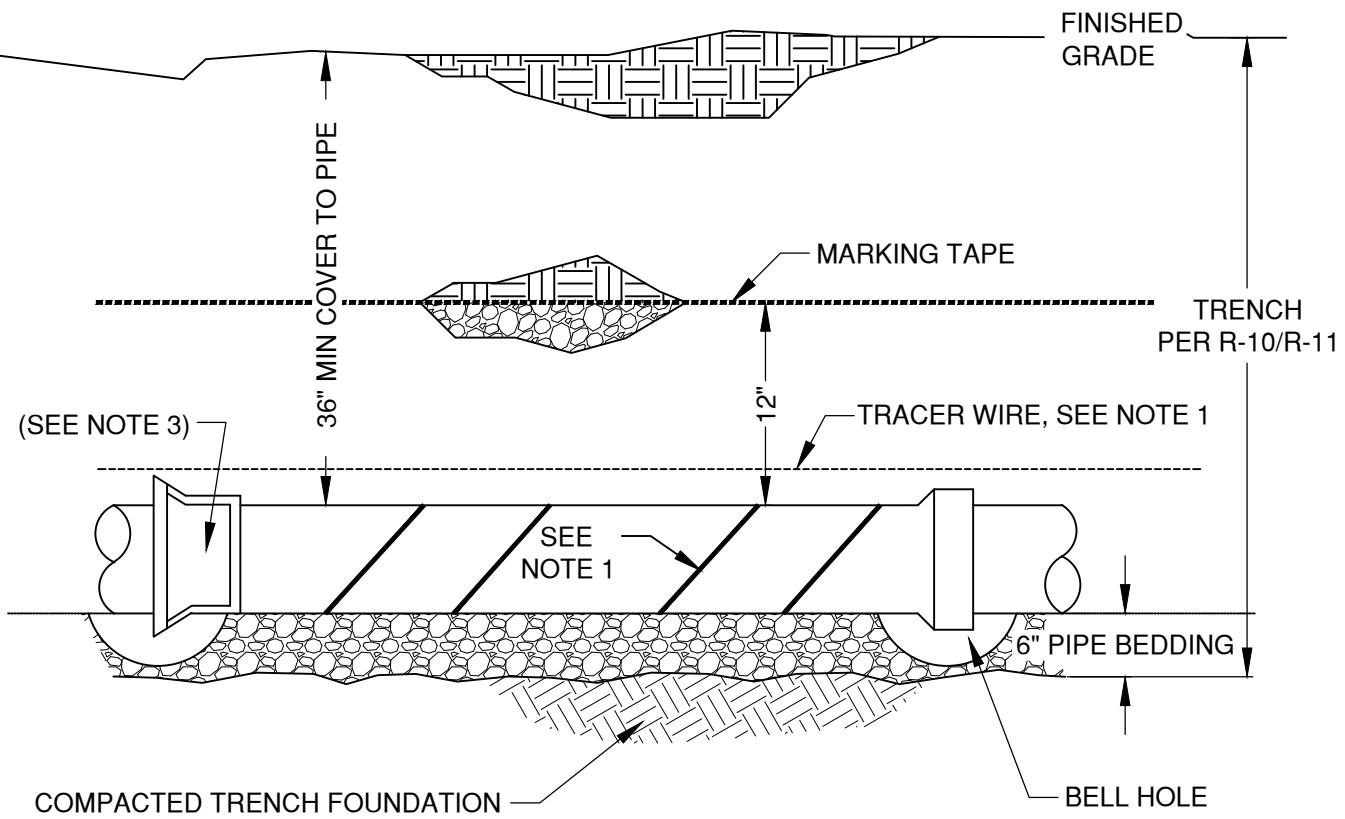
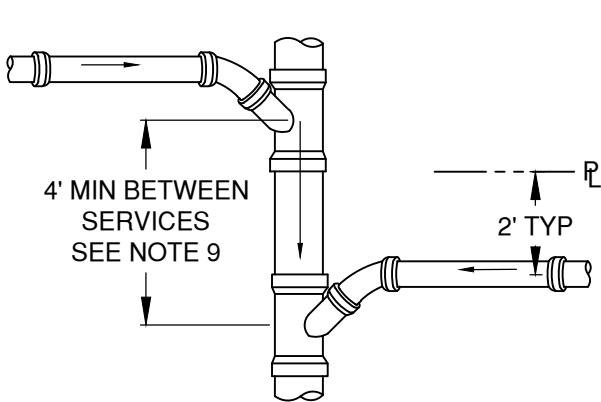
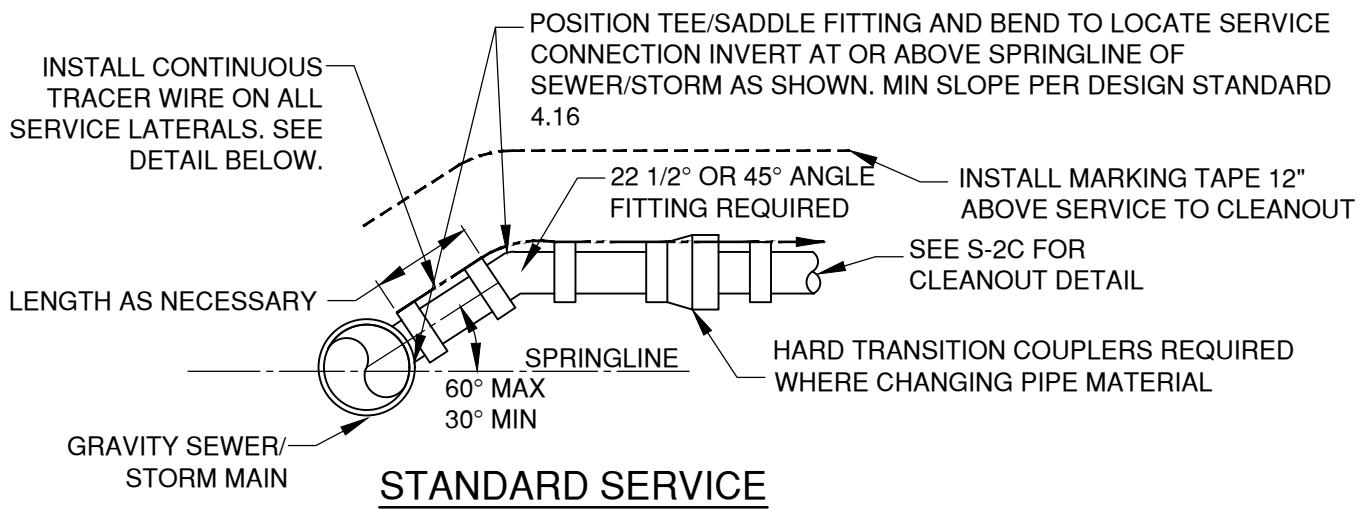


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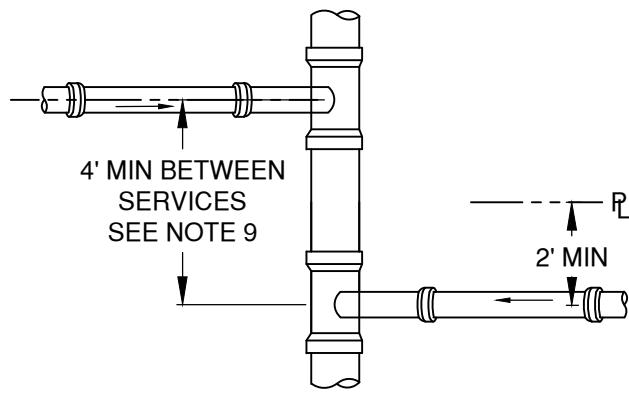
**CITY OF BEND STANDARD DRAWINGS**  
**Sanitary (S)**





### WYE SERVICE CONNECTION

(FOR USE ON MAINS 12" AND SMALLER)



### TEE SERVICE CONNECTION

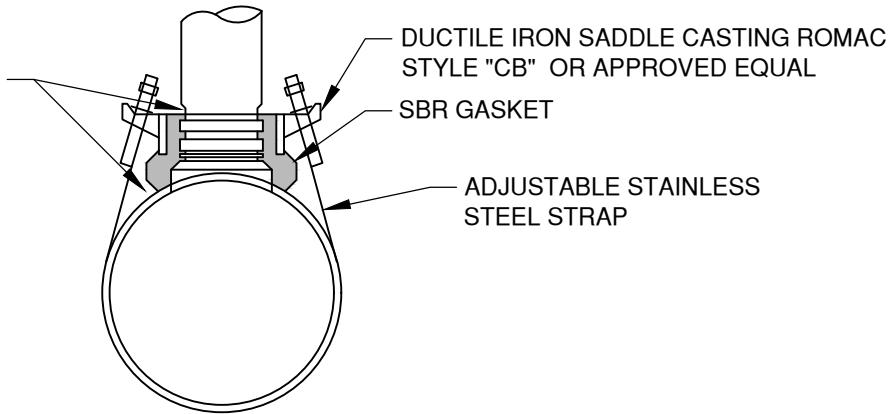
(FOR USE ON MAINS LARGER THAN 12" OR ON EXISTING MAINS FOR INFILL SERVICE CONNECTIONS)

#### NOTES:

1. ALL TRENCHES TO CONFORM TO STD DWG R-10
2. SERVICES OFF NEW MAINS SHALL BE WYE OR TEE CONNECTIONS. SEE STD DWG S-2B FOR SERVICES OFF EXISTING MAINS
3. TRACER WIRE REQUIRED ON ALL SEWER / STORM SERVICES. MARKING TAPE SHALL BE INSTALLED AS SHOWN.
4. SEWER / STORM CONNECTION FROM THE PROPERTY LINE/ROW LINE TO THE CLEAN OUT NEAR THE BUILDING FOUNDATION REQUIRES A PLUMBING PERMIT.
5. WHEN A SEWER SERVICE IS LOCATED ABOVE OR WITHIN 18" BELOW A WATERLINE, THE SEWER SERVICE SHALL BE CONSTRUCTED WITH A MIN. 20 LF OF AWWA C900 OR AWWA C905 PIPE CENTERED AT THE WATERLINE PER OAR 333-061-0050(9).
6. STANDARD RESIDENTIAL SEWER SERVICES ARE 4"Ø. COMMERCIAL, INDUSTRIAL SEWER SERVICES ARE 6"Ø UNLESS OTHERWISE SIZED LARGER BY THE SITE'S ENGINEER.
7. WHERE A SERVICE CROSSES A NEW CURB, STAMP THE FACE OF CURB PER STD DWG R-3.
8. GRAVITY SEWER STANDARDS APPLY TO STORM SEWER MAINS.
9. MINIMUM 3' SECTIONS OF PIPE ARE REQUIRED BETWEEN FITTINGS.
10. ALL STORM SEWER LATERALS MUST COMPLY WITH CITY SEWER STANDARDS.

