

# COTTONWOOD MUTUAL WATER COMPANY

## STANDARD WATER DETAILS

*Michael A. White* Jan 9, 2023

COMPANY MANAGER, DATE  
APPROVED



### TABLE OF CONTENTS

DETAIL	SHEET
1 THRUST BLOCK .....	1
2 VALVE .....	1
3A TYPICAL TRENCH .....	2
3B UDOT TRENCH CROSSING .....	2
4 TYPICAL CONNECTION .....	3
5 FIRE HYDRANT .....	3
6 COMBINATION AIR/VAC VALVE .....	4
7 TYPICAL SEWER CROSSING .....	5
8 MULTIPLE METER MANIFOLD.....	6
9 1" WATER METER .....	7
10 1 1/2" WATER METER .....	7
11 2" WATER METER .....	8
12A 3" WATER METER .....	9A
12B 3" WATER METER BILL OF MATERIALS .....	9B
13A 4" WATER METER .....	10A
13B 4" WATER METER BILL OF MATERIALS.....	10B
14 BLOW OFF .....	11
15 CANAL/UDOT CROSSING .....	12
16 SAMPLING STATION .....	13
17A PRV STATION.....	14A
17B PRV STATION BILL OF MATERIALS.....	14B

### COTTONWOOD MUTUAL WATER COMPANY STANDARD DETAILS

#### REVISION SUMMARY

DATE	DETAIL NO.	DESCRIPTION

DRAFTED: JKH	DEVIATIONS FROM STANDARDS MUST BE
DESIGNED: DW	APPROVED BY COTTONWOOD MUTUAL
CHECKED: DW	WATER COMPANY.
DATE: 11/2022	



STANDARD WATER DETAILS  
COTTONWOOD MUTUAL WATER COMPANY  
COVER SHEET SHEET 0



SIZE	BENDS				TEES*	GATE VALVES	DEAD ENDS	CROSSW/1 BRANCH PLUGGED	CROSSW/2 BRAN. PLUGGED
	90°	45°	22 1/2°	11 1/4°					
3	1.0	0.0	0.3	0	0.7	0.5	0.7	0.7	0.7
4	1.8	1.0	0.5	0	1.3	0.5	1.3	1.3	1.3
6	4.0	2.2	1.1	0	2.8	0.7	2.8	2.8	2.8
8	7.1	3.8	2.0	1.0	5.0	2.4	5.0	5.0	5.0
10	11.1	6.0	3.0	1.5	7.8	4.5	7.8	7.8	7.8
12	16.0	8.6	4.4	2.2	11.3	7.3	11.3	11.3	11.3
14	21.7	11.8	6.0	3.0	15.4	11.0	15.4	15.4	15.4
15	25.0	13.5	7.0	3.5	17.6		17.6	17.6	17.6
16	28.4	15.3	8.0	4.0	20.0		20.0	20.0	20.0
18	36.0	19.4	10.0	5.0	25.4		25.4	25.4	25.4
20	44.2	24.0	12.2	6.1	31.4		31.4	31.4	31.4
21	49.0	26.5	13.5	6.8	34.6		34.6	34.6	34.6
22	54.0	29.0	14.8	7.4	38.0		38.0	38.0	38.0
24	64.0	34.5	17.7	8.8	45.0		45.0	45.0	45.0
30	100.0	54.0	27.6	13.8	71.0		71.0	71.0	71.0
36	144.0	78.0	40.0	20.0	102.0		102.0	102.0	102.0

\*SIZE IS BRANCH SIZE.  
FOR 100 P.S.I. INTERNAL STATIC PRESSURE AND 1000 LBS.PER SQ. FT. SOIL BEARING CAPACITY.

\*ALL VALVES, TEES, CROSSES AND BENDS SHALL ALSO BE FITTED WITH MECHANICAL RESTRAINTS, SUCH AS MEGA LUG OR ROMA GRIP WITH FLUOROPOLYMER COATED BOLTS AND NUTS.

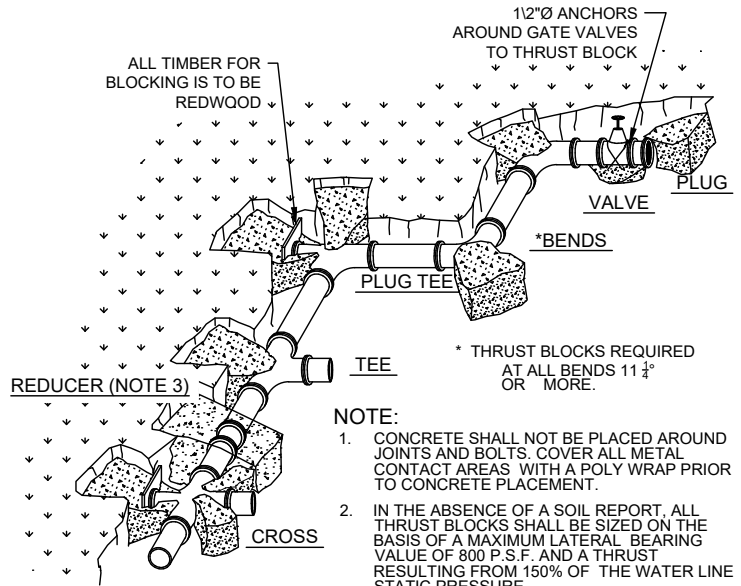
AREAS GIVEN IN TABLE ARE BASED UPON AN INTERNAL STATIC PRESSURE OF 100 P.S.I AND A SOIL BEARING CAPACITY OF 1000 LBS PER SQ. FT. BEARING AREAS FOR ANY PRESSURE AND SOIL BEARING CAPACITY MAY BE OBTAINED BY MULTIPLYING THE TABULATED VALUES BY A CORRECTION FACTOR "F".

$$F = \frac{\text{ACTUAL SPECIFIED TEST PRESSURE IN HUNDREDS OF LBS/SQ. IN.}}{\text{ACTUAL SOIL BEARING CAPACITY IN THOUSANDS OF LBS.}}$$

EXAMPLE: TO FIND BEARING AREA FOR 8"-90° BEND WITH A STATIC INTERNAL PRESSURE OF 150 P.S.I AND WITH A SOIL BEARING CAPACITY OF 3000 LBS. PER SQ. FT.

$$F = 1.5 / 3 = 0.5 \text{ TABULATED VALUE} = 7.1 \text{ SQ. FT.}$$

$$0.5 \times 7.1 = 3.56 \sim 4 \text{ SQ. FT. (~OR 2FT. LONG BY 2FT. HIGH.)}$$



- \* THRUST BLOCKS REQUIRED AT ALL BENDS 11 1/4° OR MORE.
- NOTE:
- CONCRETE SHALL NOT BE PLACED AROUND JOINTS AND BOLTS. COVER ALL METAL CONTACT AREAS WITH A POLY WRAP PRIOR TO CONCRETE PLACEMENT.
  - IN THE ABSENCE OF A SOIL REPORT, ALL THRUST BLOCKS SHALL BE SIZED ON THE BASIS OF A MAXIMUM LATERAL BEARING VALUE OF 800 P.S.F. AND A THRUST RESULTING FROM 150% OF THE WATER LINE STATIC PRESSURE.
  - THRUST BLOCK AT REDUCER SHALL BE KEYED INTO UNDISTURBED TRENCH WALL AND BOTTOM, AND REINFORCED WITH #4 BARS 3" OFF SMALL SIDE FACE. KEY DEPTH = 12" FOR 4"-12" MAINS, AND 18" FOR > 12" MAINS

# 1 THRUST BLOCK DETAIL

APPLIES TO ALL PRESSURE PIPE

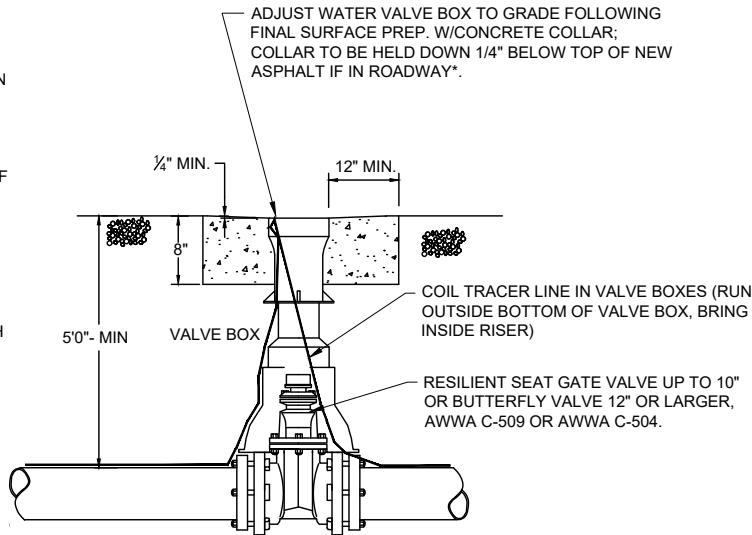
NTS

### VALVE LOCATION STANDARD:

AT TEES AND CROSSES, A VALVE SHALL BE INSTALLED IN EACH MAIN LINE, OUT OF THE INTERSECTION, AT THE EXTENSION OF PROPERTY LINES.

AN EXCEPTION TO THE NUMBER OF VALVES MAY BE MADE BY THE COMPANY WHEN FOLLOWING THE STANDARD WILL PUT MAIN LINE VALVES WITHIN 250' OF EACH OTHER.

AN ISOLATION VALVE SHALL BE INSTALLED IN MAIN LINES ON EACH END OF AN EASEMENT THROUGH PRIVATE PROPERTY.



NOTE: VALVE BOX, RISER AND LID MUST COME FROM THE SAME MFR., BE INTENDED FOR USE TOGETHER AND SHALL BE WITHIN PUBLISHED DIMENSION TOLERANCES. IF LOCATED IN ROADWAY W/ SPEED LIMIT OF 40 MPH OR GREATER, LID SHALL BE HEAVY AND EXTRA DEEP.

