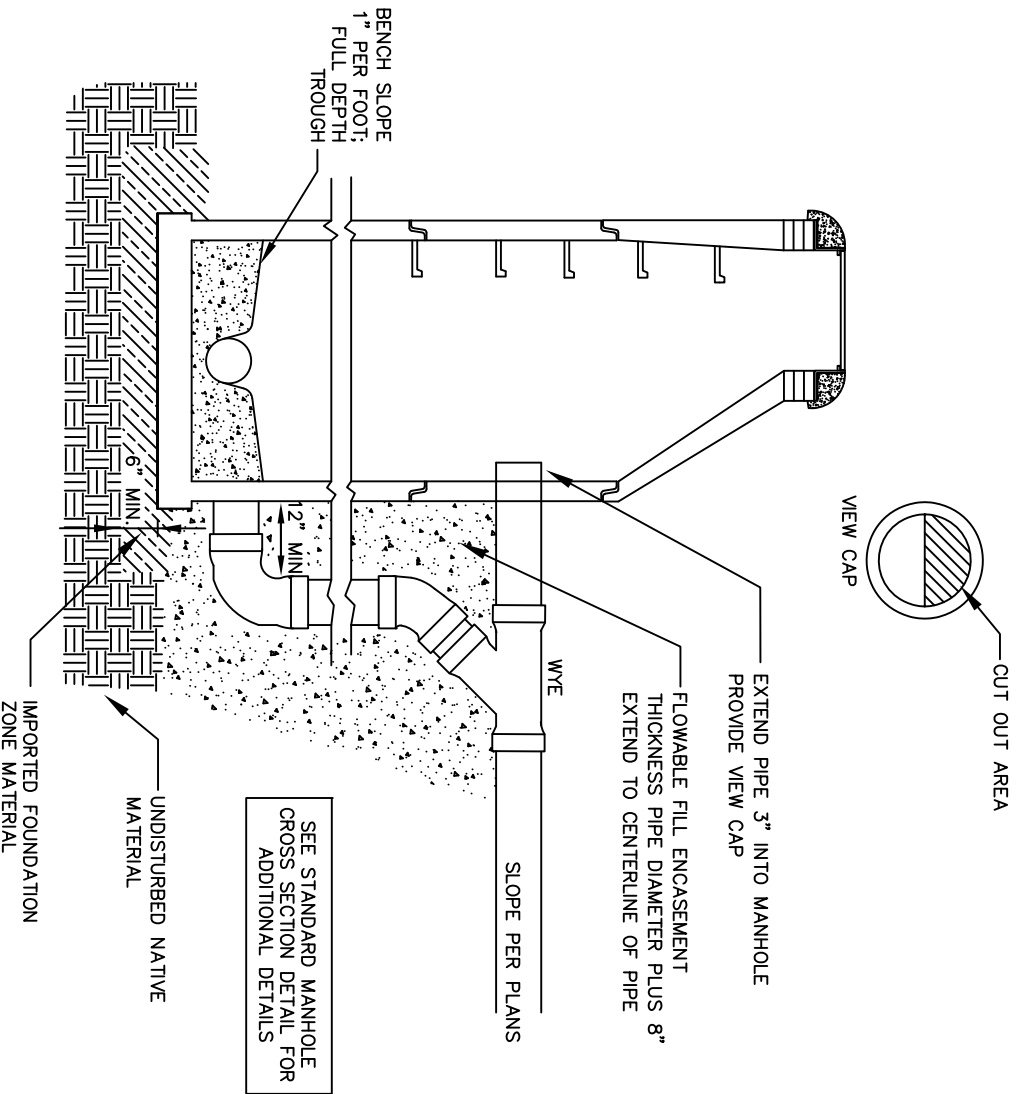
**STANDARD MANHOLE  
 CROSS SECTION DETAIL**

DRAWN BY: RBS      DATE: 2/2003

SCALE: NONE

SHEET: 8





1. REVISED MH TROUGH 5/07  
REVISION HISTORY:

**Mount  
Werner  
Water**



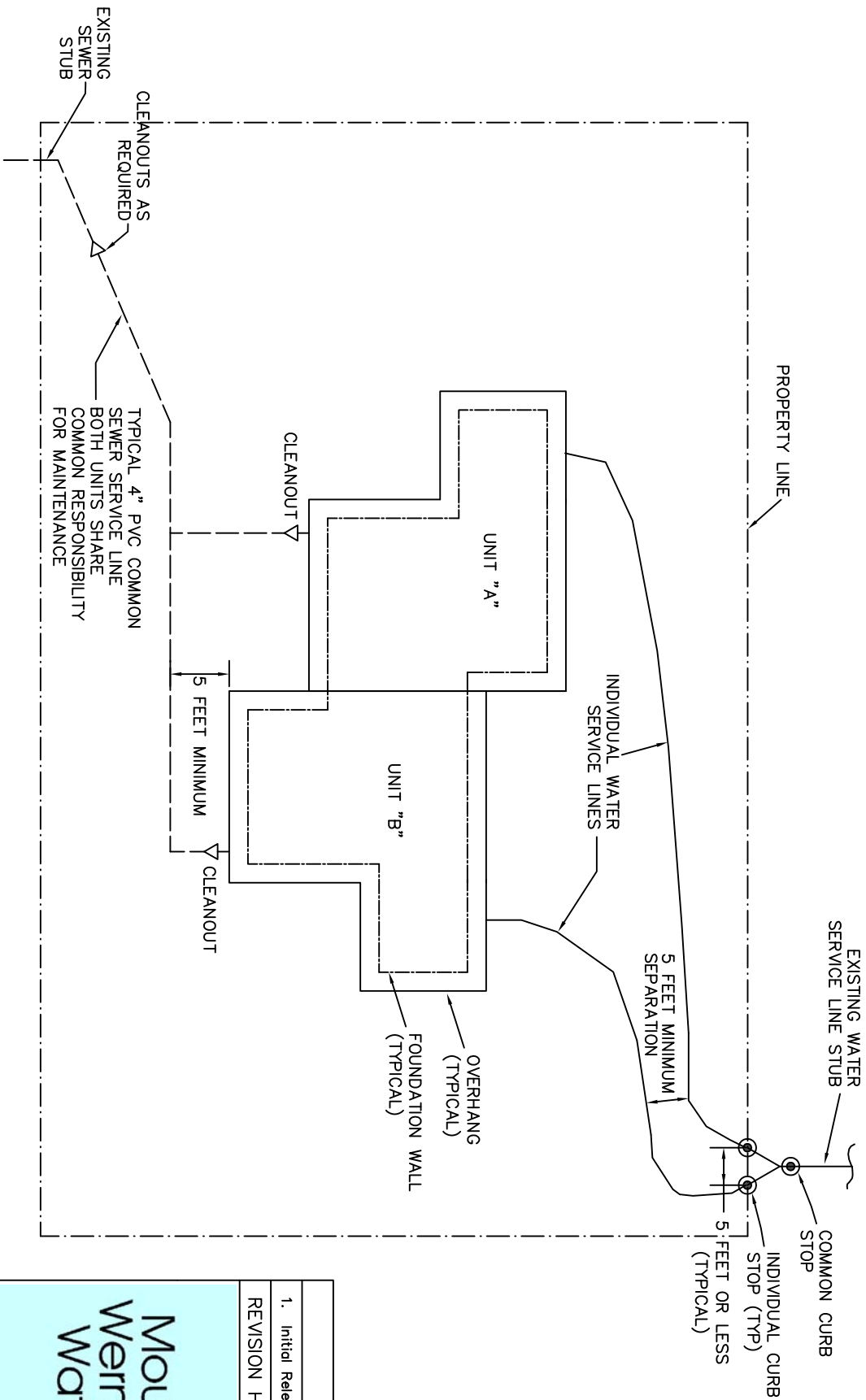
P. O. Box 880339  
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(970) 879-2424 fax (970) 879-8169

