DRAWING NUMBER	DETAIL DESCRIPTION	SHEET NUMBER	ISSUED DATE	REVISED DATE
600 SANITARY SEWER STANDARD DETAIL INDEX		600	08/10/2023	05/12/2025
601 SANITARY SEWER LINE INSTALLATION				
601.01	PIPE INSTALLATION DETAIL	601	08/10/2023	05/12/2025
602 SEWER SERVICE CONNECTION				
602.01	SERVICE CONNECTION DETAIL	602	08/10/2023	05/12/2025
604 ABANDONING SEWER				
604.01	EMBEDMENT TRENCH PLUG	601	08/10/2023	05/12/2025
616 SANITARY SEWER MANHOLE				
616.01	REINFORCED CONC. PRECAST MANHOLE TRANSITION SECTION	616.A	08/10/2023	05/12/2025
616.02	REINFORCED CONC. PRECAST MANHOLE BASE SECTION	616.A	08/10/2023	05/12/2025
616.03	REINFORCED CONC. PRECAST MANHOLE CONE SECTION	616.A	08/10/2023	05/12/2025
616.04	REINFORCED CONC. PRECAST MANHOLE WALL DETAIL	616.A	08/10/2023	05/12/2025
616.05	REINFORCED CONC. PRECAST MANHOLE FLAT TOP SLAB	616.B	08/10/2023	05/12/2025
616.06	CAST IN PLACE CONCRETE MANHOLE BASE SECTION	616.B	08/10/2023	05/12/2025
616.07	MANHOLE PIPE CONNECTION FOR CAST IN PLACE	616.B	08/10/2023	05/12/2025
616.08	DROP MANHOLE MAINLINE CONNECTIONS	616.C	08/10/2023	05/12/2025
616.09	DROP MANHOLE SERVICE CONNECTIONS	616.C	-	05/12/2025
616.10	PIPE PENETRATION DETAIL	616.C	08/10/2023	05/12/2025
616.11	STRAP DETAIL	616.C	08/10/2023	05/12/2025
616.12	REVERSIBLE MANHOLE RING (NON-PAVED SURFACE)	616.D	08/10/2023	05/12/2025
616.13	REVERSIBLE MANHOLE RING (PAVED SURFACE)	616.D	08/10/2023	05/12/2025
616.14	VENTED MANHOLE COVER (NON-PAVED SURFACE)	616.D	08/10/2023	05/12/2025
616.15	CONCRETE PAD FOR MANHOLES IN PAVEMENT	616.D	-	05/12/2025
616.16	NON-VENTED MANHOLE COVER (PAVED SURFACE)	616.E	08/10/2023	05/12/2025
616.17	HINGED MANHOLE COVER (TOP FLANGE)	616.E	08/10/2023	05/12/2025
616.18	HINGED MANHOLE COVER (BOTTOM FLANGE)	616.E	08/10/2023	05/12/2025
616.19	COMPOSITE MANHOLE RING AND COVER (A)	616.E	-	05/12/2025
619.20	COMPOSITE MANHOLE RING AND COVER (B)	616.E	-	05/12/2025
618 MANHOLE REHABILITATION				
618.01	REBUILDING MANHOLE DETAIL	618	08/10/2023	05/12/2025
629 ABANDONING / REMOVING MANHOLE				
629.01	ABANDONING MANHOLE DETAIL	618	08/10/2023	05/12/2025
635 STEEL CASING PIPE				
635.01	BORE AND ENCASEMENT DETAIL	635	08/10/2023	05/12/2025
640 PIPE ENCASEMENT AND COLLAR				
640.01	CONCRETE COLLAR WITH SPREAD FOOTING	640	08/10/2023	05/12/2025
641 AERIAL CROSSING				
641.01	STEEL CARRIER SIZES AND SPAN	641	08/10/2023	05/12/2025
641.02	PIER TYPE 1	641	08/10/2023	05/12/2025
641.03	PIER TYPE 2	641	08/10/2023	05/12/2025

THESE UTILITIES DEPARTMENT STANDARD DETAILS AS REVISED AND ISSUED, APPLY TO PROJECTS WHERE: (1) OCWUT, (2) THE CITY OF OKLAHOMA CITY, OR (3) A TRUST OF WHICH THE CITY OF OKLAHOMA CITY IS A BENEFICIARY, IS THE CONTRACTING ENTITY.

THESE UTILITIES DEPARTMENT STANDARD DETAILS WILL GOVERN ALL CONNECTIONS AND EXTENSIONS TO THE OKLAHOMA CITY WATER AND WASTEWATER SYSTEMS UNLESS (1) EXPRESSLY STATED IN THE SPECIAL PROVISIONS FOR A PROJECT TO WHICH THE OCWUT IS A CONTRACTING ENTITY, OR (2) EXPRESSLY STATED IN WRITING ON FINAL PLANS APPROVED BY THE UTILITIES DIRECTOR OR A PROFESSIONAL ENGINEER DESIGNATED BY THE UTILITIES DIRECTOR TO REVIEW OF SUCH PLANS.

THESE UTILITIES DEPARTMENT STANDARD DETAILS SUPPLEMENT THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS.

WHERE THESE UTILITIES DEPARTMENT STANDARD DETAILS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS CONFLICT THESE UTILITIES DEPARTMENT STANDARD DETAILS SUPERSEDE AND TAKE PRECEDENCE OVER THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS.

ANY INTERPRETATION OF THE APPLICATION OF THESE UTILITIES DEPARTMENT STANDARD DETAILS WILL BE MADE BY THE UTILITIES DIRECTOR OR A PROFESSIONAL ENGINEER DESIGNATED BY THE UTILITIES DIRECTOR TO REVIEW OF SUCH PLANS.

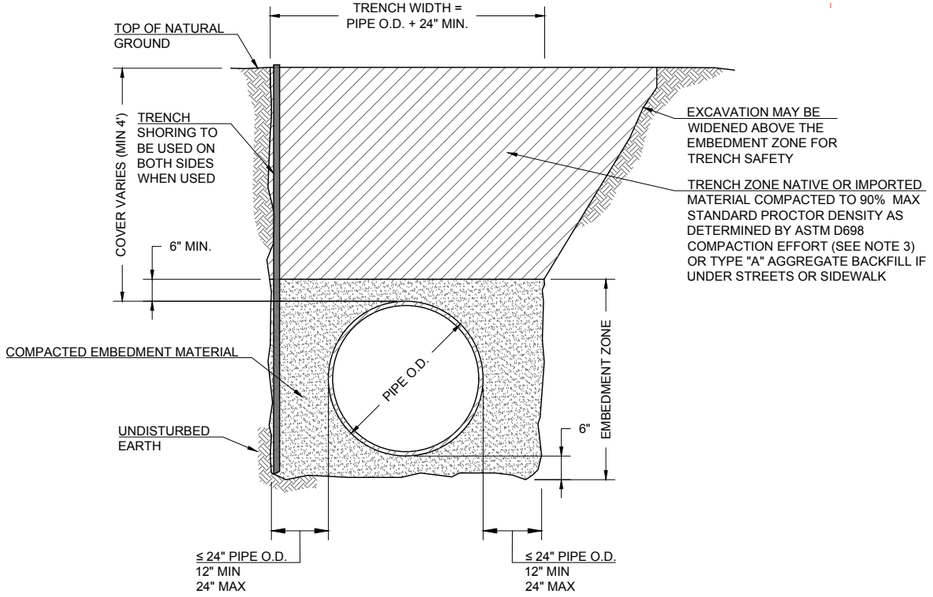
THE OFFICIAL COPIES OF THE UTILITIES DEPARTMENT STANDARD DETAILS ARE AVAILABLE ON THE UTILITIES DEPARTMENT WEBSITE.

The City of Oklahoma City
Utilities Department
Engineering Division

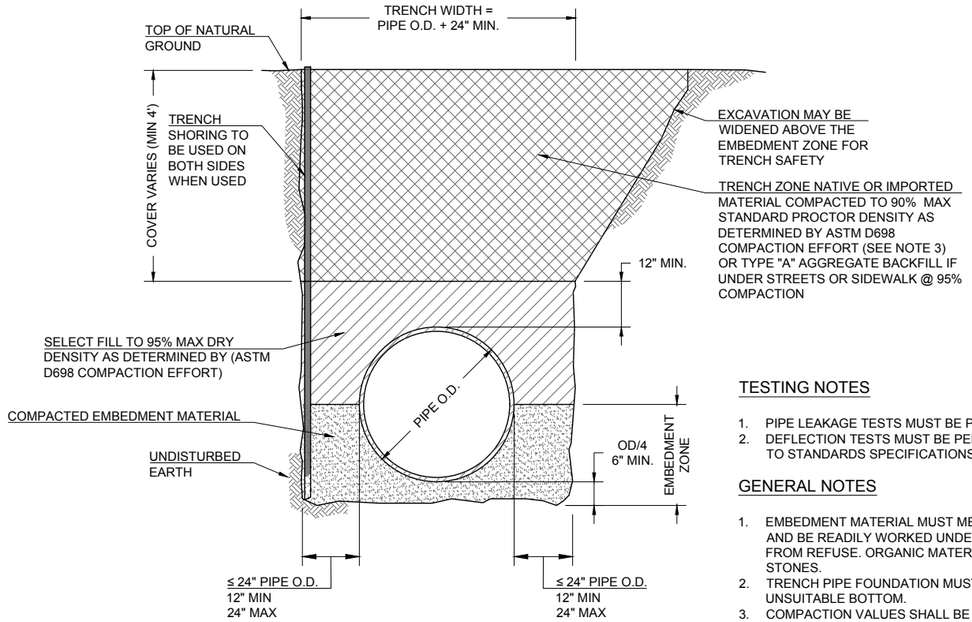
APPROVED BY:
DEBBIE MILLER, P.E., CITY ENGINEER/PUBLIC WORKS DIRECTOR — DATE: 5/28/25
CHAS BROWNING, SE [illegible] — DATE: 5/28/25
UTILITIES ENGINEERING — DATE: 5/28/25

SANITARY SEWER STANDARD DETAILS
INDEX OF STANDARD DETAILS

600



FLEXIBLE PIPE INSTALLATION DETAIL
(HDPE, PVC & RFP)



RIGID PIPE INSTALLATION DETAIL
(RCP)

01
601

PIPE INSTALLATION DETAIL

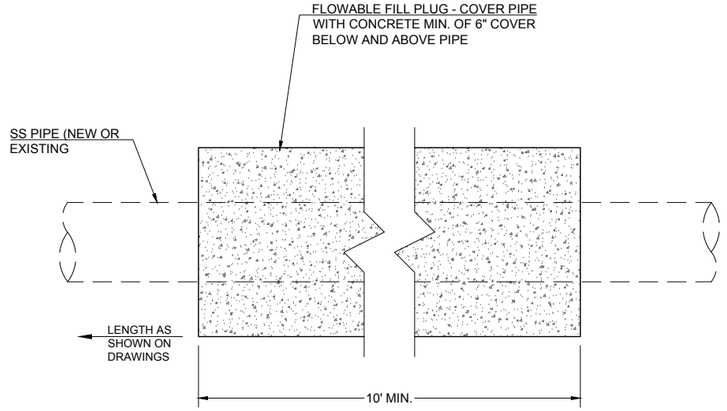
Scale: N.T.S.

TESTING NOTES

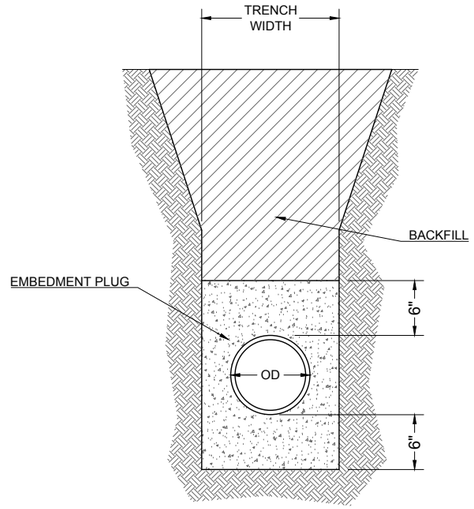
1. PIPE LEAKAGE TESTS MUST BE PERFORMED PER STANDARDS SPECIFICATIONS.
2. DEFLECTION TESTS MUST BE PERFORMED ON ALL FLEXIBLE PIPE ACCORDING TO STANDARDS SPECIFICATIONS.