# 2 TYPICAL VALVE DETAIL

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STANDARD WATER DETAILS  
COTTONWOOD MUTUAL WATER COMPANY

THRUST BLOCK  
TYPICAL VALVE

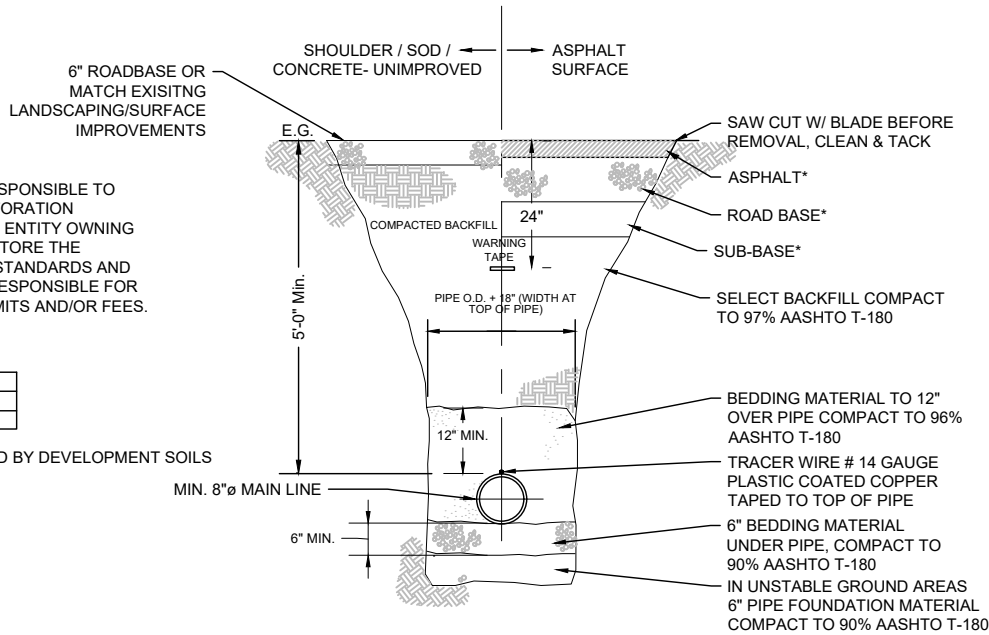
SHEET 1

**GARDNER ENGINEERING**  
CIVIL • LAND PLANNING  
MUNICIPAL • LAND SURVEYING  
1580 W 2100S, WEST HAVEN, UT 84405  
P 801.476.0202 F 801.476.0066

NOTE:  
CONTRACTOR IS RESPONSIBLE TO MEET TRENCH RESTORATION STANDARDS OF THE ENTITY OWNING THE ROADWAY, RESTORE THE ROADWAY TO SAID STANDARDS AND SHALL BE SOLELY RESPONSIBLE FOR ALL ROADWAY PERMITS AND/OR FEES.

ASPHALT	3"*
ROAD BASE	8"*
SUB-BASE	12"*

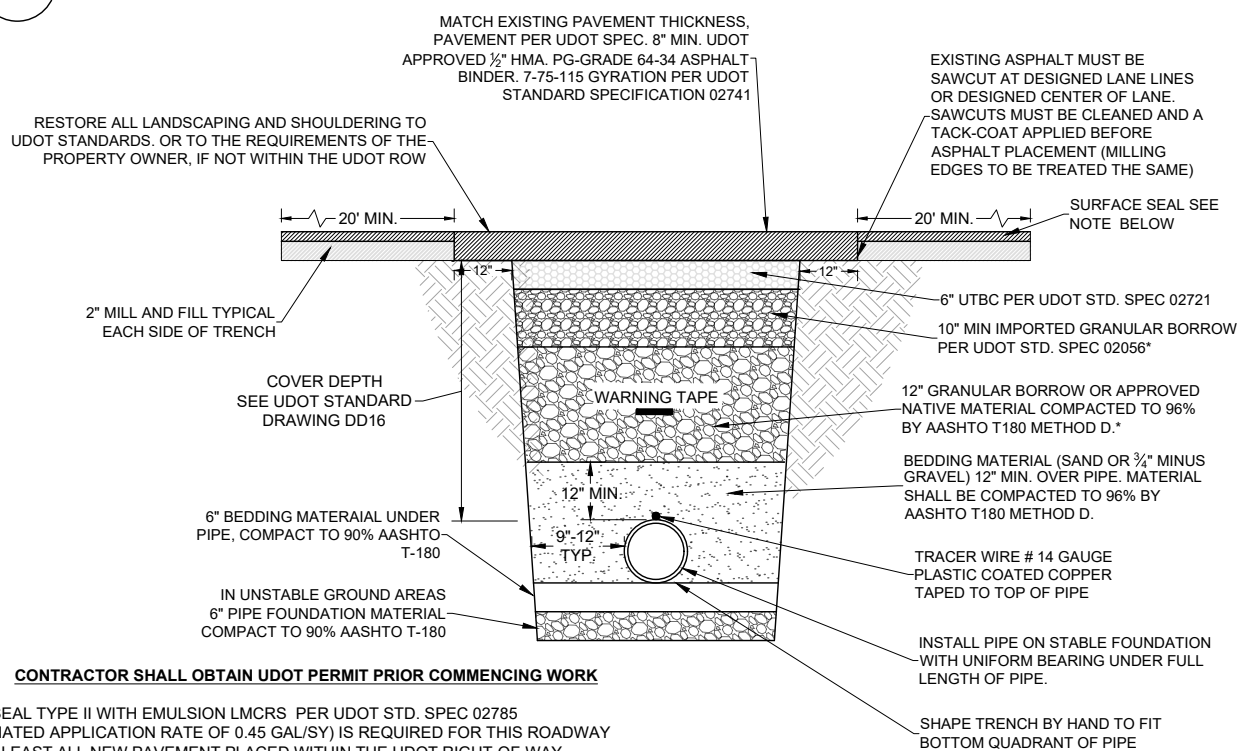
\*OR AS DETERMINED BY DEVELOPMENT SOILS REPORT



- NOTE:
- WATER & SEWER LINES SHALL BE INSTALLED A MINIMUM OF 10 HORIZONTAL FEET FROM EACH OTHER.
  - WHERE A WATER MAIN AND A SEWER MAIN MUST CROSS, THE WATER MAIN SHALL BE AT LEAST 18" ABOVE THE SEWER MAIN.
  - SEPARATION DISTANCES ARE TO BE MEASURED EDGE-TO-EDGE.
  - WATER MAINS SHALL NOT BE INSTALLED IN THE SAME TRENCH WITH EITHER SEWER OR SECONDARY PIPES.
  - IF THESE STANDARDS CANNOT BE MET, CONTACT THE COMPANY INSPECTOR.

**3A** TYPICAL TRENCH SECTION

NTS



NOTE: **CONTRACTOR SHALL OBTAIN UDOT PERMIT PRIOR COMMENCING WORK**

CHIP SEAL TYPE II WITH EMULSION LMCRS PER UDOT STD. SPEC 02785 (ESTIMATED APPLICATION RATE OF 0.45 GAL/SY) IS REQUIRED FOR THIS ROADWAY ON AT LEAST ALL NEW PAVEMENT PLACED WITHIN THE UDOT RIGHT-OF-WAY.

ALL CONSTRUCTION WITHIN THE UDOT RIGHT-OF-WAY SHALL CONFORM TO THE MOST CURRENT UDOT STANDARD DRAWING AND SPECIFICATIONS, FOUND AT UDOT.UTAH.GOV/CONNECT/BUSINESS/STANDARDS/2023 STANDARDS

\* FLOWABLE FILL MAY BE REQUIRED BY UDOT PERMIT.

**3B** UDOT CROSSING TRENCH DETAIL

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**COTTONWOOD MUTUAL WATER COMPANY**

**TYPICAL TRENCH SECTION**

**UDOT CROSSING TRENCH DETAIL**

**SHEET 2**

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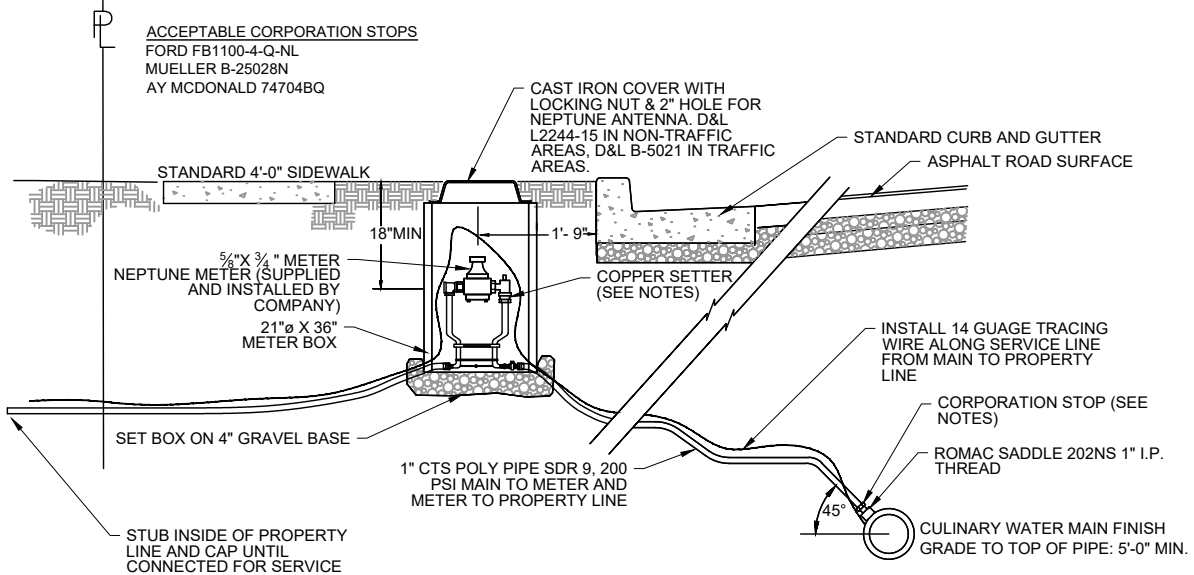
NOTES:

**ACCEPTABLE COPPER SETTERS**  
 FORD VBHC 72-18W-44-44QNL  
 MUELLER B-24701N-2A  
 AY MCDONALD 722-218WD22 44

**ALL COMPRESSION FITTINGS:**  
 SHALL HAVE STAINLESS STEEL INSERTS  
 FORD 52 , MUELLER 504385, AY MCDONALD 6133T

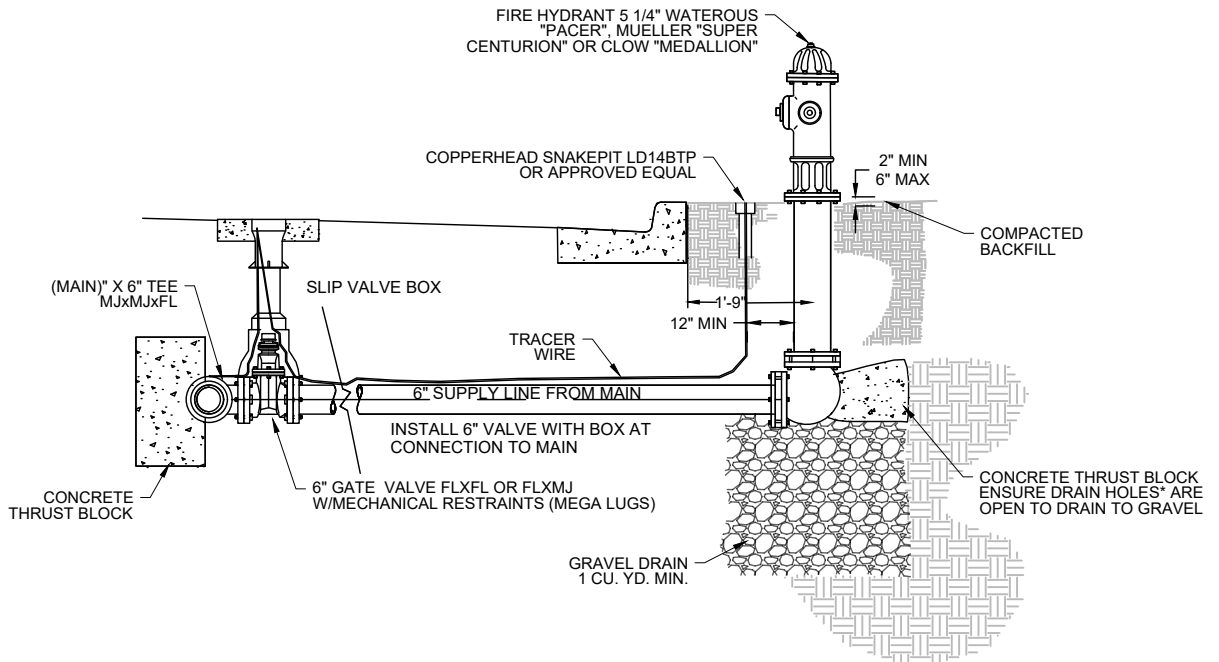
**METER BOX REQUIREMENTS:**  
 - SMOOTH INTERIOR  
 - WHITE PLASTIC  
 - CONCRETE IN TRAVELED WAYS

**ACCEPTABLE CORPORATION STOPS**  
 FORD FB1100-4-Q-NL  
 MUELLER B-25028N  
 AY MCDONALD 74704BQ



4 TYPICAL WATER CONNECTION\RE-CONNECTION

NTS



\*NOTE: HYDRANT DRAINS SHALL NOT BE CONNECTED TO, OR LOCATED WITHIN, 10 FEET OF SANITARY SEWERS. WHERE POSSIBLE, HYDRANT DRAINS SHALL NOT BE LOCATED WITHIN 10 FEET OF STORM DRAINS.

5 FIRE HYDRANT DETAIL

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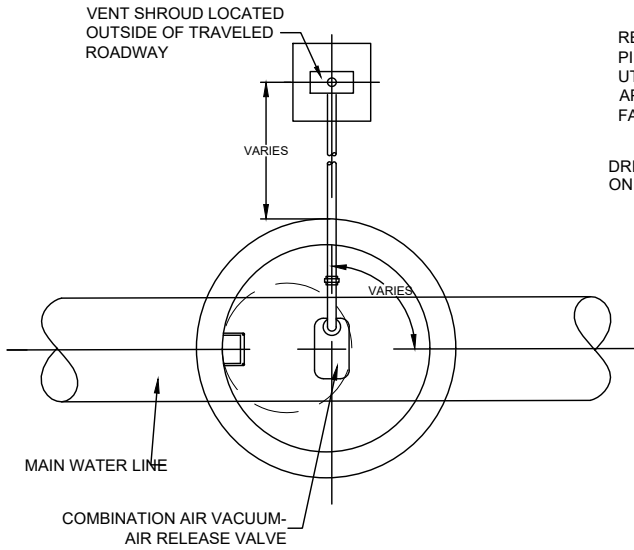
**STANDARD WATER DETAILS**

**COTTONWOOD MUTUAL WATER COMPANY**

TYPICAL WATER CONNECTION DETAIL  
 FIRE HYDRANT DETAIL

SHEET 3

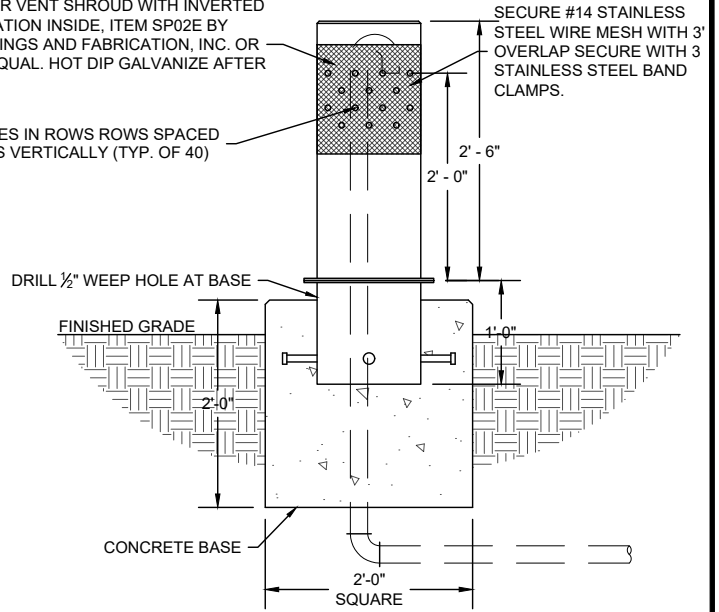
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**AIR VALVE PLAN VIEW**  
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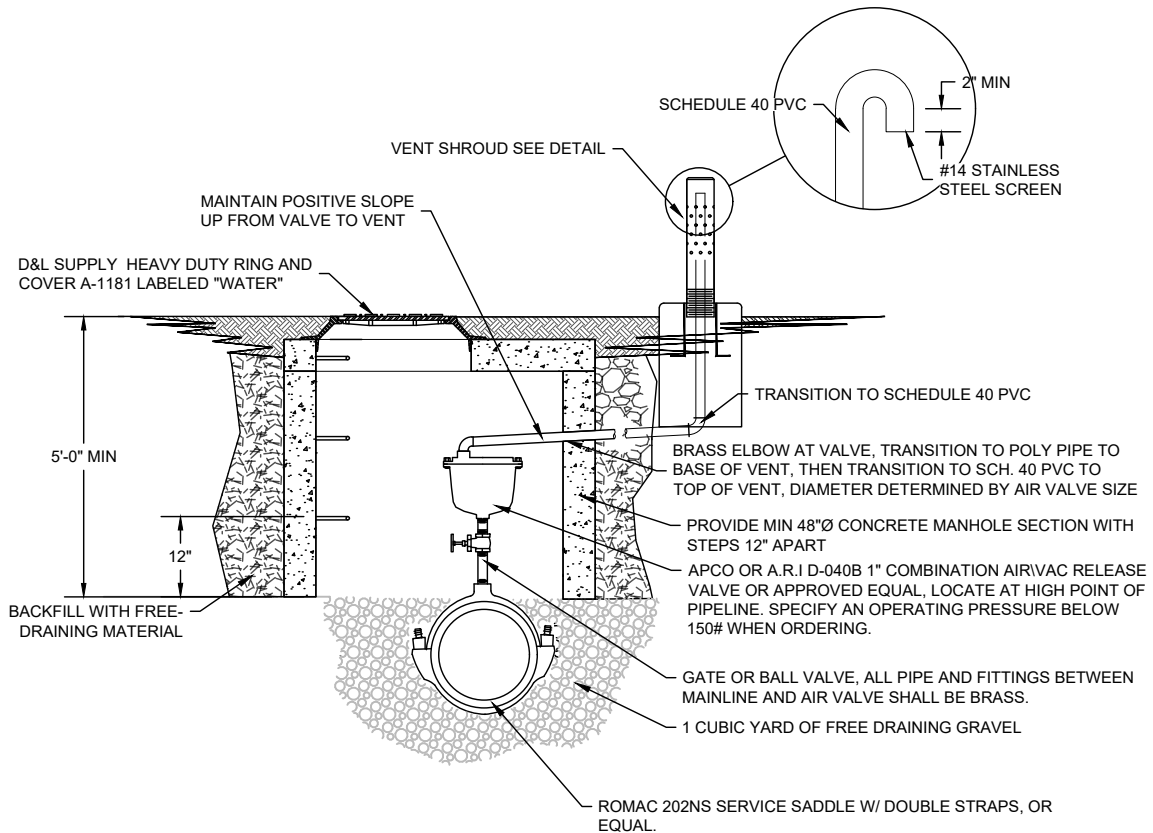
RECTANGULAR VENT SHROUD WITH INVERTED PIPE TERMINATION INSIDE, ITEM SP02E BY UTILITY COATINGS AND FABRICATION, INC. OR APPROVED EQUAL. HOT DIP GALVANIZE AFTER FABRICATION

DRILL 1/2"Ø HOLES IN ROWS ROWS SPACED ON 2" CENTERS VERTICALLY (TYP. OF 40)



**VENT SHROUD DETAIL**  
NTS

NOTES:  
1. LOCATE VENT SHROUD WELL OUTSIDE TRAVELED ROADWAY OR AS DIRECTED BY THE ENGINEER.



**AIR/VAC VALVE DETAIL**  
NTS

**6 COMBINATION AIR/VAC VALVE DETAILS**

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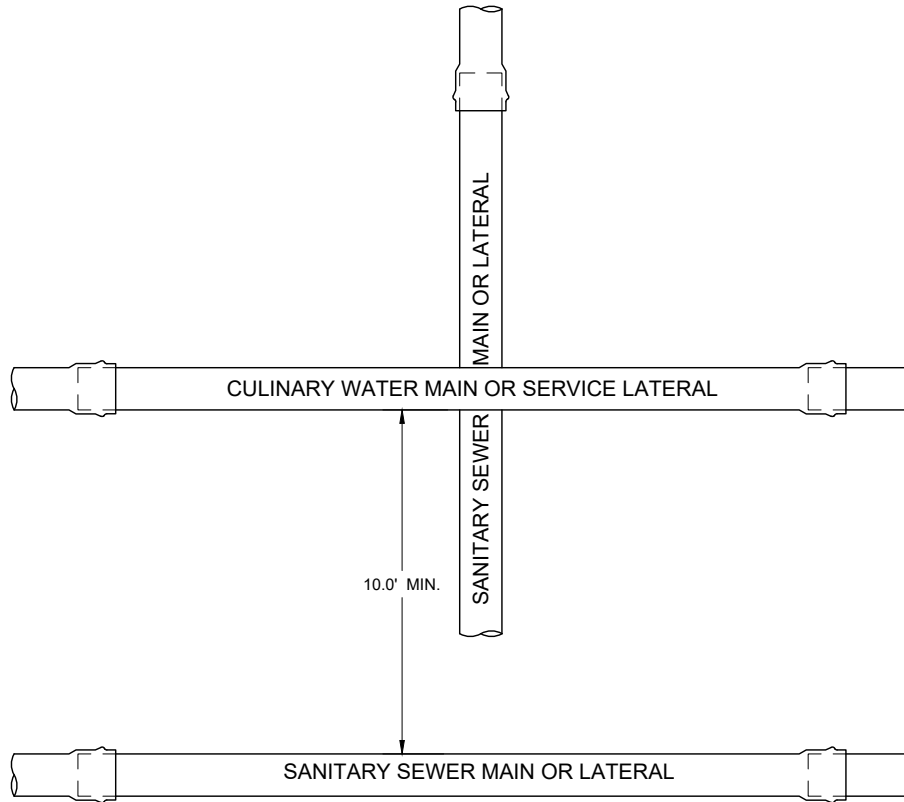
**STANDARD WATER DETAILS**  
**COTTONWOOD MUTUAL WATER COMPANY**  
**COMBINATION AIR/VAC VALVE DETAIL**