DROP MANHOLE  
DETAIL

DRAWN BY: RBS DATE: 2/2003


SCALE: NONE

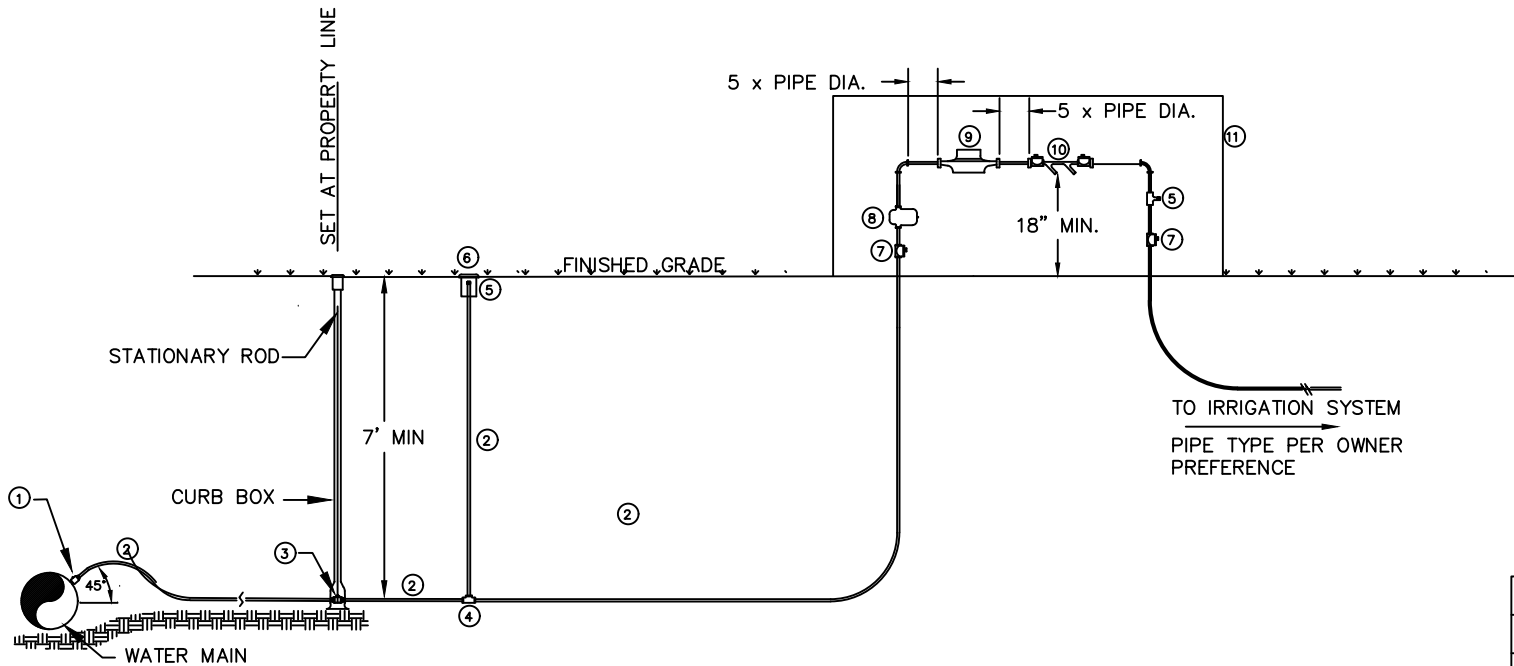
SHEET: 9



- NOTES:
1. ALL WATER SERVICE LINES ARE TO BE INSTALLED TO A MINIMUM DEPTH OF 7- FEET AS MEASURED FROM THE TOP OF PIPE TO FINISHED GRADE.
  2. SEWER SERVICE LINES ARE TO BE LAYED AT A GRADE OF 2% MINIMUM.

INDIVIDUAL SERVICE LINE SIZE	COMMON SERVICE LINE SIZE
3/4"	1"
1"	1-1/2"

1. Initial Release 2/2001	
REVISION HISTORY:	
	
P.O. Box 880339 3310 Clear Water Trail Steamboat Springs, CO 80488 (970) 879-2424 fax (970) 879-8169	
TYPICAL DUPLEX SERVICE LINE LOCATION DETAIL	
DRAWN BY: RBS	DATE: 2/2003
SCALE: NONE	
SHEET: 10	



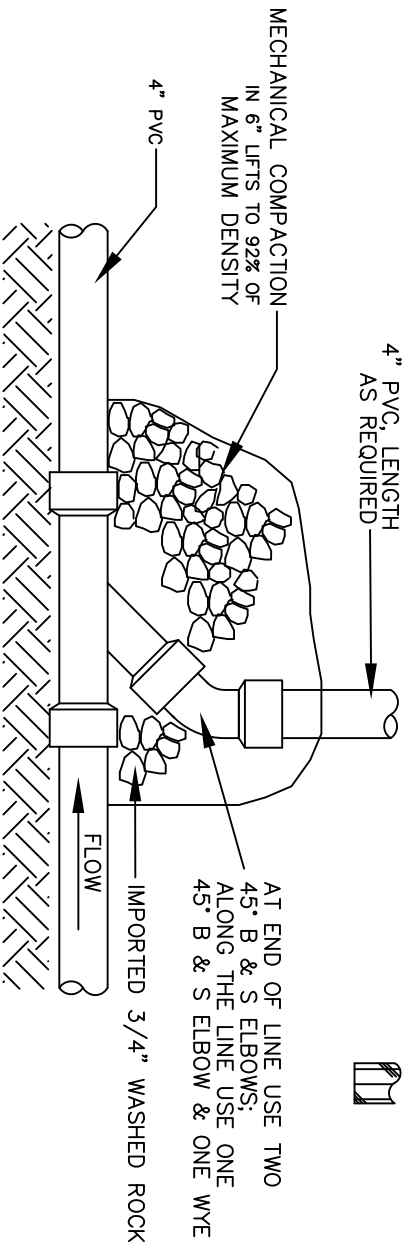
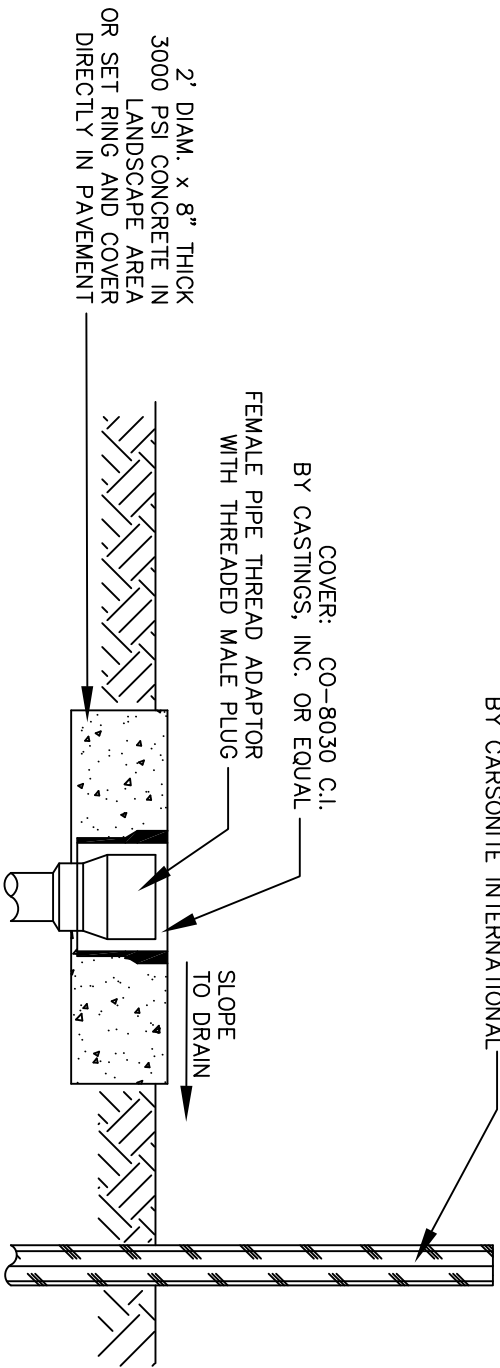
GENERAL NOTES:

1. PLANT INVESTMENT FEE REQUIRED. METER ISSUED BY THE MOUNT WERNER WATER DISTRICT. TYPE AND SIZE TO BE APPROVED BY MOUNT WERNER WATER.
2. BACKFLOW PREVENTER TO BE APPROVED PER THE MANUAL OF CROSS CONNECTION CONTROL TENTH EDITION, AS PUBLISHED BY THE FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH.

ITEM	DESCRIPTION	QTY
1	CORPORATION STOP	1
2	TYPE "K" COPPER	-
3	CURB STOP	1
4	TEE	2
5	AIR CHUCK	2
6	VALVE BOX TOP	1
7	BALL VALVE	2
8	PRESSURE REDUCING VALVE	1
9	METER (SEE NOTE 1)	1
10	RPP BACKFLOW PREVENTER (SEE NOTE 2)	1
11	CAGE (PRE-APPROVED BY MWW)	1

1. Initial release 1/01	
REVISION HISTORY:	
REVISION HISTORY	
	
<p>Mount Werner Water</p>	
<p>P.O. Box 880339 3310 Clear Water Trail Steamboat Springs, CO 80488 (970) 879-2424 fax (970) 879-8169</p>	
IRRIGATION SERVICE DETAIL	
DRAWN BY: RBS	DATE: 2/2024
SCALE: NONE	
SHEET: 11	

MARKER: GREEN CARSONITE UTILITY  
 MARKER WITH SEWER DECAL 107-CS  
 MODEL CUM-375 CRM 3072-07  
 BY CARSONITE INTERNATIONAL



1. Original Release 7/01  
 REVISION HISTORY:

**Mount  
 Werner  
 Water**



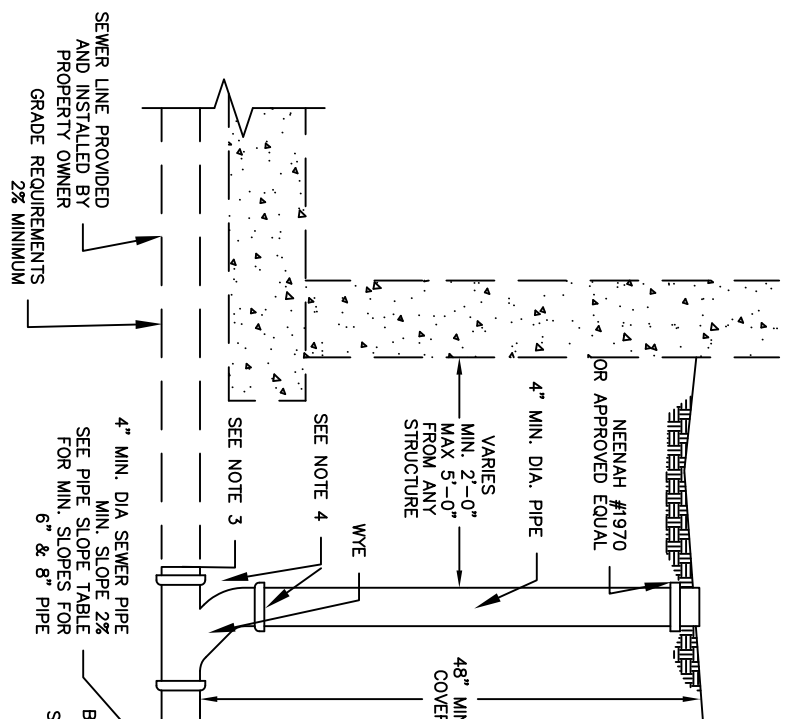
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 3310 Clear Water Trail  
 Steamboat Springs, CO 80488  
 (970) 879-2424 fax (970) 879-8169

SEWER CLEANOUT DETAIL

DRAWN BY: RBS DATE: 2/2003

SCALE: NONE

SHEET: 12



SECTION


SEWER LATERAL CONNECTION NOTES:

1. INSPECTION: PRIOR TO BACKFILL, SECURE A PASSING INSPECTION BY M.T. WERNER WATER FOR ALL PIPE, FITTINGS, COUPLINGS, AND GRADE.
2. BACKFILL: INSTALL AND COMPACT ALL BACKFILL MATERIAL PER SECTION 24.
3. RUBBER GASKETED BELL AND SPIGOT TYPE COUPLER FOR TRANSITION FROM SCHEDULE 40 PVC TO SDR35.
4. ALL PVC FITTINGS SHALL MEET ASTM D3034 SPECIFICATIONS, AND SHALL ALSO MEET ASTM D3212 SPECIFICATIONS FOR RUBBER GASKETED BELL AND SPIGOT TYPE WITH INTEGRAL BELL.