GENERAL NOTES

1. EMBEDMENT MATERIAL MUST MEET THE REQUIREMENTS OF ASTM C33 NO. 67 AND BE READILY WORKED UNDER THE SIDES OF THE PIPE. IT MUST BE FREE FROM REFUSE. ORGANIC MATERIAL, COBBLES, BOULDERS, LARGE ROCKS OR STONES.
2. TRENCH PIPE FOUNDATION MUST BE FREE OF STANDING WATER, NOT SOFT UNSUITABLE BOTTOM.
3. COMPACTION VALUES SHALL BE RELATIVE TO ASTM D698 AND CONFIRMED BY ASTM D6938.
4. POLYVINYL CHLORIDE (PVC) PIPES MUST CONFORM TO ASTM F-794 FOR OPEN PROFILE PIPE AND ASTM F-1803 FOR CLOSED PROFILE PIPE. REGARDLESS OF SIZE, OPEN PROFILE WALL PIPE WILL BE ALLOWED ONLY ON SECTIONS OF PIPE WHERE THERE ARE NO APPARENT SERVICE CONNECTIONS, AND AS APPROVED BY THE ENGINEER.
5. SANITARY SEWER PIPE MUST SATISFY THE MINIMUM HORIZONTAL AND VERTICAL CLEARANCES FROM WATER, WELLS, AND PETROLEUM STORAGE TANKS AS ESTABLISHED BY THE ODEQ.



PROFILE VIEW



SECTION VIEW

NOTE:

1. FLOWABLE FILL PLUGS SHALL CONSIST OF A PORTLAND CEMENT GROUT HAVING A MINIMUM TWENTY-EIGHT (28) DAY COMPRESSIVE STRENGTH OF FIVE HUNDRED (500 PSI) POUNDS PER SQUARE INCH.

01
604

EMBEDMENT TRENCH PLUG

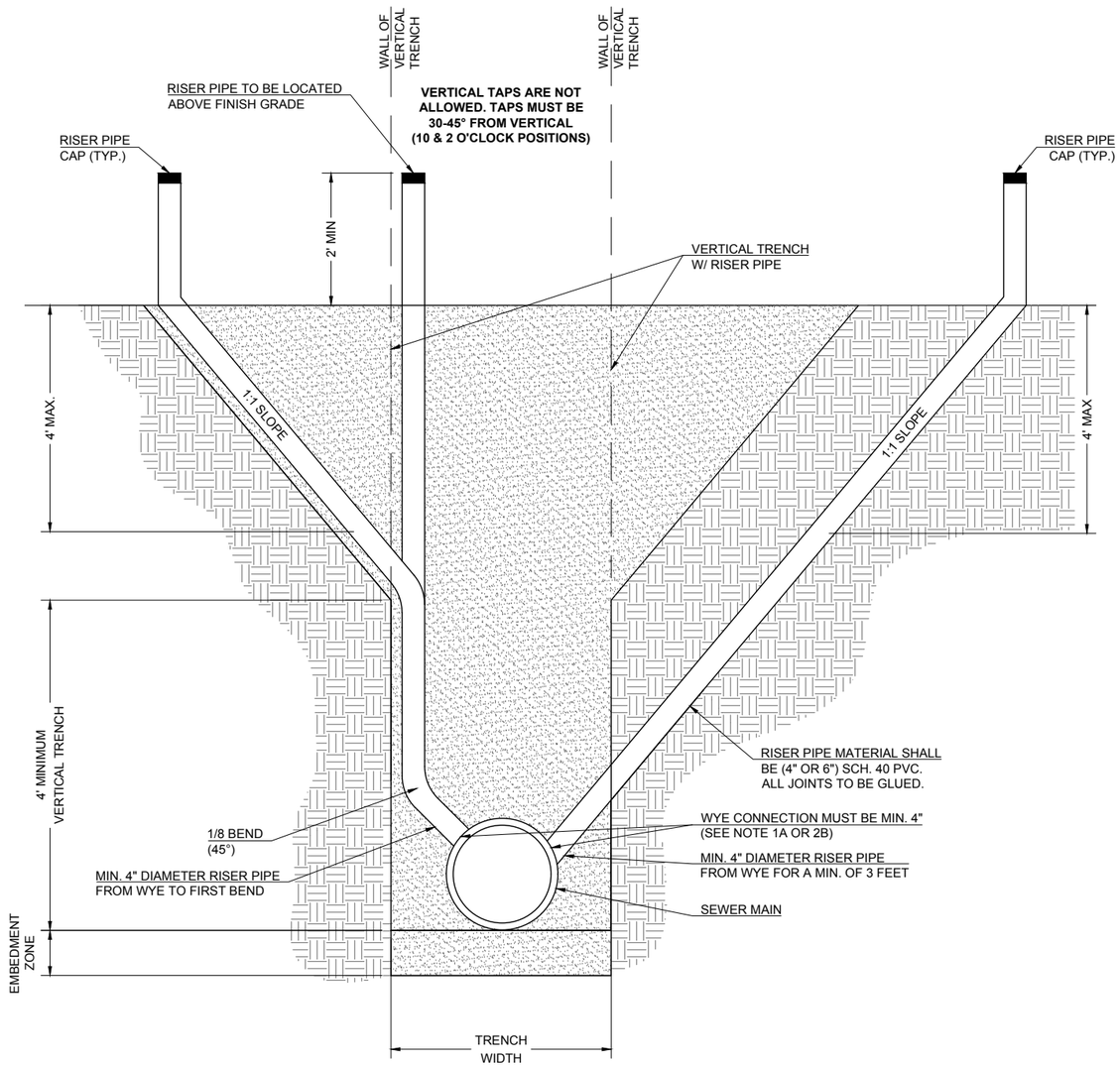
Scale: N.T.S.

The City of Oklahoma City
Utilities Department
Engineering Division

APPROVED BY:
DEBBIE MILLER, P.E. CITY ENGINEER/PUBLIC WORKS DIRECTOR — DATE: 5/28/25
CHAD BROWNING, P.E. UTILITIES ENGINEERING — DATE: 5/28/25

SANITARY SEWER STANDARD DETAILS
SANITARY SEWER LINE INSTALLATION / ABANDONING SEWER
DETAILS 601 AND 604

601



01
602

SERVICE CONNECTION DETAIL

Scale: N.T.S.

1. EXTERNAL CONNECTIONS FOR NEW CONSTRUCTION

   A. WYE BRANCHES -- FOR NEW CONSTRUCTION, WYE BRANCHES MUST BE INSTALLED PER THE SIZE AND TYPE SHOWN ON THE PLANS, NO LESS THAN FOUR (4") INCH OPENINGS, AND AT LOCATIONS SHOWN ON THE PLANS OR AS DESCRIBED BY THE ENGINEER.

   B. ELECTRO FUSION BONDED SADDLES -- FOR NEW CONSTRUCTION USING "TRENCHLESS CONSTRUCTION" TECHNOLOGY WITH HDPE PIPE, SERVICE CONNECTIONS MUST BE INSTALLED WITH AN ELECTRO FUSION BONDED SADDLE.

2. EXTERNAL CONNECTION TO EXISTING MAIN -- CONNECTIONS TO EXISTING MAIN MAY BE ACCOMPLISHED AS FOLLOWS:

   A. SADDLES -- CONNECTIONS MAY BE MADE BY EXCAVATING THE EXISTING MAIN AND CUTTING A HOLE USING APPROVED EQUIPMENT AND INSTALLING A SADDLE. SEWER SERVICE CONNECTIONS CONSTRUCTED WITH SADDLES MUST INCLUDE STRAPS, A ONE-EIGHTH (1/8") DEGREE BEND, AND A CLOSURE PIECE. WHEN EXISTING MAIN HAS BEEN REHABILITATED BY TRENCHLESS METHOD OF CONSTRUCTION, THE SADDLE CONNECTION MUST BE MADE TO THE PIPE WITH ELECTRO FUSION BONDING OR WITH STAINLESS STEEL STRAPS AND A CLOSURE PIECE.

   B. WYE BRANCH -- CONNECTIONS MUST BE MADE BY REMOVING A SECTION OF EXISTING PIPE AND INSTALLING A WYE BRANCH. FITTINGS AND CLOSURE ASSEMBLY MUST BE USED TO MAKE THE CONNECTION AND MUST BE SUPPLIED IN A NORMAL DIAMETER OF AT LEAST FOUR (4") INCHES. SERVICE CONNECTIONS CONSTRUCTED WITH WYE BRANCHES MUST INCLUDE A ONE-EIGHTH (1/8") DEGREE BEND, ELBOW, AND WHEN REQUIRED, A CLOSURE PIECE.

   C. HDPE SERVICE CONNECTIONS -- WHERE HDPE PIPE IS USED IN "TRENCHLESS" CONSTRUCTION, THE SERVICE CONNECTIONS SHALL BE MADE USING ELECTROFUSION BONDED GASKETED SEWER SADDLES. SERVICE CONNECTIONS ON NEW PVC PIPE INSTALLED USING "OPEN CUT" CONSTRUCTION SHALL BE MADE USING WYE BRANCH FITTINGS. ALL SERVICE CONNECTIONS FOR HDPE OR "OPEN CUT" SHALL BE DONE EXTERNAL TO THE PIPE. NO INTERNAL CONNECTIONS SHALL BE ALLOWED FOR HDPE OR "OPEN CUT".

3. RISER

   A. INSTALLATION -- THE PIPE MAY BE INSTALLED IN ONE OF THREE WAYS SHOWN ON "SERVICE CONNECTION DETAILS."

   B. SIZE AND MATERIAL -- THE RISER PIPE MUST BE AT LEAST FOUR INCH (4") PVC.

   C. ALL RISER PIPE CAPS, FITTINGS, AND JOINTS ABOVE FINISHED GRADE MUST BE GLUED.

   D. THE SERVICE CONNECTION SHALL BE INSTALLED TO THE EDGE OF RIGHT OF WAY OR EASEMENT.

4. CURED IN PLACE PIPE (CIPP)

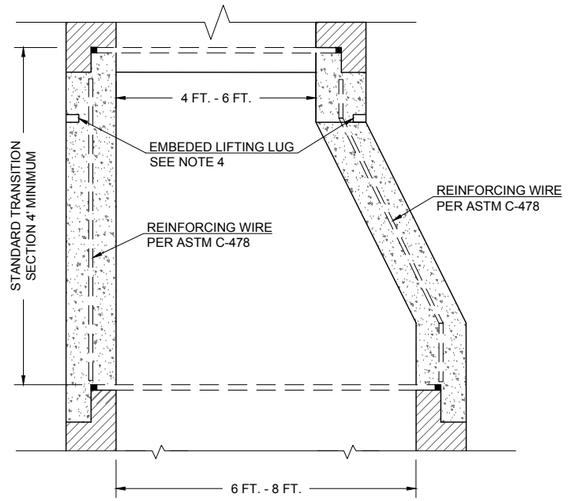
   A. CURED IN PLACE PIPE (CIPP) SERVICE CONNECTIONS -- WHERE CIPP IS USED IN "TRENCHLESS" CONSTRUCTION, THE SERVICE CONNECTIONS SHALL BE MADE INTERNALLY. THE SERVICE CONNECTION SHALL BE LINED WITH A CURED IN PLACE LINER TO THE EDGE OF RIGHT OF WAY OR EASEMENT, OR TO DISTANCE OF 8 FEET UP THE LATERAL FROM THE MAIN. LATERAL SEAL TO MAIN CONNECTION (I.E. TOP HAT, LATERAL CONNECTION REPAIR, STUBBY CONNECTION, ETC) MUST BE APPROVED BY THE ENGINEER. ALL INTERNAL LATERAL CONNECTION MUST PROVIDE A WATER TIGHT CONNECTION FROM THE MAIN TO THE LATERAL.