SHEET 4

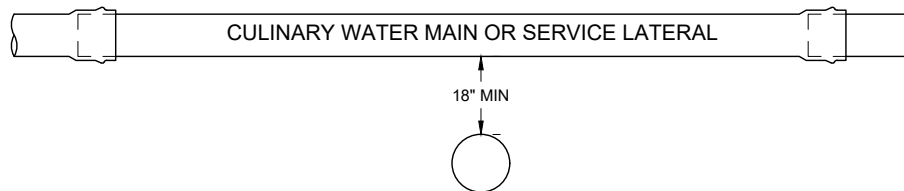
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**NOTE:**

WATER MAINS AND SEWER LINES SHALL NOT BE INSTALLED IN THE SAME TRENCH. WHERE LOCAL CONDITIONS MAKE IT IMPOSSIBLE TO INSTALL WATER OR SEWER LINES AT THE SEPARATION DISTANCES REQUIRED ABOVE, AN EXCEPTION TO THE STANDARD MAY BE POSSIBLE. THE ENTITY SEEKING THE EXCEPTION SHALL INITIATE AND PURSUE A REQUEST FOR A SEPARATION EXCEPTION WITH THE STATE DIVISION OF DRINKING WATER, IN ACCORDANCE WITH R309-550-7 OF THE STATE OF UTAH ADMINISTRATIVE RULES.



PLAN VIEW



PROFILE VIEW

**7** TYPICAL SEWER CROSSING DETAIL

NTS

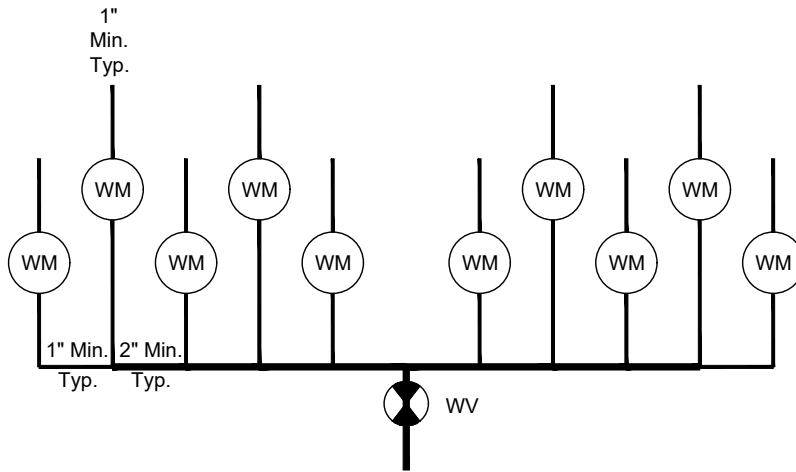
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DATE: 11/2022	



<b>STANDARD WATER DETAILS</b>	
<b>COTTONWOOD MUTUAL WATER COMPANY</b>	
TYPICAL SEWER CROSSING	SHEET 5

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PATH: R:\0320 - Cottonwood Mutual Water Company\Details\0300 - MWD - Standard Drawings and Specifications




2" from main line, serving  
2-10 meters when  
approved by Company

**SPECIFICATIONS FOR MULTIPLE METER MANIFOLDS:**

1. All piping shall be SDR 9 CTS HDPE or brass.
2. Maintain right angles in piping through use of brass tees, crosses or 90s
3. 2" pipe when more than 1 meter is served, single service size beyond meter determined by home builder.
4. Stagger meter boxes as needed to enable proper compaction
5. Keep meter boxes near roadway
6. No meter boxes in roads or driveways.
7. Mark and wire a waterproof tag to each meter to identify which lot/unit is served by each meter.
8. 2" curb valve and valve box with concrete collar required. Locate in non-traffic area.
9. See also Detail 4 on Sheet 3.

**8** MULTIPLE METER MANIFOLD

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<b>STANDARD WATER DETAILS</b>	
<b>COTTONWOOD MUTUAL WATER COMPANY</b>	
<b>SKewed SEWER CROSSING</b>	<b>SHEET 6</b>



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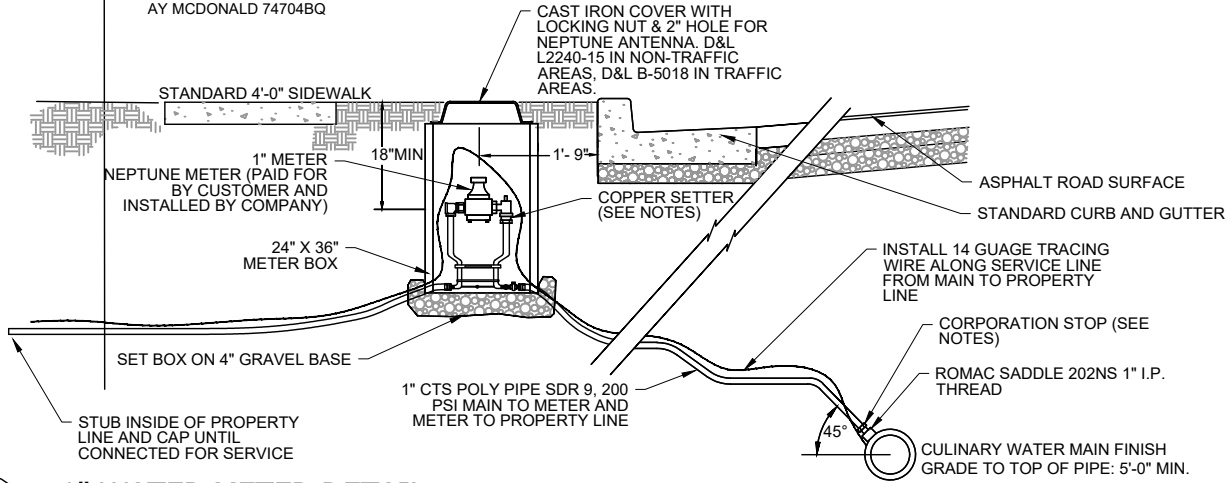
**NOTES:**

**ACCEPTABLE COPPER SETTERS**  
 FORD VBHC 74-18W-44-44QNL  
 MUELLER B-2470N-2A  
 AY MCDONALD 722-218WD22 44

**ALL COMPRESSION FITTINGS:**  
 SHALL HAVE STAINLESS STEEL INSERTS  
 FORD 52 , MUELLER 504385, AY MCDONALD 6133T

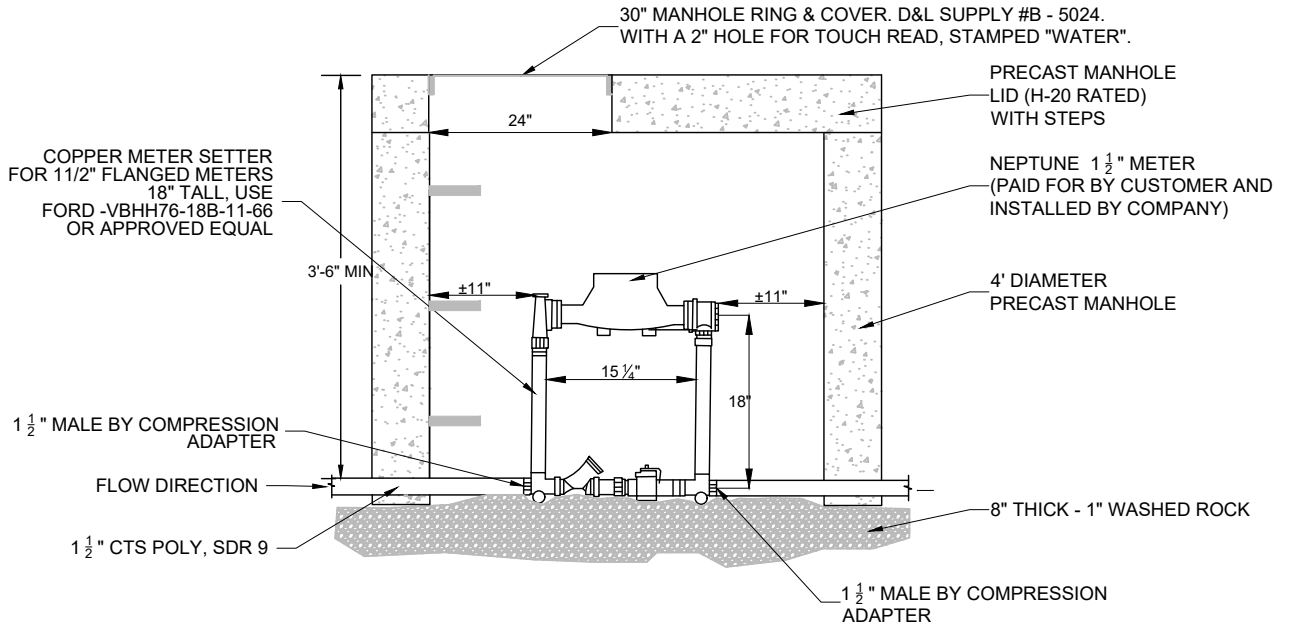
**METER BOX REQUIREMENTS**  
 - SMOOTH INTERIOR  
 - WHITE PLASTIC  
 - CONCRETE IN TRAVELED WAYS

**ACCEPTABLE CORPORATION STOPS**  
 FORD FB1100-4-Q-NL  
 MUELLER B-15028N  
 AY MCDONALD 74704BQ



**9 1" WATER METER DETAIL**

NTS



**NOTES:**

- SERVICE LINE COVER UNDER CURB AND GUTTER MUST BE ADJUSTED BETWEEN THE LIMITS OF 54" AND 66". COVER OF SERVICE LINE IN THE STREET MUST NOT BE GREATER THAN 60"
- DISTRICT MANAGER OR FOREMAN MUST APPROVE LOCATION OF METER BOX IF DISTANCE FROM TOP BACK CURB & GUTTER EXCEEDS 1'-0".
- ALL PIPING, VAULT, & MISCELLANEOUS ITEMS SHALL BE FURNISHED & INSTALLED BY THE CONTRACTOR, COMPLETE. COST OF METER SHALL BE BORNE BY SERVICED CUSTOMER.
- ANY CHANGES MUST BE APPROVED BY DISTRICT MANAGER OR INSPECTOR.
- IF SERVICE LINE IS NOT 1 1/2" CTS POLY THEN INSTALLER WILL HAVE TO INSTALL TRANSITION FITTINGS.