MINIMUM PIPE SLOPES FOR SEWER SERVICES		
4"	1/4" PER FOOT	2%
6"	1/8" PER FOOT	1%
8"	1/16" PER FOOT	0.5%

1. Original Release 11/08

REVISION HISTORY:



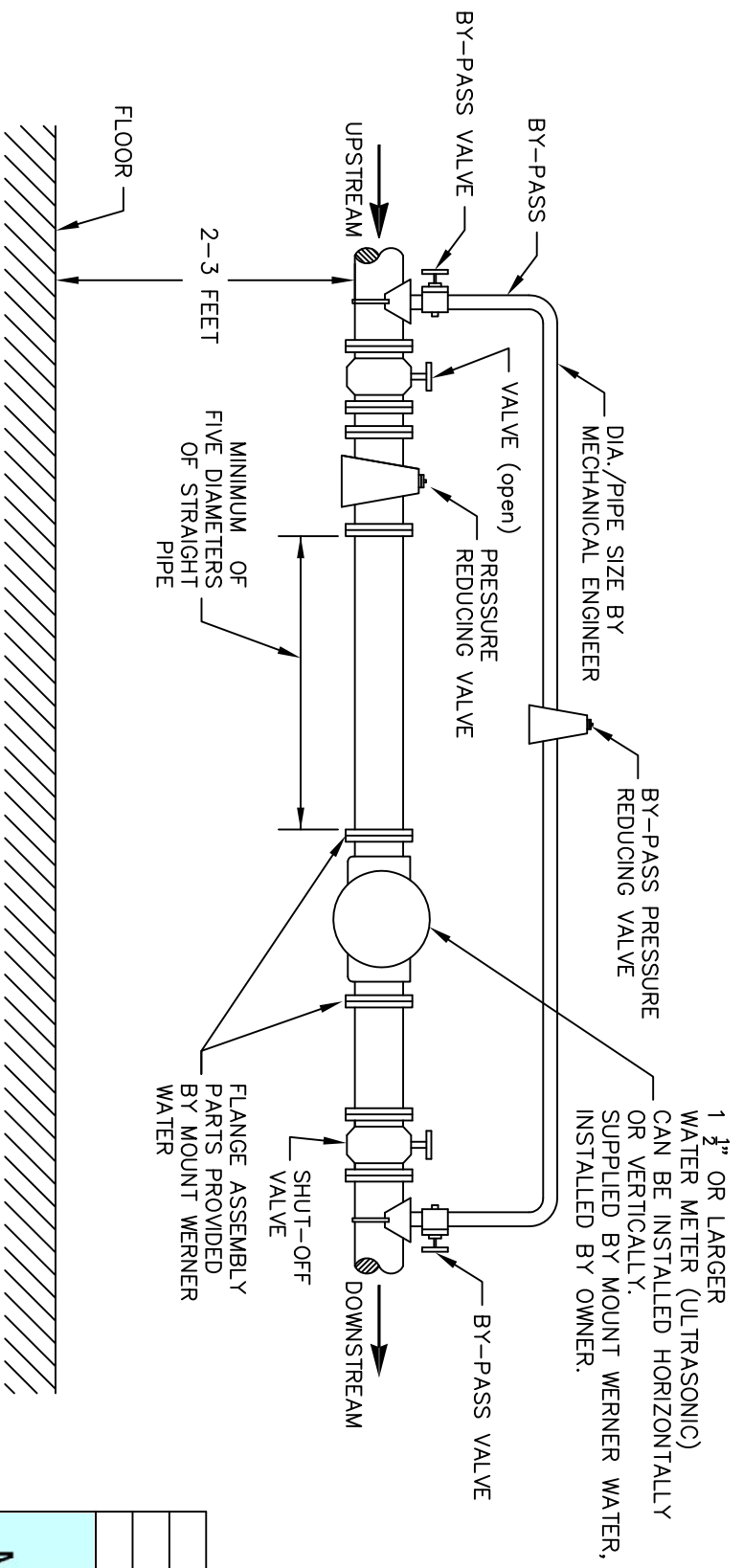
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(970) 879-2424 fax (970) 879-8169

SERVICE LATERAL CONNECTION DETAIL

DRAWN BY: RF      DATE: 11/2008


SCALE: NONE

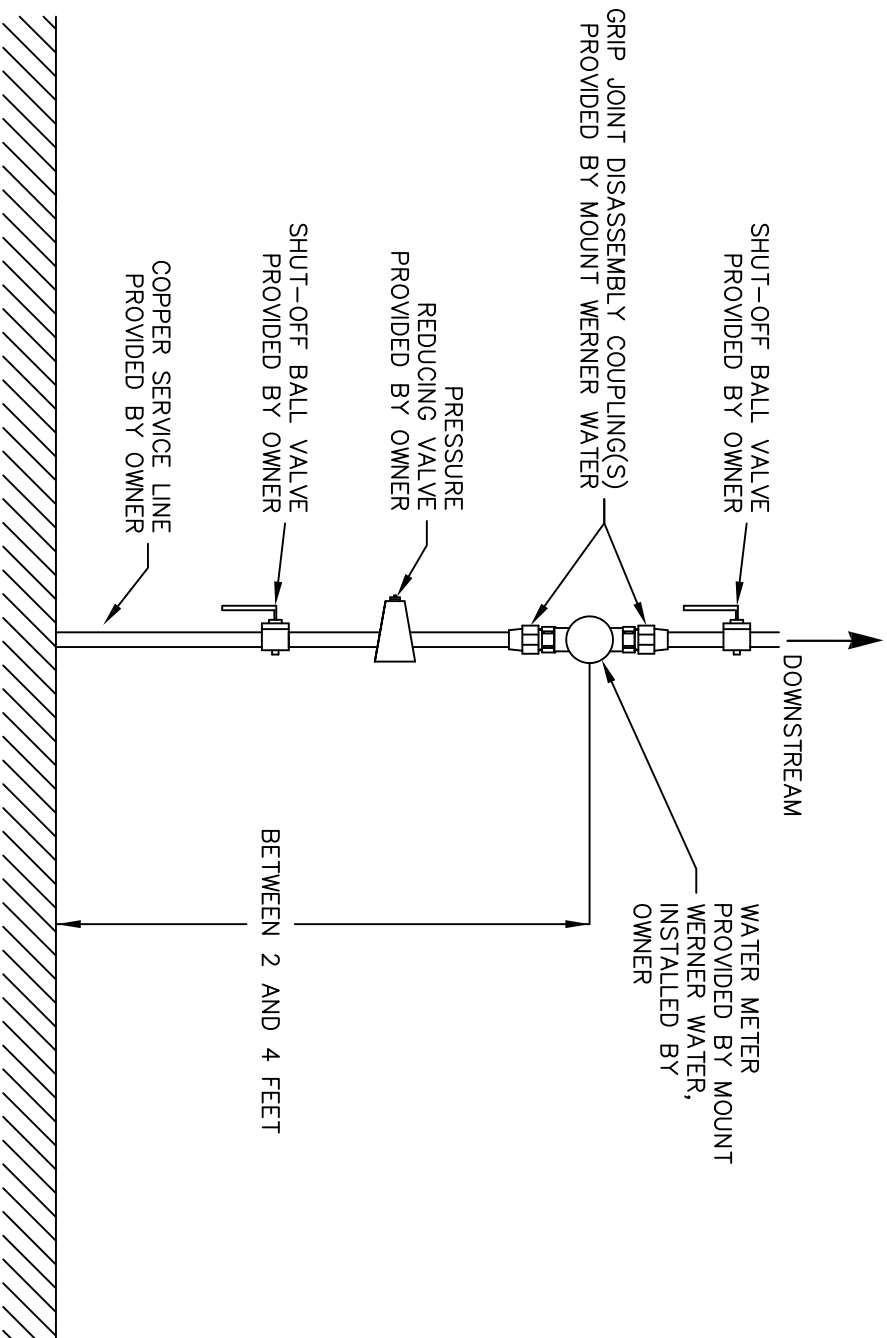
SHEET: 13



- GENERAL NOTES:
1. THE METER (SUPPLIED BY MOUNT WERNER WATER, PAID FOR BY OWNER) CAN BE INSTALLED IN A HORIZONTAL OR VERTICAL ORIENTATION FOR ULTRASONIC METERS.
  2. AVOID LOCATING THE METER IN CLOSE QUARTERS. ALLOW SUFFICIENT SPACE TO PERMIT ACCESS FOR METER READING, TESTING AND MAINTENANCE.
  3. ALL PARTS AND PIPING SUPPLIED AND INSTALLED BY OWNER.
  4. AFTER PIPING AND METER INSTALLATION, MOUNT WERNER WATER WILL INSPECT AND INSTALL MTU AND WIRING.


1 1/2" OR LARGER WATER METER (ULTRASONIC) CAN BE INSTALLED HORIZONTALLY OR VERTICALLY. SUPPLIED BY MOUNT WERNER WATER, INSTALLED BY OWNER.

