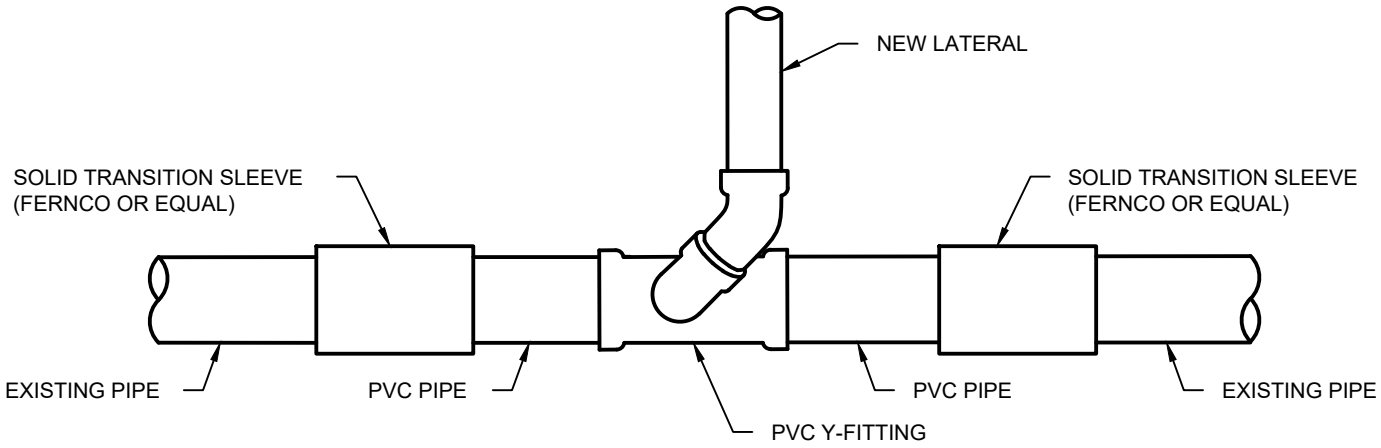
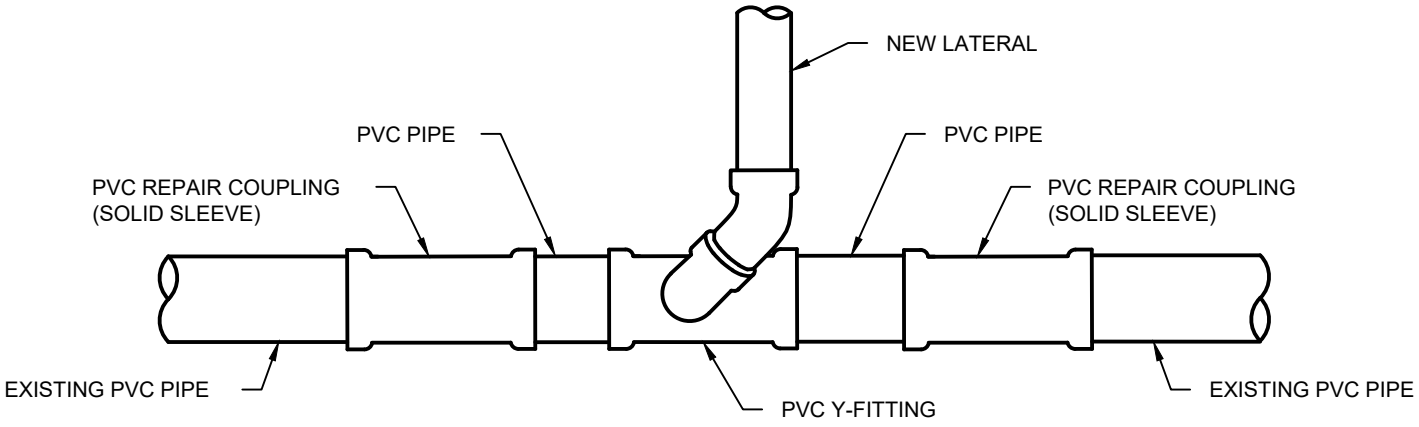
STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
CONNECTION TO EXISTING SEWER	SSM CONSULTING ENGINEERS	JDL (APP'D.)	04/2022 (DATE)	S-01 (DRAWING NUMBER)	(REV.)



CONNECTION TO EXISTING D.I., C.I., A/C OR RCP PIPE

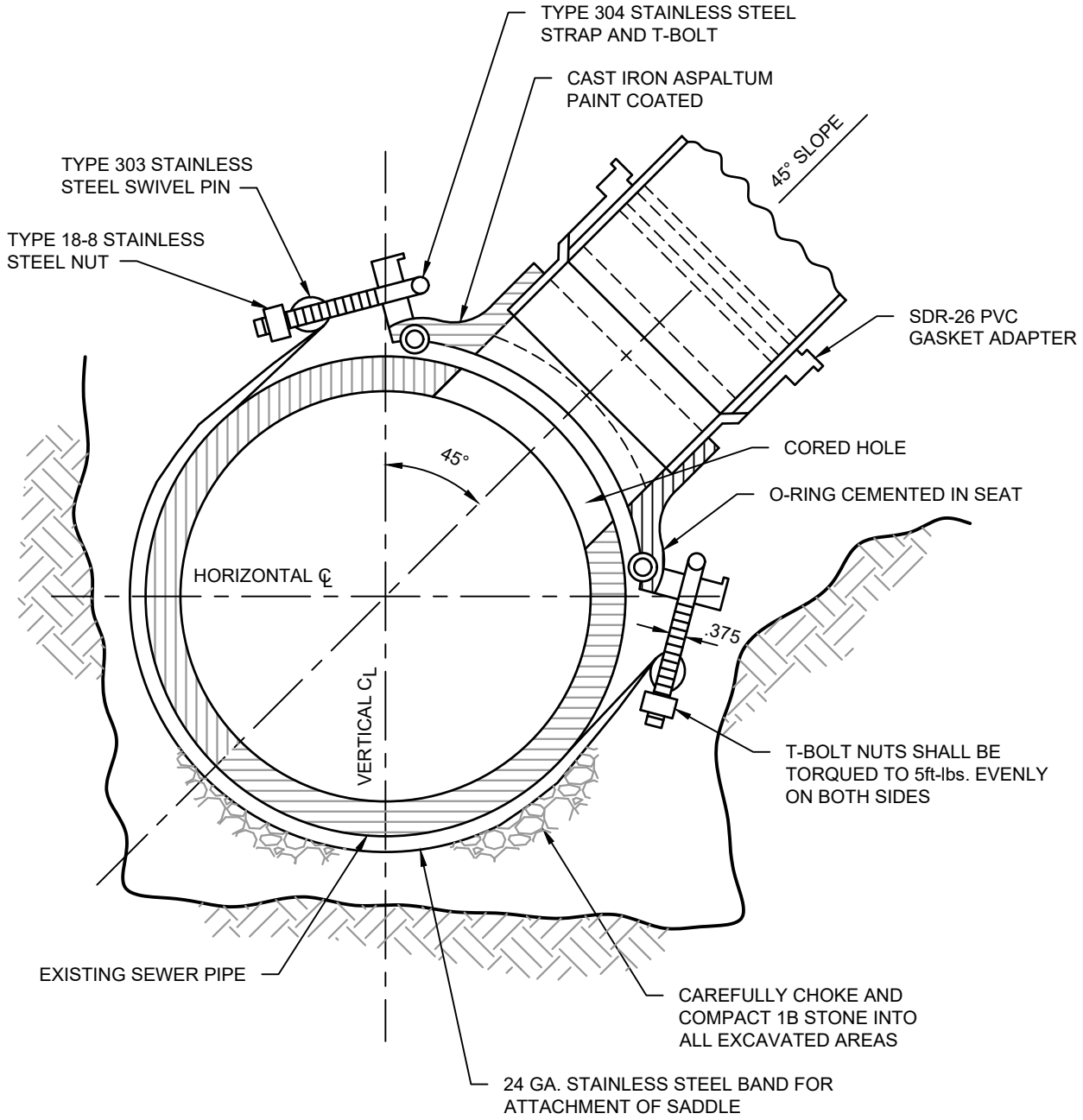


CONNECTION TO EXISTING PVC PIPE

CONNECTION TO EXISTING SEWER

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
SADDLE CONNECTION TO EXISTING SEWER	SSM CONSULTING ENGINEERS	JDL	04/2022	S-02	
		APP'D.	DATE	DRAWING NUMBER	REV.



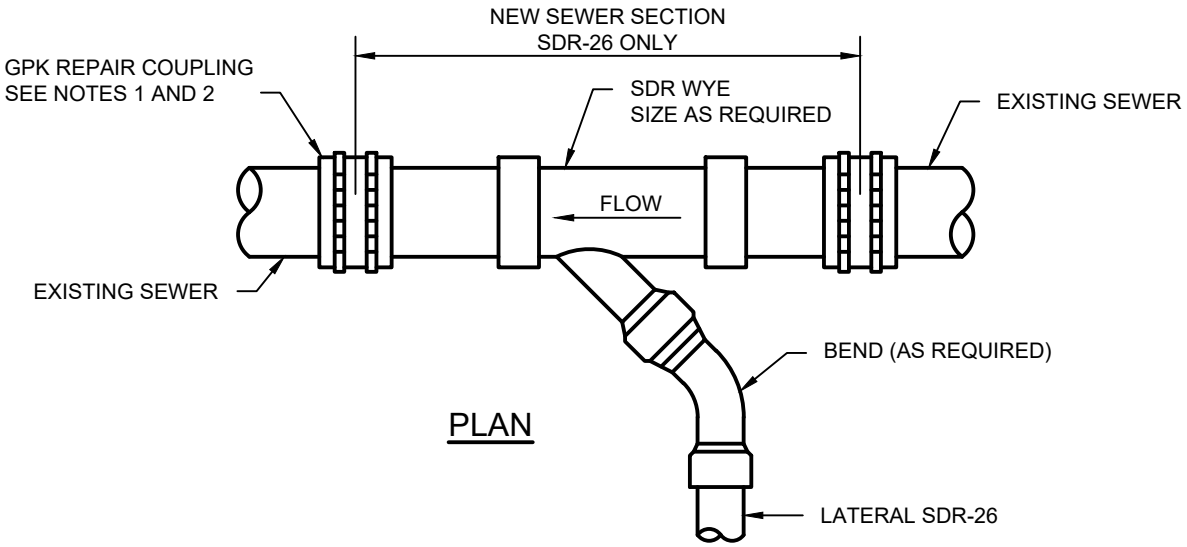
NOTES:

1. PIPE SADDLE SHALL BE STYLE CB AS MANUFACTURED BY ROMAC INDUSTRIES, INC. GENERAL ENGINEERING CO. OR APPROVED EQUAL. FOR PVC SEWER PIPE, SADDLE MAY BE GPK INDUSTRIES SADDLE WYE OR APPROVED EQUAL.

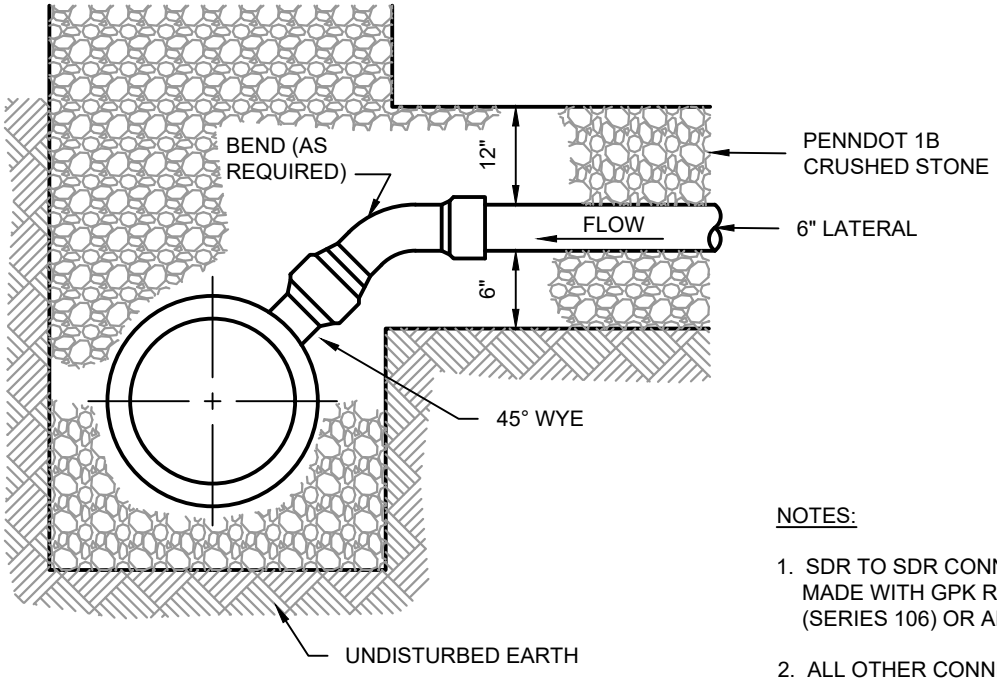
2. THE OPENING IN THE EXISTING SEWER PIPE OVER WHICH THE PIPE SADDLE WILL BE INSTALLED SHALL BE CORED OR CUT (NOT BROKEN) TO THE SIZE OF THE SADDLE OUTLET WITHOUT OVERCUTTING BEYOND THE SEAL DIAMETER.

SADDLE CONNECTION TO EXISTING SEWER

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
WYE CONNECTION TO EXISTING SEWER	SSM CONSULTING ENGINEERS	JDL (APP'D.)	04/2022 (DATE)	S-03 (DRAWING NUMBER)	(REV.)



PLAN



SECTION

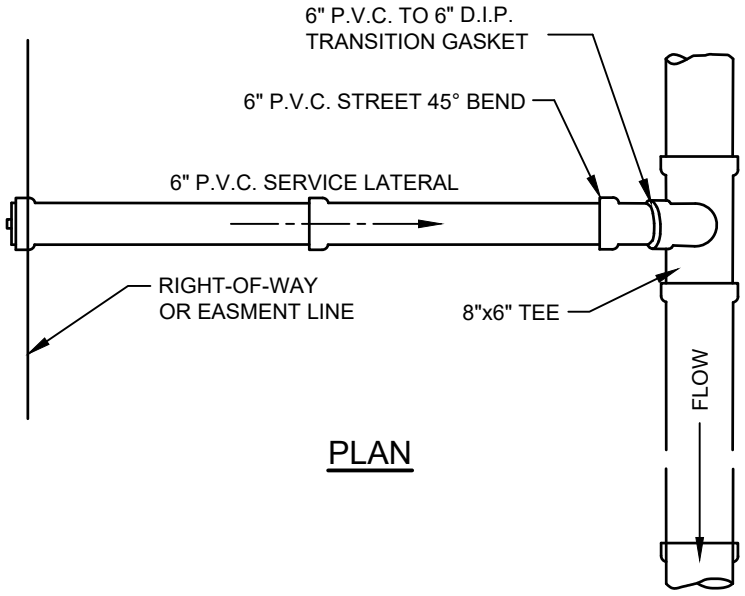
NOTES:

1. SDR TO SDR CONNECTION TO BE MADE WITH GPK REPAIR COUPLING (SERIES 106) OR APPROVED EQUAL.
2. ALL OTHER CONNECTIONS TO BE MADE WITH FERNCO COUPLING WITH STAINLESS STEEL STRAPS, STAINLESS STEEL SHEAR RING, AND PVC BUSHING WHEN REQUIRED.
3. ALL LATERAL CONNECTIONS WILL BE MADE BETWEEN 10 O'CLOCK AND 2 O'CLOCK.

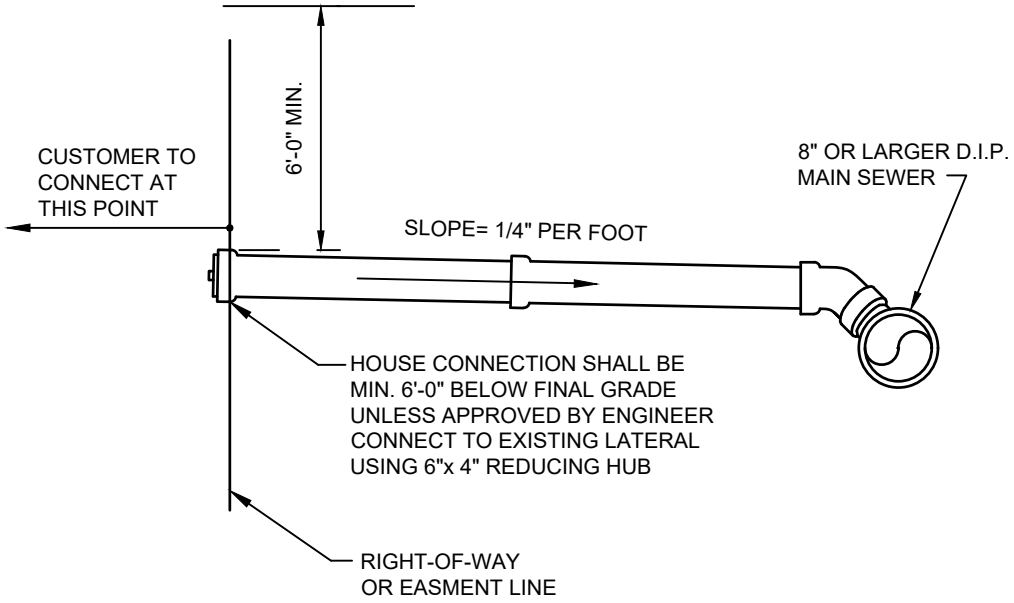
WYE CONNECTION TO EXISTING SEWER

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
TYPICAL SERVICE LATERAL	SSM	JDL	04/2022	S-04	
CONNECTION TO D.I.P. MAIN	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.



PLAN

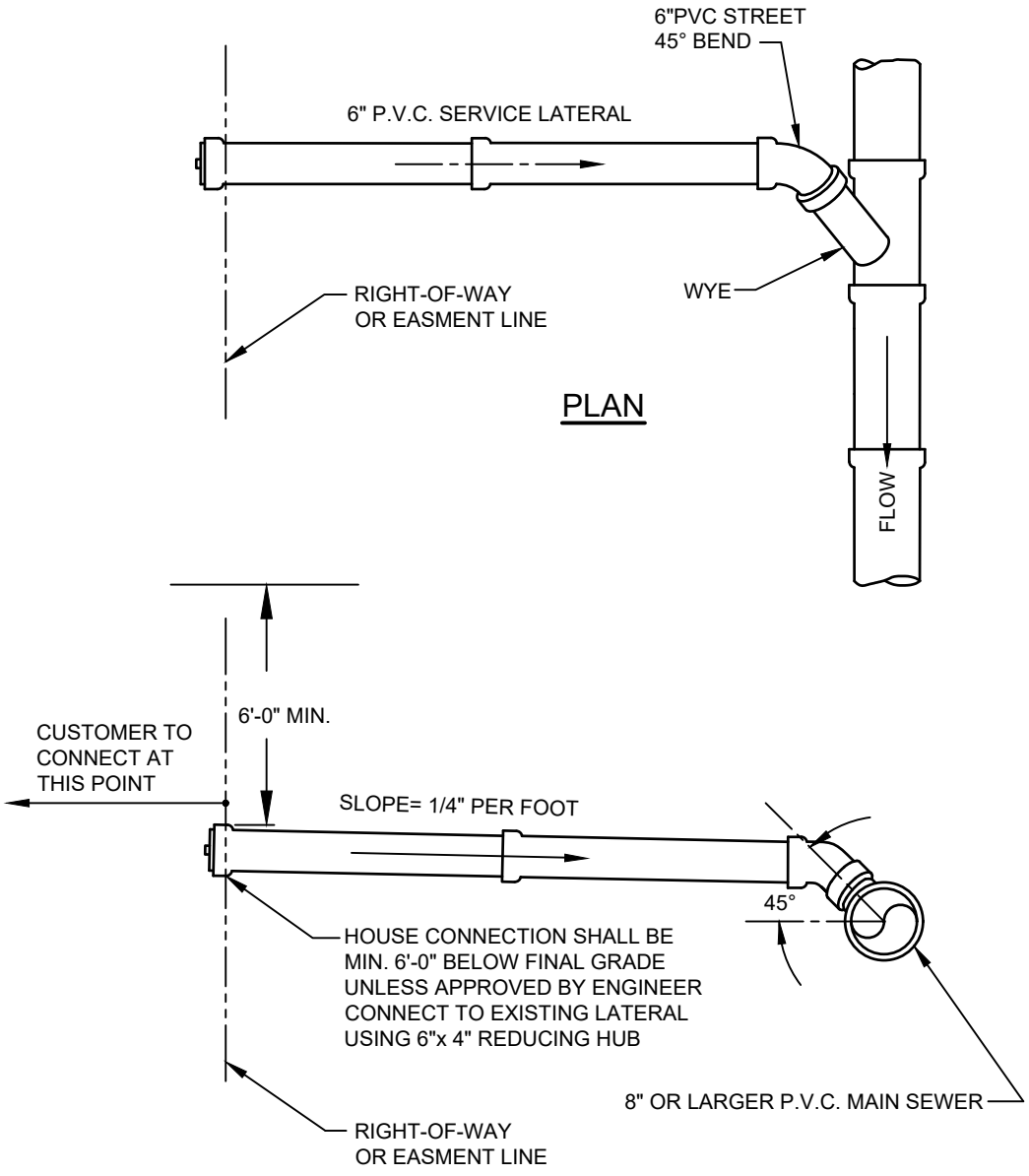


ELEVATION

D.I.P. MAIN
TYPICAL SERVICE LATERAL CONNECTION

NO SCALE

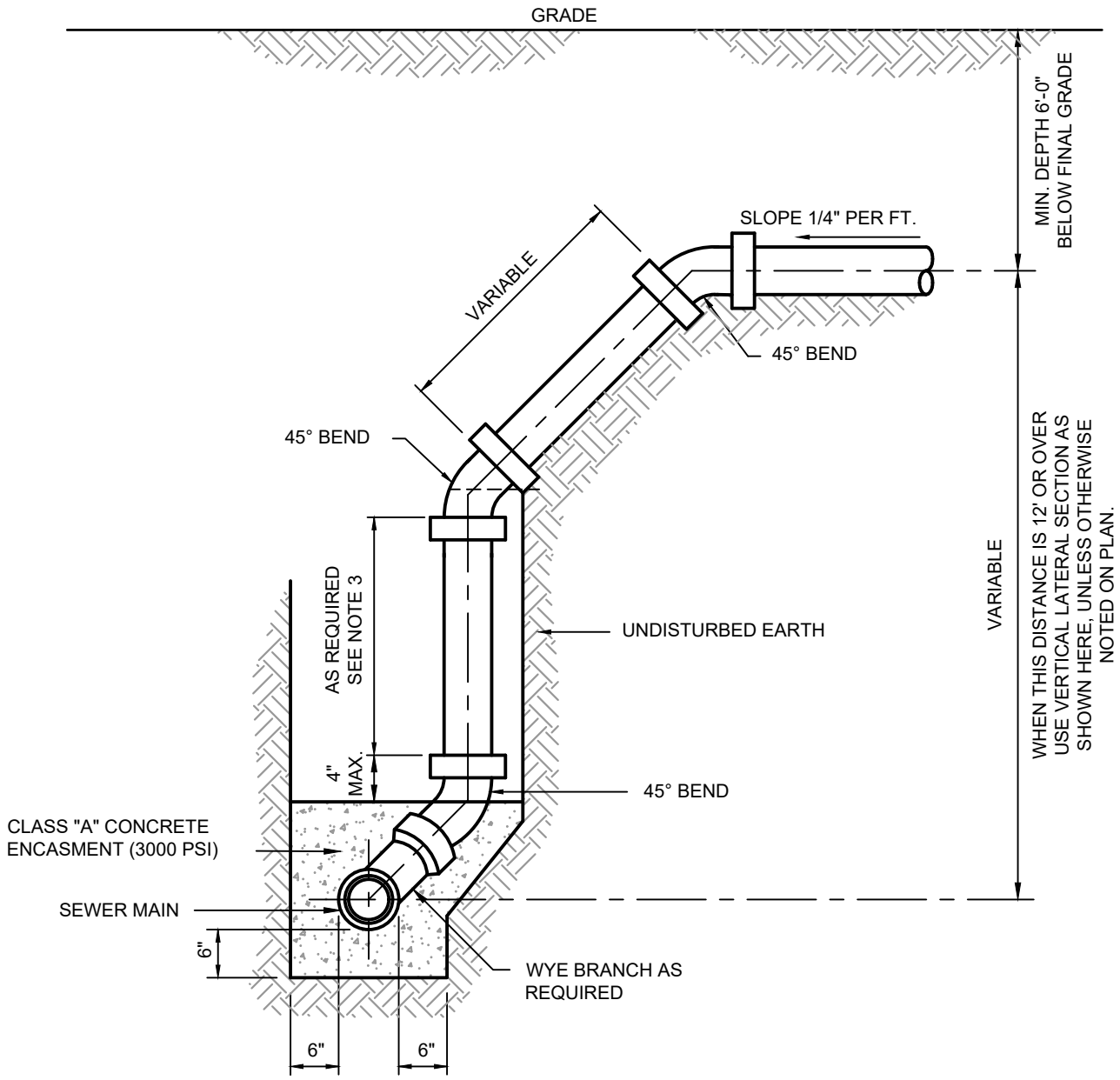
STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
TYPICAL SERVICE LATERAL	SSM CONSULTING ENGINEERS	JDL	04/2022	S-05	
CONNECTION TO P.V.C. MAIN		APP'D.	DATE	DRAWING NUMBER	REV.



P.V.C. MAIN
TYPICAL SERVICE LATERAL CONNECTION

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
TYPICAL STANDPIPE	SSM CONSULTING ENGINEERS	JDL	04/2022	S-06	
SINGLE SERVICE LATERAL RISER		APP'D.	DATE	DRAWING NUMBER	REV.



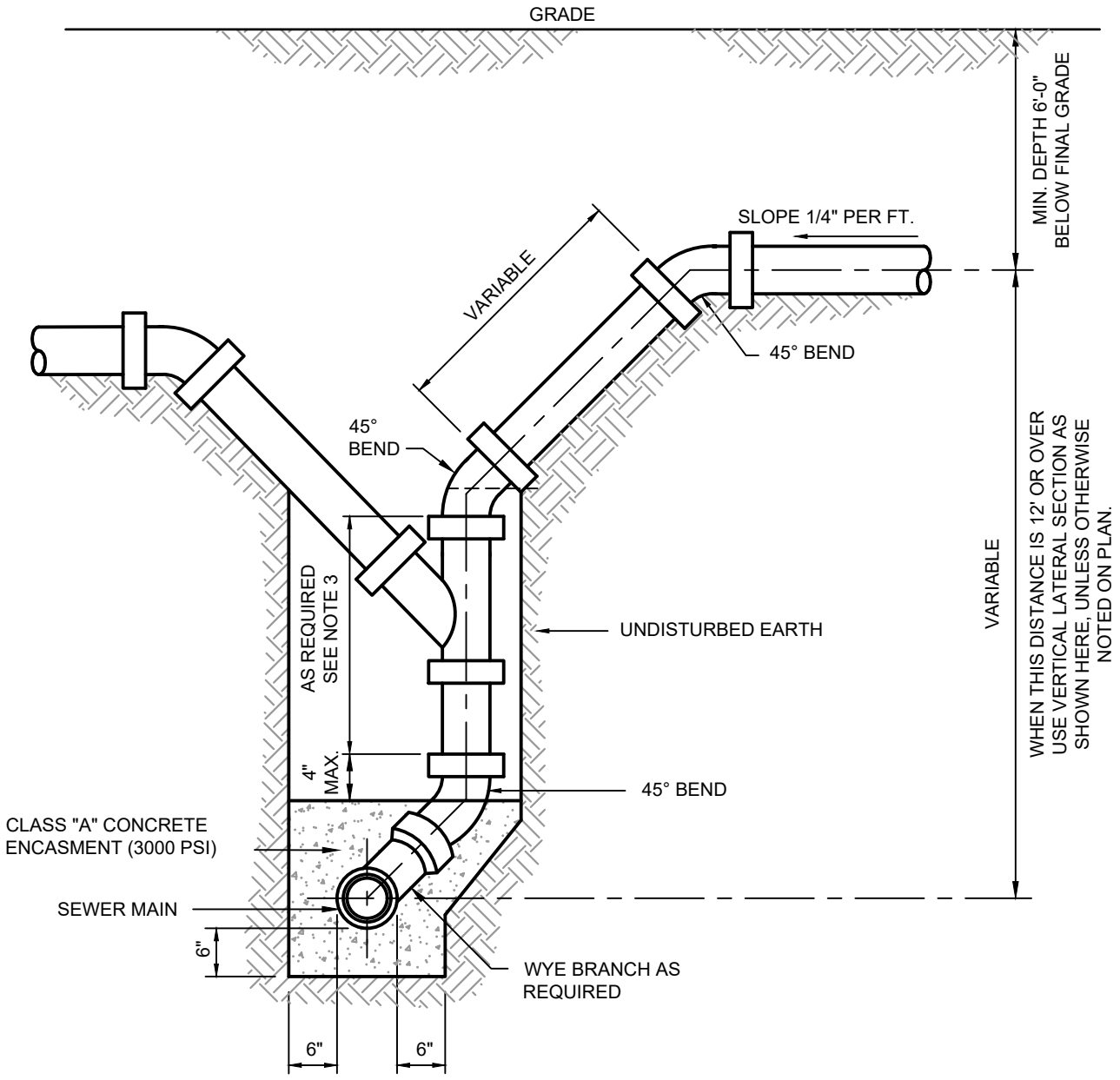
NOTES:

1. IN NO CASE SHALL A LATERAL CONNECT TO THE SEWER MAIN DIRECTLY ON TOP OF THE PIPE.
2. THE VERTICAL PIPE SHALL BE BRACED WHILE BACKFILLING TRENCH.
3. THE VERTICAL SECTION OF THE LATERAL RISER SHALL NOT BE USED WHEN THE HEIGHT OF THE RISER FROM THE ℄ OF THE SEWER MAIN TO ℄ OF END OF LATERAL IS LESS THAN 6 FEET, UNLESS APPROVED BY THE ENGINEER.
4. CONCRETE ENCASEMENT SHALL EXTEND ALONG SEWER MAIN 2 FEET BEYOND END OF WYE BRANCH FITTING (BOTH ENDS).