**10 1 1/2" WATER METER DETAIL**

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**STANDARD WATER DETAILS**

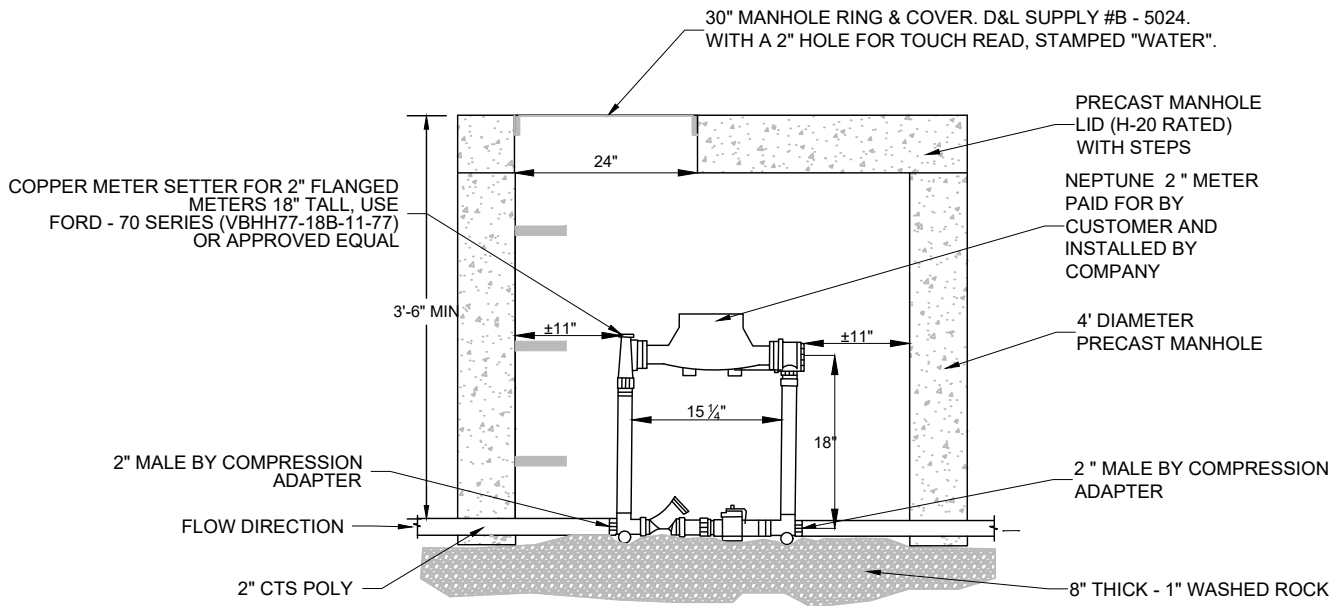
**COTTONWOOD MUTUAL WATER COMPANY**

**1" METER DETAIL**  
**1 1/2" METER DETAIL**

**SHEET 7**

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NOTES

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3. ALL PIPING, VAULT, & MISCELLANEOUS ITEMS SHALL BE FURNISHED & INSTALLED BY THE CONTRACTOR, COMPLETE. COST OF METER SHALL BE BORNE BY SERVICED CUSTOMER.
4. ANY CHANGES MUST BE APPROVED BY COMPANY MANAGER OR INSPECTOR.
5. IF SERVICE LINE IS NOT 2" CTS POLY THEN INSTALLER WILL HAVE TO INSTALL TRANSITION FITTINGS.

11 2" METER DETAIL

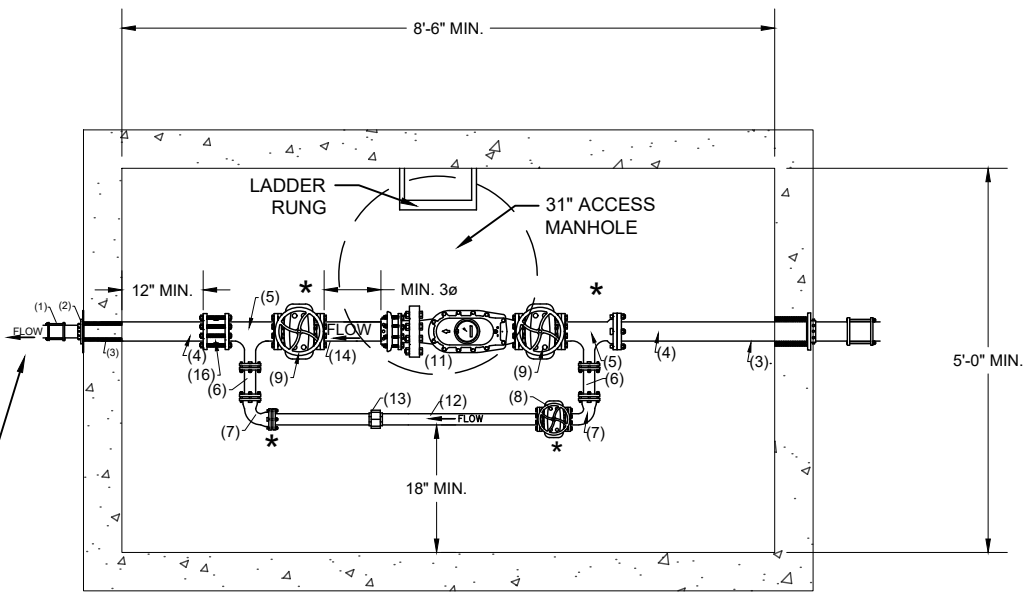
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STANDARD WATER DETAILS	
COTTONWOOD MUTUAL WATER COMPANY	
2" METER DETAIL	SHEET 8

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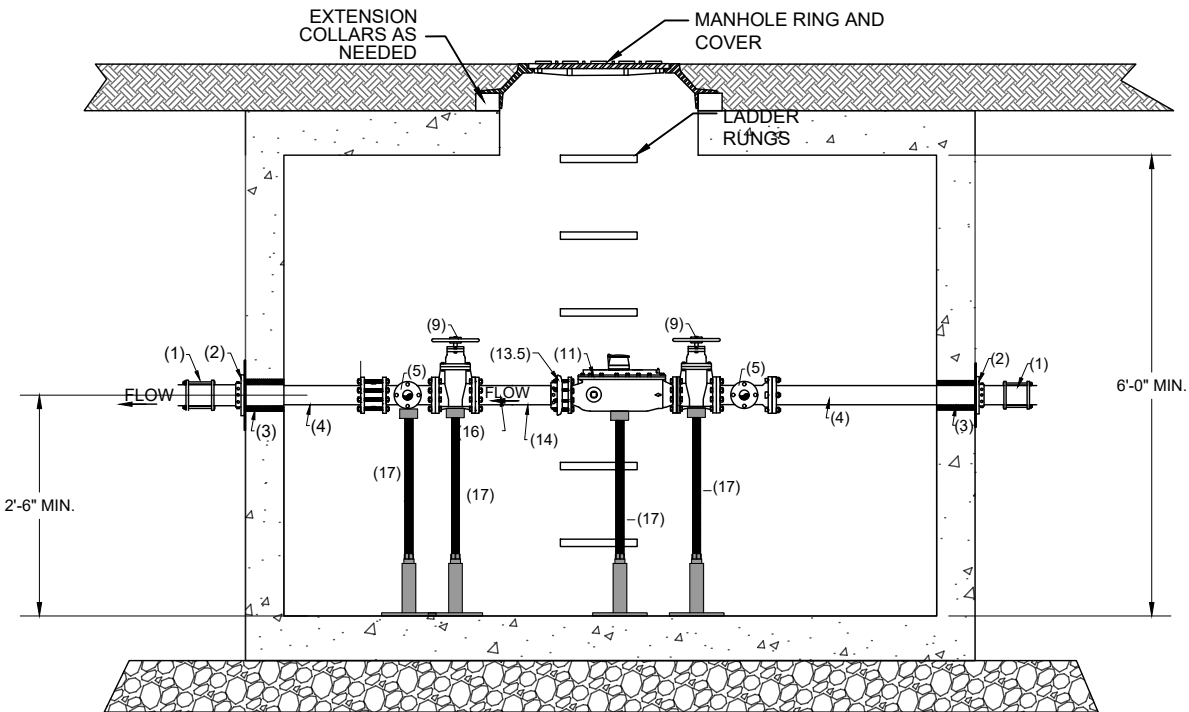
PLAN VIEW

\* PIPE STAND LOCATIONS

1/4" THRUST PLATE  
& FIELD FLANGE

PIPE OUTER DIA.  
PLUS 1 INCHES

PIPE OUTER DIAMETER  
PLUS 6" (SQUARE)



SECTION A-A

12A 3" WATER METER DETAIL

1"=2.5'

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STANDARD WATER DETAILS  
COTTONWOOD MUTUAL WATER COMPANY

3" WATER METER DETAIL

SHEET 9A



PATH: R:\0320 - Cottonwood Mutual Water Company\Details\0320 - CMMWC - Standard Drawings and Specifications

## Bill of Materials - 3" Meter

#	Qty	Item	Note
1	2	3" COUPLING	
2	2	FIELD FLANGE AND 1/4" STEEL THRUST PLATE	
3	2	CORED HOLE AND GROUT PACK	
4	2	3" PIPE	FIELD MEASURE AND CUT TO FINAL LENGTH
5	2	3" X 2" TEE	
6	2	2" FL X PE PIPE	FIELD MEASURE AND CUT TO FINAL LENGTH, USE DIP OR GSP
7	2	2" 90° ELBOW	END CONNECTIONS AS NEEDED
8	1	2" GATE VALVE WITH HANDWHEEL	PROVIDE A STAINLESS STEEL CHAIN AND BRASS LOCK
9	2	3" GATE VALVE WITH HANDWHEEL	PROVIDE 1 ONLY STAINLESS STEEL CHAIN AND BRASS LOCK
10		(INTENTIONALLY BLANK)	
11	1	3" ULTRASONIC METER	PROVIDE WITH REGISTER AND ANTENNA, ETC., FOR RADIO READ. PAID FOR BY CUSTOMER, PURCHASED AND INSTALLED BY COMPANY
12	1	2" PIPE	FIELD MEASURE AND CUT TO FINAL LENGTH, USE DIP OR GSP
13	1	2" UNION OR COUPLING	FITTING TO PROVIDE EASE OF MAINTENANCE
13.5	1	3" RFCA	
14	1	3" PIPE	FIELD MEASURE AND CUT TO FINAL LENGTH
15	1	INTENTIONALLY BLANK	
16	1	3" CHECK VALVE	VALMATIC WAFER STYLE CHECK VALVE 1400 SERIES OR APPROVED EQUAL
17	4	ADJUSTABLE PIPE STAND	BOLT TO FLOOR WHEN ADJUSTMENTS COMPLETE, USE SS HARDWARE
18	1	CONCRETE UTILITY VAULT WITH RING AND COVER	PRECAST OR CAST IN PLACE VAULT WITH MIN INSIDE DIMENSIONS OF 5' X 8'-6" X 6', H-20 LOADING, WATER TIGHT JOINTS

**NOTE:**

ALL PIPE AND FITTINGS MUST BE EITHER DUCTILE IRON OR GALVANIZED STEEL FOR POTABLE WATER USE

(FOR REFERENCE, PLUMBING AND VAULT ARE SHOWN TO SCALE USING DUCTILE IRON).