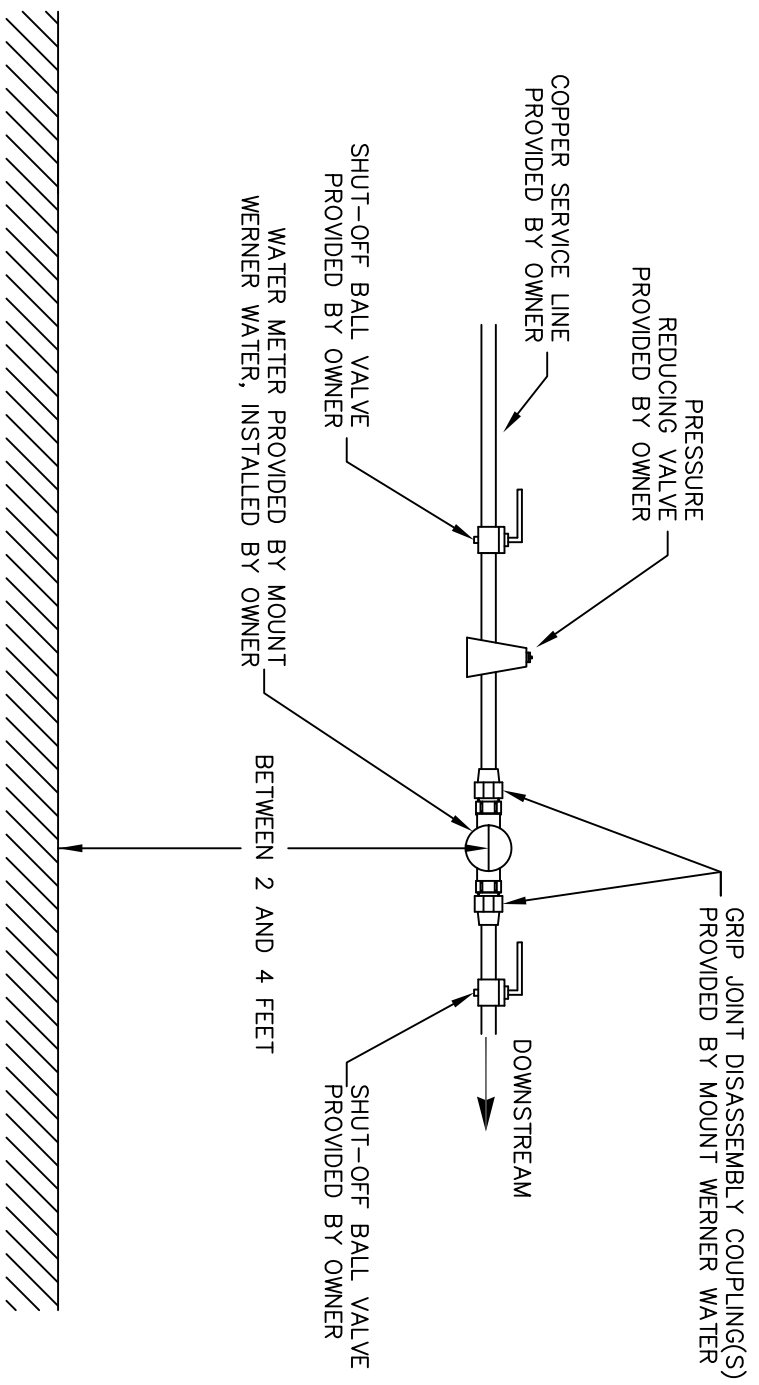
	
P.O. Box 880339 3310 Clear Water Trail Steamboat Springs, CO 80488 (970) 879-2424 fax (970) 879-8169	
<b>1 1/2" AND LARGER METER INSTALLATION DETAIL</b>	
DRAWN BY: RB	DATE: 2/2018
SCALE: NONE	
SHEET: 14	



GENERAL NOTES:


1. THE METER (SUPPLIED BY MOUNT WERNER WATER, PAID FOR BY OWNER) CAN BE INSTALLED IN A HORIZONTAL OR VERTICAL ORIENTATION FOR ULTRASONIC METERS.
2. AVOID LOCATING THE METER IN CLOSE QUARTERS. ALLOW SUFFICIENT SPACE TO PERMIT ACCESS FOR METER READING, TESTING AND MAINTENANCE.
3. ALL PARTS AND PIPING SUPPLIED AND INSTALLED BY OWNER.
4. AFTER PIPING AND METER INSTALLED, MOUNT WERNER WATER WILL INSPECT AND INSTALL MTU AND WIRING.

	
P.O. Box 880339 3310 Clear Water Trail Steamboat Springs, CO 80488 (970) 879-2424 fax (970) 879-8169	
<b>3/4" - 1" METER</b>	
VERTICAL SET INSTALLATION DETAIL	
DRAWN BY: RB	DATE: 2/2018
SCALE: NONE	
SHEET: 15	

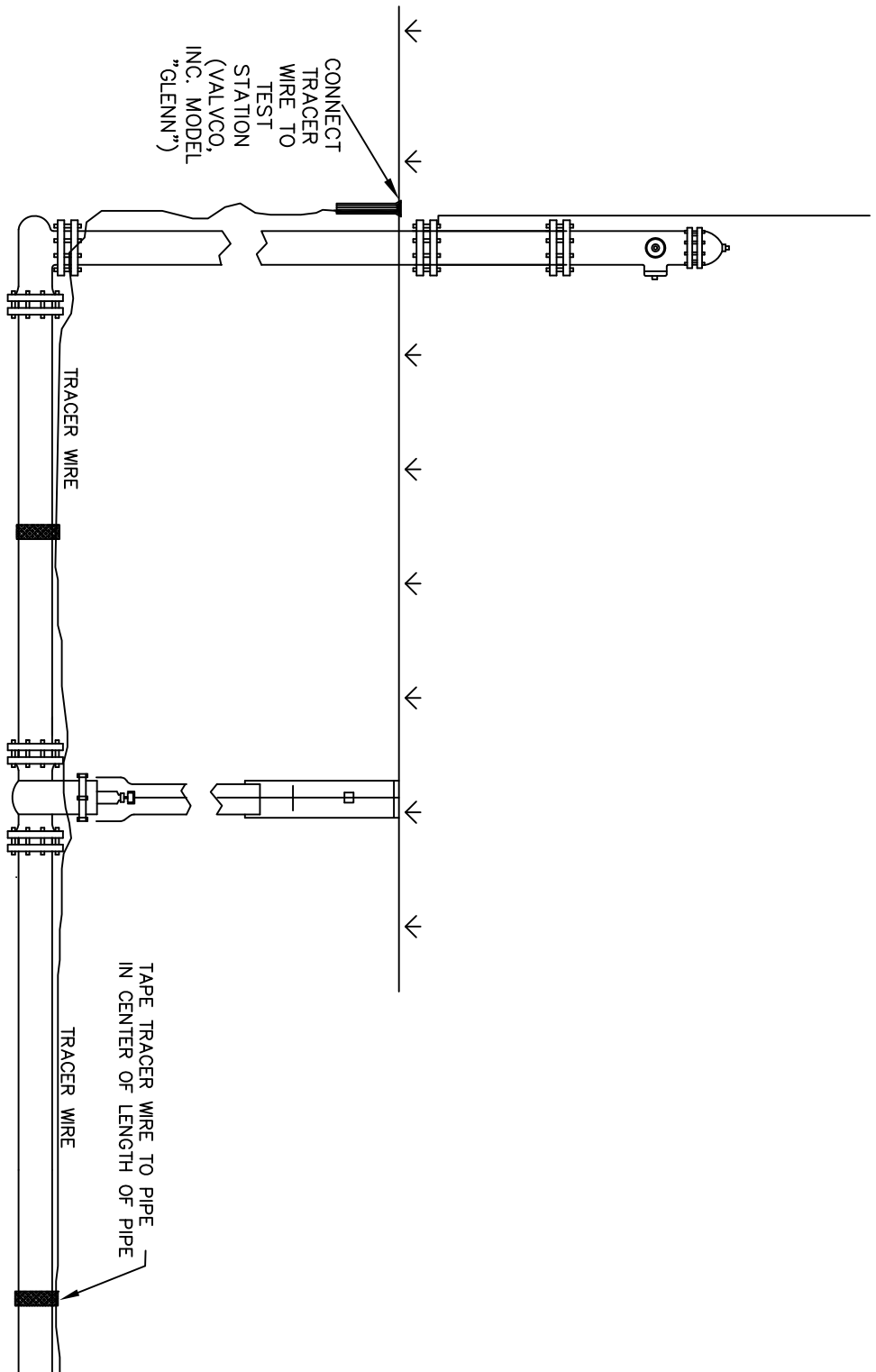


GENERAL NOTES:

1. THE METER (SUPPLIED BY MOUNT WERNER WATER, PAID FOR BY OWNER) CAN BE INSTALLED IN A HORIZONTAL OR VERTICAL ORIENTATION FOR ULTRASONIC METERS.
2. AVOID LOCATING THE METER IN CLOSE QUARTERS. ALLOW SUFFICIENT SPACE TO PERMIT ACCESS FOR METER READING, TESTING AND MAINTENANCE.
3. ALL PARTS AND PIPING SUPPLIED AND INSTALLED BY OWNER.
4. AFTER PIPING AND METER INSTALLED, MOUNT WERNER WATER WILL INSPECT AND INSTALL MTU AND WIRING.

