

# Ashley Valley Water and Sewer Improvement District

609 W. Main, P.O. Box 967 Vernal Utah 84078  
435-789-9400~Fax 435-789-5754

Ryan Goodrich~[rgoodrich@avwsid.com](mailto:rgoodrich@avwsid.com)

## Information Packet for Subdivision Projects

To whom it may concern:

Ashley Valley Water and Sewer is a special service district of the State of Utah. As such there are certain restrictions imposed that limit the District's ability to expand and grow, without going through the proper agencies and procedures.

In an effort to help you, the developer, help us meet these regulations we are providing you with a packet of information that will help in the design, construction, and final approval of all improvements being proposed and implemented.

We encourage you to take time and review all the relevant pages in the packet and contact us if you have any questions or concerns. Please note that these design and constructions standards help ensure that the district, and you, are meeting the federal and state requirements regarding water and sewer systems.

We would like to thank you for your efforts to research water and sewer availability prior to submitting building and design plans. We are here to help in any way that we can, so please feel free to contact one of the staff at 435-789-9400.

Sincerely,



Ryan Goodrich  
District Manager  
435-789-9400  
[rgoodrich@avwsid.com](mailto:rgoodrich@avwsid.com)

## **Water line specification from the meter to the dwelling:**

Water Meter barrel *cannot be installed* in sidewalks, driveways or where snow removal will expose the meter to freezing. Plan where on your lot you want the water meter to be installed and mark or stake that spot on the property line.

Water line shall be HDPE 200 PSI SDR 9 ASTM D2737. Service line shall be copper tube size Polyethylene. (The service line can be type K copper tubing or iron pipe size polyethylene.)

The owner's service line should connect to the line stubbed out of the meter barrel with a union or coupling to match the line size.

Select bedding is required in pipe zone,

Buried to a depth of 5' Minimum after transition from meter depth

Brass pipe fittings are required for connections installed underground.

International Plumbing code and Uintah County standard should be followed on service line entering the dwelling.

An accessible inline shut off valve and pressure reducing valve is required after service line enters dwelling.

## **Sprinkling System Connection:**

A shutoff valve and a means to drain system lines below frost line required.

To protect the water system from a backflow incident a backflow assembly is required at the point of entry of the sprinkling system.

The only approved backflow assemblies allowed are, a Reduced Pressure Principle (RP), or a Pressure Atmosphere Vacuum Breaker (PVB). The assembly is required to be tested annually and a copy of the test report given to Ashley Valley Water & S.I.D. This is in order to be in compliance with *Environmental Quality and Drinking Water R309-105*.

(see attached drawings)

## **Sewer lateral specification from the main to the dwelling**

Lateral must be 4" PVC SDR 35 ASTM D-3034 sewer pipe

All fitting shall be gasket or solvent weld joint PVC SDR 35 ASTM D-3034

Select or Gravel bedding is required in pipe zone. An over excavated trench requires compacted backfill or gravel under pipe.

Cleanout required at dwelling, after each 90° change of direct or combination of bends equaling 90° and at property line, back of sidewalk, Public Utility Easement, or planter strip. The cleanout shall be locatable with a brass threaded plug and installed tracer wire.

The typical slope on service lateral is 2% (2 ¼" drop per 10' of pipe.) **A backwater valve is required on any drain line that has an elevation which is lower than the rim elevation of the nearest down-stream street manhole.**

Sewer inspection by Ashley Valley Water and Sewer Improvement District must be completed before occupancy permit will be granted through Uintah County.

## **General Specifications for Subdivision Contractors**

Water and Sewer Construction Requirement Highlights

### **Water Lines and fittings:**

(This is a basic summary of specification, detailed spec. on following pages)

#### **Water line:**

8" Minimum size main C900 DR 18 and 12" and above shall be C905 DR 21.

Hydrostatic tested to 150 psi for 2 hours

Disinfected in accordance with AWWA standard C651

Bacteriologic analysis submitted to the district

Select bedding pipe zone, 5' Minimum cover, 95% Compaction with #12 copper direct buried tracer wire which day-lights at back of fire hydrants and warning ribbon 24" above pipe. Submit full as-built drawings, size 11" x 17", of subdivision showing lot numbers and addresses.

#### **Fittings:**

Ductile Iron Mechanical joint, with A307 Blue bolts, or flange fittings with restrain joint fitting on all connections.

Romac Grip Ring or Roma Grip restraint plus concrete thrust blocks on tees and hydrants. Polyethylene Encasement required on all valves and fittings. Valves shall be Epoxy coated ductile iron body, with stainless steel trim bolts,

resilient wedge design, and non-rising stem. Intersections shall have a 3-way Valve Tee and an inline valve for every 1000' of pipe run. Two-part valve box and cover on all valves. Connection to an existing main is to be by direct tap only.

### **Fire Hydrants:**

6" size.

Only Hydrants allowed are Waterous Pacer or Kennedy K81, with stainless steel trim bolts.

Hydrants are to be spaced so dwellings are within 500' of hydrant and are required on all dead-end lines. A post indicator valve is required on fire sprinkler supply lines if fire-marshal requires it.

### **Service Connection and fittings:**

Brass tap saddle tapped through a Corporation stop.

1" copper tube size Polyethylene 200 psi service line

Mueller 1100 compression type joint on all fittings (or equivalent), brass pipe fittings, all brass must meet the no lead requirement. (Please see detail specification drawing)

Curb stop valve at meter setter, full 24" meter setter with locking angle meter stop and dual check backflow assemble. 18" or 20" by 36" meter barrel with a 2" knockout hole in cover. **Meter Barrel cannot be installed in sidewalks, driveways or where snow removal will expose the meter to freezing.**

### **Requirements check list for Water System**

The construction requirements check list for a Water system to meet Ashley Valley Water & S.I.D. standards.

- Hydraulic study to evaluate the impact on the Water System to meet required pressure standards.
- Water main line minimum size of 8" and is C900
- Connections to existing mains by direct tap to main water line.
- Construction requirements and standards met as to bury depth, fire hydrants, fire flow tests and other installation requirements.
- Required Fittings and valves with restrain joint, polyethylene encasement, and tracer wire.
- Hydrostatic test to 150 PSI for 2 hours.
- Disinfected in accordance with AWWA standard C 651.
- Two bacteriologic analyses for each 1200' of water line taken on 2 consecutive days 24 hours apart.
- High chlorine test, Flush and system chlorine level tests.
- Water meter barrel installation to standards.
- Final check list completed and inspector approval
- As build drawings, GPS location of valves, hydrants and ACAD dwg format file.

This line can only be put into service when the above check list has been completed and an approval letter from the District has been given.

### **General Sewer Specifications:**

#### **Sewer Lines, Manholes and fittings:**

(This is a basic summary of specification, detailed spec. on following pages)

#### **Sewer Line:**

Line size minimum; 8" mainline 4" lateral, PVC SDR 35 ASTM D-3034 sewer pipe.

Manhole spacing is 400' with #12 copper direct buried tracer wire and a warning ribbon 24" above line. Main is to be flushed, and air pressure tested. Air Pressure test main and laterals to 5 psi, hold 3 psi for required time for length (specification sheet available). A video inspection record and report, with DVD, and as-built drawing with the AutoCAD dwg format file and survey grade GPS location of manholes are required before approval letter will be signed.

Must have State of Utah Water Quality Division plan approval and approved operating permit.

**Manhole:**

Standard 48" concrete pre-cast base, barrel and eccentric cone sections with ladder rungs 12" O.C. align vertically with standard cast iron ring and vented cover. Watertight rubber boot connection at line and grouted jointed followed by fiber mastic seal on all section joints.

**Lift Station (No lift stations will be allowed)****Requirements check list for Sewer Collection System**

The construction requirements check list for the sewer system to meet Ashley Valley Water & S.I.D. standards.

- Plan approval from the State Division of Water Quality before start of construction.
- Flow evaluation and study of impact to existing system.
- District plan approval and signed line extension agreement.
- Pipe is 8" and 4" Sewer line PVC SDR 35.
- Construction standards followed for main, manholes, and laterals.
- Static air test to 5 PSI for required time.
- Main lines flushed.
- Video inspection and DVD record and report
- Finish final check list and inspector approval
- As-build drawings, GPS manhole location and ACAD file.
- State Division of Water Quality operating permit.

This line can only be put into service when the above check list has been completed and an approval letter from the District has been given.

# STANDARD CONSTRUCTION DETAILS

## ASHLEY VALLEY WATER AND SEWER IMPROVEMENT DISTRICT

SHEET INDEX			
NUMBER	NAME	DESCRIPTION	TITLE
1	COVER		
2	S1	SEWER DETAILS	TRENCH A - NATIVE BACKFILL
3	S2	SEWER DETAILS	TRENCH B - ROAD BASE BACKFILL
4	S3	SEWER DETAILS	TRENCH C - FLOWABLE FILL BACKFILL
5	S4	SEWER DETAILS	TYPICAL MANHOLE
6	S5	SEWER DETAILS	FLOWABLE FILL ENCASED MANHOLE
7	S6	SEWER DETAILS	OUTSIDE DROP MANHOLE
8	S7	SEWER DETAILS	INSIDE DROP MANHOLE
9	S8	SEWER DETAILS	TYPICAL SEWER SERVICE CONNECTION
10	S9	SEWER DETAILS	CANAL CROSSING
11	S10	SEWER DETAILS	CLAY DAM
12	W1	WATER DETAILS	STANDARD WATER CONNECTION
13	W2	WATER DETAILS	SHORT SIDE TIE OVER
14	W3	WATER DETAILS	LONG SIDE TIE OVER - TRENCHLESS
15	W4	WATER DETAILS	LONG SIDE TIE OVER - TRENCHED
16	W5	WATER DETAILS	2" AIR VAC
17	W6	WATER DETAILS	4" AIR VAC
18	W7	WATER DETAILS	TEMPORARY BLOW-OFF VALVE
19	W8	WATER DETAILS	TRACE WIRE BOX
20	W9	WATER DETAILS	TRENCH A - NATIVE BACKFILL
21	W10	WATER DETAILS	TRENCH B - ROAD BASE BACKFILL
22	W11	WATER DETAILS	TRENCH C - FLOWABLE FILL BACKFILL
23	W12	WATER DETAILS	NEW FIRE HYDRANT WITH OFFSET VALVE
24	W13	WATER DETAILS	THREE WAY VALVE CLUSTER
25	W14	WATER DETAILS	THRUST BLOCKS
26	W15	WATER DETAILS	SAMPLING PORT



