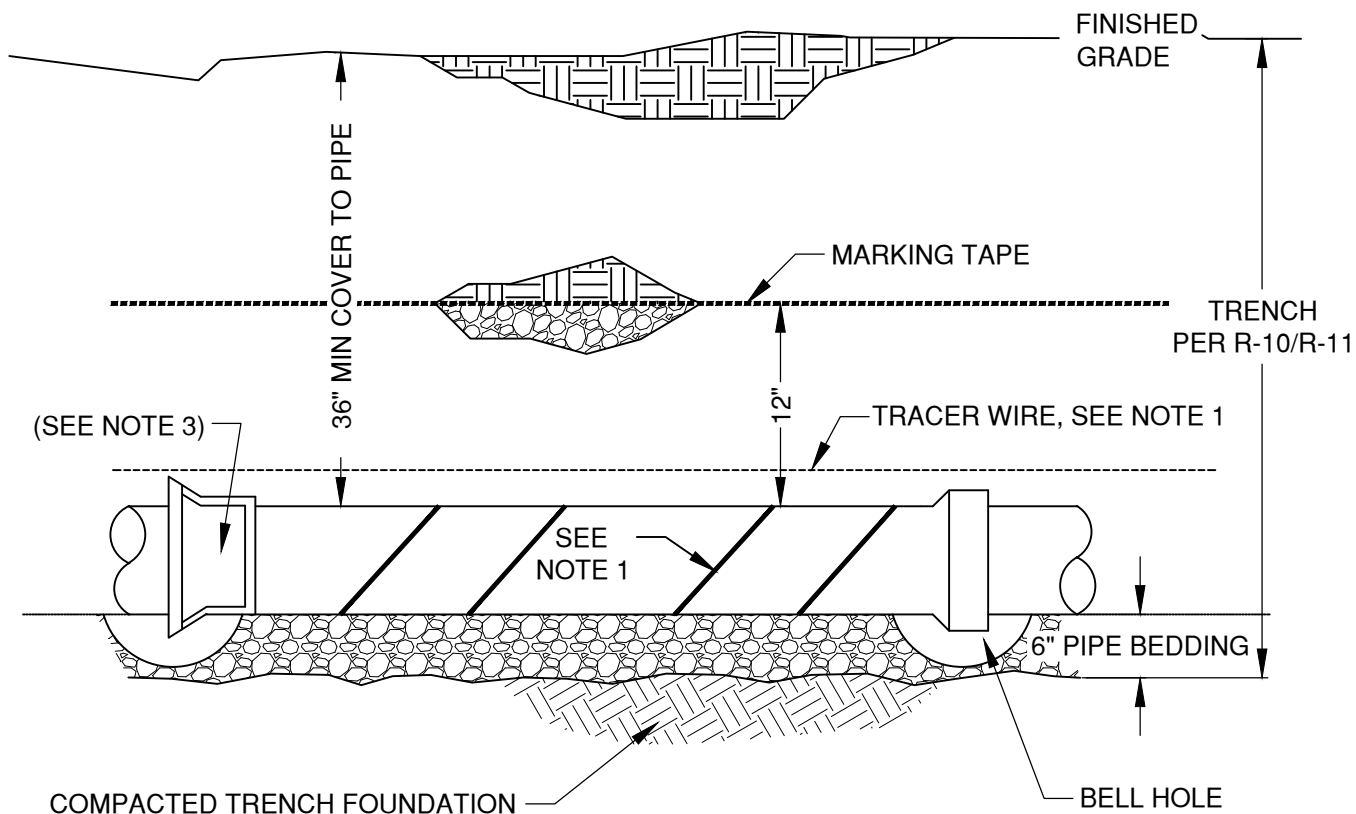

CITY OF BEND STANDARD DRAWINGS

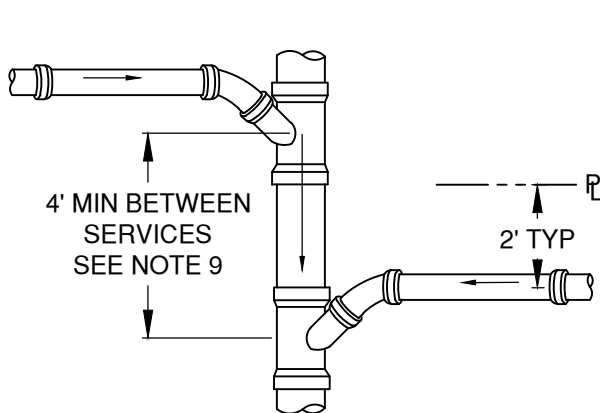
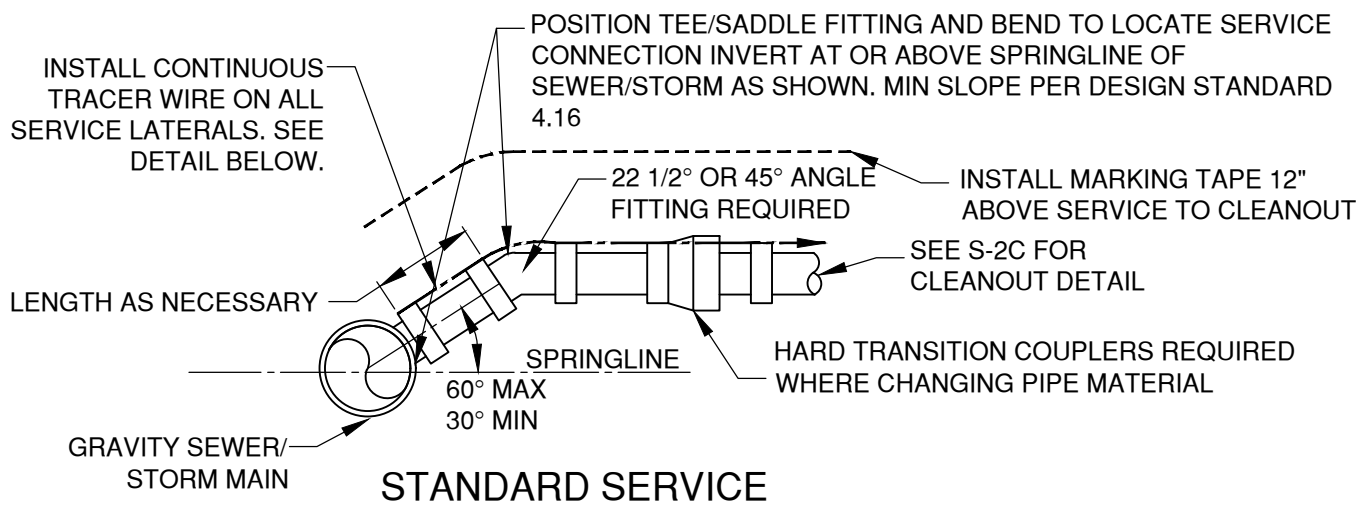
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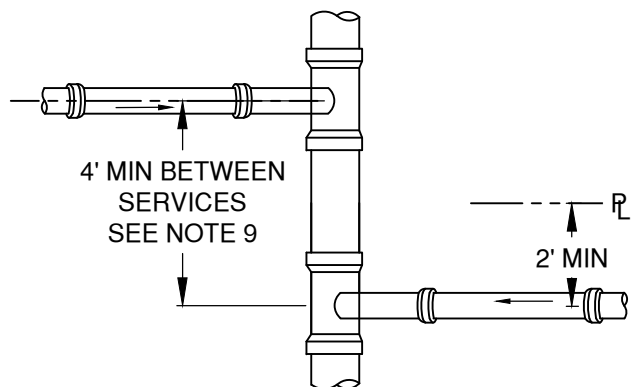
NOTES:

1. FOR PRESSURE AND VACUUM SEWER MAINS ONLY, TRACER WIRE SHALL BE CENTERED ON TOP OF THE MAIN, AS CLOSE TO THE MAIN AS POSSIBLE. THE MAIN SHALL BE WRAPPED WITH MARKING TAPE A MIN OF 4 WRAPS PER 20 FEET OF MAIN. TRACER WIRE IS NOT REQUIRED ON GRAVITY SEWER MAIN.
2. PLACE TRACER WIRE ON GRAVITY, PRESSURE, AND VACUUM SEWER SERVICES. TRACER WIRE AND MARKING TAPE TO BE PER SPECIFICATION SECTION 00445.11.
3. TRANSITION FITTING SHALL BE A HARD COUPLER WHERE CHANGING PIPE MATERIAL
4. WHEN A SEWER LINE IS LOCATED ABOVE OR WITHIN 18" BELOW A WATERLINE, THE SEWER SHALL BE CONSTRUCTED WITH A MIN OF 20 LF OF AWWA C900 OR AWWA C905 PIPE CENTERED AT THE WATERLINE PER OAR 333-061-0050(9) AND BE APPROVED BY CITY/STATE.
5. WHEN INSTALLING A WATER LINE THAT CROSSES BELOW OR WITHIN 18 INCHES ABOVE A NON-POTABLE LINE, FOLLOW OAR 333-061-0050(9). ALL NON-POTABLE LINES SHALL BE TREATED AS "SEWER" LINES AS DESCRIBED IN OAR 333-061-0050(9).
6. COMPACTION SHALL MEET 00405.46(c) PER COB SPECIAL PROVISIONS

DRAWN AJD	 CITY OF BEND	CITY OF BEND STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701	SCALE NTS
DIV SANITARY			DATE 01/31/2022
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		SEWER MAIN TYPICAL PROFILE	STD DWG S-1



(FOR USE ON MAINS 12" AND SMALLER)