DRAWN AJD	 <b>CITY OF BEND</b>	<b>CITY OF BEND</b> STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701 <b>GRAVITY SEWER/STORM SERVICES ON NEW MAINS</b>	SCALE NTS
DIV SANITARY			DATE 03/22/2023
REV DATE			APPR
			STD DWG S-2A

APPLY PREDCO PE44  
EXOTHERMIC EPOXY, OR  
APPROVED EQUAL,  
AROUND GASKET SEALS

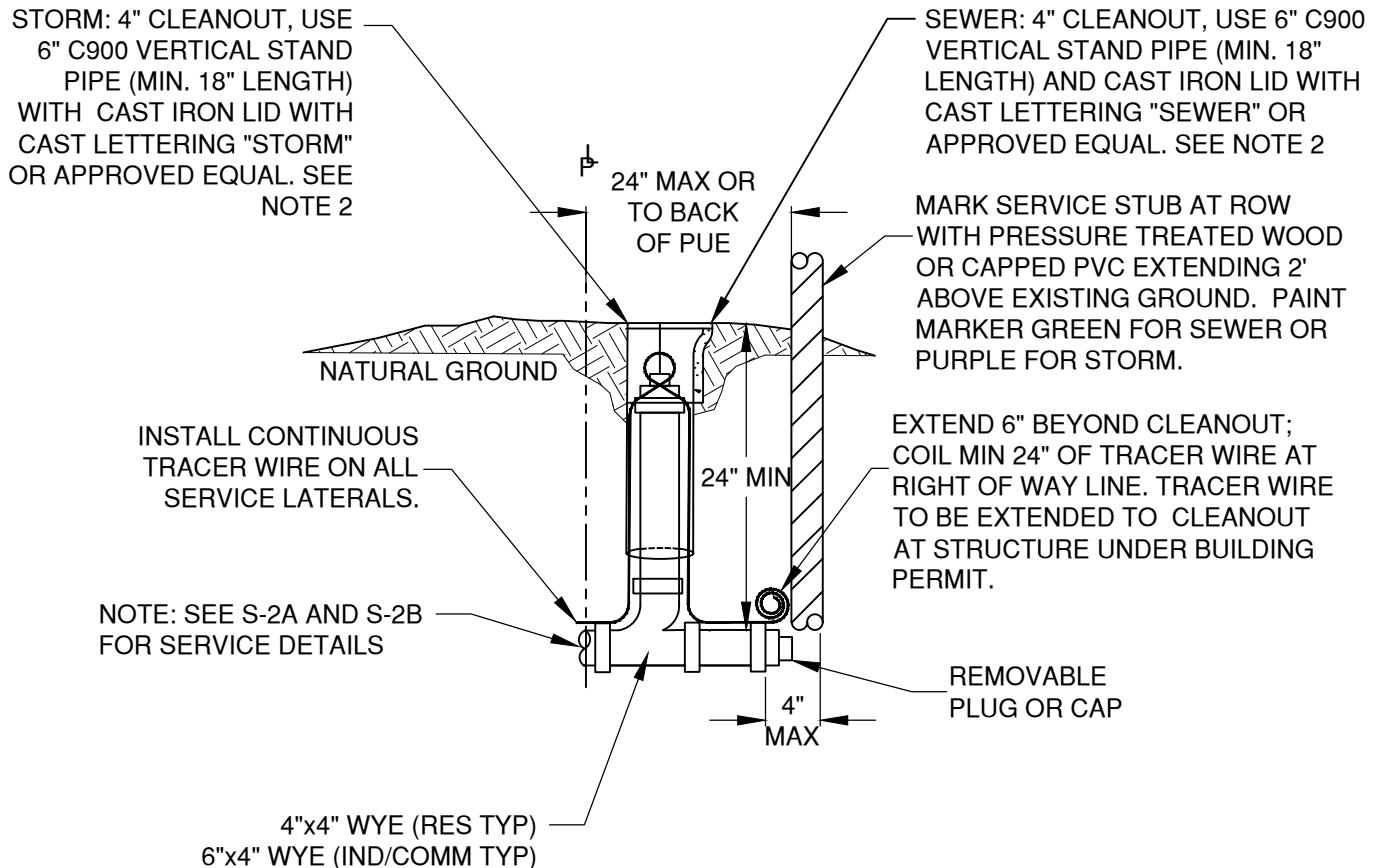


**SEWER SADDLE**  
FOR USE ON MAINS 12" AND SMALLER

NOTES:

1. INSTALL SERVICE LATERAL PER STD DWG S-2A
2. CONNECTION TO EXISTING MAINS MAY BE CUT-IN FITTINGS PER STD DWG S-2A OR TAPS PER THIS DETAIL. PVC MAINS TO UTILIZE CUT IN FITTINGS.
3. SEWER SADDLE SHALL BE ROMAC STYLE "CB" OR APPROVED EQUAL.
4. INSTALL CONNECTION PER THE MANUFACTURER'S RECOMMENDATIONS.
5. GASKET SEAL EPOXY NOT TO BE INSTALLED ON PVC MAINS.

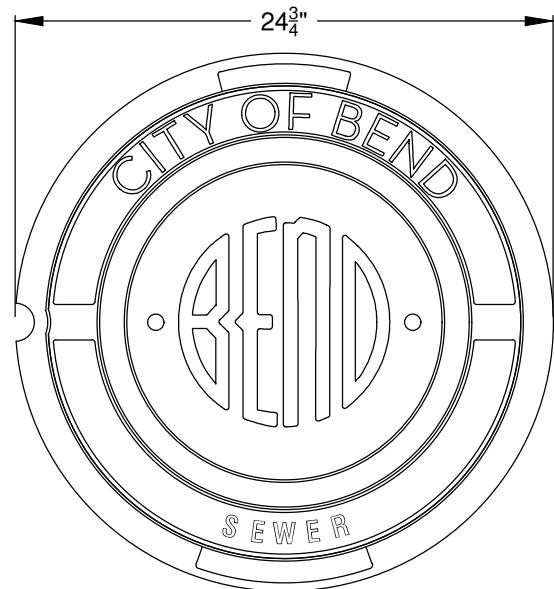
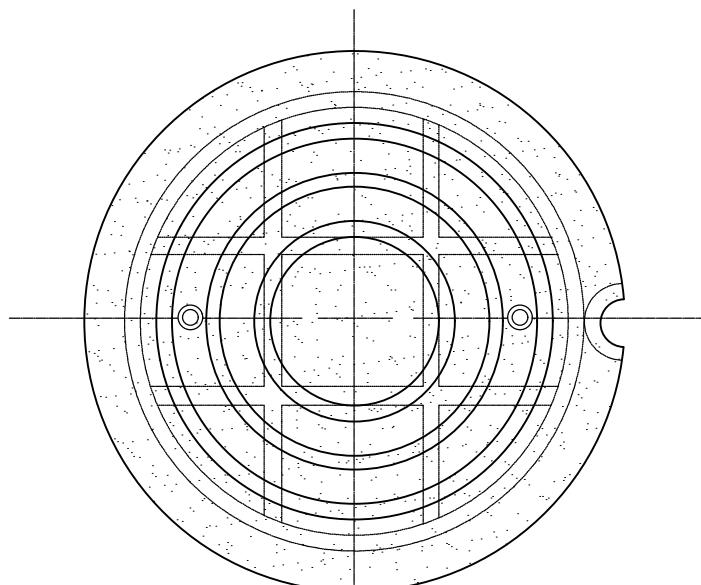
DRAWN	AJD	 <b>CITY OF BEND</b>	CITY OF BEND STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701 GRAVITY SEWER/STORM SERVICE CONNECTION TO EXISTING MAIN	SCALE	NTS
DIV	SANITARY			DATE	03/22/2023
REV				APPR	
				STD DWG	S-2B



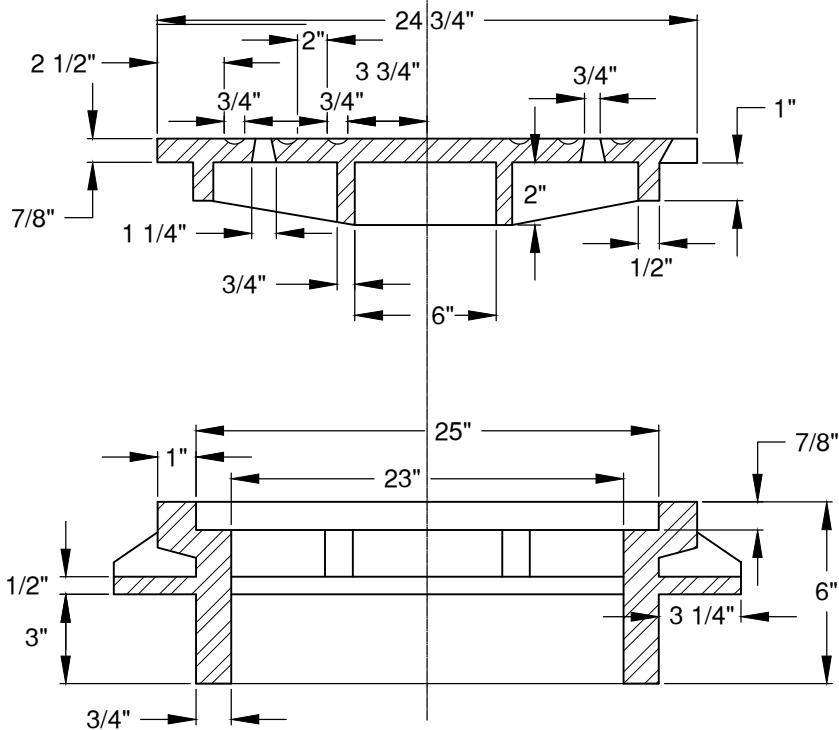
NOTES:

1. SEE STD DWG S-2A FOR GENERAL NOTES.
2. INSTALL CONCRETE BROOKS BOX WITH CAST IRON LID ON ALL CLEANOUTS WITHIN HARDSCAPE.