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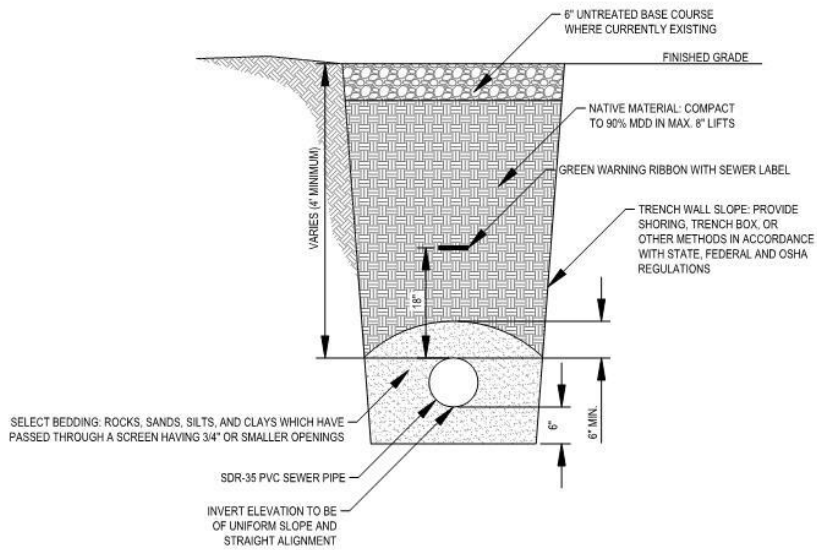
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ASHLEY VALLEY WATER & SEWER IMPROVEMENT DISTRICT  
STANDARD CONSTRUCTION DETAILS  
COVER SHEET

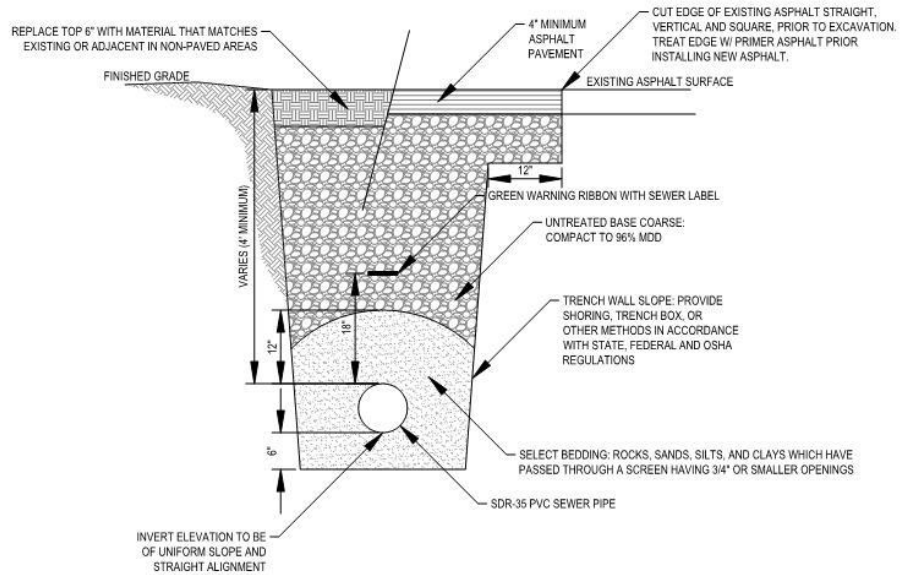
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2021-11-19