The City of Oklahoma City
Utilities Department
Engineering Division

APPROVED BY:
DEBBIE MILLER, P.E., CITY ENGINEER — DATE: 5/28/25
CHAD BROWNING, P.E., PUBLIC WORKS DIRECTOR — DATE: 5/28/25
UTILITIES ENGINEERING — DATE: 5/28/25

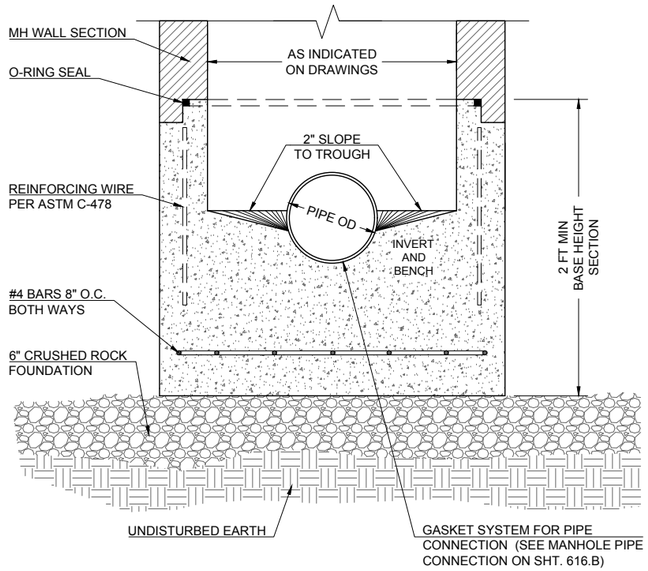
SANITARY SEWER STANDARD DETAILS
SEWER SERVICE CONNECTION
DETAIL 602

602



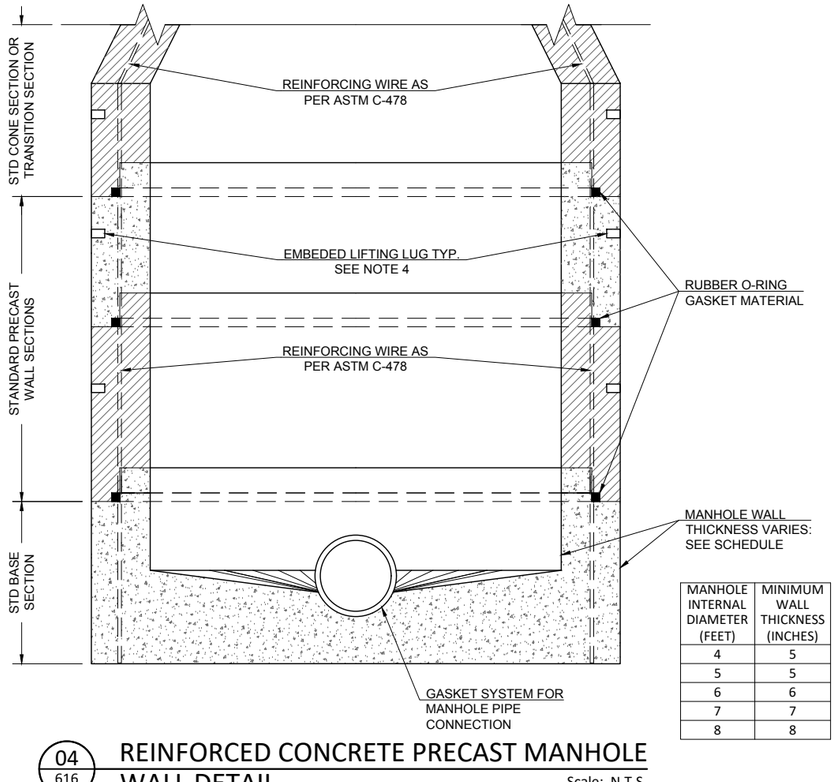
01 616 REINFORCED CONCRETE PRECAST MANHOLE TRANSITION SECTION

Scale: N.T.S.



02 616 REINFORCED CONCRETE PRECAST MANHOLE BASE SECTION

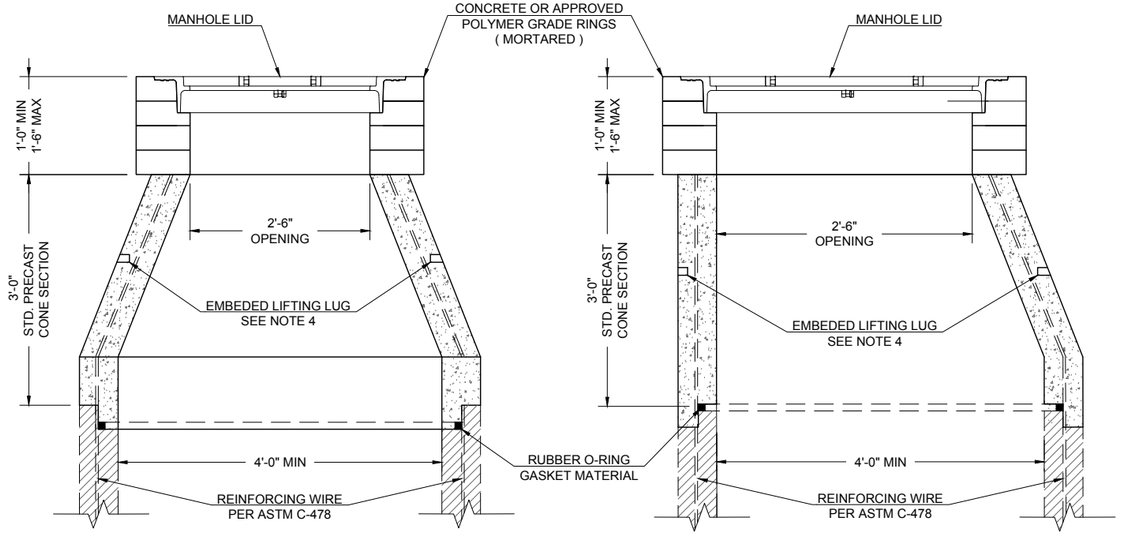
Scale: N.T.S.



MANHOLE INTERNAL DIAMETER (FEET)	MINIMUM WALL THICKNESS (INCHES)
4	5
5	5
6	6
7	7
8	8

04 616 REINFORCED CONCRETE PRECAST MANHOLE WALL DETAIL

Scale: N.T.S.



CONCENTRIC CONE ECCENTRIC CONE

03 616 REINFORCED CONCRETE PRECAST MANHOLE CONE SECTION

Scale: N.T.S.

MANHOLE SIZE TABLE	
PIPE SIZE (IN)	MINIMUM MH INSIDE DIAMETER* (FT)
8 ≤ 12	4
> 12 ≤ 21	5
> 24 ≤ 48	6
> 48	8
*Unless otherwise shown on plans.	

NOTES:

1. ALL CONCRETE FOR MANHOLE STRUCTURE AND BASE MUST HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI.
2. MANHOLES MUST BE CONSTRUCTED AS SPECIFIED IN ASTM C-478.
3. THE MINIMUM WALL THICKNESS IS SPECIFIED IN THE FOLLOWING TABLE AND MUST NOT BE LESS THAN ONE-TWELFTH (1/12) OF THE INTERNAL DIAMETER OF THE LARGEST CONE OR RISER OF FIVE-INCHES (5") WHICHEVER IS GREATER.
4. ALL LIFTING HOLES PROVIDED IN EACH SECTION MUST BE REPAIRED WITH A MIXTURE OF CEMENT & SAND GROUT FIRMLY PACKED INTO ENTIRE ORIFICE.
5. CONTRACTOR OR MANUFACTURER MUST PREPARE INTERIOR SURFACES OF MANHOLE AND INSTALL ONE OF THE FOLLOWING PROTECTIVE COATINGS FOR ANY MANHOLE INSTALLED ON A 18-INCH MAIN OR LARGER OR AS SPECIFIED ON THE DRAWINGS. ALL OTHERS SHALL BE COATED PER SECTION 616 OF THE STANDARD SPECIFICATIONS PER THE MANUFACTURERS RECOMMENDATIONS.

   SAUEREISEN NO. 210S (100MIL) OR NO. 210T (100 MIL) OR
   RAVEN 405 (100 MIL) OR
   TNEMEC PERMA-SHIELD G436 (100 MIL)

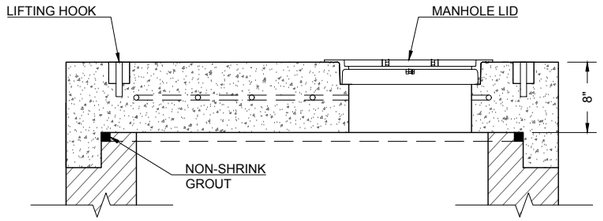
6. WHEN DIRECTED BY THE ENGINEER, A SET OF THREE (3) CYLINDERS, THREE-INCHES (3") IN DIAMETER MUST BE CUT FROM RANDOMLY SELECTED MANHOLES AND TESTED FOR COMPRESSIVE STRENGTH.
7. ACCEPTANCE OF THE MANHOLE STRUCTURE MUST BE BASED ON THE CONFORMANCE AND PERFORMANCE OF MATERIALS REQUIRED IN ASTM C-478 AND THE INSPECTION OF THE INSTALLED PRODUCT.

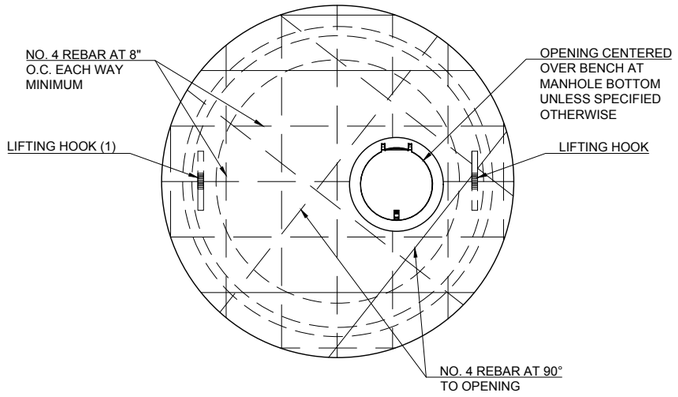
The City of Oklahoma City
Utilities Department
Engineering Division

APPROVED BY:
DEBBIE MILLER, P.E., CITY ENGINEER/PUBLIC WORKS DIRECTOR — DATE: 5/28/25
CHRIS BROWNING, GEN. MGR. — DATE: 5/28/25
UTILITIES ENGINEERING — DATE: 5/28/25

SANITARY SEWER STANDARD DETAILS
SANITARY SEWER MANHOLE
DETAILS 616.01 TO 616.04

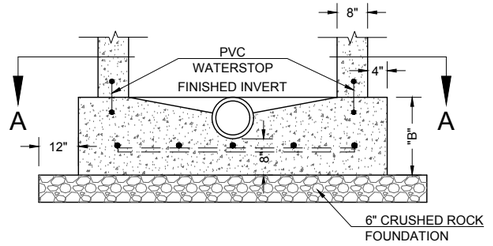
616.A

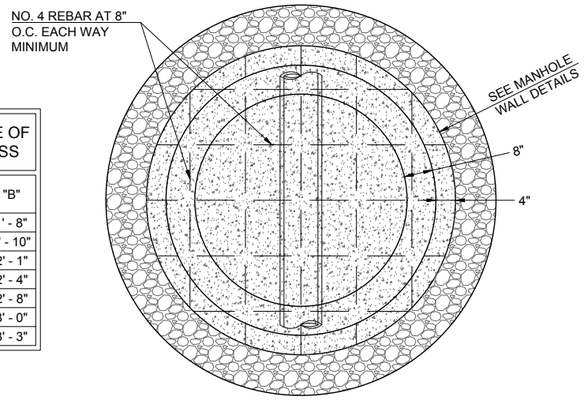




05 / 616 REINFORCED CONCRETE PRECAST MANHOLE FLAT TOP SLAB

Scale: N.T.S.





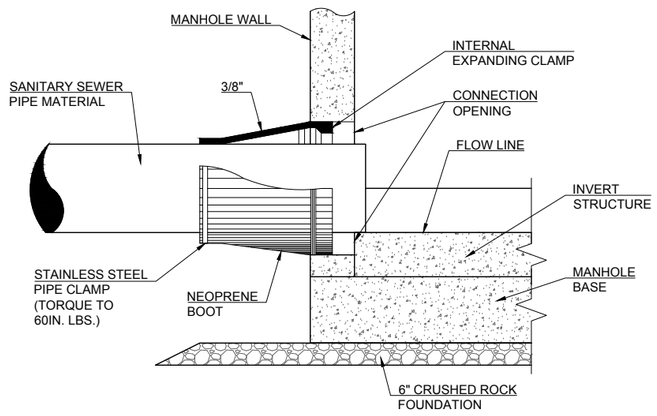
SCHEDULE OF THICKNESS

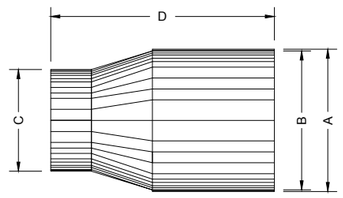
PIPE DIAMETER	"B"
8"	1' - 8"
10"	1' - 10"
12"	2' - 1"
15"	2' - 4"
18"	2' - 8"
21"	3' - 0"
24"	3' - 3"

SECTION A-A

06 / 616 CAST IN PLACE CONCRETE MANHOLE BASE SECTION

Scale: N.T.S.





NOTES:

1. ALL PIPE CLAMPS MUST BE STAINLESS STEEL.
2. NEOPRENE EPDM BLENDED COMPOUND BOOT MUST MEET ASTM C-923.

PIPE O.D. RANGE (IN.)	HOLE & BOOT DIAMETER DIMENSIONS			
	A	B	C	D
3 1/2" - 4 1/2"	7"	6 1/8"	4 1/4"	6"
5 3/8" - 7"	12"	10 7/8"	6 1/2"	8"
7" - 8 1/2"	12"	10 7/8"	8"	8"
8 3/16" - 9 3/4"	12"	10 7/8"	9 1/4"	8"
9 1/4" - 11"	16"	14 7/8"	10 1/2"	8"
10 1/4" - 12"	16"	14 7/8"	12"	8"
12" - 13 3/4"	16"	14 7/8"	13 1/4"	8"
14 1/2" - 16 1/4"	20"	18 7/8"	15 3/4"	8"
15 3/4" - 17 1/2"	20"	18 7/8"	17"	8"
19 1/2" - 21 1/4"	24"	22 7/8"	20 3/4"	8"

07 / 616 MANHOLE PIPE CONNECTION

Scale: N.T.S.