ALL CONNECTIONS WITHIN THE VAULT MUST BE RESTRAINED.

12B

3" WATER METER BOM

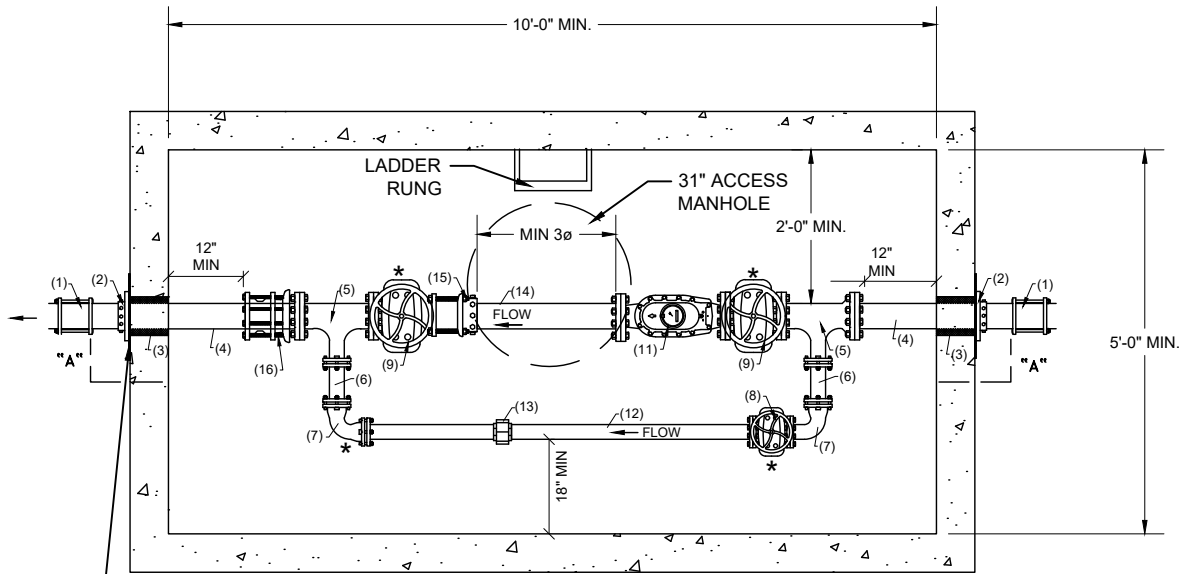
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CHECKED: DW	WATER COMPANY.
DATE: 11/2022	



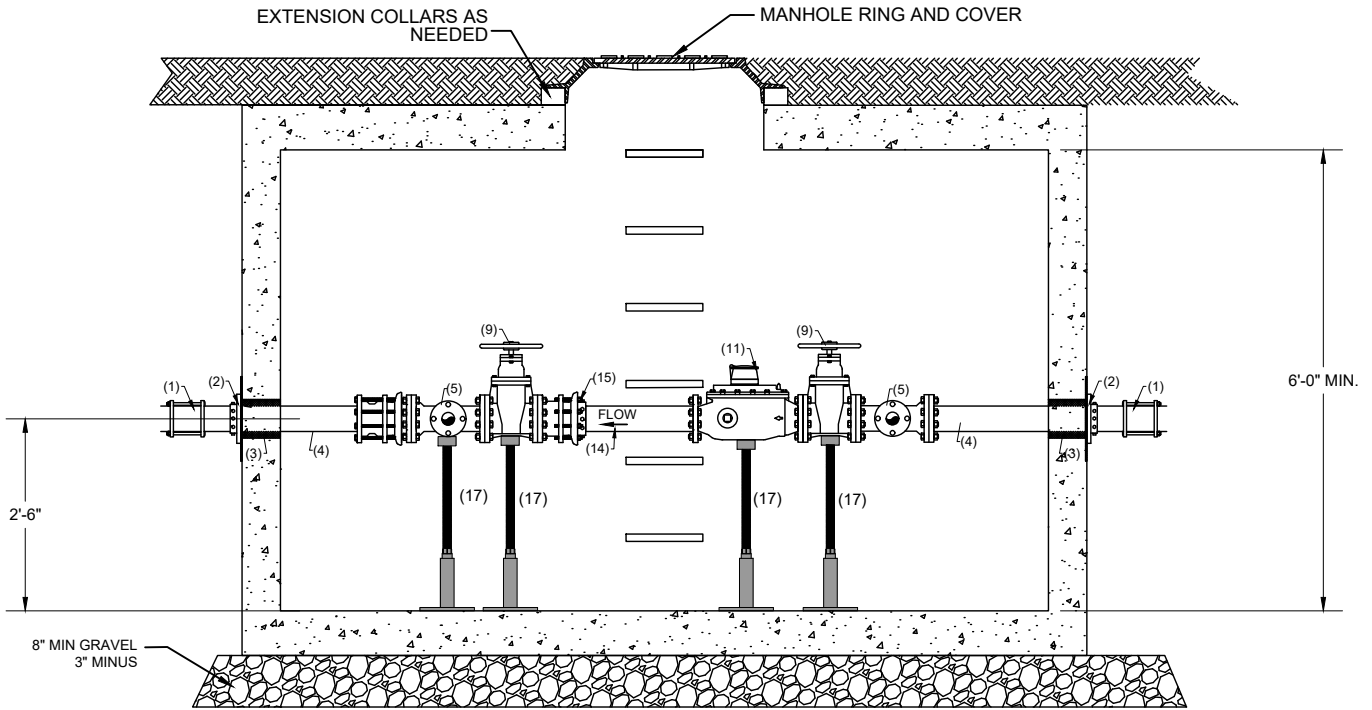
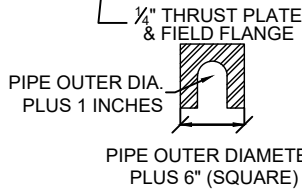
STANDARD WATER DETAILS	
COTTONWOOD MUTUAL WATER COMPANY	
3" WATER METER BOM	SHEET 9B

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PLAN VIEW

\* PIPE STAND LOCATIONS



SECTION A-A

13A

4" WATER METER DETAIL

1" = 2.5'

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4" WATER METER DETAIL

SHEET 10A

PATH: R:\0393 - Cottonwood Mutual Water Company\Details\0393-MWAC-Standard\Drawings and Specifications

### Bill of Materials - 4" Meter

#	Qty	Item	Note
1	2	4" COUPLING	
2	2	FIELD FLANGE AND 1/4" STEEL THRUST PLATE	
3	2	CORED HOLE AND GROUT PACK	
4	2	4" FL X PE PIPE	FIELD MEASURE AND CUT TO FINAL LENGTH
5	2	4" X 2" FL TEE	
6	2	2" FL X PE PIPE	FIELD MEASURE AND CUT TO FINAL LENGTH, USE DIP
7	2	2" 90° ELBOW	END CONNECTIONS AS NEEDED
8	1	2" FL GATE VALVE WITH HANDWHEEL	
9	2	4" FL GATE VALVE WITH HANDWHEEL	
10		(INTENTIONALLY BLANK)	
11	1	4" ULTRASONIC METER	WITH RADIO READ, ANTENNA MOUNTED IN VAULT, PAID FOR BY CUSTOMER, PURCHASED AND INSTALLED BY COMPANY
12	1	2" FL X PE PIPE	FIELD MEASURE AND CUT TO FINAL LENGTH, USE DIP
13	1	2" UNION OR COUPLING	FITTING TO PROVIDE EASE OF MAINTENANCE
14	1	4" FL X PE PIPE	FIELD MEASURE AND CUT TO FINAL LENGTH
15	1	4" RESTRAINED FLANGED COUPLING ADAPTER	
16	1	4" CHECK VALVE	VALMATIC WAFER STYLE CHECK VALVE 1400 SERIES OR APPROVED EQUAL
17	4	ADJUSTABLE PIPE STAND	BOLT TO FLOOR WHEN ADJUSTMENTS COMPLETE, USE SS HARDWARE
18	1	CONCRETE UTILITY VAULT WITH RING AND COVER	PRECAST OR CAST IN PLACE VAULT WITH MIN INSIDE DIMENSIONS OF 5' X 10' X 6', H-20 LOADING, WATER TIGHT JOINTS