SHEET  
1 OF 26

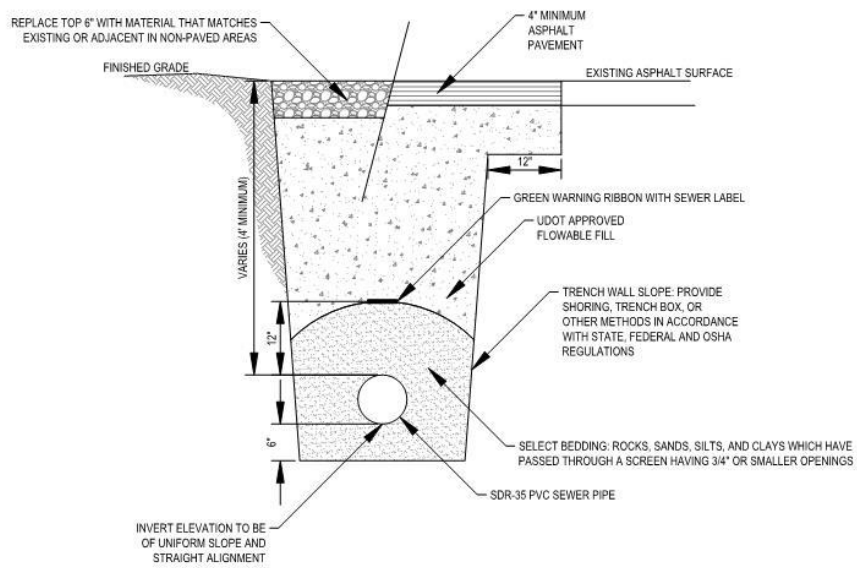
DESCRIPTION  
COVER



NOTE: TRENCH A BACKFILL TO BE USED WHEN NOT IN ROADWAY

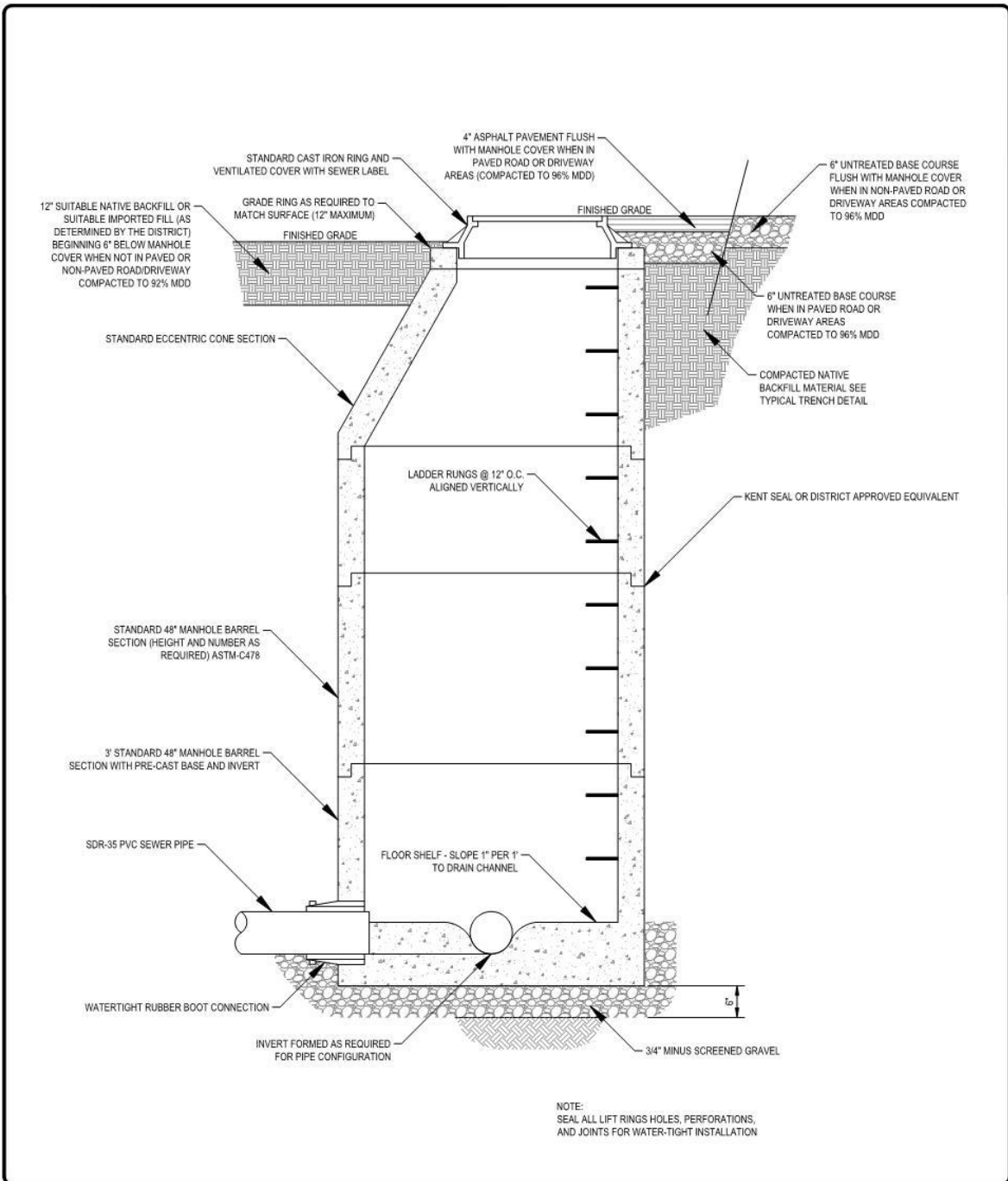


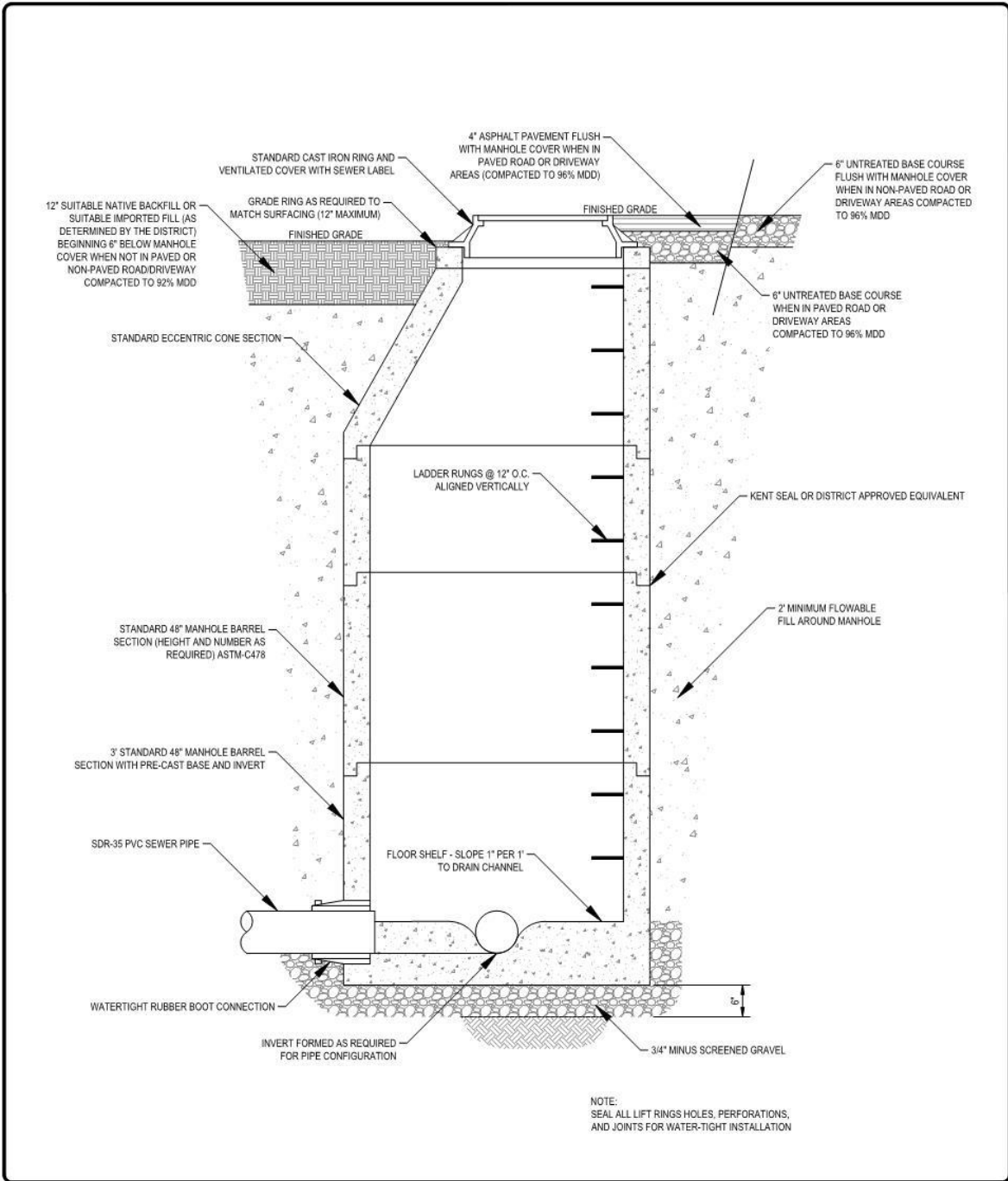
NOTE: TRENCH B BACKFILL TO BE USED WHERE TRENCH RUNS WITHIN AND PARALLEL TO EXISTING ROAD.



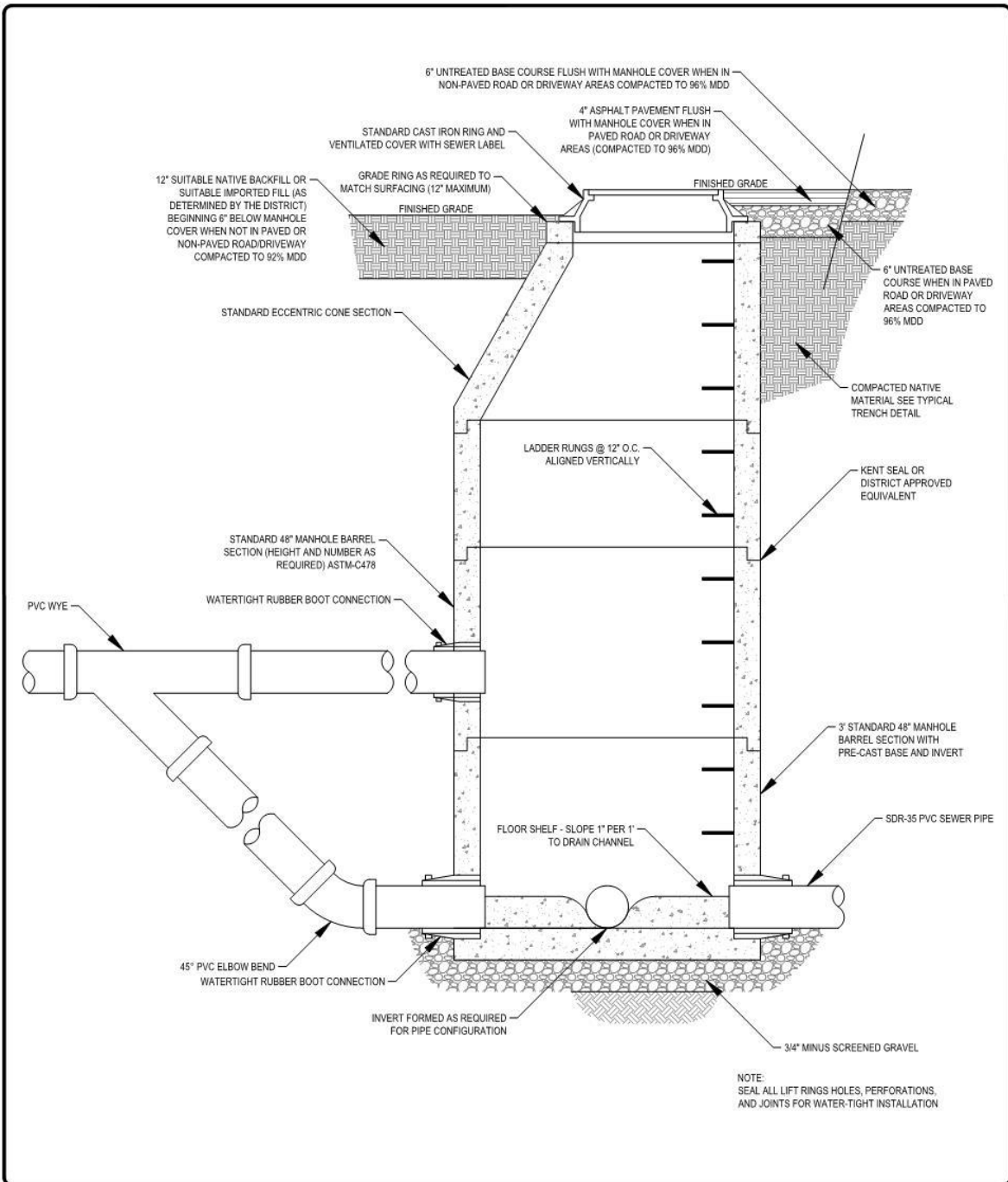
NOTE: TRENCH C BACKFILL TO BE USED IN ROAD INTERSECTIONS AND WHERE TRENCH RUNS LATERALLY TO ROAD ALIGNMENT.