NOTES:

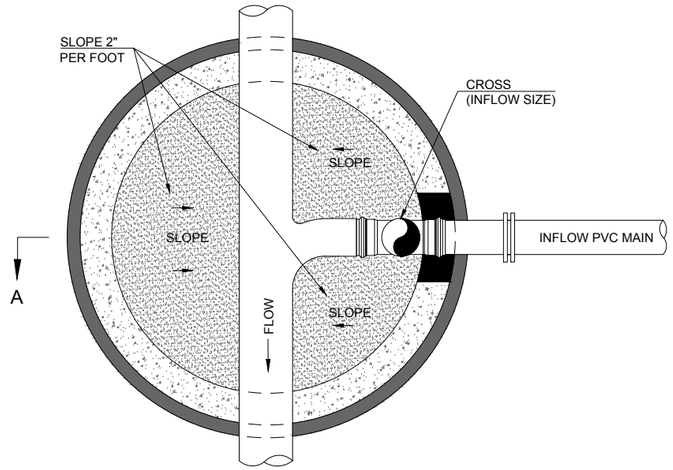
1. MANHOLE TOPS MUST BE CONSTRUCTED IN ACCORDANCE WITH ASTM C-478 LIFTING HOOKS MUST BE CONSTRUCTED AS PER MANUFACTURERS RECOMMENDATION.
2. CONTRACTOR MUST PREPARE INTERIOR SURFACES OF MANHOLE AND INSTALL ONE OF THE FOLLOWING PROTECTIVE COATINGS FOR ANY MANHOLE INSTALLED ON A 15-INCH MAIN OR LARGER OR AS SPECIFIED ON THE DRAWINGS. ALL OTHERS SHALL BE COATED PER SECTION 616 OF THE STANDARD SPECIFICATIONS PER THE MANUFACTURERS RECOMMENDATIONS.
   - SAUEREISEN NO. 210S (100MIL) OR NO. 210T (100 MIL) OR
   - RAVEN 405 (100 MIL) OR
   - TNEMEC PERMA-SHIELD G436 (100 MIL)
3. WHEN DIRECTED BY THE ENGINEER, A SET OF THREE (3) CYLINDERS, THREE-INCHES (3") IN DIAMETER MUST BE CUT FROM RANDOMLY SELECTED MANHOLE TOPS AND TESTED FOR A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
4. ACCEPTANCE OF THE MANHOLE TOP STRUCTURE MUST BE BASED ON THE CONFORMANCE AND PERFORMANCE OF MATERIALS REQUIRED IN ASTM C-478 AND THE INSPECTION OF THE INSTALLED PRODUCT.

The City of Oklahoma City
Utilities Department
Engineering Division

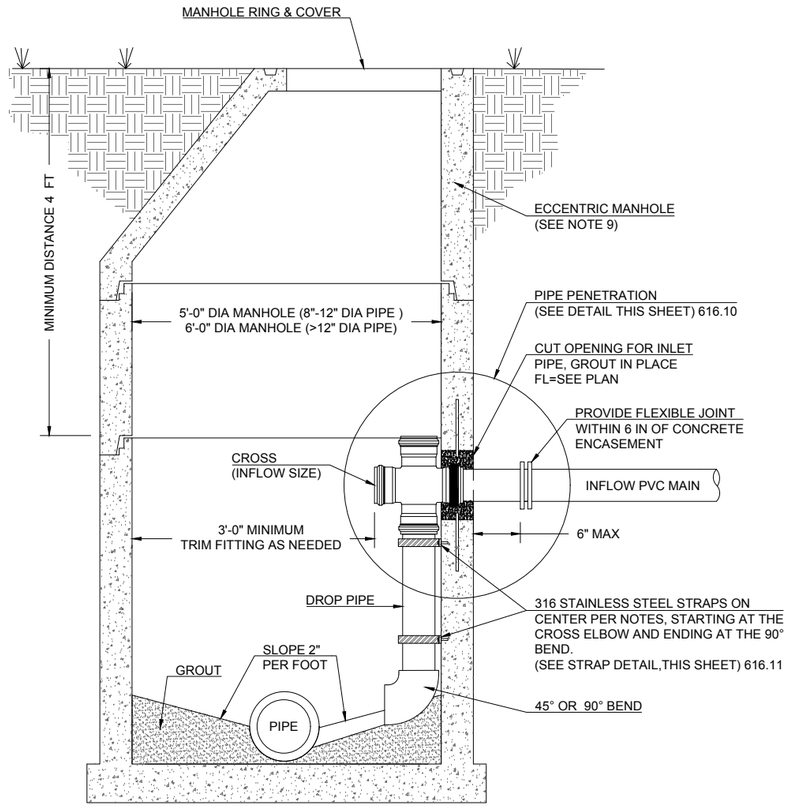
APPROVED BY:
DEBBIE MILLER, P.E., CITY ENGINEER/PUBLIC WORKS DIRECTOR — DATE: 5/28/25
CHAD BROWNING, P.E. — DATE: 5/28/25
UTILITIES ENGINEERING — DATE: 5/28/25

SANITARY SEWER STANDARD DETAILS
SANITARY SEWER MANHOLE
DETAILS 616.05 TO 616.07

616.B



PLAN VIEW

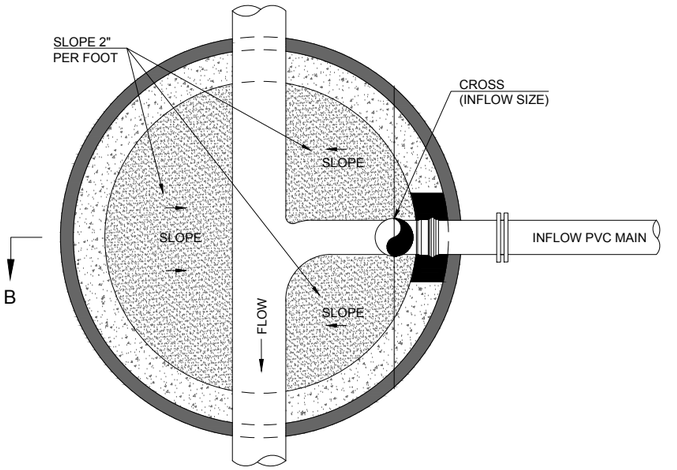


SECTION A-A

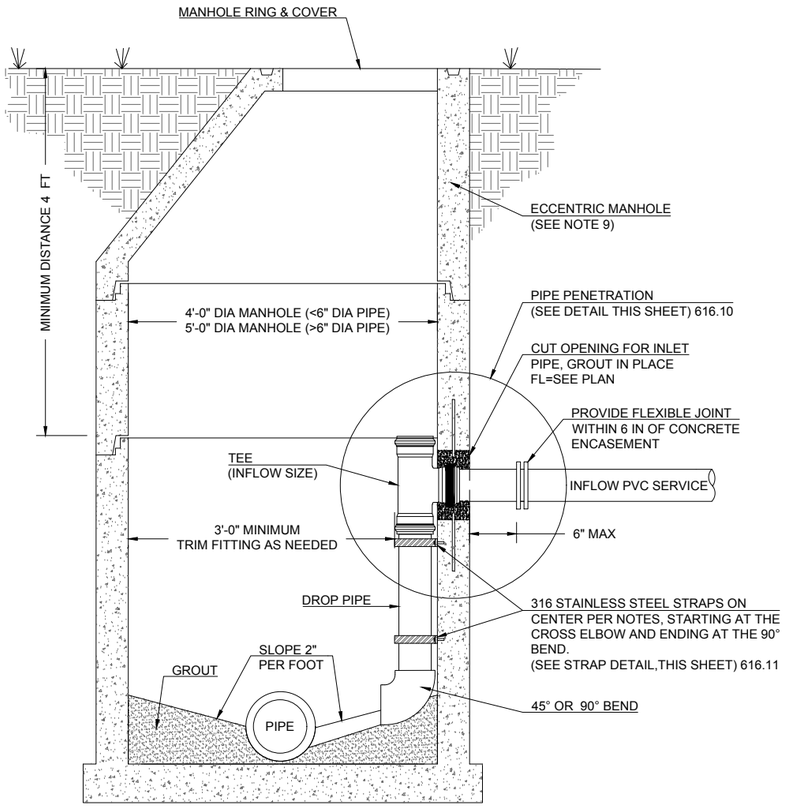
08
616

DROP MANHOLE MAINLINE CONNECTIONS

Scale: N.T.S.



PLAN VIEW

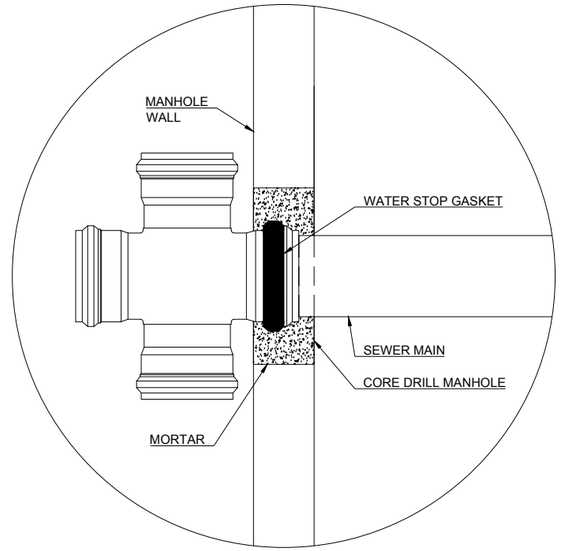


SECTION B-B

09
616

DROP MANHOLE SERVICE CONNECTIONS

Scale: N.T.S.

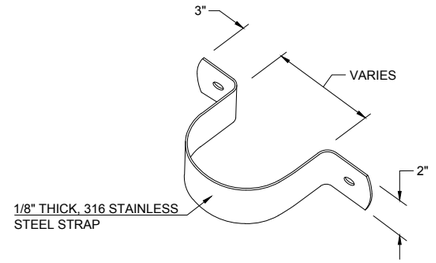


(DETAIL 626.08 - SECTION A-A)

10
616

PIPE PENETRATION DETAIL

Scale: N.T.S.



(DETAIL 626.08 - SECTION A-A)

11
616

STRAP DETAIL

Scale: N.T.S.

NOTES:

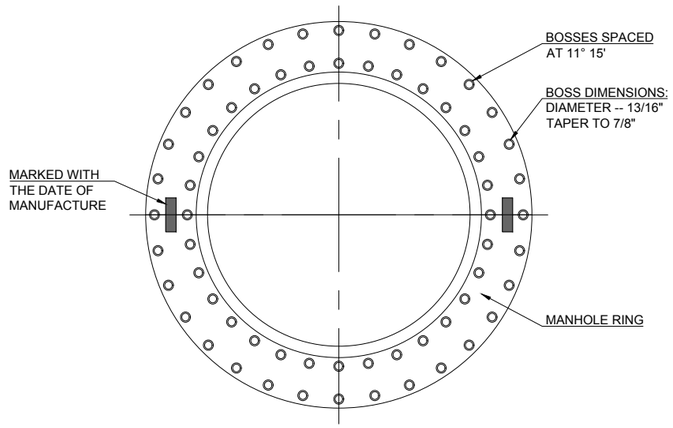
1. DROP MANHOLE IS MANDATORY WHEN THE DIFFERENTIAL BETWEEN INVERTS IS GREATER THAN 24 INCHES.
2. ONLY ONE DROP CONNECTION ALLOWED PER MANHOLE.
3. PIPE SIZE FOR DROP TO EQUAL INFLOW SEWER PIPE SIZE.
4. ALL MANHOLE CONNECTIONS MUST BE CORED.
5. STRAP INTERVALS OF TWENTY-FOUR INCHES (24") MUST BE USED ON ALL DROPS GREATER THAN FIVE FEET (5'-0"), STRAPS SHALL BE SPACED A MAXIMUM OF THIRTY-SIX INCHES (36") ON CENTER FOR ALL DROPS LESS THAN FIVE FEET (5'-0").
6. USE HALF INCH (1/2") DIAMETER EXPANSION TYPE 316 STAINLESS STEEL CINCH BOLTS WITH STAINLESS STEEL WASHERS AND NUTS TO ATTACH STRAPS.
7. MINIMUM MANHOLE DIAMETER WITH DROP CONNECTION MUST BE FIVE FEET (5'-0") OR FORTY-EIGHT INCHES (48").
8. FOR FURTHER DETAILS ON REINFORCED CONCRETE PRECAST MANHOLE CONES, SEE DETAIL ON OKLAHOMA CITY UTILITIES STANDARD 616.A. CONCENTRIC PRECAST MANHOLE CONE MAY BE USED IN PLACE OF ECCENTRIC PRECAST CONE. DROP CONNECTIONS MUST BE BENEATH MANHOLE OPENING, UNLESS OTHERWISE APPROVED.
9. REFER TO MANHOLE DETAILS ON STANDARD DETAIL SHEET 616 FOR INTERIOR COATING OF MANHOLES.
10. CROSS MUST REMAIN OPEN ON ALL SIDES.