DRAWN AJD	DIV SANITARY	 <b>CITY OF BEND</b>	<b>CITY OF BEND</b> STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701	SCALE NTS
DIV SANITARY	REV DATE			DATE 03/22/2023
				APPR
				STD DWG S-2C



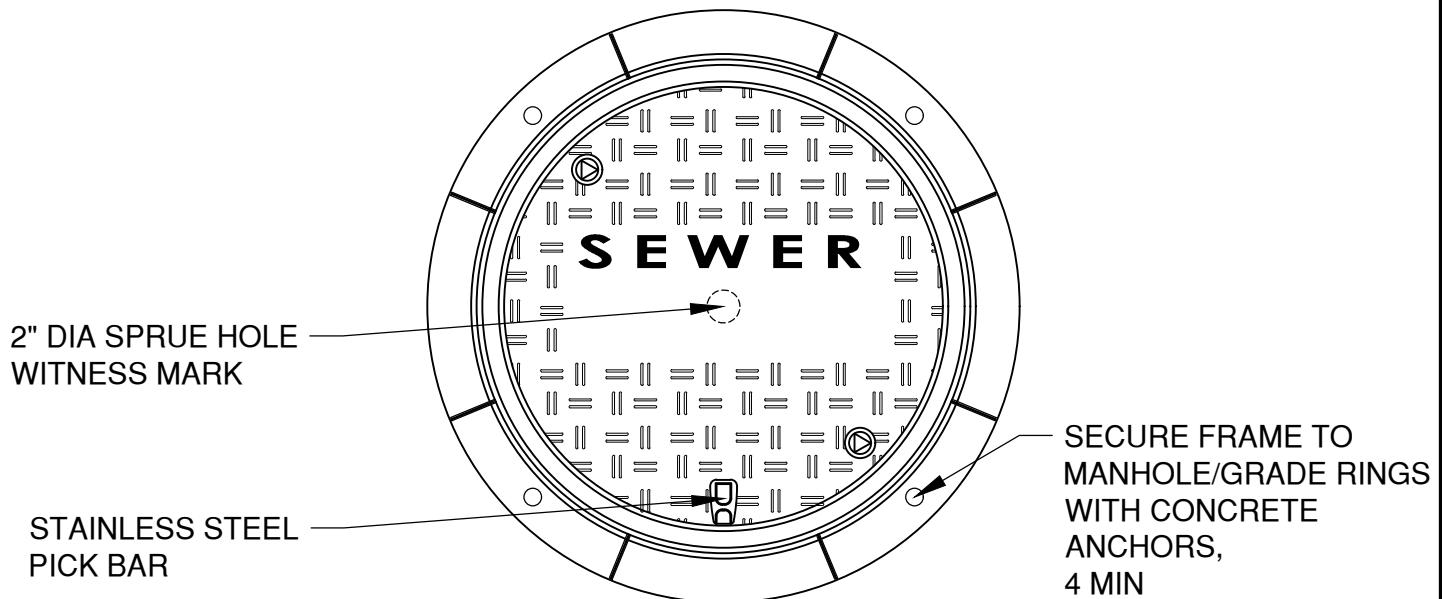
## **SEWER MANHOLE LID DETAIL**



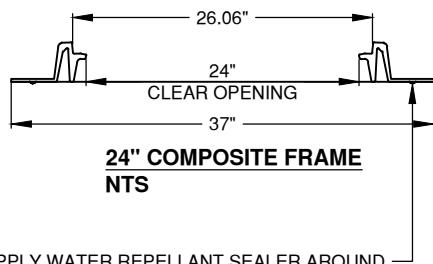
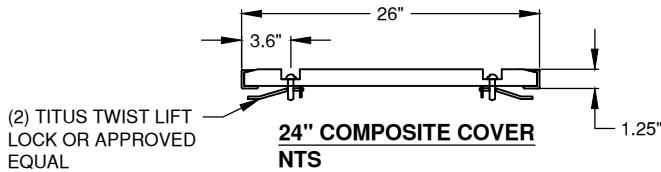
## NOTES:

1. CITY SANITARY SEWER MANHOLE COVERS SHALL HAVE THE WORD "SEWER" CAST IN 2" RAISED LETTERS.
2. PRIVATE MANHOLE LIDS SHOULD NOT USE THE CITY OF BEND MANHOLE LID DETAIL.
3. HINGED MANHOLE LIDS ARE NOT PERMITTED UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
4. LOCKS ARE TO BE USED ON THE LID WHEN THE LID IS LOCATED OUTSIDE A ROADWAY IF REQUIRED BY THE CITY ENGINEER.
5. MANHOLE LIDS SHALL BE PLACED OUTSIDE THE PATH OF TRAVEL ON SIDEWALKS AND DRIVEWAY APRONS.

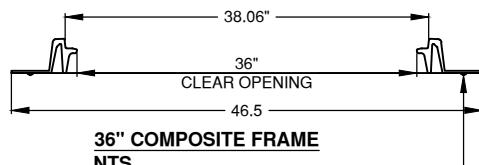
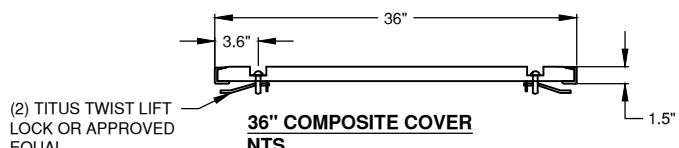
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DIV	SANITARY			DATE	01/31/2022
REV	DATE			APPR	
		STD DWG	S-3A		



**COMPOSITE COVER/FRAME ASSEMBLY**  
**NTS**  
 FOR USE IN NON-TRAFFIC AREAS ONLY



APPLY WATER REPELLANT SEALER AROUND  
 ENTIRE FRAME CIRCUMFERENCE PRIOR TO  
 TIGHTENING THE CONCRETE ANCHORS.



APPLY WATER REPELLANT SEALER AROUND  
 ENTIRE FRAME CIRCUMFERENCE PRIOR TO  
 TIGHTENING THE CONCRETE ANCHORS.

DRAWN	AJD
DIV	SANITARY
REV	DATE



CITY OF BEND

CITY OF BEND

STANDARD DRAWING

710 NW WALL ST., BEND, OREGON 97701

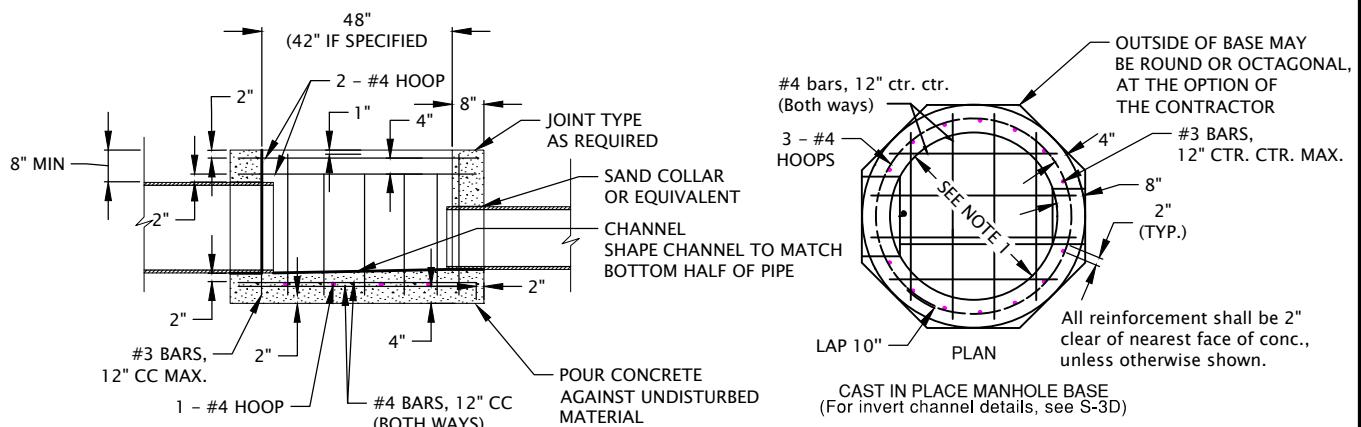
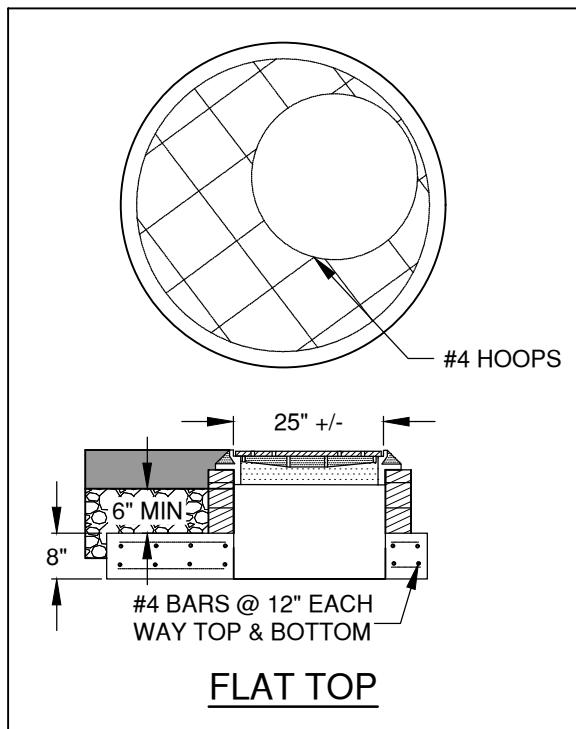
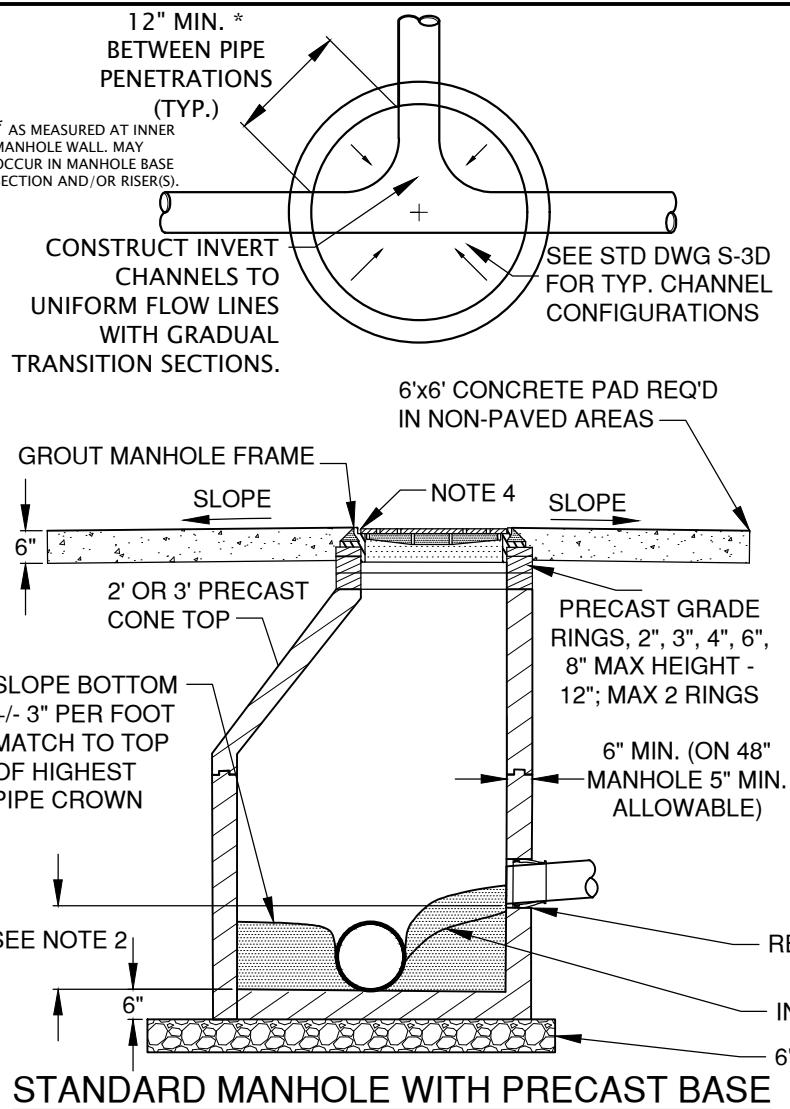
SCALE NTS