TYPICAL STANDPIPE
SINGLE SERVICE LATERAL RISER DETAIL

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
TYPICAL STANDPIPE	SSM CONSULTING ENGINEERS	JDL	04/2022	S-07	
MULTIPLE SERVICE LATERAL RISER		APP'D.	DATE	DRAWING NUMBER	REV.



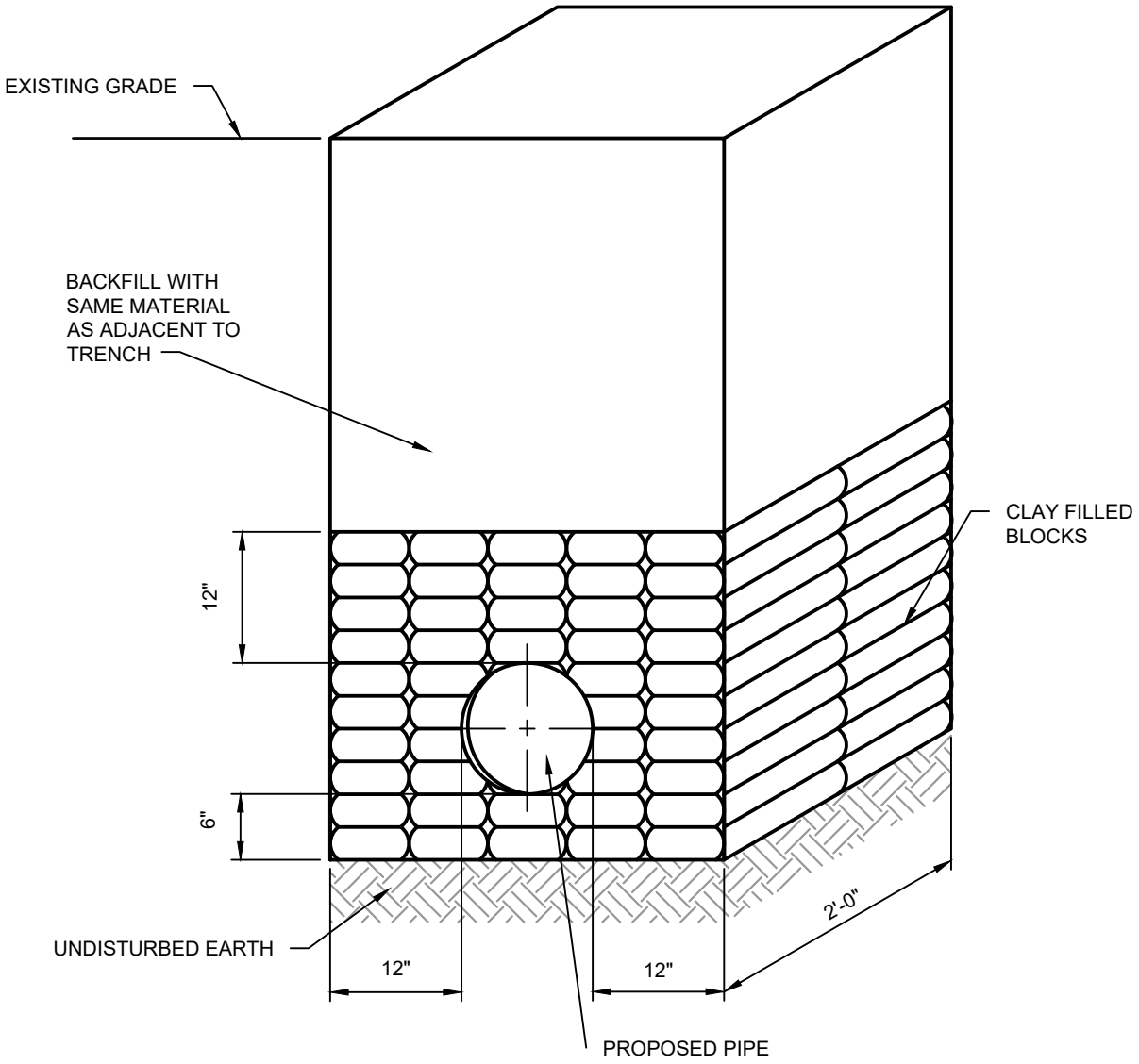
NOTES:

1. IN NO CASE SHALL A LATERAL CONNECT TO THE SEWER MAIN DIRECTLY ON TOP OF THE PIPE.
2. THE VERTICAL PIPE SHALL BE BRACED WHILE BACKFILLING TRENCH.
3. THE VERTICAL SECTION OF THE LATERAL RISER SHALL NOT BE USED WHEN THE HEIGHT OF THE RISER FROM THE ℄ OF THE SEWER MAIN TO ℄ OF END OF LATERAL IS LESS THAN 6 FEET, UNLESS APPROVED BY THE ENGINEER.
4. CONCRETE ENCASEMENT SHALL EXTEND ALONG SEWER MAIN 2 FEET BEYOND END OF WYE BRANCH FITTING (BOTH ENDS).

TYPICAL STANDPIPE
MULTIPLE SERVICE LATERAL RISER DETAIL

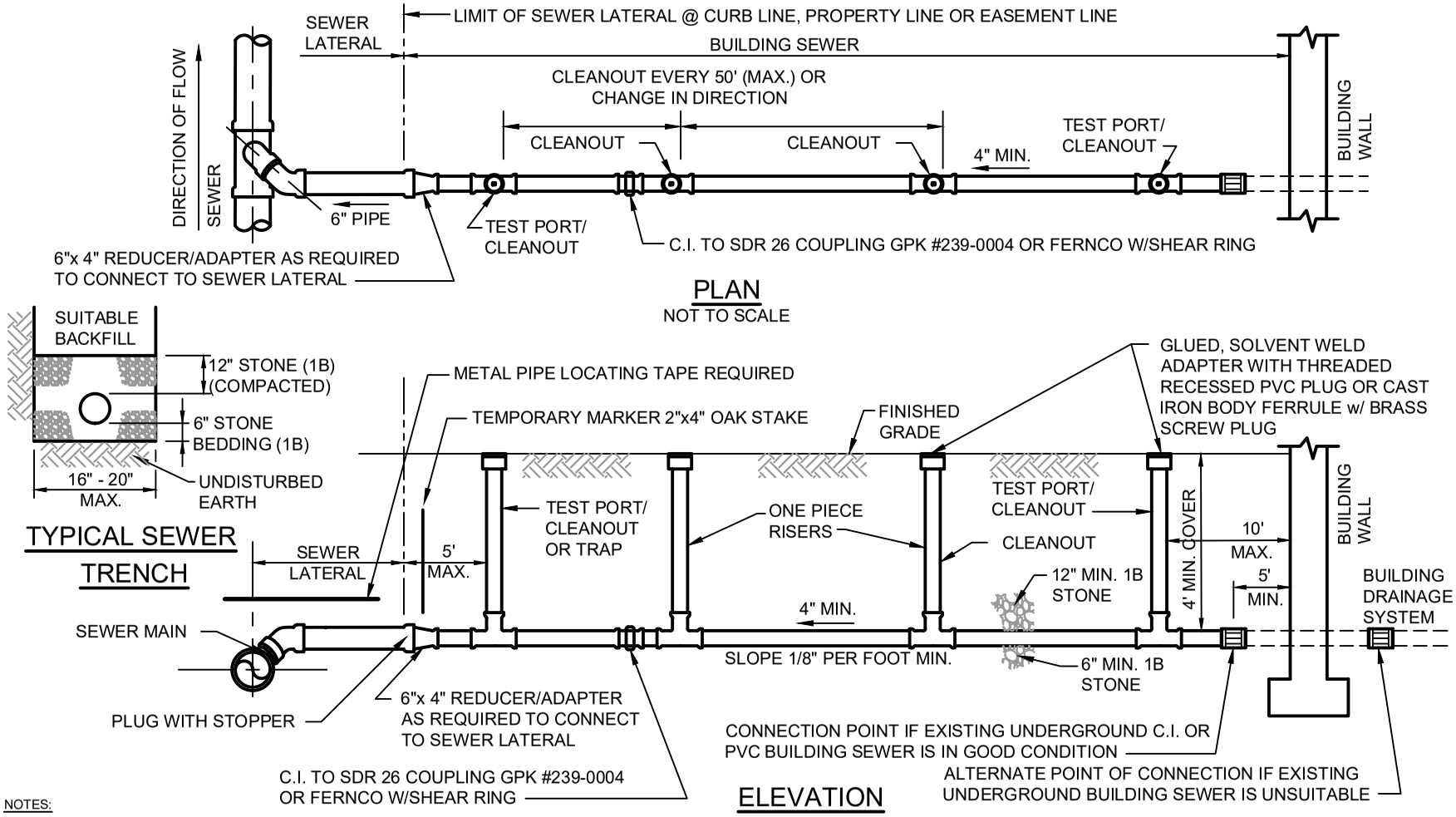
NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
TRENCH PLUG DETAIL	SSM CONSULTING ENGINEERS	JDL APP'D.	04/2022 DATE	S-08 DRAWING NUMBER	REV.



TRENCH PLUG DETAIL

NO SCALE



NOTES:

1. CONSTRUCTION SHALL COMPLY WITH THE ICC INTERNATIONAL RESIDENTIAL CODE AND THIS DRAWING, AS A MINIMUM.
2. CLEANOUTS SHALL BE INSTALLED NOT MORE THAN 100' APART IN HORIZONTAL DRAINAGE LINES OF 8" DIA. OR LESS, AT ALL CHANGES OF DIRECTION, AT THE PROPERTY LINE OR CURB LINE, AND AT THE BUILDING LINE AS SHOWN IN THE ABOVE DETAIL.
3. PIPES LARGER THAN 8" SHALL HAVE MANHOLES NOT MORE THAN 200' APART.
4. ON-LOT SEWAGE DISPOSAL SYSTEM SHALL BE ABANDONED IN A MANNER APPROVED BY THE MUNICIPALITY.
5. TESTING SHALL INCLUDE EITHER AN AIR TEST AT 5 PSIG AIR PRESSURE FOR 15 MINUTES OR A HYDROSTATIC EXFILTRATION TEST AT 10' HEAD OF WATER MINIMUM FOR 6 HOURS. TESTING SHALL INCLUDE THE BUILIDING SEWER LINE AND CLEANOUTS.
6. TEST PORTS/CLEANOUTS, IF PLACED WITHIN PAVED AREAS, SHALL BE PROTECTED FROM VEHICULAR DAMAGE BY LOCATING IN CAST IRON OR DUCTILE IRON FRAME AND COVER MARKED "S" (SEE DETAIL S-13).
7. IT IS THE PROPERTY OWNERS RESPONSIBILITY TO MAINTAIN ACCESS TO TEST PORTS. ALL COSTS RELATED TO GAINING ACCESS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
8. PROVIDE STONE BEDDING AS SHOWN ABOVE.
9. PROPERTY OWNER SHALL BE RESPONSIBLE FOR SEALING THE BUILDING SEWER PENETRATION THROUGH THE BUILDING WALL. THE MUNICIPALITY SHALL NOT BE RESPONSIBLE FOR ANY GROUND WATER ENTERING INTO THE BUILDING.
10. ANY DISCREPANCIES BETWEEN THIS DETAIL AND THE ICC INTERNATIONAL RESIDENTIAL CODE, THE ICC INTERNATIONAL RESIDENTIAL CODE, AS ENFORCED BY THE PA UCC SHALL TAKE PRECEDENT.

RESIDENTIAL BUILDING SEWER

NO SCALE

STANDARD DETAIL

TYPICAL BUILDING SEWER

RESIDENTIAL

UPPER MONTGOMERY JOINT AUTHORITY

CONSULTING ENGINEERS SSM

APP'D.	DATE	DRAWING NUMBER	REV.
JDL	04/2022	S-09A	

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
TYPICAL BUILDING SEWER	SSM	JDL	04/2022	S-09B	
RESIDENTIAL	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.

BUILDING SEWER PIPE

SHALL CONFORM TO ONE OF THE STANDARDS LISTED BELOW.

MATERIAL	STANDARD
ACRYLONITRILE BUTADIENE STYRENE (ABS) PLASTIC PIPE IN IPS DIAMETERS, INCLUDING SCHEDULE 40, DR 22 (PS 200) AND DR 24 (PS 140);WITH A SOLID, CELLULAR CORE OR COMPOSITE WALL	ASTM D 2661; ASTM F 628; ASTM F 1488
CAST-IRON PIPE	ASTM A 74; ASTM A 888; CISPI 301
ACRYLONITRILE BUTADIENE STYRENE (ABS) PLASTIC PIPE IN SEWER AND DRAIN DIAMETERS, INCLUDING SDR 42 (PS 20), PS35, SDR 35 (PS 45), PS50, PS100, PS140, SDR 23.5 (PS 150) AND PS200; WITH A SOLD, CELLULAR CORE OR COMPOSITE WALL	ASTM F 1488; ASTM D 2751
POLYVINYL CHLORIDE (PVC) PLASTIC PIPE IN SEWER AND DRAIN DIAMETERS, INCLUDING PS 25, SDR 41 (PS 28), PS 35, SDR 35 (PS 46), PS 50, PS 100, SDR 26 (PS 115), PS140 AND PS 200; WITH A SOLID, CELLULAR CORE OR COMPOSITE WALL	ASTM F 891; ASTM F 1488; ASTM D 3034; CSA B182.2; CSA B182.4
CONCRETE PIPE	ASTM C 14; ASTM C 76; CSA A257.1M; CSA A257.2M
COPPER OR COPPER-ALLOY TUBING (TYPE K OR L)	ASTM B 75; ASTM B 88; ASTM B 251
POLYETHYLENE (PE) PLASTIC PIPE (SDR-PE)	ASTM F 714
POLYOLEFIN PIPE	ASTM F 1412; CSA B181.3
POLYVINYL CHLORIDE (PVC) PLASTIC PIPE IN IPS DIAMETERS, INCLUDING SCHEDULE 40, DR 22 (PS 200) AND DR 24 (PS 140); WITH A SOLID, CELLULAR CORE OR COMPOSITE WALL	ASTM D 2665; ASTM D 2949; ASTM D 3034; ASTM F 1412; CSA B182.2; B 182.4
POLYVINYL CHLORIDE (PVC) PLASTIC PIPE WITH A 3.25 INCH O.D. AND A SOLID, CELLULAR CORE OR COMPOSITE WALL	ASTM D 2949; ASTM F 1488
STAINLESS STEEL DRAINAGE SYSTEMS, TYPE 304 AND 316L	ASME A 112.3.1
VITRIFIED CLAY PIPE	ASTM C 425; ASTM C 700

FOR SI: 1 INCH = 25.4mm

PIPE FITTINGS

SHALL CONFORM TO ONE OF THE STANDARDS LISTED BELOW.

MATERIAL	FITTING STANDARD
ACRYLONITRILE BUTADIENE STYRENE (ABS) PLASTIC PIPE IN IPS DIAMETERS	ASTM D 2661; ASTM D 3311; ASTM F 628; CSA B181.1
CAST-IRON	ASME B 16.4; ASME B16.12; ASTM A74; ASTM A 888; CISPI 301
ACRYLONITRILE BUTADIENE STYRENE (ABS) PLASTIC PIPE IN SEWER AND DRAIN DIAMETERS	ASTM D 2751
POLYVINYL CHLORIDE (PVC) PLASTIC PIPE IN SEWER AND DRAIN DIAMETERS	ASTM D 3034
COPPER OR COPPER ALLOY	ASME B 16.15; ASME B 16.18; ASME B 16.22; ASME B 16.23;ASME B 16.26; ASME B 16.29
GRAY IRON AND DUCTILE IRON	AAWWA C 110/A21.10
POLYOLEFIN	ASTM F 1412; CSA B181.3
POLYVINYL CHLORIDE (PVC) PLASTIC PIPE IN IPS DIAMETERS	ASTM D 2665; ASTM D 3311; ASTM F 1866
POLYVINYL CHLORIDE (PVC) PLASTIC PIPE WITH A 3.25 INCH O.D	ASTM D 2949
PVC FABRICATED FITTINGS	ASTM F 1866
STAINLESS STEEL DRAINAGE SYSTEMS, TYPE 304 AND 316L	ASME A 112.3.1
VITRIFIED CLAY PIPE	ASTM C 700

FOR SI: 1 INCH = 25.4mm

SLOPE OF HORIZONTAL DRAINAGE PIPE

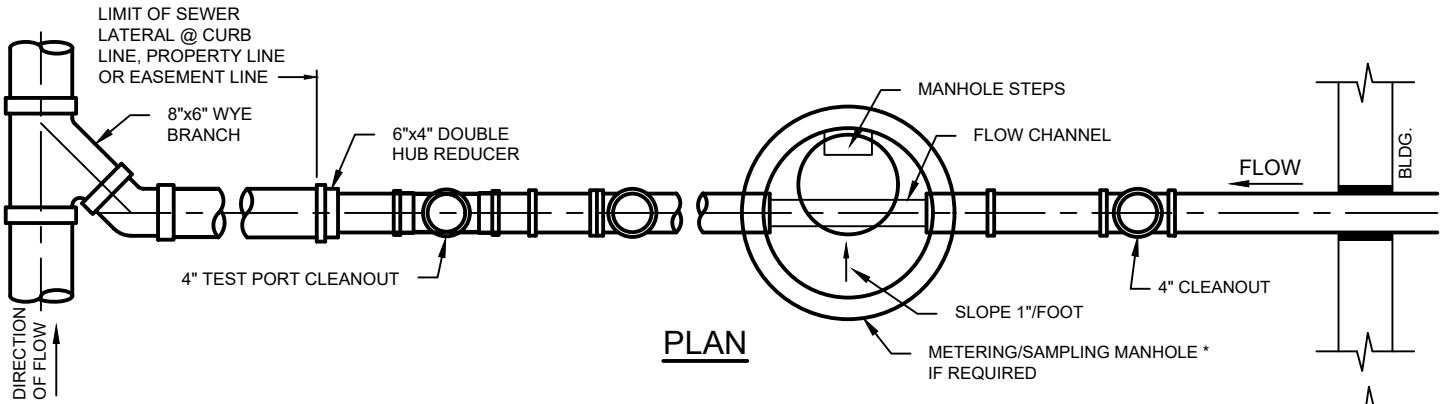
SHALL CONFORM TO ONE OF THE STANDARDS LISTED BELOW.

SIZE (INCHES)	MINIMUM SLOPE (INCH PER FOOT)
2 ½ OR LESS	¼
3 TO 6	⅛
8 OR LARGER	1/16

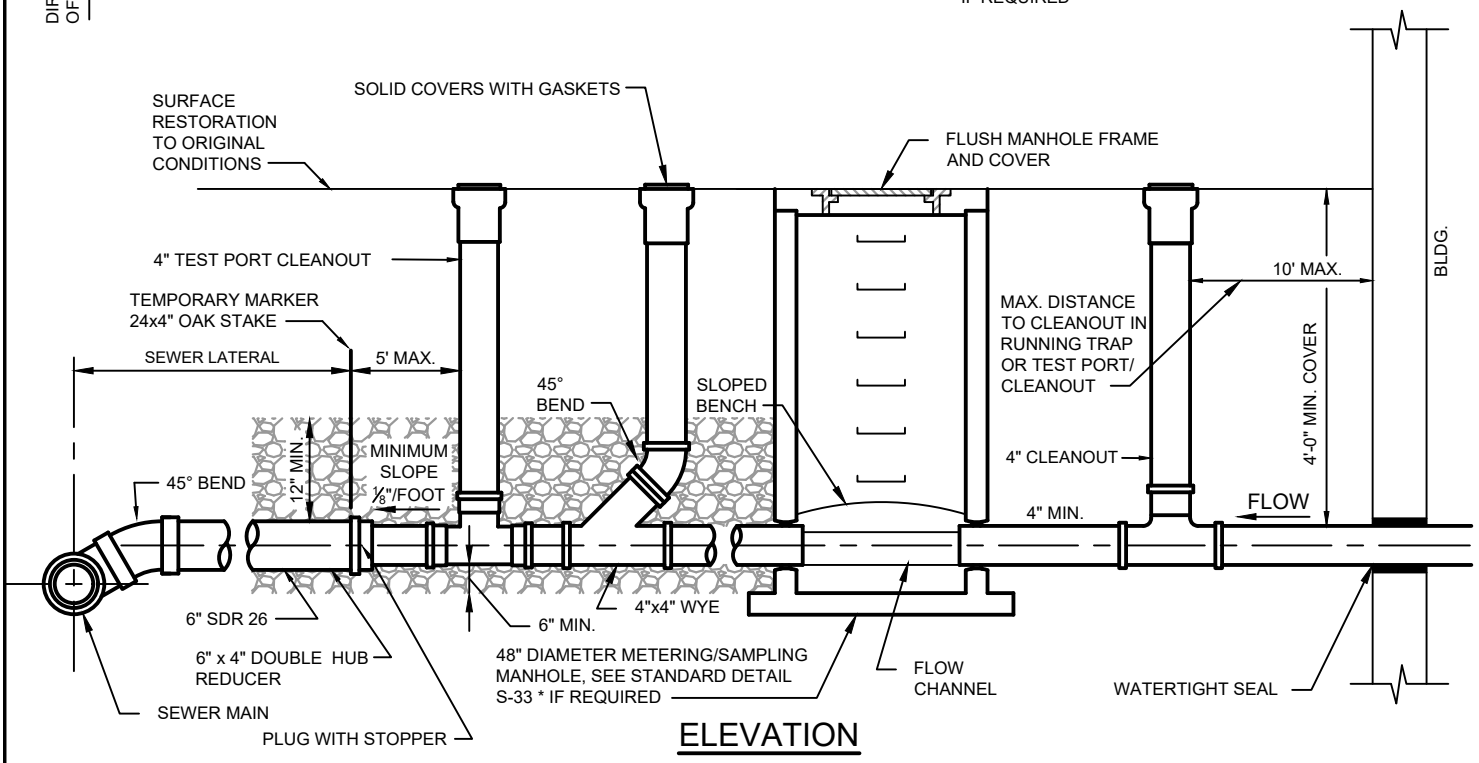
STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
ALTERNATE BUILDING SEWER	SSM	JDL	04/2022	S-10	
RESIDENTIAL	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.

NOT USED

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
TYPICAL BUILDING SEWER	SSM CONSULTING ENGINEERS	JDL	04/2022	S-11A	
COMMERCIAL OR INDUSTRIAL		APP'D.	DATE	DRAWING NUMBER	REV.



PLAN



ELEVATION

NOTES:

1. CONSTRUCTION SHALL COMPLY WITH THE ICC INTERNATIONAL PLUMBING CODE AND THIS DRAWING, AS A MINIMUM.
2. CLEANOUTS SHALL BE INSTALLED NOT MORE THAN 100' APART IN HORIZONTAL DRAINAGE LINES OF 8" DIA. OR LESS, AT ALL CHANGES OF DIRECTION, AND AT THE PROPERTY LINE OR CURB LINE, AS SHOWN IN THE ABOVE DETAIL.
3. PIPES LARGER THAN 8" SHALL HAVE MANHOLES NOT MORE THAN 200' APART
4. ON-LOT SEWAGE DISPOSAL SYSTEM SHALL BE ABANDONED IN A MANNER APPROVED BY THE MUNICIPALITY.
5. TESTING SHALL INCLUDE EITHER AN AIR TEST OF THE BUILDING SEWER AND CLEANOUTS AT 5 PSIG AIR PRESSURE FOR 15 MINUTES OR A HYDROSTATIC EXFILTRATION TEST AT 10' HEAD OF WATER MINIMUM, FOR 6 HOURS.
6. CLEANOUTS AND TEST PORTS, IF PLACED WITHIN PAVED AREAS, SHALL BE PROTECTED FROM VEHICULAR DAMAGE BY LOCATING IN CAST IRON OR DUCTILE IRON VALVE BOX AND COVER MARKED "SEWER".
7. IT IS THE PROPERTY OWNERS RESPONSIBILITY TO MAINTAIN ACCESS TO TEST PORTS. ALL COSTS RELATED TO GAINING ACCESS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
8. PROVIDE STONE BEDDING AS SHOWN ABOVE.
9. PROPERTY OWNER SHALL BE RESPONSIBLE FOR SEALING THE BUILDING SEWER PENETRATION THROUGH THE BUILDING WALL. THE MUNICIPALITY SHALL NOT BE RESPONSIBLE FOR ANY GROUND WATER ENTERING INTO THE BUILDING.
10. ANY DISCREPANCIES BETWEEN THIS DETAIL AND THE ICC INTERNATIONAL PLUMBING CODE, THE ICC INTERNATIONAL PLUMBING CODE, AS ENFORCED BY THE PA UCC SHALL TAKE PRECEDENT.

TYPICAL BUILDING SEWER COMMERCIAL OR INDUSTRIAL

NO SCALE

STANDARD DETAIL

TYPICAL BUILDING SEWER

COMMERCIAL OR INDUSTRIAL

UPPER MONTGOMERY JOINT AUTHORITY

SSM CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.
	JDL	04/2022	S-11B	

BUILDING SEWER PIPE

SHALL CONFORM TO ONE OF THE STANDARDS LISTED BELOW.

MATERIAL	STANDARD
ACRYLONITRILE BUTADIENE STYRENE (ABS) PLASTIC PIPE IN IPS DIAMETERS, INCLUDING SCHEDULE 40, DR 22 (PS 200) AND DR 24 (PS 140);WITH A SOLID, CELLULAR CORE OR COMPOSITE WALL	ASTM D 2661; ASTM F 628; ASTM F 1488; CSA B181.1
ACRYLONITRILE BUTADIENE STYRENE (ABS) PLASTIC PIPE IN SEWER AND DRAIN DIAMETERS, INCLUDING SDR 42 (PS 20), PS 35, SDR 35 (PS 45), PS 50, PS 100, PS 140, SDR 23.5 (PS 150) AND PS200; WITH A SOLD, CELLULAR CORE OR COMPOSITE WALL	ASTM F 1488; ASTM D 2751
CAST-IRON PIPE	ASTM A 74; ASTM A 888; CISPI 301
CONCRETE PIPE	ASTM C 14; ASTM C 76; CSA A257.1M; CSA A257.2M
COPPER OR COPPER-ALLOY TUBING (TYPE K OR L)	ASTM B 75; ASTM B 88; ASTM B 251
POLYETHYLENE (PE) PLASTIC PIPE (SDR-PE)	ASTM F 714
POLYVINYL CHLORIDE (PVC) PLASTIC PIPE IN IPS DIAMETERS, INCLUDING SCHEDULE 40, DR 22 (PS 200) AND DR 24 (PS 140); WITH A SOLID, CELLULAR CORE OR COMPOSITE WALL	ASTM D 2665; ASTM F 891; ASTM F 1488
POLYVINYL CHLORIDE (PVC) PLASTIC PIPE IN SEWER AND DRAIN DIAMETERS, INCLUDING PS 25, SDR 41 (PS 28), PS 35, SDR 35 (PS 46), PS 50, PS 100, SDR 26 (PS 115), PS 140 AND PS 200; WITH A SOLID, CELLULAR CORE OR COMPOSITE WALL	ASTM F 891; ASTM F 1488; ASTM D 3034; CSA B182.2; CSA B182.4
POLYVINYL CHLORIDE (PVC) PLASTIC PIPE WITH A 3.25 INCH O.D. AND A SOLID, CELLULAR CORE OR COMPOSITE WALL	ASTM D 2949; ASTM F 1488
POLYVINYLDENE FLUORIDE (PVDF) PLASTIC PIPE	ASTM F 1673; CSA B181.3
STAINLESS STEEL DRAINAGE SYSTEMS, TYPE 304 AND 316L	ASME A 112.3.1
VITRIFIED CLAY PIPE	ASTM C4; ASTM C 700

FOR SI: 1 INCH = 25.4mm

PIPE FITTINGS

SHALL CONFORM TO ONE OF THE STANDARDS LISTED BELOW.