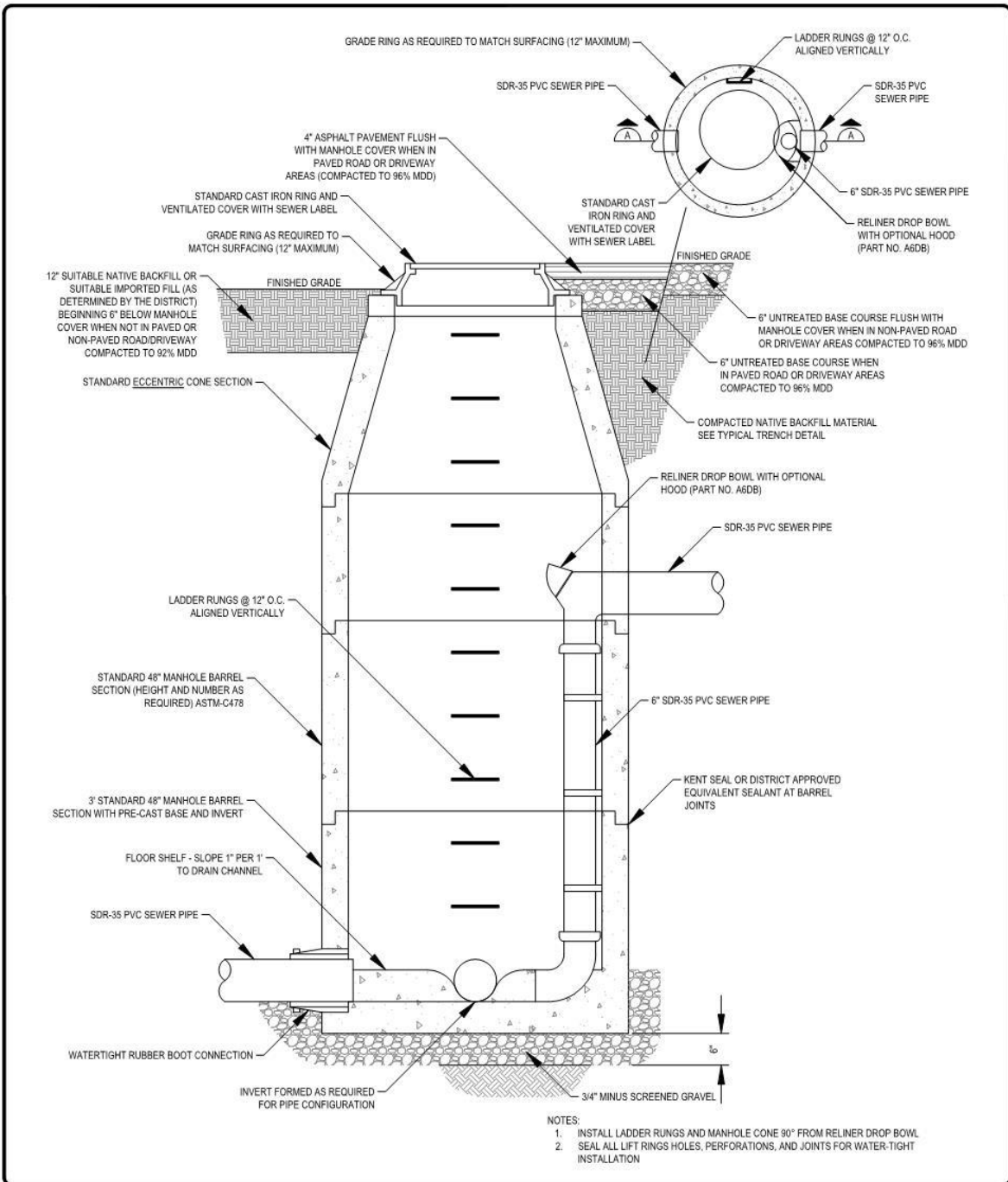


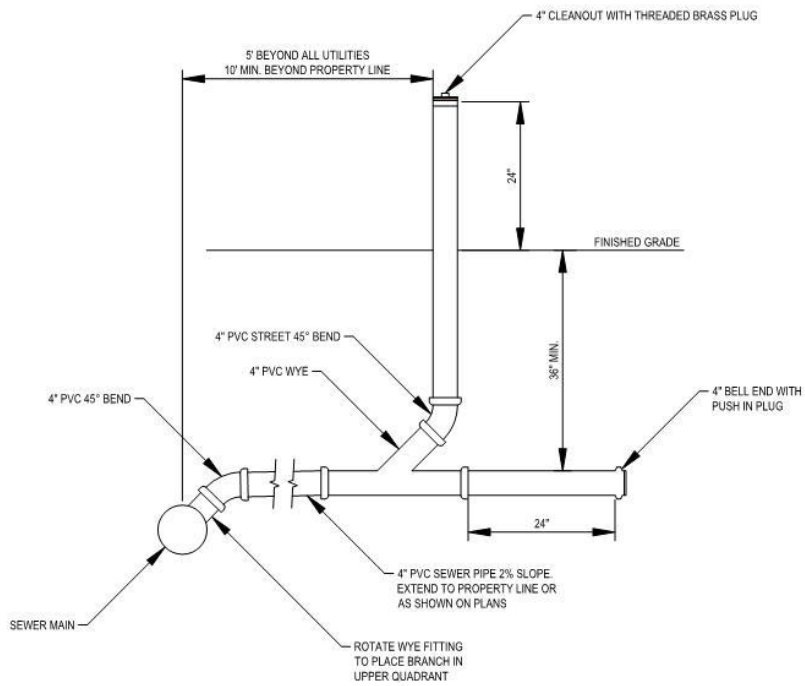


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SHEET	6	26
PART NUMBER		
S5		

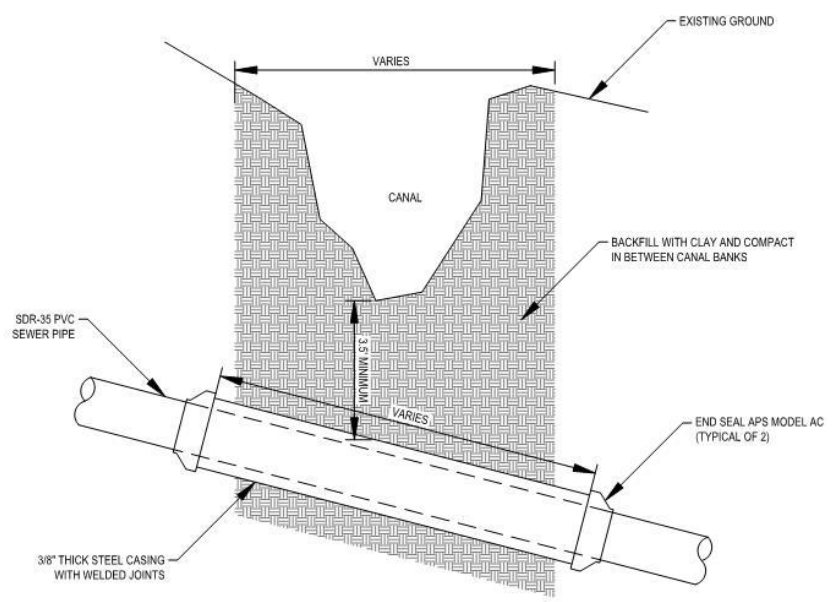


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SHEET	7	26
S6		

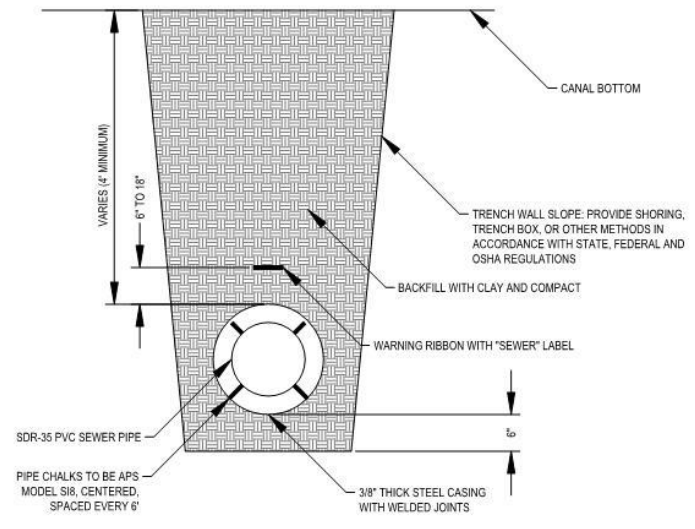




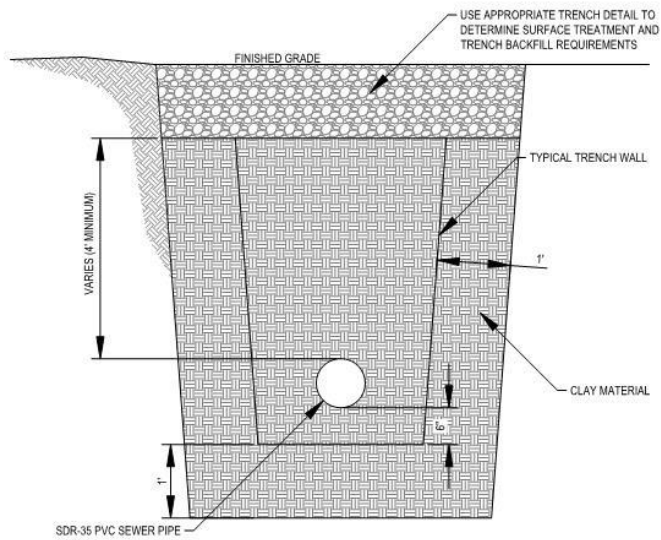
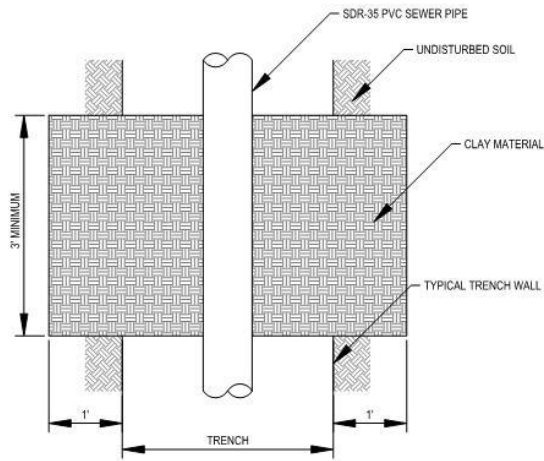
- NOTES:
1. SURFACE REPAIR, TRENCHING, BACKFILL AND BEDDING REQUIREMENT SAME AS SHOWN FOR TYPICAL TRENCH
  2. ROTATE WYE FITTING TO PLACE BRANCH IN UPPER QUADRANT. MANUFACTURED WYE OR INSERT A TEE SADDLE TEE
  3. 4" SEWER PIPE SHALL BE SDR-35 PVC ASTM D-3034. FITTING SHALL BE D-3034 OR D-2729 GASKET OR SOLVENT WELD