DATE 01/31/2022

APPR

STD DWG S-3B

COMPOSITE MANHOLE FRAME AND COVER



### CAST IN PLACE MANHOLE BASE

#### GENERAL NOTES:

1. MANHOLE DIAMETER PER CITY OF BEND DESIGN STANDARDS.
2. THE MAXIMUM INTERNAL DROP IS 1' FOR PIPES 8" IN DIAMETER OR LESS AND 2' FOR PIPES GREATER THAN 8" IN DIAMETER. SEE DWGS S-4 AND S-4A FOR LARGER DROPS.
3. ALL GROUT USED ON MANHOLES SHALL BE NON-SHRINK.
4. A SINGLE RISER RING IS ALLOWED ON INITIAL INSTALLATION.

DRAWN	AJD
DIV	SANITARY
REV	DATE



CITY OF BEND

### CITY OF BEND

#### STANDARD DRAWING

710 NW WALL ST., BEND, OREGON 97701

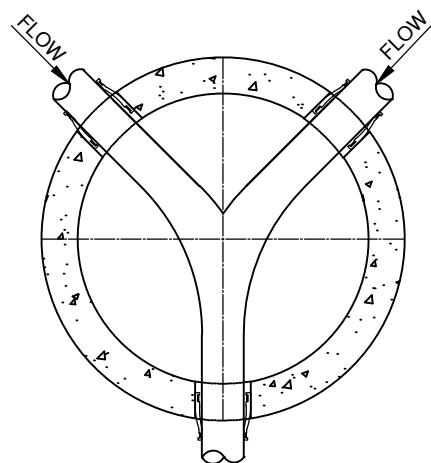
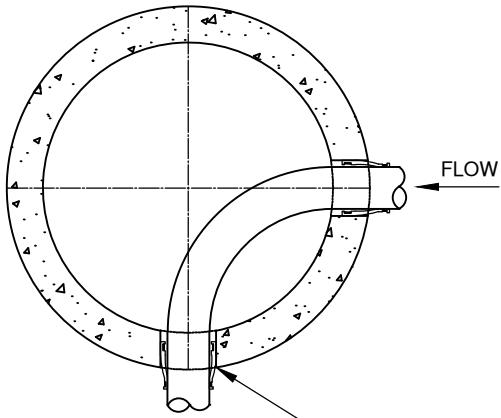
STANDARD SEWER/STORM MANHOLE

SCALE NTS

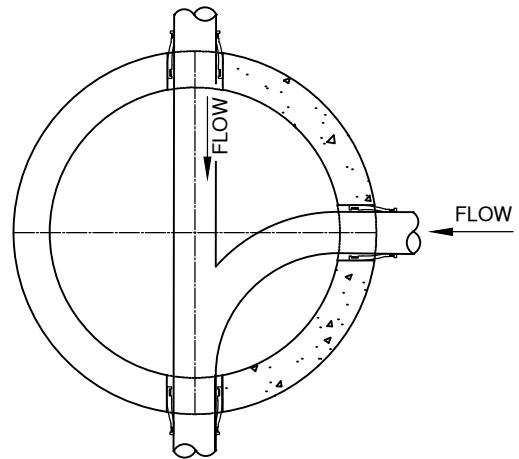
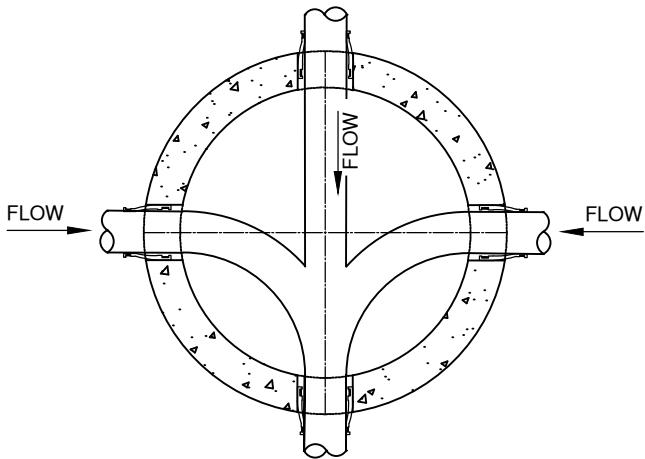
DATE 03/22/2023

APPR

STD DWG S-3C



RESILIENT CONNECTOR WITH GROUT  
FOR PRECAST BASE. SAND COLLAR OR  
EQUIVALENT IN Poured IN PLACE BASE.



GENERAL NOTES:

1. FLOW CHANNELS DEVIATING FROM THE STANDARD CHANNELS REQUIRE A DETAIL FOR APPROVAL FROM THE ENGINEER
2. WIDTH OF CHANNEL SHOULD MATCH THE INSIDE DIAMETER OF INCOMING AND OUTGOING PIPES.
3. CHANNEL LINING SHALL BE BLENDED FOR SMOOTH CONTOUR BETWEEN PIPES.
4. GROUT CHANNEL TO SMOOTH FINISH.
5. FINISH BOTTOM TO EVEN SLOPE BROOM FINISH TO DRAIN TO CHANNEL.
6. LOCATE MANHOLE OPENING OPPOSITE OUTLET UNLESS OTHERWISE DIRECTED.

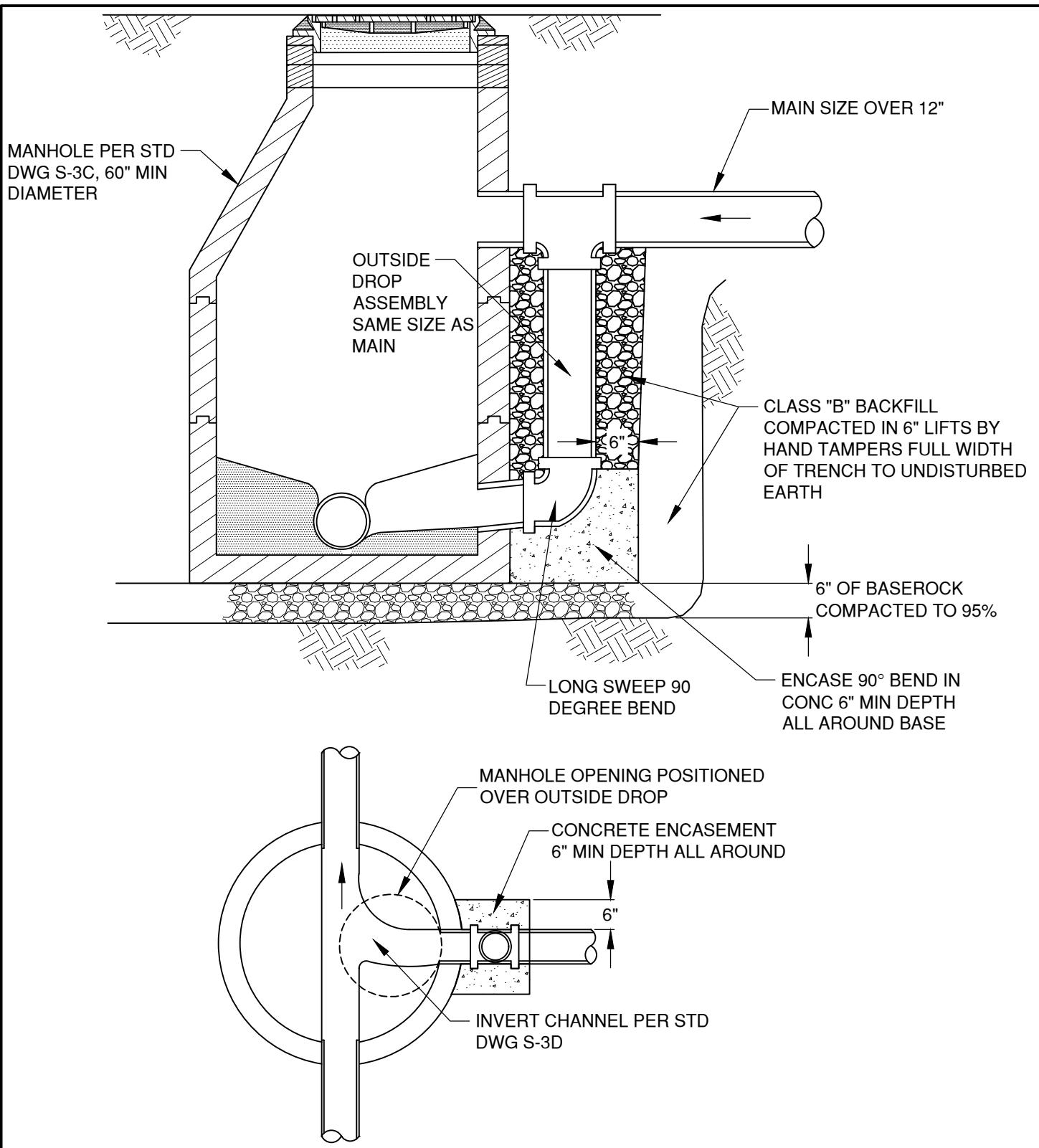
DRAWN	AJD
DIV	SANITARY
REV	DATE

**CITY OF BEND**



**CITY OF BEND**  
STANDARD DRAWING  
710 NW WALL ST., BEND, OREGON 97701  
TYPICAL MANHOLE INVERT LAYOUT

SCALE NTS
DATE 01/31/2022
APPR
STD DWG S-3D



GENERAL NOTES:

1. OUTSIDE DROP MANHOLE FOR USE WITH MAIN SIZE OVER 12" ONLY

DRAWN AJD

DIV SANITARY

REV DATE



CITY OF BEND

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STANDARD DRAWING

710 NW WALL ST., BEND, OREGON 97701

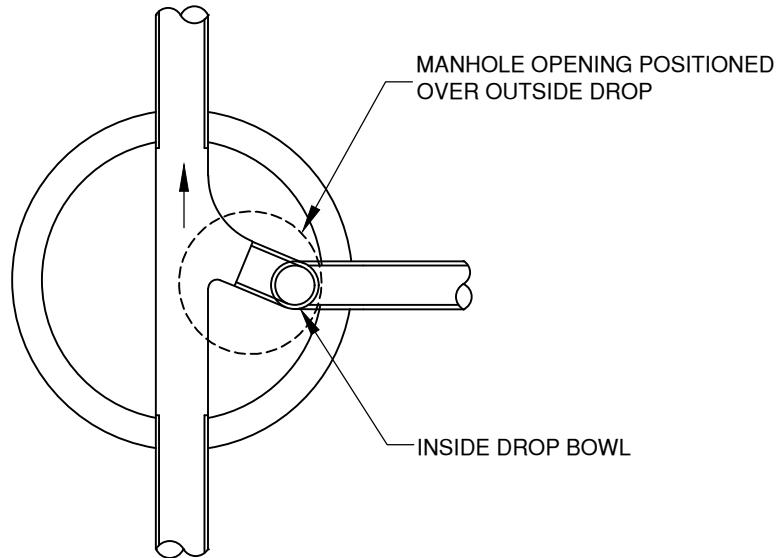
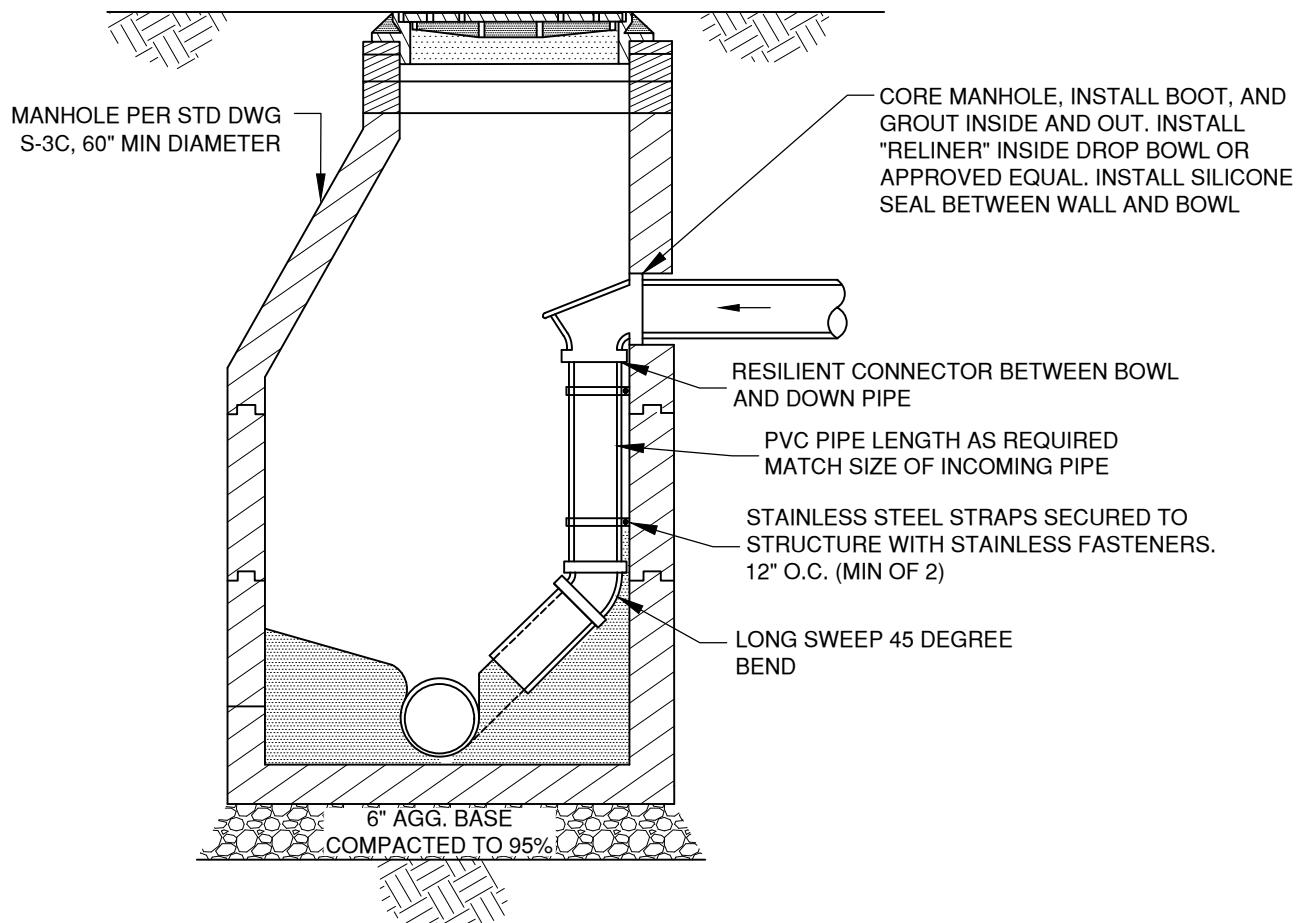
SCALE NTS

DATE 01/31/2022

APPR

STD DWG S-4

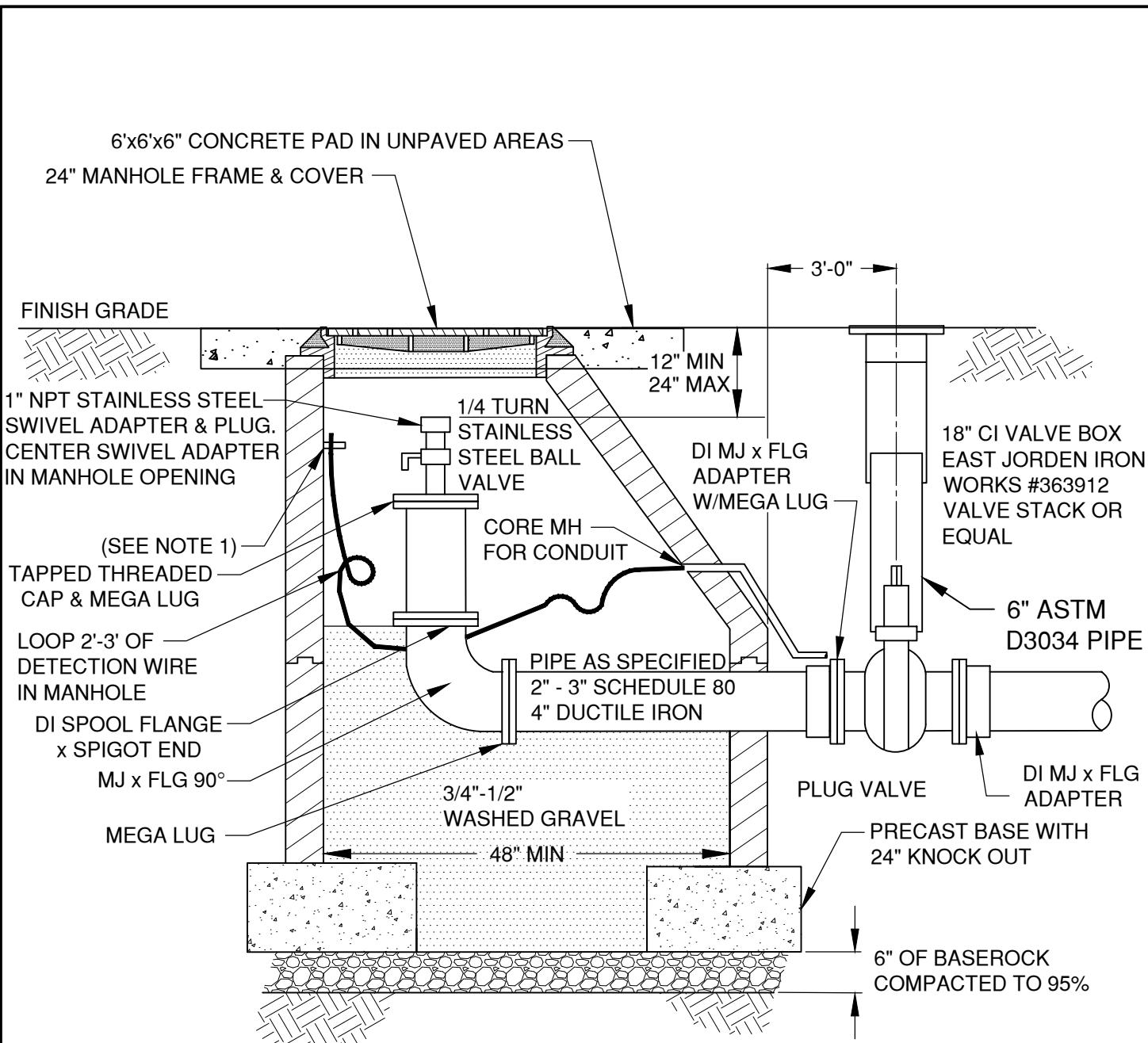
STANDARD OUTSIDE DROP - LARGER THAN 12" PIPE



NOTES:

1. INSIDE DROP MANHOLE FOR USE WITH MAIN SIZE 12" AND SMALLER ONLY

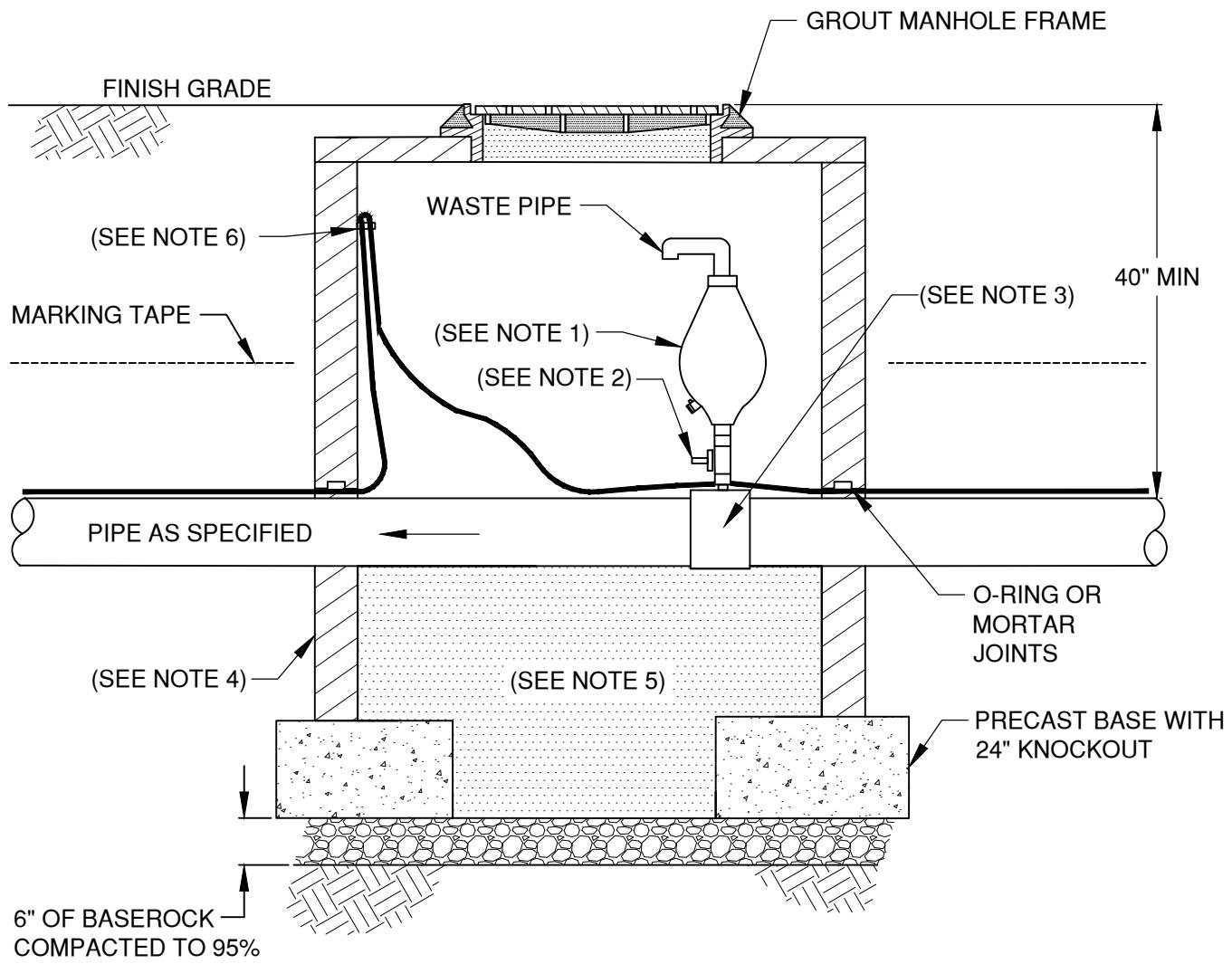
DRAWN AJD	<p><b>CITY OF BEND</b></p>	<p>CITY OF BEND STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701</p> <p>STANDARD INSIDE DROP - 12" PIPE AND SMALLER</p>	SCALE NTS
DIV SANITARY			DATE 01/31/2022
REV			APPR
			STD DWG S-4A



NOTES:

1. TRACER WIRE SHALL BE EXTENDED WITHIN 18-INCHES OF FINISHED GRADE OR 6" BELOW LOWEST GRADE RING, WHICH EVER IS GREATER, TO A 1.75-INCH STAINLESS STEEL RUBBER CUSHIONED CLAMP MOUNTED TO MANHOLE WITH AS MIN 1/4" X 1-3/4" CONCRETE ANCHOR SCREW.

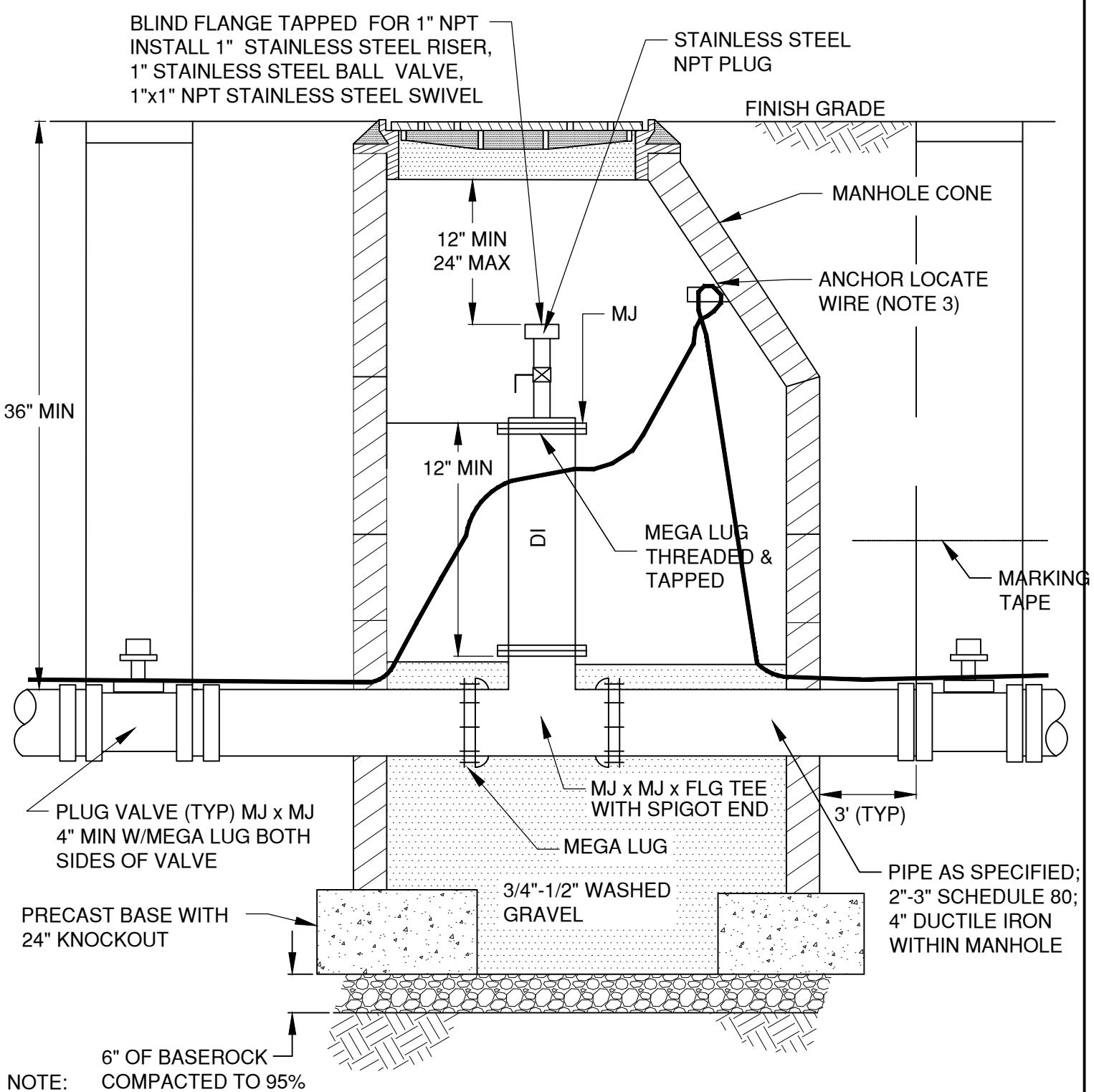
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REV	DATE			DATE 01/31/2022
				APPR
				STD DWG S-5



NOTES:

1. 2" COMBINATION AIR VALVE(SHORT VERSION) PER. 00445.11(l)(2)(d)
2. 2" STAINLESS STEEL BALL VALVE
3. 2" TEE OR 2" SADDLE TEE AS APPROVED FOR PRESSURE APPLICATIONS
4. 48" DIAMETER FLAT TOP MANHOLE.
5. 3/4"-1/2" WASHED GRAVEL
6. TRACER WIRE SHALL BE EXTENDED WITHIN 18-INCHES OF FINISHED GRADE OR 6" BELOW LOWEST GRADE RING, WHICH EVER IS GREATER, TO A 1.75-INCH STAINLESS STEEL RUBBER CUSHIONED CLAMP MOUNTED TO MANHOLE WITH AS MIN 1/4" X 1-3/4" CONCRETE ANCHOR SCREW.

DRAWN AJD	 <b>CITY OF BEND</b>	<b>CITY OF BEND</b> STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701	SCALE NTS
DIV SANITARY			DATE 01/31/2022
REV	DATE  <b>CITY OF BEND</b>	APPR	
			STD DWG S-6



1. ALL DUCTILE IRON FITTINGS THROUGH MANHOLE
2. 48" MINIMUM DIAMETER MANHOLE
3. TRACER WIRE SHALL BE EXTENDED WITHIN 18-INCHES OF FINISHED GRADE OR 6" BELOW LOWEST GRADE RING, WHICH EVER IS GREATER, TO A 1.75-INCH STAINLESS STEEL RUBBER CUSHIONED CLAMP MOUNTED TO MANHOLE WITH AS MIN 1/4" X 1-3/4" CONCRETE ANCHOR SCREW.