MATERIAL	FITTING STANDARD
ACRYLONITRILE BUTADIENE STYRENE (ABS) PLASTIC PIPE IN IPS DIAMETERS	ASTM D 2661; ASTM F 628; CSA B181.1
ACRYLONITRILE BUTADIENE STYRENE (ABS) PLASTIC PIPE IN SEWER AND DRAIN DIAMETERS	ASTM D 2751
CAST-IRON	ASME B 16.4; ASME B16.12; ASTM A74; ASTM A 888; CISPI 301
COPPER OR COPPER ALLOY	ASME B 16.15; ASME B 16.18; ASME B 16.22; ASME B 16.23;ASME B 16.26; ASME B 16.29
GLASS	ASTM C 1053
GRAY IRON AND DUCTILE IRON	AAWWA C 110/A21.10
MALLEABLE IRON	ASME B 16.3
POLYOLEFIN	ASTM F 1412; CSA B181.3
POLYVINYL CHLORIDE (PVC) PLASTIC PIPE IN IPS DIAMETERS	ASTM D 2665; ASTM F 1866
POLYVINYL CHLORIDE (PVC) PLASTIC PIPE IN SEWER AND DRAIN DIAMETERS	ASTM D 3034
POLYVINYL CHLORIDE (PVC) PLASTIC PIPE WITH A 3.25 INCH O.D	ASTM D 2949
POLYVINYLDENE FLUORIDE (PVDF) PLASTIC PIPE	ASTM F 1673; CSA B181.3
STAINLESS STEEL DRAINAGE SYSTEMS, TYPE 304 AND 316L	ASME A 112.3.1
STEEL	ASME B 16.9; ASME B 16.11; ASME B 16.28
VITRIFIED CLAY PIPE	ASTM C 700

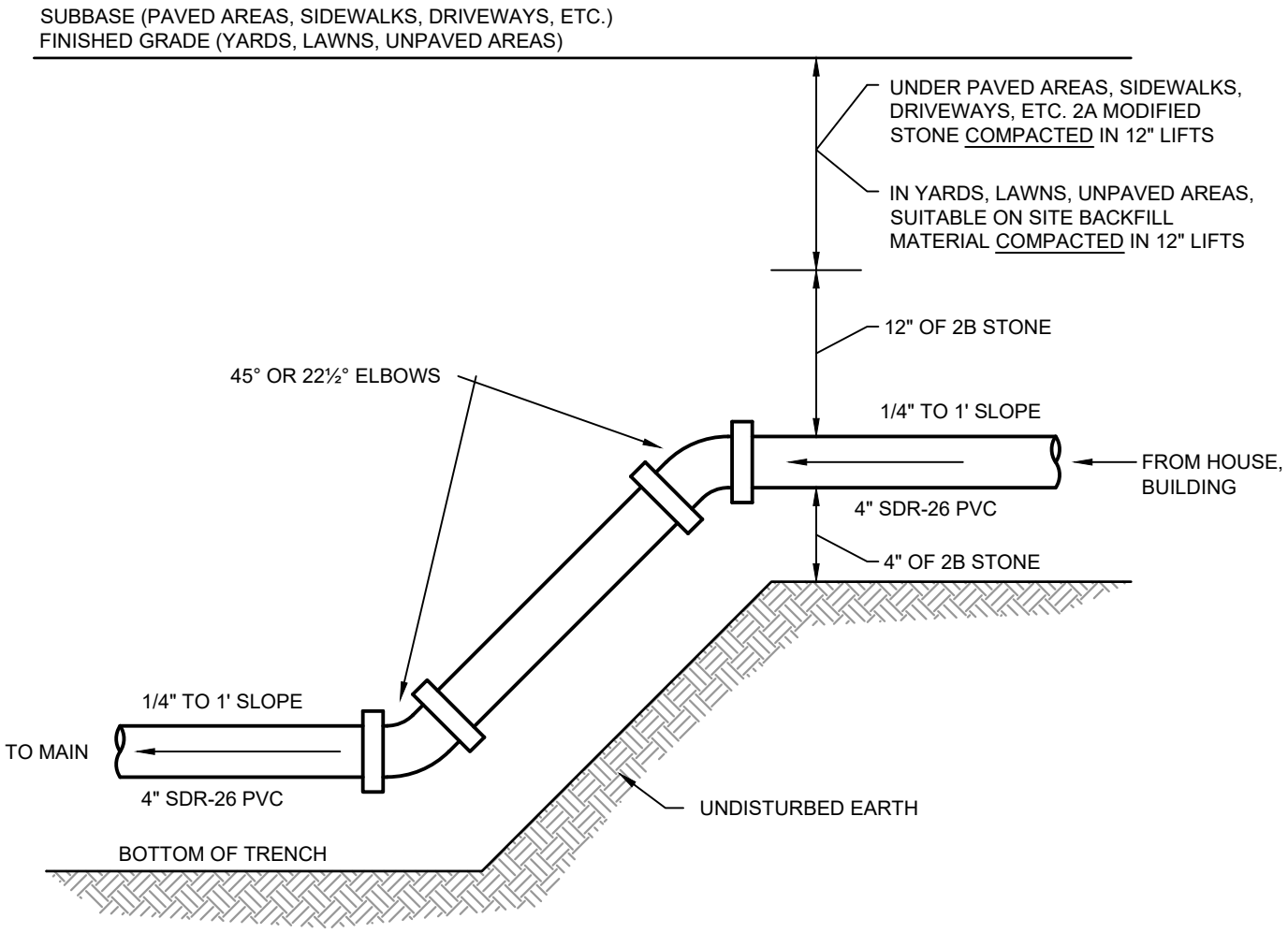
FOR SI: 1 INCH = 25.4mm

SLOPE OF HORIZONTAL DRAINAGE PIPE

SHALL CONFORM TO ONE OF THE STANDARDS LISTED BELOW.

SIZE (INCHES)	MINIMUM SLOPE (INCH PER FOOT)
2 ½ OR LESS	¼
3 TO 6	⅛
8 OR LARGER	1/16

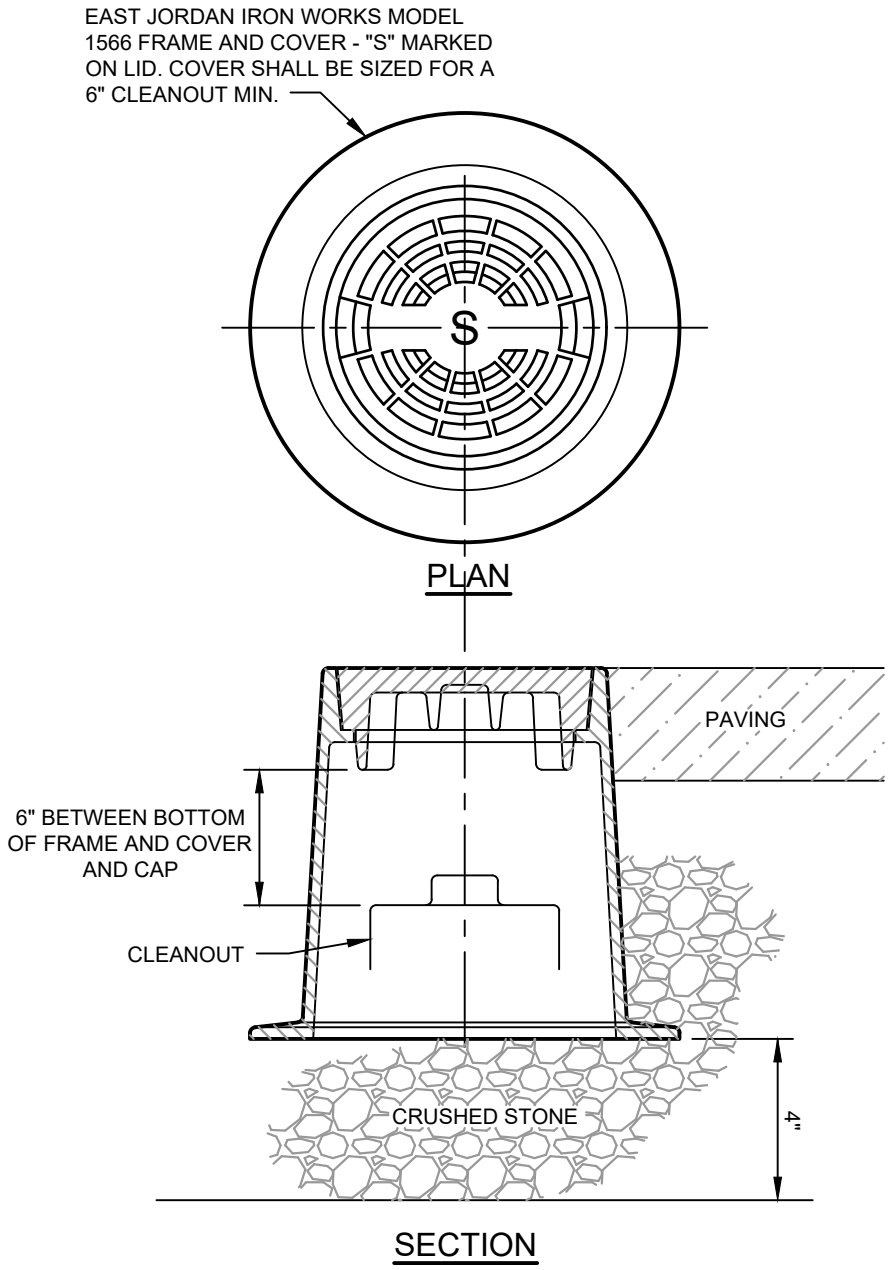
STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
GRADE ADJUSTMENT	SSM CONSULTING ENGINEERS	JDL APP'D.	04/2022 DATE	S-12 DRAWING NUMBER	REV.



GRADE ADJUSTMENT DETAIL

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
CLEANOUT FRAME & COVER IN PAVED AREA	SSM CONSULTING ENGINEERS	JDL	04/2022	S-13	
		APP'D.	DATE	DRAWING NUMBER	REV.



CLEANOUT FRAME & COVER IN PAVED AREA

NO SCALE

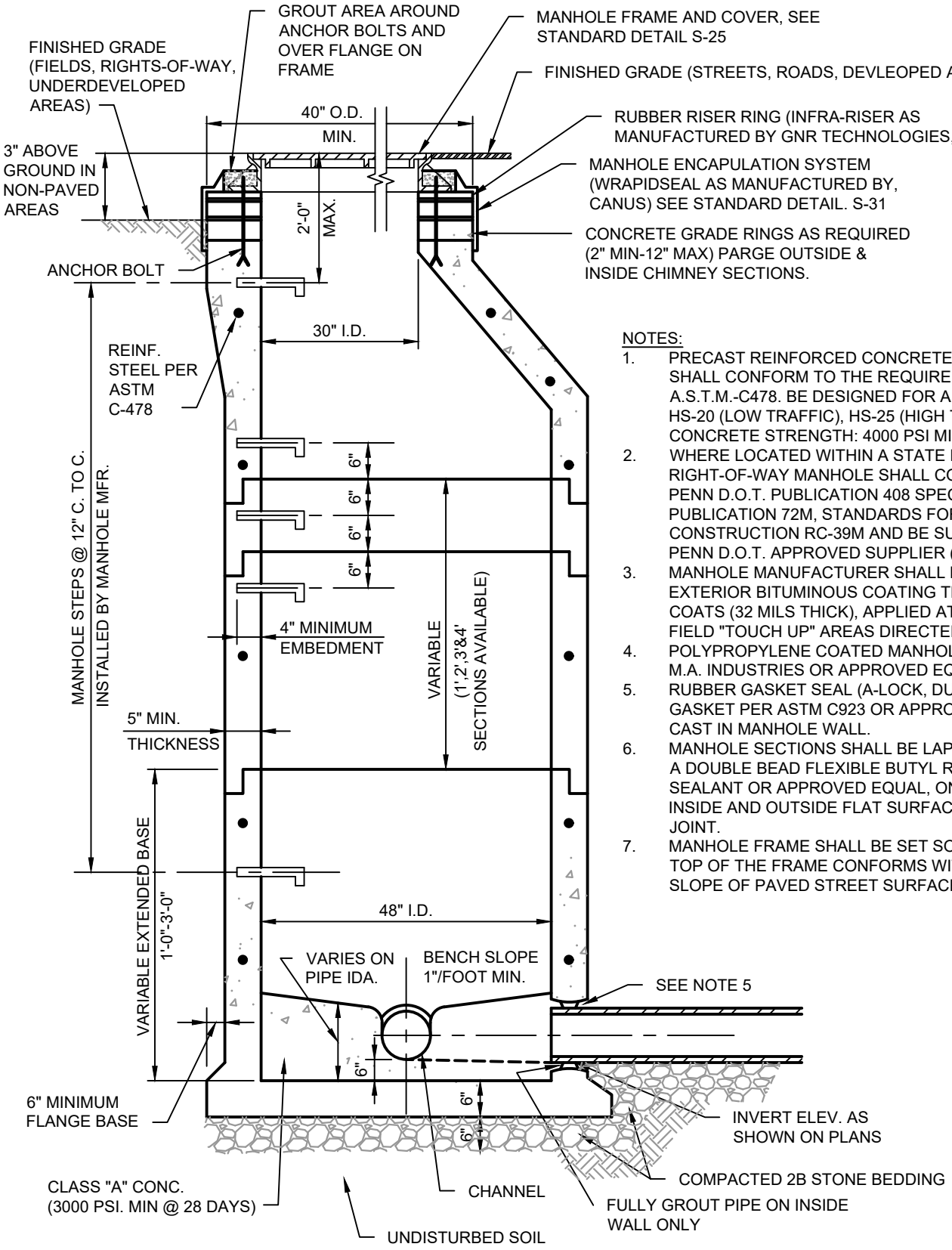
STANDARD DETAIL

UPPER MONTGOMERY JOINT AUTHORITY

STANDARD MANHOLE SECTION

PRECAST BASE

SSM CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.
	JDL	04/2022	S-14	



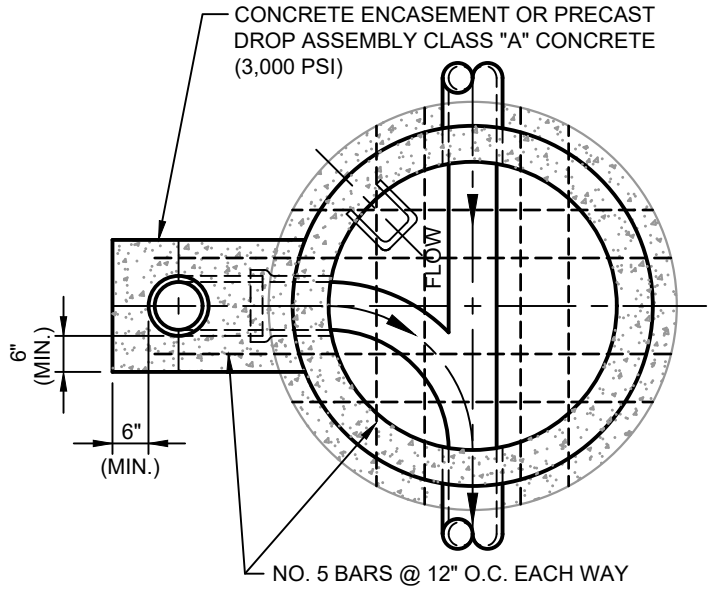
NOTES:

1. PRECAST REINFORCED CONCRETE MANHOLES SHALL CONFORM TO THE REQUIREMENT OF A.S.T.M.-C478. BE DESIGNED FOR A.A.S.H.O. HS-20 (LOW TRAFFIC), HS-25 (HIGH TRAFFIC). CONCRETE STRENGTH: 4000 PSI MIN @ 28 DAYS.
2. WHERE LOCATED WITHIN A STATE HIGHWAY RIGHT-OF-WAY MANHOLE SHALL CONFORM WITH PENN D.O.T. PUBLICATION 408 SPECIFICATIONS, PUBLICATION 72M, STANDARDS FOR ROADWAY CONSTRUCTION RC-39M AND BE SUPPLIED BY A PENN D.O.T. APPROVED SUPPLIER (BULLETIN 15).
3. MANHOLE MANUFACTURER SHALL PROVIDE AN EXTERIOR BITUMINOUS COATING THREE (3) COATS (32 MILS THICK), APPLIED AT FACTORY. FIELD "TOUCH UP" AREAS DIRECTED BY OWNER.
4. POLYPROPYLENE COATED MANHOLE STEPS BY M.A. INDUSTRIES OR APPROVED EQUAL.
5. RUBBER GASKET SEAL (A-LOCK, DUAL SEAL II OR GASKET PER ASTM C923 OR APPROVED EQUAL). CAST IN MANHOLE WALL.
6. MANHOLE SECTIONS SHALL BE LAP JOINT WITH A DOUBLE BEAD FLEXIBLE BUTYL RUBBER SEALANT OR APPROVED EQUAL, ON BOTH INSIDE AND OUTSIDE FLAT SURFACE OF LAP JOINT.
7. MANHOLE FRAME SHALL BE SET SO THAT THE TOP OF THE FRAME CONFORMS WITH THE SLOPE OF PAVED STREET SURFACES.

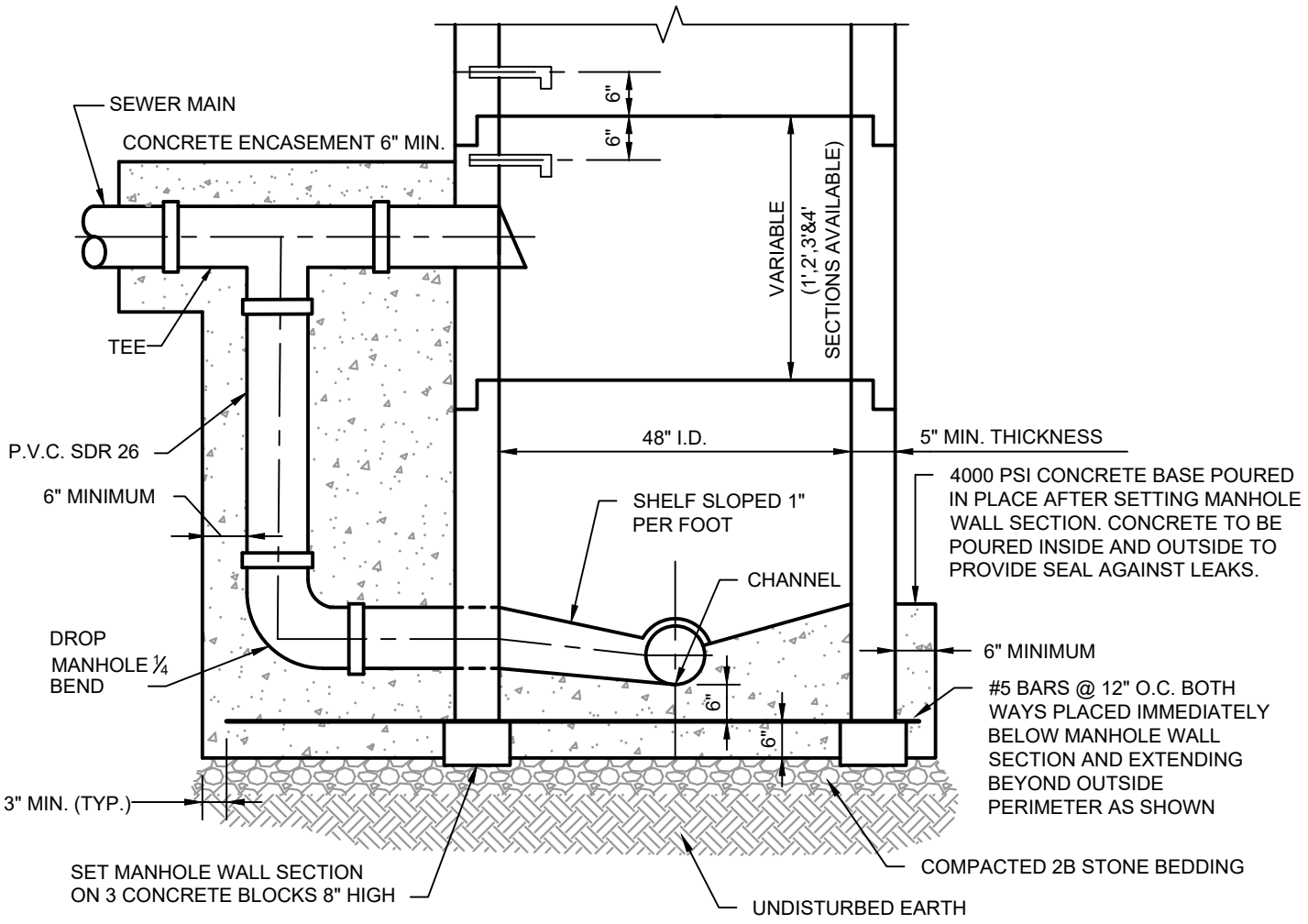
STANDARD MANHOLE SECTION
PRECAST BASE

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
DROP MANHOLE SECTION	SSM	JDL	04/2022	S-15	
FOR NEW MANHOLE	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.



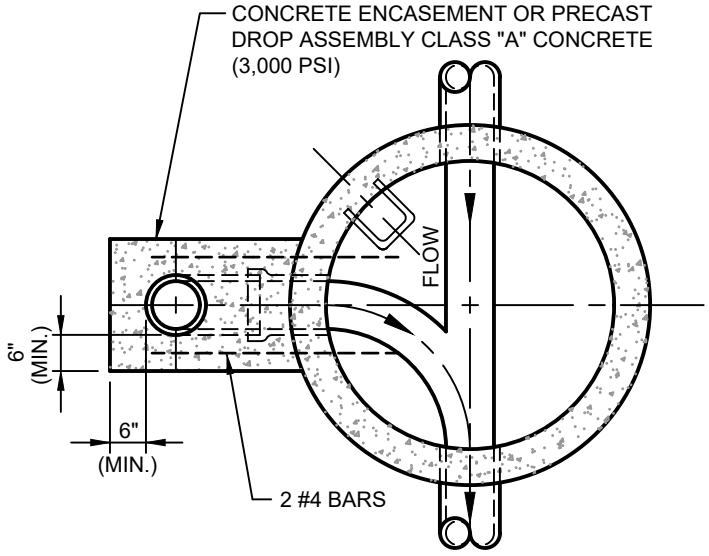
NOTES:
1. DROP CONNECTIONS SHALL BE INSTALLED WHEN THE PIPE INVERTS IN ARE 2'-0" OR MORE ABOVE THE INVERT OUT OF THE MANHOLE.
2. ALL APPLICABLE PROVISIONS OF STANDARD MANHOLE DETAIL DRAWING S-14 APPLY TO DROP MANHOLES.
3. FOUNDATION FOR DROP SECTION SHALL BE POURED MONOLITHICALLY WITH MANHOLE BASE.



DROP MANHOLE SECTION FOR NEW MANHOLE

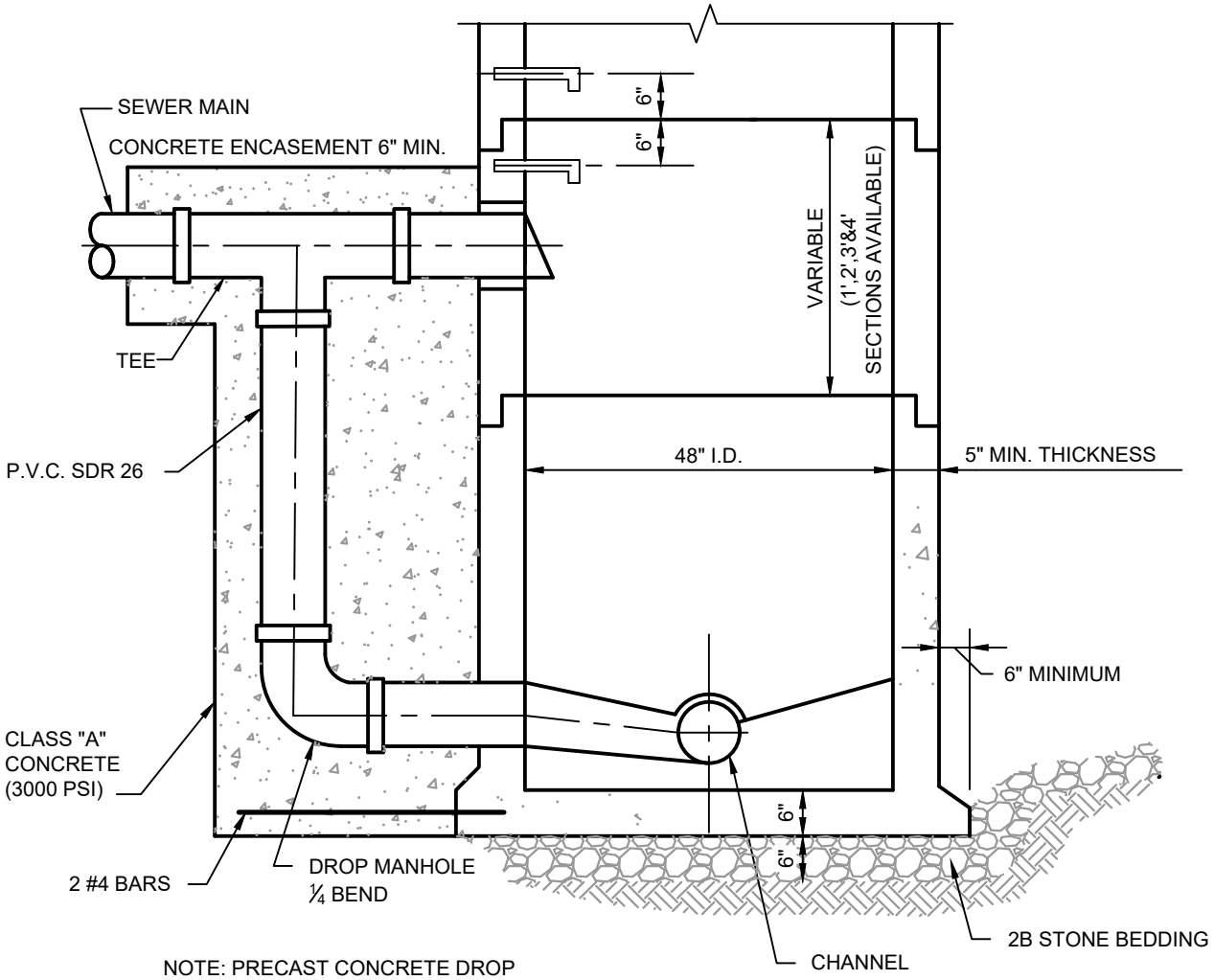
NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
DROP MANHOLE SECTION	SSM	JDL	04/2022	S-16	
FOR EXISTING MANHOLE	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.



NOTES:

1. DROP CONNECTIONS SHALL BE INSTALLED WHEN THE PIPE INVERTS IN ARE 2'-0"OR MORE ABOVE THE INVERT OUT OF THE MANHOLE.
2. ALL APPLICABLE PROVISIONS OF STANDARD MANHOLE DETAIL DRAWING S-14 APPLY TO DROP MANHOLES.
3. FOR NEW MANHOLES, FOUNDATION FOR DROP SECTION SHALL BE POURED MONOLITHICALLY WITH MANHOLE BASE.
4. THIS CONFIGURATION IS ALLOWED ONLY FOR A NEW SEWER CONNECTION TO AN EXISTING SEWER MANHOLE.

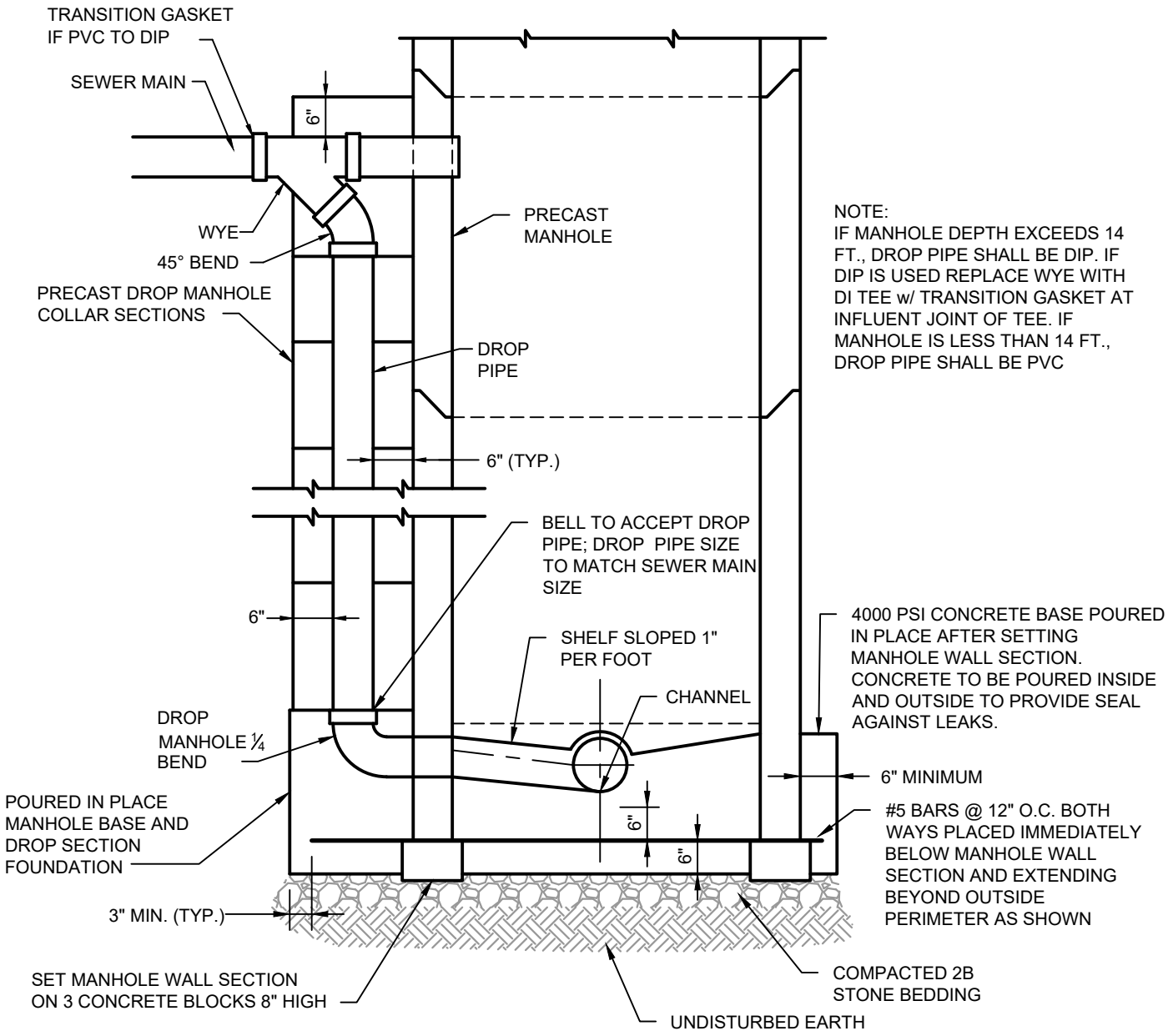


NOTE: PRECAST CONCRETE DROP ASSEMBLIES MAY ALSO BE USED.

DROP MANHOLE SECTION FOR EXISTING MANHOLE

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
DROP MANHOLE SECTION	SSM	JDL	04/2022	S-17	
USING PRECAST DROP COLLARS	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.



NOTE:
IF MANHOLE DEPTH EXCEEDS 14 FT., DROP PIPE SHALL BE DIP. IF DIP IS USED REPLACE WYE WITH DI TEE w/ TRANSITION GASKET AT INFLUENT JOINT OF TEE. IF MANHOLE IS LESS THAN 14 FT., DROP PIPE SHALL BE PVC

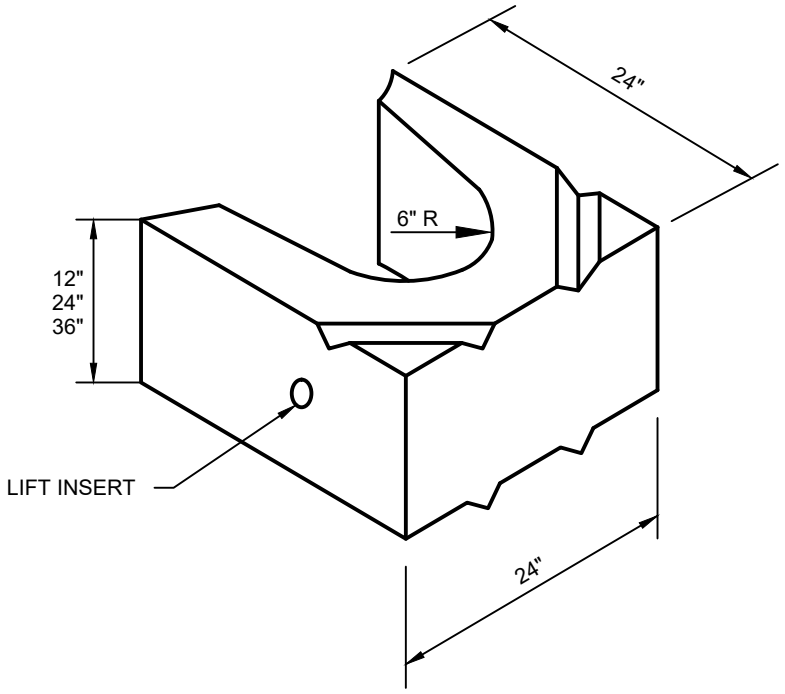
NOTES:

1. DROP CONNECTIONS SHALL BE INSTALLED WHEN THE PIPE INVERTS IN ARE 2'-0" OR MORE ABOVE THE INVERT OUT OF THE MANHOLE.
2. ALL APPLICABLE PROVISIONS OF STANDARD MANHOLE DETAIL S-14 APPLY TO DROP MANHOLES.
3. FOUNDATION FOR DROP SECTION SHALL BE POURED MONOLITHICALLY WITH MANHOLE BASE.