	
<p><b>Mount Werner Water</b></p>	
<p>P.O. Box 880339 3310 Clear Water Trail Steamboat Springs, CO 80488 (970) 879-2424 fax (970) 879-8169</p>	
<p>3/4" - 1" METER</p>	
<p>HORIZONTAL SET INSTALLATION DETAIL</p>	
DRAWN BY: RB	DATE: 2/2018
SCALE: NONE	
SHEET: 16	






1. Initial release 2/04

REVISION HISTORY:

**Mount  
Werner  
Water**



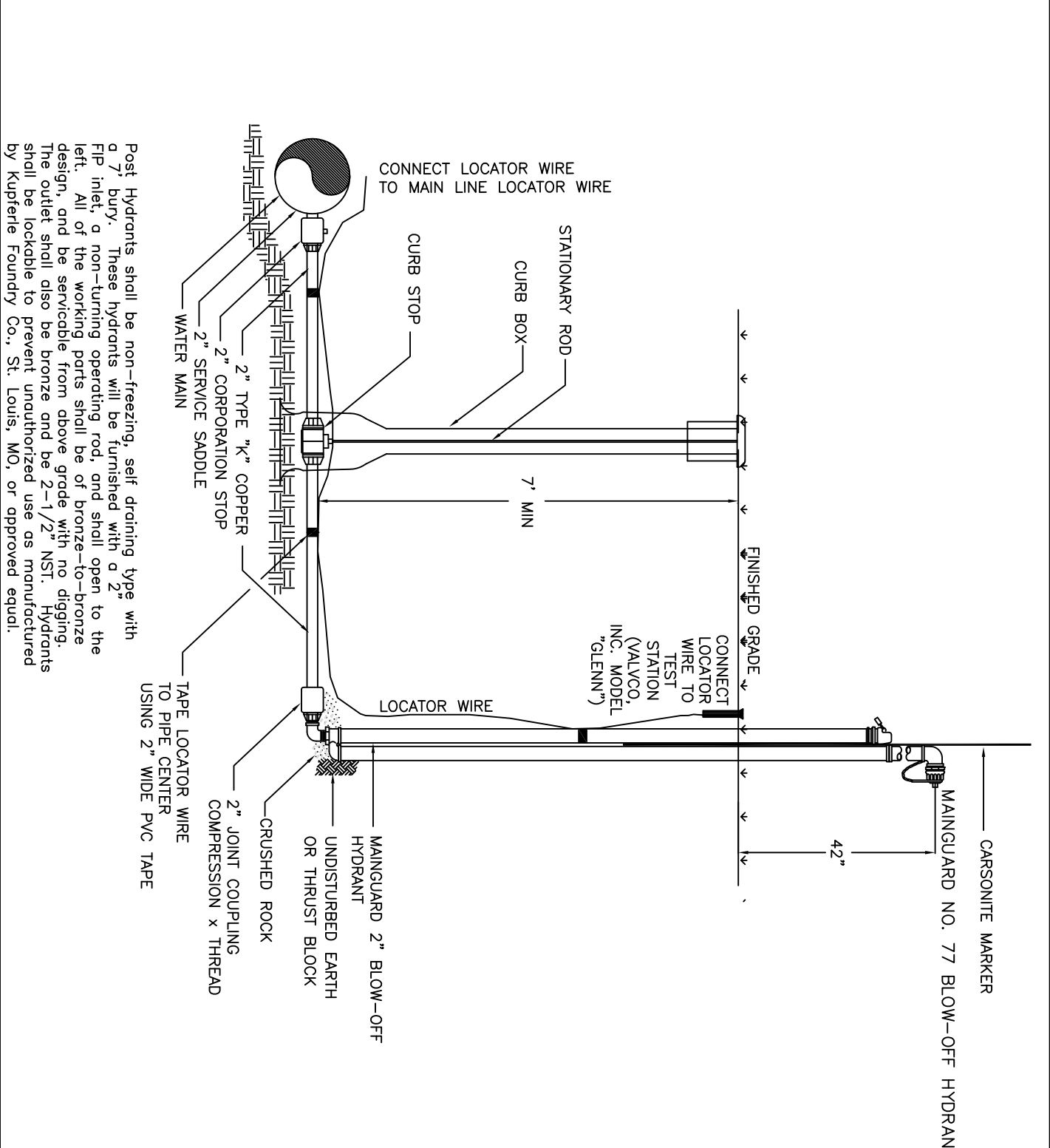
P.O. Box 880339  
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(970) 879-2424 fax (970) 879-8169

TRACER WIRE  
INSTALLATION DETAIL


DRAWN BY: RBS      DATE: 2/2004

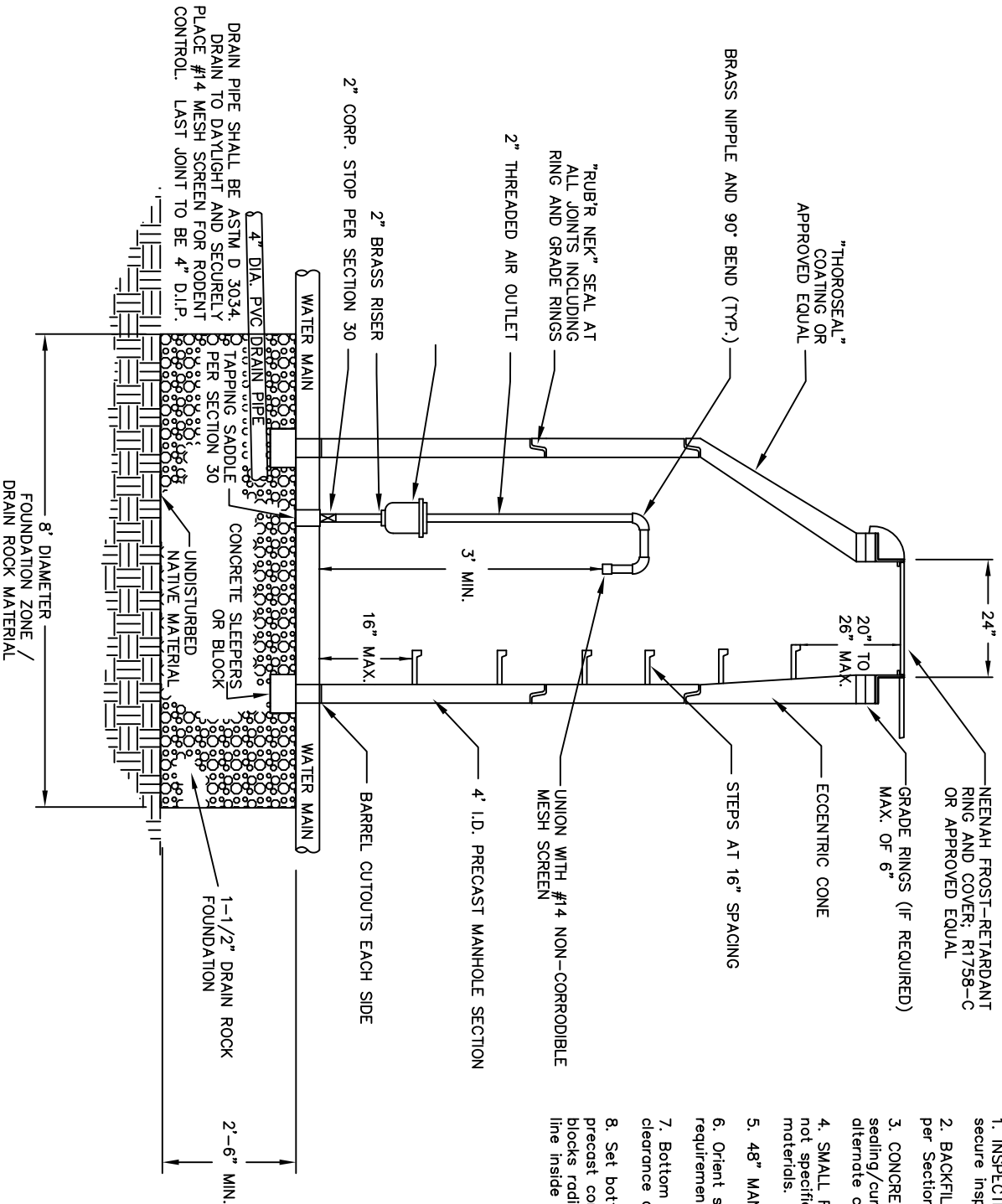
SCALE: NONE

SHEET: 17



Post Hydrants shall be non-freezing, self draining type with a 7' bury. These hydrants will be furnished with a 2" FIP inlet, a non-turning operating rod, and shall open to the left. All of the working parts shall be of bronze-to-bronze design, and be serviceable from above grade with no digging. The outlet shall also be bronze and be 2-1/2" NST. Hydrants shall be lockable to prevent unauthorized use as manufactured by Kupferle Foundry Co., St. Louis, MO, or approved equval.

1. Initial Release 2/2001	
REVISION HISTORY:	
	
P.O. Box 880339 3310 Clear Water Trail Steamboat Springs, CO 80488 (970) 879-2424 fax (970) 879-8169	
2" BLOW-OFF HYDRANT	
DETAIL	
DRAWN BY: RBS	DATE: 2/2003
SCALE: NONE	
SHEET: 18	



**AIR RELEASE ASSEMBLY**

1. INSPECTION: Prior to backfilling around the assembly, secure inspection of installation by ENGINEER.
2. BACKFILL: Install and compact all backfill material per Section 24.
3. CONCRETE: 4000 PSI strength concrete. Apply a sealing/curing compound or use an acceptable alternate curing compound.
4. SMALL FITTINGS: Provide brass fittings and nipples if not specified otherwise. Do not use galvanized materials.
5. 48" MANHOLE HOLE: Specifications per section 40.
6. Orient steps, ring and cover to best fit site requirements.
7. Bottom barrel section to have cutouts w/ 2" min. clearance around pipe.
8. Set bottom barrel section on 12"x12"x6" reinf. precast concrete sleepers radially. (12" concrete blocks radially acceptable alternate). Shode to spring line inside M.H.