DRAWN AJD	
DIV SANITARY	
REV	DATE



CITY OF BEND

CITY OF BEND

STANDARD DRAWING

710 NW WALL ST., BEND, OREGON 97701

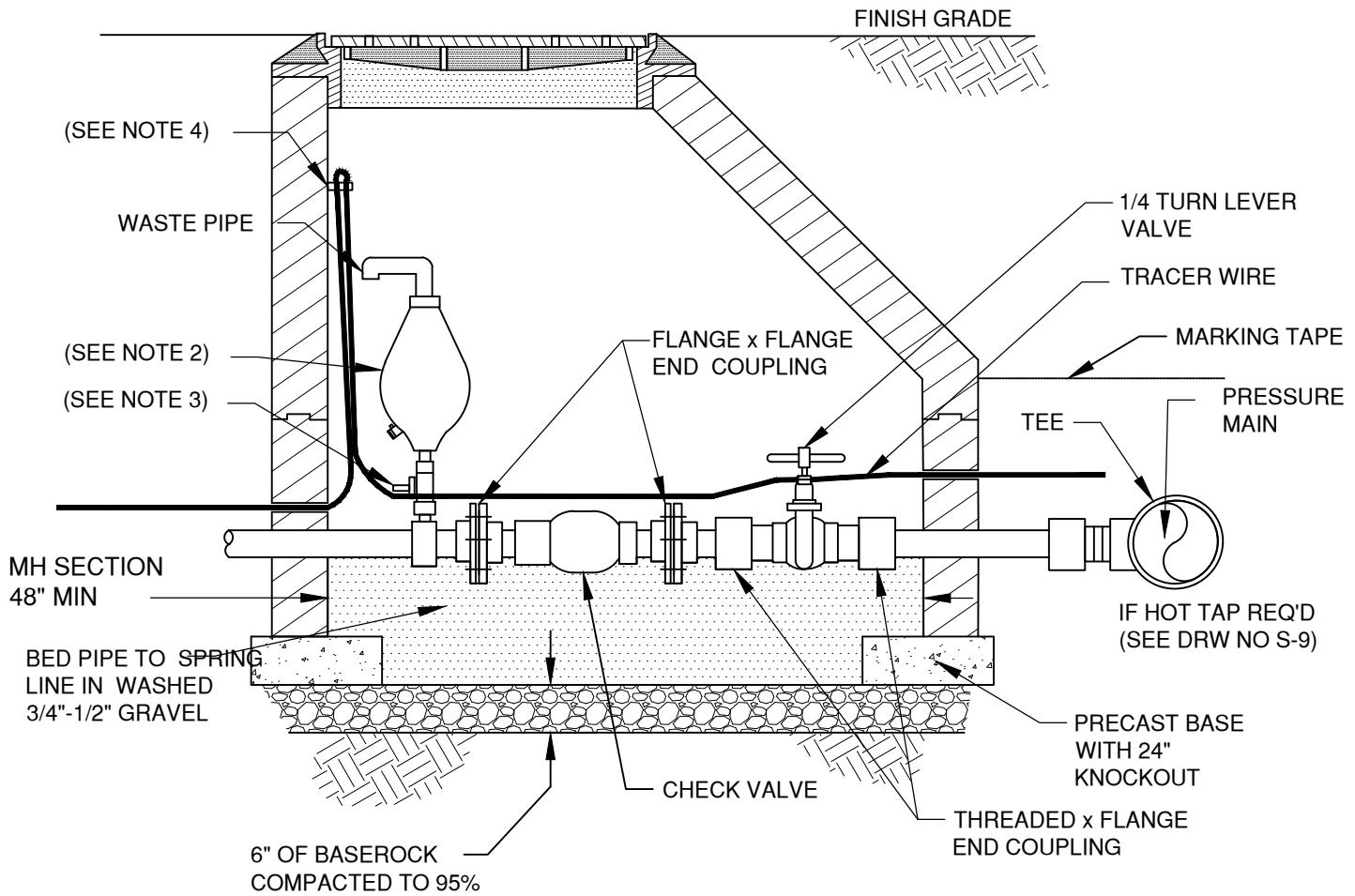
MAIN LINE CLEANOUT PRESSURE SEWER

SCALE NTS

DATE 01/31/2022

APPR

STD DWG S-7

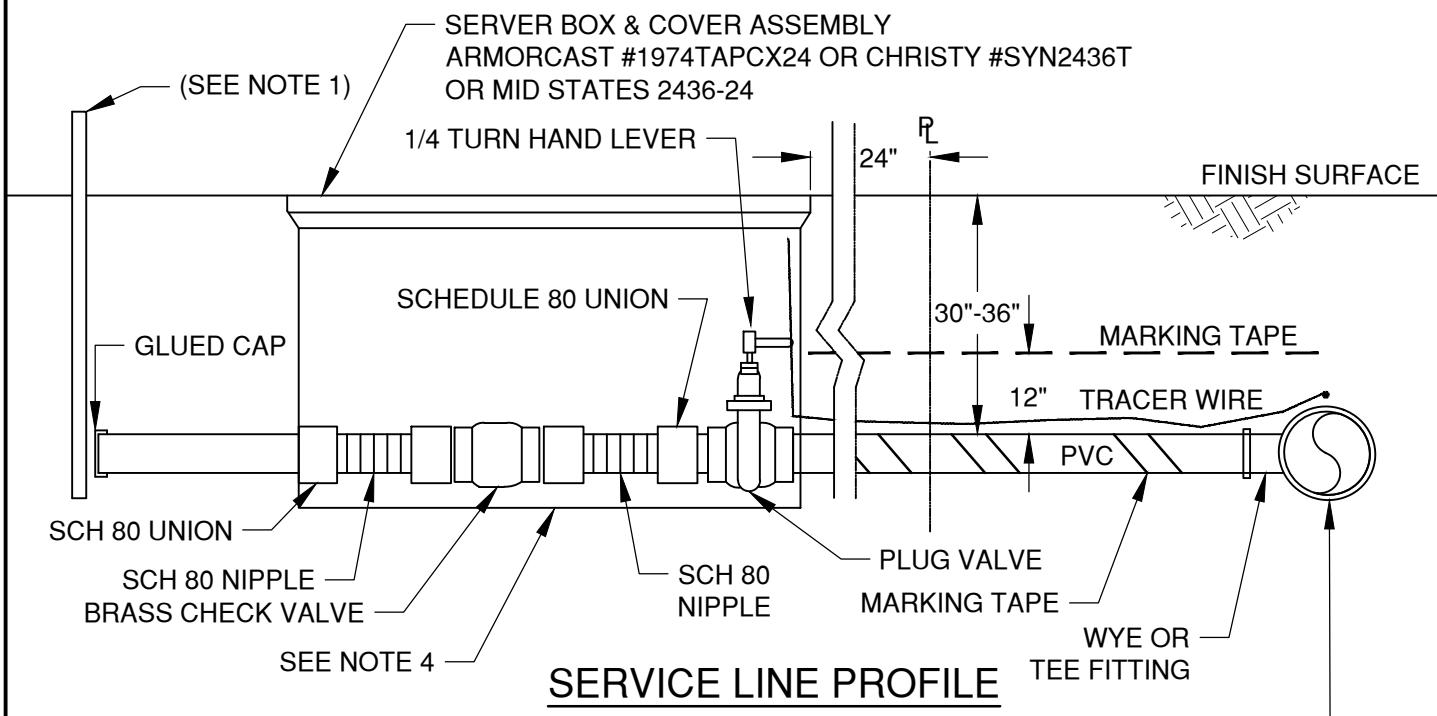
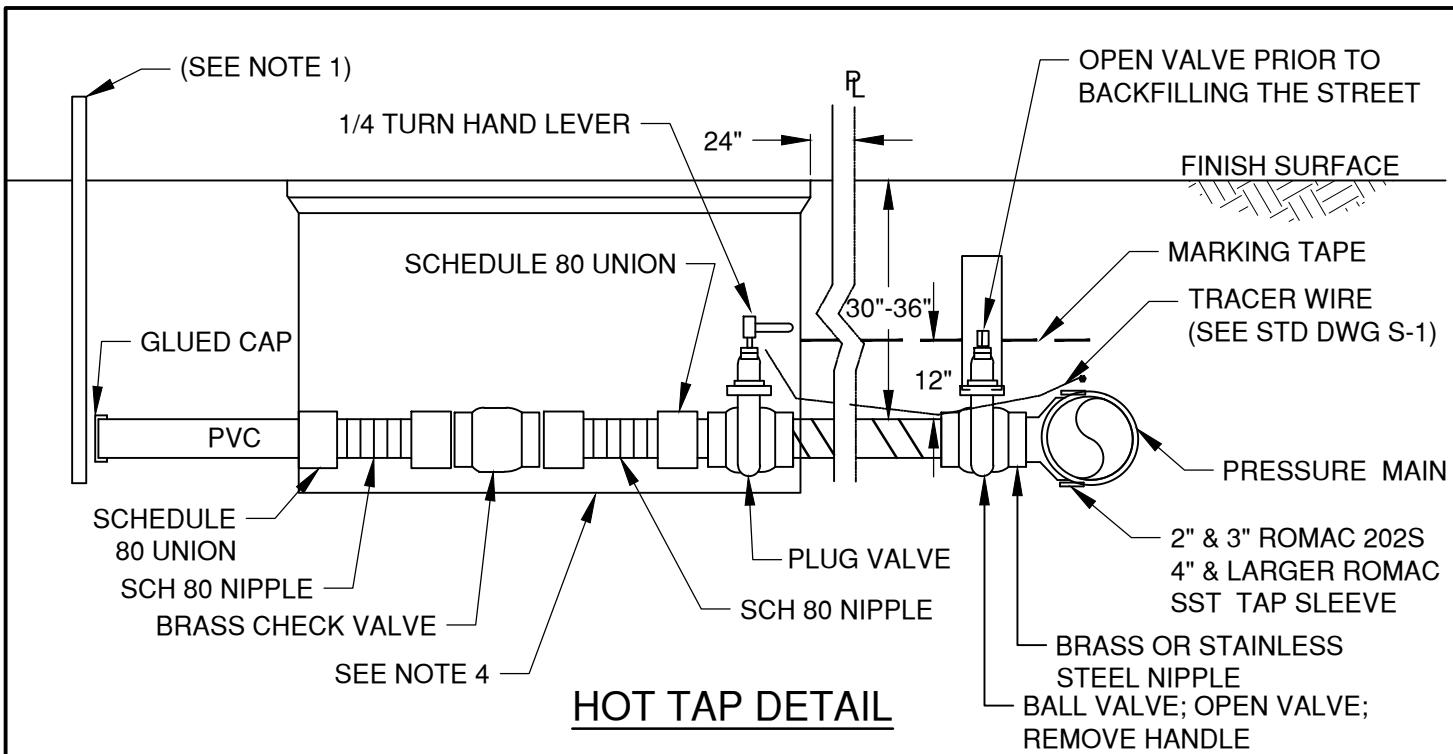


## TYPICAL INSTALLATION IN TRAFFIC AREA

NOTE:

1. SHOWN WITH PLUG VALVE IN ENCLOSURE
2. 2" COMBINATION AIR VALVE (SHORT VERSION) PER. 00445.11(I)(2)(d)
3. 2" STAINLESS STEEL BALL VALVE
4. TRACER WIRE SHALL BE EXTENDED WITHIN 18-INCHES OF FINISHED GRADE OR 6" BELOW LOWEST GRADE RING, WHICH EVER IS GREATER, TO A 1.75-INCH STAINLESS STEEL RUBBER CUSHIONED CLAMP MOUNTED TO MANHOLE WITH AS MIN 1/4" X 1-3/4" CONCRETE ANCHOR SCREW.