DROP MANHOLE SECTION
USING PRECAST DROP COLLARS

NO SCALE

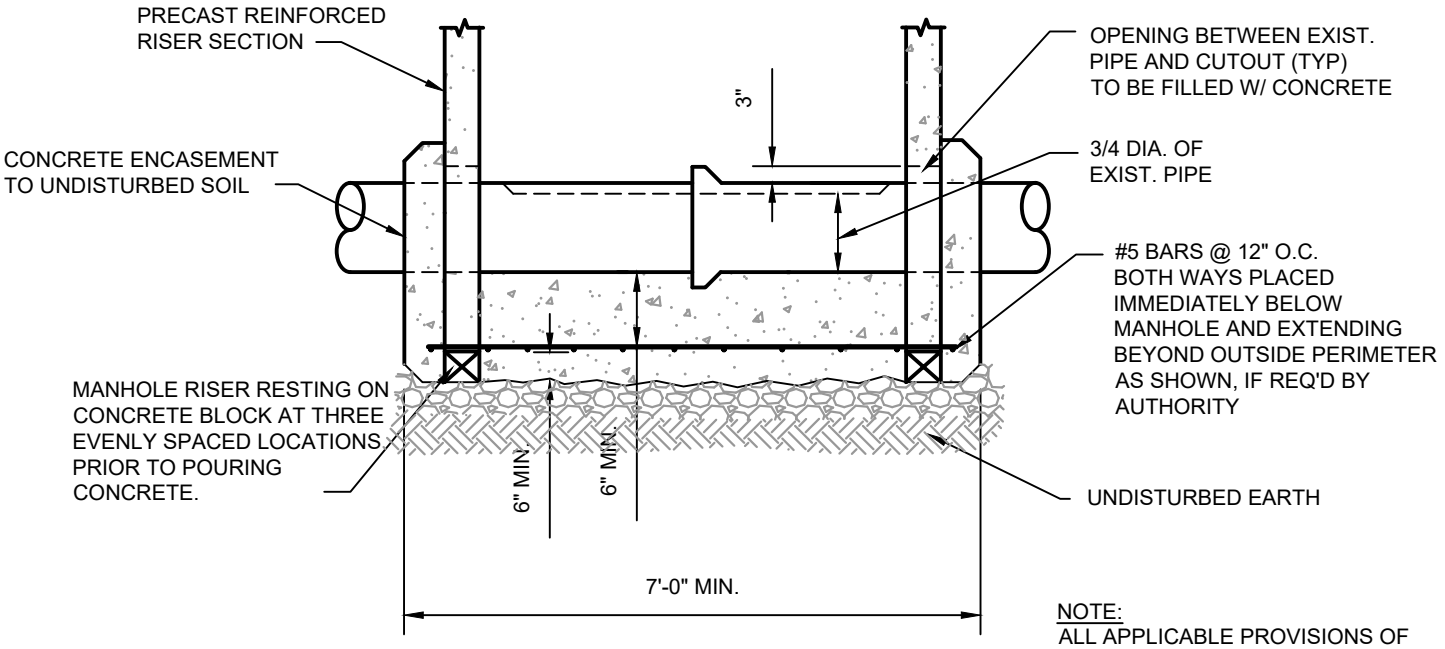
STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
U-SHAPED COLLAR DETAIL	SSM	JDL	04/2022	S-18	
FOR DROP MANHOLES	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.



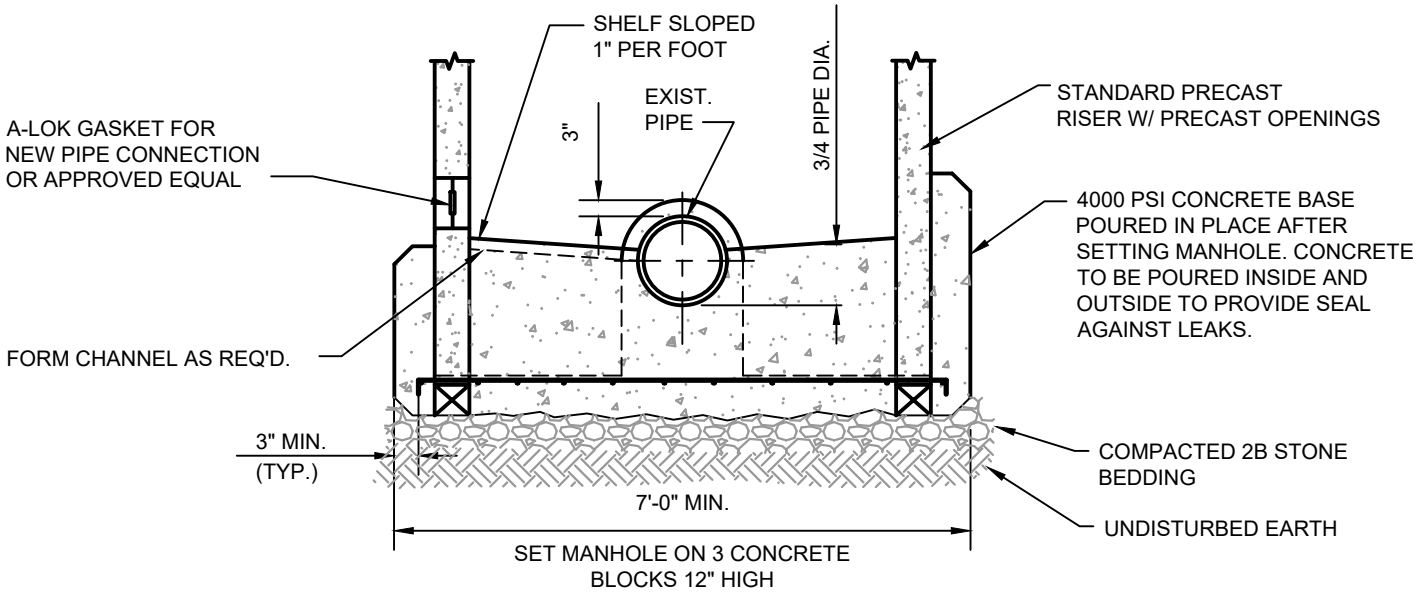
U-SHAPED COLLAR DETAIL
FOR DROP MANHOLES

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
DOGHOUSE MANHOLE SECTION	SSM CONSULTING ENGINEERS	JDL (APP'D.)	04/2022 (DATE)	S-19 (DRAWING NUMBER)	REV.



NOTE:
ALL APPLICABLE PROVISIONS OF STANDARD MANHOLE DETAIL S-14 APPLY TO DOGHOUSE MANHOLES.



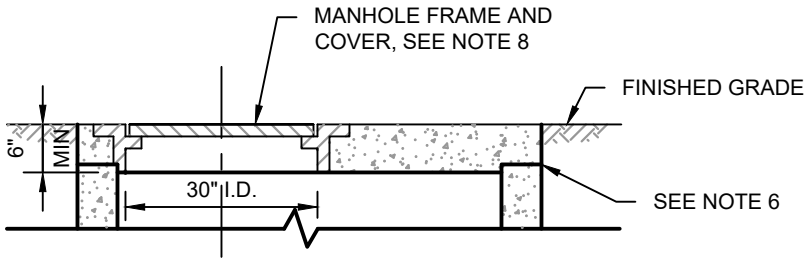
NOTES:
1. EXISTING PIPE TO REMAIN UNTIL SATISFACTORY COMPLETION OF MANHOLE.

2. REMOVE CROWN OF EXISTING PIPE FLUSH WITH CONCRETE SHELF.

DOGHOUSE MANHOLE SECTION

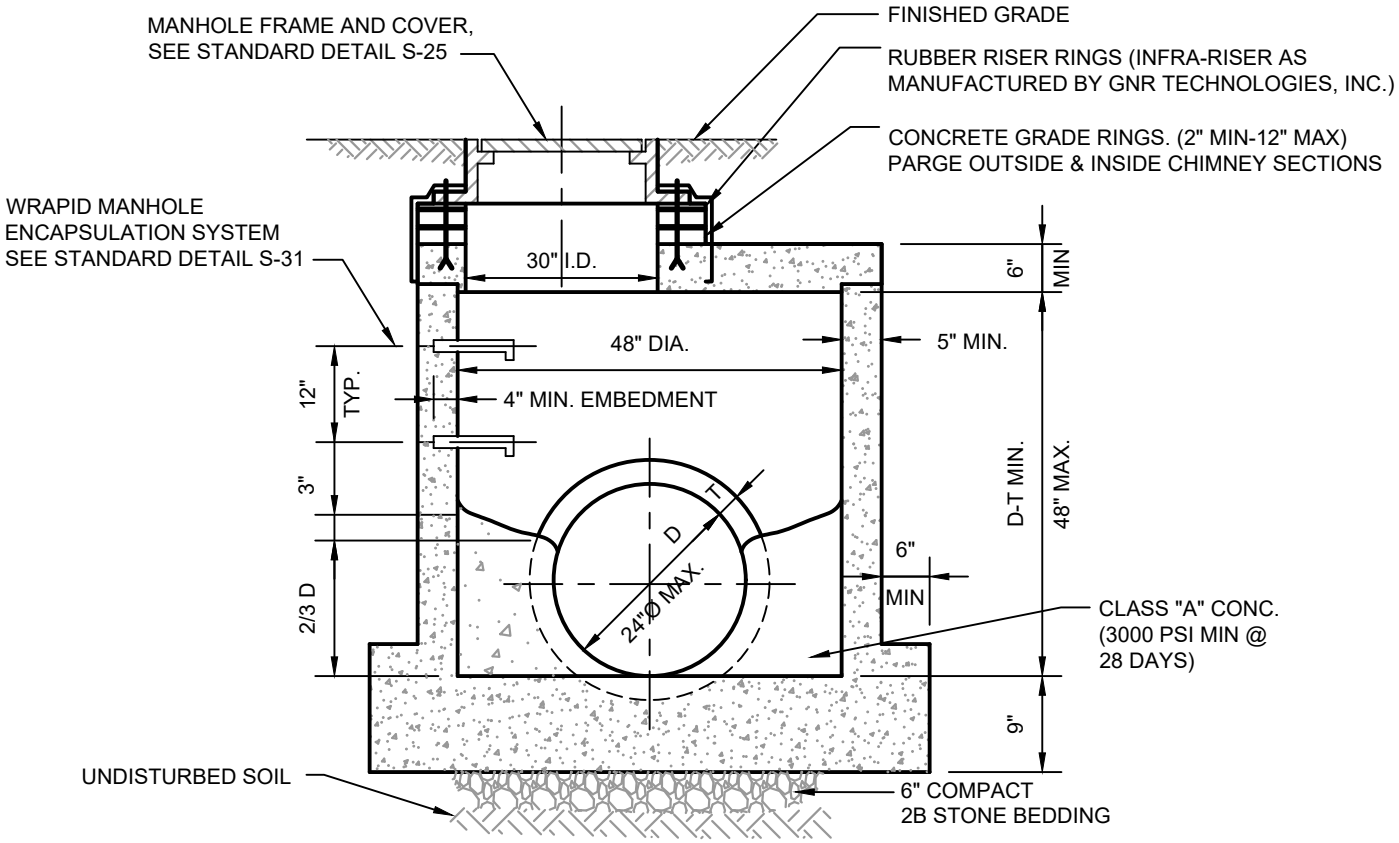
NOT TO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
SHALLOW MANHOLE SECTION	SSM CONSULTING ENGINEERS	JDL	04/2022	S-20	
FLAT TOP		APP'D.	DATE	DRAWING NUMBER	REV.



FLUSH FRAME & COVER

NO SCALE



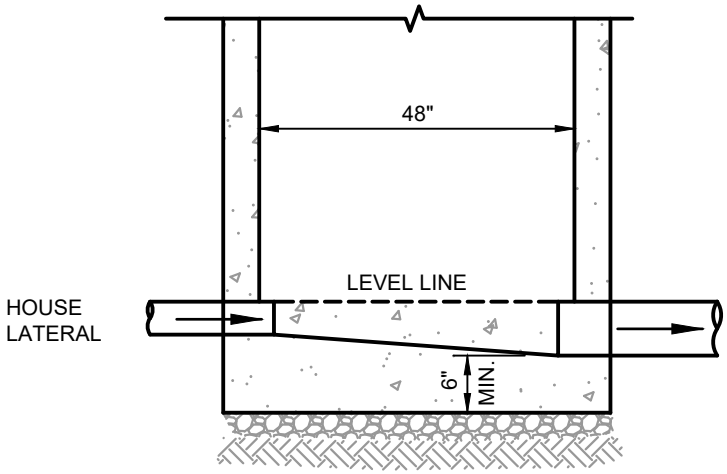
NOTES:

1. PRECAST REINFORCED CONCRETE MANHOLES SHALL CONFORM TO THE REQUIREMENT OF A.S.T.M. - C478. BE DESIGNED FOR A.A.S.H.O. HS-20 (LOW TRAFFIC), HS-25 (HIGH TRAFFIC). CONCRETE STRENGTH: 4000 PSI MIN @ 28 DAYS.
2. MANHOLE SHALL CONFORM WITH PENN D.O.T. PUBLICATION 408 SPECIFICATIONS, PUBLICATION 72M, STANDARDS FOR ROADWAY CONSTRUCTION RC-39M AND BE SUPPLIED BY A PENN D.O.T. APPROVED SUPPLIER (BULLETIN 15).
3. MANHOLE MANUFACTURER SHALL PROVIDE AN EXTERIOR BITUMINOUS COATING THREE (3) COTAS (32 MILS THICK), APPLIED AT FCATORY. FIELD "TOUCH UP" AREAS DIRECTED BY OWNER.
4. POLYPROPYLENE COATED MANHOLE STEPS BY M.A. INDUSTRIES OR APPROVED EQUAL, INSTALLED BY MANHOLE MFR.
5. RUBBER GASKET SEAL (A-LOCK, DUAL SEAL II OR GASKET PER A.S.T.M. C923 OR APPROVED EQUAL). CAST IN MANHOLE WALL.
6. CONTRACTOR SHALL WRAP MANHOLE WITH WRAPIDSEAL SYSTEM AS MANUFACTURED BY CANUSA. (SEE DETAIL)
7. SEALANT OR APPROVED EQUAL, ON BOTH INSIDE AND OUTSIDE FLAT SURFACE LAP JOINT.
8. MANHOLE FRAME SHALL BE SET SO THAT THE TOP OF THE FRAME CONFORMS WITH THE SLOPE OF PAVED STREET SURFACES.

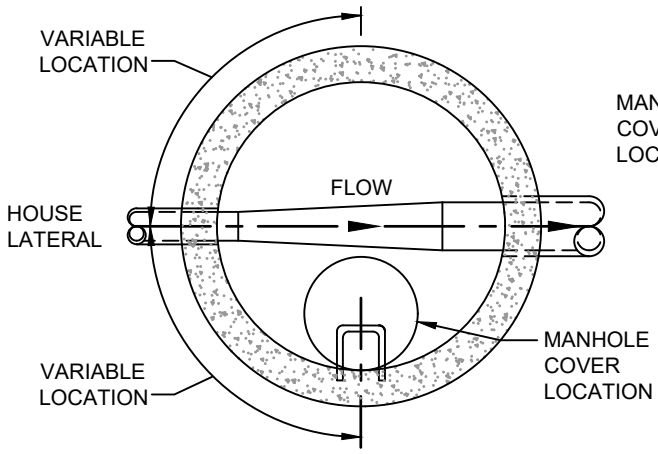
SHALLOW MANHOLE SECTION

NO SCALE

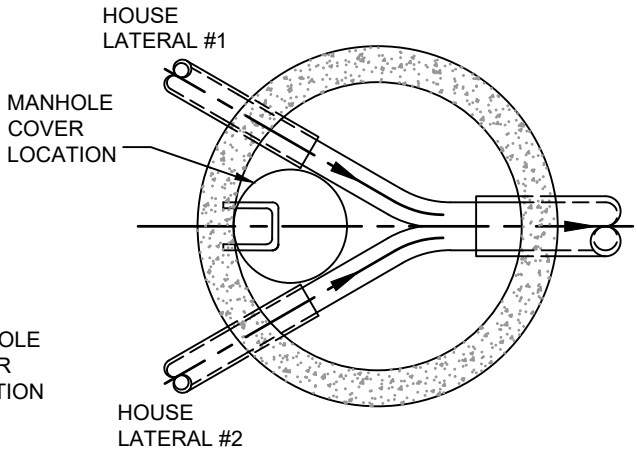
STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
TERMINAL MAHOLE	SSM CONSULTING ENGINEERS	JDL APP'D.	04/2022 DATE	S-21 DRAWING NUMBER	REV.



SECTION



SINGLE LATERAL



MULTIPLE LATERALS

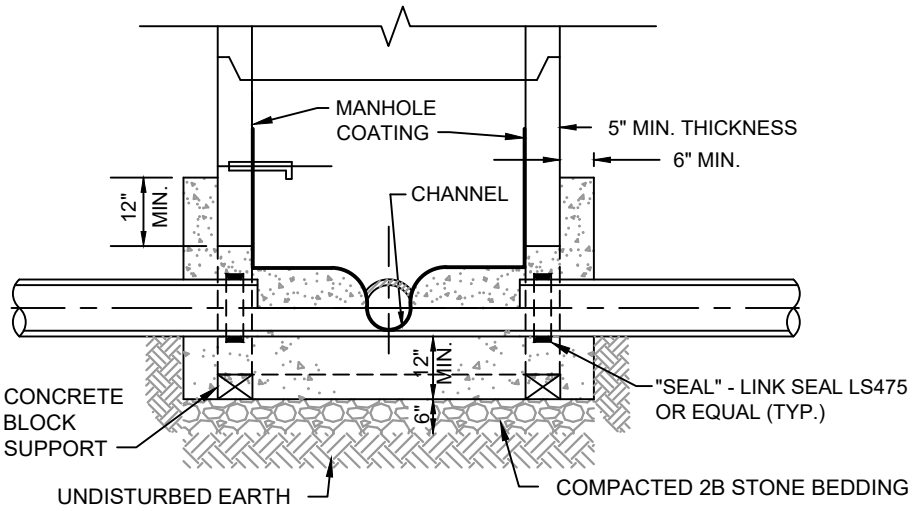
PLAN

NOTE:
ALL APPLICABLE PROVISIONS OF STANDARD MANHOLE DETAIL DRAWING S-14 APPLY TO TERMINAL MANHOLES.

TERMINAL MANHOLE

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
POURED-IN-PLACE	SSM	JDL	04/2022	S-22	
MANHOLE BASE	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.



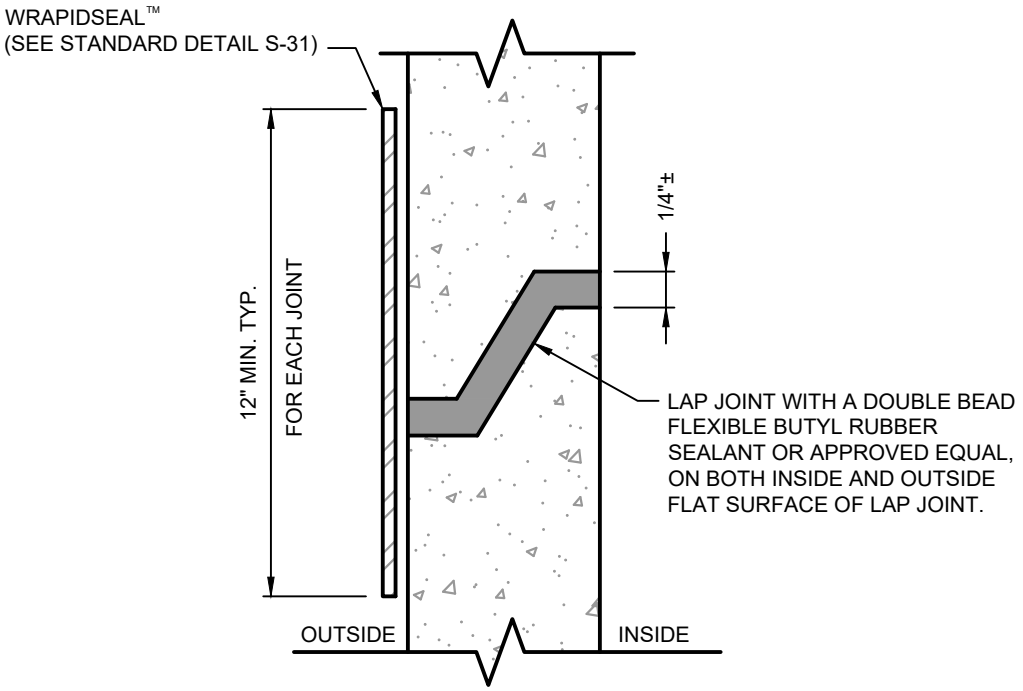
NOTES:

1. ALL APPLICABLE PROVISIONS OF STANDARD DETAIL DRAWING S-14 APPLY TO MANHOLES WITH POURED-IN-PLACE BASES.
2. CONTRACTOR SHALL CLEAN P.V.C. PIPE AND INSTALL LINK SEAL.
3. BOTTOM WALL SECTION OF MANHOLE TO BE SUPPORTED BY 3 CONCRETE BLOCKS WHILE POURING CONCRETE FOR MANHOLE BASE.
4. APPLY WELDCRETE BONDING AGENT PRIOR TO POURING CONCRETE ENCASEMENT.
5. CONCRETE ENCASEMENT SHALL EXTEND 12" ABOVE THE TOP OF THE HIGHEST OPENING IN THE BOTTOM WALL SECTION OF THE MANHOLE.
6. COAT THE INTERIOR OF THE MANHOLES TO A POINT 18" ABOVE THE TOP OF THE HIGHEST PIPE ENTRANCE. COATING SHALL COVER THE WALLS, BENCH, CHANNEL AND PIPE PROTRUSION. COATING SHALL BE PARSONPOXY FP AS MANUFACTURED BY PARSON ENVIRONMENTAL PROD. CO., OR EQUAL

POURED IN PLACE MANHOLE BASE

NOT TO SCALE

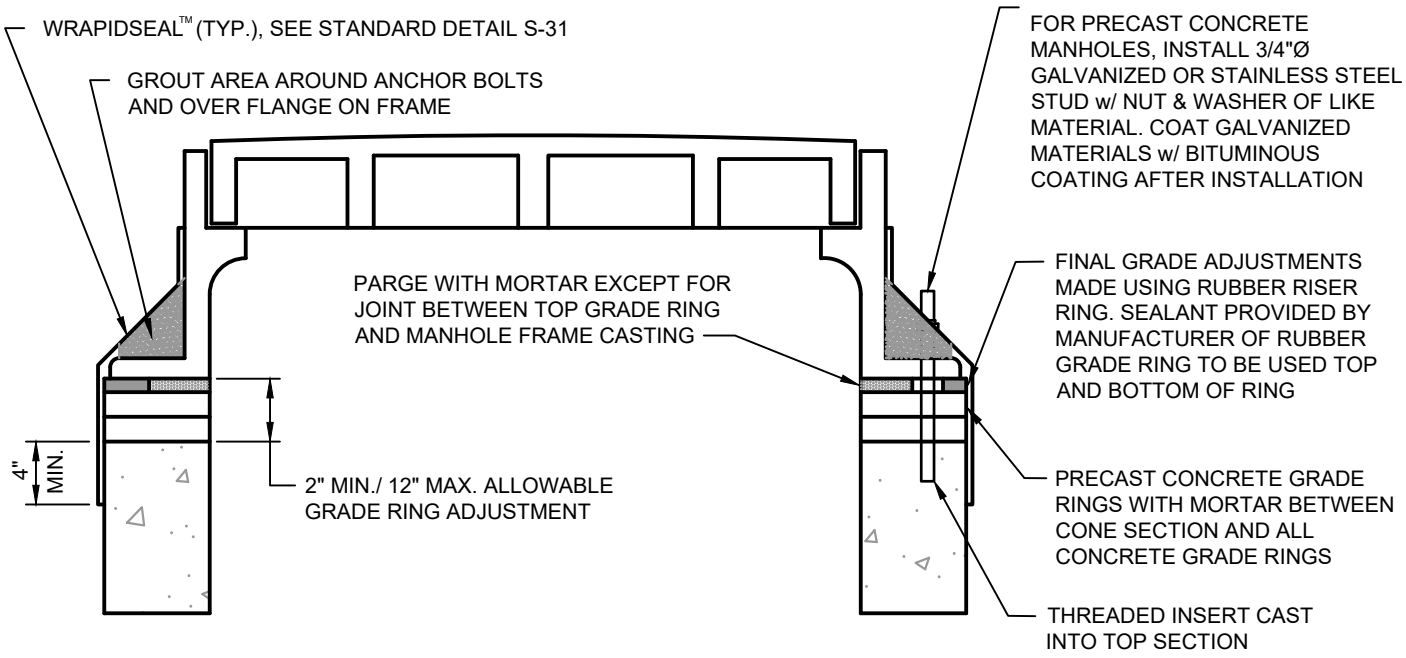
STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
MANHOLE JOINT DETAIL	SSM CONSULTING ENGINEERS	JDL APP'D.	04/2022 DATE	S-23 DRAWING NUMBER	REV.



MANHOLE JOINT DETAIL

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
MANHOLE GRADE RING DETAIL	SSM CONSULTING ENGINEERS	JDL (APP'D.)	04/2022 (DATE)	S-24 (DRAWING NUMBER)	REV.



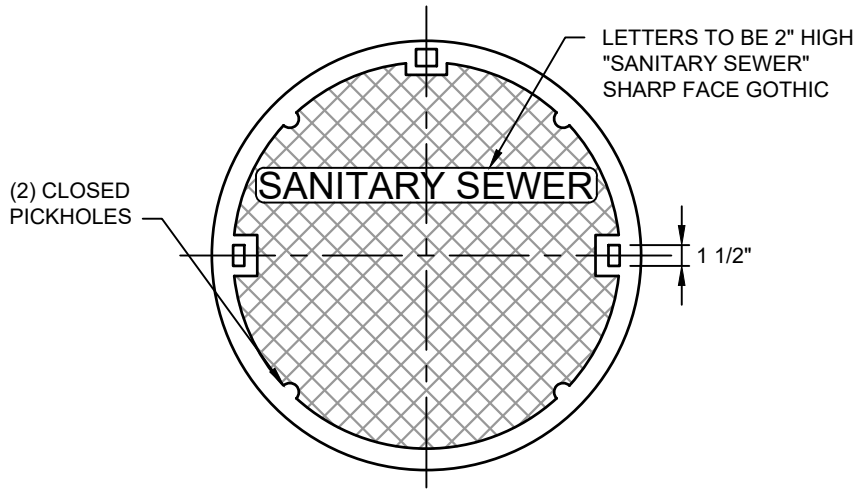
NOTES:

1. GRADE ADJUSTMENTS TO BE MADE USING RUBBER RISER RINGS (INFRA-RISER AS MANUFACTURED BY GNR TECHNOLOGIES) AND CONCRETE GRADE RINGS.
2. MINIMUM ADJUSTMENT BY GRADE RINGS IS 2", MAXIMUM IS 12".
3. WHERE ADJUSTMENT IS GREATER THAN 2", CONCRETE GRADE RINGS ARE TO BE USED TO WITHIN 2" OF THE FINAL GRADE. THE REMAINING VERTICAL ADJUSTMENT SHALL BE MADE UP WITH THE RUBBER GRADE RING.
4. ALL NON-SHRINK CONCRETE GROUT SHALL BE TROWELED SMOOTH.
5. CONCRETE SURFACES SHALL BE CLEAN AND DRY PRIOR TO PARGING.
6. FRAME SHALL BE SET SO THAT THE TOP OF THE FRAME CONFORMS WITH THE SLOPE OF PAVED SURFACES. FOR UNPAVED AREAS, FRAME TO HAVE 18" HEIGHT FROM EXISTING GRADE. GRADE RINGS ARE NOT REQUIRED IN UNPAVED AREAS.

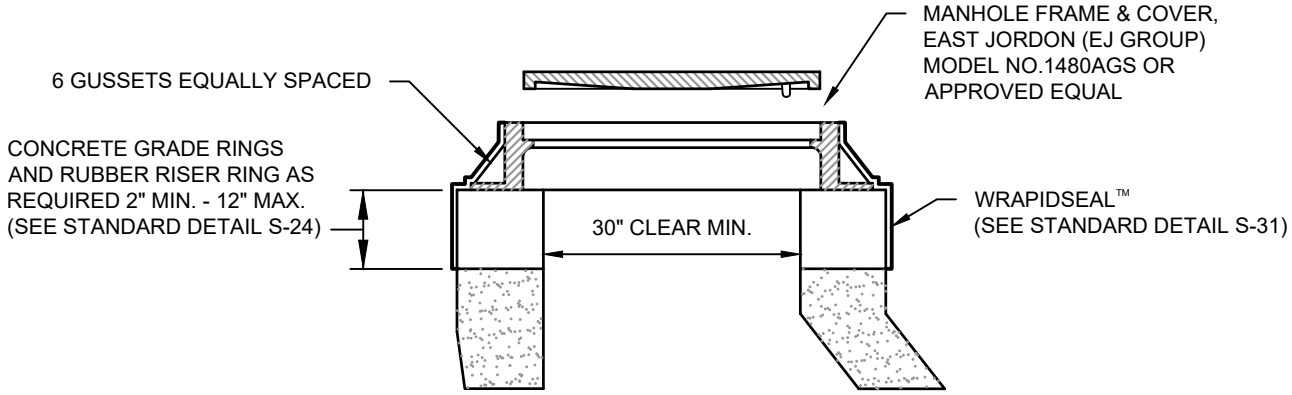
MANHOLE GRADE RING DETAIL

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
STANDARD MANHOLE	SSM CONSULTING ENGINEERS	JDL	04/2022	S-25	
FRAME AND COVER INSTALLATION		APP'D.	DATE	DRAWING NUMBER	REV.