1. Initial Release 11/2008

**REVISION HISTORY:**

**Mount  
Werner  
Water**

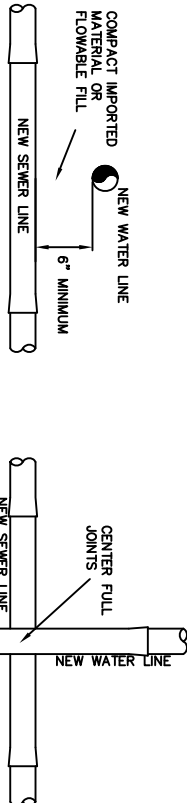
P.O. Box 880339  
3310 Clear Water Trail  
Steamboat Springs, CO 80488  
(970) 879-2424 fax (970) 879-8169

**AIR RELEASE ASSEMBLY  
DETAIL**

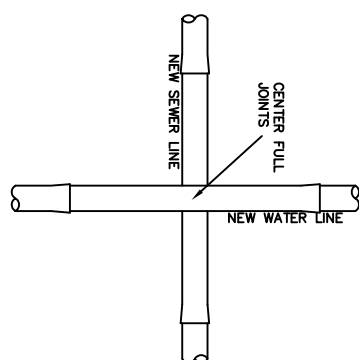
DRAWN BY: RF      DATE: 11/2008

SCALE: NONE

SHEET: 19

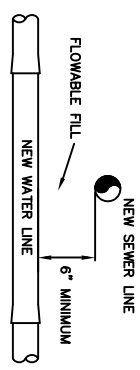


ELEVATION VIEW

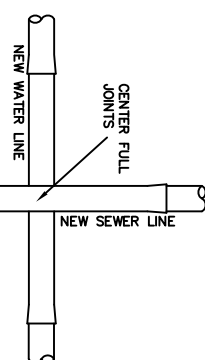


PLAN VIEW

CONDITION #1: NEW WATER LINE LESS THAN 18" ABOVE NEW SEWER LINE



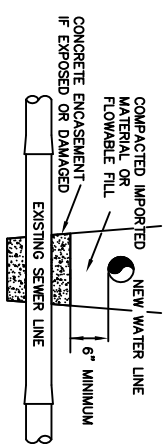
ELEVATION VIEW



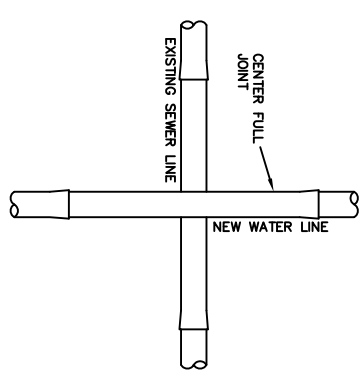
PLAN VIEW

CONDITION #2: NEW WATER LINE BELOW NEW SEWER LINE

NOTE:  
CROSSING CONDITIONS APPLY TO ALL MAIN AND SERVICE LINES



ELEVATION VIEW



PLAN VIEW

CONDITION #3: NEW WATER LINE LESS THAN 18" ABOVE EXISTING SEWER LINE

P. O. Box 880339  
 3310 Clear Water Trail  
 Steamboat Springs, CO 80488  
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WATER & SEWER CROSSINGS  
DETAIL

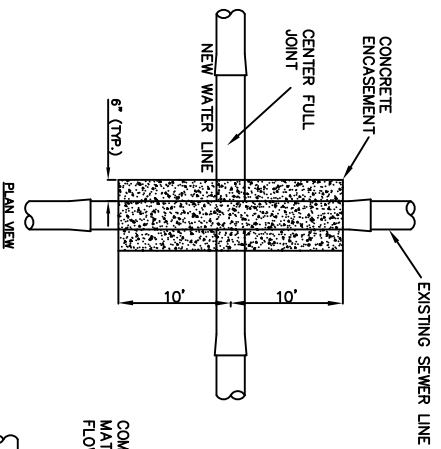
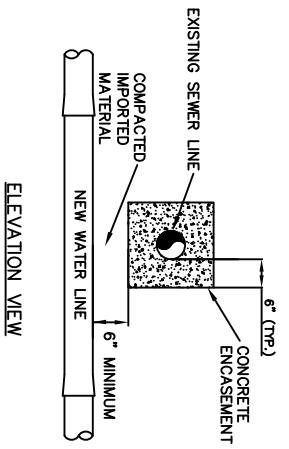
DRAWN BY: GLB DATE: 11/2008

SCALE: NONE

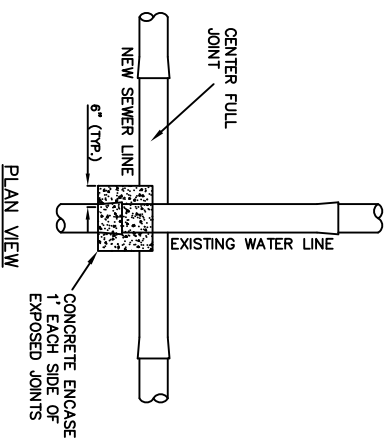
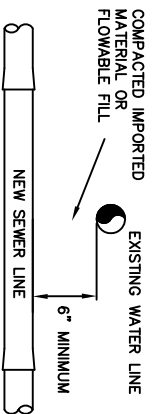
SHEET: 20

1. Initial Release 11/2008  
REVISION HISTORY:

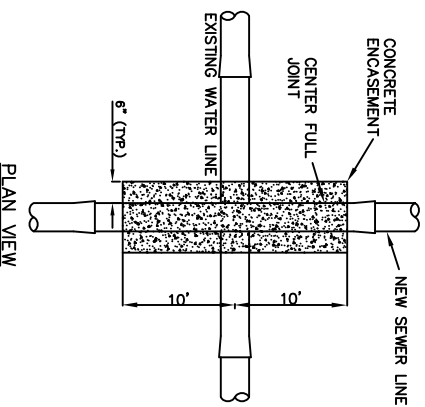
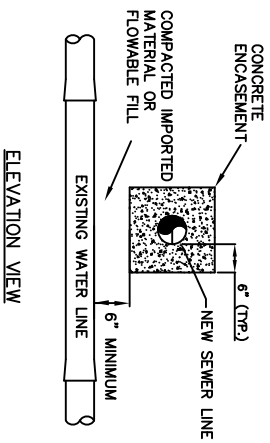
NOTE:  
CROSSING CONDITIONS APPLY TO ALL MAIN AND SERVICE LINES



CONDITION #4: NEW WATER LINE BELOW EXISTING SEWER LINE



CONDITION #5: NEW SEWER LINE LESS THAN 18" BELOW EXISTING WATER LINE



CONDITION #6: NEW SEWER LINE ABOVE EXISTING WATER LINE

CONDITIONS 4, 5, & 6 (SHEET 2 OF 2)

NTS



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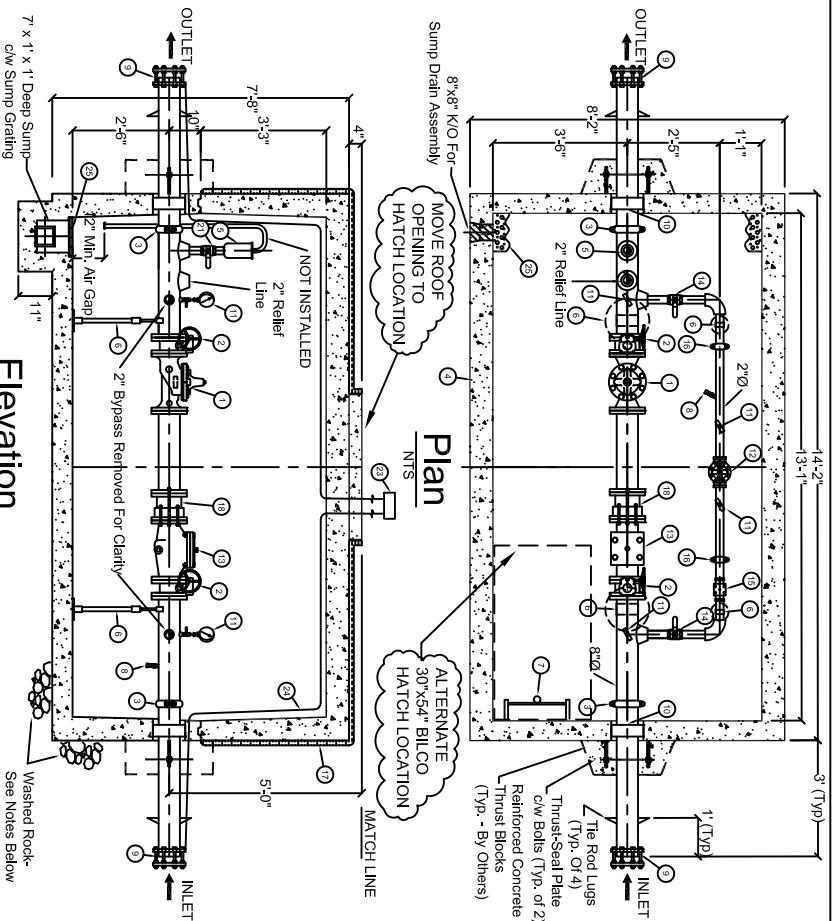
WATER & SEWER CROSSINGS  
DETAIL