**NOTE:**

GATE VALVE WITH HANDWHEEL SHALL INCLUDE A STAINLESS STEEL CHAIN AND BRASS LOCK

13B

### 4" WATER METER BOM

NTS

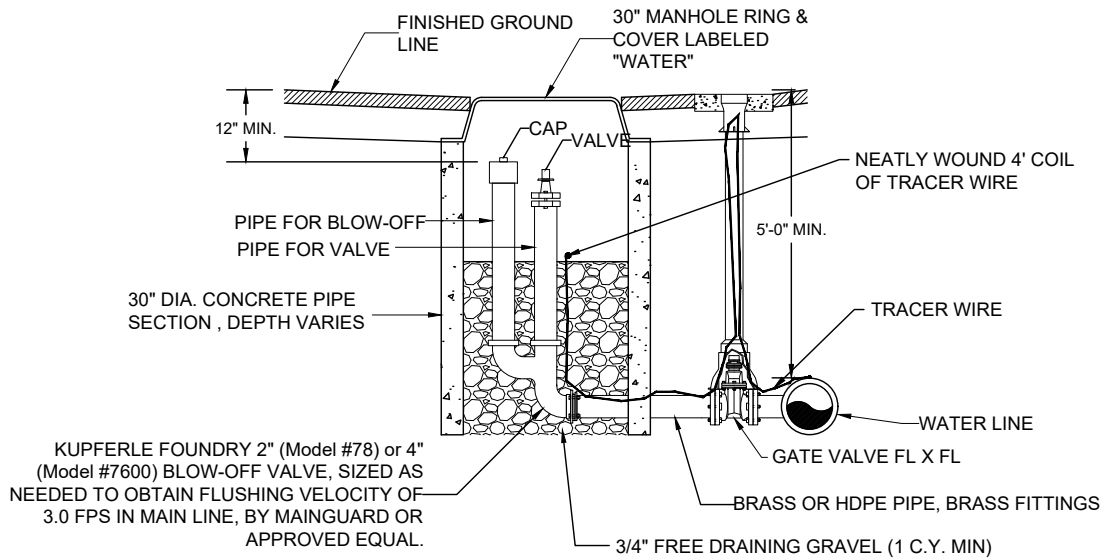
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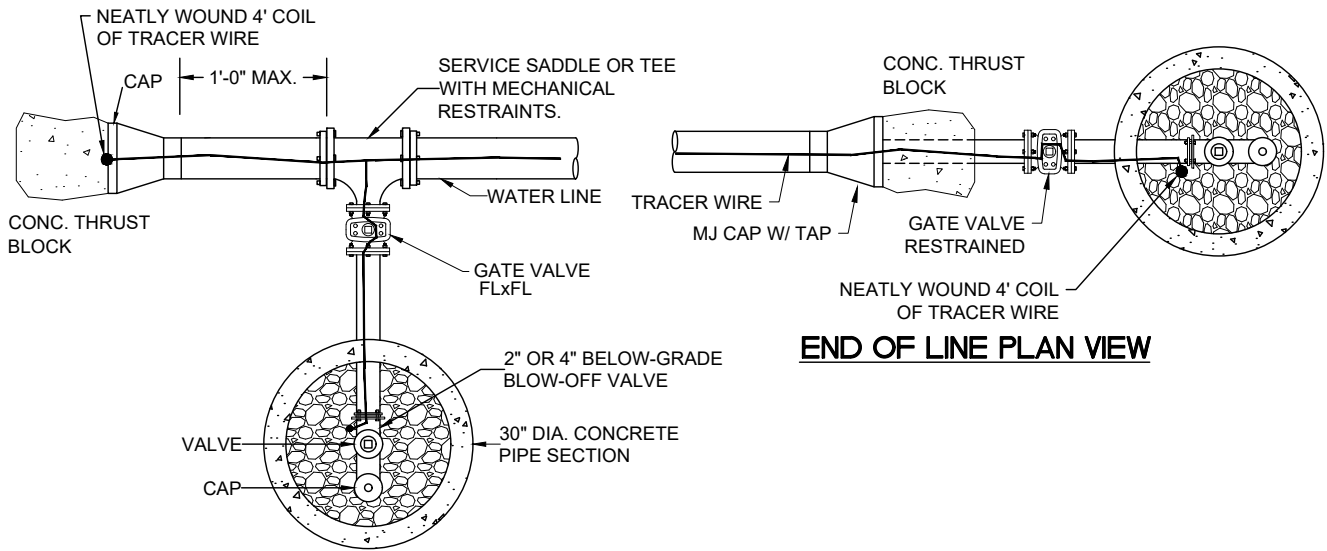
<b>STANDARD WATER DETAILS</b>	
<b>COTTONWOOD MUTUAL WATER COMPANY</b>	
<b>4" WATER METER BOM</b>	<b>SHEET 08</b>

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PATH: R:\0320 - Cottonwood Mutual Water Company\Details\0001\MWD-Standard Drawings and Specifications



**SIDE VIEW**



**TEE'D PLAN VIEW**

NOTE: BLOW OFF SHALL BE INSTALLED OUTSIDE OF ROAD WAY

14

**BLOW OFF DETAIL**

NTS

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STANDARD WATER DETAILS  
COTTONWOOD MUTUAL WATER COMPANY

BLOW OFF DETAIL

SHEET 11



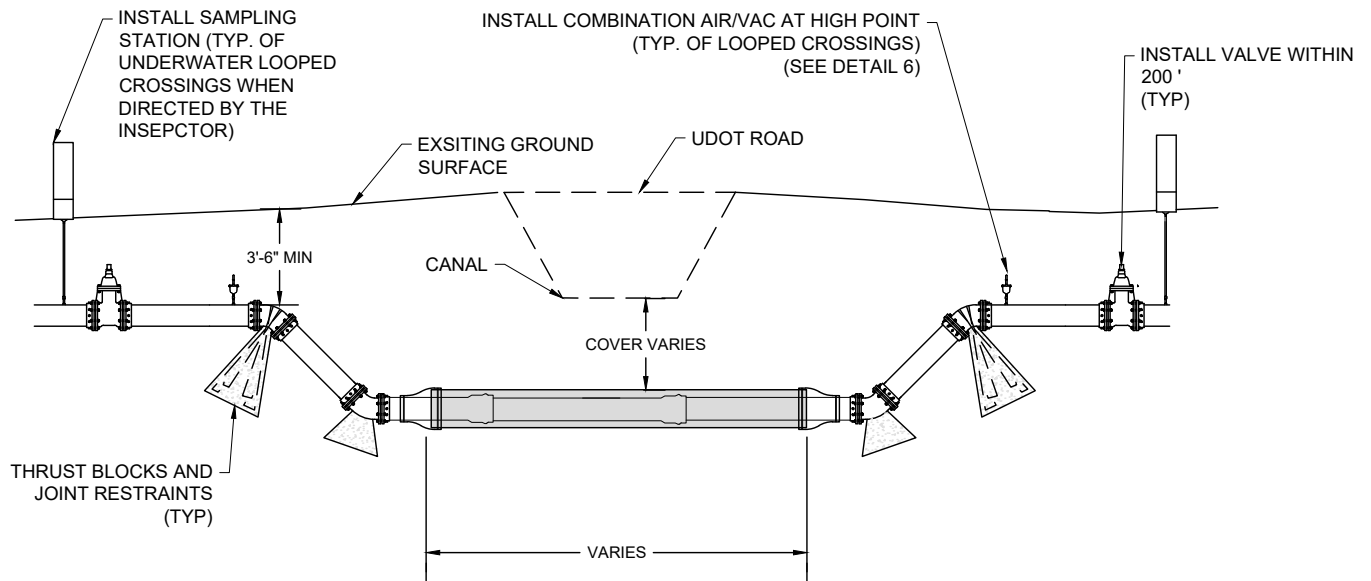
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**COVER (MIN.)**

CANAL OR DITCH	2'-0"
UDOT ROAD	SEE UDOT STD DWG DD16

PIPE SIZE	CASING SIZE*
8"	16"
10"	18"
12"	24"
14"	30"
16"-20"	30"

\* CASING WALL THICKNESS (0.375") MIN. - METHOD OF INSTALLATION MAY REQUIRE THICKER WALL



**NOTE:**

1. CASINGS REQUIRE CENTRALIZING SPACERS AND END SEALS W/ S.S. BAND CLAMPS SUBMITTED TO INSPECTOR FOR APPROVAL PRIOR TO INSTALLATION.
2. BELL AND SPIGOT PIPE REQUIRES SELF- RESTRAINING GASKETS ON PIPE JOINTS INSIDE OF CASING AND ONE PIPE JOINT EACH SIDE OF CASING.
3. ISOLATION VALVE INSTALLATION IS REQUIRED ON EACH SIDE OF CASING.
4. COMBINATION AIR/VAC VALVE INSTALLATION MAY BE REQUIRED ON EACH SIDE OF LOOPED CROSSINGS, AS DETERMINED BY COMPANY AT TIME OF CONSTRUCTION
5. INSTALLATION OF A SAMPLING TAP OR OTHER ACCEPTABLE MEANS OF SAMPLING WILL BE REQUIRED TO ALLOW FOR REPRESENTATIVE WATER QUALITY TESTING ON THE UPSTREAM AND DOWNSTREAM SIDE OF THE CROSSING, IF THE DISTRICT INSPECTOR DETERMINES THAT ANOTHER MEANS OF SAMPLING DOES NOT EXIST NEAR THE GIVEN LOCATION.
6. CROSSINGS SHALL BE COMMISSIONED AS AN INTEGRAL PART OF THE SURROUNDING PIPE SYSTEM (FLUSH, DISINFECT, PRESSURE TEST).

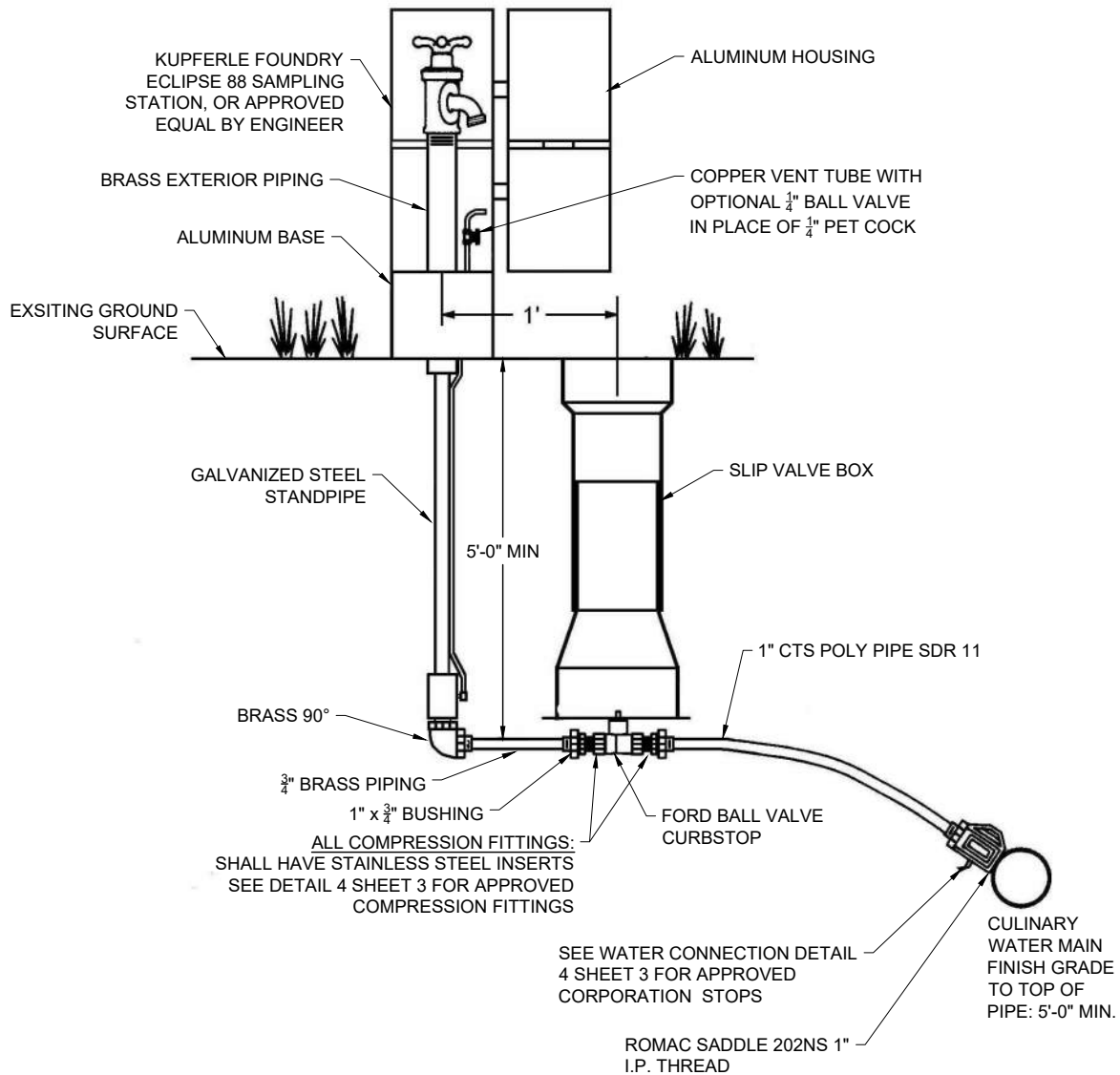
**15 CANAL/UDOT CROSSING DETAIL**

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<b>STANDARD WATER DETAILS</b>	
<b>COTTONWOOD MUTUAL WATER COMPANY</b>	
CANAL/UDOT CROSSING DETAIL	SHEET 12