PLAN



SECTION

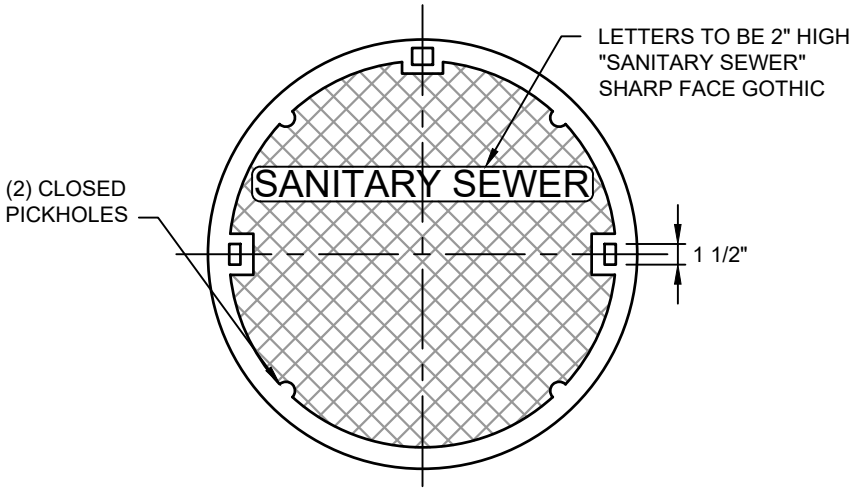
NOTES:

1. CAST IRON SHALL HAVE MINIMUM TENSILE STRENGTH OF 30,000 LBS. PER SQUARE INCH AND BE DESIGNED FOR HS-20 TRAFFIC LOADING.
2. REQUEST BOLT DOWN LID MODEL FROM MANUFACTURER WHEN SPECIFIED. (STAINLESS STEEL BOLTS (4).
3. SIZE AND POSITION OF LETTERS TO BE CONFIRMED BY CLIENT.
4. PROVIDE (2) LIFTING RINGS WHEN SPECIFIED.
5. PROVIDE (2) CONCEALED WATERTIGHT PICK HOLES.
6. PROVIDE WATERPROOF NEOPRENE SEALING GASKET.
7. PROVIDE FOUR 1" DIAMETER ANCHOR BOLT HOLES.
8. MARKER POSTS SHALL BE INSTALLED TO MARK MANHOLE LOCATIONS IN OPEN FIELD INSTALLATIONS.

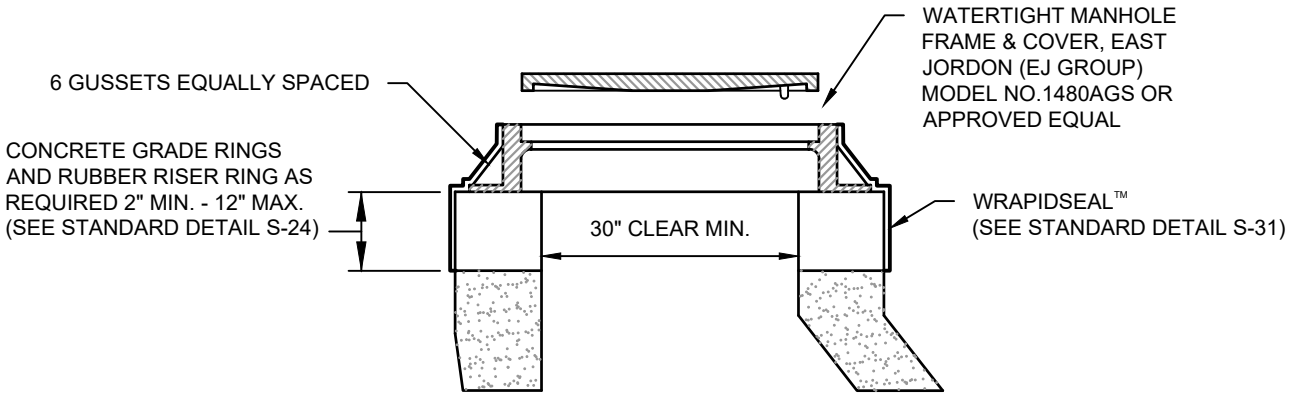
STANDARD MANHOLE FRAME & COVER INSTALLATION

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
WATERTIGHT MANHOLE FRAME AND COVER	SSM	JDL	04/2022	S-26	
INSTALLATION - BOLT DOWN COVER	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.



PLAN



SECTION

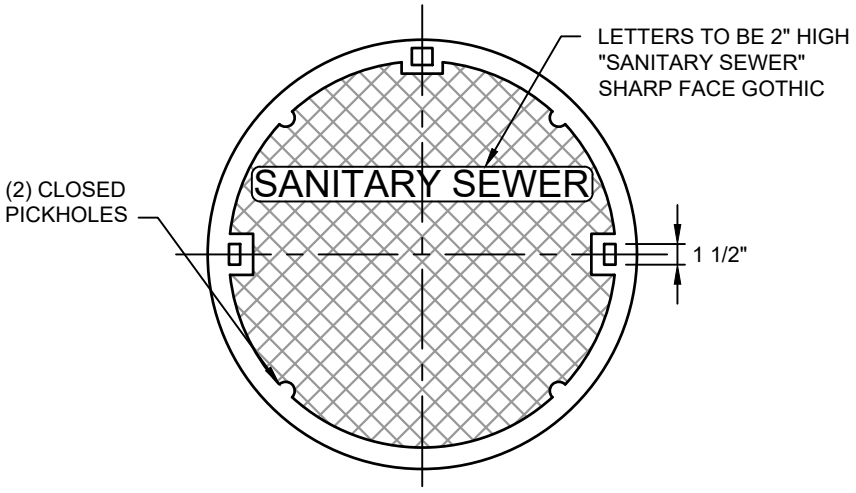
NOTES:

1. CAST IRON SHALL HAVE MINIMUM TENSILE STRENGTH OF 30,000 LBS. PER SQUARE INCH AND BE DESIGNED FOR HS-20 TRAFFIC LOADING.
2. PROVIDE BOLT DOWN USING FOUR (4) STAINLESS STEEL BOLTS.
3. FRAME AND COVER SHALL BE SUITABLE FOR LOW PRESSURE APPLICATIONS UP TO 20 PSI.
4. SIZE AND POSITION OF LETTERS TO BE CONFIRMED BY CLIENT.
5. PROVIDE (2) CONCEALED WATERTIGHT PICK HOLES.
6. PROVIDE WATERPROOF NEOPRENE SEALING GASKET.
7. PROVIDE FOUR 1" DIAMETER ANCHOR BOLT HOLES.
8. MARKER POSTS SHALL BE INSTALLED TO MARK MANHOLE LOCATIONS IN OPEN FIELD INSTALLATIONS.

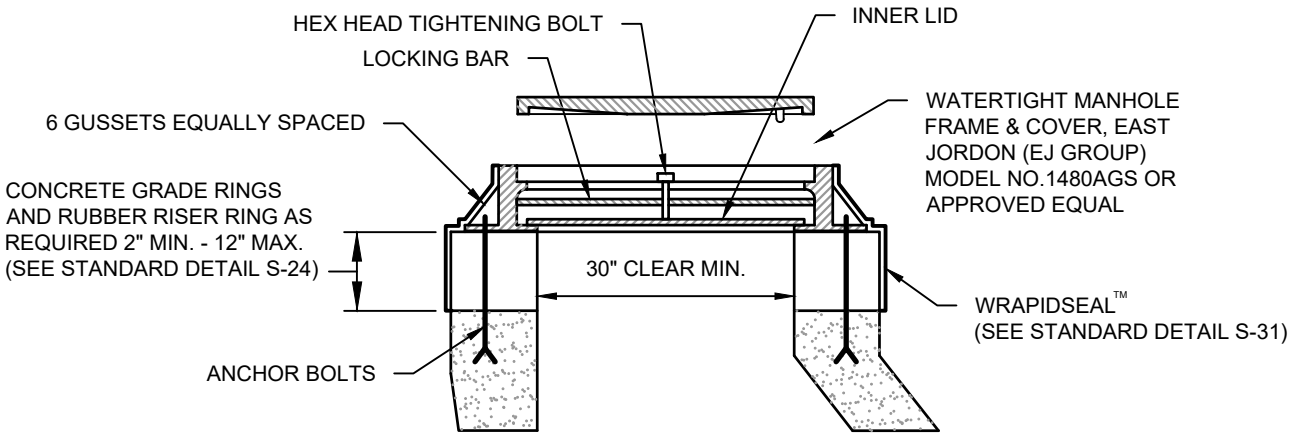
WATERTIGHT MANHOLE FRAME & COVER INSTALLATION - BOLT DOWN COVER

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
WATERTIGHT MANHOLE FRAME & COVER	SSM CONSULTING ENGINEERS	JDL	04/2022	S-27	
INSTALLATION - INNER SEALING LID		APP'D.	DATE	DRAWING NUMBER	REV.



PLAN



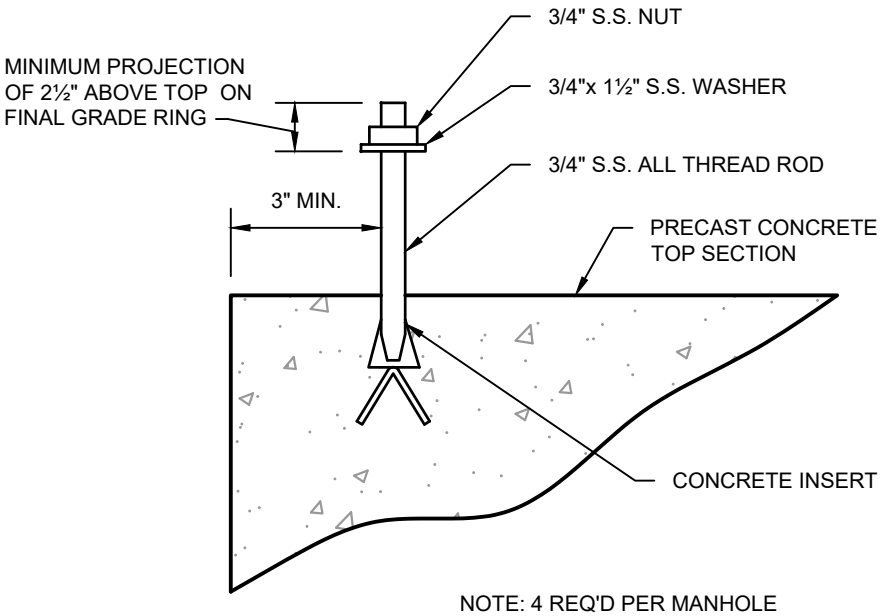
SECTION

NOTES:
1. CAST IRON SHALL HAVE MINIMUM TENSILE STRENGTH OF 30,000 LBS. PER SQUARE INCH AND BE DESIGNED FOR HS-20 TRAFFIC LOADING.
2. PROVIDE INNER LID WITH FLAT NEOPRENE SEALING GASKET AND LIFT RINGS (2). PROVIDE LOCKING BAR WITH HEX HEAD TIGHTENING BOLT.
3. SIZE AND POSITION OF LETTERS TO BE CONFIRMED BY CLIENT.
4. PROVIDE (2) CONCEALED WATERTIGHT PICK HOLES.
5. PROVIDE WATERPROOF NEOPRENE SEALING GASKET ON COVER.
6. PROVIDE FOUR 1" DIAMETER ANCHOR BOLT HOLES..

WATERTIGHT MANHOLE FRAME & COVER INSTALLATION - INNER SEALING LID

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
MANHOLE ANCHOR BOLT DETAIL	SSM	JDL	04/2022	S-28	
STAINLESS STEEL	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.



NOTE: 4 REQ'D PER MANHOLE

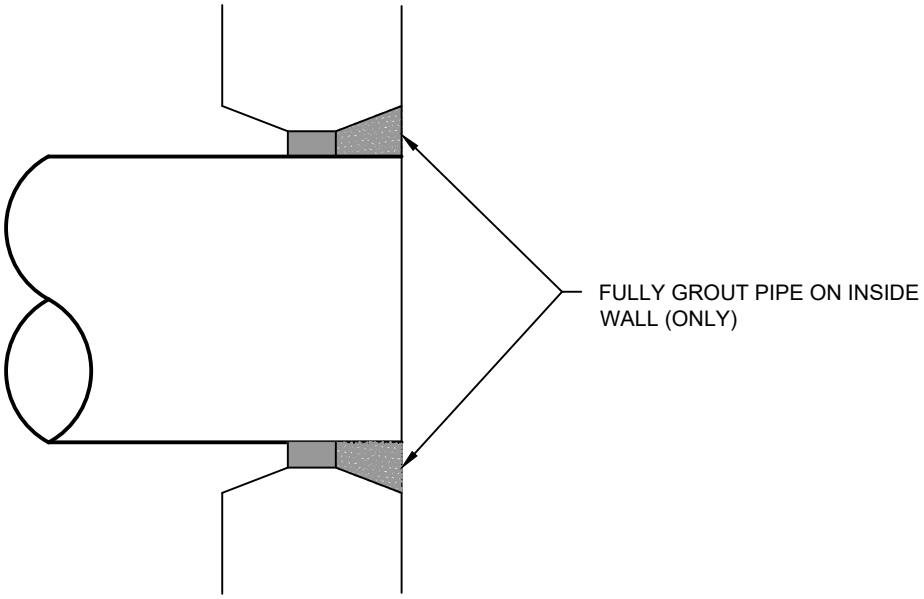
MANHOLE ANCHOR BOLT DETAIL
STAINLESS STEEL

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
MANHOLE ANCHOR BOLT DETAIL	SSM	JDL	04/2022	S-29	
GALVANIZED	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.

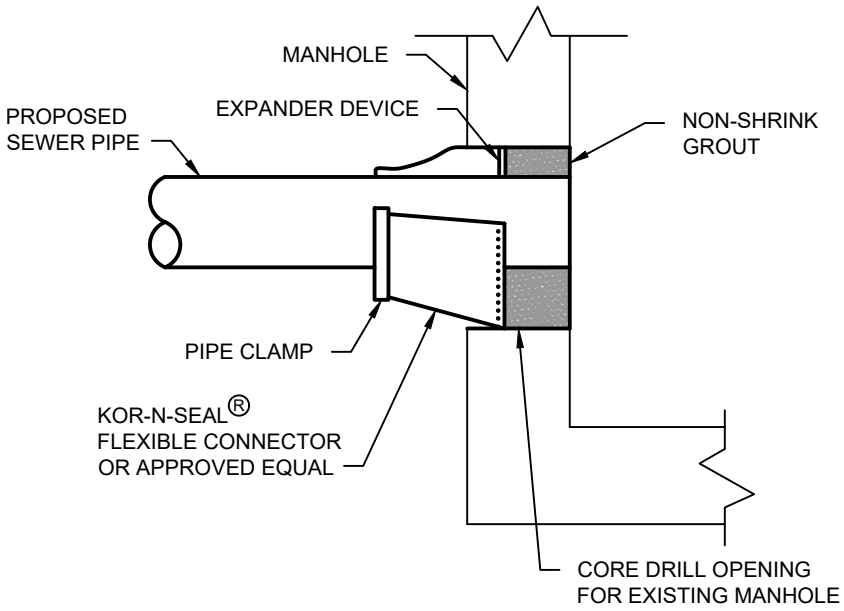
NOT USED

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
MANHOLE WALL PENETRATION SEAL	SSM CONSULTING ENGINEERS	JDL APP'D.	04/2022 DATE	S-30 DRAWING NUMBER	REV.



A-LOK GASKET PER ASTM RUBBER GASKET SPECS. C923 OR EQUAL
CAST INTEGRALLY IN MANHOLE WALL AND LOCATED AS REQUIRED.

NEW MANHOLE

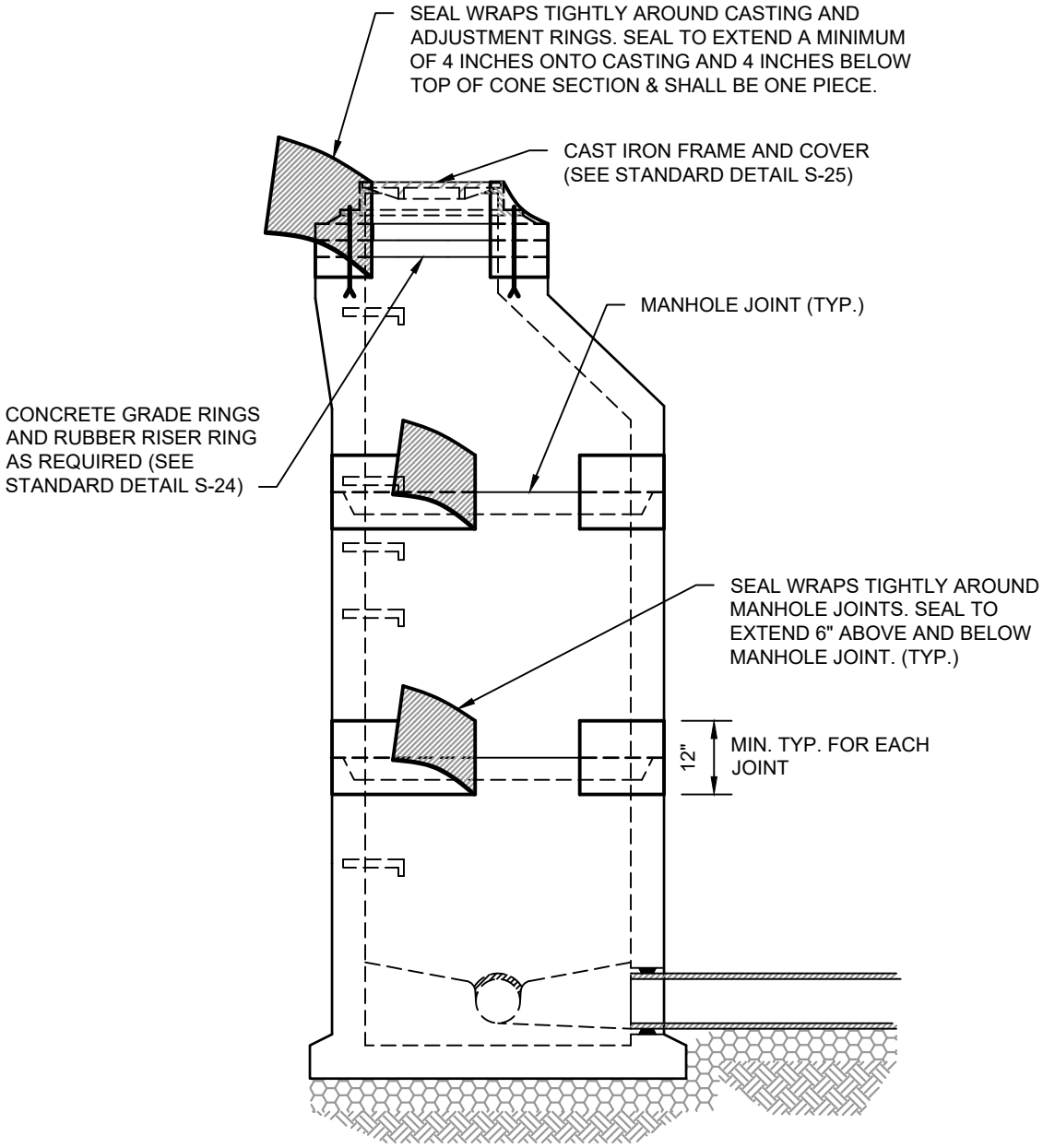


CORE DRILL EXISTING MANHOLE

MANHOLE WALL PENETRATION SEAL

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
HEAT SHRINKABLE MANHOLE SEAL	SSM CONSULTING ENGINEERS	JDL APP'D.	04/2022 DATE	S-31 DRAWING NUMBER	REV.

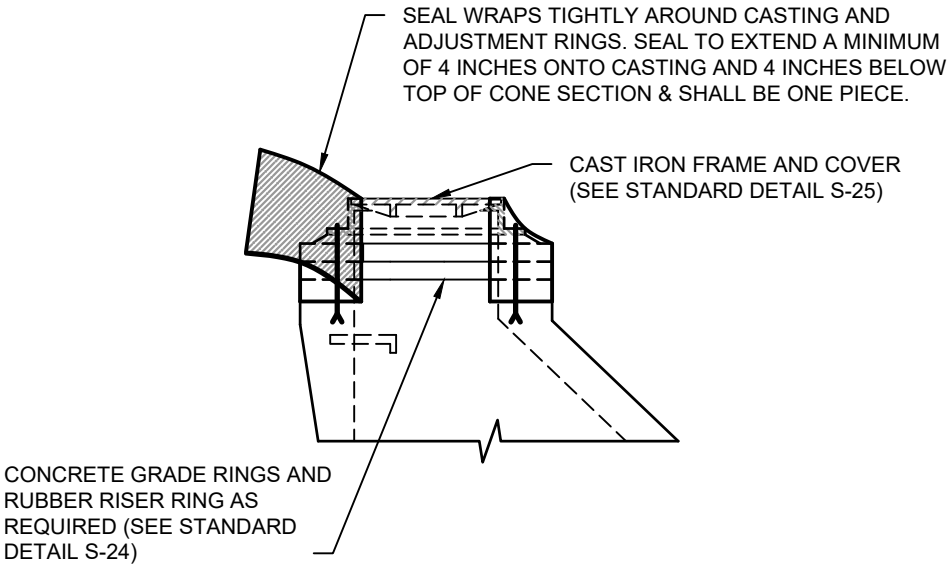


NOTES:
1. MANHOLE SEAL TO BE WRAPIDSEAL™ MANUFACTURED BY CANUSA-CPS OR APPROVED EQUAL.
2. MANHOLE JOINT SEALS INSTALLED AS DIRECTED BY THE ENGINEER AND ON ALL JOINTS 10' OR MORE BELOW FINISHED GRADE.

HEAT SHRINKABLE MANHOLE SEAL

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
HEAT SHRINKABLE MANHOLE SEAL	SSM CONSULTING ENGINEERS	JDL APP'D.	01/17 DATE	S-31A DRAWING NUMBER	REV.



NOTES:
1. MANHOLE SEAL TO BE WRAPIDSEAL™ MANUFACTURED BY CANUSA-CPS OR APPROVED EQUAL.

HEAT SHRINKABLE MANHOLE SEAL

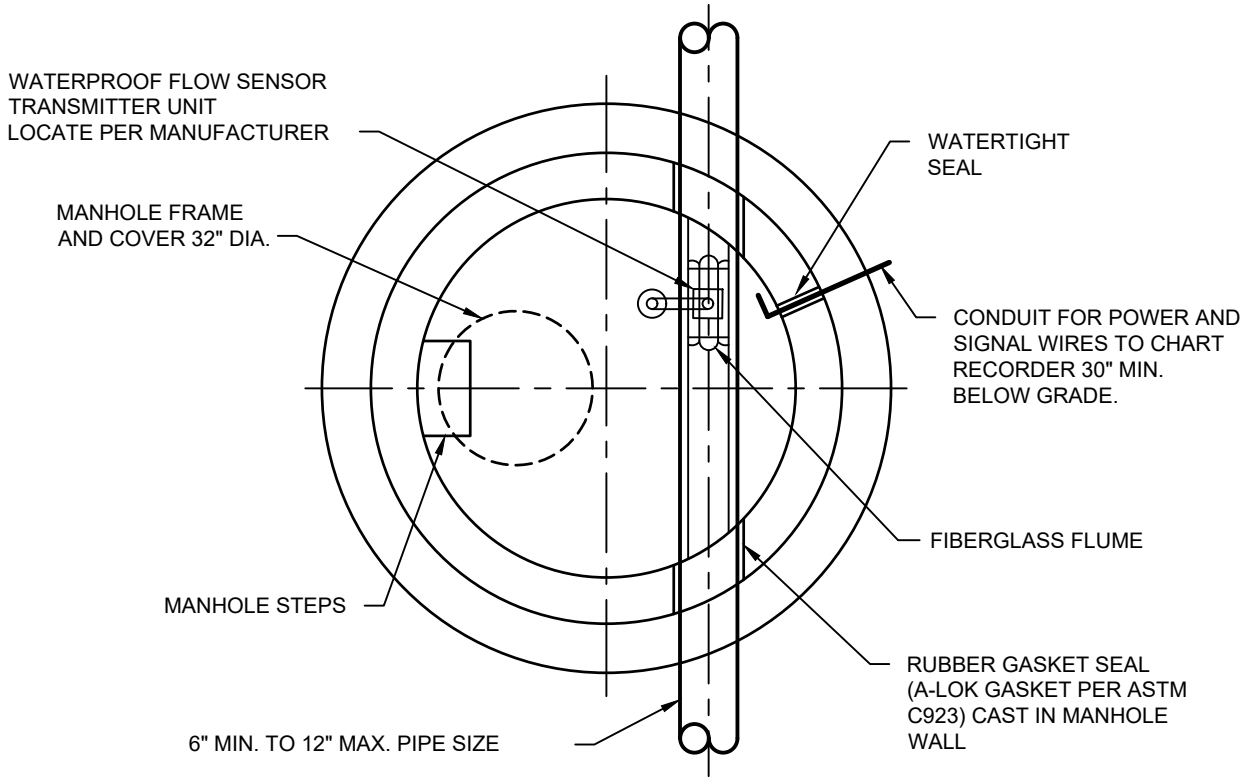
NO SCALE

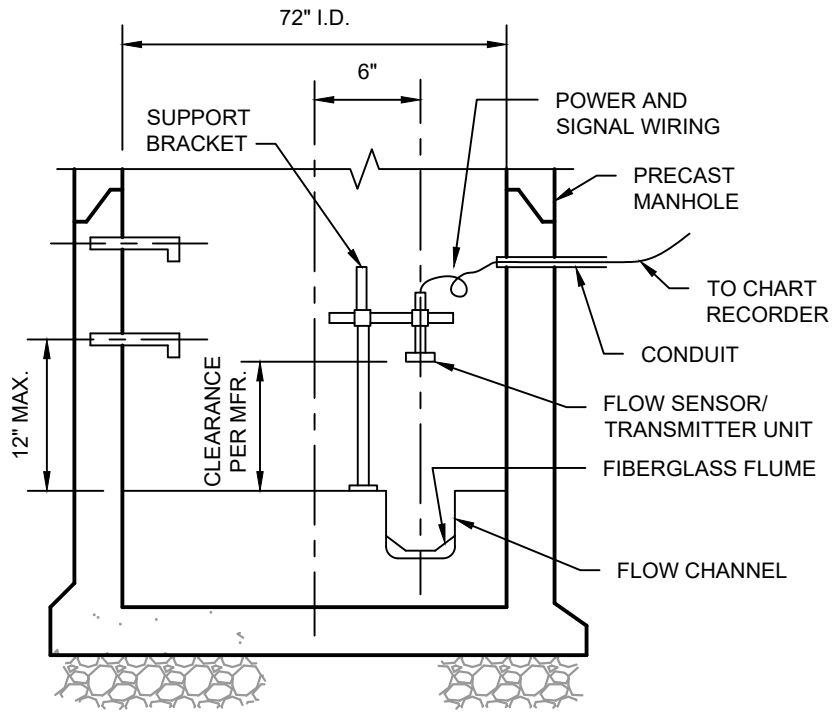
STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
MANHOLE SCHEDULE	SSM	JDL	04/2022	S-32	
	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.

MANHOLE SCHEDULE

MANHOLE NUMBER	SIZE	INV. (IN)	INV. (OUT)	INV. (EXTRA)	(TYP.)	REMARKS

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
FLOW METERING MANHOLE	SSM CONSULTING ENGINEERS	JDL	04/2022	S-33	
PIPE SIZE 6" TO 12"		APP'D.	DATE	DRAWING NUMBER	REV.





NOTES:

1. SEE STANDARD MANHOLE SECTION DETAIL S-14 FOR ADDITIONAL REQUIREMENTS.
2. MAXIMUM SLOPE THROUGH MANHOLE SHALL NOT EXCEED 2%.
3. FIBERGLASS METERING FLUME, PALMER BOWLUS OR APPROVED EQUAL, INSTALLED PER MFR.
4. WATERPROOF FLOW SENSOR/TRANSMITTER UNIT INSTALLED PER MFR. PROVIDE ADJUSTABLE SUPPORT BRACKET, APPROVED BY MFR., FOR FLOW SENSOR/TRANSMITTER UNIT.
5. CHART RECORDER UNIT TO BE LOCATED IN THE FIELD. LOCATION TO BE APPROVED BY ENGINEER.