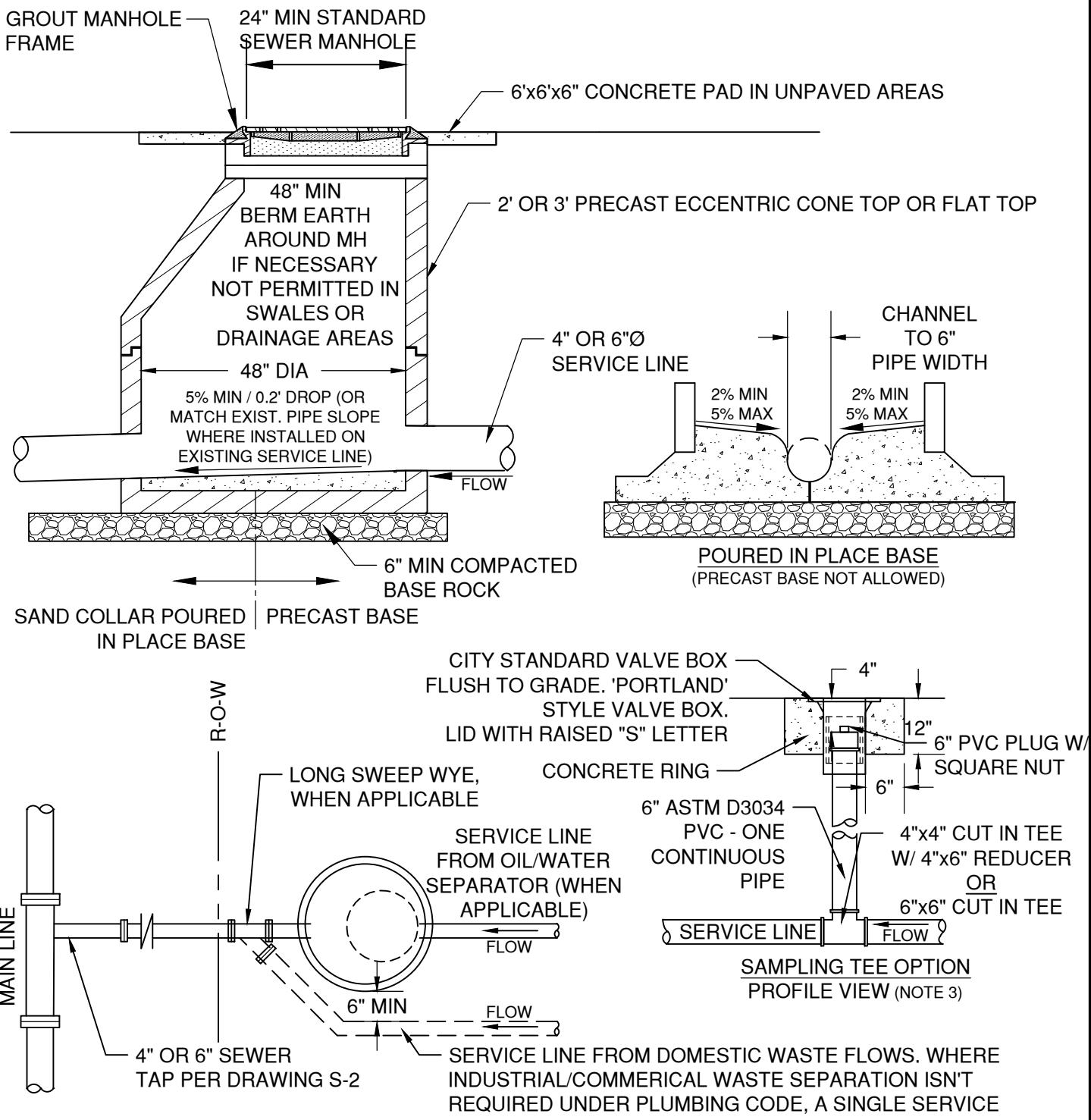
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DIV SANITARY			DATE 01/31/2022
REV			APPR
			STD DWG S-8



**NOTE:**

1. 2x4 SERVICE MARKER TO FULL DEPTH OF TRENCH. PROJECT END 2FT MINIMUM ABOVE FINISH GRADE & PAINT GREEN ALL AROUND
2. SERVICE BOX COVER MARKED "SEWER"
3. CHECK VALVES 3" & LARGER APCO 100. 2" LEGEND T451
4. SERVICE BOX AND ALL APPARATUSES WITHIN ARE PRIVATELY OWNED BUT REQUIRED TO BE INSTALLED WITH PRESSURE SEWER SERVICE

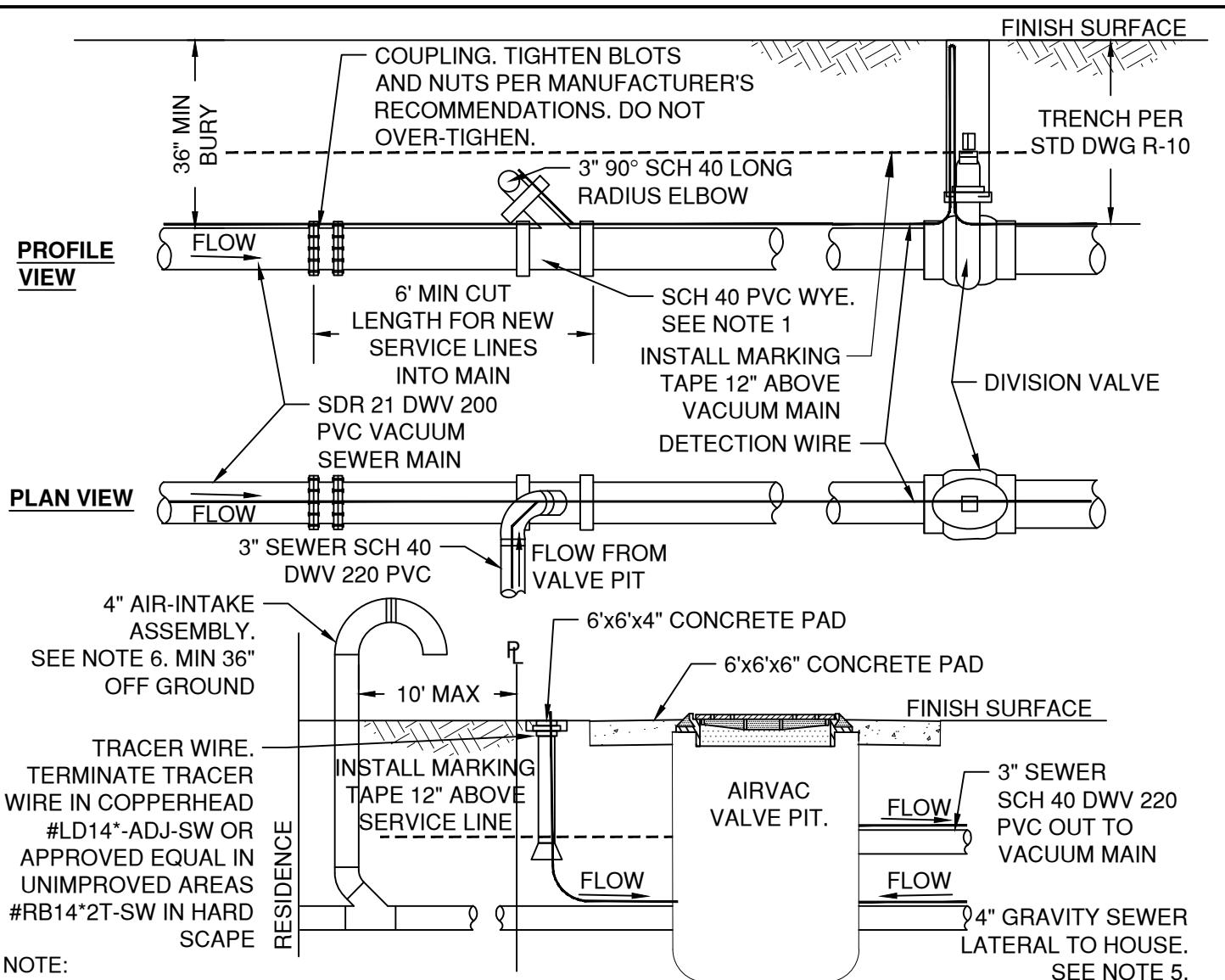
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REV	DATE			DATE 01/31/2022
				APPR
				STD DWG S-9



NOTES:

1. MULTIPLE SERVICE LINES SHALL CONNECT UPSTREAM AND OUTSIDE THE SAMPLE MANHOLE
2. SAMPLE MANHOLE TO BE LOCATED ON PRIVATE PROPERTY IN AN ACCESSIBLE AREA.
3. SAMPLING TEE OPTION IS ONLY PERMITTED WHEN APPROVED BY THE CITY ENGINEER AND ARE INTENDED FOR RETROFITS ON EXISTING SYSTEMS ONLY. CONSIDERED IN SITUATIONS WHERE EXISTING UTILITIES OR EASEMENTS PREVENT THE INSTALLATION OF MANHOLE.

DRAWN AJD		<b>CITY OF BEND</b> STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701	SCALE NTS
DIV SANITARY			DATE 01/31/2022
REV DATE			APPR
			STD DWG S-15
		<b>INDUSTRIAL AND COMMERCIAL SERVICES SAMPLING MH</b>	



1. ALL WORK DONE ON A VACUUM SEWER SHALL BE COORDINATED WITH PUBLIC WORKS 7 DAYS IN ADVANCE TO COORDINATE VACUUM STATION SHUT DOWN.
2. ALL JOINTS TO BE CONNECTED USING STANDARD PRIMER AND SOLVENT CEMENT. KEEP ALL JOINTS CLEAN AND FREE OF DEBRIS. JOINTS TO BE SCH40 DWV 220 OR APPROVED EQUAL.
3. AFTER INSTALLATION IS COMPLETE, OPEN DIVISION VALVE AND PERFORM VISUAL AND AUDIBLE INSPECTION OF EACH JOINT FOR LEAKS PRIOR TO TRENCH CLOSURE.
4. TRENCH BACKFILL TO BE IN ACCORDANCE TO S-1. MARKING TAPE AND TRACER WIRE TO BE INSTALLED ON ALL MAINS AND SERVICES.
5. INSTALL GRAVITY SEWER LATERALS IN CONFORMANCE WITH PLUMBING CODE. SERVICE LINE FROM THE PIT TO THE HOUSE IS OWNED AND MAINTAINED BY PROPERTY OWNER. CONNECTIONS TO THE AIRVAC VALVE PIT SHALL BE MADE AS PER MANUFACTURER'S SPECIFICATION.
6. AIR-INTAKE SHALL BE INSTALLED IN CONFORMANCE TO THE PLUMBING CODE AND SHALL BE PERMITTED WITH THE BUILDING DEPARTMENT UNDER A PLUMBING PERMIT.
7. PIT TO BE INSTALLED OUTSIDE OF SIDEWALK AND APRON SURFACES IN ROW OR CITY EASEMENT.
8. ALL WORK SHALL CONFORM TO AIR VAC SPECIFICATIONS. NO MORE THAN TWO SERVICES MAY CONNECT TO A ONE VACUUM PIT.
9. CONNECTION AVAILABILITY TO VALVE PIT TO BE DETERMINED BY THE CITY ENGINEER BASED ON MANUFACTURERS ALLOWABLE FLOW INTO PIT AND THE VACUUM SYSTEM.

DRAWN AJD		CITY OF BEND STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701	SCALE NTS
DIV SANITARY			DATE 01/31/2022
REV DATE	CITY OF BEND	APPR	STD DWG S-16
		VACUUM SEWER SERVICE	