The City of Oklahoma City
Utilities Department
Engineering Division

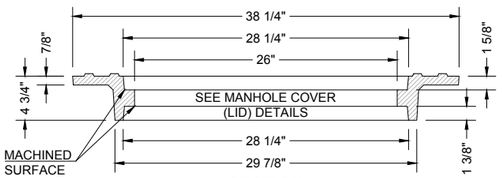
APPROVED BY:
DEBBIE MILLER, P.E., CITY ENGINEER/PUBLIC WORKS DIRECTOR — DATE: 5/28/25
CHRIS BROWNING, P.E. — DATE: 5/28/25
UTILITIES ENGINEERING — DATE: 5/28/25

SANITARY SEWER STANDARD DETAILS
SANITARY SEWER MANHOLE
DETAILS 616.08 TO 616.10

616.C



PLAN

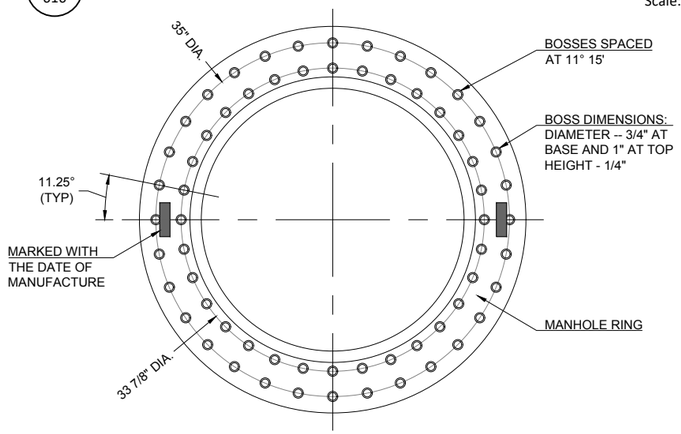


SECTION

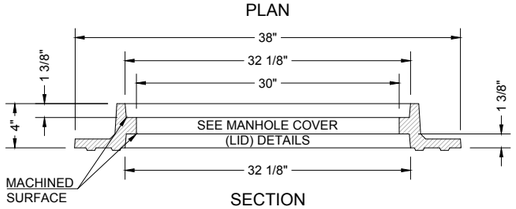
NOTES:
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.
2. MANHOLE RING IS REVERSIBLE.

12 616 REVERSIBLE MANHOLE RING (NON-PAVED SURFACE)

Scale: N.T.S.



PLAN

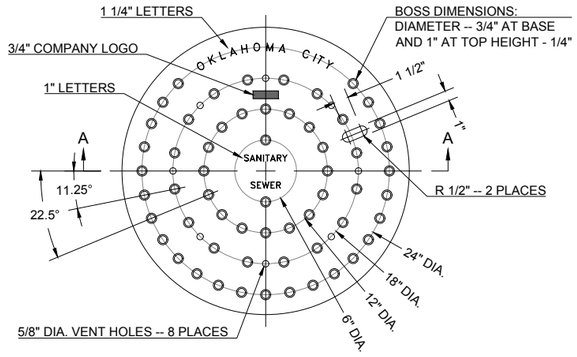


SECTION

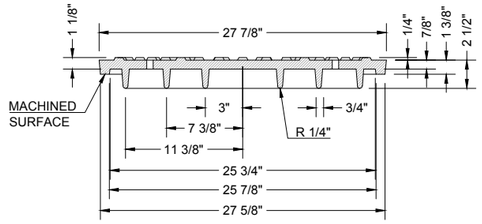
NOTES:
1. FINISH EXCESS IRON AND FINS; MACHINE SEATING SURFACES FLAT TO NOTE DIMENSIONS.
2. FILLETS MUST BE 1/4" UNLESS OTHERWISE SPECIFIED.
3. UNLESS OTHERWISE SHOWN, ALL DIMENSIONS ARE IN INCHES.

13 616 REVERSIBLE MANHOLE RING (PAVED SURFACE)

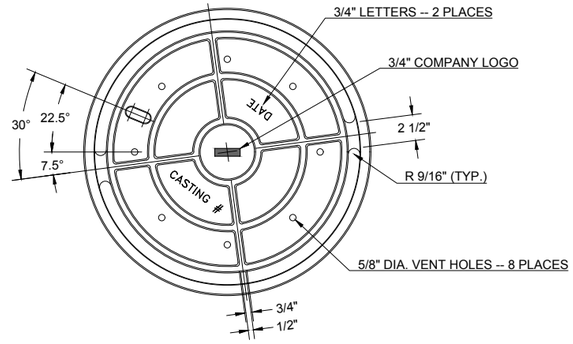
Scale: N.T.S.



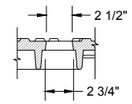
PLAN OF TOP



SECTION A-A



PLAN OF UNDERSIDE

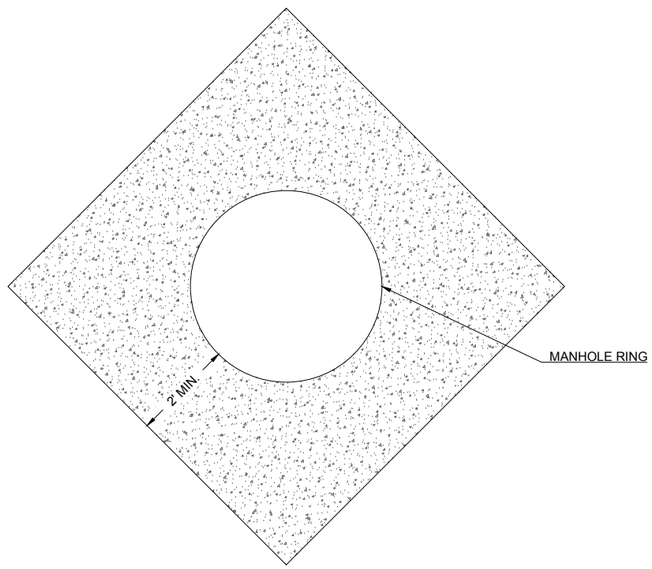


SECTION THRU
PICK SLOT

NOTES:
1. FINISH EXCESS IRON AND FINS; MACHINE SEATING SURFACES FLAT TO NOTE DIMENSIONS.
2. FILLETS MUST BE 1/4" UNLESS OTHERWISE SPECIFIED.
3. UNLESS OTHERWISE SHOWN, ALL DIMENSIONS ARE IN INCHES.
4. CONTRACTOR TO INSTALL MANHOLE INFLOW PROTECTOR UNDER LID UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

14 616 VENTED MANHOLE COVER (NON-PAVED SURFACE)

Scale: N.T.S.



NOTES:
1. THICKNESS OF CONCRETE TO MATCH OKLAHOMA CITY PAVING STANDARDS.
2. CONCRETE PAD TO BE ROTATED 45 DEGREES TO DIRECTION OF TRAFFIC.

15 616 CONCRETE PAD FOR MANHOLES IN PAVEMENT

Scale: N.T.S.

The City of Oklahoma City
Utilities Department
Engineering Division

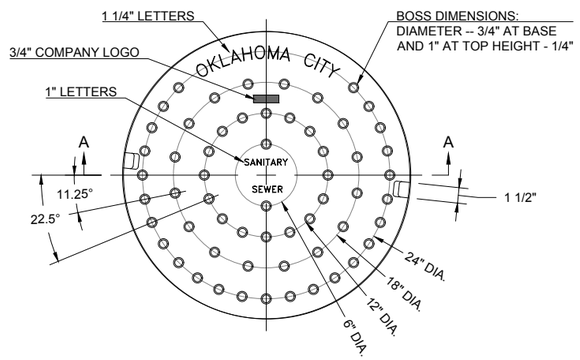
APPROVED BY:
DEBBIE MILLER, P.E. CITY ENGINEER/PUBLIC WORKS DIRECTOR — DATE: 5/28/25
CHAS BROWNING, SE — UTILITIES ENGINEERING — DATE: 5/28/25

SANITARY SEWER STANDARD DETAILS
SANITARY SEWER MANHOLE
DETAILS 616.11 TO 626.13

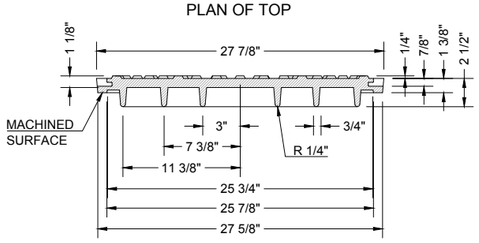
616.D

NOTES (ENTIRE SHEET):

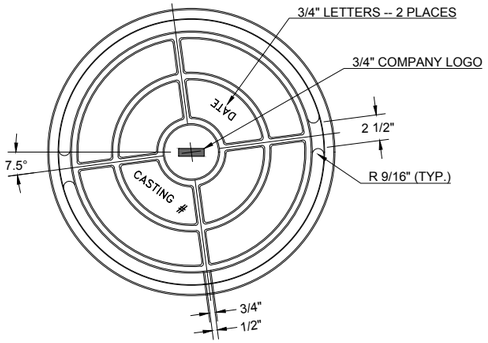
1. FINISH EXCESS IRON AND FINS; MACHINE SEATING SURFACES FLAT TO NOTE DIMENSIONS.
2. FILLETS MUST BE 1/4" UNLESS OTHERWISE SPECIFIED.
3. UNLESS OTHERWISE SHOWN, ALL DIMENSIONS ARE IN INCHES.
4. CONTRACTOR TO INSTALL MANHOLE INFLOW PROTECTOR UNDER LID UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



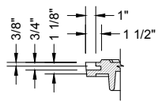
PLAN OF TOP



SECTION A-A



PLAN OF UNDERSIDE

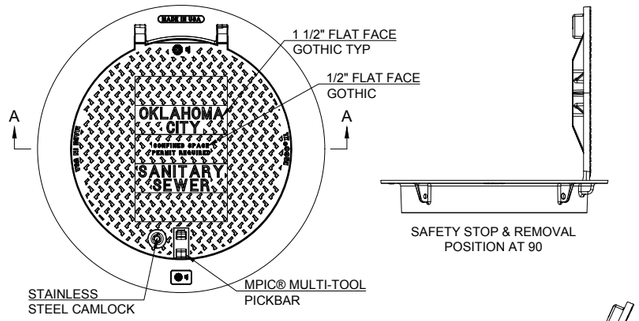


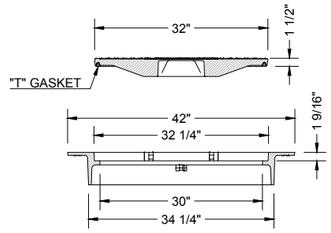
SECTION THRU
PICK SLOT

16
616

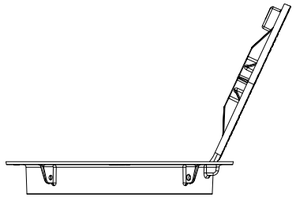
NON-VENTED MANHOLE COVER (PAVED SURFACE)

Scale: N.T.S.





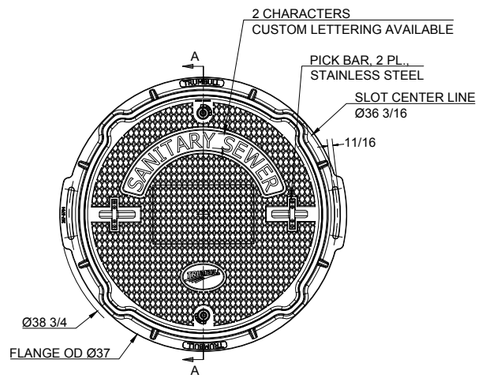
SECTION A-A

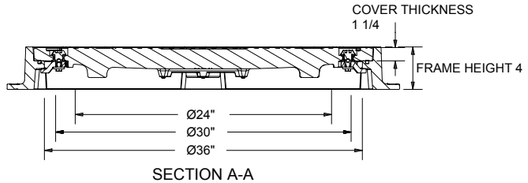


17
616

HINGED MANHOLE COVER (TOP FLANGE) CAST IN PLACE ONLY

Scale: N.T.S.



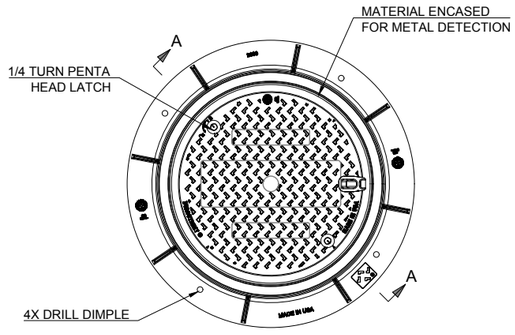


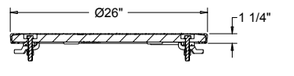
SECTION A-A

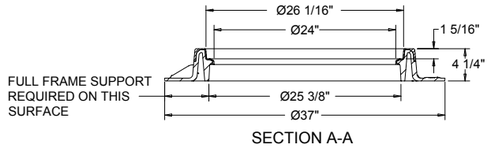
19
616

COMPOSITE MANHOLE RING AND COVER (A)

Scale: N.T.S.