1. Initial Release 11/2008  
REVISION HISTORY:

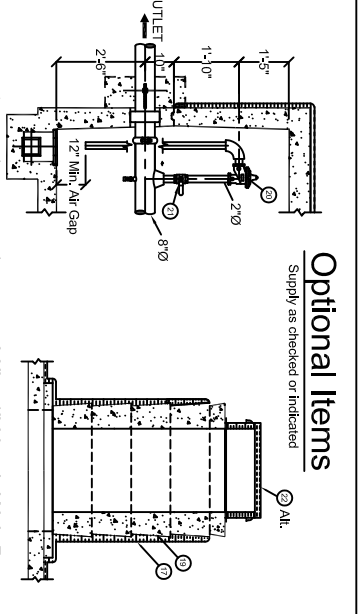
DRAWN BY: GLB DATE: 11/2008

SCALE: NONE

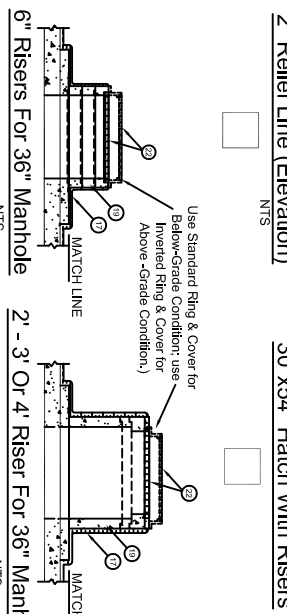
SHEET: 21



- STANDARD FABRICATION AND FINISHING SPECIFICATION**
1. ALL FABRICATED STEEL PIPE SHALL BE SCHEDULE 40 FOR SIZES FROM 3" UP TO AND INCLUDING 10", AND 3/8" WALL FOR 12 AND LARGER.
  2. FOR 3" AND LARGER PIPE, INSIDE WETTED SURFACES TO BE SANDBLASTED, EPOXY LINED AND COATED TO AWMA C213 AND NSF-61 SPECIFICATION.
  3. ALL PIPING AND FITTINGS LESS THAN 3" SHALL BE BRASS AND/OR BRONZE.
  4. THE EXTERIOR SURFACES OF ALL 3" AND LARGER PIPING AND ALL VALVES, FITTINGS, STRAINERS, COUPLINGS, ETC. SHALL BE FINISH COATED WITH BLUE EPOXY ENAMEL.
  5. FITTINGS: ALL CLASS 125/150 ANSI.
- NOTES**
1. SEE WATER AND SEWER DRAWINGS FOR SITE SPECIFIC LAYOUT, ASSOCIATED COMPONENTS AND ADDITIONAL REQUIREMENTS.
  2. CONCRETE VAULT SHALL BE PRECAST WITH A LEVEL FLOOR. WASHED ROCK BASE SHALL BE ALLOWED TO SET WITH A 1/8" PER FT. (1%) SLOPE TOWARD THE SUMP. ALLOW FOR VERTICAL PIPE BENDS OR DEFLECTIONS EITHER SIDE OF VAULT WHILE MAINTAINING MINIMUM REQUIRED COVER.
  3. SEE MOUNT WERNER WATER SPECIFICATIONS FOR COMPLETE DESCRIPTIONS AND ADDITIONAL REQUIREMENTS FOR ALL EQUIPMENT.
  4. SUMP SHALL BE CONSTRUCTED UNDER THE RAV AND PRESSURE RELIEF VALVE DISCHARGE LINES UNLESS OTHERWISE APPROVED. GRAVITY DRAIN PIPE SUMP TO DAYLIGHT.
  5. SUBMITTALS REQUIRED FOR ALL COMPONENTS PRIOR TO ORDERING VAULT.
  6. INSTALLATION SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.



**Optional Items**  
Supply as checked or indicated



**PROJECT SPECIFIC INFORMATION**

1. STANDARD 8" PRV IS DEPICTED. PRV'S BETWEEN PUMP ZONE AND HIGH ZONE SHALL ALSO HAVE A PRESSURE SUSTAINING FEATURE. VERIFY ALL COMPONENTS AND SIZES WITH VALVE MANUFACTURER FOR COMPATIBILITY WITH OPERATING CONDITIONS.
2. PIPE SIZES: MANLINE = 8" BYPASS = 2" RELIEF = NA
3. FLOW RATES (G.P.M.) DOMESTIC FIREFLOW MINIMUM \_\_\_\_\_ MAXIMUM \_\_\_\_\_
4. ELEVATIONS: TOP OF PIPE ELEV. \_\_\_\_\_ FINISH GRADE ELEV. \_\_\_\_\_ TOP OF M.H. COVER OR HATCH ELEV. \_\_\_\_\_
5. WORKING PRESSURES: DEPENDENT ON LOCATION, VERIFY WITH M.T. WERNER WATER. 8" PRV 2" PRV 2" PRESS. RELIEF PRV \_\_\_\_\_
6. MINIMUM DEPTH OF COVER TO TOP OF PIPE AT LOWEST SIDE = 7 FT.
7. VAULT: (H-20 LOADING) INSIDE DIMENSIONS: 13'-0" L X 7'-0" W X 6'-6" H
8. FOR OTHER MAIN LINE SIZES, VERIFY OPERATING REQUIREMENTS WITH M.T. WERNER WATER AND VERIFY VAULT AND ALL COMPONENTS WITH VAULT AND VALVE MANUFACTURERS.
9. CATHODIC PROTECTION PER USE OF ANODES TO BE PROVIDED IF SPECIFIED BY ENGINEER.

**BILL OF MATERIALS**

ITEM QTY	DESCRIPTION
1	8" CLA-VVAL 90G-01 BVMC PRV c/w X101C Position Indicator
1	DBT - #150 FIBR. CRD 15-75 PSI
2	8" DEZURLIK AMWA Butterfly Valve c/w #150 Handwheel
3	8" VICTAULIC 407 Coupling
4	Precast Concrete Vault, (137659) c/w White Interior & Black Back Exterior Sealant & 2" sprayed on insulation
5	ARV with Isolation Valve to be determined, see Specifications
6	Adjustable Galvanized Pipe Supports w/ Rubber Gaskets
7	Aluminum Ladder c/w Telescopic Locking Safety Post, Height Determined Station By Station
8	3/4" Hose Bib c/w Isolation Ball Valve
9	8" Flexible Couplings, ST1-201P Transition Gaskets, Long Solid Sleeve & Inlets
10	8" Pipe Seal Assembly
11	4 1/2" Liquid Filled Pressure Gauge c/w Gauge Cock
12	2" CLA-VVAL 90G-01 BSMVC PRV c/w X101C Position Indicator, DBT - 300# Threaded, CRD 15-75 PSI
13	8" CLA-VVAL X43H Strainer with Drain Ball Valve
14	2" Brass Ball Valve M&B B3
15	2" CLA-VVAL X43H Strainer with Drain Ball Valve
16	2" VICTAULIC 407 Coupling
17	Chamber Insulation - 2" thick polyurethane
18	8" D400 Dismantling Joint
23	Local Wire Terminal Box
24	10 Gauge Local Wire
25	Aluminum Plank Grate

**OPTIONAL ITEMS**

19	1	Manhole Risers as Required
20	2	CLA-VVAL 50X-01 BRC PRV Angle c/w X101 Position Indicator, DBT - 300# Threaded CRD set @ 20,200 PSI
21	1	2" Brass Ball Valve
22	1	30" Ø Aluminum Manhole, H20-44, Single Lid Castings Inc. Manhole Ring and Cover, MH 700-36-24-ALL Alternates: 30"x54" BILCO NR-5017 Hatch c/w Curb Liner

**REVISION HISTORY:**

1. Initial Release 1/2009
2. Revised Items 1, 5, 12, 13, 15 & 22 1/2014

**Mount Werner Water**

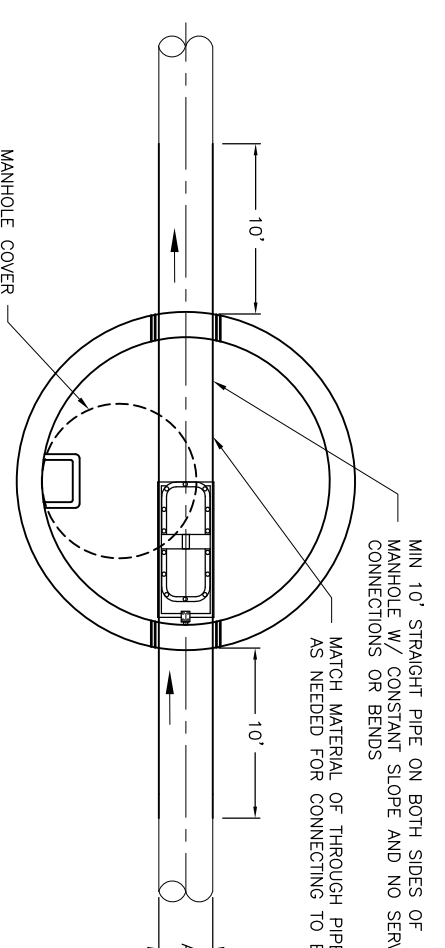
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3310 Clear Water Trail  
Steamboat Springs, CO 80488  
(970) 879-2424 fax (970) 879-8169