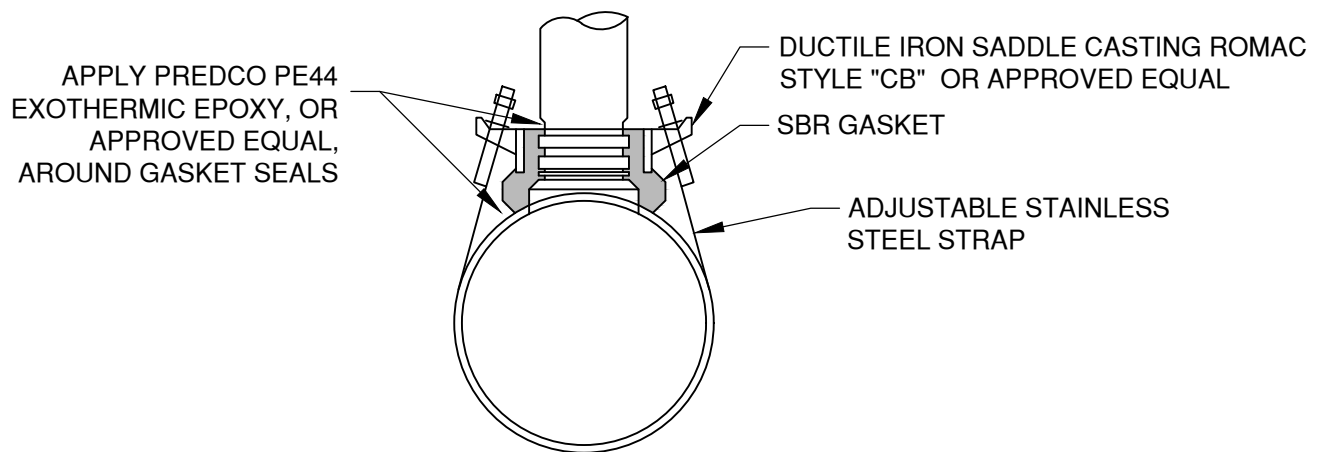


(FOR USE ON MAINS LARGER THAN 12" OR ON EXISTING MAINS FOR INFILL SERVICE CONNECTIONS)

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



SEWER SADDLE

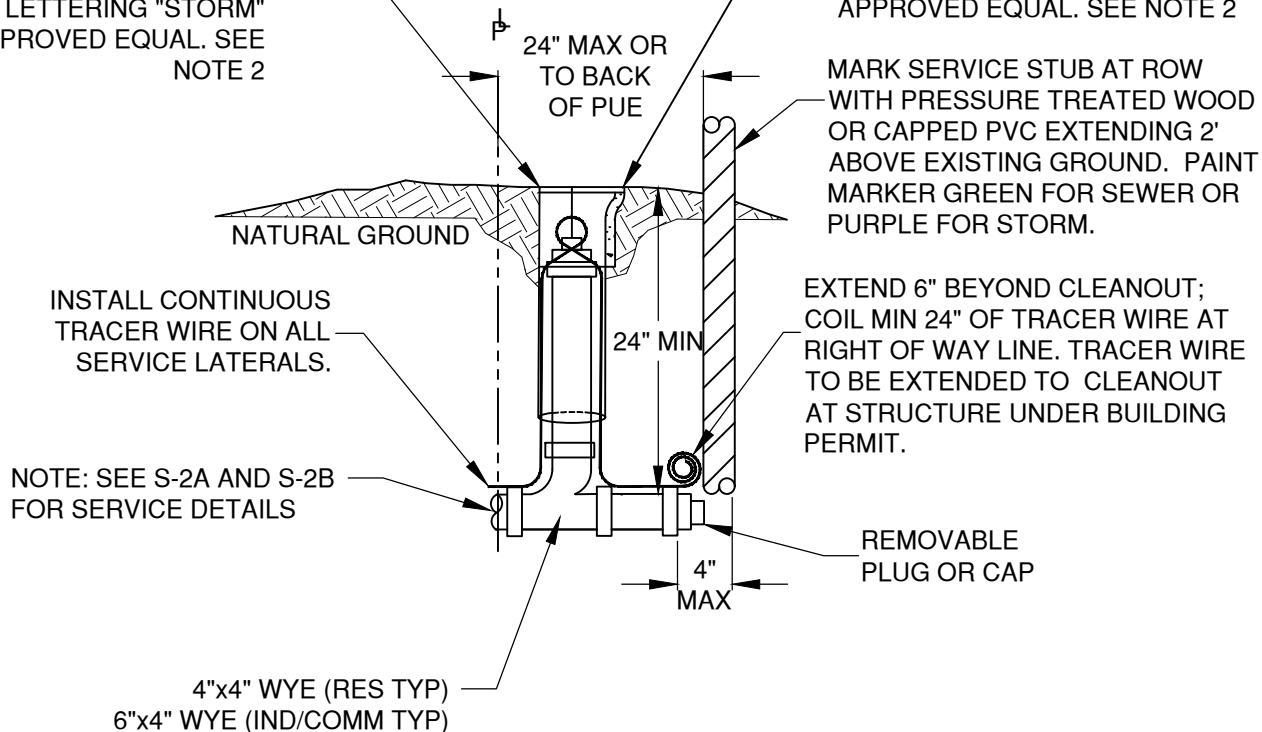
NOTES:

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 UNLESS APPROVED BY THE CITY ENGINEER.
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	 CITY OF BEND	CITY OF BEND STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701	SCALE NTS
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			STD DWG S-2B

STORM: 4" CLEANOUT, USE
6" C900 VERTICAL STAND
PIPE (MIN. 18" LENGTH)
WITH CAST IRON LID WITH
CAST LETTERING "STORM"
OR APPROVED EQUAL. SEE
NOTE 2

SEWER: 4" CLEANOUT, USE 6" C900
VERTICAL STAND PIPE (MIN. 18"
LENGTH) AND CAST IRON LID WITH
CAST LETTERING "SEWER" OR
APPROVED EQUAL. SEE NOTE 2



NOTE: SEE S-2A AND S-2B
FOR SERVICE DETAILS

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	
REV	DATE



CITY OF BEND

CITY OF BEND

STANDARD DRAWING

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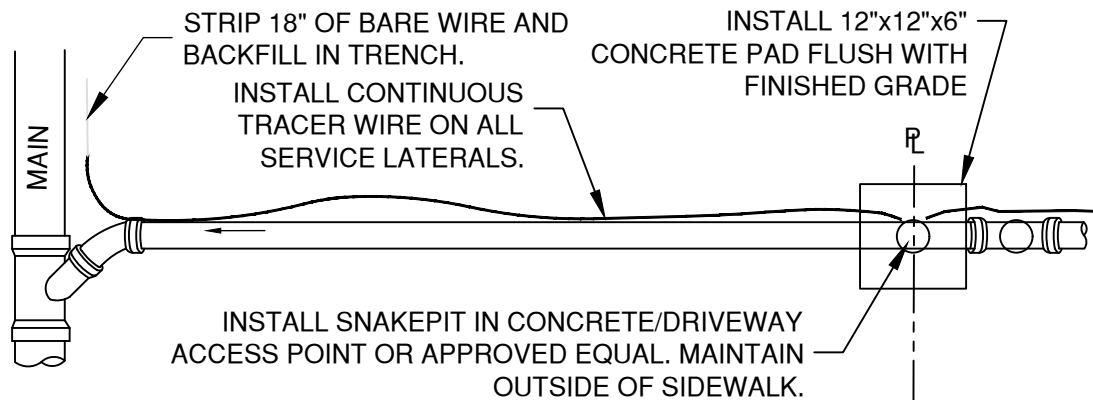
GRAVITY SEWER/STORM CLEANOUT

SCALE NTS

DATE 03/22/2023

APPR

STD DWG S-2C



TRACER WIRE GROUNDING

4" CLEANOUT WITH LID READING "SEWER".
FOR STORM, CONCRETE BROOKS BOX
WITH CAST IRON LID
READING "STORM" OR APPROVED EQUAL.
SEE NOTE 2.

INSTALL SNAKEPIT CD14*2T-SW
DOUBLE TERMINAL (UTILIZING
GROUND TERMINAL FOR THE
CONTINUATION TO THE
PROPERTY) OR APPROVED
EQUAL

24" MAX OR
TO BACK
OF PUE

MARK SERVICE STUB AT ROW
WITH PRESSURE TREATED WOOD
OR CAPPED PVC EXTENDING 2'
ABOVE EXISTING GROUND. PAINT
MARKER GREEN FOR SEWER OR
PURPLE FOR STORM.

INSTALL CONTINUOUS
TRACER WIRE ON ALL
SERVICE LATERALS.

EXTEND 6" BEYOND CLEANOUT;
COIL MIN 24" OF TRACER WIRE.
TRACER WIRE TO BE EXTENDED
TO CLEANOUT AT STRUCTURE
UNDER BUILDING PERMIT.

SERVICE (DWG S-2A)

4" CLEANOUT, USE 6" C900 VERTICAL
STAND PIPE (MIN. 18" LENGTH)

REMOVABLE
PLUG OR CAP

4"x4" WYE (RES TYP)
6"x4" WYE (IND/COMM TYP)

NOTES:

1. SEE STD DWG S-2A FOR GENERAL NOTES.
2. INSTALL CONCRETE BROOKS BOX WITH CAST IRON LID ON ALL CLEANOUT OUTSIDE OF SIDEWALK BUT WITHIN HARDSCAPE.
3. SEE S-2A AND S-2B FOR SERVICE DETAILS.