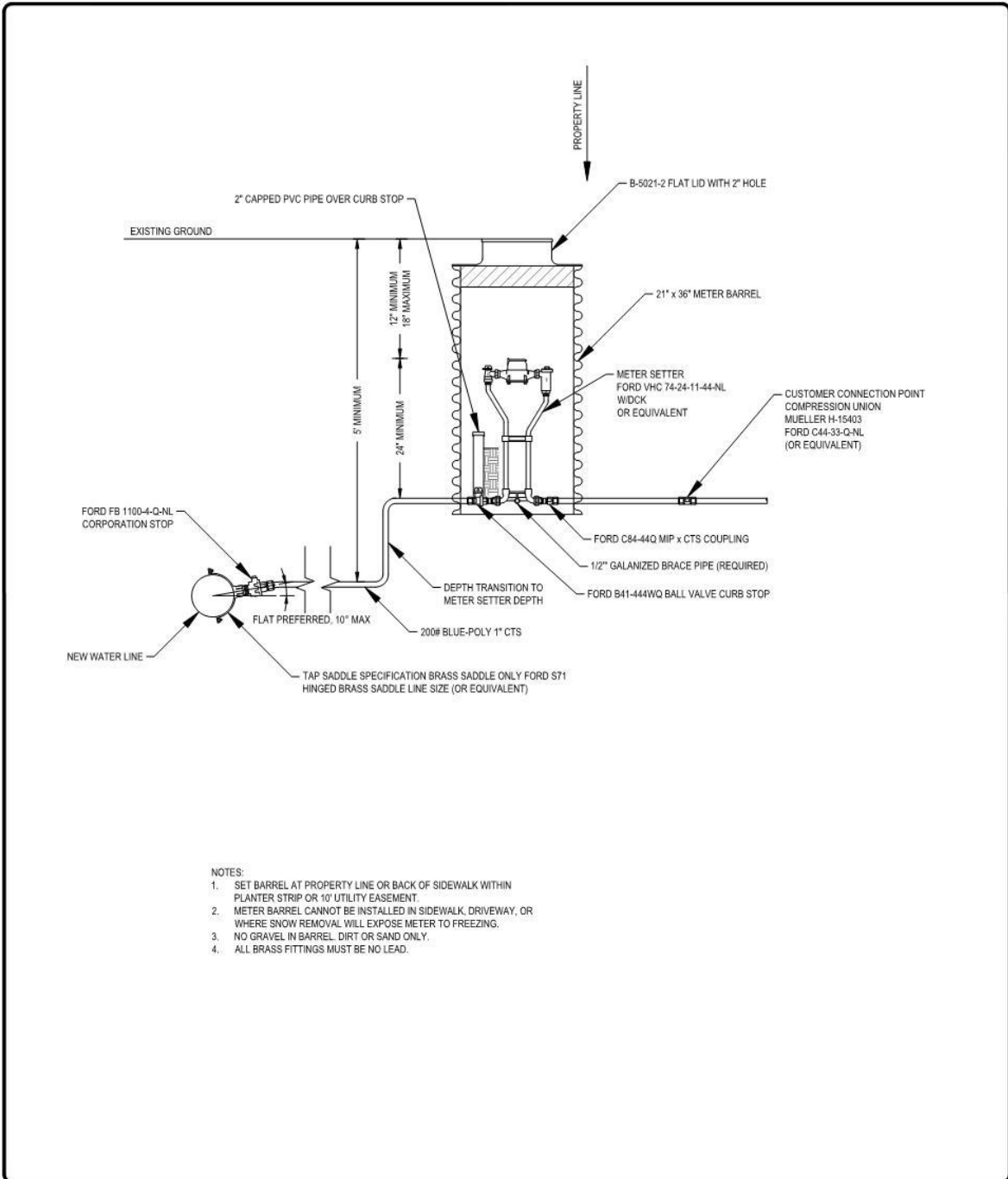
**TYPICAL CASED PIPE SECTION DETAIL**  
 SCALE: NONE




NOTE: EXTEND CASING A MINIMUM OF 10' BEYOND EACH SIDE OF CANAL OR AS REQUIRED BY CANAL COMPANY



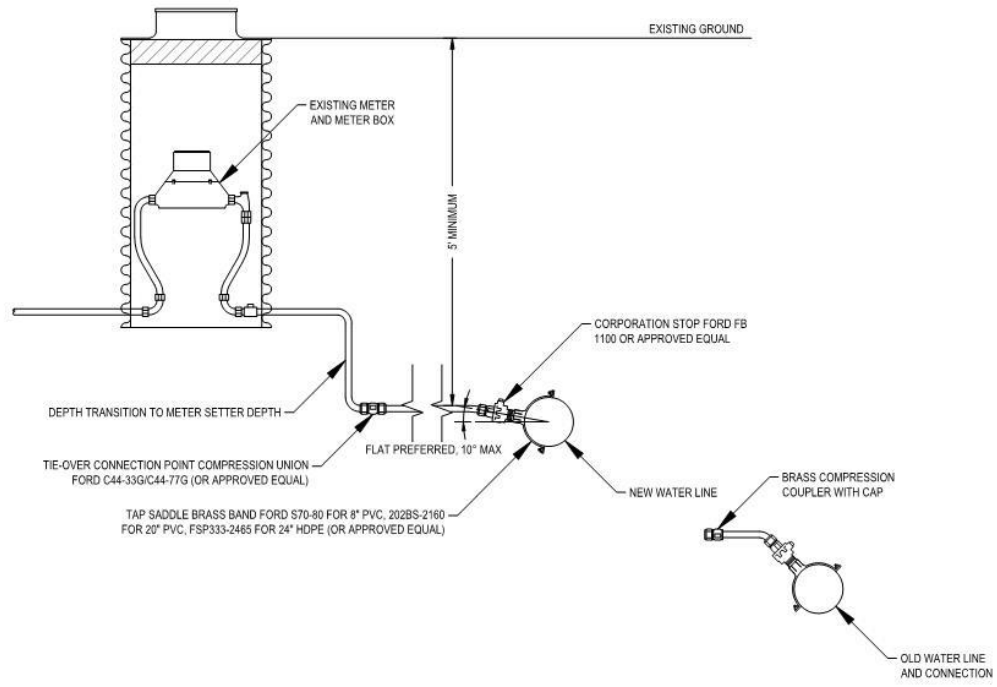
- NOTES:
1. CLAY WALL EXTENDS A MINIMUM OF 1' INTO UNDISTURBED SOIL ON EACH SIDE AND ON BOTTOM OF TRENCH
  2. CLAY MATERIAL TO BE CLASSIFIED AS SC, CL OR ML-CL
  3. UDOT APPROVED FLOWABLE FILL MAY BE USED INSTEAD OF CLAY MATERIAL IF APPROVED

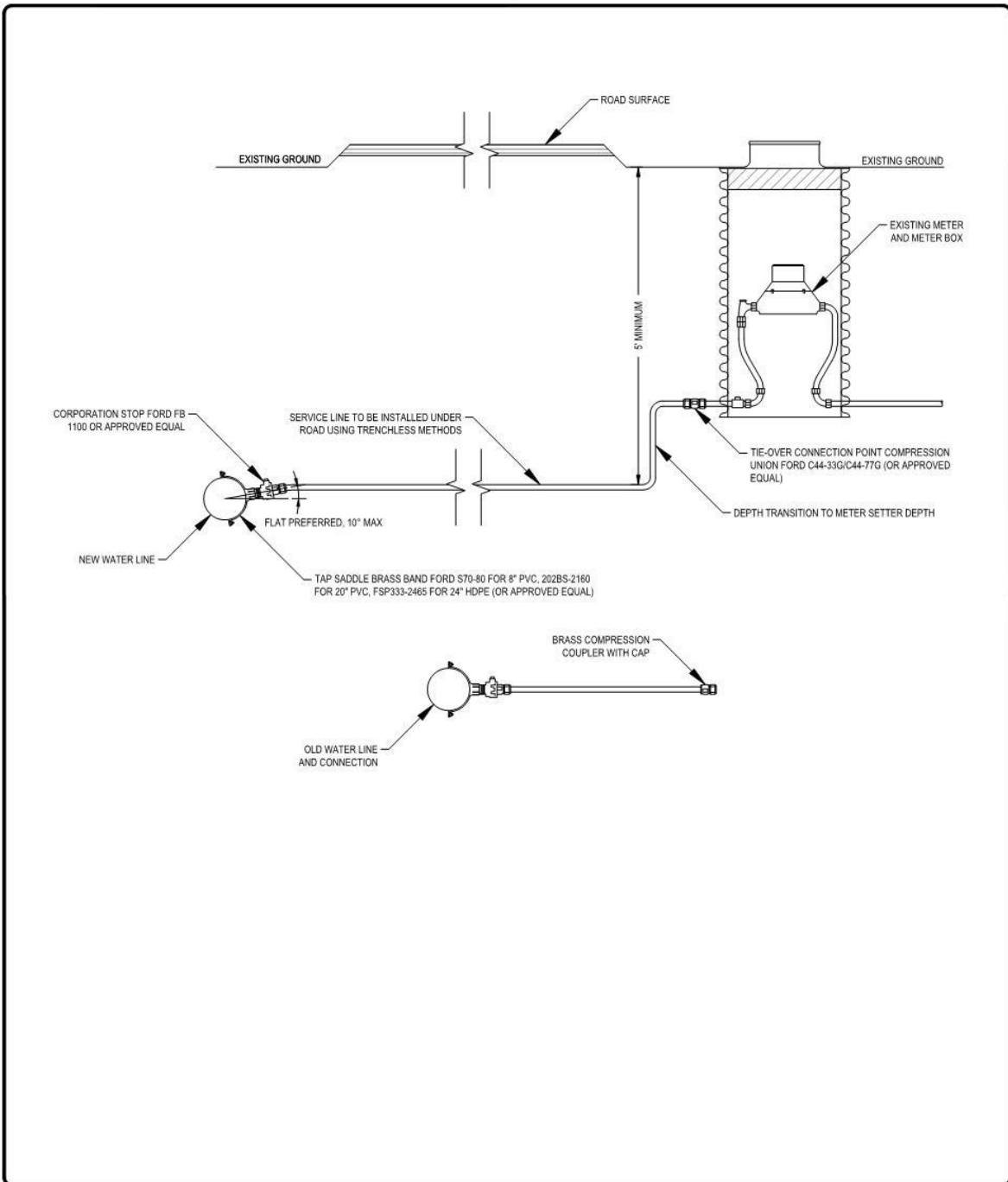


- NOTES:
1. SET BARREL AT PROPERTY LINE OR BACK OF SIDEWALK WITHIN PLANTER STRIP OR 10' UTILITY EASEMENT.
  2. METER BARREL CANNOT BE INSTALLED IN SIDEWALK, DRIVEWAY, OR WHERE SNOW REMOVAL WILL EXPOSE METER TO FREEZING.
  3. NO GRAVEL IN BARREL. DIRT OR SAND ONLY.
  4. ALL BRASS FITTINGS MUST BE NO LEAD.

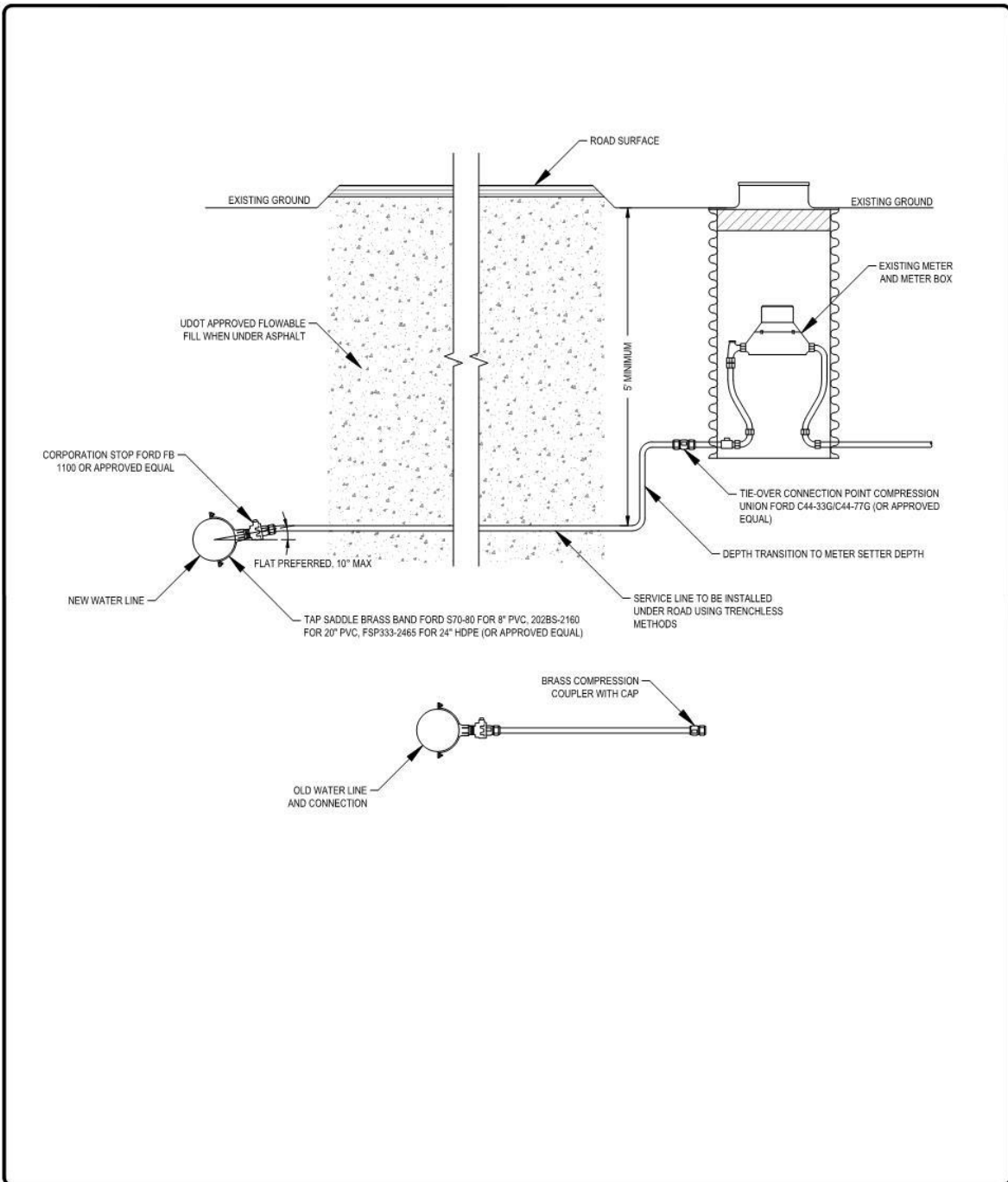
 <p><b>CRS ENGINEERS</b> Answers to Infrastructure®</p> <p><small>PO Box 1485   2028 W 500 N   Vernal, UT 84078   P: 435.781.2550   www.crsengineers.com</small></p>	<p>ASHLEY VALLEY WATER &amp; SEWER IMPROVEMENT DISTRICT STANDARD CONSTRUCTION DETAILS WATER DETAILS STANDARD WATER CONNECTION</p>		<p>DATE: 2021-11-19</p>
	<p>12</p>	<p>26</p>	<p>W1</p>
			<p>PART NUMBER</p>