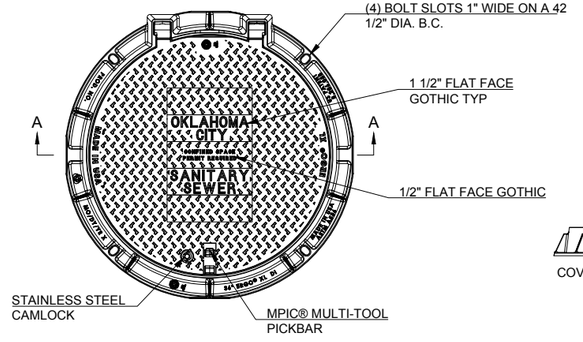


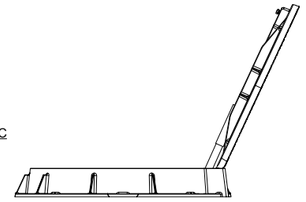
SECTION A-A

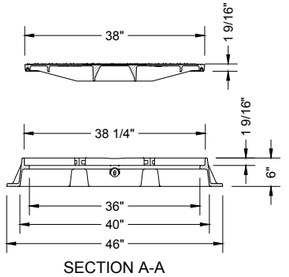
20
616

COMPOSITE MANHOLE RING AND COVER (B)

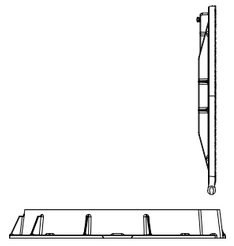
Scale: N.T.S.







SECTION A-A



18
616

HINGED MANHOLE COVER (BOTTOM FLANGE)

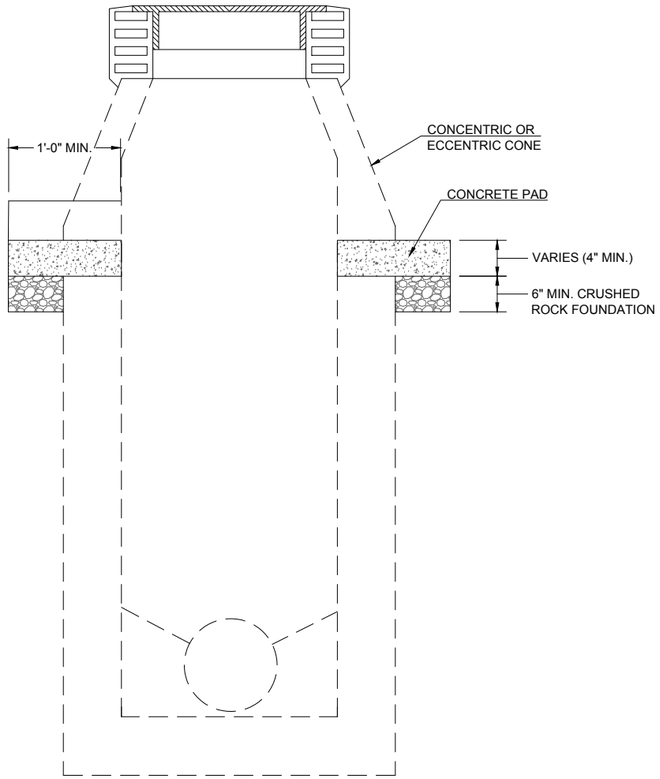
Scale: N.T.S.

The City of Oklahoma City
Utilities Department
Engineering Division

APPROVED BY:
DEBBIE MILLER, P.E., CITY ENGINEER/PUBLIC WORKS DIRECTOR — DATE: 5/28/25
Chris Browning, SE — DATE: 5/28/25
UTILITIES ENGINEERING — DATE: 5/28/25

SANITARY SEWER STANDARD DETAILS
SANITARY SEWER MANHOLE
DETAILS 616.14 TO 616.16

616.E



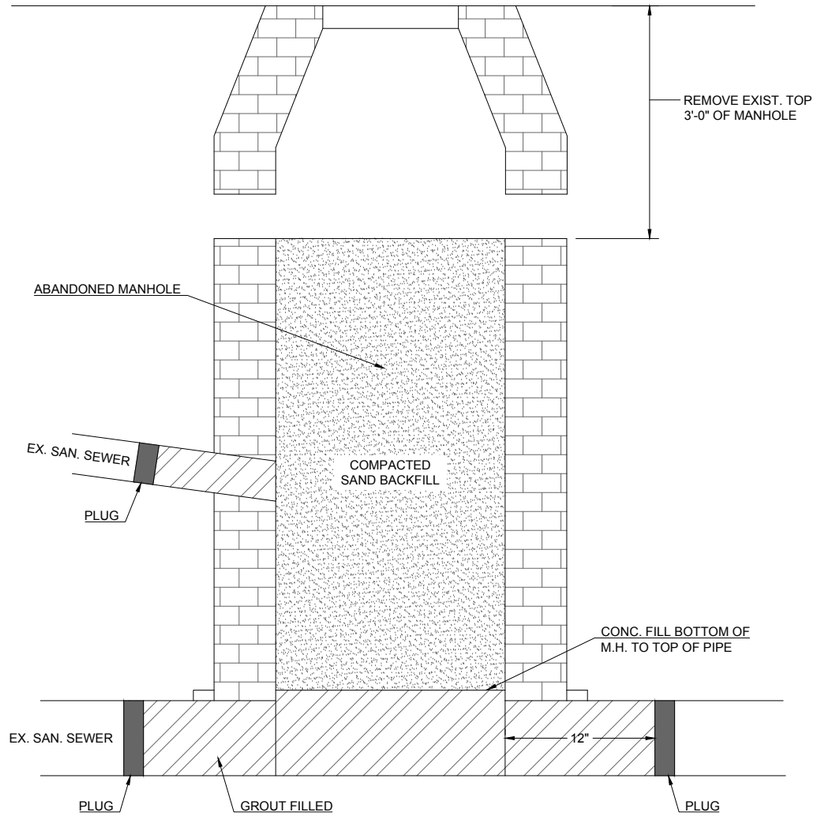
NOTES:

1. CAST-IN-PLACE NON-REINFORCED CONCRETE AND BRICK MANHOLES:
   THE EXISTING CONE AND WALL, IF NECESSARY, MUST BE REMOVED TO A LEVEL WHICH WILL ALLOW INSTALLATION OF NEW CONE TO THE PROPER GRADE. THE EXPOSED CUT-OFF SURFACES OF THE EXISTING MANHOLE WALL MUST BE CLEANED BY REMOVING LOOSE MATERIAL AND WETTED, PRIOR TO CONSTRUCTION OF CONCRETE PAD. ALL LOOSE BACKFILL AROUND THE MANHOLE WALL MUST BE REMOVED AND REPLACED WITH COMPACTED ASTM C-33 NO. 67. THE NEW CONCRETE PAD MUST BE CONSTRUCTED, AND A NEW CONE MUST BE FORMED OR PLACED TO THE PROPER GRADE USING FIFTEEN THOUSAND (1500 PSI) POUNDS PER SQUARE INCH MORTAR.

2. PRECAST REINFORCED CONCRETE MANHOLES:
   PRECAST SECTIONS MUST BE REMOVED TO A LEVEL WHERE THE NEW CONE CAN BE INSTALLED TO THE DESIRED GRADE. INSTALLATION MUST BE IN ACCORDANCE WITH THE APPROPRIATE STANDARD DETAIL FOR PRECAST MANHOLE CONES. A NEW RUBBER GASKET MUST BE USED TO SEAL EACH SECTION.

01 / 618 REBUILDING MANHOLE DETAIL

Scale: N.T.S.



NOTE:
RING AND COVER OF ABANDONED MANHOLE MUST BE SALVAGED AND DELIVERED TO THE LINE MAINTENANCE DIVISION OF THE WATER AND WASTEWATER UTILITIES DEPARTMENT.

01 / 629 ABANDONING MANHOLE DETAIL

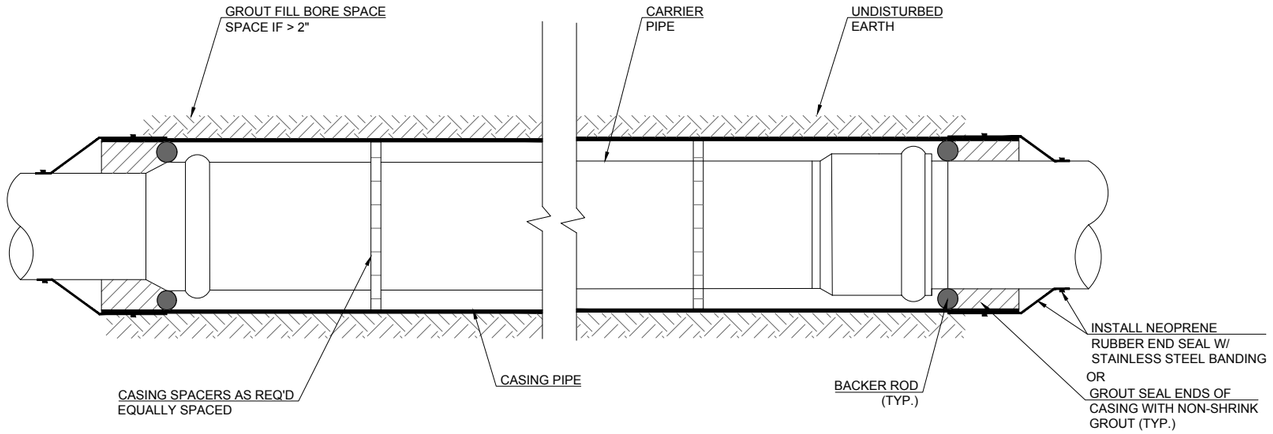
Scale: N.T.S.

The City of Oklahoma City
Utilities Department
Engineering Division

APPROVED BY:
DEBBIE MILLER, P.E., CITY ENGINEER/PUBLIC WORKS DIRECTOR — DATE: 5/28/25
CHAS BROWNING, JR., P.E. — DATE: 5/28/25
UTILITIES ENGINEERING — DATE: 5/28/25

SANITARY SEWER STANDARD DETAILS
MANHOLE REHABILITATION / ABANDONING/REMOVING MANHOLES
DETAILS 618 AND 629

618 / 629



01
635

BORE AND ENCASEMENT DETAIL

Scale: N.T.S.

NOTES:

1. PLUGGED PIPE ENDS

   OPTION A - GROUT -- BOTH ENDS OF THE CASING PIPE SHALL BE PLUGGED WITH A GROUT OR CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH OF TWENTY-FIVE HUNDRED (2500 PSI) POUNDS PER SQUARE INCH OR GROUTED MASONRY. THE GROUTING PRESSURE SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURE'S RECOMMENDATIONS.

   OPTION B - SEALS -- BOTH ENDS SHALL BE SEALED WITH NEOPRENE RUBBER SEALS WITH STAINLESS STEEL BANDINGS.