DRAWN AJD
DIV SANITARY
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CITY OF BEND

CITY OF BEND
STANDARD DRAWING

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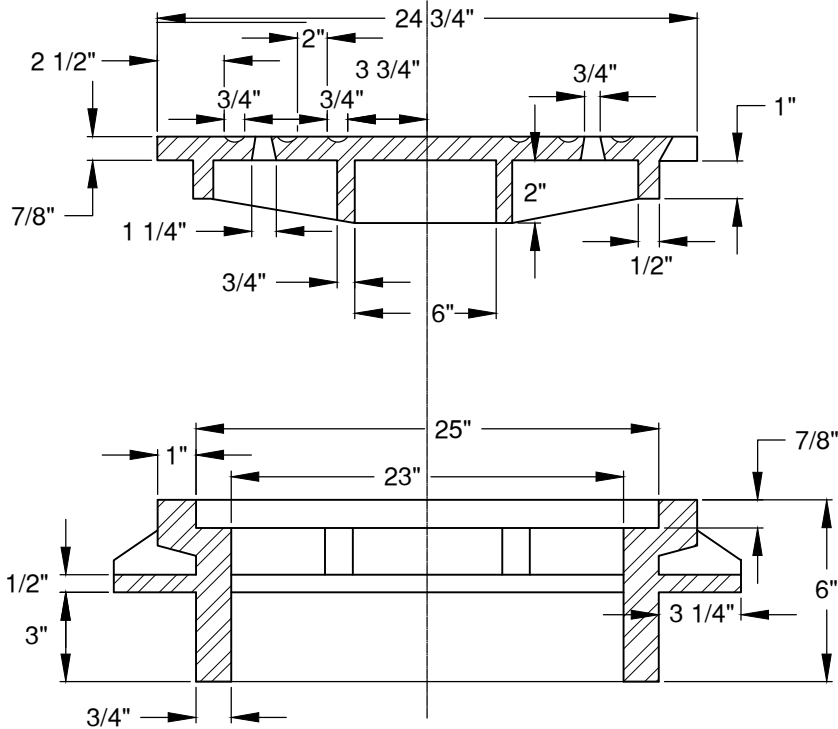
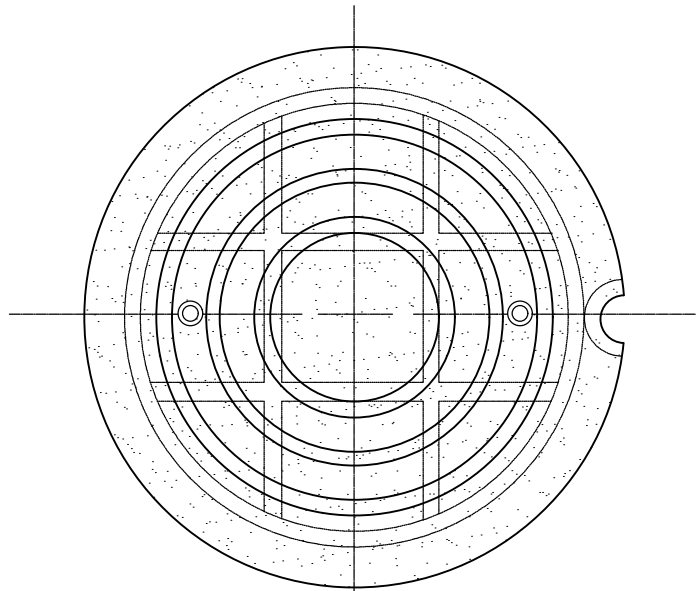
GRAVITY SEWER/STORM CLEANOUT - SNAKEPIT/

SCALE NTS

DATE 04/16/2026

APPR

STD DWG S-2D



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.

DRAWN AJD
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710 NW WALL ST., BEND, OREGON 97701

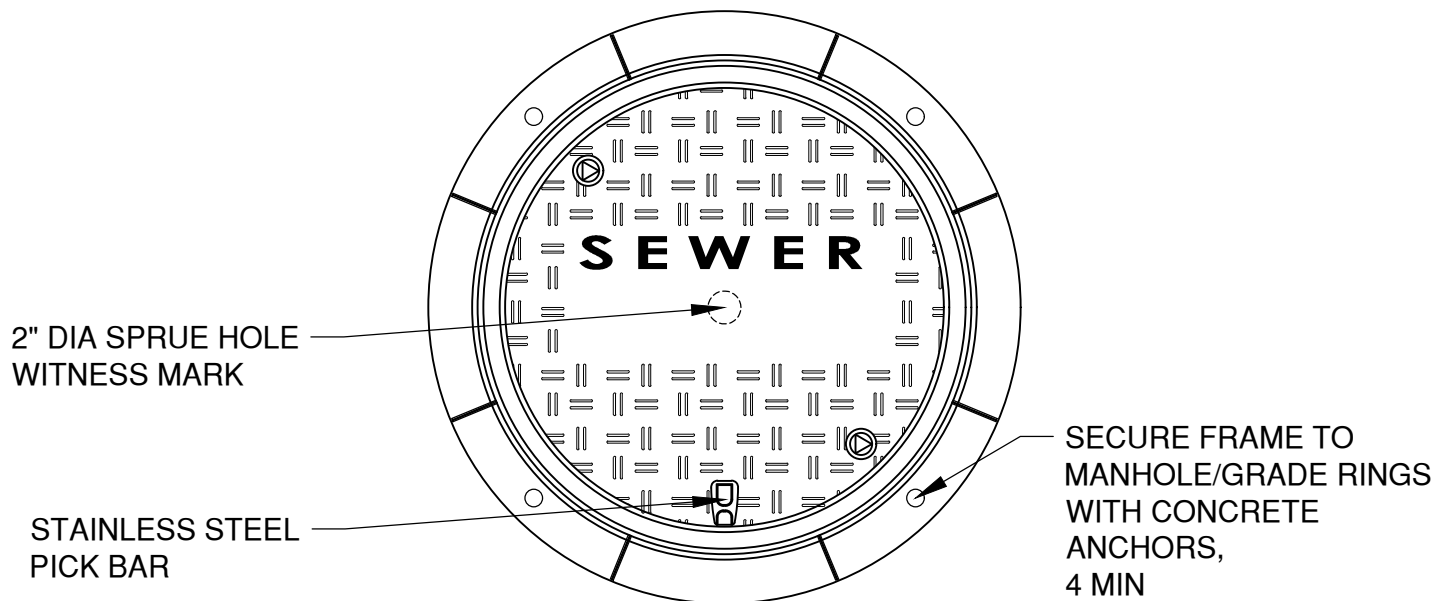
STANDARD SEWER MANHOLE RING & COVER

SCALE NTS

DATE 01/31/2022

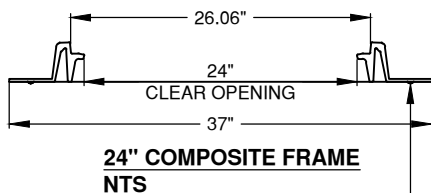
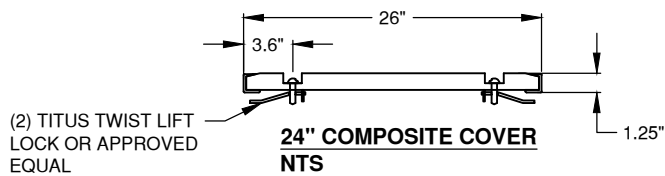
APPR

STD DWG S-3A

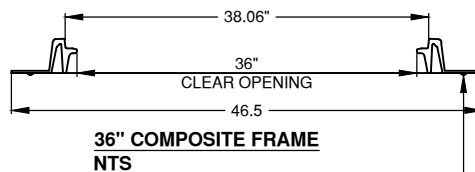
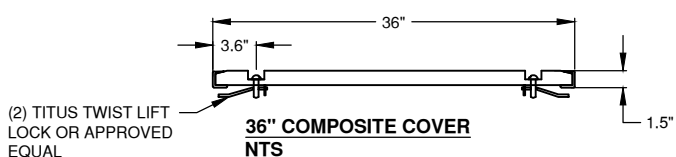