STANDARD FLOW METERING MANHOLE DETAIL

NO SCALE

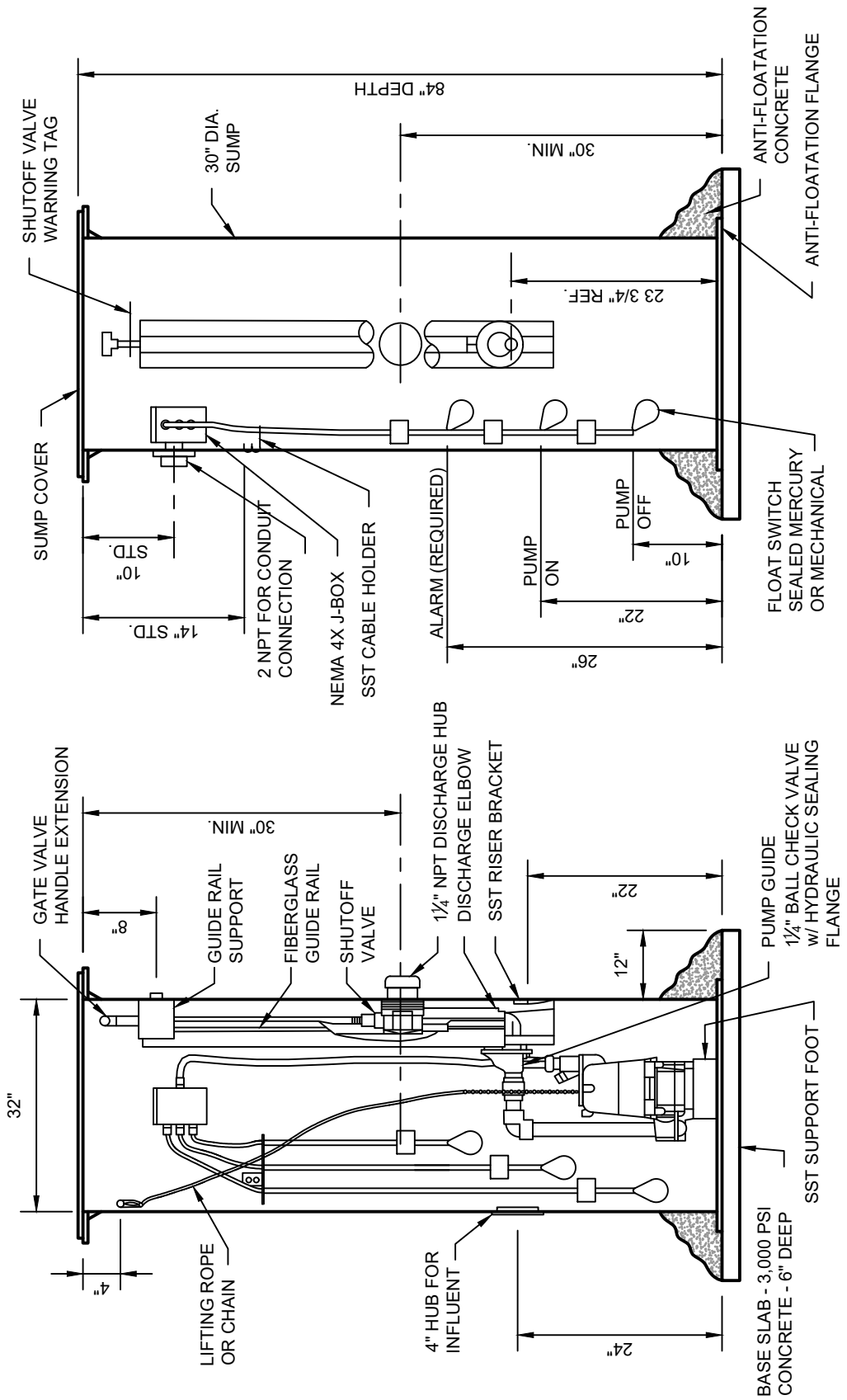
STANDARD DETAIL

RESIDENTIAL GRINDER PUMP DETAIL

SIDE VIEWS

UPPER MONTGOMERY JOINT AUTHORITY

SSM CONSULTING ENGINEERS	JDL	04/2022	S-34	
	APP'D.	DATE	DRAWING NUMBER	REV.

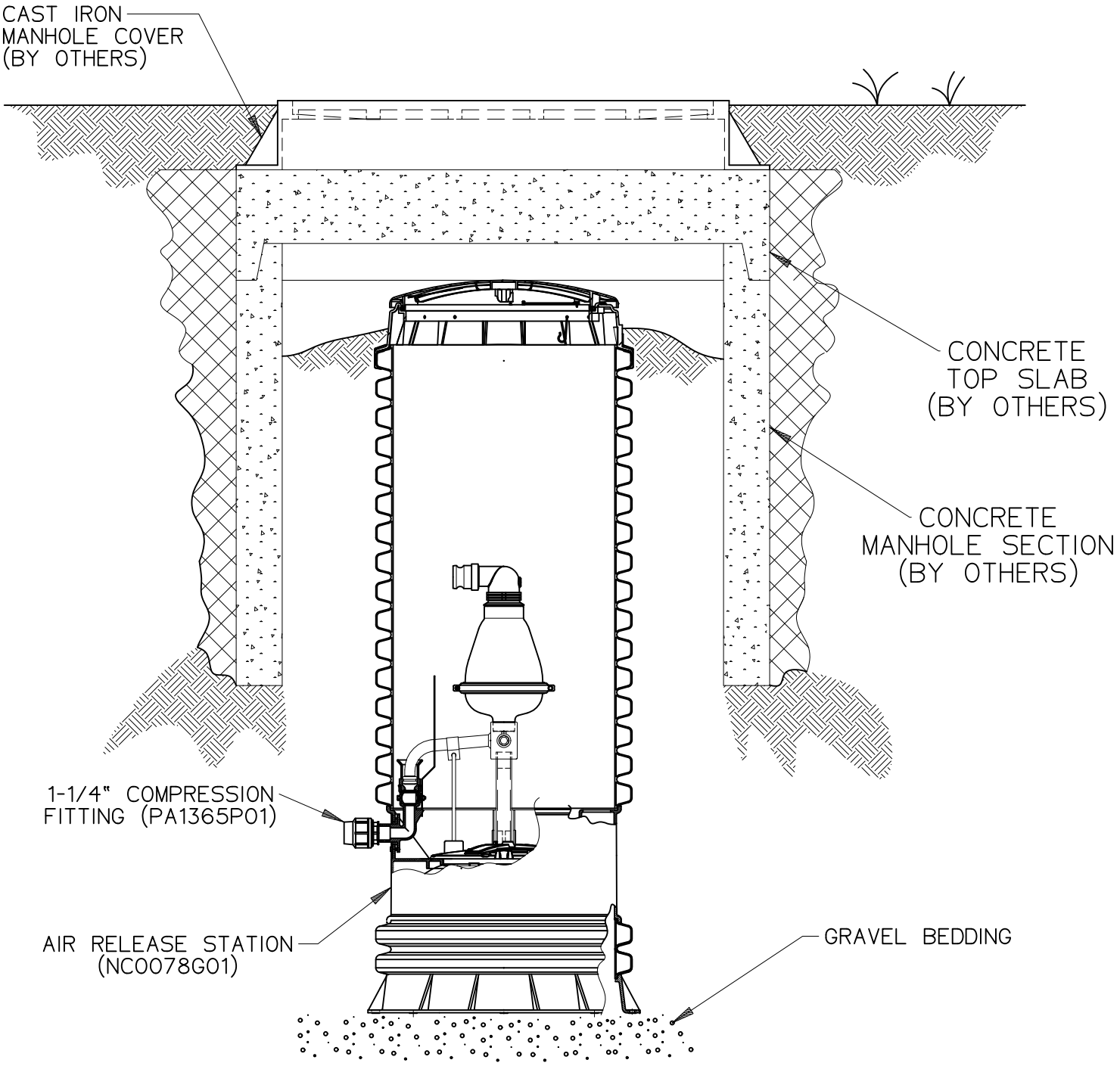


NOTES:

1. DETAILS MAY VARY BY PUMP MANUFACTURER.
2. PROVIDE 2.5 CUBIC FEET OF CONCRETE PER VERTICAL FLOOR OF TANK.

RESIDENTIAL GRINDER PUMP

NOT TO SCALE



NOTE:

TRAFFIC BEARING APPLICATION TO BE SPECIFIED AND APPROVED BY LOCAL ENGINEER

THERE IS TO BE NO LOAD FROM THE TRAFFIC OR THE MANHOLE TRANSLATED TO THE STATION

SKETCH IS FOR REF. ONLY

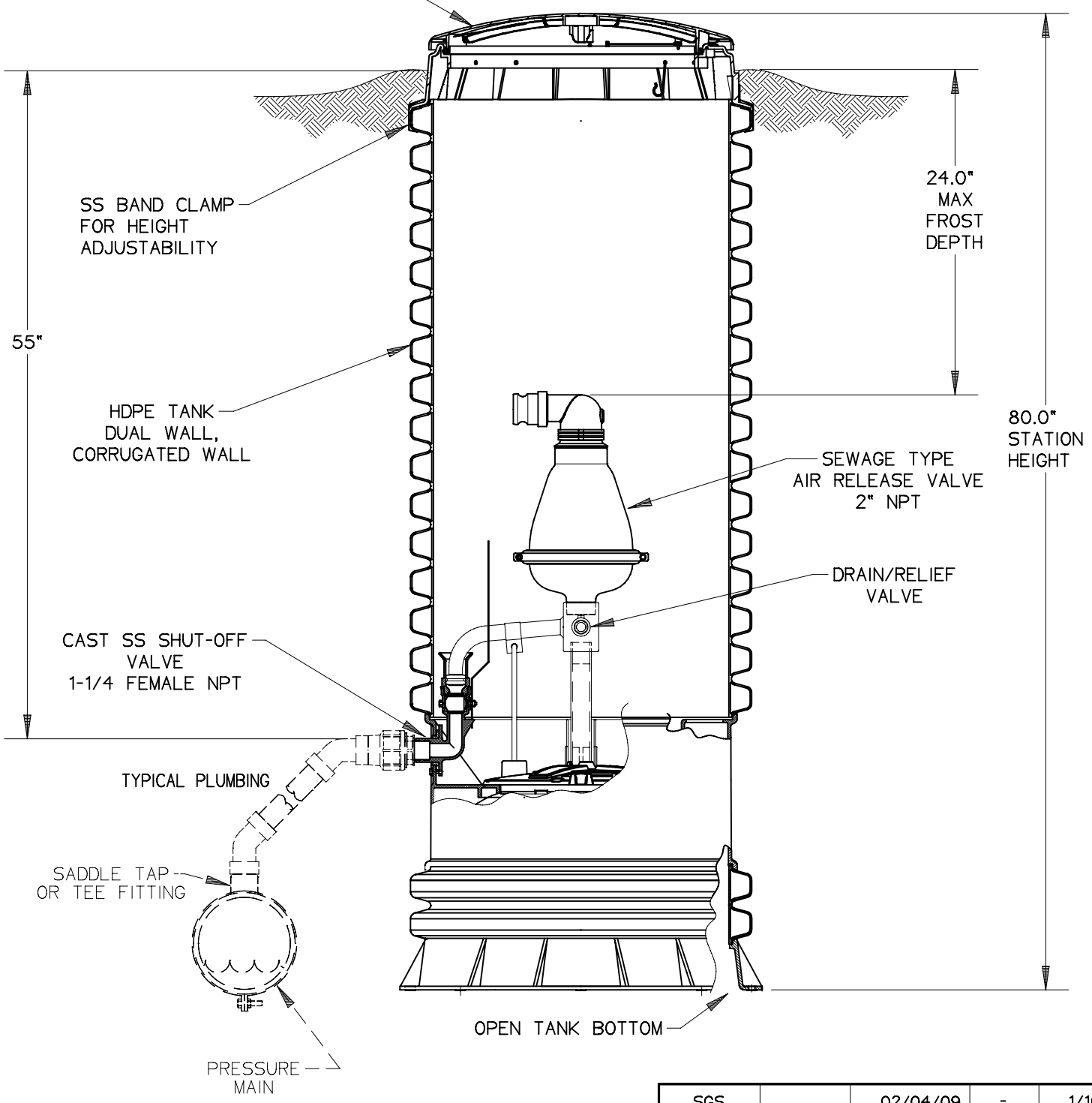
SGS		08/30/17	1	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

SEWER SYSTEMS

AIR RELEASE STATION IN A MANHOLE

ESD 17-0083

AIR RELEASE STATION
2 FT FROST DEPTH



SGS		02/04/09	-	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

NOTES:

1. ALL ITEMS SHOWN IN DASHED LINES ARE FOR REFERENCE ONLY, AND ARE SUPPLIED BY OTHERS

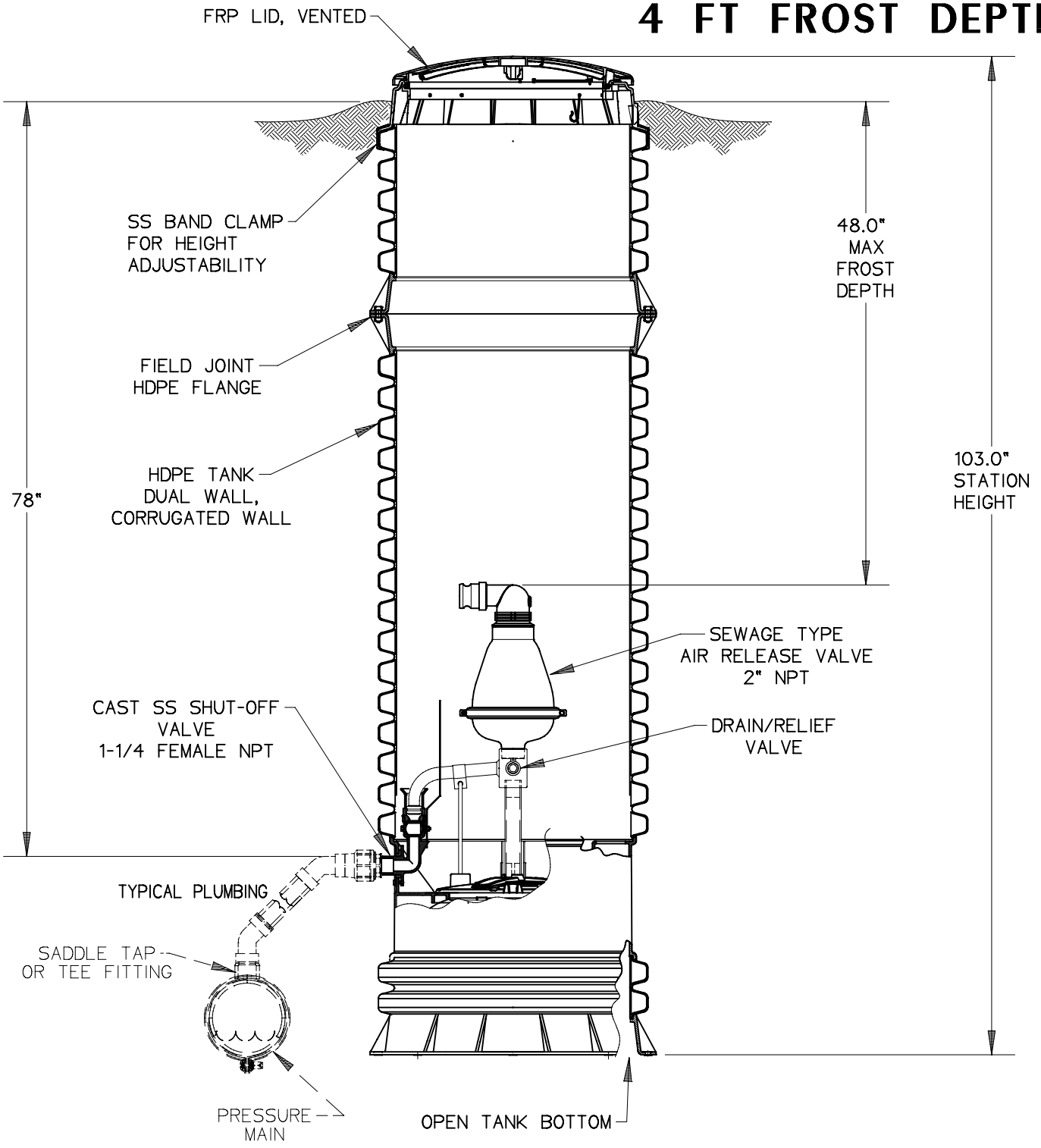
SEWER SYSTEMS

CUT SHEET, AIR RELEASE STATION
FOR 2' FROST DEPTH

ORDER NUMBER: NC0078G01

NA0183P01

AIR RELEASE STATION
4 FT FROST DEPTH



NOTES:

1. ALL ITEMS SHOWN IN DASHED LINES ARE FOR REFERENCE ONLY, AND ARE SUPPLIED BY OTHERS

SGS		02/04/09	-	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

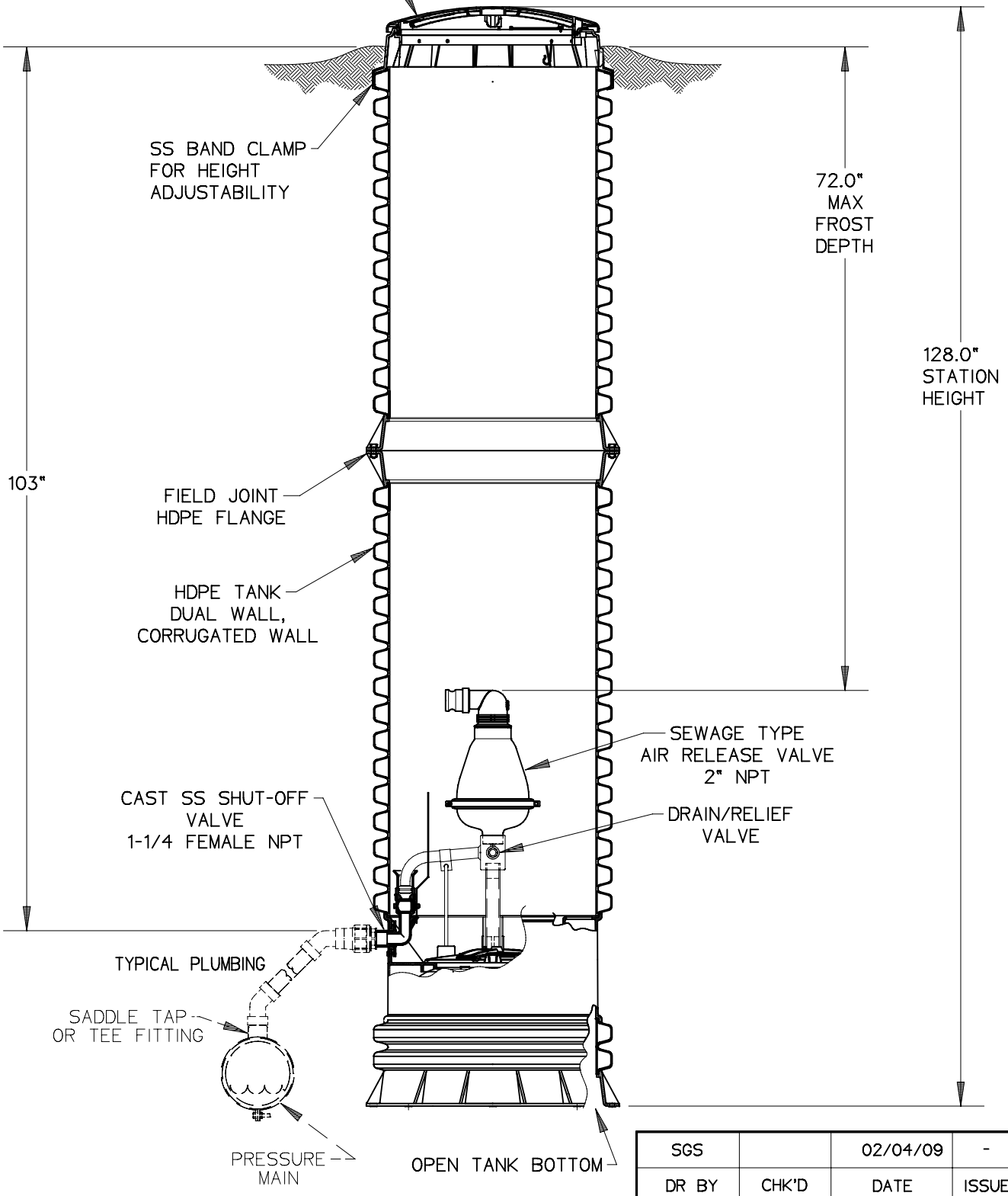
SEWER SYSTEMS

CUT SHEET, AIR RELEASE STATION FOR 4' FROST DEPTH

ORDER NUMBER: NC0078G02

NA0183P02

AIR RELEASE STATION
6 FT FROST DEPTH



NOTES:

1. ALL ITEMS SHOWN IN DASHED LINES ARE FOR REFERENCE ONLY, AND ARE SUPPLIED BY OTHERS

SGS		02/04/09	-	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

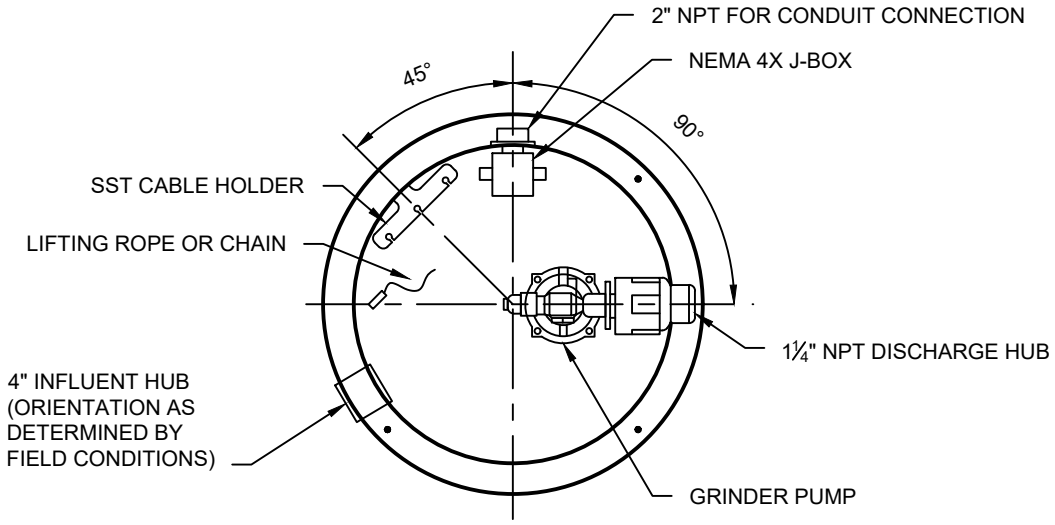
SEWER SYSTEMS

CUT SHEET, AIR RELEASE STATION FOR 6' FROST DEPTH

ORDER NUMBER: NC0078G03

NA0183P03

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
RESIDENTIAL GRINDER PUMP DETAIL	SSM CONSULTING ENGINEERS	JDL	04/2022	S-35	
PLAN VIEW AND EQUIPMENT NOTES		APP'D.	DATE	DRAWING NUMBER	REV.



PLAN VIEW

30" DIA. SUMP
(ORIENTATION NOT DEPICTED
BY SIDE VIEWS)

RESIDENTIAL GRINDER PUMP NOTES:

1. EACH LOT SHALL BE EQUIPPED WITH A HYDROMATIC TRST SYSTEM WITH 30" DIAMETER FIBERGLASS SUMP, WALL MOUNTED J-BOX. GRINDER PUMPS SHALL BE HYDROMATIC PUMPS INC., ULTRA GRIND HPG200, 3500 RPM, 4.25" DIA. IMPELLER, 1¼", DISCHARGE, SIMPLEX PUMP SYSTEMS COMPLETE FROM HYDROMATIC OR APPROVED EQUAL.

2. CONTROL PANELS SHALL BE REMOTE MOUNTED ON EACH HOME. EACH PANEL SHALL BE EQUIPPED WITH AN AUDIBLE AND VISUAL HIGH LEVEL ALARM, NEMA 4X FIBERGLASS ENCLOSURE, ELAPSED TIME METER, AND SEAL LEAK DETECTION.

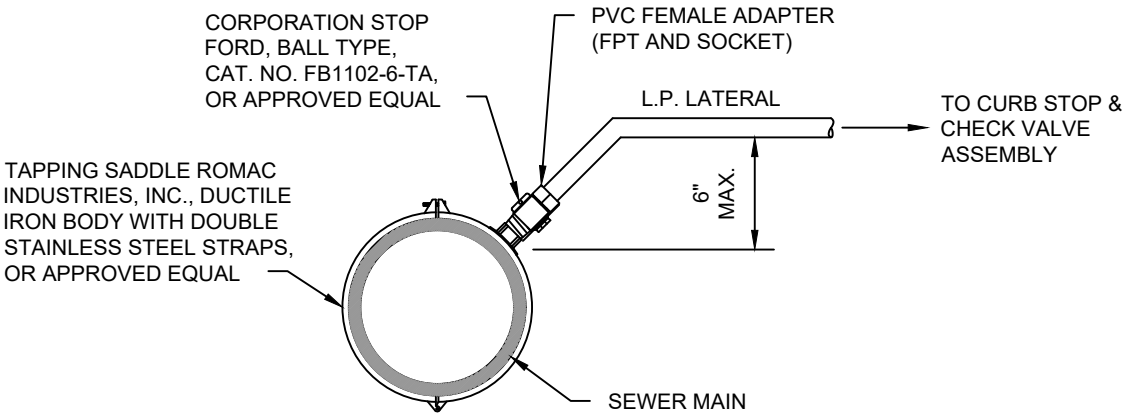
3. THE CONTRACTOR SHALL PROVIDE SPARE GRINDER SEWAGE PUMPS TO THE MUNICIPALITY FOR USE AS EMERGENCY REPLACEMENT SHOULD A HOMEOWNER'S PUMP MALFUNCTION. THE NUMBER OF SPARE PUMPS WILL BE DETERMINED BY THE NUMBER OF GRINDER PUMPS INSTALLED. THE SPECIFICATION FOR INSTALLATION OF THE GRINDER PUMP AND FORCE MAIN SHALL BE AVAILABLE WITH THE PLAN SET DURING CONSTRUCTION ON SITE.

4. TANKS SHALL INCLUDE 1¼" FEMALE NPT DISCHARGE FITTING(S) AND A 2" FEMALE NPT CONDUIT FITTING. A 4" NEOPRENE INFLUENT GROMMET TYPE CONNECTION SHALL BE PROVIDED FOR MOUNTING IN THE FIELD. GROMMET SHALL BE SUITABLE FOR 4" SDR-26 INFLUENT PIPE.

RESIDENTIAL GRINDER PUMP

NOT TO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
L.P. SEWER LATERAL CONNECTION	SSM	JDL	04/2022	S-36	
TO MAIN (WET TAP)	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.



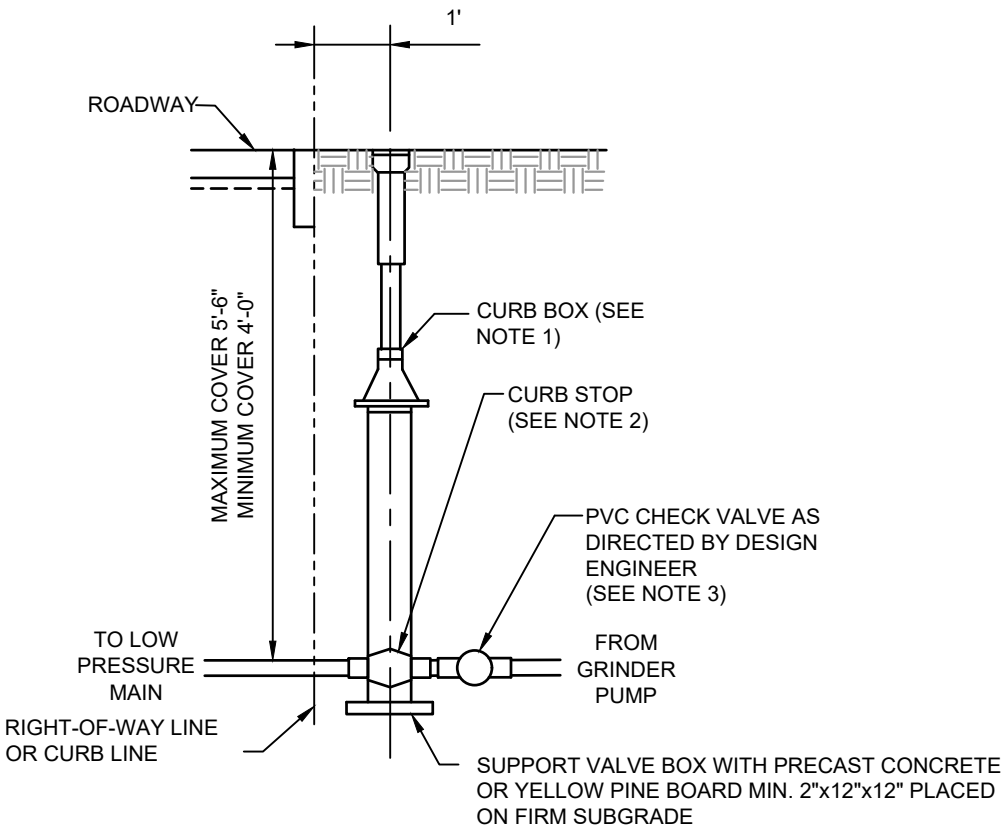
NOTES:

1. USE NECESSARY BENDS/FITTINGS TO MAINTAIN MINIMUM DEPTHS AND CLEARANCES AS INDICATED ON THE DESIGN PLANS AND OR STANDARD DETAILS. USE COMBINATIONS OF 45° BENDS AND OTHER FITTINGS RATHER THAN 90° BENDS.
2. SOLVENT CEMENTED JOINT PIPE SHALL BE PLACED IN TRENCH IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS OR AS DIRECTED BY THE DESIGN ENGINEER.
3. TAPPING SADDLE SHOULD BE USED ON EXISTING PRESSURE SEWER MAINS GREATER THAN 3 INCH.
4. REFER TO DRAWINGS FOR SIZES AND LOCATION AT MAIN LINE PRESSURE SEWER AND PRESSURE SEWER HOUSE CONNECTION.
5. PIPE BEDDING AND BACKFILL SHALL BE IN ACCORDANCE WITH PIPE BEDDING DETAIL/
6. SUPPORT PIPE, SADDLE, CORPORATION STOP AND TAPPING MACHINE AS REQUIRED TO PREVENT DAMAGE TO PIPE.

LOW PRESSURE SEWER LATERAL CONNECTION TO MAIN (WET TAP)

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
L.P. SEWER CURB STOP/CHECK VALVE	SSM	JDL	04/2022	S-37	
INSTALLATION DETAIL	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.



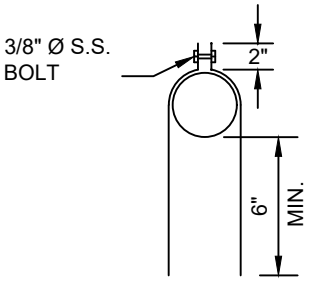
NOTES:

1. CURB BOX WITH STATIONARY ROD: FORD METER BOX CO. SERIES EA-2, MUELLER CO. CAT. NO. H-10334, OR APPROVED EQUAL.
2. CURB STOP: TRUE UNION PVC BALL VALVE WITH SOCKET END CONNECTIONS AND 2" SQUARE OPERTAING NUT, ASAHI-AMERICA TYPE 21 OR APPROVED EQUAL.
3. CHECK VALVE: TRUE UNION PVC BALL CHECK VALVE WITH SOCKET END CONNECTIONS, ASAHI-AMERICA OR APPROVED EQUAL.
4. UNLESS OTHERWISE NOTED ALL PVC PIPE SHALL HAVE SOLVENT CEMENT JOINTS AND HDPE SHALL HAVE BUTT FUSED JOINT.
5. ALL FITTINGS SHALL BE BLOCKED OR ANCHORED UNLESS OTHERWISE NOTED.