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16 SAMPLING STATION DETAIL

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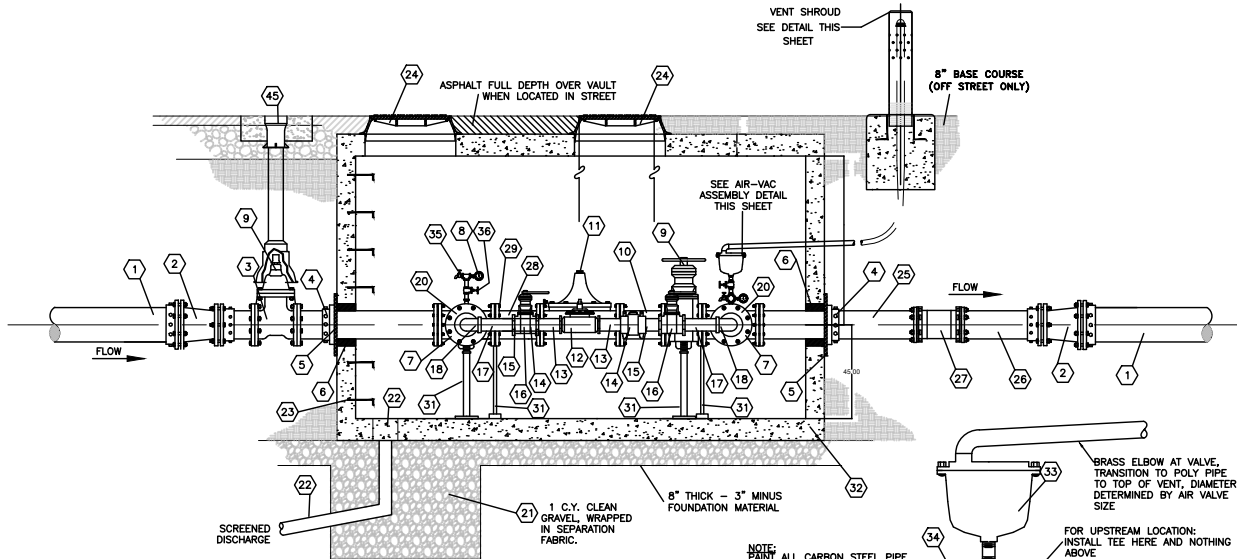


STANDARD WATER DETAILS	
COTTONWOOD MUTUAL WATER COMPANY	
SAMPLING STATION DETAIL	SHEET 13

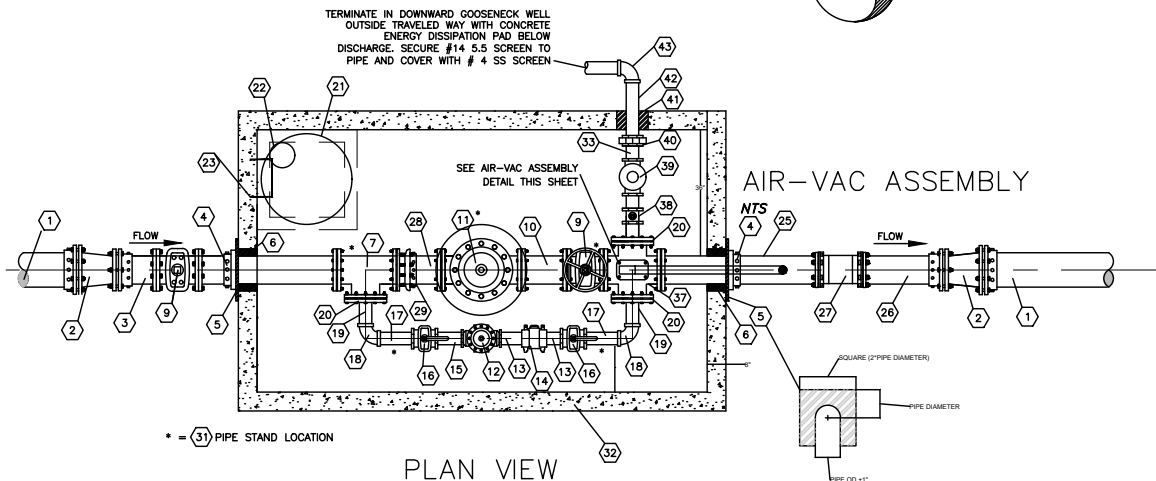
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SECTION  
NTS



PLAN VIEW

17A PRV STATION

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STANDARD WATER DETAILS  
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PRV STATION DETAIL

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PATH: R:\0320 - Cottonwood Mutual Water Company\Details\0320\0320\MWD-Standard (Krawoon and Specifications)

## BILL OF MATERIALS

NO.	QTY	DESCRIPTION	6" LINE	8" LINE	10" LINE	NOTES
1	2	DIP OR PVC MJxPE	6"	8"	10"	
2	2	REDUCER MJxMJ	6"x4"	8"x6"	10"x8"	USE JOINT RETAINER GLANDS
3	1	DIP SPOOL 5'-0" LENGTH FLGXPE	4"	6"	8"	
4	2	FIELD FLANGE FOR DIP	4"	6"	8"	
5	2	1/4" THICK STEEL THRUST PLATE	10"x10" 5"ø	15"x15" 7.5"ø	18"x18" 10"ø	SQ. W/ ø CUT OUT
6	2	PRE-CORED HOLES	10" ø	12" ø	14" ø	SEAL WITH NON-SHRINK GROUT
7	2	TEE FLGXFLG	4"x4"x4"	6"x6"x6"	8"x8"x8"	
8	2	1/4" (1-200) PSI LIQUID FILLED PRESSURE GAUGE				SUPPLY WITH BRASS STOP COCK
9	2	RESILIENT SEAT GATE VALVE W/ VALVE BOX	4"	6"	8"	
10	1	DIA. X 1'-0" 1/4" DIP FLGXFLG	6"	8"	10"	
11	1	PRESSURE REDUCING VALVE FLGXFLG	4"	6"	8"	CLA-VAL MODEL 90-01 KC
12	1	PRESSURE REDUCING VALVE THDxTHD	2"	3"	3"	CLA-VAL MODEL 90-01 KC
13	2	DIA. X LENGTH GALV. PIPE THDxVIC.	2"ø	3"ø	3ø	FIELD ADJUST LENGTH
14	2	COUPLING	2"	3"	3"	
15	1	DIA. X LENGTH GALV. PIPE THDxVIC.	2"ø	3"ø	3"ø	FIELD ADJUST LENGTH
16	2	BALL VALVE THDxTHD	2"	3"	3"	
17	2	DIA. X LENGTH GALV. PIPE THDxTHD	2"ø	3"ø	3"ø	FIELD ADJUST LENGTH
18	2	90° GALV. BEND THDxTHD	2"	3"	3"	
19	2	DIA. X 8" GALV. PIPE THDxTHD	2"ø	3"ø	3ø	
20	2	BLIND FLANGE W/, THREAD TAP	4",2"	6",3"	8",3"	
21	1	CORE DRILL AND CONSTRUCT SUMP	ONLY IF DRAIN TO DAYLIGHT IS NOT POSSIBLE AND NOT IN GROUNDWATER			
22	1	4" DRAIN PVC PIPE TO DAYLIGHT				
23	6	STEPS				
24	1	A-1181 D&L MANHOLE RING AND COVER				"WATER", GRADE RING IF NEEDED
25	1	DIA. X LENGTH DIP FLGXPE	4", 6'-0"	6", 5'-0"	8", 4'-2"	
26	1	DIA. X 2'-0" SPOOL PEXPE	4"	6"	8"	
27	1	DIP SLEEVE MJxMJ	4"	6"	8"	
28	1	DIA. X 1'-0" DIP FLGXPE	4"	6"	8"	
29	1	RESTRAINED FLANGED COUPLING ADAPTER	4"	6"	8"	
31	4	PIPE STAND				
32	1	6' X 12' X 7' TALL PRECAST CONCRETE VAULT				H2O LOADING
33	1	COMBINATION AIR RELEASE VALVE W/ AIR VENT	1"	1"	2"	APCO A.R.I. OR EQUAL, WITH FITTINGS
34	1	SCREWED GATE VALVE	1"	1"	2"	W/ FITTINGS
35	2	1/2" SMOOTH NOSE TAP				W/ FITTINGS
36	1	SCREWED GATE VALVE	3/4"	3/4"	3/4"	W/ FITTINGS
37	1	CROSS	4"	6"	8"	**
38	1	SCREWED GATE VALVE	2"	3"	4"	FNPT
39	1	RELIEF/SUSTAINING VALVE	2"	3"	4"	CLA-VAL 50-1 OR EQL
40	1	UNION OR COUPLER	2"	3"	4"	RESTRAINED
41	1	CORE AND GROUT	5"	6"	8"	
42	*	GALVANIZED STEEL PIPE (GSP)	2"	3"	4"	1/8" TAP INSIDE VAULT FOR DRAINAGE
43	*	ELBOW GSP	2"	3"	4"	
44	1	NO. 4 MESH SCREEN	2"	3"	4"	NON-CORRODIBLE
45	1	CONCRETE COLLAR	12"TH X 12"W			

\* TO BE DETERMINED BY SITE \*\* 8" CROSS MAY USE 8"x4" CROSS W/DIP FITTINGS FOR RELIEF VALVE, VERIFY WITH OWNER AND ENGINEER

## 17B

## PRV STATION - BILL OF MATERIALS

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<b>COTTONWOOD MUTUAL WATER COMPANY</b>
<b>PRV STATION DETAIL</b>

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