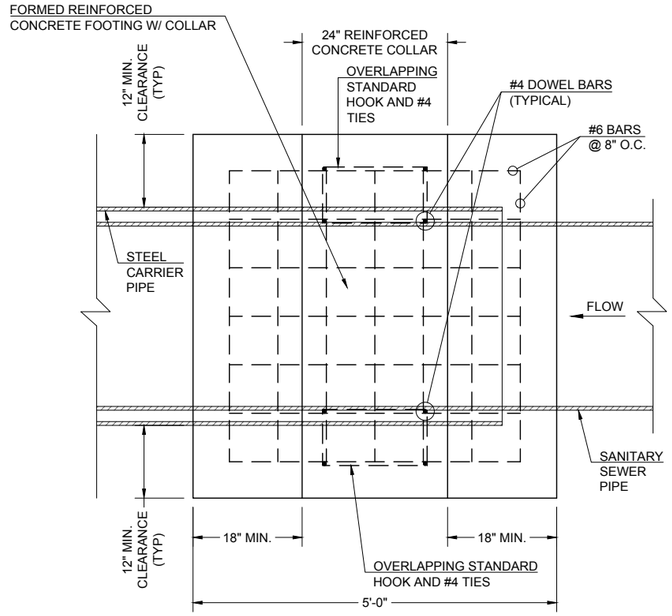
2. CASING PIPE SIZE -- STEEL CASING PIPE MUST HAVE THE FOLLOWING MINIMUM DIAMETERS:

PIPE NOMINAL SIZE (inches)	SUGGESTED CASING PIPE INSIDE DIAMETER (inches)
4	8 to 10
6	10 to 12
8	14 to 16
10	16 to 18
12	18 to 20
15	20 to 22
18	24 to 26
24	31 to 33
27	33 to 36
30	36 to 42
36	42 to 48
42	54 to 60
48	60 to 66

3. CASING PIPE THICKNESS -- STEEL CASING PIPE MUST HAVE THE FOLLOWING MINIMUM THICKNESS(ES), IN INCHES, FOR THE INDICATED MAXIMUM DEPTH OF COVER(S), IN FEET OR AS REQUIRED BY THE RAILROAD AT THE TIME OF CONSTRUCTION:

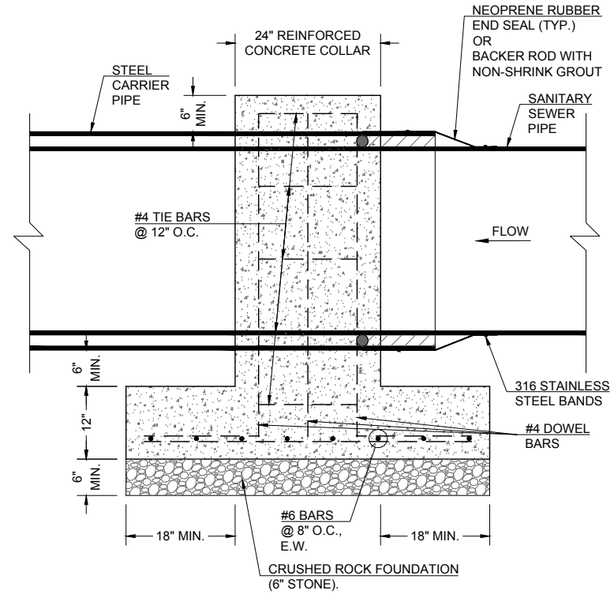
OUTSIDE DIAMETER (INCHES)	UNDER HIGHWAY		UNDER RAILROAD		
	WALL THICKNESS (INCHES)	MAXIMUM COVER (FEET)	BNSF (UNCOATED) WALL THICKNESS (INCHES)	UNION PACIFIC WALL THICKNESS (INCHES	MAXIMUM COVER (FEET)
≤ 12	0.1880	30	0.2500	0.2500	30
16	0.2500	30	0.3125	0.3125	30
18	0.2500	30	0.3125	0.3125	30
20	0.2500	30	0.3750	0.3750	30
24	0.2500	30	0.4375	0.4375	30
30	0.3220	30	0.5000	0.5000	30
36	0.3750	30	0.5625	0.5625	30
42	0.3750	25	0.5625	0.5625	30
48	0.4380	25	0.6250	0.6250	25
54	0.4380	25	OVER 48" MUST	OVER 48" MUST	20
60	0.4380	25	BE APPROVED	BE APPROVED	20
66	0.4380	20	BY BNSF RR	BY U.P.R.R.CO.	20

4. CASING MATERIAL -- STEEL CASING PIPE SHALL CONFORM WITH ASTM A-139, STANDARD SPECIFICATION FOR ELECTRIC-FUSION (ARC)-WELDED STEEL PIPE (NPS4 AND OVER). THE STEEL MATERIAL SHALL BE NEW, SMOOTH WALL, CARBON STEEL, GRADE B, WITH A MINIMUM TENSILE STRENGTH, AND MINIMUM THRITY-FIVE-THOUSAND (35,000 PSI) POUNDS PER SQUARE INCH YIELD STRENGTH.



PLAN VIEW

NOTE:
THE FOLLOWING DETAIL IS TO BE USED ONLY FOR STEEL CARRIER PIPE NOT GREATER THAN 42" IN DIAMETER.



ELEVATION VIEW

NOTE:
MINIMUM STEEL BAR REINFORCEMENT COVER IS 3" (INCHES).

01
640

CONCRETE COLLAR WITH SPREAD FOOTING

Scale: N.T.S.

The City of Oklahoma City
Utilities Department
Engineering Division

APPROVED BY:
DEBBIE MILLER, P.E., CITY ENGINEER/PUBLIC WORKS DIRECTOR — DATE: 5/28/25
CHAS BROWNING, P.E., UTILITIES ENGINEERING — DATE: 5/28/25

SANITARY SEWER STANDARD DETAILS
STEEL CASING PIPE
DETAIL 635

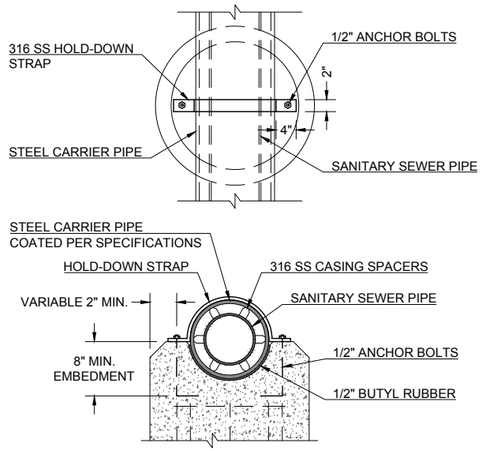
635/640

TABLE OF STEEL CARRIER PIPE SIZES

Nominal Size [in]	Wall Thickness [in]									
	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
	Span Length - [ft]									
6	36	40	44							
8	38	42	45							
10	39	43	46							
12	40	44	47							
14	40	44	47							
16	41	45	48							
18	41	46	49	52						
20	42	46	50	53						
22	42	46	51	54						
24	42	48	52	55	58	60				
26	43	48	52	56	59	61				
28	43	48	53	56	59	62				
30	43	49	53	57	60	63				
32	44	49	54	57	61	64				
34	44	49	54	58	61	64				
36	44	50	54	58	62	65	70			
38	44	50	55	59	62	65	70			
40	44	50	55	59	63	66	71			
42	44	50	55	59	63	66	72			
45		51	55	60	63	67	72			
48		51	56	60	64	67	73	78		
51		51	56	60	64	68	74	79		
54		51	56	61	65	68	74	79		
57		51	57	61	65	69	75	80		
60		51	57	61	65	69	75	80		
63		52	57	62	66	69	76	81		
66		52	57	62	66	70	76	81	86	90
72		52	58	62	66	70	77	82	87	92

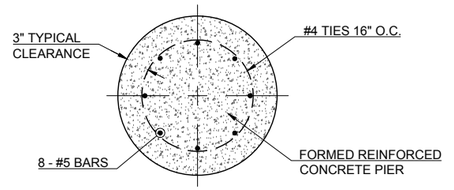
01 / 641 STEEL CARRIER SIZES AND SPAN

Scale: N.T.S.

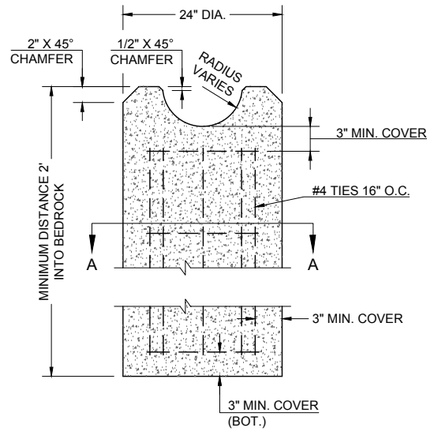


PIPE SADDLE & HOLD-DOWN STRAP

NOTE:
FOR SANITARY SEWER PIPE LESS THAN OR EQUAL TO 15-IN



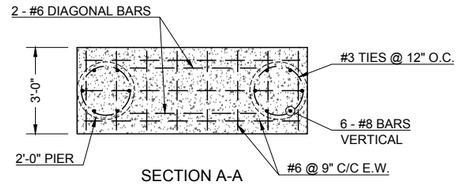
SECTION A-A



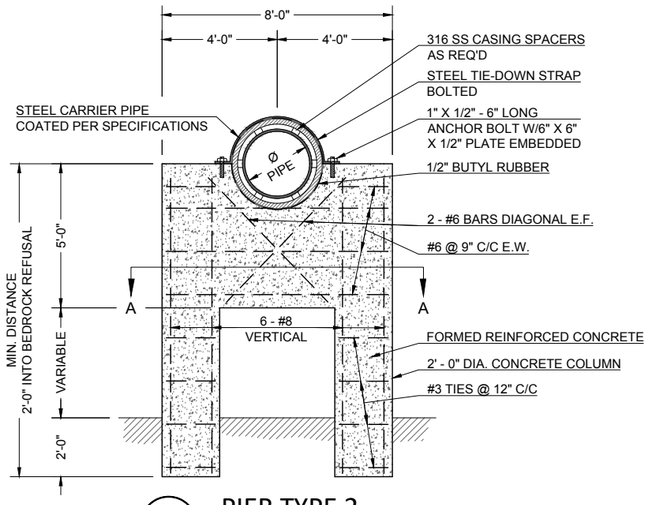
ELEVATION VIEW

02 / 641 PIER TYPE 1

Scale: N.T.S.



SECTION A-A



03 / 641 PIER TYPE 2

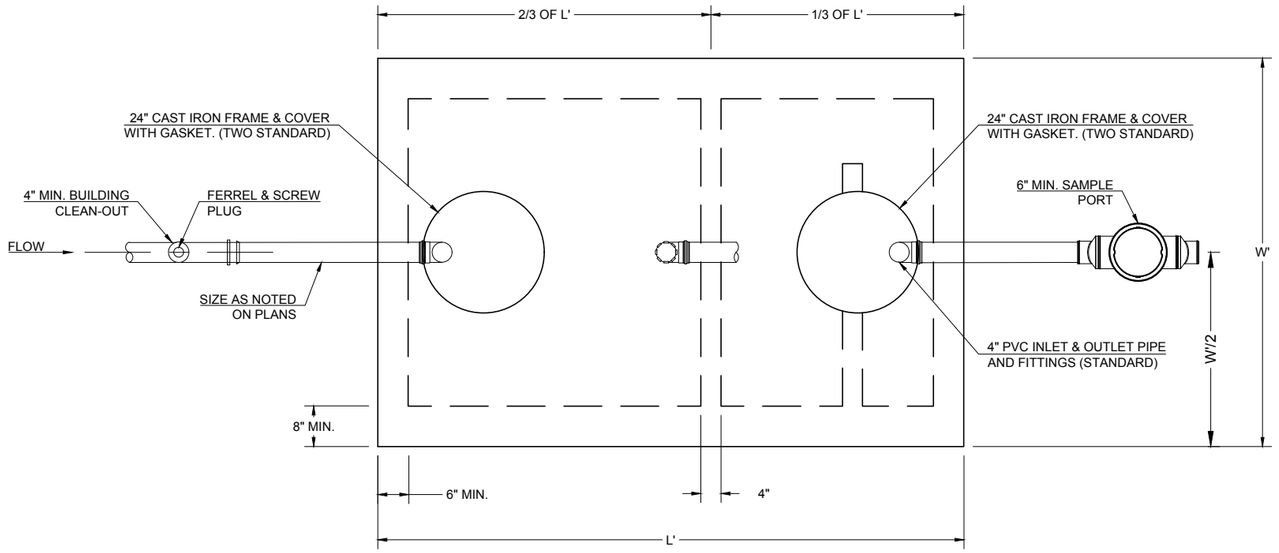
Scale: N.T.S.

The City of Oklahoma City
Utilities Department
Engineering Division

APPROVED BY:
DEBBIE MILLER, P.E., CITY ENGINEER/PUBLIC WORKS DIRECTOR — DATE: 5/28/25
CHAS BROWNING, P.E. — DATE: 5/28/25
UTILITIES ENGINEERING — DATE: 5/28/25