LOW PRESSURE SEWER CURB STOP/CHECK VALVE INSTALLATION DETAIL

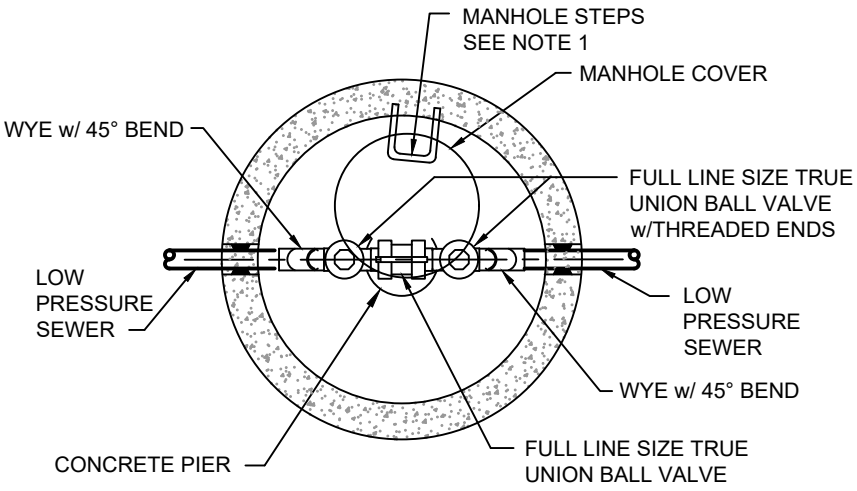
NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
LOW PRESSURE SEWER	SSM CONSULTING ENGINEERS	JDL	04/2022	S-38	
CLEANOUT MANHOLE - IN-LINE		APP'D.	DATE	DRAWING NUMBER	REV.



304 S.S. PIPE STRAP DETAIL

NOTE:
SEE PLAN & PROFILE DWG. FOR LINE SIZES.

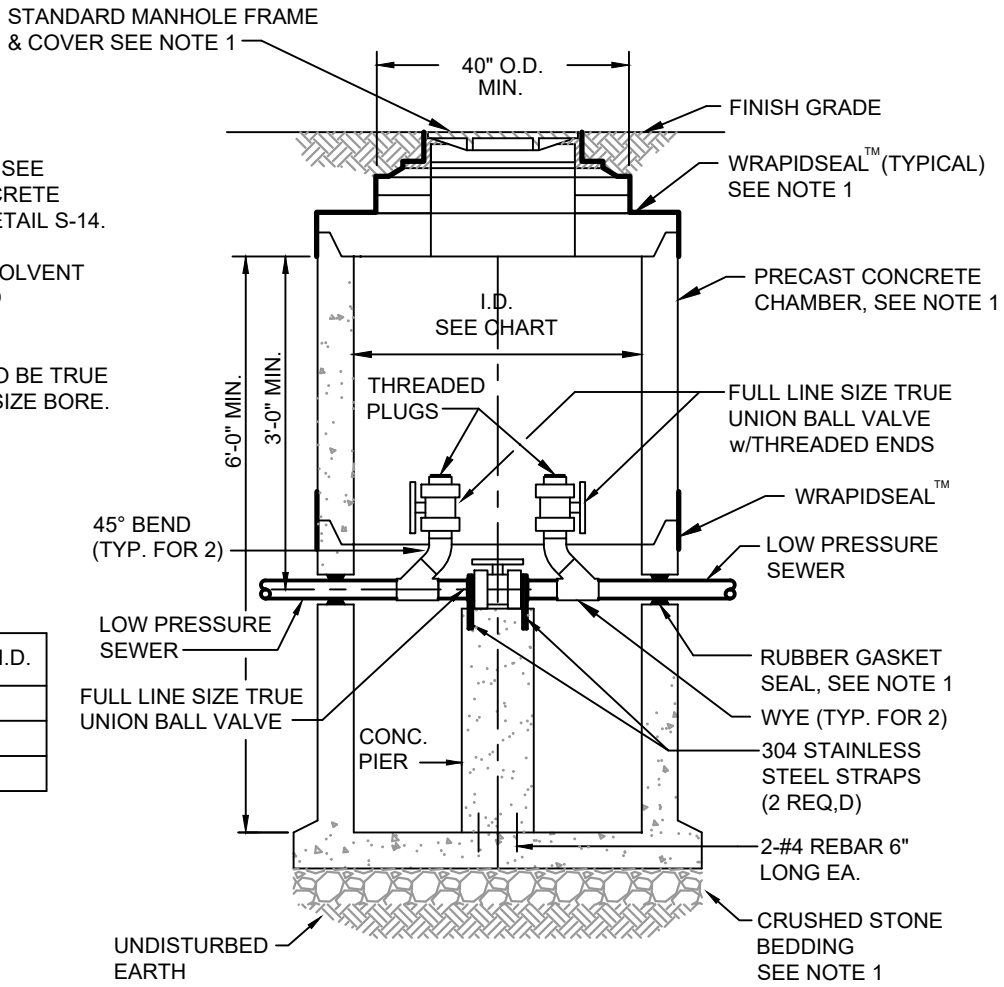


SECTIONAL PLAN

NOTES:

1. FOR CHAMBER DETAILS, SEE TYPICAL PRECAST CONCRETE CHAMBER STANDARD DETAIL S-14.
2. ALL PVC JOINTS TO BE SOLVENT WELDED UNLESS NOTED OTHERWISE.
3. ALL PVC BALL VALVES TO BE TRUE UNION WITH FULL LINE SIZE BORE.

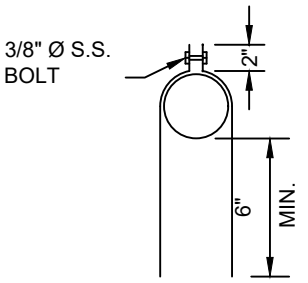
PIPE SIZE	MANHOLE I.D.
2 1/2"or less	60"
3"	60"
4"	72"



LOW PRESSURE SEWER IN-LINE CLEANOUT MANHOLE 4" AND UNDER

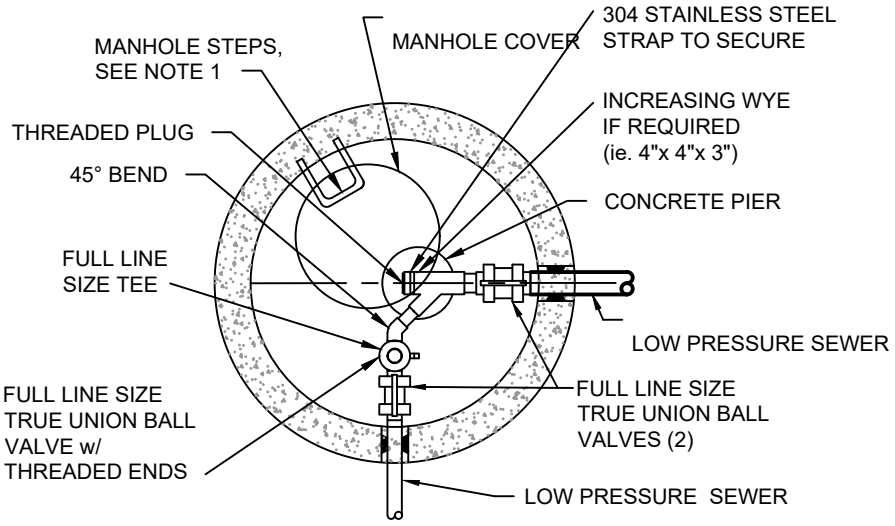
NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
LOW PRESSURE SEWER	SSM CONSULTING ENGINEERS	JDL	04/2022	S-39	
CLEANOUT MANHOLE - 90° BEND		APP'D.	DATE	DRAWING NUMBER	REV.



304 S.S. PIPE STRAP DETAIL

NOTE:
SEE PLAN & PROFILE DWG. FOR LINE SIZES.

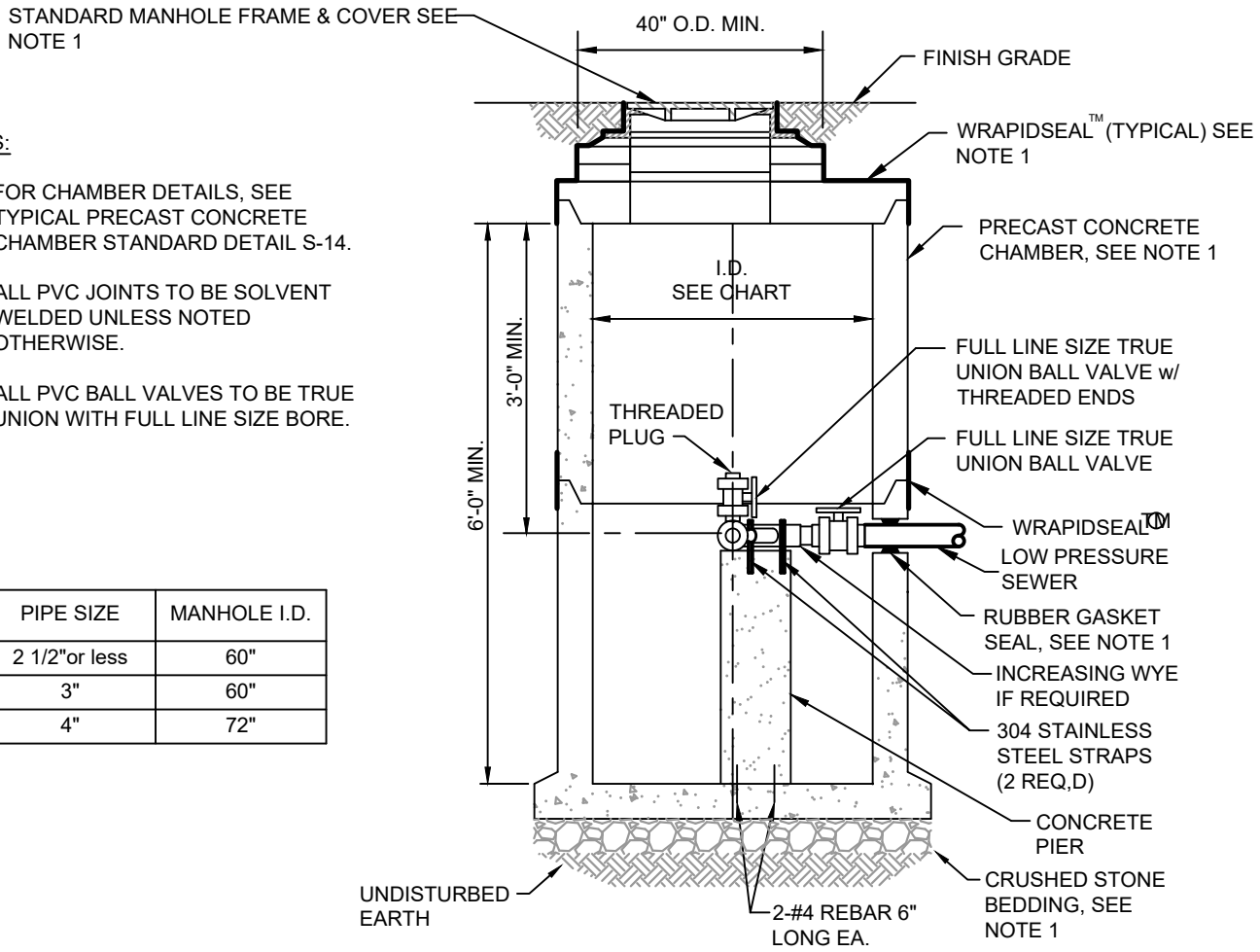


SECTIONAL PLAN

NOTES:

1. FOR CHAMBER DETAILS, SEE TYPICAL PRECAST CONCRETE CHAMBER STANDARD DETAIL S-14.
2. ALL PVC JOINTS TO BE SOLVENT WELDED UNLESS NOTED OTHERWISE.
3. ALL PVC BALL VALVES TO BE TRUE UNION WITH FULL LINE SIZE BORE.

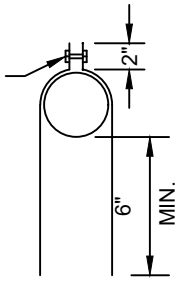
PIPE SIZE	MANHOLE I.D.
2 1/2"or less	60"
3"	60"
4"	72"



LOW PRESSURE SEWER 90° BEND CLEANOUT MANHOLE 4" AND UNDER

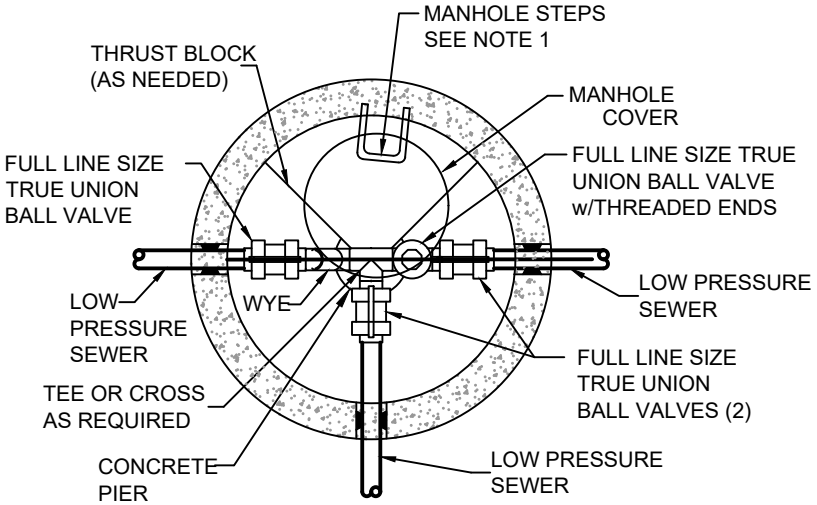
NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
LOW PRESSURE SEWER	SSM CONSULTING ENGINEERS	JDL	04/2022	S-40	
CLEANOUT MANHOLE - 90° TEE		APP'D.	DATE	DRAWING NUMBER	REV.



304 S.S. PIPE STRAP DETAIL

NOTE:
SEE PLAN & PROFILE DWG. FOR LINE SIZES.

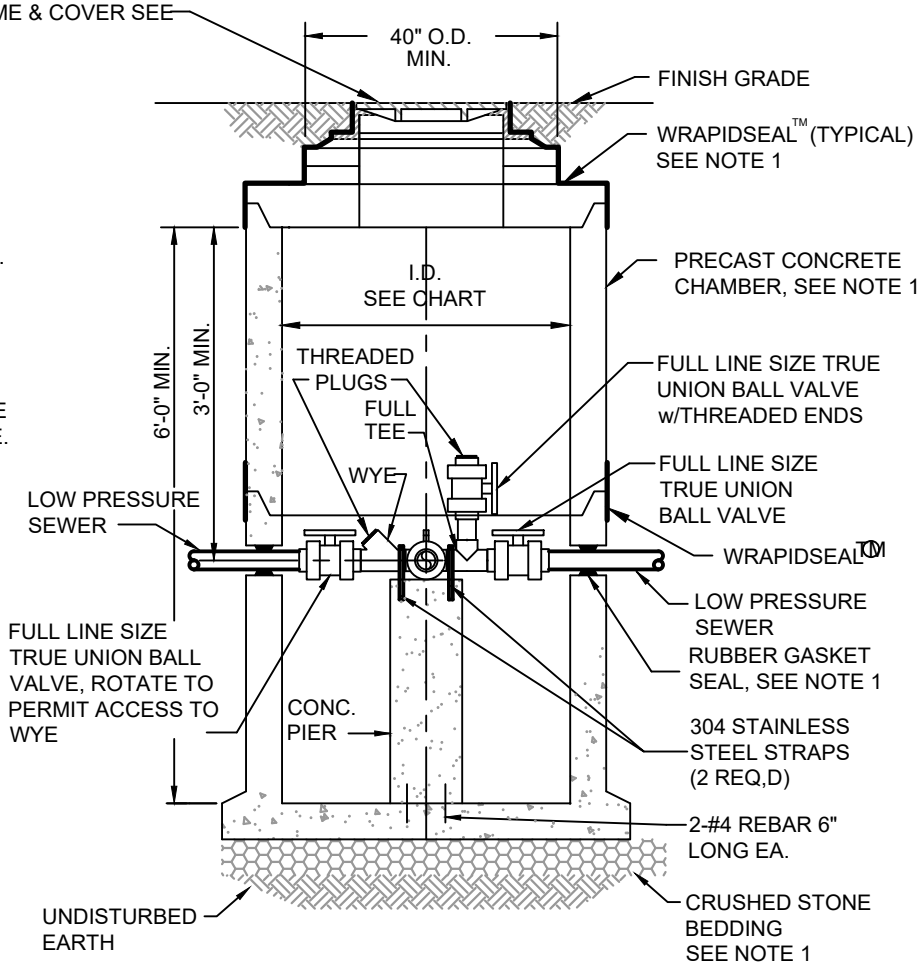


SECTIONAL PLAN

NOTES:

1. FOR CHAMBER DETAILS, SEE TYPICAL PRECAST CONCRETE CHAMBER STANDARD DETAIL S-14.
2. ALL PVC JOINTS TO BE SOLVENT WELDED UNLESS NOTED OTHERWISE.
3. ALL PVC BALL VALVES TO BE TRUE UNION WITH FULL LINE SIZE BORE.

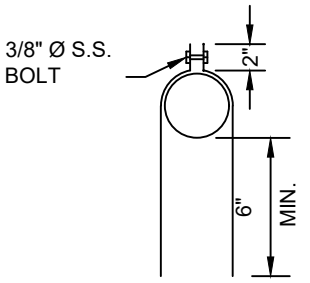
PIPE SIZE	MANHOLE I.D.
2 1/2"or less	60"
3"	60"
4"	72"



LOW PRESSURE SEWER TEE CLEANOUT MANHOLE 4" AND UNDER

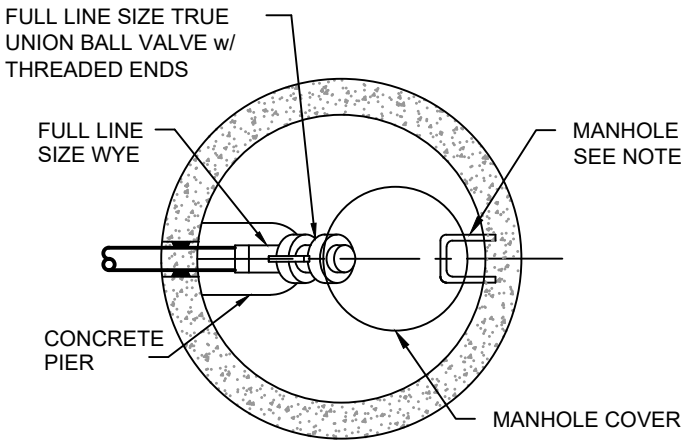
NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
LOW PRESSURE SEWER	SSM CONSULTING ENGINEERS	JDL	04/2022	S-41	
CLEANOUT MANHOLE - DEAD END		APP'D.	DATE	DRAWING NUMBER	REV.



304 S.S. PIPE STRAP DETAIL

NOTE:
SEE PLAN & PROFILE DWG. FOR LINE SIZES.

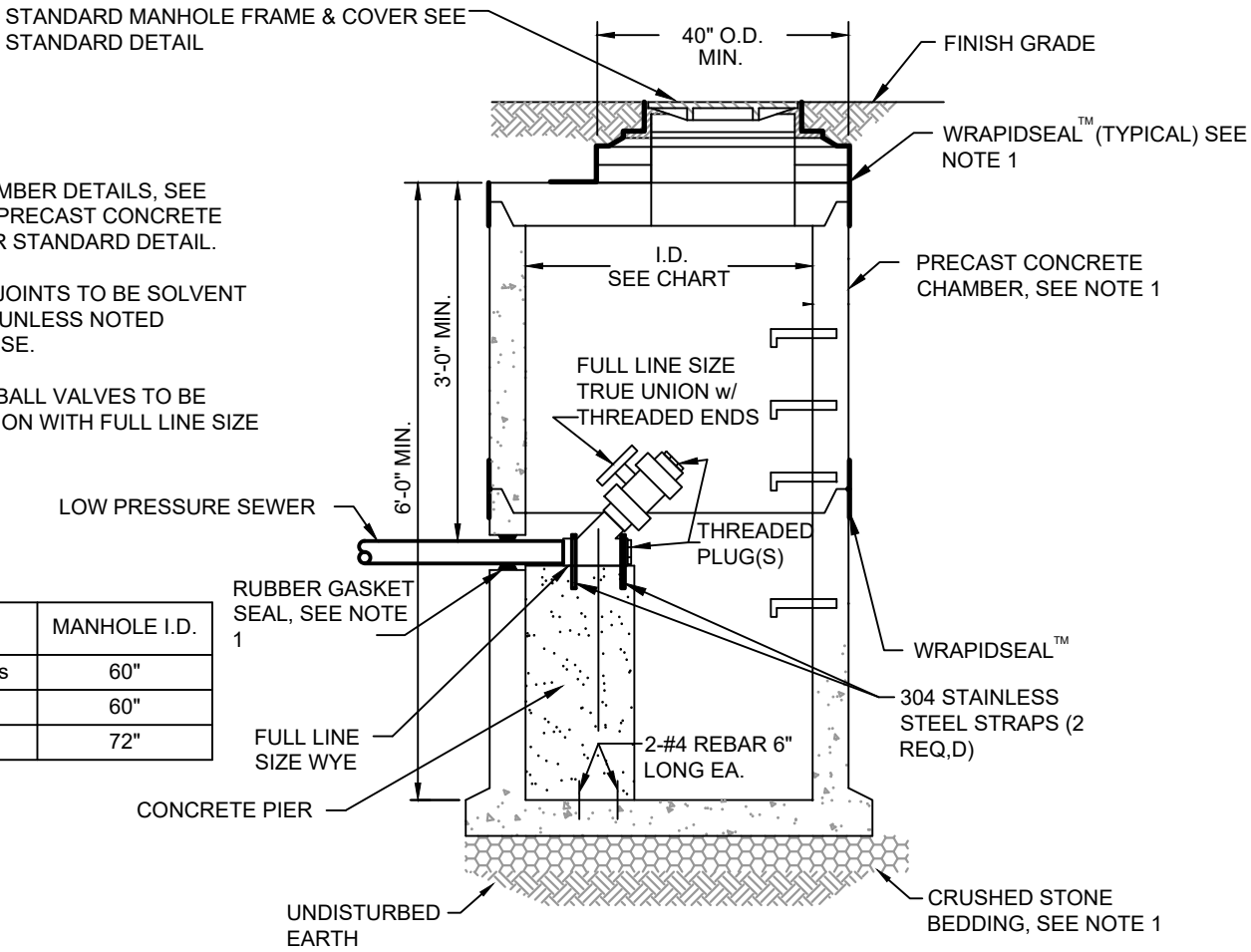


SECTIONAL PLAN

NOTES:

1. FOR CHAMBER DETAILS, SEE TYPICAL PRECAST CONCRETE CHAMBER STANDARD DETAIL.
2. ALL PVC JOINTS TO BE SOLVENT WELDED UNLESS NOTED OTHERWISE.
3. ALL PVC BALL VALVES TO BE TRUE UNION WITH FULL LINE SIZE BORE.

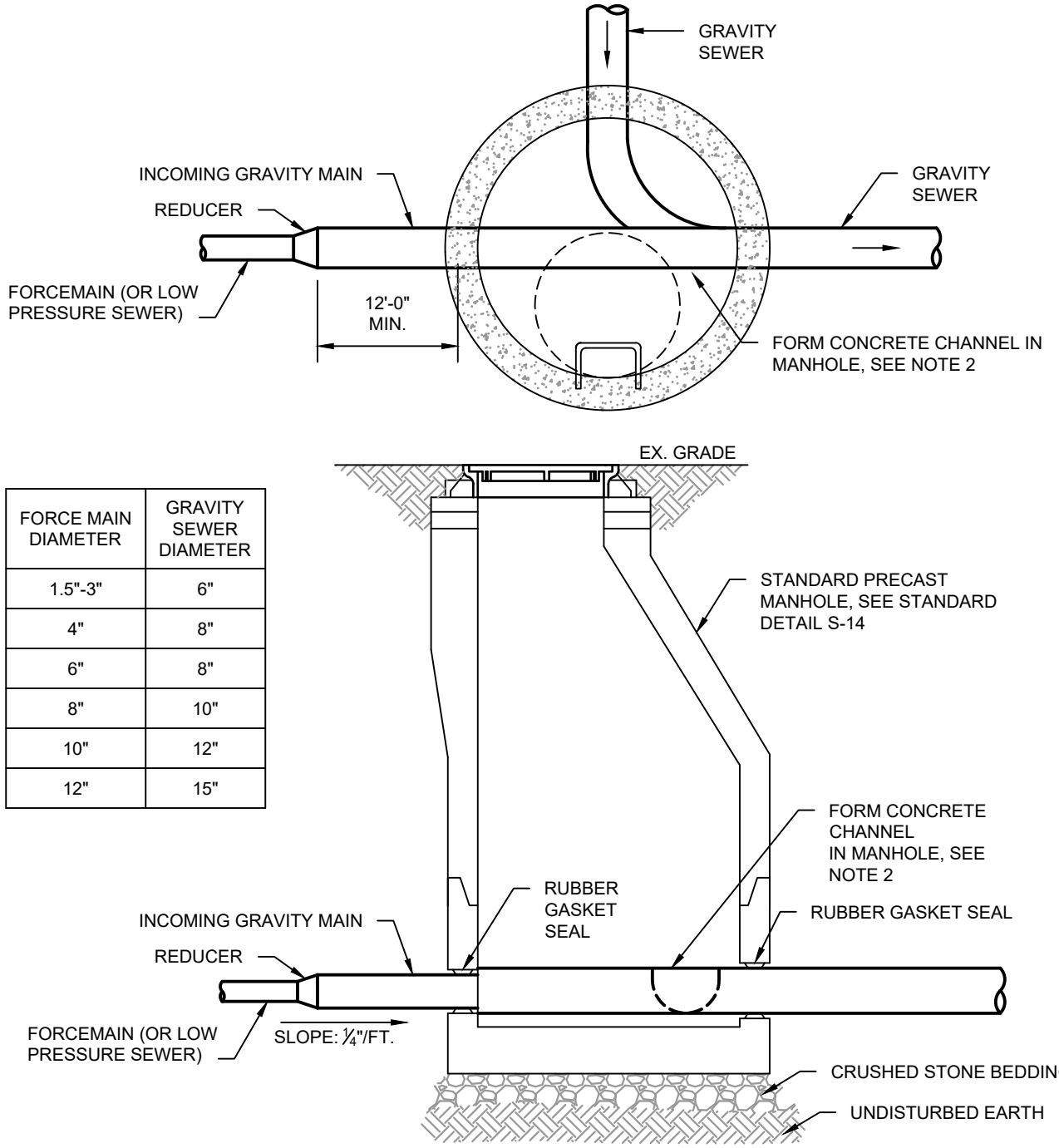
PIPE SIZE	MANHOLE I.D.
2 1/2"or less	60"
3"	60"
4"	72"



LOW PRESSURE SEWER DEAD END CLEANOUT MANHOLE 4" AND UNDER

NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
FORCE MAIN OR LOW PRESSURE SEWER	SSM CONSULTING ENGINEERS	JDL	04/2022	S-42	
CONNECTION TO MANHOLE		APP'D.	DATE	DRAWING NUMBER	REV.



FORCE MAIN DIAMETER	GRAVITY SEWER DIAMETER
1.5"-3"	6"
4"	8"
6"	8"
8"	10"
10"	12"
12"	15"

NOTES:

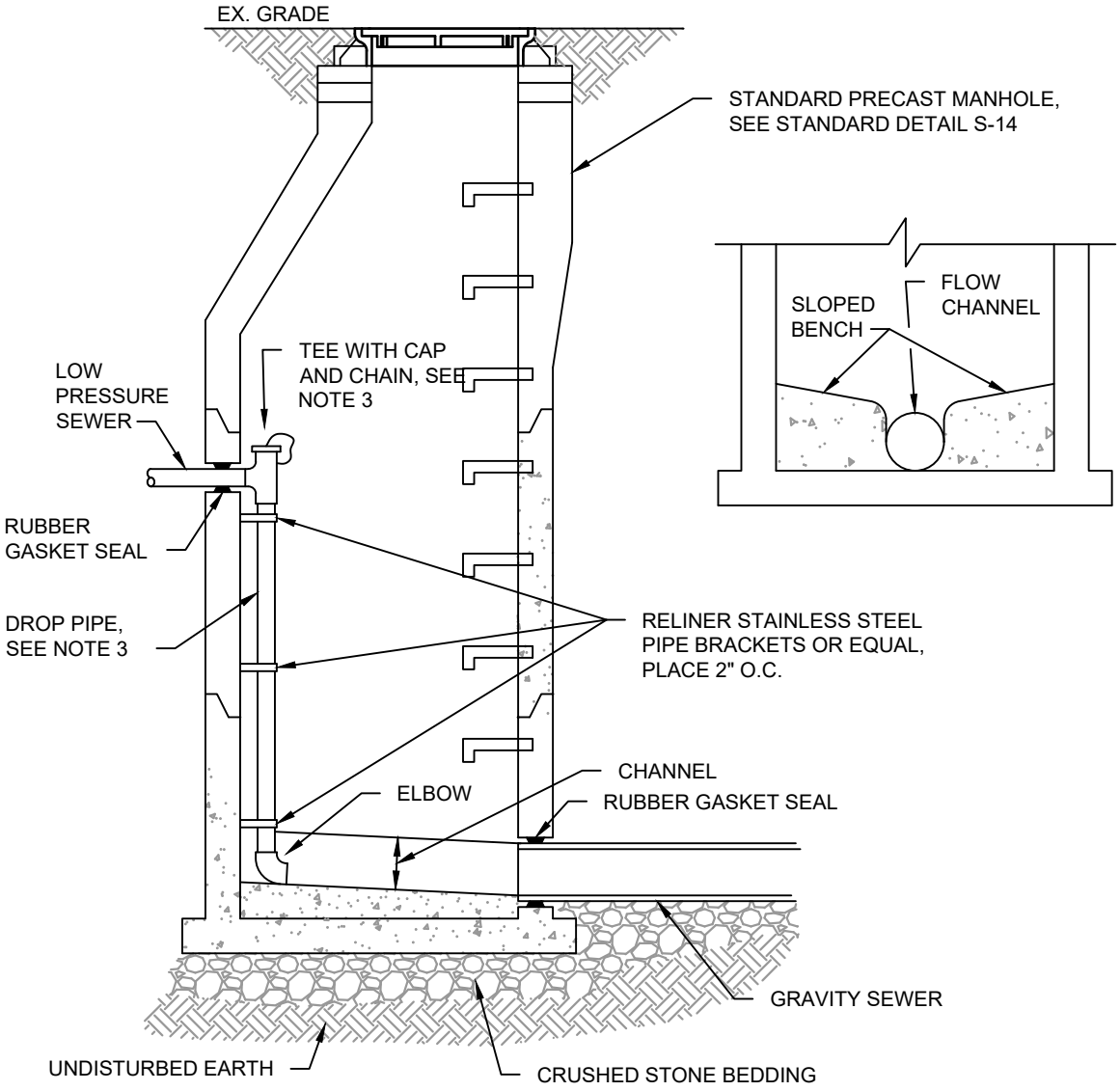
1. PROVIDE PRECAST OPENING WITH A-LOK SEAL PIPE GASKET (OR EQUAL) FOR ALL PIPE PENETRATIONS.

2. PROVIDE SMOOTH FLOW CHANNEL IN MANHOLE FROM FORCE MAIN DISCHARGE TO OUTLET PIPE WITH SLOPED BENCH (1"/FT.) FROM OUTSIDE EDGE OF MANHOLE TO CHANNEL. CHANGES IN SIZE, GRADE AND DIRECTION TO BE MADE SMOOTHLY AND EVENLY WITH AS LARGE A RADIUS AS POSSIBLE.

FORCE MAIN OR LOW PRESSURE SEWER CONNECTION TO MANHOLE

NOT TO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
LOW PRESSURE SEWER INSIDE DROP	SSM	JDL	04/2022	S-43	
CONNECTION MANHOLE	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.



NOTES:

1. PROVIDE PRECAST OPENING WITH A-LOK SEAL PIPE GASKET (OR EQUAL) FOR ALL PIPE PENETRATIONS.

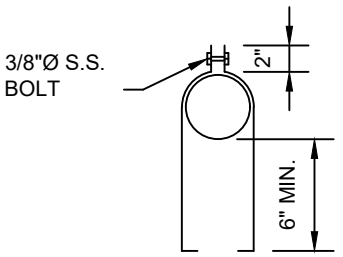
2. PROVIDE SMOOTH FLOW CHANNEL IN MANHOLE FROM FORCE MAIN DISCHARGE TO OUTLET PIPE WITH SLOPED BENCH (1"/FT.) FROM OUTSIDE EDGE OF MANHOLE TO CHANNEL. CHANGES IN SIZE, GRADE AND DIRECTION TO BE MADE SMOOTHLY AND EVENLY WITH AS LARGE A RADIUS AS POSSIBLE.

3. INCREASE SIZE OF TEE AND PIPING INSIDE MANHOLE A MINIMUM OF ONE PIPE DIAMETER OVER THE DIAMETER OF THE INCOMING LOW PRESSURE SEWER.

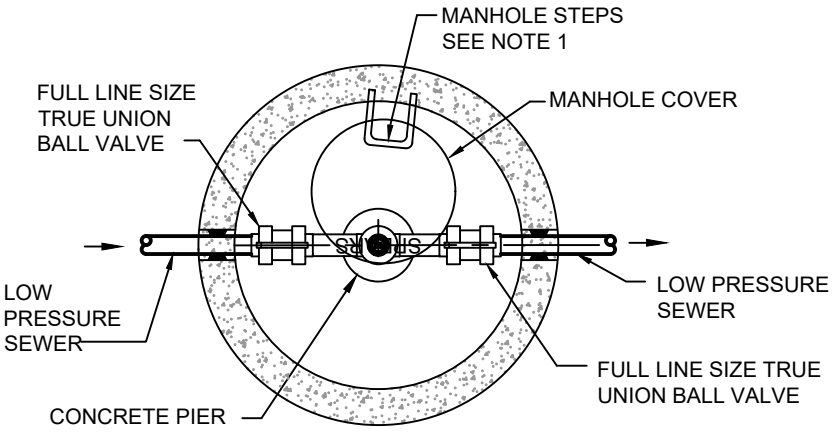
LOW PRESSURE SEWER INSIDE DROP CONNECTION MANHOLE

NOT TO SCALE

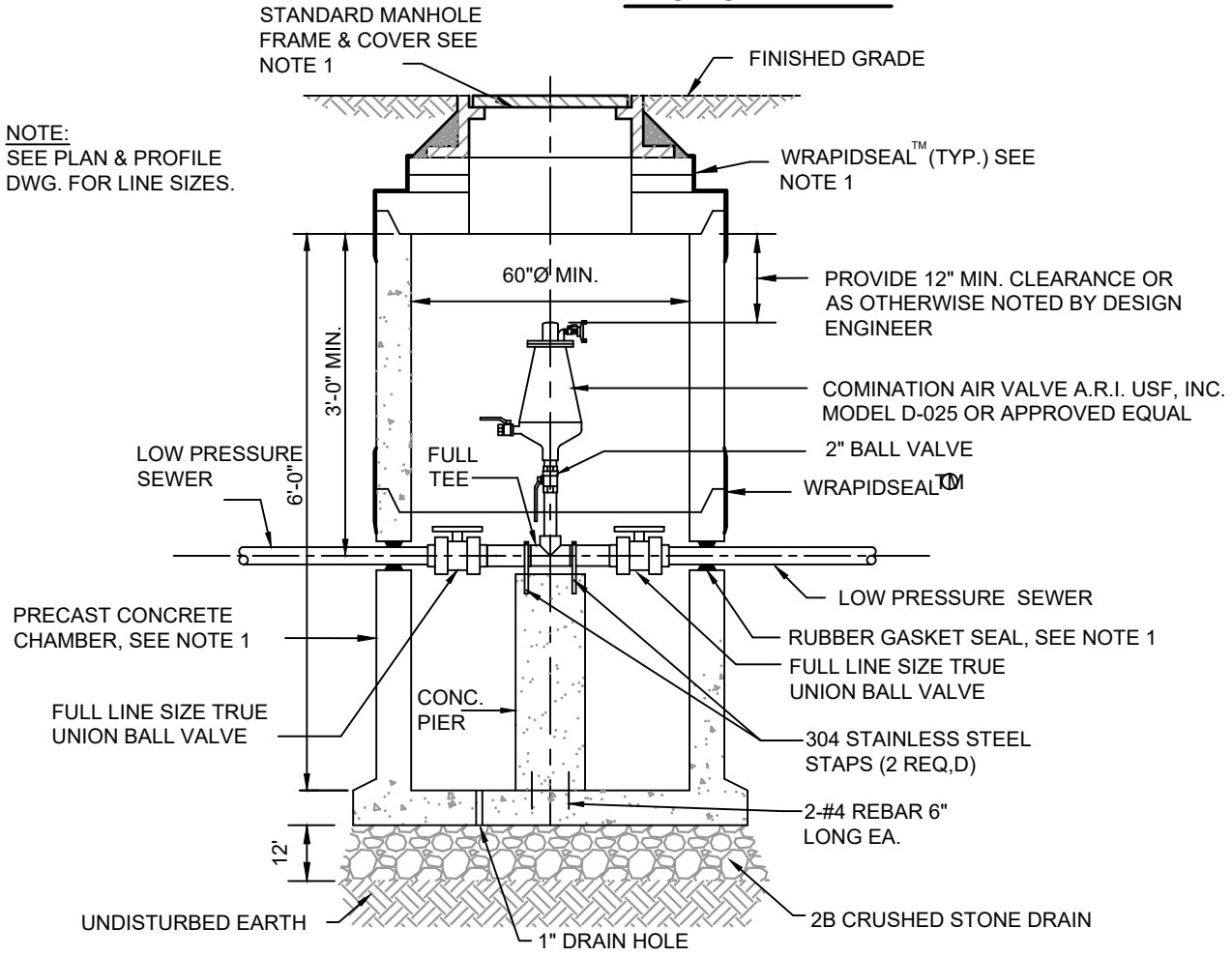
STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
COMBINATION AIR RELEASE/AIR & VACUUM	SSM CONSULTING ENGINEERS	JDL	04/2022	S-44	
VALVE CHAMBER - LOW PRESSURE SEWER		APP'D.	DATE	DRAWING NUMBER	REV.



304 S.S. PIPE STRAP DETAIL



SECTIONAL PLAN



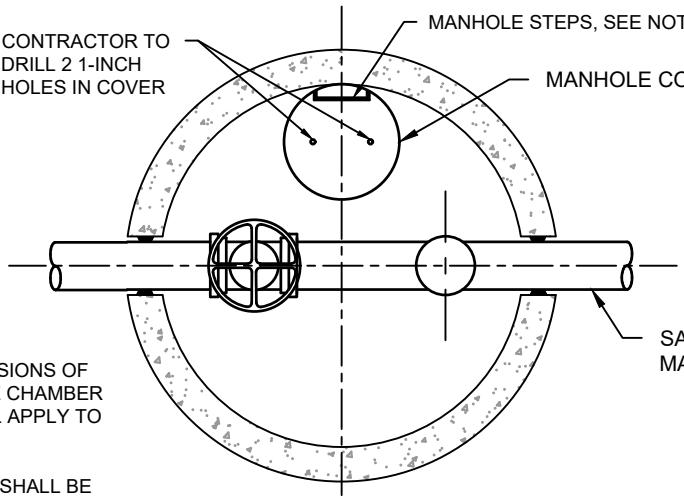
NOTES:

1. FOR CHAMBER DETAILS, SEE TYPICAL PRECAST CONCRETE CHAMBER STANDARD DETAIL S-14.
2. PIPE SIZE 3" OR LESS.
3. ALL P.V.C. JOINTS TO BE SOLVENT WELDED UNLESS NOTED OTHERWISE.
4. ALL PVC BALL VALVES TO BE TRUE UNION. WITH FULL LINE SIZE BORE.

LOW PRESSURE SEWER COMBINATION AIR RELEASE/VACUUM VALVE CHAMBER

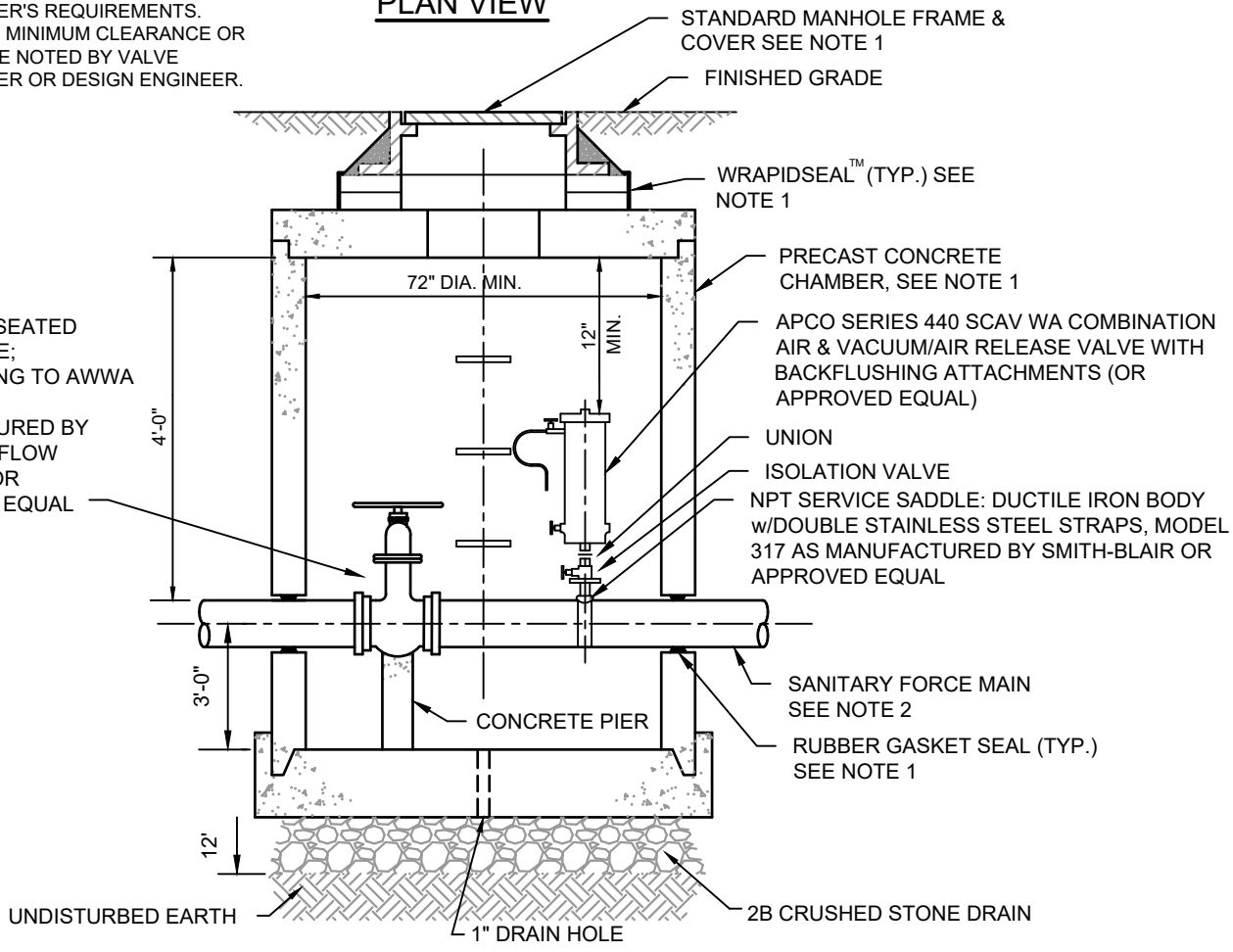
NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
COMBINATION AIR RELEASE/AIR & VACUUM VALVE CHAMBER - SANITARY FORCE MAIN	SSM CONSULTING ENGINEERS	JDL (APP'D.)	04/2022 (DATE)	S-45 (DRAWING NUMBER)	REV.



PLAN VIEW

NOTES:
1. ALL NON-CONFLICTING PROVISIONS OF TYPICAL PRECAST CONCRETE CHAMBER STANDARD DETAIL S-14 SHALL APPLY TO THIS DRAWING.
2. PIPE SIZES 4" THRU 12".
3. AIR RELEASE/VACUUM VALVE SHALL BE SIZED AND INSTALLED PER MANUFACTURER'S REQUIREMENTS.
4. PROVIDE A 12" MINIMUM CLEARANCE OR AS OTHERWISE NOTED BY VALVE MANUFACTURER OR DESIGN ENGINEER.



SECTION VIEW

COMBINATION AIR RELEASE/AIR VACUUM VALVE CHAMBER - SANITARY FORCE MAIN

NO SCALE

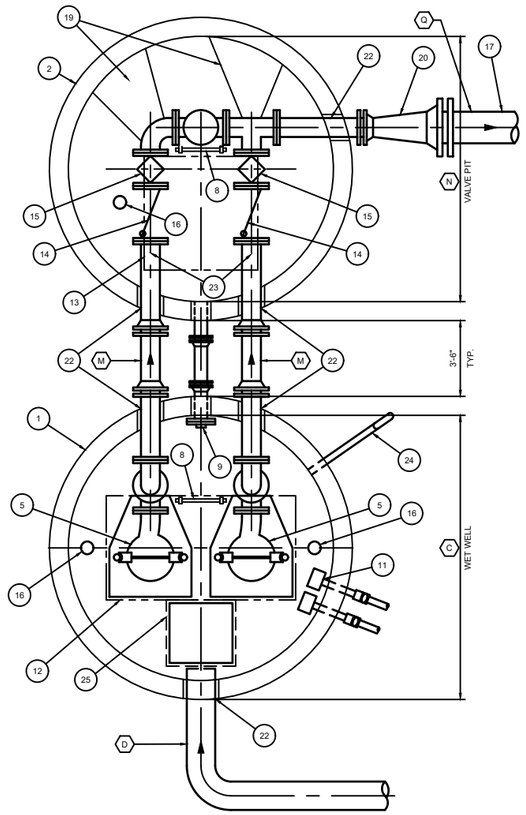
STANDARD DETAIL

SEWAGE PUMP STATION

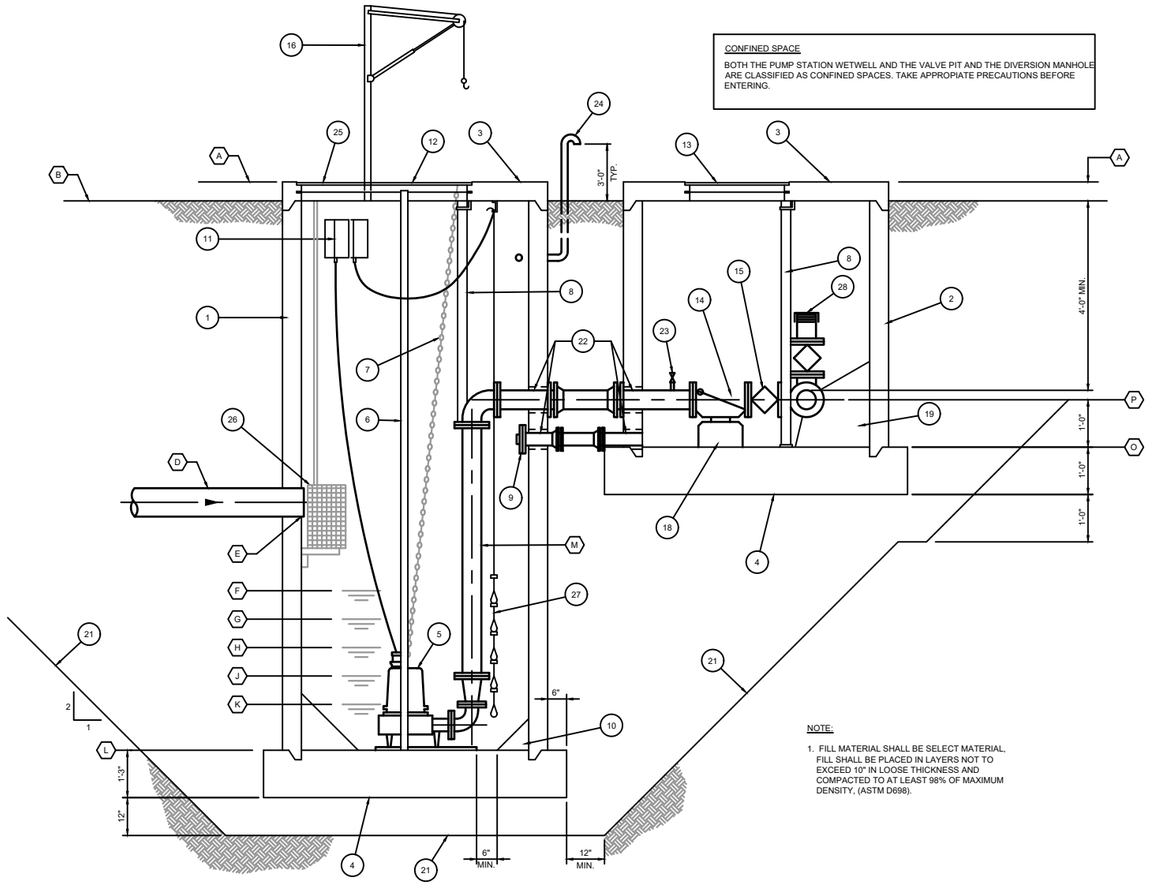
SUBMERSIBLE

UPPER MONTGOMERY JOINT AUTHORITY

SSM CONSULTING ENGINEERS	JDL	04/2022	S-46	
	APP'D.	DATE	DRAWING NUMBER	REV.



SECTIONAL PLAN OF PUMP STATION
NO SCALE



CROSS-SECTION OF PUMP STATION
NO SCALE

NOTE:

1. FILL MATERIAL SHALL BE SELECT MATERIAL, FILL SHALL BE PLACED IN LAYERS NOT TO EXCEED 10" IN LOOSE THICKNESS AND COMPACTED TO AT LEAST 98% OF MAXIMUM DENSITY, (ASTM D698).

100 YEAR FLOOD ELEVATION

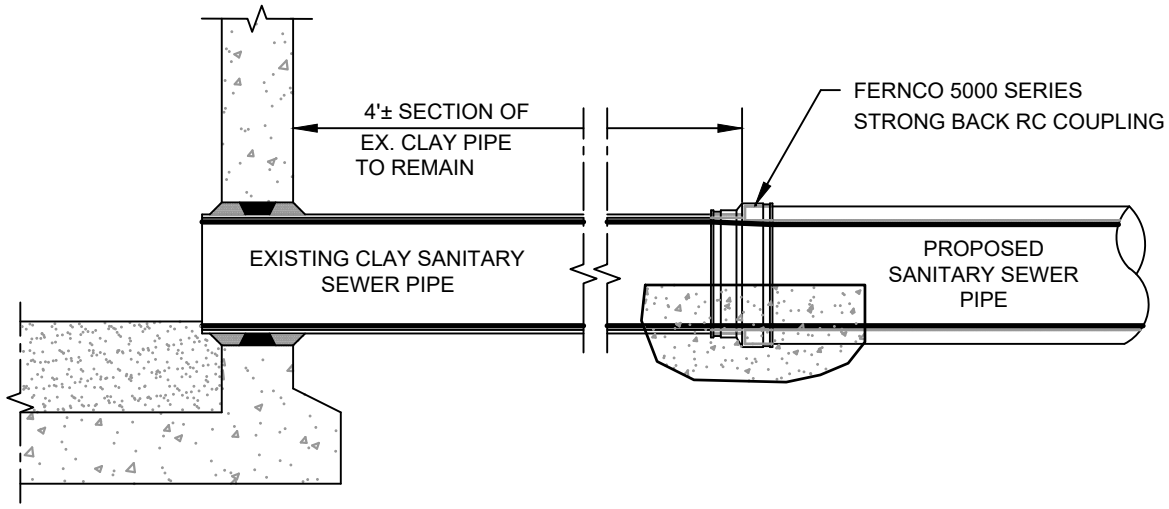
DESIGN SCHEDULE	PUMP STATION 1	PUMP STATION 2
(A) TOP ELEVATION		
(B) FINISHED GRADE		
(C) MIN. INSIDE DIAMETER OF WET WELL		
(D) INFLUENT LINE SIZE		
(E) INVERT IN		
(F) HIGH WATER ALARM ELEVATION		
(G) LAG PUMP ON ELEVATION		
(H) LAG PUMP OFF ELEVATION		
(J) LEAD PUMP ON ELEVATION		
(K) LEAD PUMP OFF ELEVATION		
(L) WET WELL INVERT		
(M) DISHARGE SIZE		
(N) MIN. INSIDE DIAMETER OF VALVE PIT		
(O) VALVE PIT INVERT		
(P) ℄ ELEVATION OF FORCE MAIN		
(Q) FORCE MAIN SIZE		

KEY NOTES

1. PRECAST CONCRETE WET WELL (SQUARE ALSO ACCEPTABLE)
2. PRECAST CONCRETE VALVE PIT (SQUARE ALSO ACCEPTABLE)
3. PRECAST CONCRETE TOP
4. CONCRETE FOUNDATION SLAB w/ #5 AT 12" E.W.
5. SUBMERSIBLE PUMP
6. STAINLESS STEEL PUMP GUIDE RAIL WITH INTERMEDIATE SUPPORTS
7. STAINLESS STEEL LIFTING CHAIN
8. HEAVY-DUTY STAINLESS STEEL OR FIBERGLASS LADDER w/ RUNGS AT 12" O.C. w/ RETRACTABLE 1" O.D. EXTENSION TUBES FOR HANDRAILS
9. 4" FLAP VALVE & DRAIN
10. CONCRETE FILL
11. PUMP ELECTRICAL SERVICE w/ PUMP POWER CABLE & LEVEL CONTROL WIRES.
12. DOUBLE LEAF ALUMINUM HATCH w/ FLUSH TYPE HANDLE & LOCK. SIZE AS REQUIRED FOR PUMP REMOVAL. BY HALLIDAY, BILCO OR APPROVED EQUAL.
13. 2'-6" SQ. ALUMINUM HATCH w/ FLUSH TYPE HANDLE & LOCK. BY HALLIDAY, BILCO OR APPROVED EQUAL.
14. CHECK VALVE
15. PLUG VALVE
16. PROVIDE PORTABLE HOIST w/ 3 FLOOR MOUNTED LINED STAINLESS STEEL MOUNTING BRACKETS.
17. FORCE MAIN
18. CONC. PIPE SUPPORT AT EACH CHECK VALVE
19. CONC. REACTION BLOCKING TO BE CONSTRUCTED ALLOWING ENOUGH CLEARANCE FOR BOLT REMOVAL FROM PIPE FLANGE
20. REDUCER IF REQUIRED OR 4'-0" SECTION OF PIPE
21. UNDISTURBED EARTH
22. PIPE OPENING SEAL
23. 3/4" TAP & BALL VALVE
24. 4" DUCTILE IRON VENT
25. SINGLE LEAF 304 S.S. HATCH w/ FLUSH TYPE HANDLE & LOCK 24" x 30" MIN. SIZE
26. REMOVABLE TRASH BASKET BY HALLIDAY OR APPROVED EQUAL, 3/4" MAX. SIZE OPENINGS.
27. PRESSURE TRANSDUCER OR FLOAT SWITCHES AND CABLES W/ HOLDER.
28. BLIND FLANGE W/ 4" PLUG VALVE, DIP NIPPLE AND THREADED CAP.

SEWAGE PUMP STATION - SUBMERSIBLE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
PIPE CONNECTION AT EXISTING SANITARY SEWER MANHOLE DETAIL	SSM CONSULTING ENGINEERS	JDL APP'D.	07/20 DATE	S-47 DRAWING NUMBER	REV.



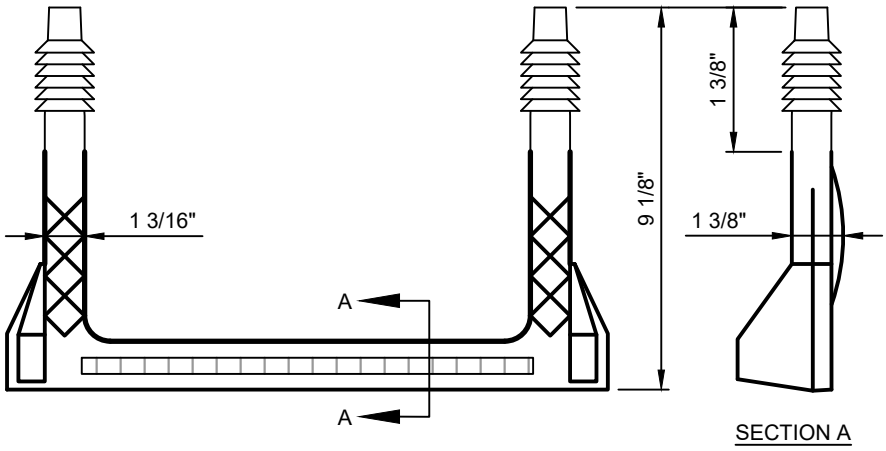
NOTES:

1. CONTRACTOR SHALL SAW-CUT END OF CLAY PIPE TO FORM PERPENDICULAR END.
2. CONNECTIONS BETWEEN PROPOSED SEWER PIPE AND EXISTING CLAY PIPE SHALL BE MADE WITH FERNCO SERIES 5000 COUPLINGS.

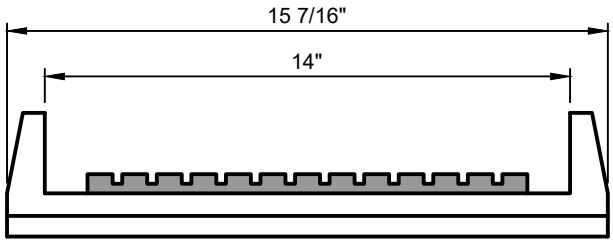
PIPE CONNECTION DETAIL

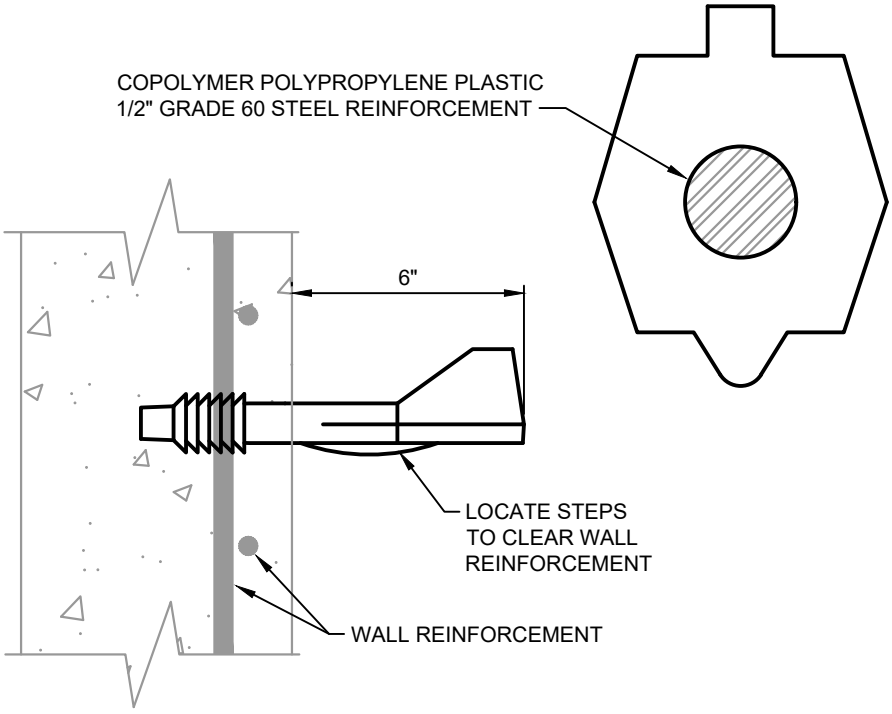
TO BE USED FOR CONNECTING NEW PIPE
INTO EXISTING MANHOLE
NO SCALE

STANDARD DETAIL	UPPER MONTGOMERY JOINT AUTHORITY				
COPOLYMER POLYPROPYLENE MANHOLE STEP (CPP)	SSM CONSULTING ENGINEERS	JDL APP'D.	07/20 DATE	S-48 DRAWING NUMBER	REV.



SECTION A





COPOLYMER POLYPROPYLENE MANHOLE STEP (CPP) DETAIL

NO SCALE