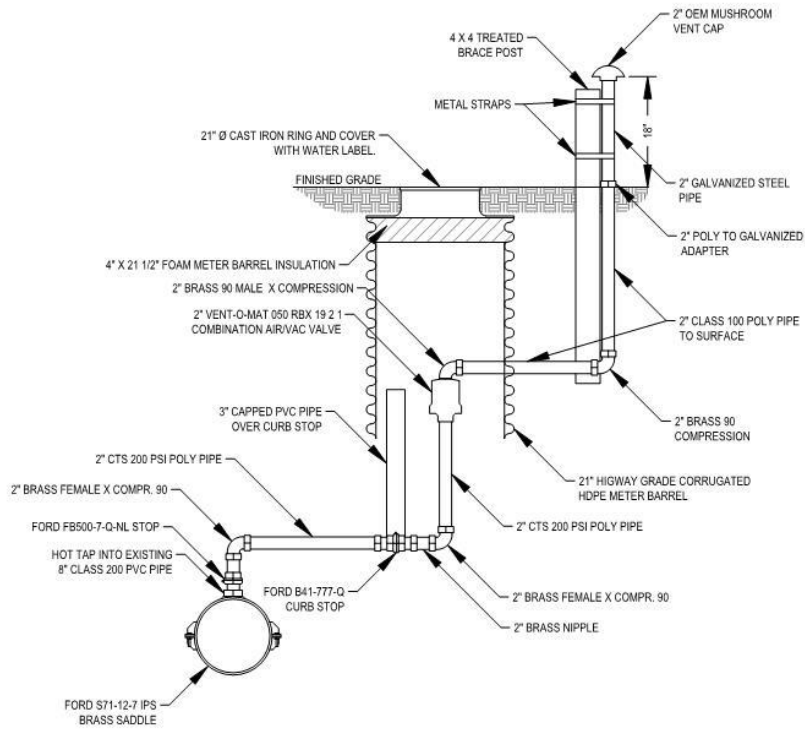


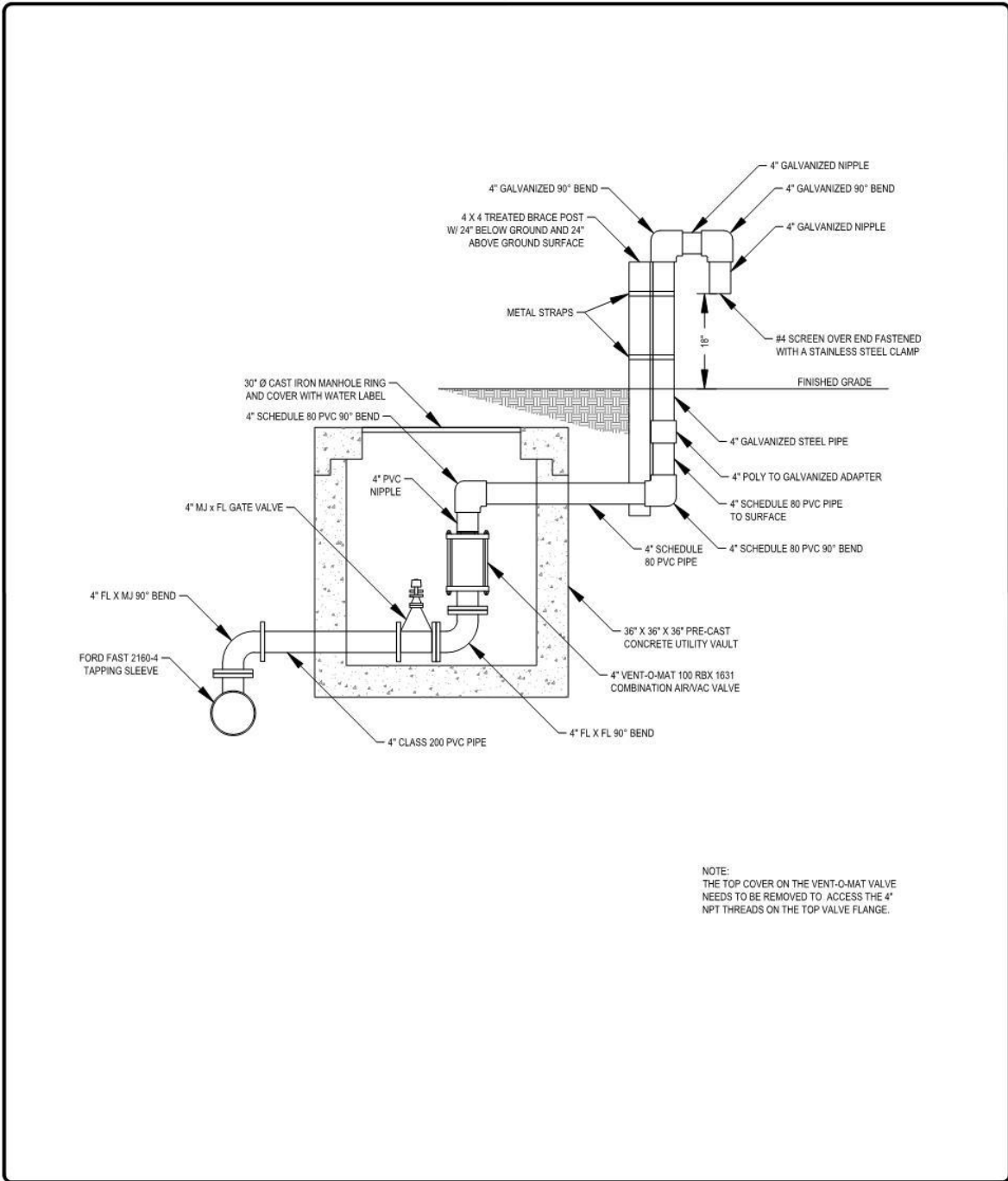




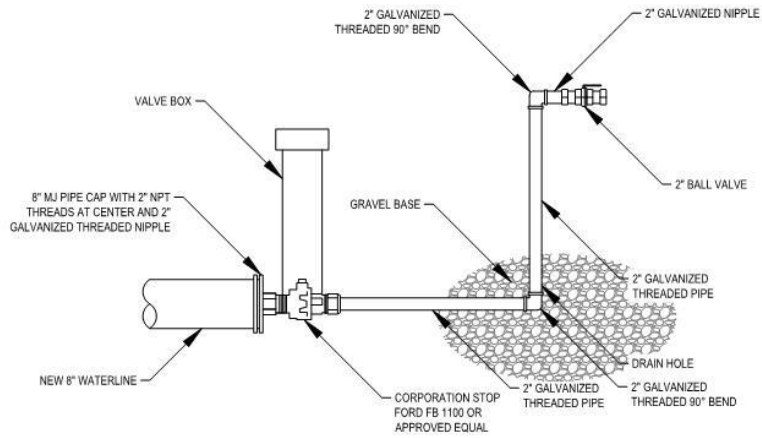
DATE	2021-11-19	
SHEET	14	26
PART NUMBER	W3	