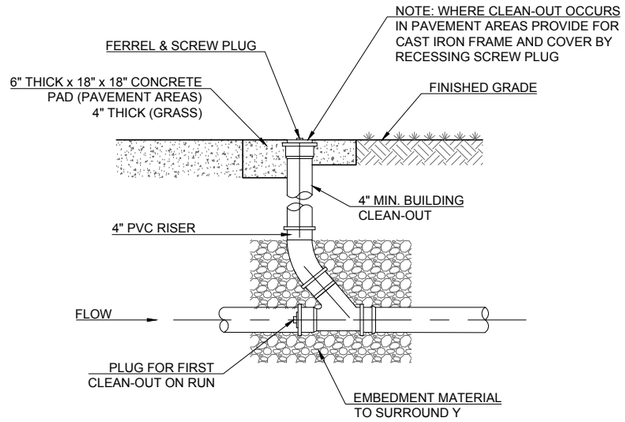
SANITARY SEWER STANDARD DETAILS
AERIAL CROSSING
DETAILS 641.01 TO 641.03

641



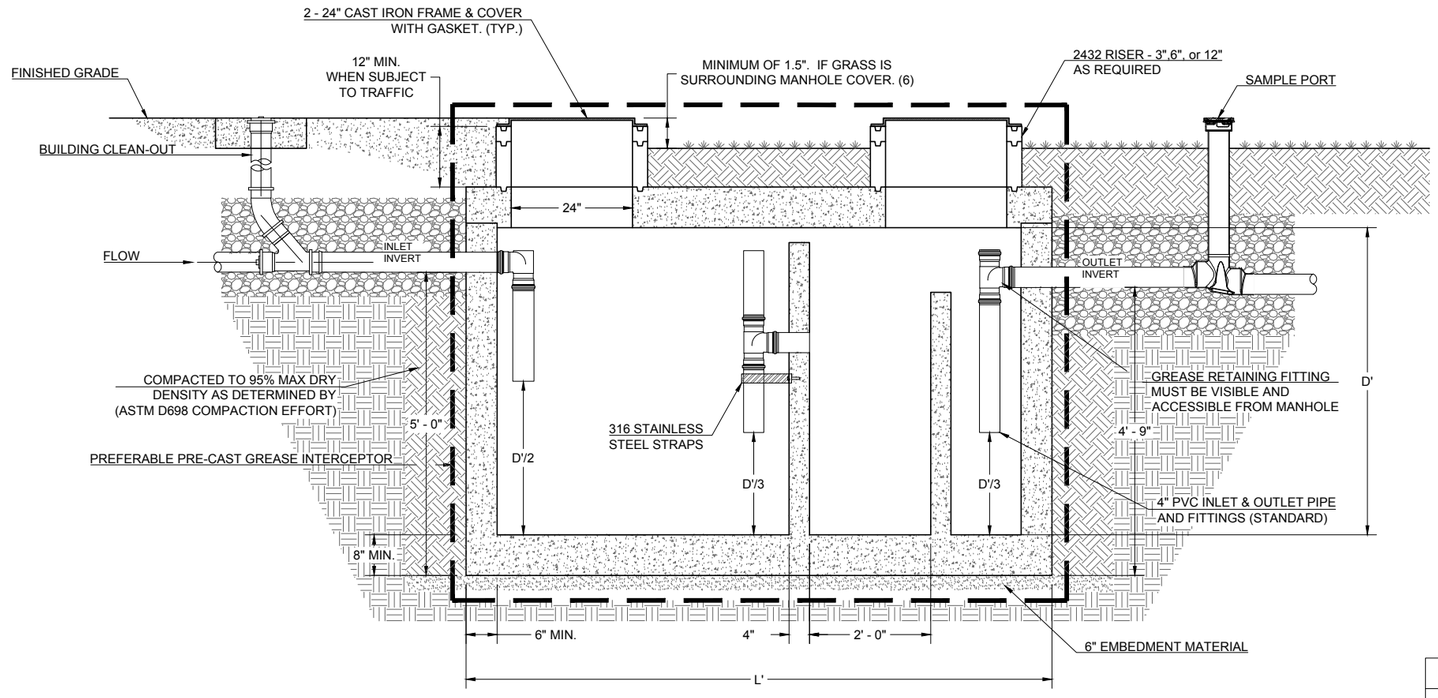
01 SPEC. **GREASE INTERCEPTOR PLAN**

Scale: N.T.S.



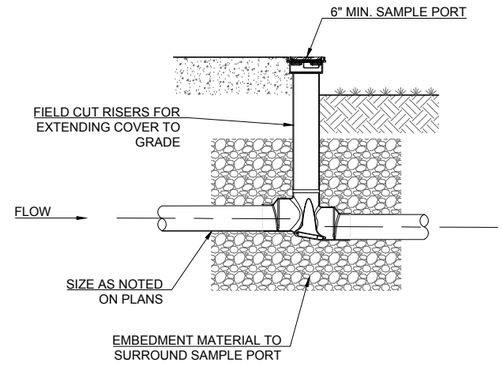
03 SPEC. **BUILDING CLEAN-OUT DETAIL**

Scale: N.T.S.



02 SPEC. **GREASE INTERCEPTOR PROFILE**

Scale: N.T.S.



04 SPEC. **SAMPLE PORT DETAIL**

Scale: N.T.S.

LIST OF PRE-APPROVED MANUFACTURERS
HAUSNER'S
ALLEGIANT
OLDCASTLE
JENSEN
DEL ZOTTO

NOTE:

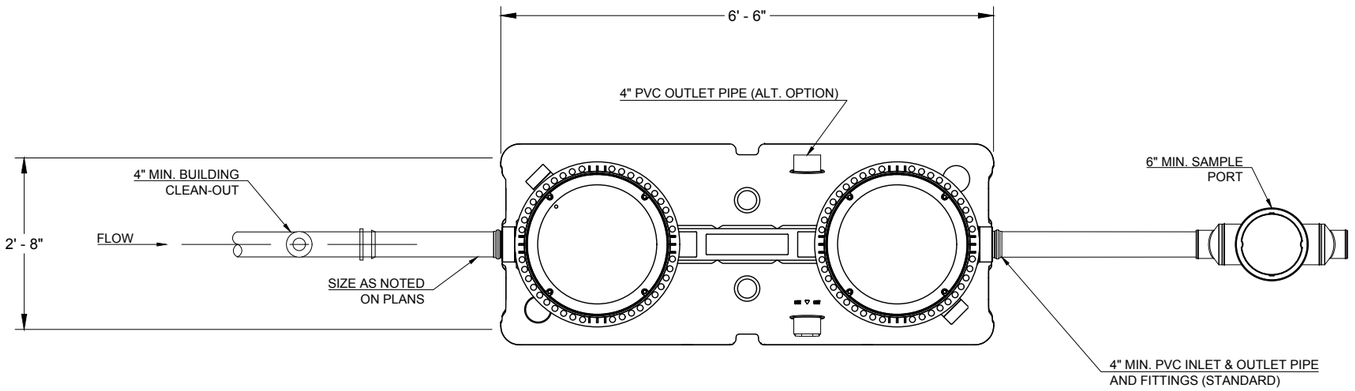
1. PRE-CAST GREASE INTERCEPTOR TO BE SUPPLIED BY PRE-APPROVED MANUFACTURER. SEE PRE-APPROVED LIST OF MANUFACTURERS.
2. MANHOLE LID TO BE SLIGHTLY ELEVATED FROM FINISHED CONCRETE SURFACE AND FLOATED TO GRADE TO PREVENT I&I.
3. MANHOLE ACCESS COVERS TO BE SECURED WITH STAINLESS STEEL HARDWARE.
4. GREASE RETAINING FITTING MUST BE VISIBLE AND ACCESSIBLE FROM MANHOLE.
5. PROVIDE MINIMUM 36" CLEARANCE AROUND GREASE INTERCEPTOR FROM ADJACENT TREES, SHRUBS, CURBS, ETC.
6. IDEAL HEIGHT FOR MANHOLE ABOVE GRASS SURFACE IS 1.5 INCHES BUT CAN EXTEND TO A MAXIMUM HEIGHT OF 6 INCHES ABOVE GRASS SURFACE.

The City of Oklahoma City
Utilities Department
Engineering Division

APPROVED BY:
DEBBIE MILLER, P.E., CITY ENGINEER/PUBLIC WORKS DIRECTOR — DATE: 5/28/25
CHRIS BROWNING, P.E. — DATE: 5/28/25
UTILITIES ENGINEERING — DATE: 5/28/25

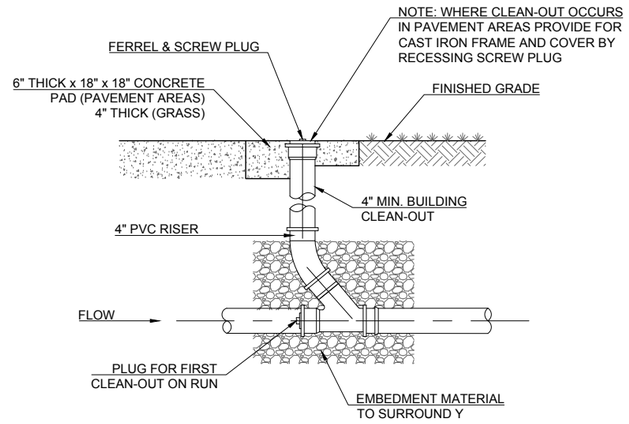
SANITARY SEWER STANDARD DETAILS
GREASE INTERCEPTOR
DETAILS

SPEC.



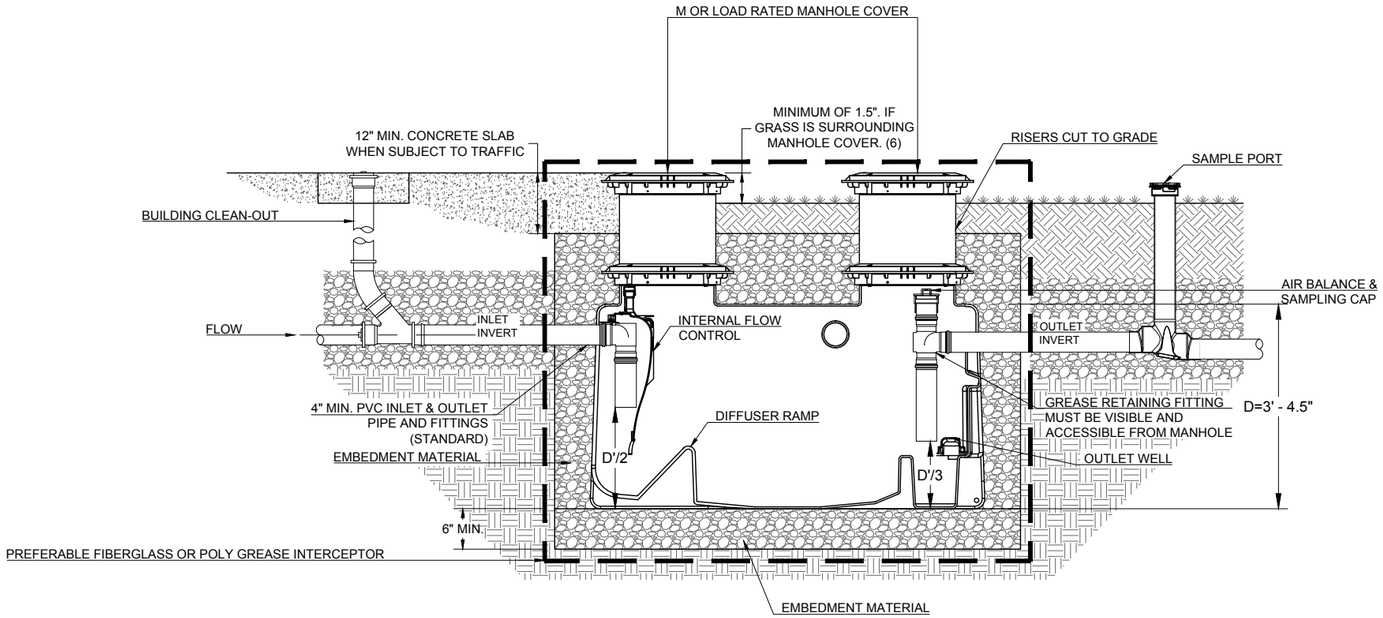
01 SPEC. FIBERGLASS OR POLY GREASE INTERCEPTOR PLAN

Scale: N.T.S.



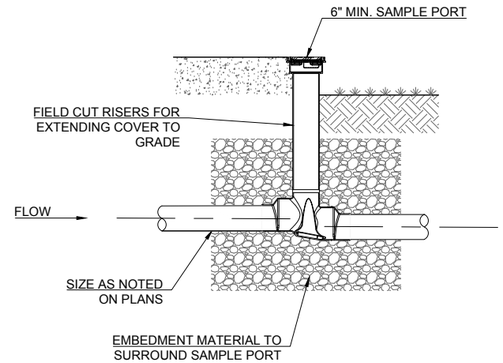
03 SPEC. BUILDING CLEAN-OUT DETAIL

Scale: N.T.S.



02 SPEC. FIBERGLASS OR POLY GREASE INTERCEPTOR PROFILE

Scale: N.T.S.



04 SPEC. SAMPLE PORT DETAIL

Scale: N.T.S.

LIST OF PRE-APPROVED MANUFACTURERS
SCHIER - GB-250/500
MIFAB - SUPER-500 SUPERMAX
ENDURA XL GREASE INTERCEPTOR

NOTE:

1. FIBERGLASS OR POLY GREASE INTERCEPTOR TO BE SUPPLIED BY PRE-APPROVED MANUFACTURER. SEE PRE-APPROVED LIST OF MANUFACTURERS.
2. MANHOLE LID TO BE SLIGHTLY ELEVATED FROM FINISHED CONCRETE SURFACE AND FLOATED TO GRADE TO PREVENT I&I.
3. MANHOLE ACCESS COVERS TO BE SECURED WITH STAINLESS STEEL HARDWARE.
4. GREASE RETAINING FITTING MUST BE VISIBLE AND ACCESSIBLE FROM MANHOLE.
5. PROVIDE MINIMUM 36" CLEARANCE AROUND GREASE INTERCEPTOR FROM ADJACENT TREES, SHRUBS, CURBS, ETC.
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UTILITIES ENGINEERING — DATE: 5/28/25

SANITARY SEWER STANDARD DETAILS
FIBERGLASS OR POLY GREASE INTERCEPTOR
REC. FOR USES REQUIRING ≤ 500 GAL. CAPACITY

SPEC.