COMPOSITE COVER/FRAME ASSEMBLY NTS

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
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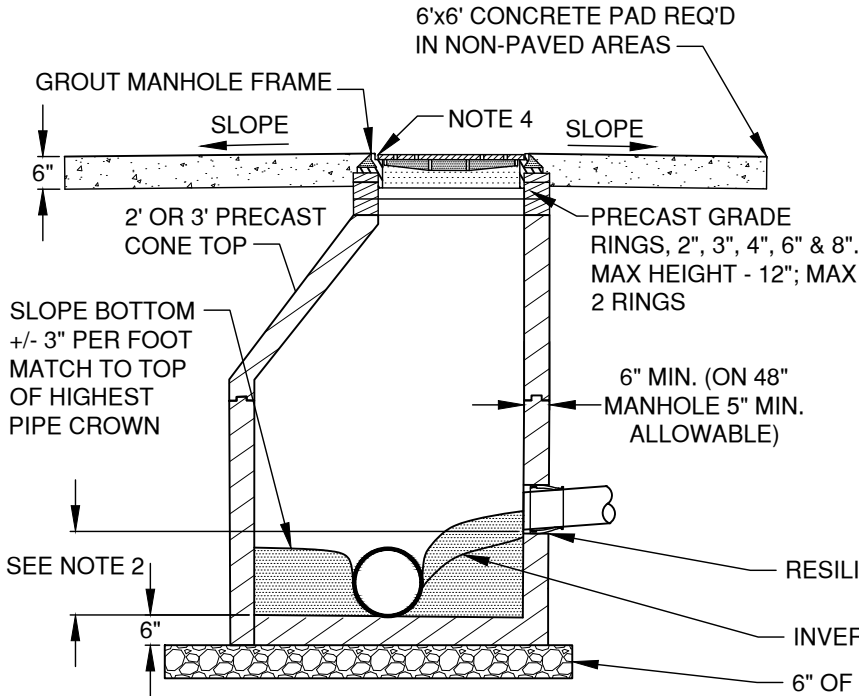
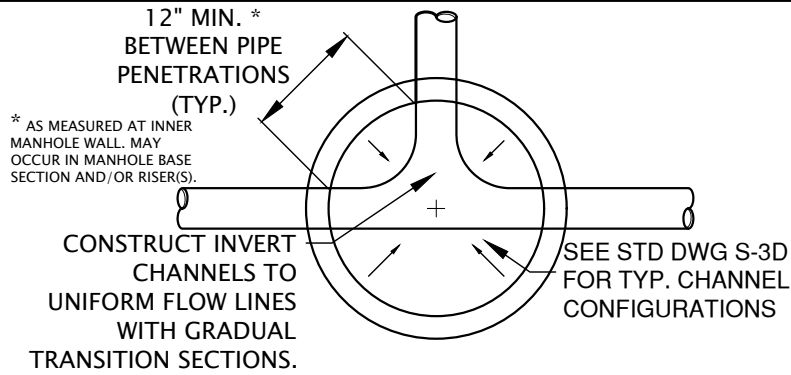
COMPOSITE MANHOLE FRAME AND COVER

SCALE NTS

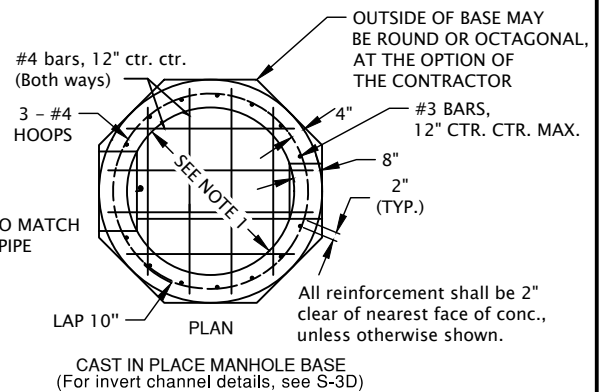
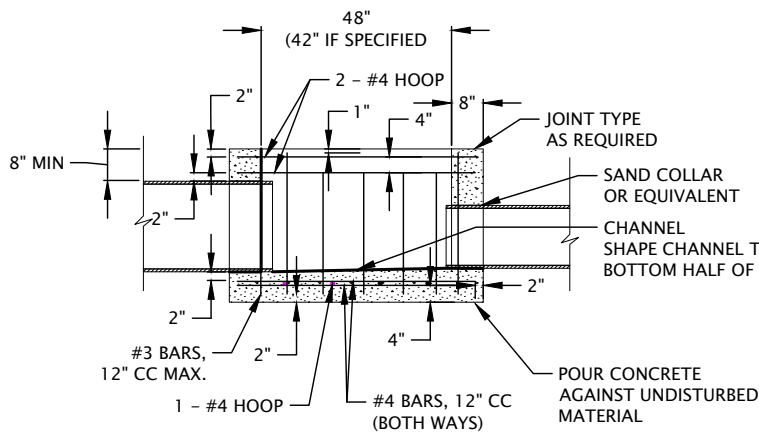
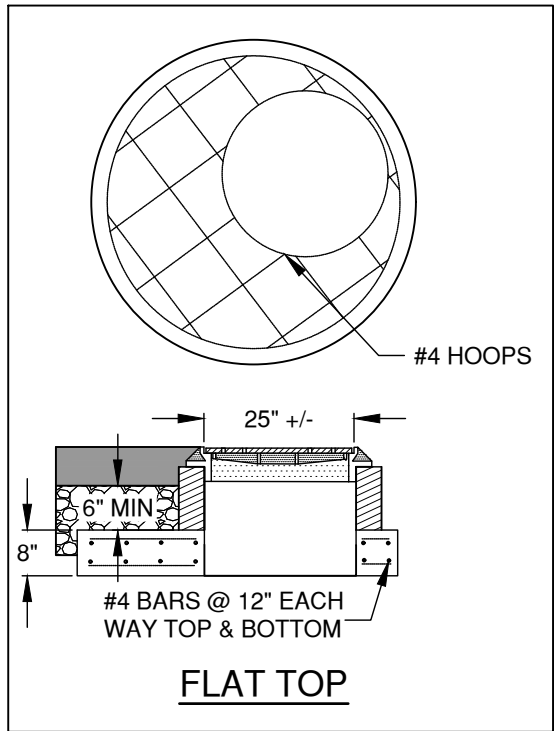
DATE 01/31/2022

APPR

STD DWG S-3B



STANDARD MANHOLE WITH PRECAST BASE



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 CONFORMING 02440.50.
4. A SINGLE RISER RING IS ALLOWED ON INITIAL INSTALLATION.
5. PIPE NOT TO PENETRATE PAST MANHOLE WALL MORE THAN 2".

DRAWN **AJD**
DIV **SANITARY**
REV DATE



CITY OF BEND

CITY OF BEND

STANDARD DRAWING

710 NW WALL ST., BEND, OREGON 97701

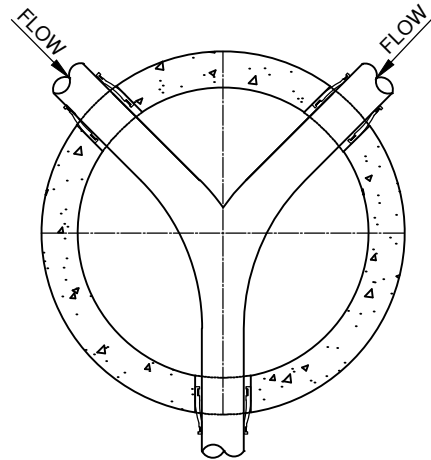
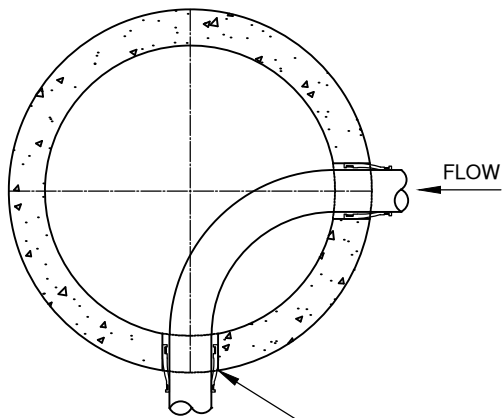
STANDARD SEWER/STORM MANHOLE

SCALE **NTS**

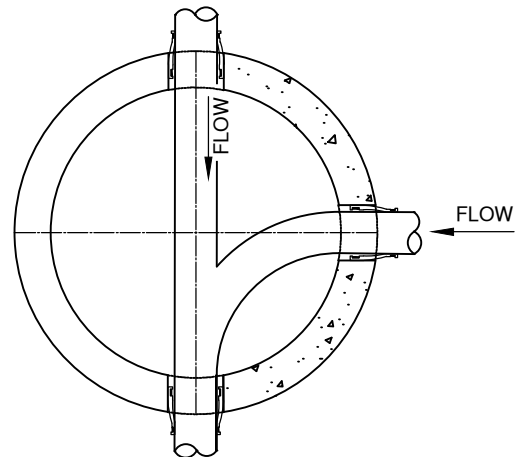
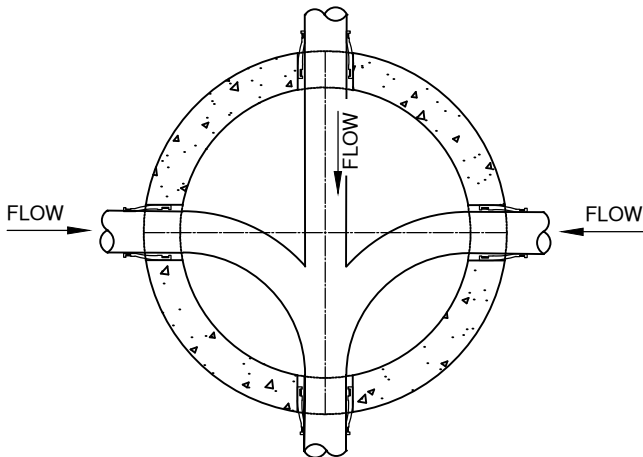
DATE **12/09/2025**

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.
7. ALL GROUT USED ON MANHOLES SHALL BE NON-SHRINK CONFORMING 02440.50.

DRAWN AJD
DIV SANITARY
REV DATE



CITY OF BEND

CITY OF BEND

STANDARD DRAWING

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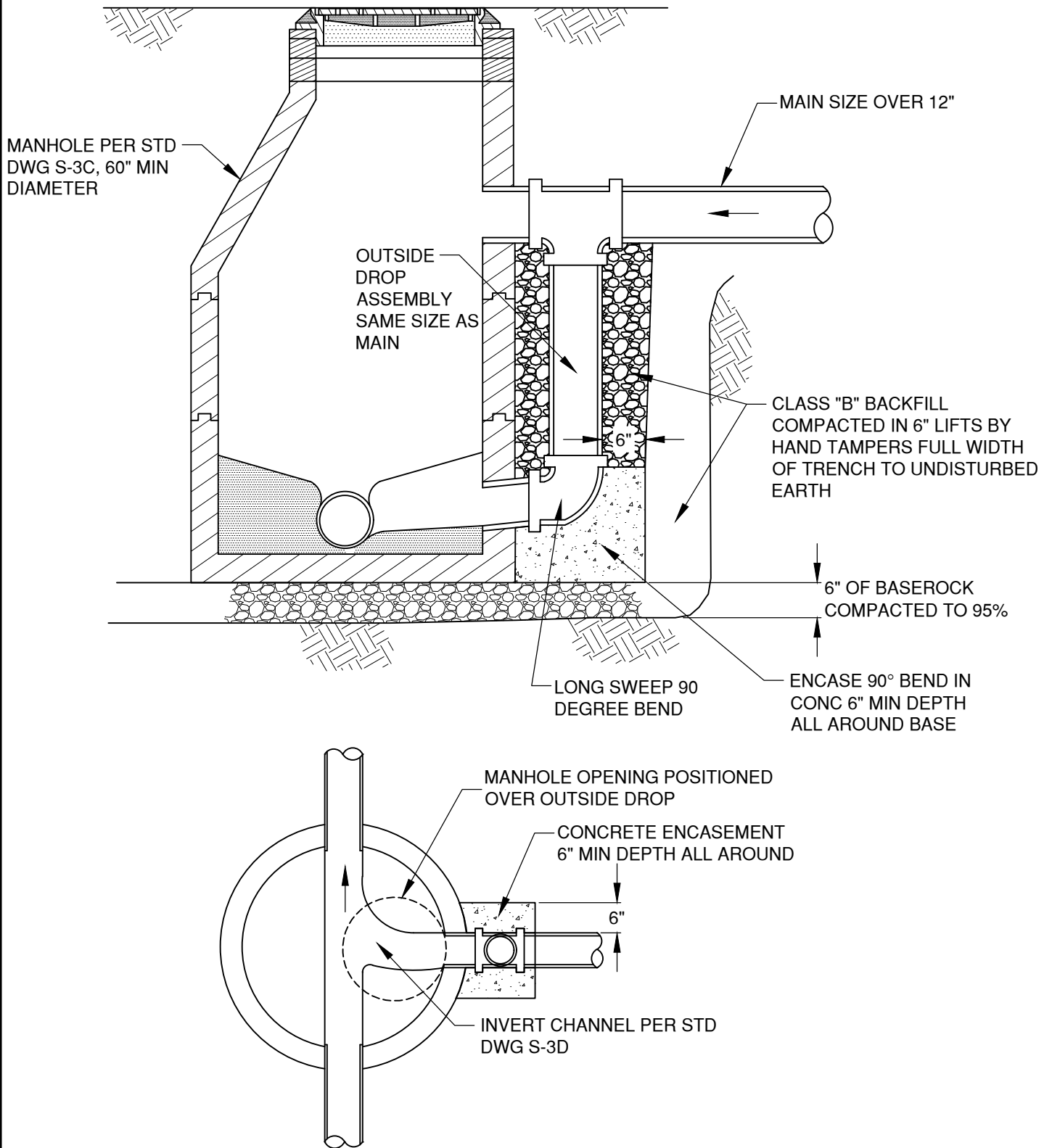
TYPICAL MANHOLE INVERT LAYOUT

SCALE NTS

DATE 11/01/2024

APPR

STD DWG S-3D



GENERAL NOTES:

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

DRAWN	AJD
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710 NW WALL ST., BEND, OREGON 97701

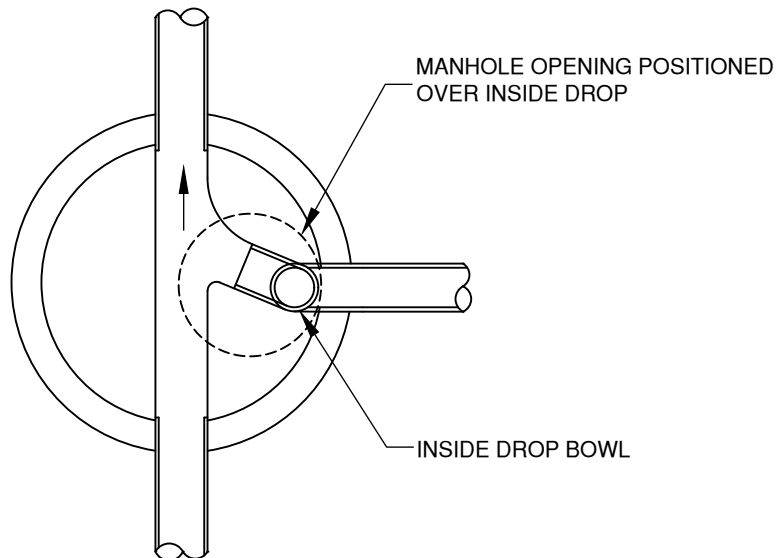
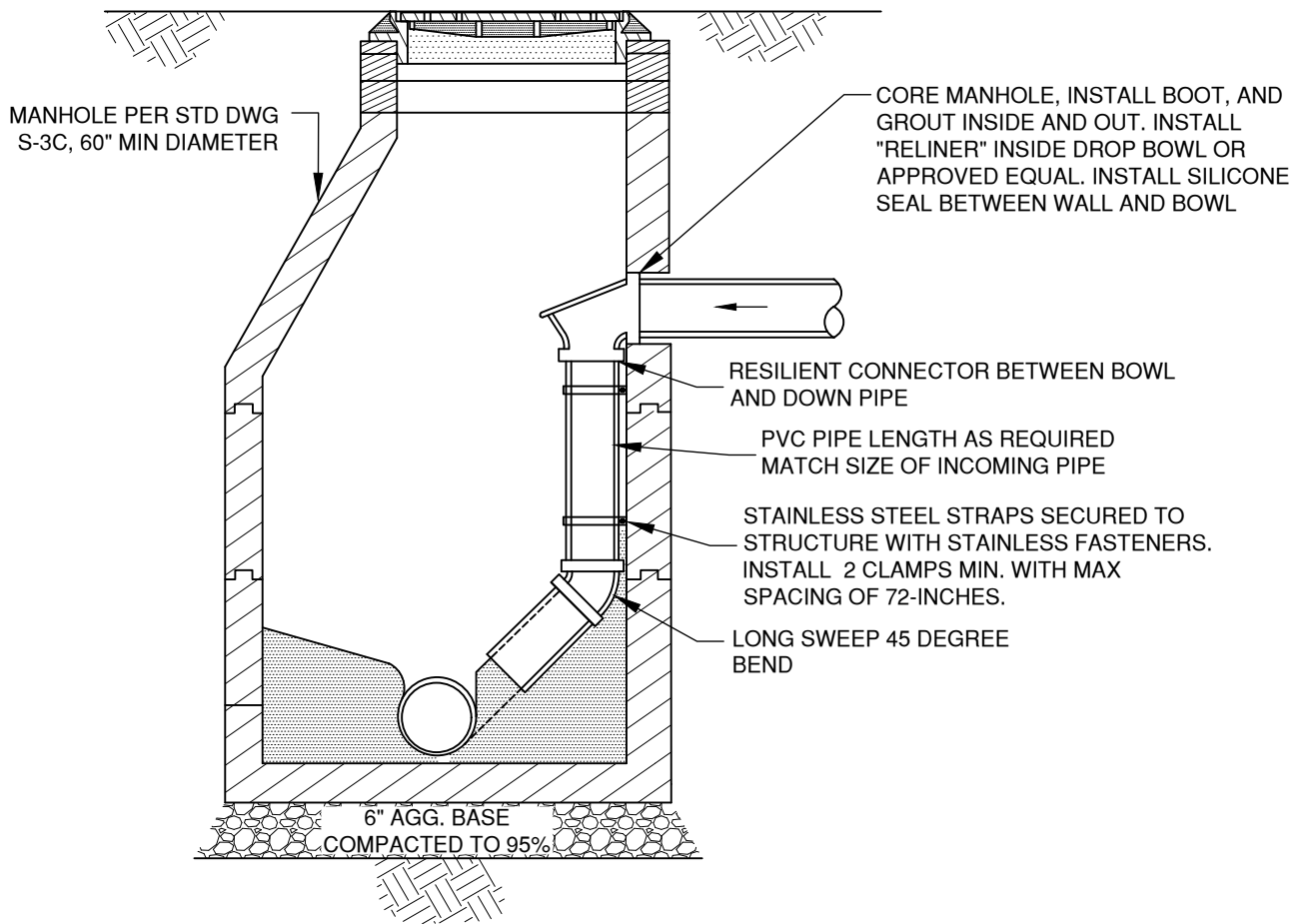
STANDARD OUTSIDE DROP - LARGER THAN 12" PIPE

SCALE NTS

DATE 01/31/2022

APPR

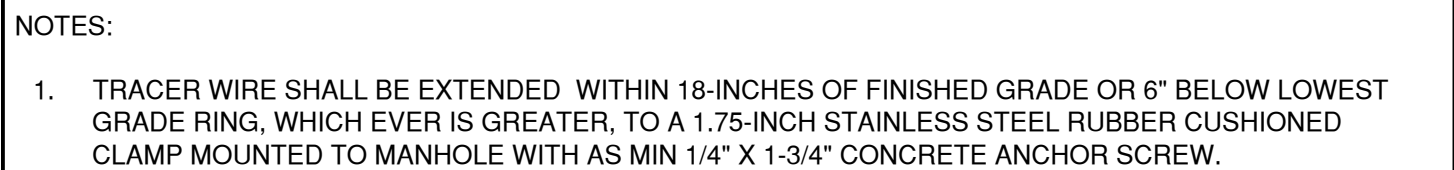
STD DWG S-4



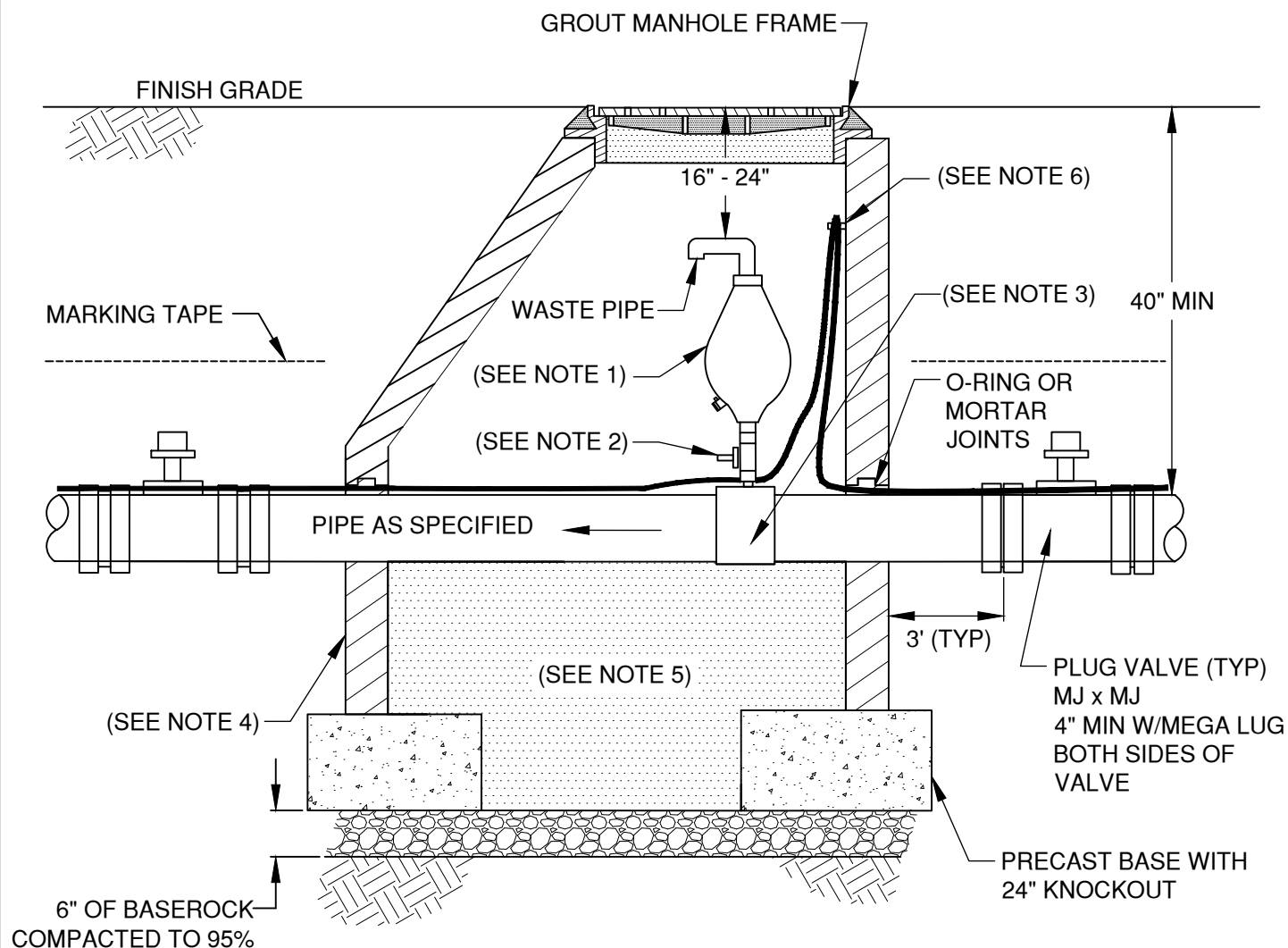
NOTES:

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

DRAWN CJH	 CITY OF BEND	CITY OF BEND STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701	SCALE NTS
DIV SANITARY			DATE 04/16/2026
REV DATE		STANDARD INSIDE DROP - 12" PIPE AND SMALLER	APPR
			STD DWG S-4A



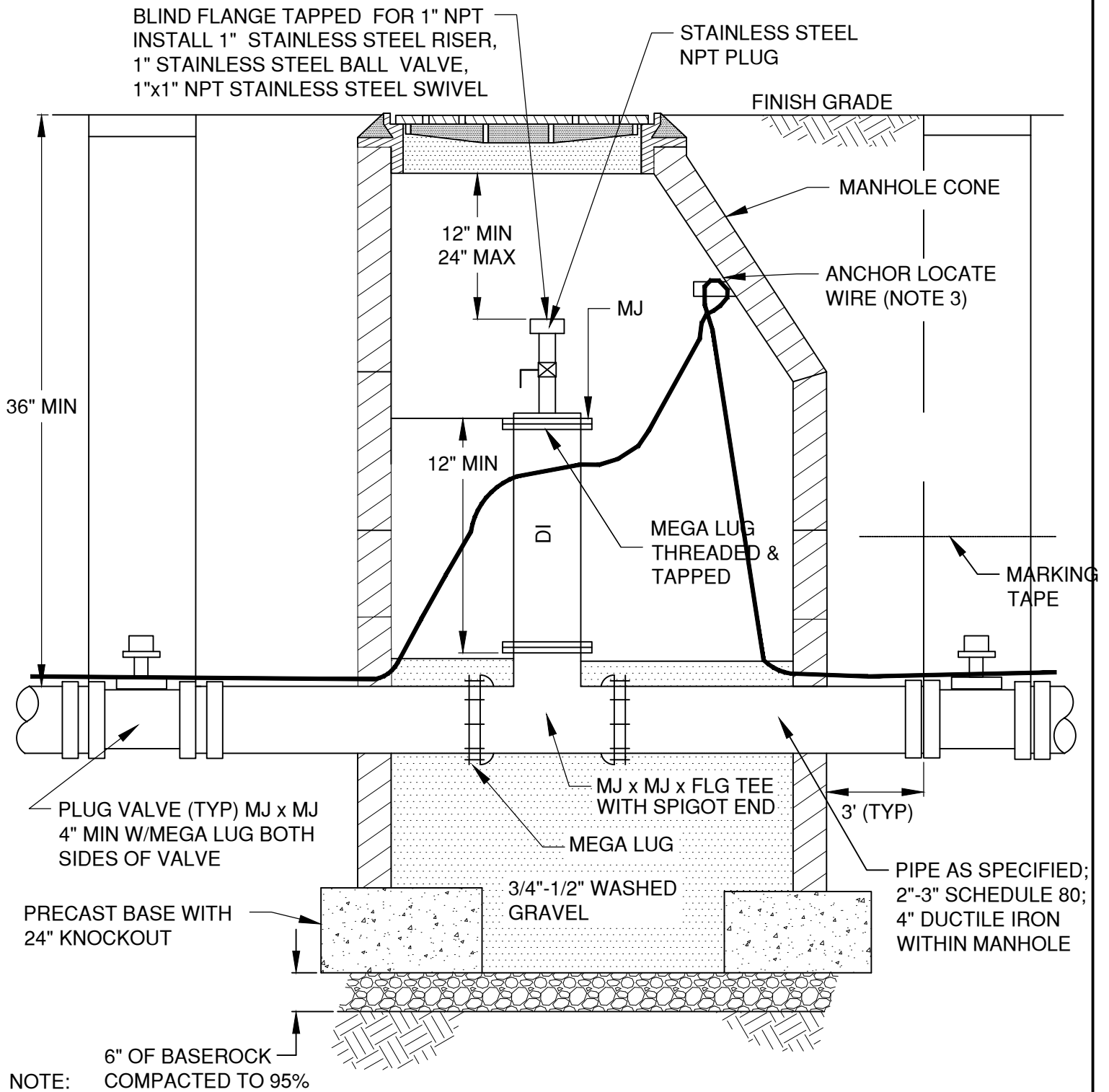
DRAWN AJD			CITY OF BEND STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701		SCALE NTS
DIV SANITARY					DATE 01/31/2022
REV	DATE		APPR		
			STD DWG S-5		
		CITY OF BEND	3" & 4" PRESSURE SEWER LINE TERMINATION CLEANOUT		



NOTES:

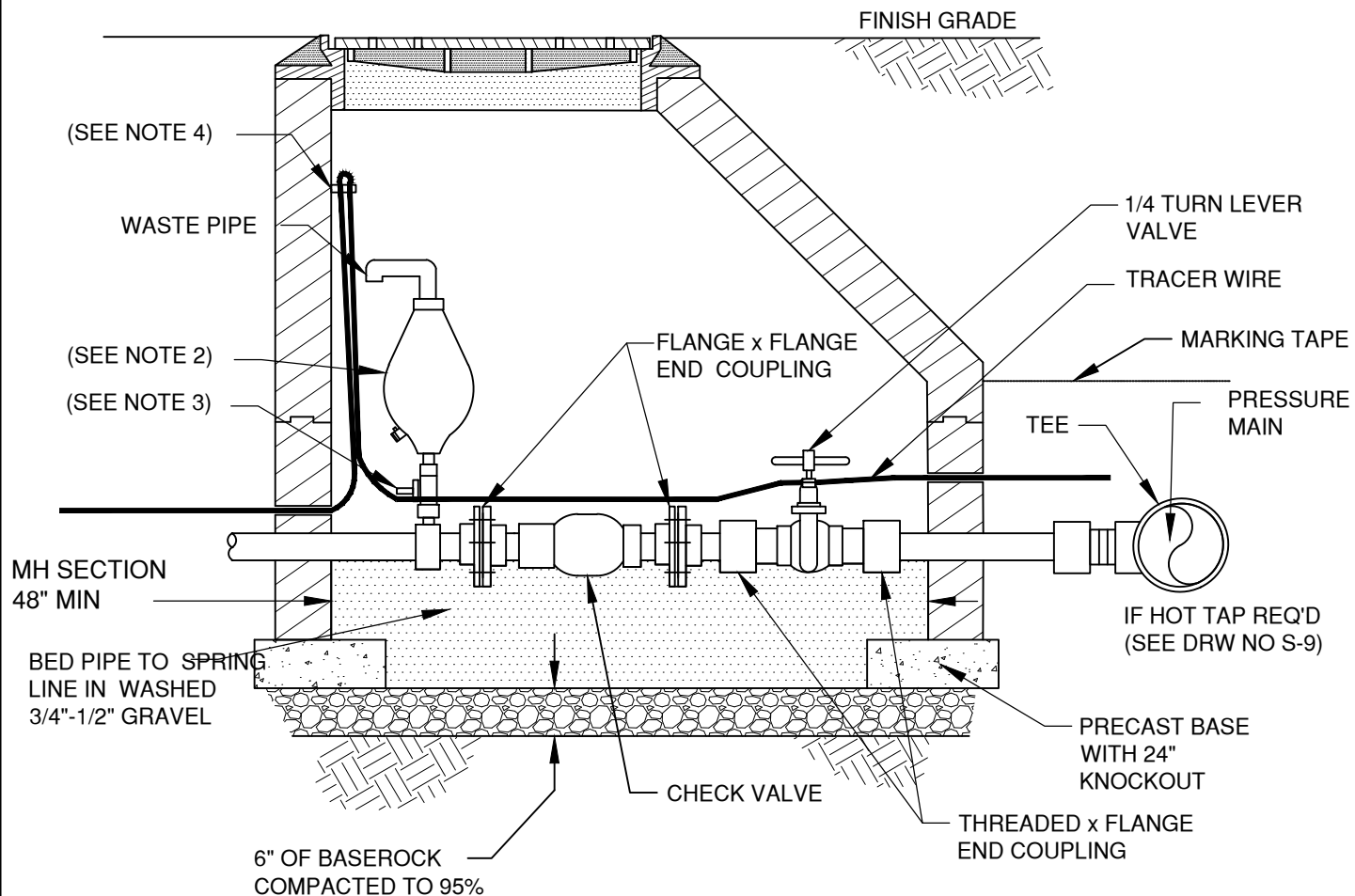
1. 2" COMBINATION AIR VALVE(SHORT VERSION) PER. 00445.11(I)(2)(d)
2. 2" STAINLESS STEEL BALL VALVE
3. 2" TEE OR 2" SADDLE TEE AS APPROVED FOR PRESSURE APPLICATIONS
4. 48" DIAMETER FLAT TOP MANHOLE.
5. 3/4"-1/2" WASHED GRAVEL
6. TRACER WIRE SHALL BE EXTENDED WITHIN 18-INCHES OF FINISHED GRADE OR 6" BELOW 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	 CITY OF BEND	CITY OF BEND STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701	SCALE NTS
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		AIR RELEASE/VAC BREAKER PRESSURE SEWER MH	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		CITY OF BEND STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701	SCALE NTS
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	CITY OF BEND	MAIN LINE CLEANOUT PRESSURE SEWER	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(l)(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, WHICHEVER 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



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CITY OF BEND

STANDARD DRAWING

710 NW WALL ST., BEND, OREGON 97701

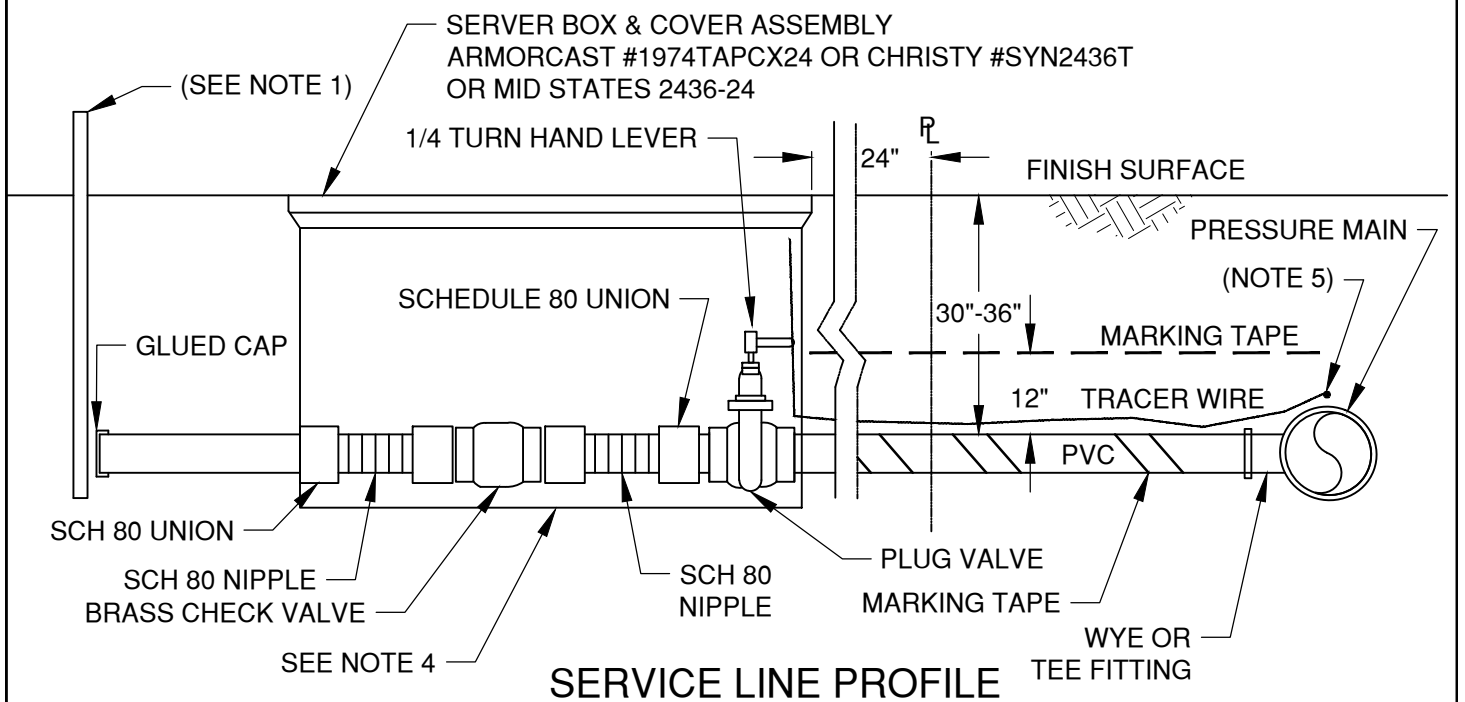
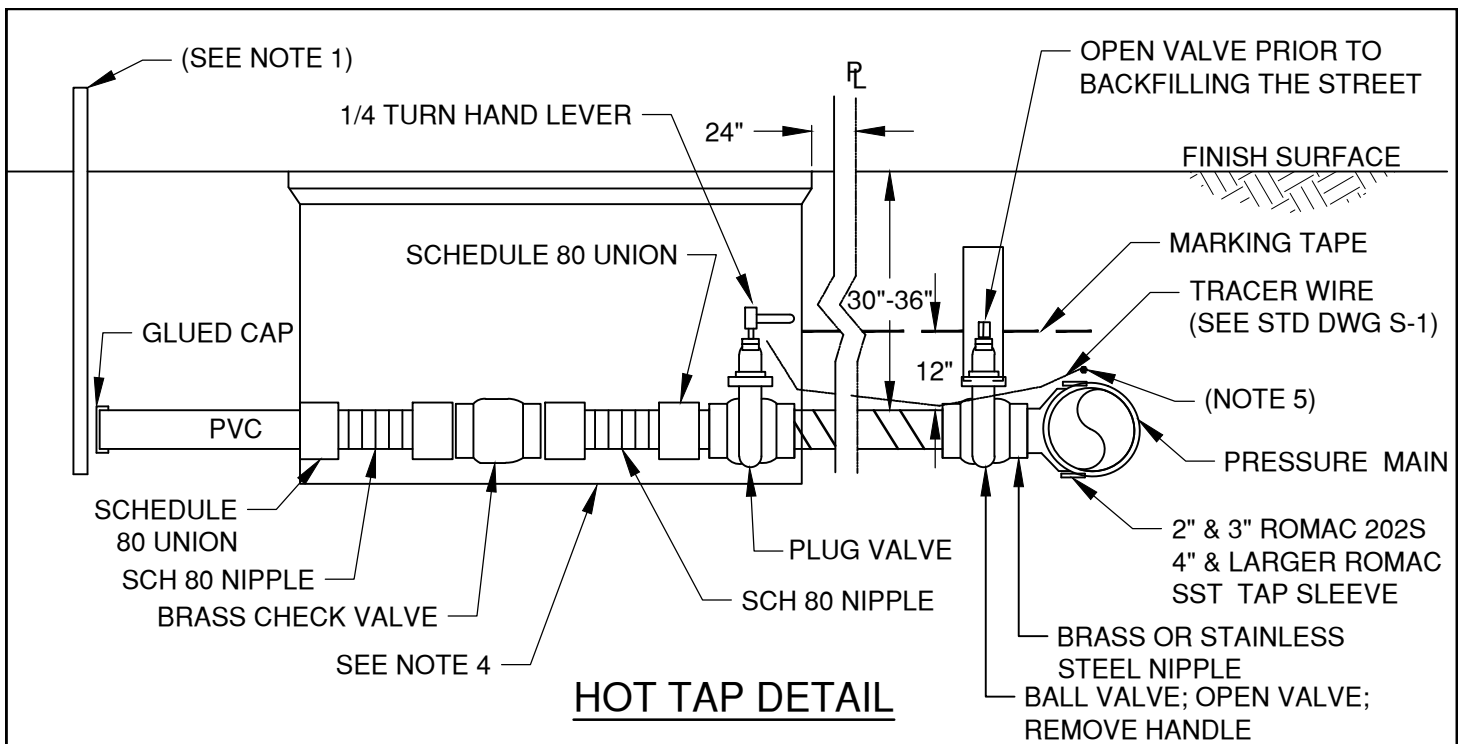
PRESSURE SEWER SERVICE - TRAFFIC AREA

SCALE NTS

DATE 01/31/2022

APPR

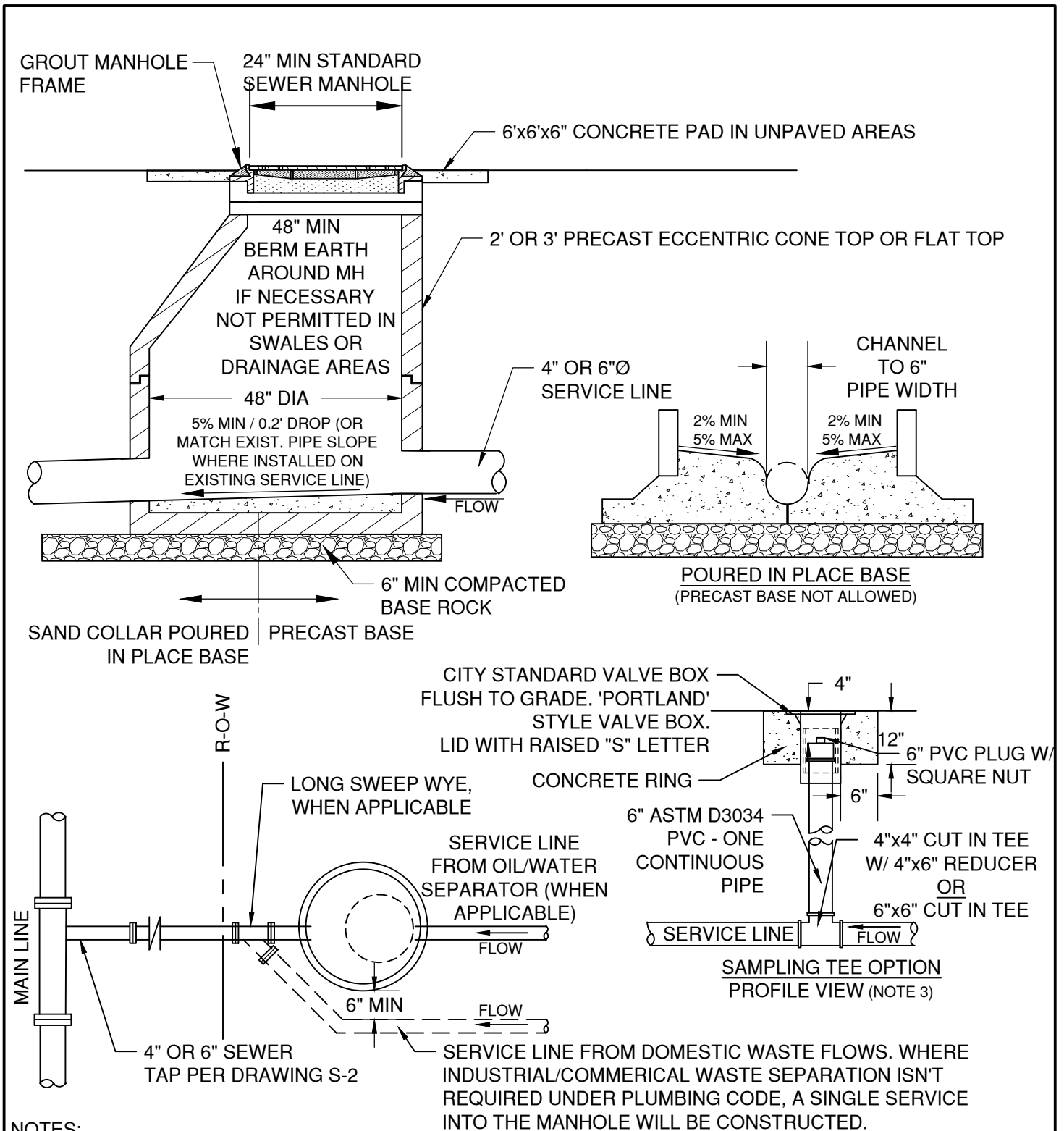
STD DWG S-8



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
5. CONNECTION TO MAIN TRACER WIRE REQUIRED

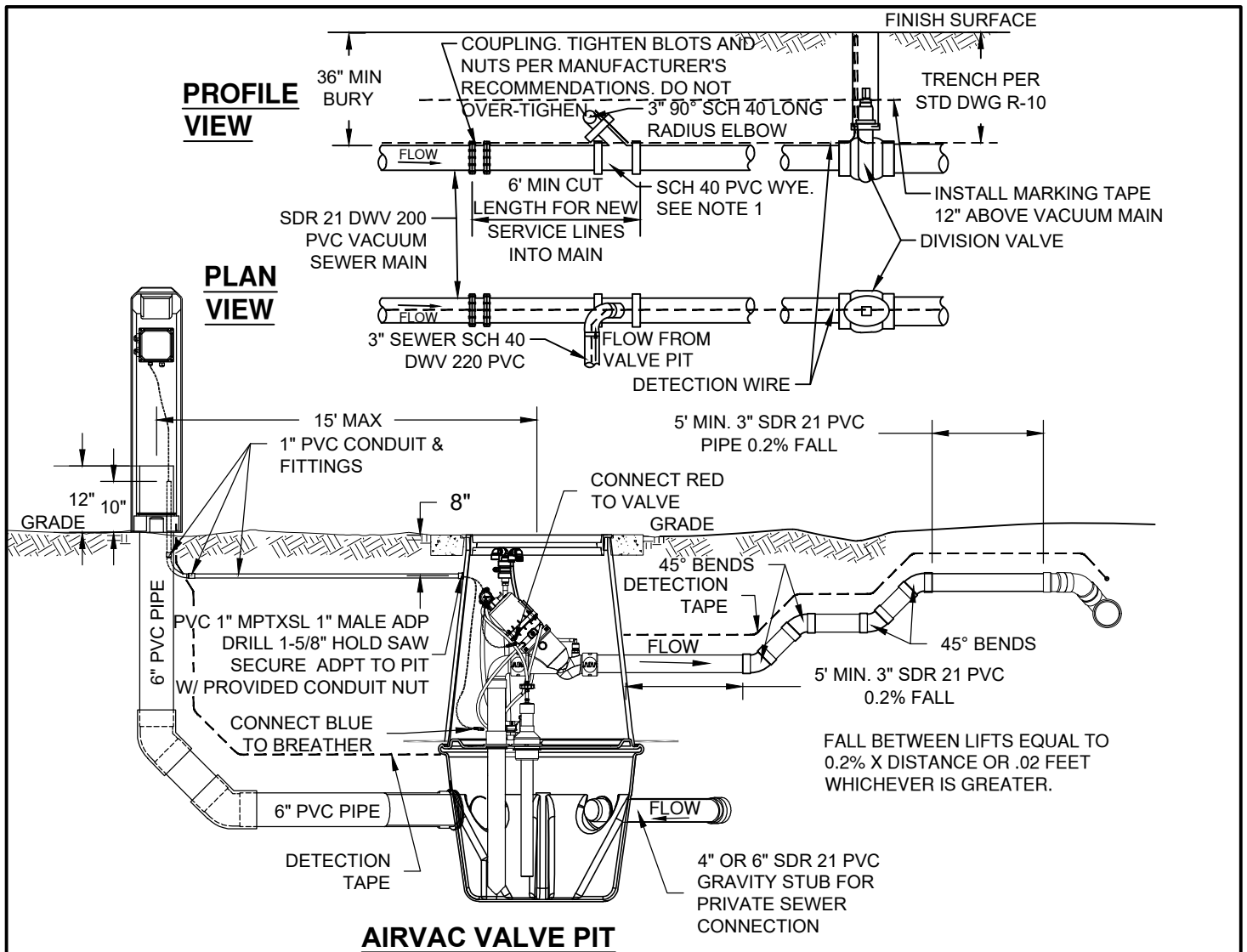
DRAWN AJD	 CITY OF BEND	CITY OF BEND STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701	SCALE NTS
DIV SANITARY			DATE 04/16/2026
REV DATE			APPR
		PRESSURE SEWER SERVICE - NON TRAFFIC AREA	STD DWG S-9



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



- NOTE:
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 VACCUM 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 CJH DIV SANITARY REV DATE	 CITY OF BEND	CITY OF BEND STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701 VACUUM SEWER SERVICE	SCALE NTS DATE 11/01/2024 APPR STD DWG S-16