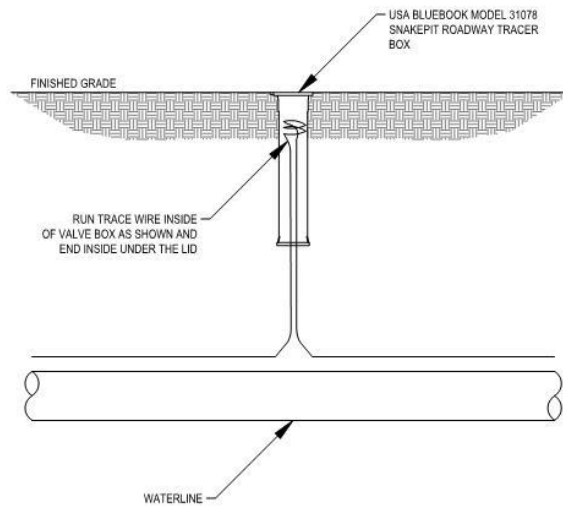




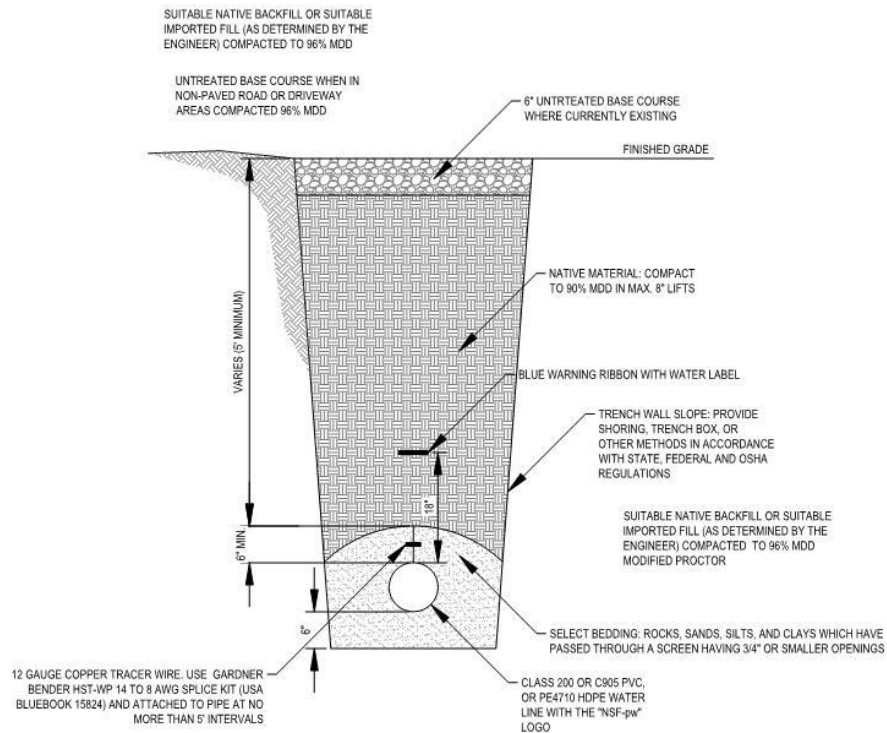
NOTE:  
THE TOP COVER ON THE VENT-O-MAT VALVE  
NEEDS TO BE REMOVED TO ACCESS THE 4"  
NPT THREADS ON THE TOP VALVE FLANGE.



NOTE: 2" BLOWOFF ON 8" WATERLINE SHOWN.  
ADAPT AS NECESSARY TO PROJECT NEEDS.

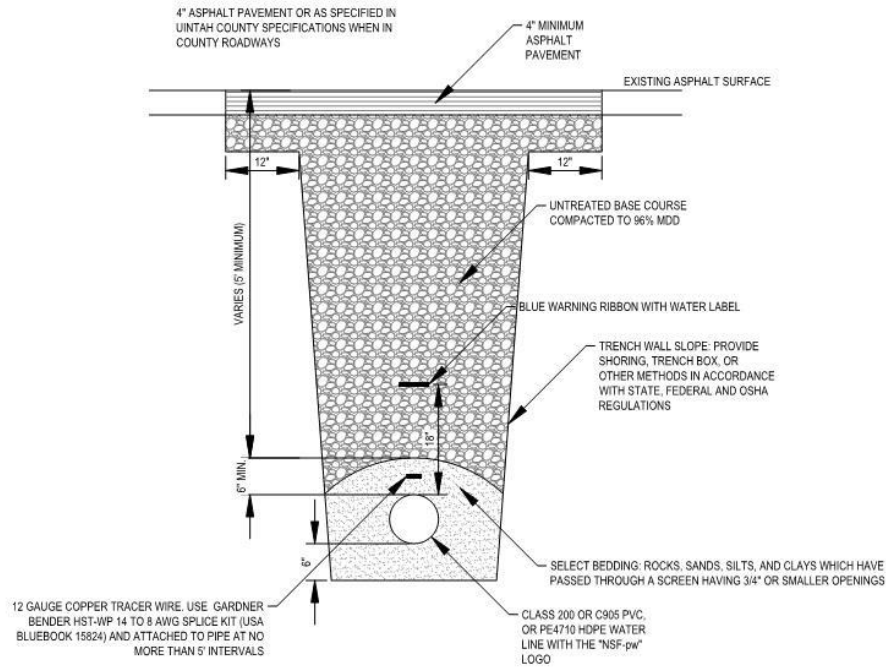


NOTE:  
 INSTALL ONLY WHERE RUNS GREATER THAN  
 1000' OCCUR WITHOUT TRACE WIRE COMING  
 TO SURFACE

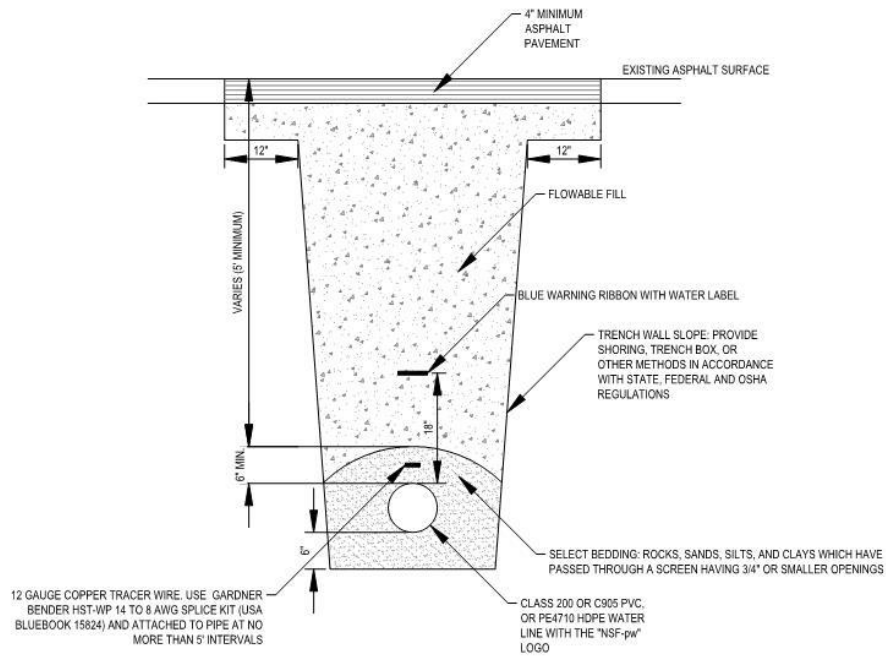


NOTE: TRENCH A DESIGN TO BE USED WHEN NOT IN ROADWAY

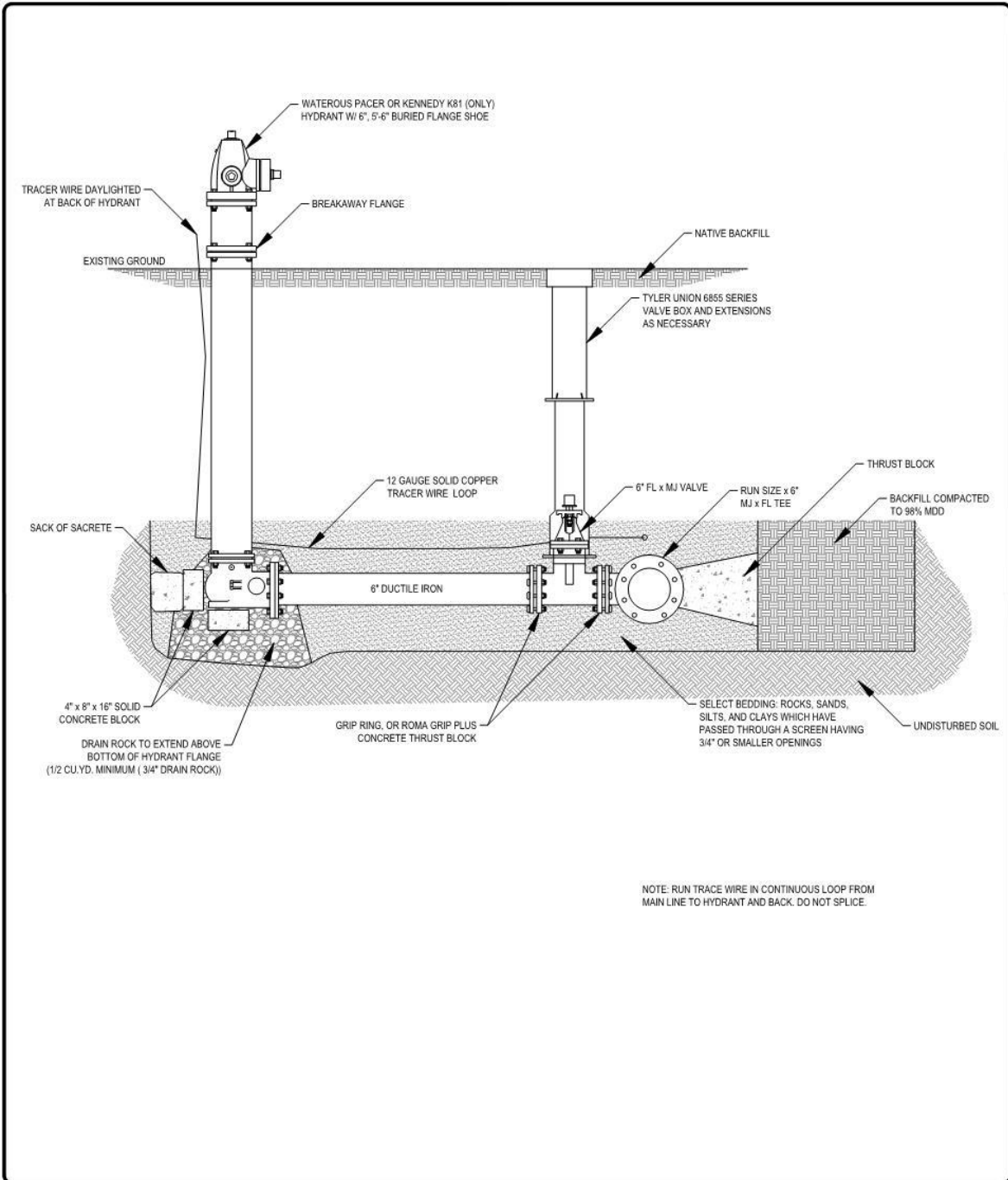


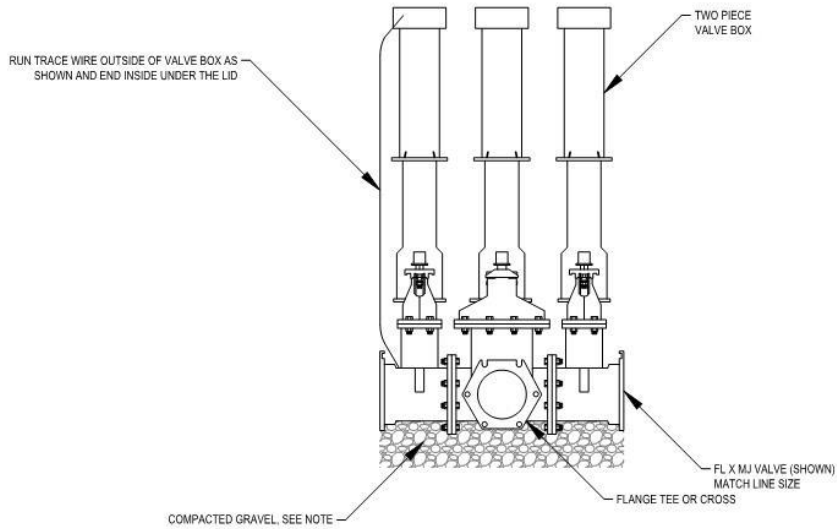


- NOTES:
1. TRENCH A DESIGN TO BE USED WHEN NOT IN ROADWAY
  2. "T" CUT IS TO BE 1' IN ALL DIRECTIONS
  3. ASPHALT PATCHING MAY NOT CREATE A SEAM IN A WHEEL PATH

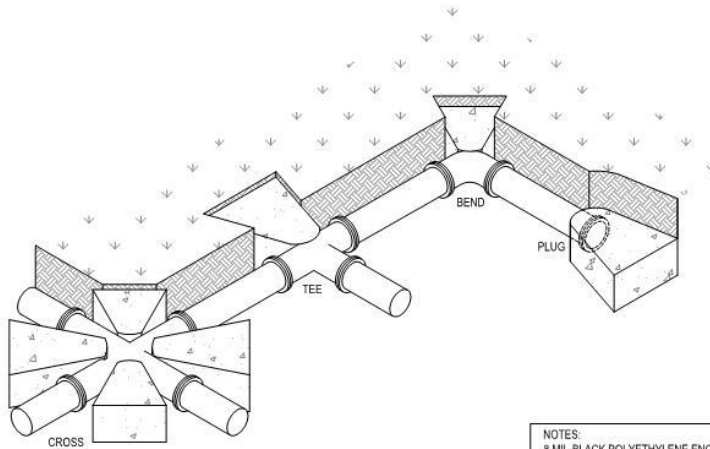


- NOTES:
1. TRENCH A DESIGN TO BE USED WHEN NOT IN ROADWAY
  2. 1" CUT IS TO BE 1" IN ALL DIRECTIONS
  3. ASPHALT PATCHING MAY NOT CREATE A SEAM IN A WHEEL PATH





NOTE: CONTRACTOR SHALL CONSTRUCT A SOLID PLATFORM BELOW ALL VALVE CLUSTERS WITHIN NEW WATERLINE OR CONNECTIONS. PLATFORM SHALL CONSIST OF A MINIMUM OF 6 INCHES OF COMPACTED GRAVEL EXTENDING TO UNDISTURBED MATERIAL.



NOTES:  
 8 MIL-BLACK POLYETHYLENE ENCASEMENT SHALL BE PROVIDED FOR ALL CAST IRON FITTINGS, VALVES, FIRE HYDRANTS, AND COUPLINGS IN ACCORDANCE WITH AWWA C105  
 FM GREASE REQUIRED ON BOLTS

THRUST BLOCK SIZING ASSUMING \*2000 PSF SOIL BEARING PRESSURE AND 200 PSI

PIPE DIAMETER	11.25 Degree Bend			22.5 Degree Bend			45 Degree Bend		
	W	H	L	W	H	L	W	H	L
4"	0.60	0.60	0.55	0.85	0.85	0.75	1.20	1.20	1.05
6"	0.90	0.90	0.75	1.25	1.25	1.10	1.75	1.75	1.50
8"	1.15	1.15	1.00	1.60	1.60	1.40	2.25	2.25	2.00

PIPE DIAMETER	67.5 Degree Bend			90 Degree Bend			Tee, Dead End, Valve		
	W	H	L	W	H	L	W	H	L
4"	1.50	1.50	1.25	1.60	1.60	1.40	1.40	1.40	1.20
6"	2.10	2.10	1.80	2.40	2.40	2.00	2.00	2.00	1.70
8"	2.75	2.75	2.40	3.00	3.00	2.65	2.60	2.60	2.20

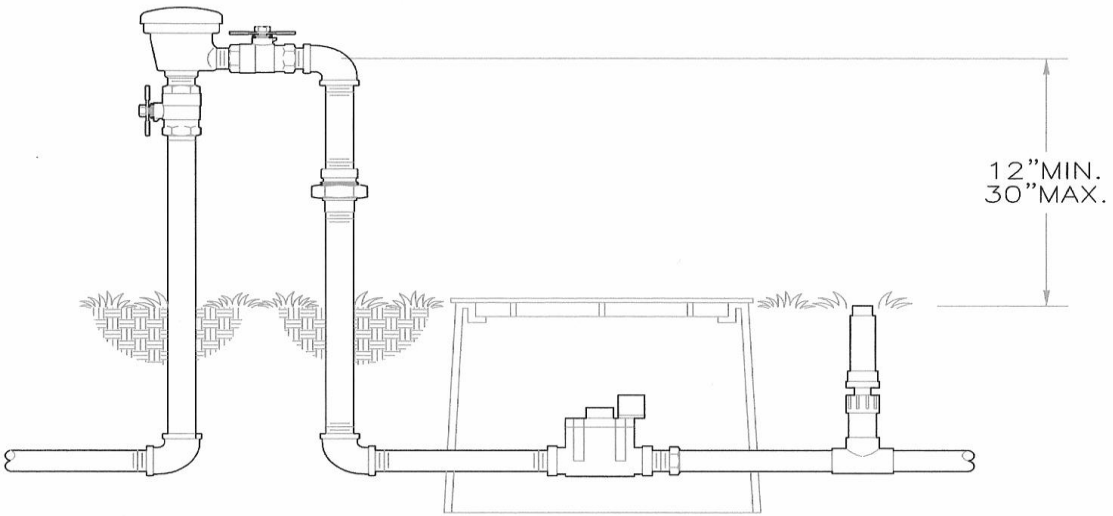
- NOTES:
- THRUST RESTRAINTS SHALL NORMALLY BE RESISTED BY RESTRAINING MECHANICAL JOINT FITTINGS
  - CONCRETE SHALL NOT BE PLACED AROUND JOINTS AND BOLTS. COVER ALL CONTACT AREAS WITH A POLY WRAP PRIOR TO CONCRETE PLACEMENT
  - IN THE ABSENCE OF A SOILS REPORT, ALL THRUST BLOCKS SHALL BE SIZED ON THE BASIS OF A MAXIMUM LATERAL BEARING VALUE OF 800 psf AND A THRUST RESULTING FROM 150% OF THE WATER LINE STATIC PRESSURE
  - THRUST BLOCKS SHALL BE CONSTRUCTED AT ALL BENDS OF 22.5° AND GREATER BEHIND ALL TEES, FIRE HYDRANTS, AND PLUGS. THEY SHALL BE CONSTRUCTED OF 2000 psi CONCRETE OR BETTER
  - ALL TIMBER FOR BLOCKING IS TO BE REDWOOD OR CEDAR
  - 8 MIL-BLACK POLYETHYLENE ENCASEMENT SHALL BE PROVIDED FOR ALL CAST IRON FITTINGS, VALVES, FIRE HYDRANTS, AND COUPLINGS IN ACCORDANCE WITH AWWA C105



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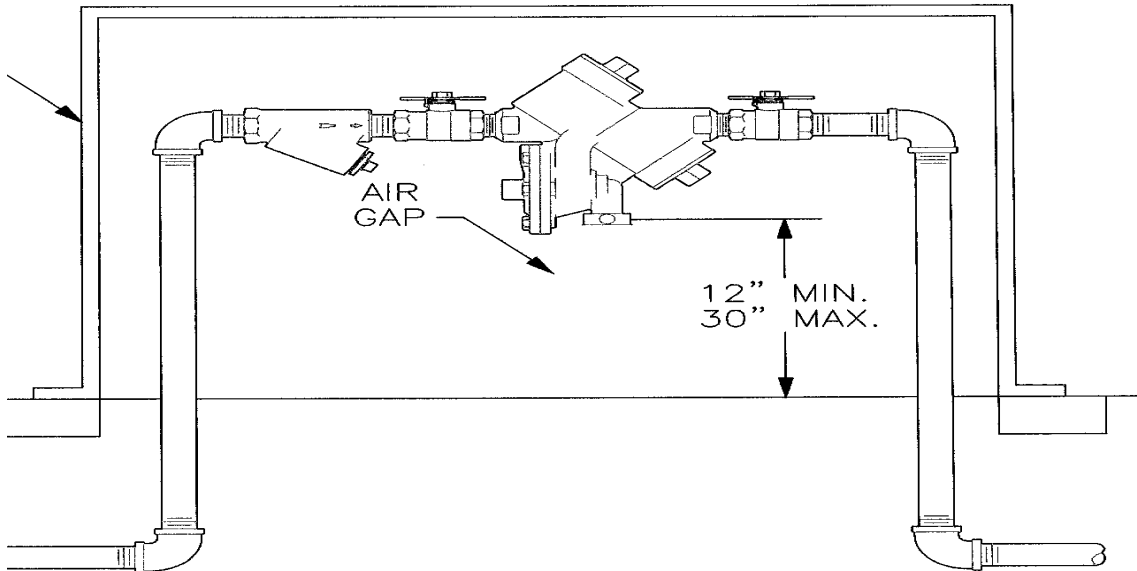
ASHLEY VALLEY WATER & SEWER IMPROVEMENT DISTRICT  
 STANDARD CONSTRUCTION DETAILS  
 WATER DETAILS  
 THRUST BLOCKS

DATE	2021-11-19	
SYD	25	26
PROJECT NUMBER	W14	



DIRECTION OF FLOW →

WILKINS MODEL 720A  
PRESSURE VACUUM BREAKER ASSEMBLY  
OUTDOOR HORIZONTAL INSTALLATION



DIRECTION OF FLOW →

WILKINS MODEL 975XL  
REDUCED PRESSURE PRINCIPLE ASSEMBLY  
OUTDOOR HORIZONTAL INSTALLATION