**STANDARD PRV**  
DETAIL

DRAWN BY: RF/DB DATE: 1/2014

SCALE: NONE

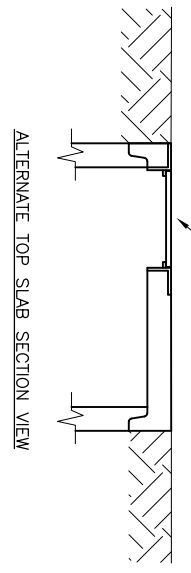
SHEET: 22



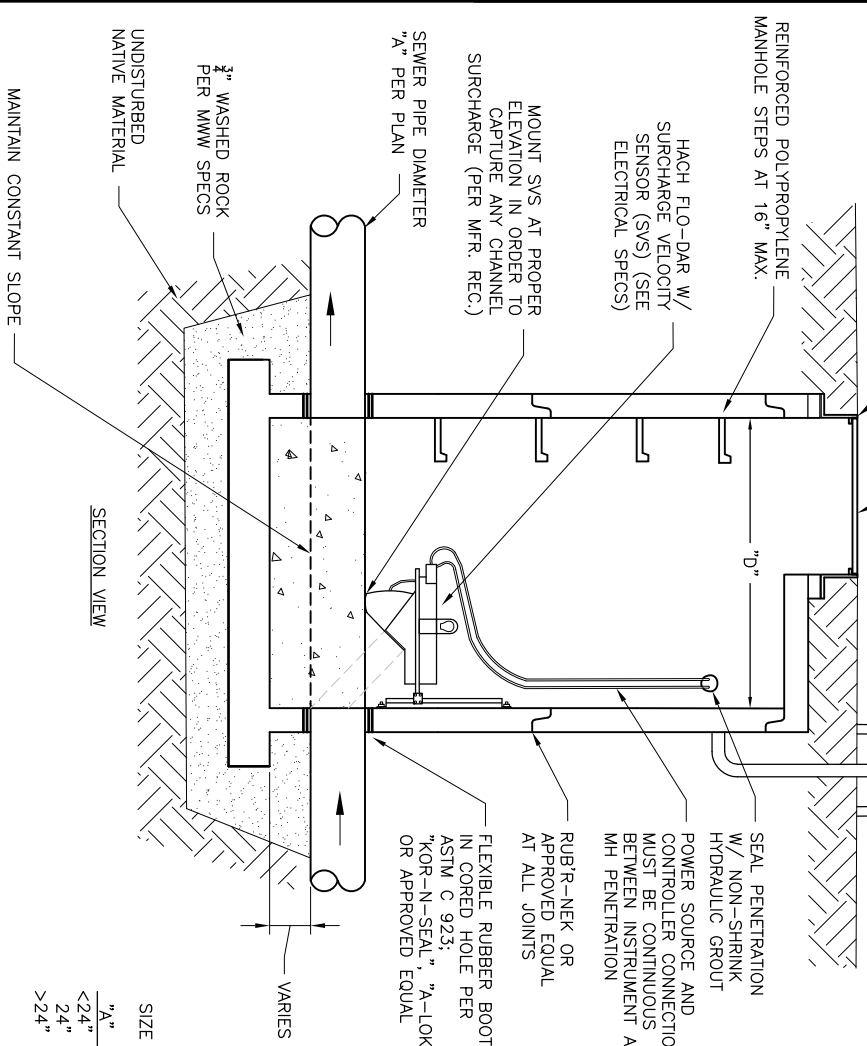
MIN 10' STRAIGHT PIPE ON BOTH SIDES OF MANHOLE W/ CONSTANT SLOPE AND NO SERVICE CONNECTIONS OR BENDS  
MATCH MATERIAL OF THROUGH PIPE AS NEEDED FOR CONNECTING TO EXISTING SEWER PIPE

- NOTES:
1. ALL MANHOLE MATERIALS AND FABRICATION SHALL BE IN ACCORDANCE WITH ASTM C 478. SEE MWW STANDARD SPECIFICATIONS SECTION 42 - "MANHOLES" FOR ADDITIONAL REQUIREMENTS.
  2. ALL SEWER PIPING MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH MWW STANDARD SPECIFICATIONS SECTION 40 "WASTEWATER PIPING AND APPURTENANCES".
  3. POSITION COVER AND STEPS TO PROVIDE BEST ACCESS TO BENCH OR PER OWNER'S FIELD DIRECTIVE.
  4. RUBR-NEK OR APPROVED EQUAL AT ALL MANHOLE SECTION JOINTS.
  5. MANHOLE STEPS SHALL BE TYPE PS-2PF OR PS-2PFS.
  6. UTILITY EASEMENTS EXTEND 10' ON EITHER SIDE OF SEWER PIPE. LIMITS OF DISTURBANCE SHALL BE CONFINED TO THE THIS 20' WIDE UTILITY EASEMENT.
  7. U-SHAPED CHANNEL CROSS-SECTION SHALL BE CUSTOM PROGRAMMED INTO HACH CONTROLLER USING 60-POINT DEPTH/AREA RELATIONSHIP.
  8. MINIMUM 10 POINT VELOCITY PROFILE CALIBRATION REQUIRED FOR HACH FLO-DAR UNIT
  9. SEE ELECTRICAL AND CONTROLS DRAWINGS FOR SITE SPECIFIC WIRING DIAGRAMS AND RTU SCHEMATICS

IF ADDITIONAL INTERIOR STANDING HEIGHT IS DESIRED, AS DIRECTED BY OWNER, MATCH TOP SLAB AND MH COVER ELEVATION WITH SURROUNDING GRADE; INSTALL NEENAH R-1706-1S RING AND COVER.



SEE MWW SPECIFICATIONS FOR RING AND COVER



SIZE CHART

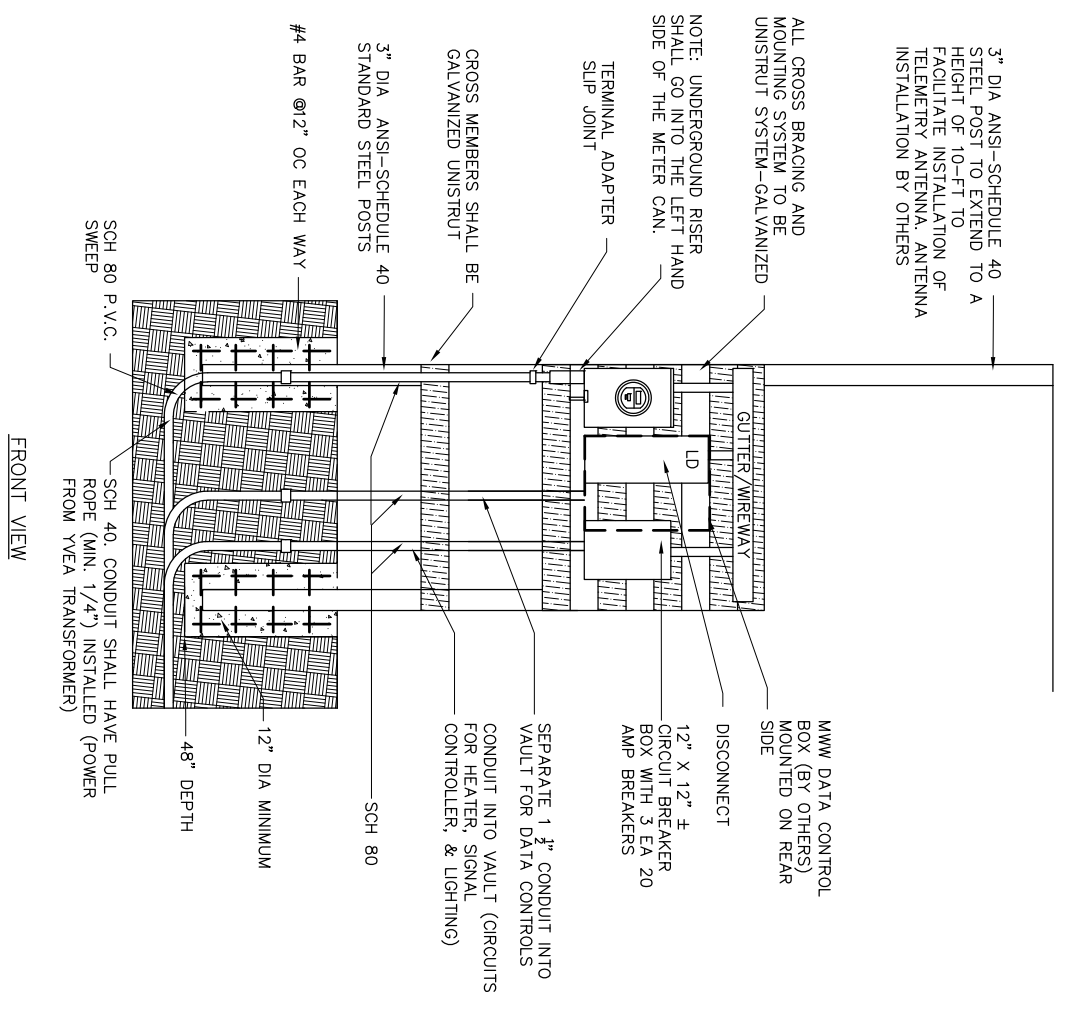
"A"	"D"
<24"	60"
24"	72"
>24"	84"+

SECTION VIEW

SECTION VIEW

AREA/VELOCITY (AV) FLOW MONITORING MANHOLE

NOT TO SCALE



3" DIA ANSI-SCHEDULE 40 STEEL POST TO EXTEND TO A HEIGHT OF 10-FT TO FACILITATE INSTALLATION OF TELEMETRY ANTENNA. ANTENNA INSTALLATION BY OTHERS

ALL CROSS BRACING AND MOUNTING SYSTEM TO BE UNISTRUT SYSTEM-GALVANIZED

NOTE: UNDERGROUND RISER SHALL GO INTO THE LEFT HAND SIDE OF THE METER CAN.

TERMINAL ADAPTER SLIP JOINT

CROSS MEMBERS SHALL BE GALVANIZED UNISTRUT

3" DIA ANSI-SCHEDULE 40 STANDARD STEEL POSTS

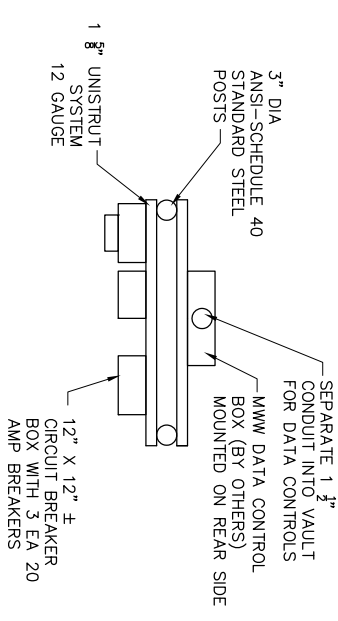
#4 BAR @12" OC EACH WAY

SCH 80 P.V.C. SWEEP

SCH 40 CONDUIT SHALL HAVE PULL ROPE (MIN. 1/4") INSTALLED (POWER FROM YVEA TRANSFORMER)

FRONT VIEW

- NOTES:
1. CONDUIT SHALL BE 3" UNLESS OTHERWISE NOTED.
  2. ALL HARDWARE SHALL BE STAINLESS STEEL.



NOTE: ROUTT COUNTY BUILDING DEPARTMENT PERMIT AND INSPECTION REQUIRED.

PLAN VIEW

REMOTE TRANSMITTING UNIT (RTU)

NOT TO SCALE

**Mount Werner Water**

P.O. Box 680339  
3310 Clear Water Trail  
Shamboat Springs, CO 80448  
(970) 679-2424 fax (970) 679-8188

**AV FLOW MONITORING MANHOLE AND RTU DETAILS**

DRAWN BY: RS, MM DATE: 5/2018

SCALE: NONE

SHEET: 23

REVISION HISTORY: