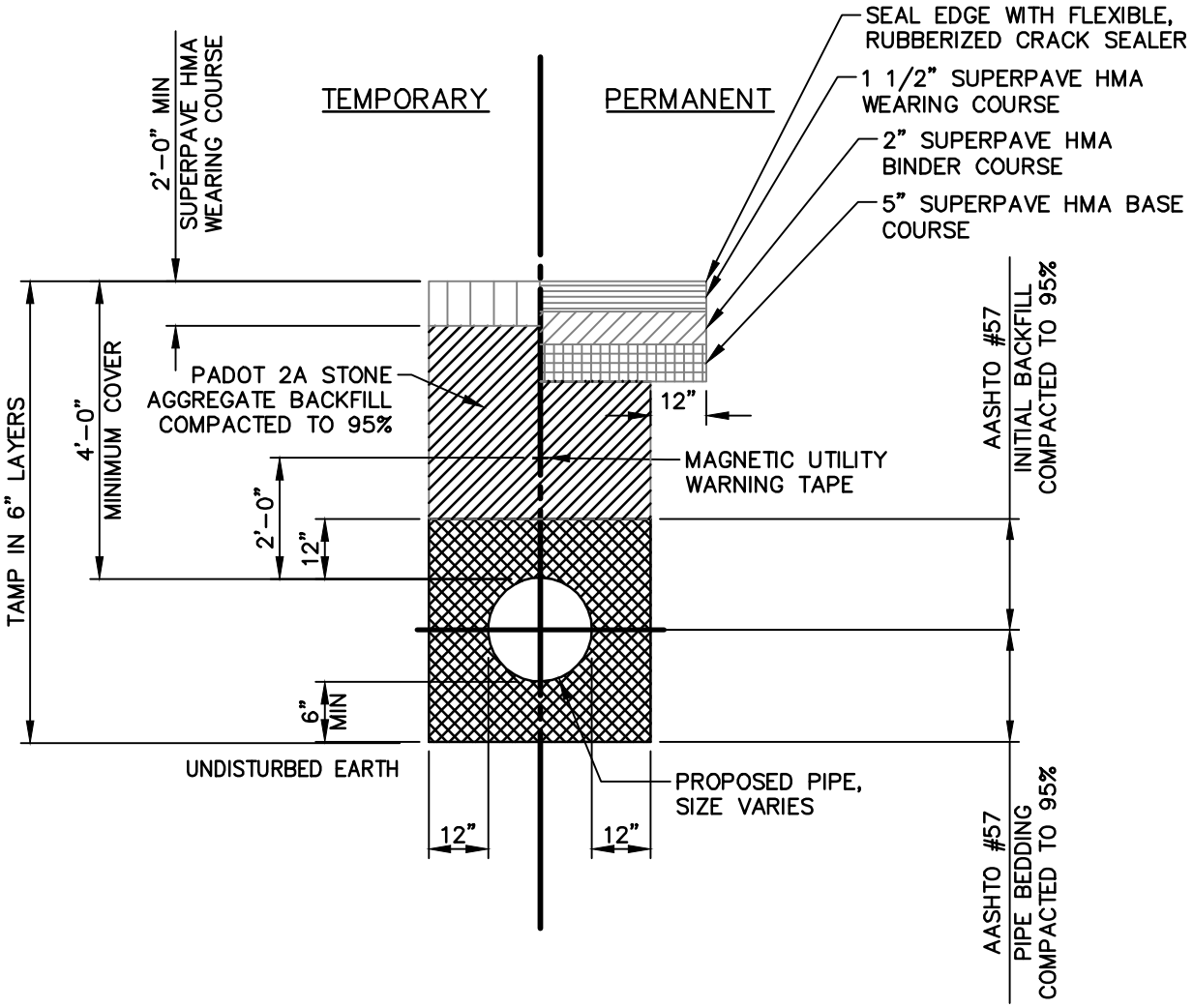
STANDARD DETAILS FOR THE CONSTRUCTION OF SEWER MAIN AND APPURTENANCES TO BE CONNECTED TO THE PUBLIC SEWER SYSTEM

LOWER SALFORD TOWNSHIP AUTHORITY

February 2008
Revised October 2024

Lower Salford Township Authority
57 Main Street
PO Box 243
Harleysville, PA 19438

LIST OF DETAILS

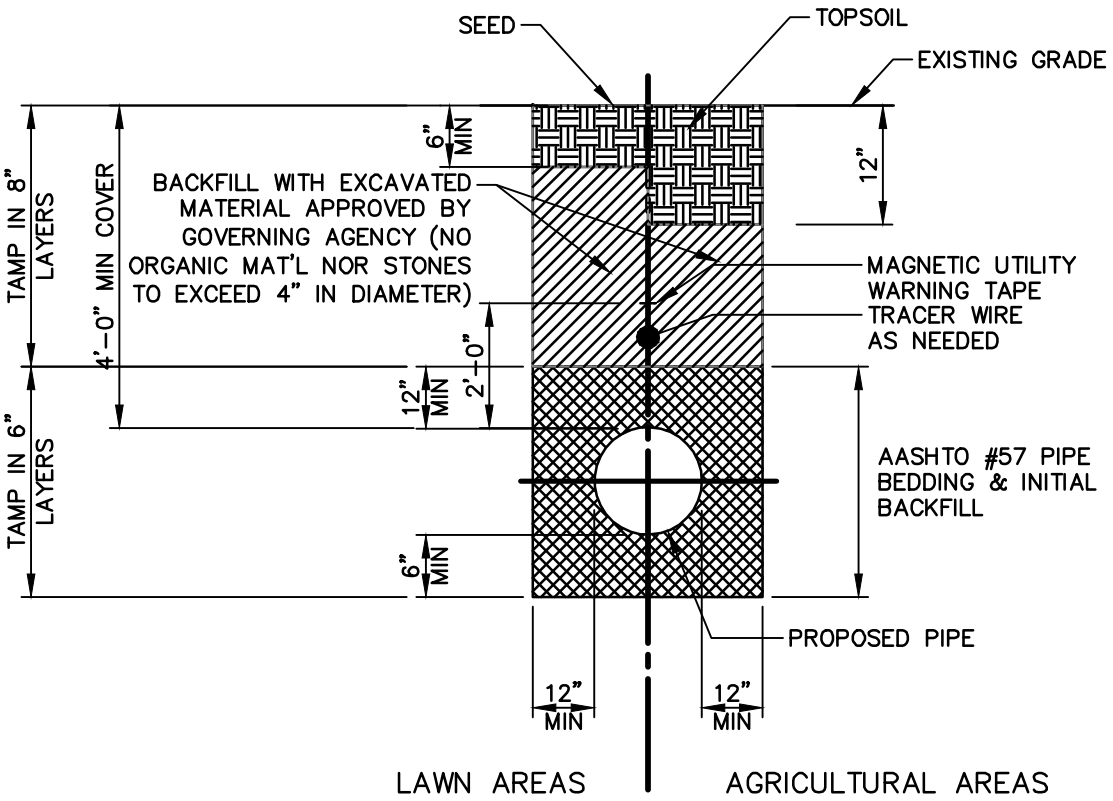


NOTES:

1. ALL MATERIALS AND CONSTRUCTION METHODS SHALL COMPLY WITH PADOT PUBLICATION 408 REGULATIONS.
2. CONTRACTOR SHALL PROVIDE UNIFORM GRADE FROM EXISTING PAVEMENT.
3. TEMPORARY RESTORATION SHALL BE MAINTAINED FOR A MIN 90 DAYS.
4. ALL PLASTIC FORCE MAIN PIPE MUST ALSO INCLUDE SUPERFLEX 1230 TRACER WIRE WITH HIGH STRENGTH SOLID COPPER STEEL CONDUCTOR (HS-CCS), AND COPPERHEAD SNAKEPIT LITE DUTY ACCESS STATIONS, TO BE INSTALLED IN 500 FOOT INCREMENTS.

TRENCH BACKFILL AND PAVEMENT RESTORATION DETAIL FOR TOWNSHIP ROADS

REV:	AUG 2022
DATE:	JAN 2008
DETAIL:	**NO** 1



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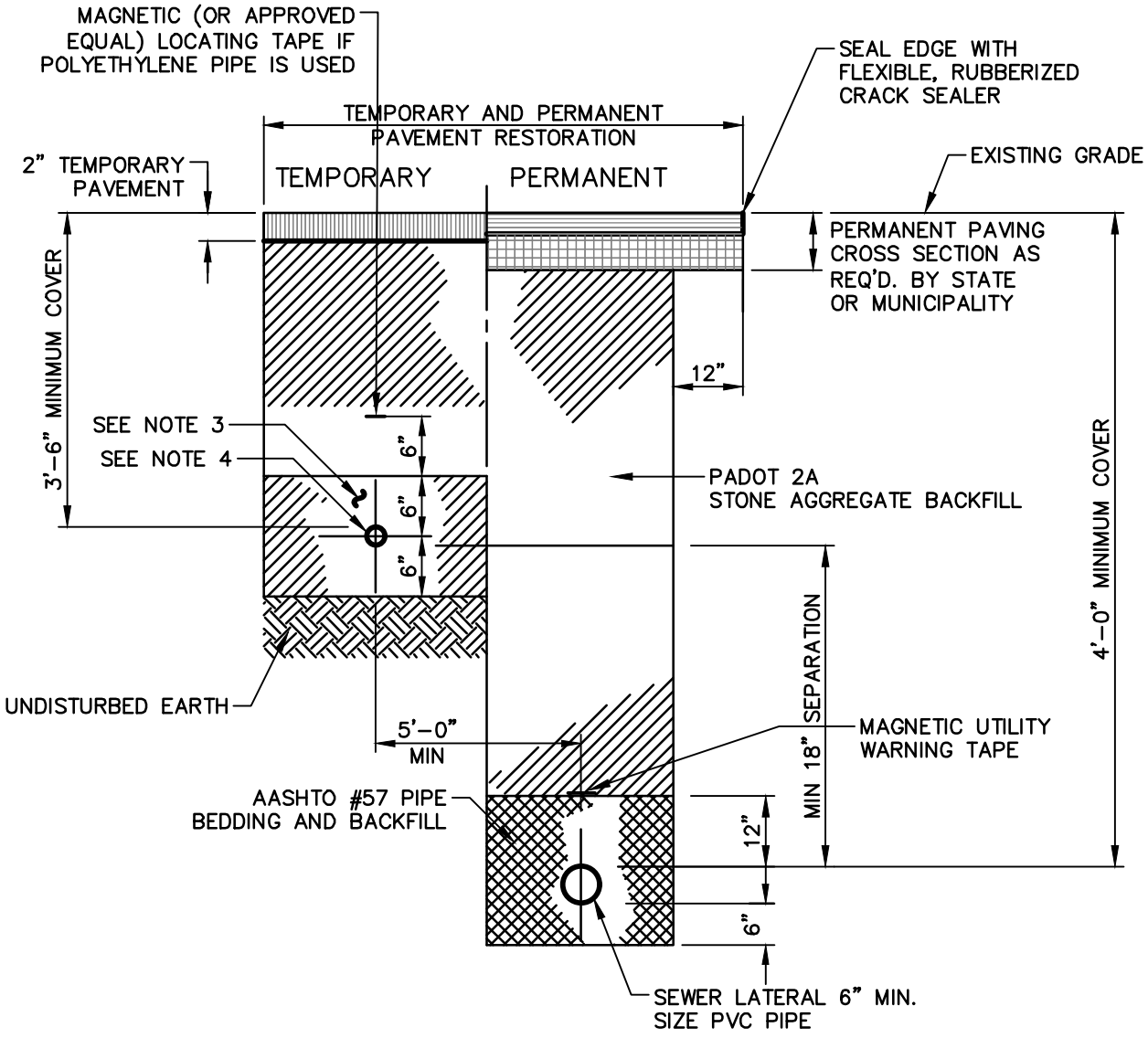
TRENCH RESTORATION
LAWN / AGRICULTURAL AREAS

REV:	AUG 2022
DATE:	JUNE 2007
DETAIL:	NO 2

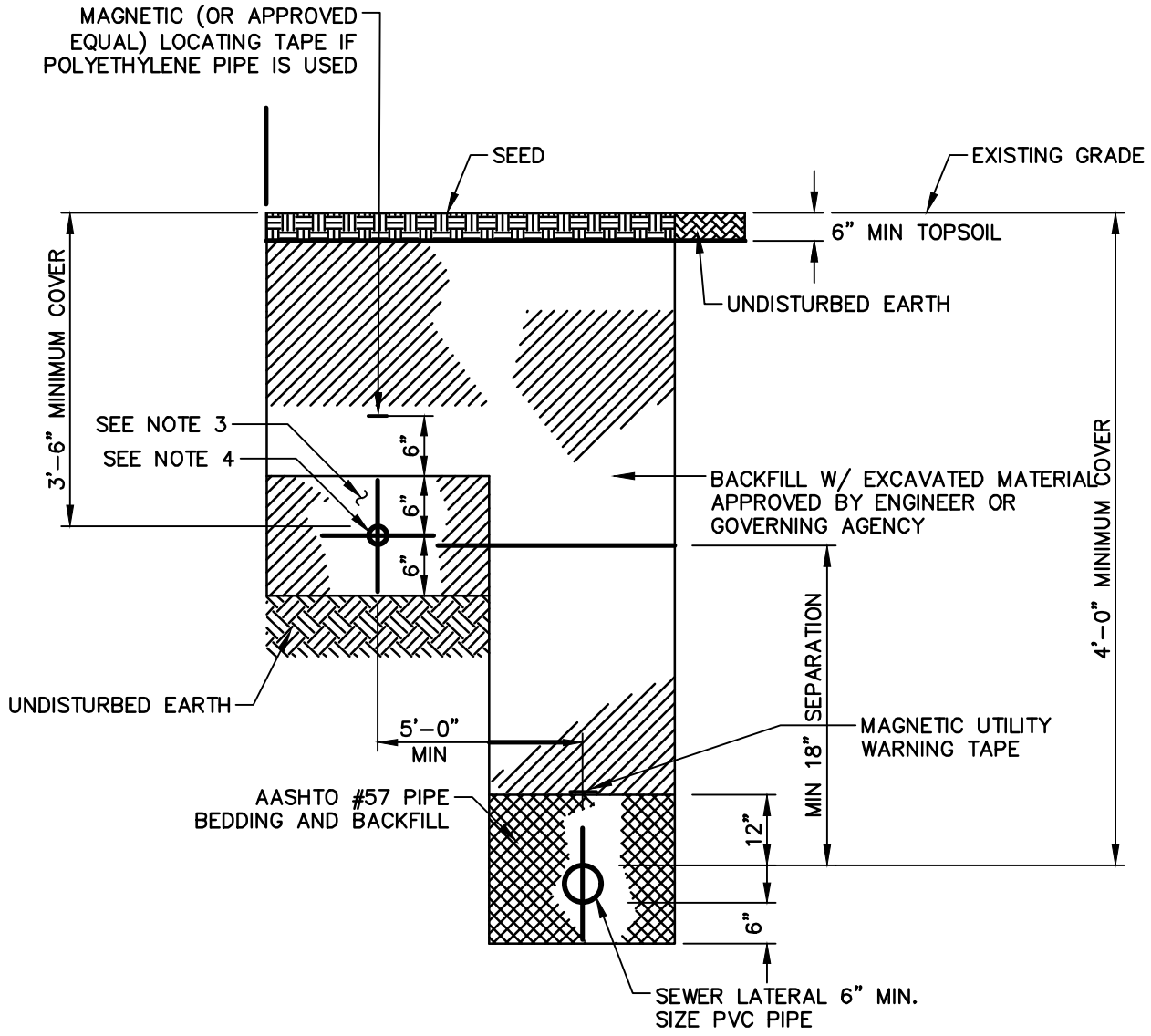


NOTES:

1. SEWER LINE SHALL NOT BE ABOVE THE WATER LINE.
2. SEWER LINE SHALL NOT CROSS THE WATER LINE.
3. TRENCH BACKFILL IN ACCORDANCE WITH LOCAL WATER SUPPLIER
4. WATER SERVICE LINE IN ACCORDANCE WITH LOCAL WATER SUPPLIER
5. BACKFILLING AND ROAD RESTORATION SHALL BE IN ACCORDANCE WITH PADOT PUBLICATION 408.

COMBINED TRENCH DETAIL-SEWER LATERAL/ WATER SERVICE LINE STATE / TWP. ROADS

REV:	AUG 2022
DATE:	JAN 2008
DETAIL:	**NO** 3



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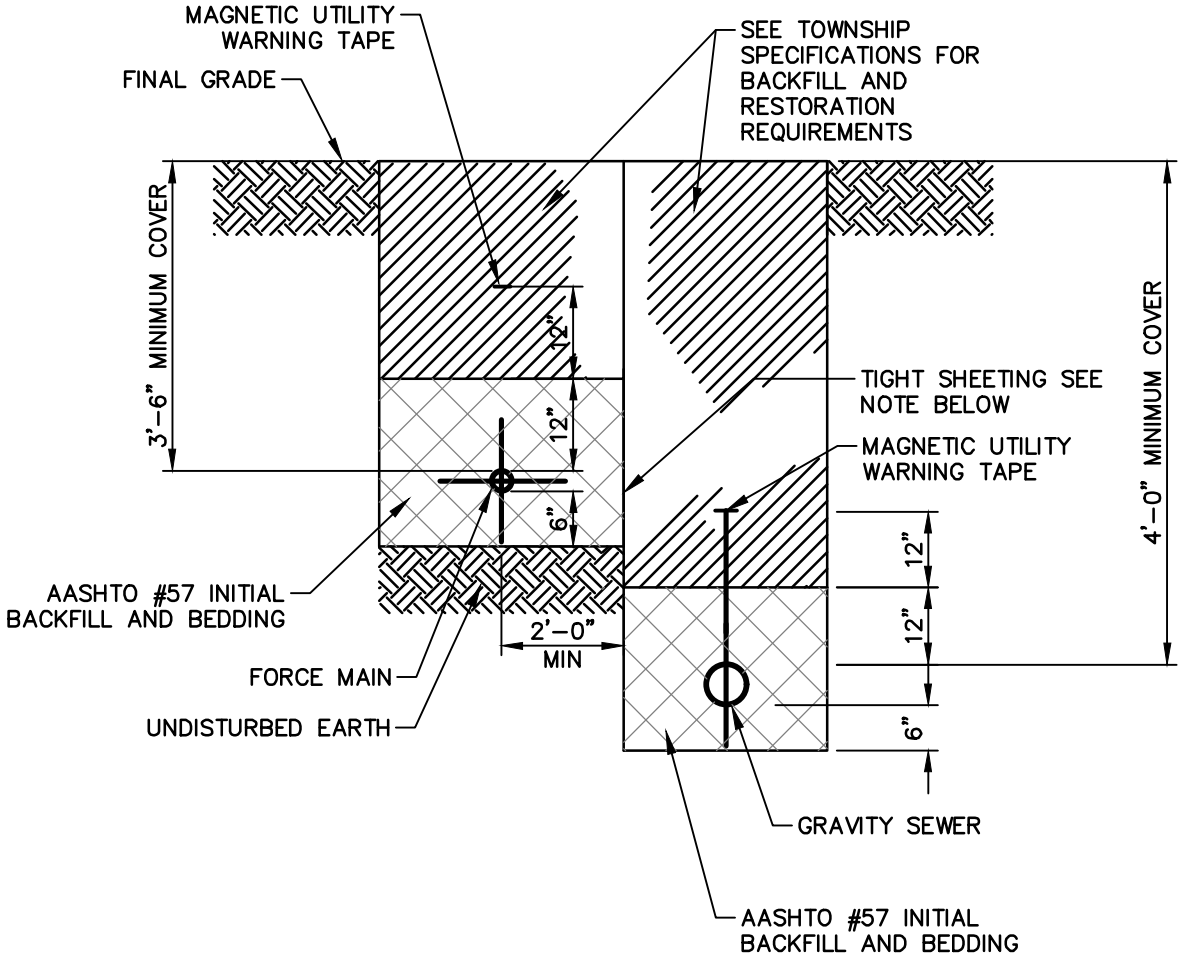
COMBINED TRENCH DETAIL-SEWER LATERAL/ WATER SERVICE LINE LAWN / AGRICULTURAL AREAS

REV: AUG 2022

DATE: JUNE 2007

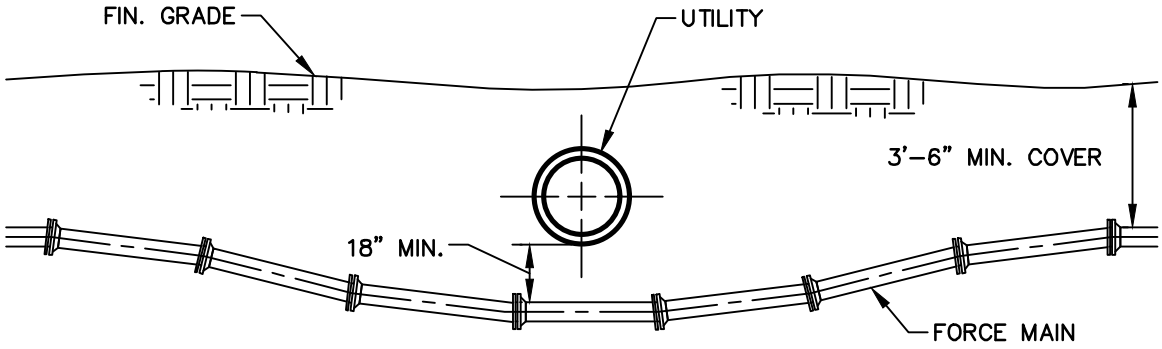
DETAIL: **NO** 4

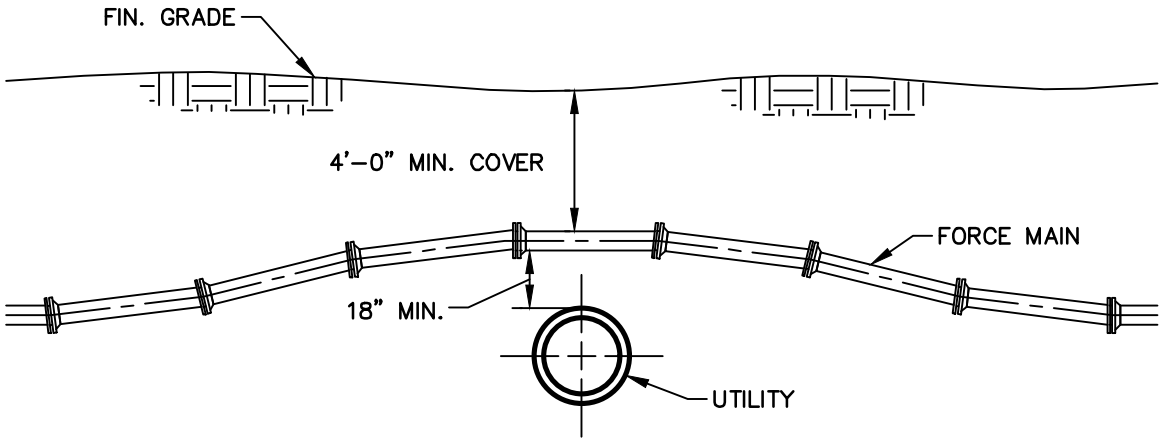


NOTE:
PROVIDE TIGHT STEEL SHEETING WHERE EXCAVATION FOR GRAVITY SEWER EXCEEDS 8 FT. SHEETING SHALL BE LEFT IN PLACE AND SHALL BE SUITABLE TO SUPPORT LOADS IMPOSED. ALL REQUIRED SHEETING DESIGN SHALL BE SEALED BY A PROFESSIONAL ENGINEER.

COMBINED TRENCH DETAIL
FORCE MAIN / GRAVITY SEWER

REV:	AUG 2022
DATE:	JUNE 2007
DETAIL:	**NO** 5





NOTES:

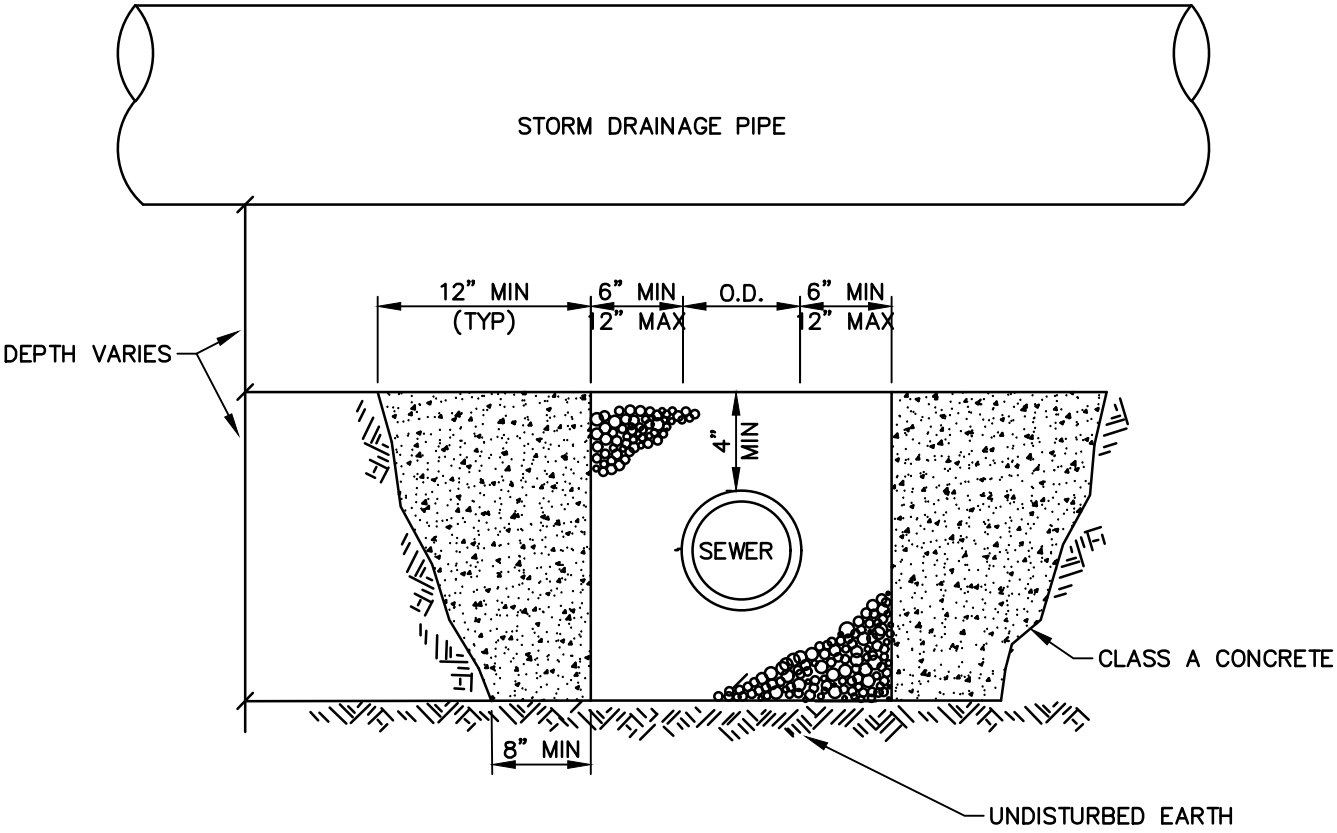
1. AN AIR VALVE MAY BE REQUIRED AT THE APEX OF THE FORCE MAIN.
2. MAX OFFSET PER 20 FOOT FORCE MAIN PIPE LENGTH:
   <8"ø=12" 10"ø=9" 12"ø=8" >12"ø=6"

FORCE MAIN CROSSING UTILITY DETAIL (USING DEFLECTION JOINTS)

REV: AUG 2022

DATE: JUNE 2007

DETAIL: NO 6



NOTES:

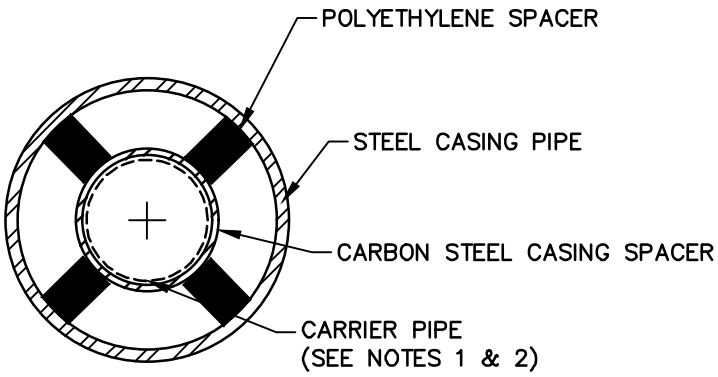
1. PIERS TO BE 5 FT LONG CENTERED ON STORM DRAIN.
2. USE 3000 PSI CLASS A CONCRETE.
3. FORM PIERS AGAINST SOLID TRENCH WALLS.
4. PIERS REQUIRED WHEN CLEARANCE BETWEEN PIPES IS LESS THAN 18"
5. MAINTAIN SLOPE OF EACH UTILITY AT CROSSING.

GRAVITY SEWER CROSSING DETAIL USING PIER SUPPORTS

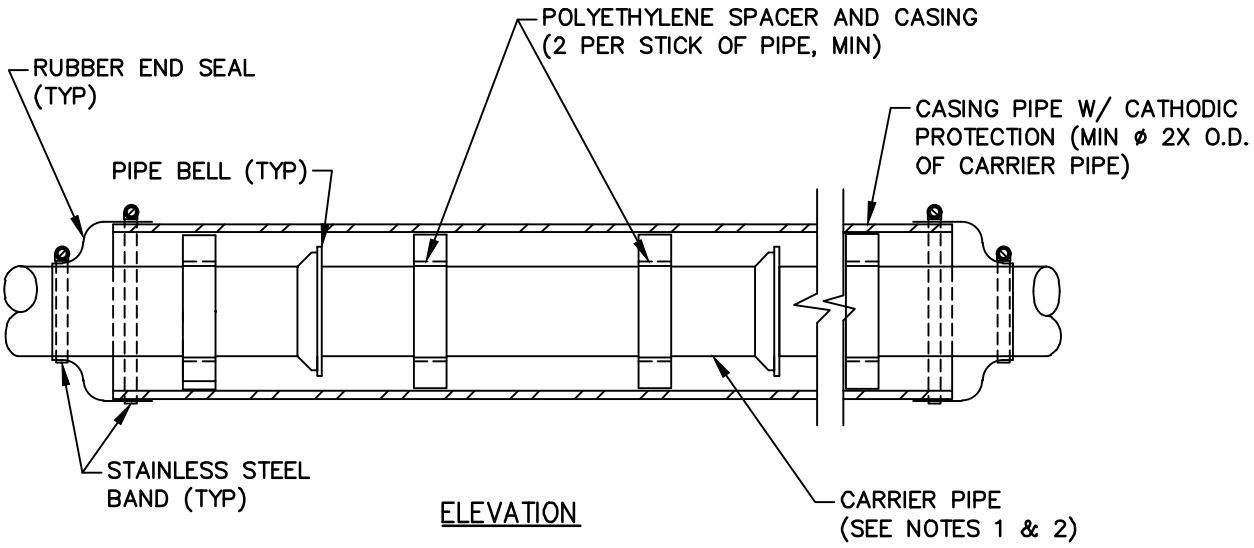
REV: AUG 2022

DATE: JUNE 2007

DETAIL: NO 7



SECTION



ELEVATION

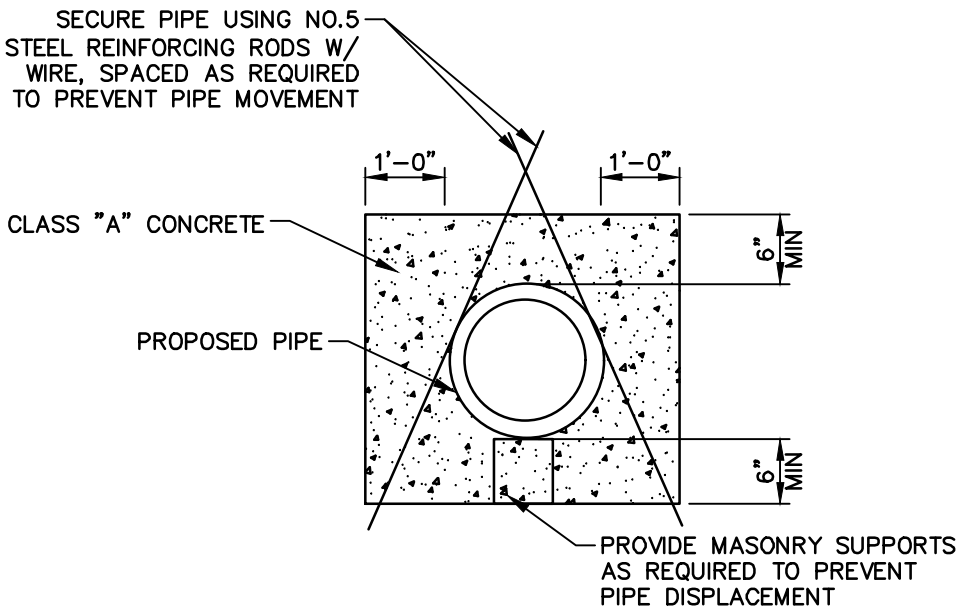
NOTES:
1. FORCE MAIN PIPE SHALL BE RESTRAINED JOINT PIPE.
2. FIELD ADJUST TO MAINTAIN CONSTANT SLOPE FOR GRAVITY MAIN.

CASING CRADLE DETAIL (GRAVITY OR FORCE MAIN)

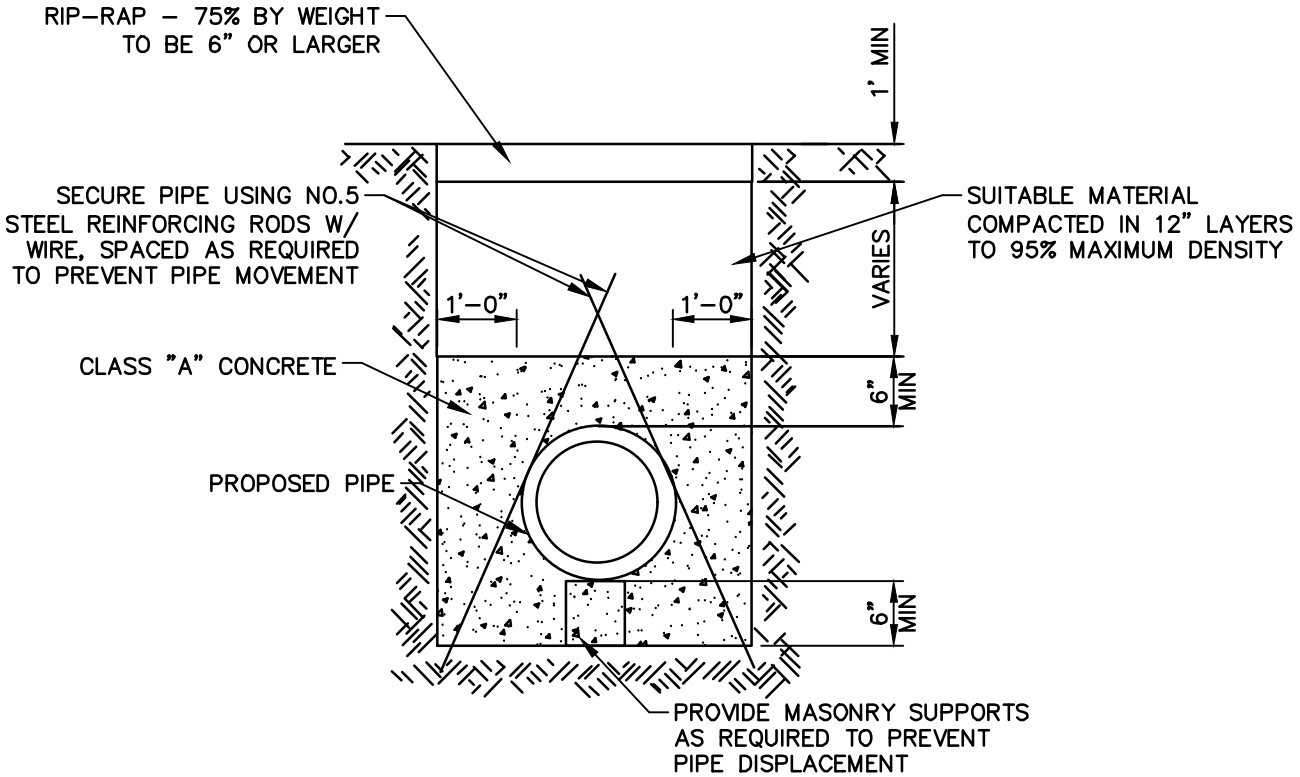
REV: AUG 2022

DATE: JUNE 2007

DETAIL: **NO** 8



CONCRETE ENCASEMENT DETAIL



CONCRETE ENCASEMENT STREAM CROSSING DETAIL

STANDARD CONCRETE ENCASEMENT DETAILS

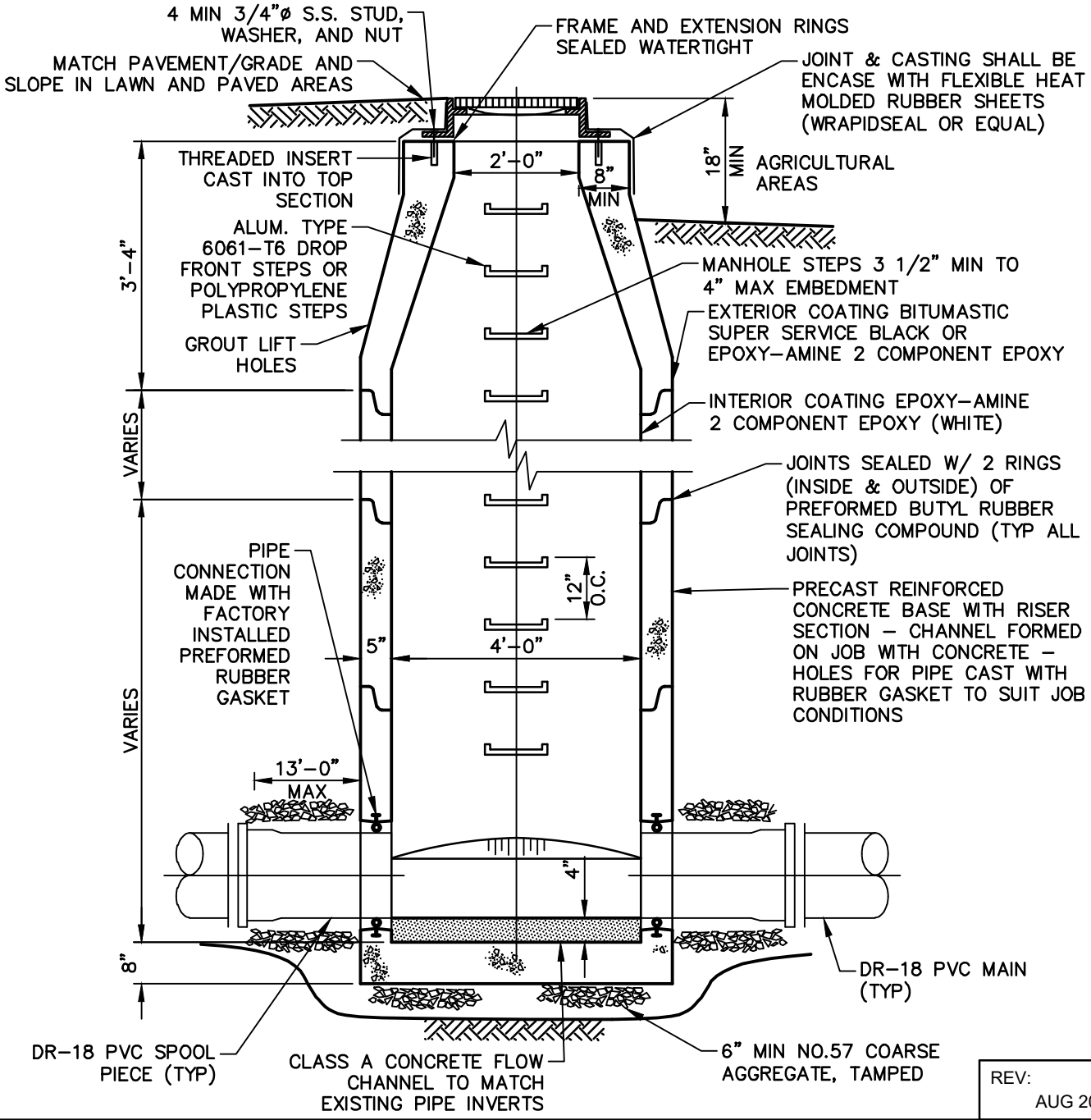
REV: AUG 2022

DATE: JUNE 2008

DETAIL: **NO** 9

NOTES:

1. BOLTING OF MANHOLE FRAME TO CONCRETE NOT REQUIRED FOR MANHOLES INSTALLED IN PAVED SURFACES.
2. PIPES SHALL PROTRUDE A MAXIMUM OF 2" INTO MANHOLE.
3. ADJUST CASTING TO GRADE W/ PREFORMED RUBBER & CONCRETE GRADE RINGS. (MAX VERTICAL ADJUSTMENT IS 6")
4. CONCRETE SHALL CONFORM TO A.S.T.M. C-478.
5. FOR MANHOLE WHERE RIM TO INVERT DISTANCE IS LESS THAN 5', USE FLAT TOP.
6. MANHOLE INSIDE DIAMETER FOR 8"-12" DIAMETER SEWERS. LARGER MANHOLES REQUIRED FOR LARGER PIPE DIAMETERS.
7. MANHOLE INSERTS WILL BE INSTALLED AS PER MANUFACTURER SPECIFICATIONS AND MANUFACTURED BY PARSON ENVIRONMENTAL OR EQUAL.

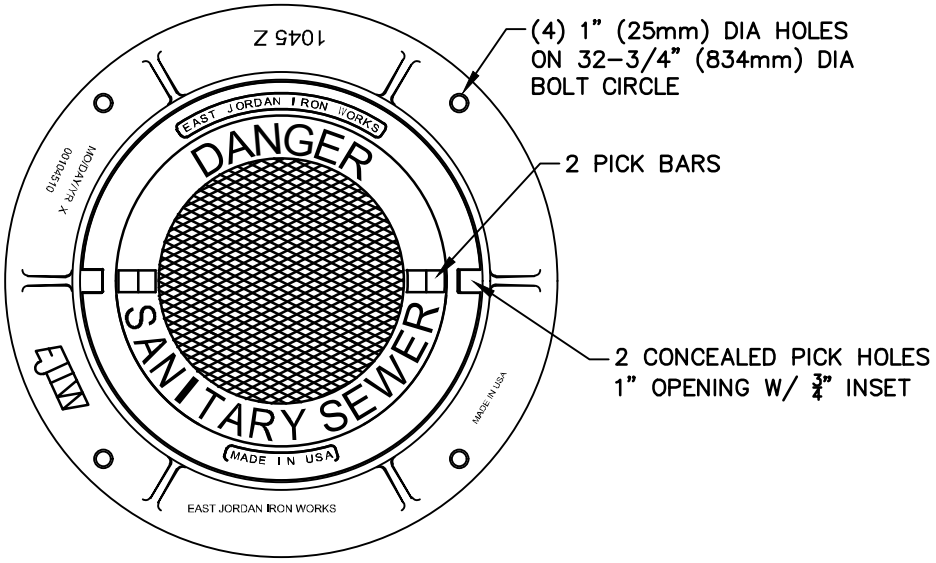


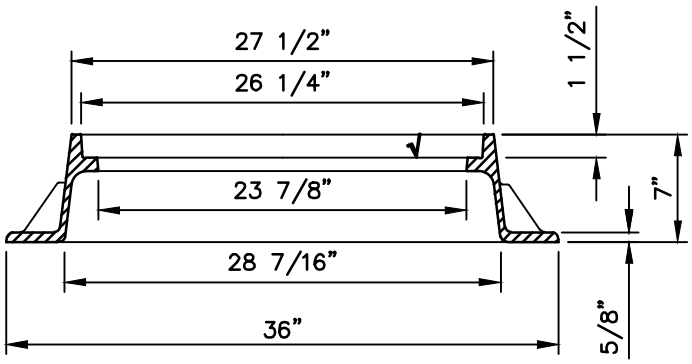
PRECAST CONCRETE MANHOLE DETAIL
8" THRU 12" DIAMETER SEWERS

REV: AUG 2022

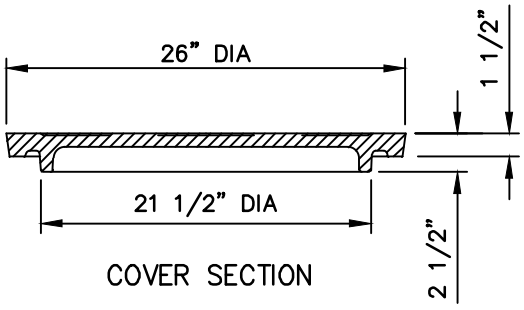
DATE: JUNE 2008

DETAIL: **NO** 10

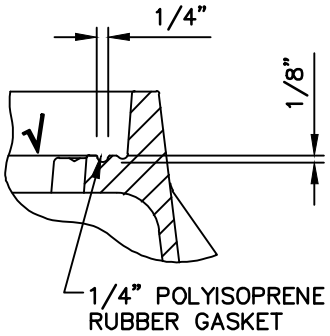




FRAME SECTION



COVER SECTION



GROOVE DETAIL

√ MACHINED SURFACE

NOTES:

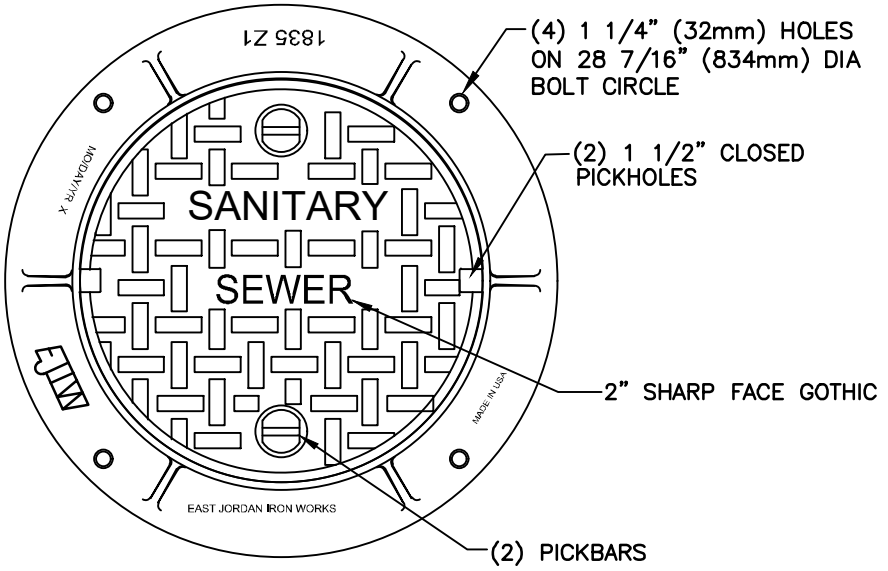
1. CASTINGS TO BE TREATED BY THE MANUFACTURER WITH WATER-BASED, BLACK ASPHALTIC, ENVIRONMENTALLY SAFE COATING, FREE OF SURFACE RUST, BEFORE LEAVING THE FOUNDRY.
2. MANHOLE INSERTS WILL BE INSTALLED AS PER MANUFACTURER SPECIFICATIONS AND MANUFACTURED BY PARSON ENVIRONMENTAL OR EQUAL

MANHOLE FRAME AND COVER FOR NON-PAVED AREAS

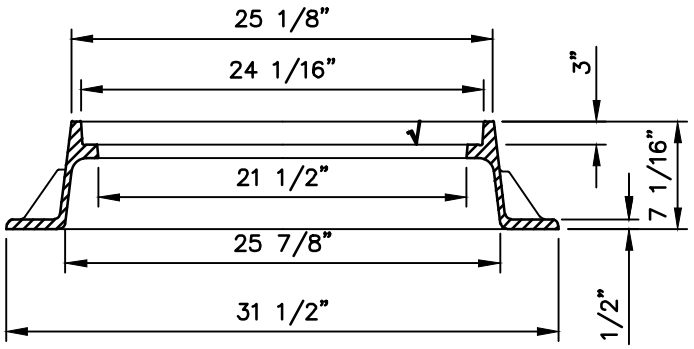
REV: OCT 2024

DATE: JUNE 2007

DETAIL: **NO** 11



√ MACHINED SURFACE



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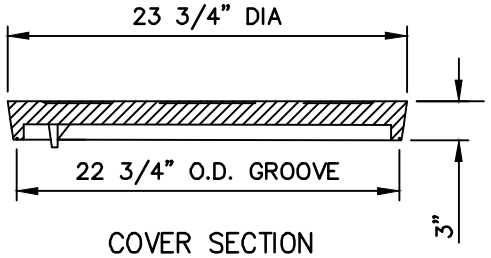

COVER SECTION

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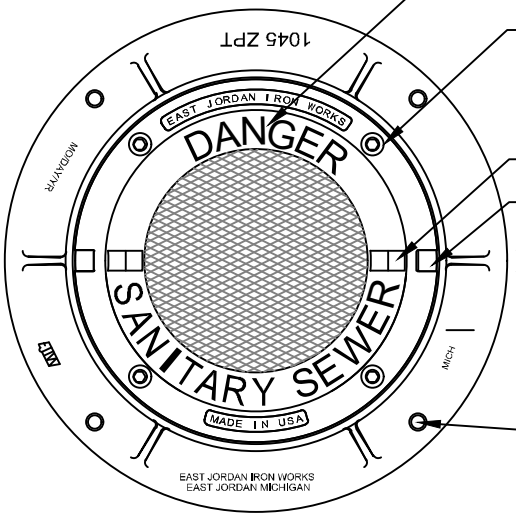
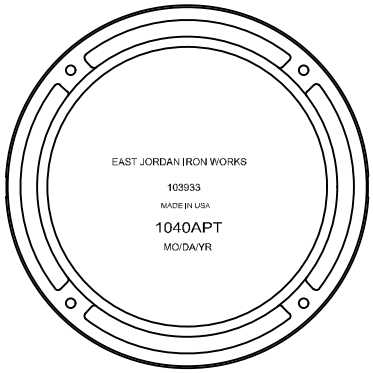
MANHOLE FRAME AND COVER FOR PAVED AREAS

REV: OCT 2024

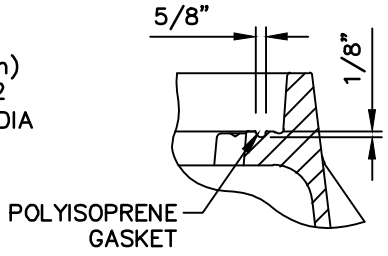
DATE: JUNE 2007

DETAIL: **NO** 11A

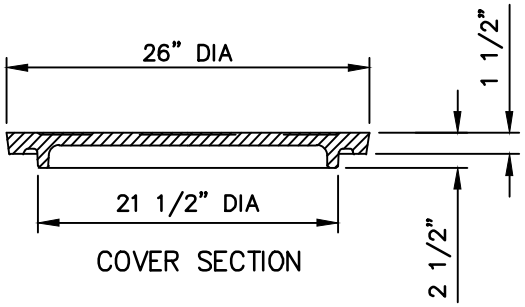




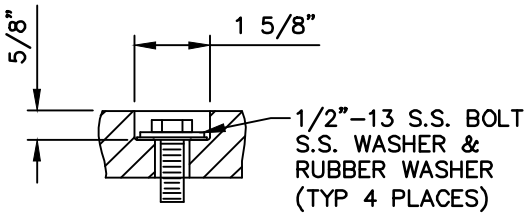
BOTTOM VIEW



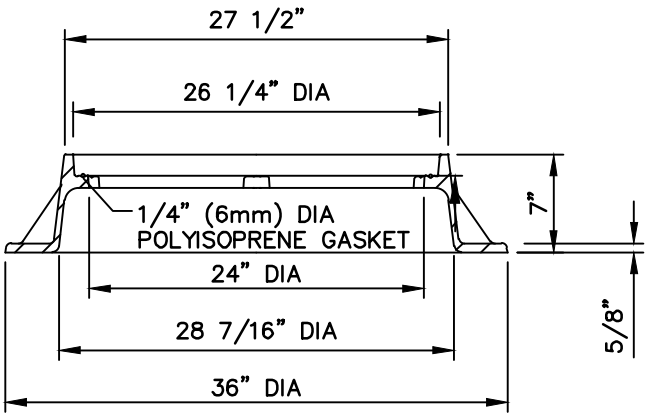
GROOVE DETAIL



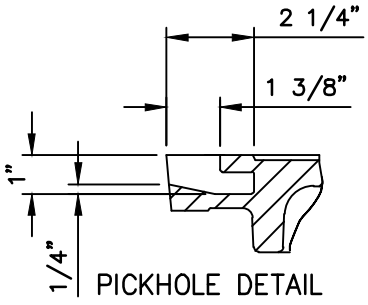
COVER SECTION



BOLT DETAIL



FRAME SECTION



PICKHOLE DETAIL

CASTINGS TO BE TREATED BY THE MANUFACTURER WITH WATER–BASED, BLACK ASPHALTIC, ENVIRONMENTALLY SAFE COATING, FREE OF SURFACE RUST, BEFORE LEAVING THE FOUNDRY.

PROVIDE WATERTIGHT FRAME & COVER IN SWALES, GUTTERS, AND FLOOD AREAS

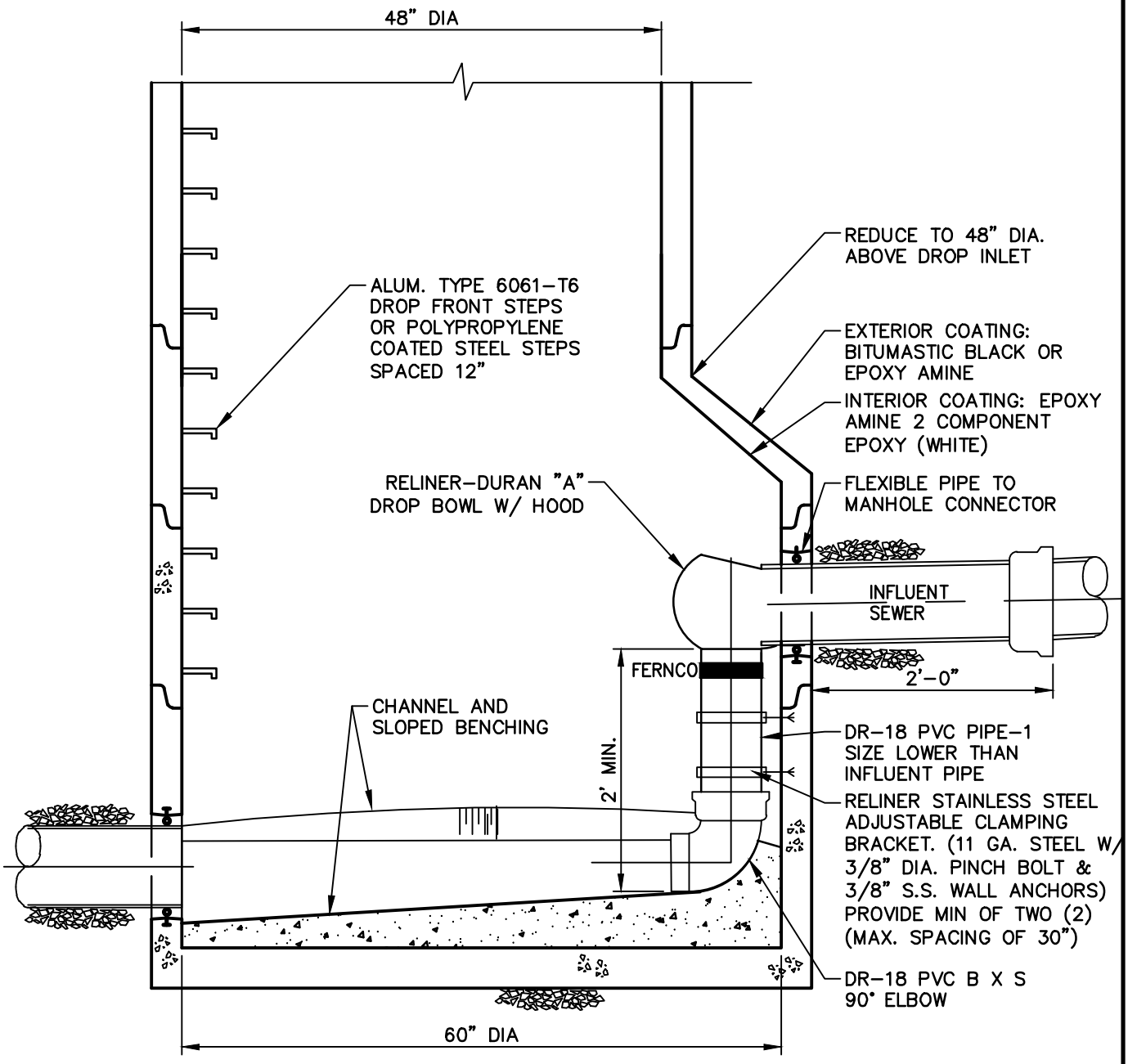
WATERTIGHT MANHOLE FRAME & COVER DETAIL

REV: OCT 2024

DATE: JUNE 2007

DETAIL: NO 12

NOTE: 5' DIAMETER MANHOLE TO BE UTILIZED FOR INSIDE DROP MANHOLE



PRECAST SANITARY MANHOLE
INSIDE DROP CONNECTION

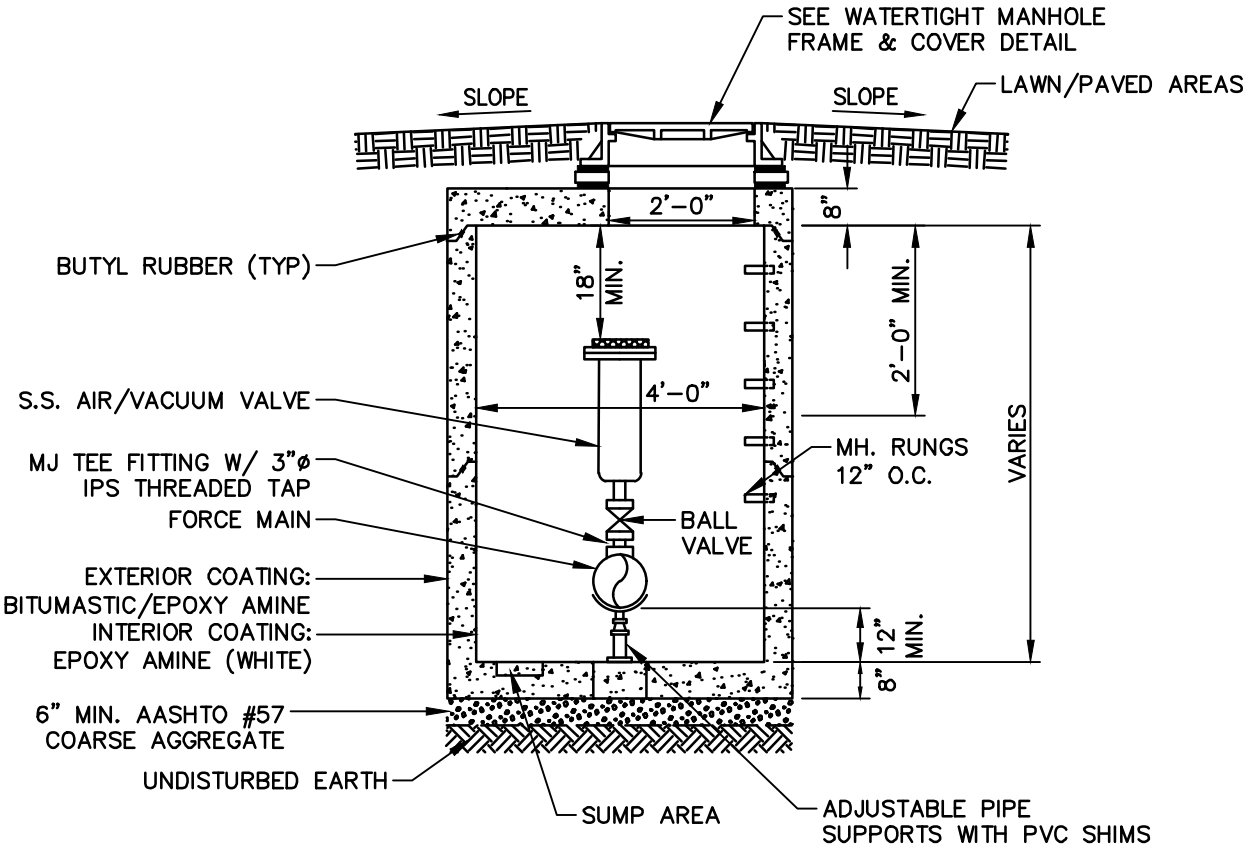
REV: AUG 2022

DATE: JUNE 2008

DETAIL: **NO** 13

NOTES:

1. ADJUST TO GRADE WITH PRE-FORMED RUBBER OR CONCRETE GRADE RINGS SEE STANDARD MANHOLE FRAME & COVER DETAIL.
2. MECHANICALLY VIBRATED PRECAST CONCRETE SHALL CONFORM TO A.S.T.M. C-478.
3. SEAL ALL JOINTS INSIDE & OUTSIDE WITH PREFORMED BUTYL RUBBER SEALING COMPOUND.
4. IF SO APPROVED BY MUNICIPALITY, MANHOLE FRAME & COVER MAY BE REPLACED WITH AN APPROVED ACCESS HATCH.
5. ALL VALVE VAULT PIPE PENETRATIONS SHALL BE SEALED BY LINK-SEAL OR EQUIVALENT.



SECTION

AIR / VACUUM VALVE DETAIL (FORCE MAIN ONLY)

REV: AUG 2022

DATE: JUNE 2008

DETAIL: NO 14

NOTES:

1. ADJUST TO GRADE WITH PRE-FORMED RUBBER OR CONCRETE GRADE RINGS SEE STANDARD MANHOLE FRAME & COVER DETAIL.
2. MECHANICALLY VIBRATED PRECAST CONCRETE SHALL CONFORM TO A.S.T.M. C-478.
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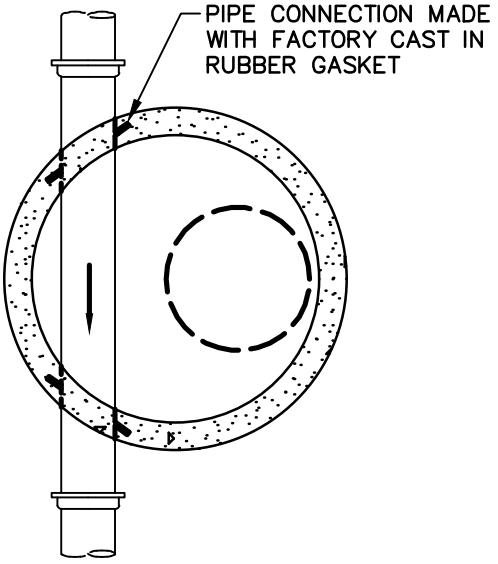
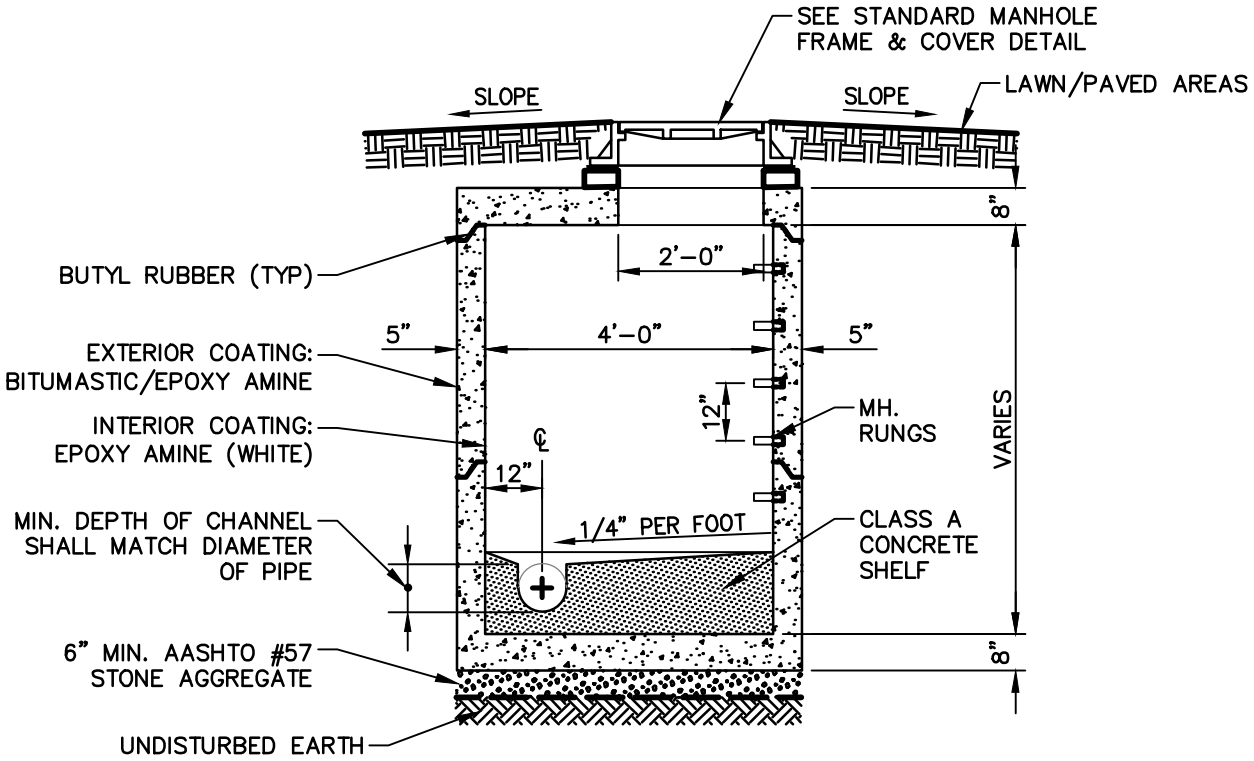
4. MANHOLE INSERTS WILL BE INSTALLED AS PER MANUFACTURER SPECIFICATIONS AND MANUFACTURED BY PARSON ENVIRONMENTAL OR EQUAL.



PLAN



SECTION

METERING / SAMPLING MANHOLE PLAN & SECTION

REV:	OCT 2024
DATE:	JUNE 2007
DETAIL:	NO 15

NOTES:

1. ADJUST TO GRADE WITH PRE–FORMED RUBBER OR CONCRETE GRADE RINGS SEE STANDARD MANHOLE FRAME & COVER DETAIL.
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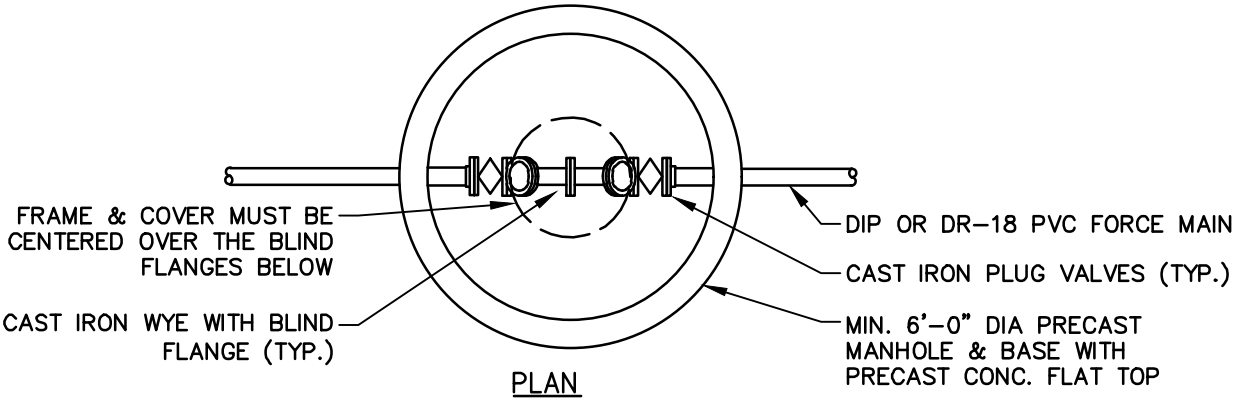
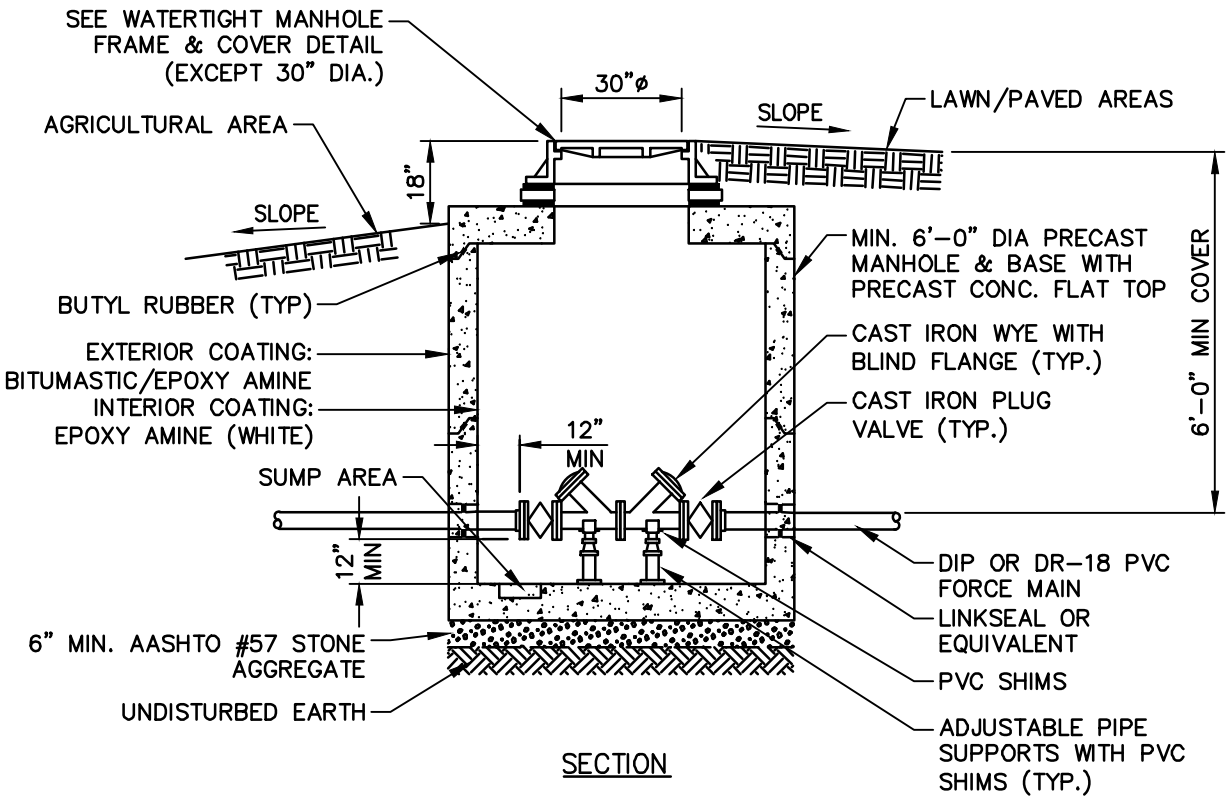
3. SEAL ALL JOINTS INSIDE & OUTSIDE WITH PREFORMED BUTYL RUBBER SEALING COMPOUND.
4. IF SO APPROVED BY MUNICIPALITY, MANHOLE FRAME & COVER MAY BE REPLACED WITH AN APPROVED ACCESS HATCH.



PLAN



SECTION

FORCE MAIN VALVE & CLEANOUT DETAIL - MANHOLE TYPE 1

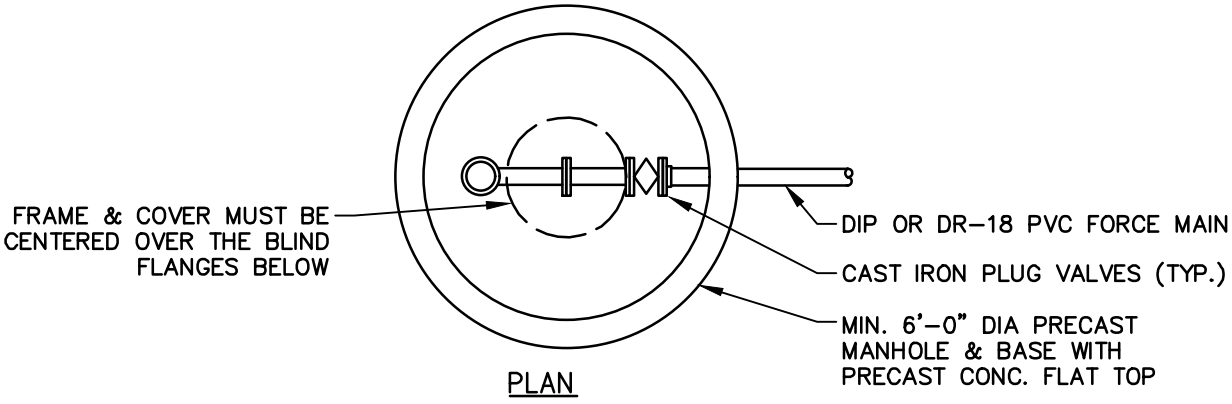
REV: AUG 2022

DATE: JUNE 2008

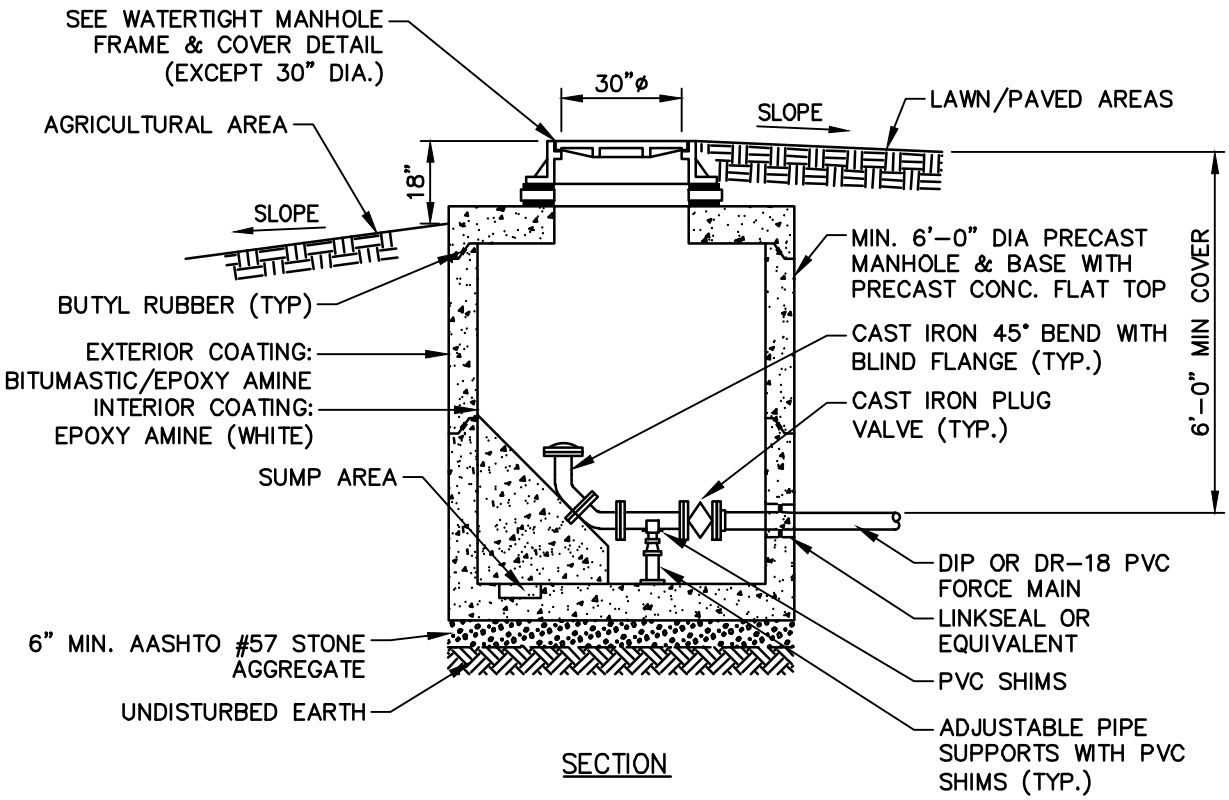
DETAIL: **NO** 16

NOTES:

1. ADJUST TO GRADE WITH PRE–FORMED RUBBER OR CONCRETE GRADE RINGS SEE STANDARD MANHOLE FRAME & COVER DETAIL.
2. MECHANICALLY VIBRATED PRECAST CONCRETE SHALL CONFORM TO A.S.T.M. C–478.
3. SEAL ALL JOINTS INSIDE & OUTSIDE WITH PREFORMED BUTYL RUBBER SEALING COMPOUND.
4. IF SO APPROVED BY MUNICIPALITY, MANHOLE FRAME & COVER MAY BE REPLACED WITH AN APPROVED ACCESS HATCH.



PLAN



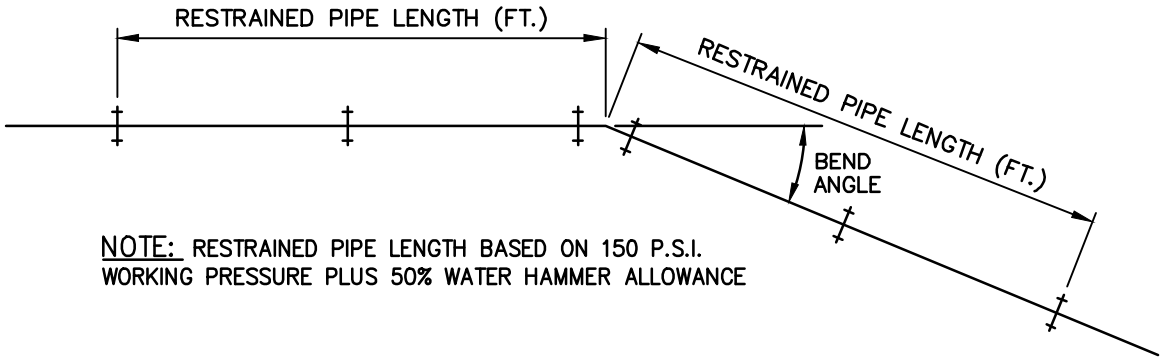
SECTION

FORCE MAIN TERMINAL MANHOLE CLEANOUT

REV: AUG 2022

DATE: JUNE 2008

DETAIL: **NO** 16A



NOTE: RESTRAINED PIPE LENGTH BASED ON 150 P.S.I. WORKING PRESSURE PLUS 50% WATER HAMMER ALLOWANCE

HORIZONTAL RESTRAINED PIPE LENGTH SCHEDULE (DUCTILE IRON PIPE)				
PIPE DIAMETER	HORIZONTAL ELBOW DEFLECTION ANGLE			
	90°	45°	22 1/2°	11 1/4°
4"	19'	8'	4'	2'
6"	27'	11'	7'	3
8"	35'	14'	8'	4
10"	42'	17'	8'	5'
12"	49'	20'	10'	5'

* ADD 40% TO LENGTH IF PIPE IS POLYETHYLENE ENCASED

VERTICAL RESTRAINED PIPE LENGTH SCHEDULE (DUCTILE IRON PIPE)			
PIPE DIAMETER	VERTICAL ELBOW DEFLECTION ANGLE		
	45°	22 1/2°	11 1/4°
4"	20'	10'	5'
6"	28'	14'	7'
8"	37'	18'	9'
10"	44'	21'	11'
12"	52'	25'	12'

* ADD 40% TO LENGTH IF PIPE IS POLYETHYLENE ENCASED

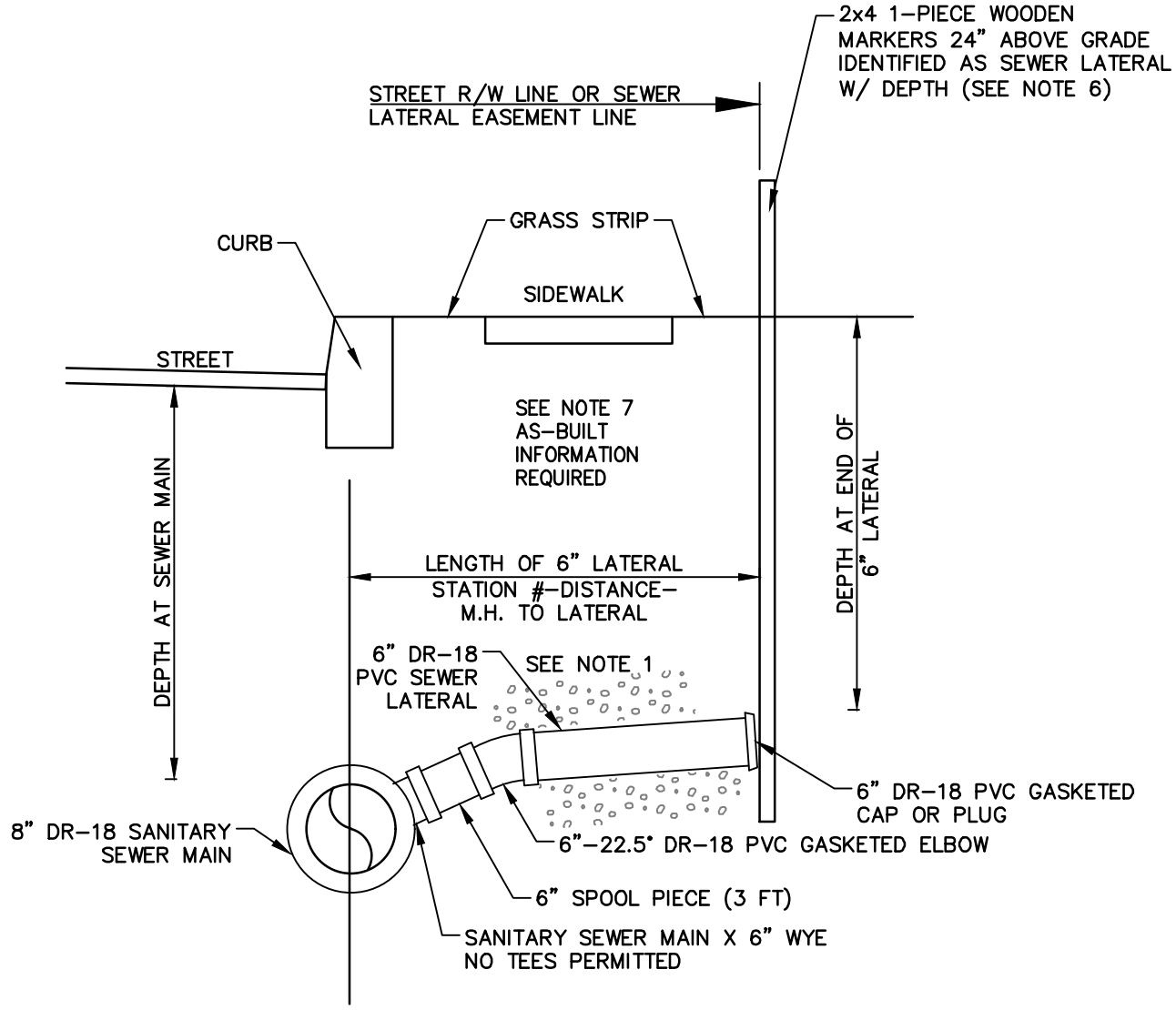
NOTE: FOR PIPE SIZES GREATER THAN 12", SUBMIT ENGINEERING CALCULATIONS TO VERIFY PROPOSED RESTRAINED PIPE LENGTHS.

RESTRAINED PIPE LENGTH SCHEDULE (DUCTILE IRON PIPE)

REV: AUG 2022

DATE: JUNE 2007

DETAIL: NO 17

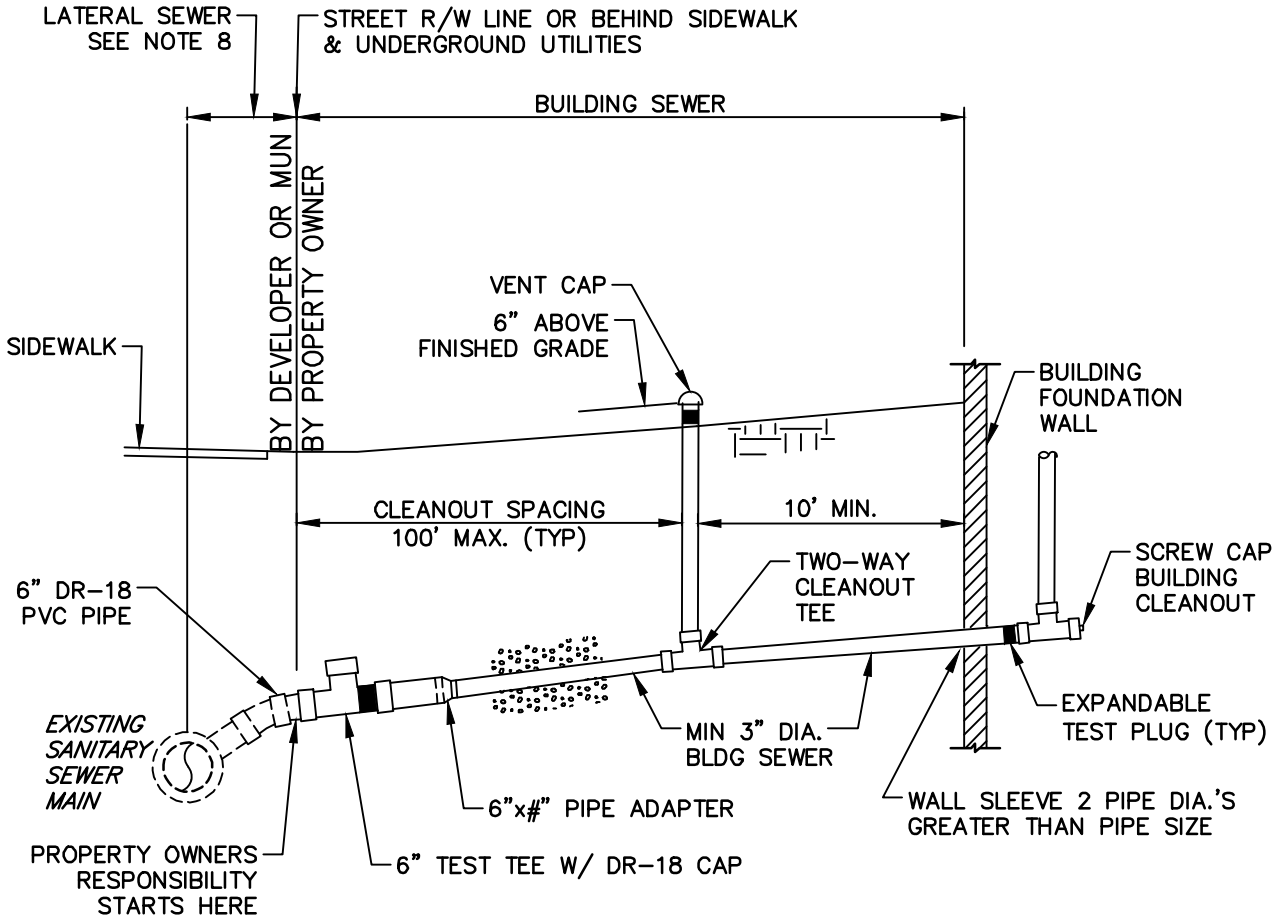


NOTES:

1. PROVIDE 6" OF AASHTO NO. 8 OR 57 STONE BELOW PIPE AND 12" ABOVE PIPE (TYPICAL ENTIRE LENGTH OF LATERAL).
2. MINIMUM SLOPE = 1% (1/8" PER FT.)
3. MINIMUM DEPTH OF COVER = 4 FT
4. PIPE MATERIALS:
   LATERAL SEWERS-GASKETED PVC DR-18
   ADAPTERS-GASKETED PVC
5. DEVELOPER SHALL TEST AGAINST 6" DR-18 GASKETED CAP OR PLUG.
6. DEVELOPER SHALL INSTALL THE LATERAL SEWER TO THE EDGE OF THE SEWER EASEMENT FOR SEWERS LOCATED IN AN EASEMENT OR TO THE STREET RIGHT-OF-WAY AS A MINIMUM, OR TO SUCH POINT, AS REQUIRED, TO CLEAR STREET SIDEWALKS AND UNDERGROUND UTILITIES.
7. INFORMATION THAT IS REQUIRED FOR RECORD PLANS.

SEWER LATERAL INSTALLATION DETAIL

REV:	AUG 2022
DATE:	JUNE 2008
DETAIL:	NO 18



NOTES:

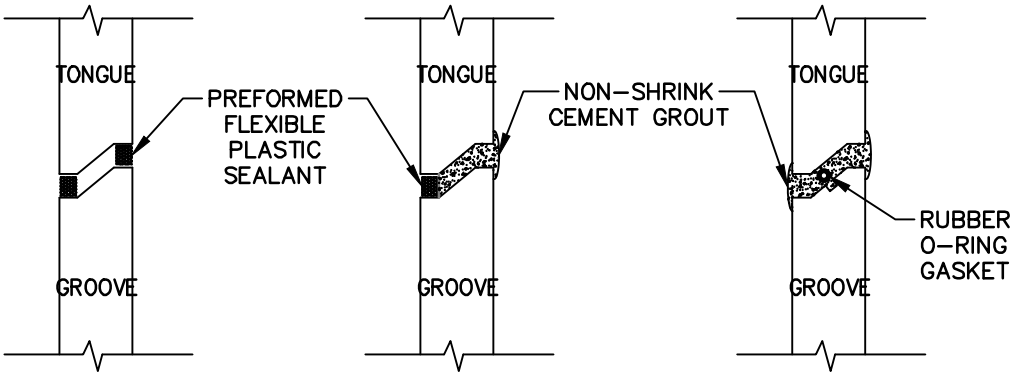
1. PROVIDE 6" OF AASHTO NO. 8 OR 57 STONE BELOW PIPE AND 12" ABOVE PIPE (TYPICAL ENTIRE LENGTH OF LATERAL).
2. MINIMUM SLOPE = 1% (1/8" PER FT.)
3. MINIMUM DEPTH OF COVER = 4 FT
4. PIPE MATERIALS AS PER THE PENNSYLVANIA CONSTRUCTION CODE ACT
5. TO CONDUCT AIR TESTING OF BLDG. SEWER INSTALL EXPANDABLE PLUGS AT LOCATIONS SHOWN. AIR TEST SHALL BE 5 LBS. FOR 15 MINS. AFTER COMPLETION OF AIR TESTING, SEAL TEST TEE.
6. NO SEWER SERVICE LINE VENT CAPS SHALL BE INSTALLED WITHIN A 100-YR FLOOD PLAIN OR WITHIN FLOOD PRONE AREAS.
7. NO VENT CAPS OR CLEANOUTS SHALL BE INSTALLED IN DRIVEWAYS OR OTHER PAVED AREAS, UNLESS SPECIFICALLY APPROVED BY THE AUTHORITY.
8. THE LATERAL SEWER SHALL BE INSTALLED TO THE EDGE OF THE SEWER EASEMENT FOR SEWERS LOCATED IN AN EASEMENT OR TO THE STREET RIGHT-OF-WAY AS A MINIMUM; OR TO SUCH A POINT AS REQUIRED TO CLEAR STREET SIDEWALKS AND UNDERGROUND UTILITIES.
9. THE CLEANOUT PIPE IS TO BE A SINGLE PIECE WITH NO JOINTS.
10. THE CLEANOUT PIPE MUST BE GLUED INTO CONNECTION FITTING OR A MECHANICAL CONNECTION ADDED LIKE A FERNCO FLEXIBLE COUPLING OR LONG ARM RISER CLAMP 3 FEET BELOW GRADE.
11. CLEANOUT TO BE A TWO-WAY CLEANOUT TEE.

GRAVITY BUILDING SEWER INSTALLATION DETAIL

REV: OCT 2024

DATE: JUNE 2008

DETAIL: **NO** 19

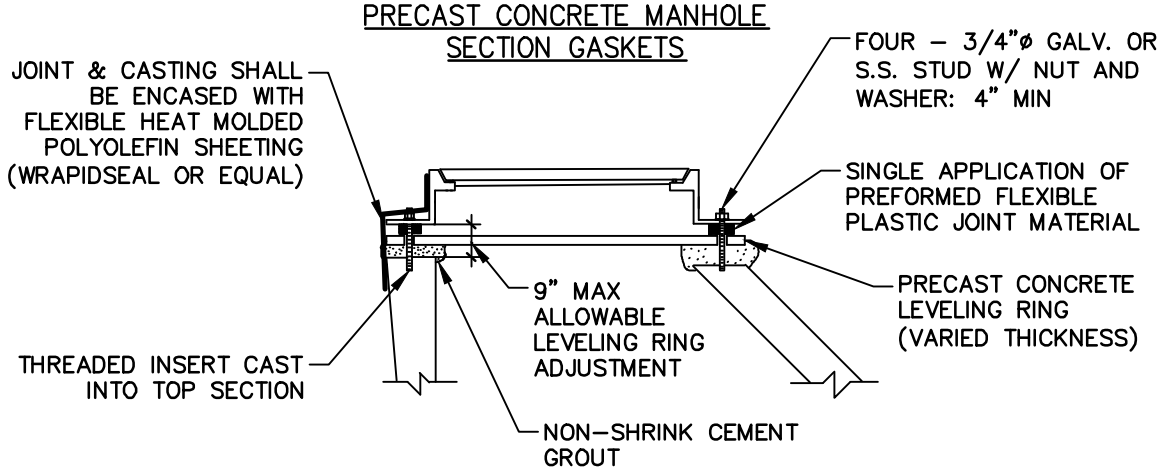


SECTION ALTERNATE 1

SECTION ALTERNATE 2

SECTION ALTERNATE 3

PRECAST CONCRETE MANHOLE SECTION GASKETS



SECTION

MANHOLE FRAME & LEVELING RINGS

NOTES:

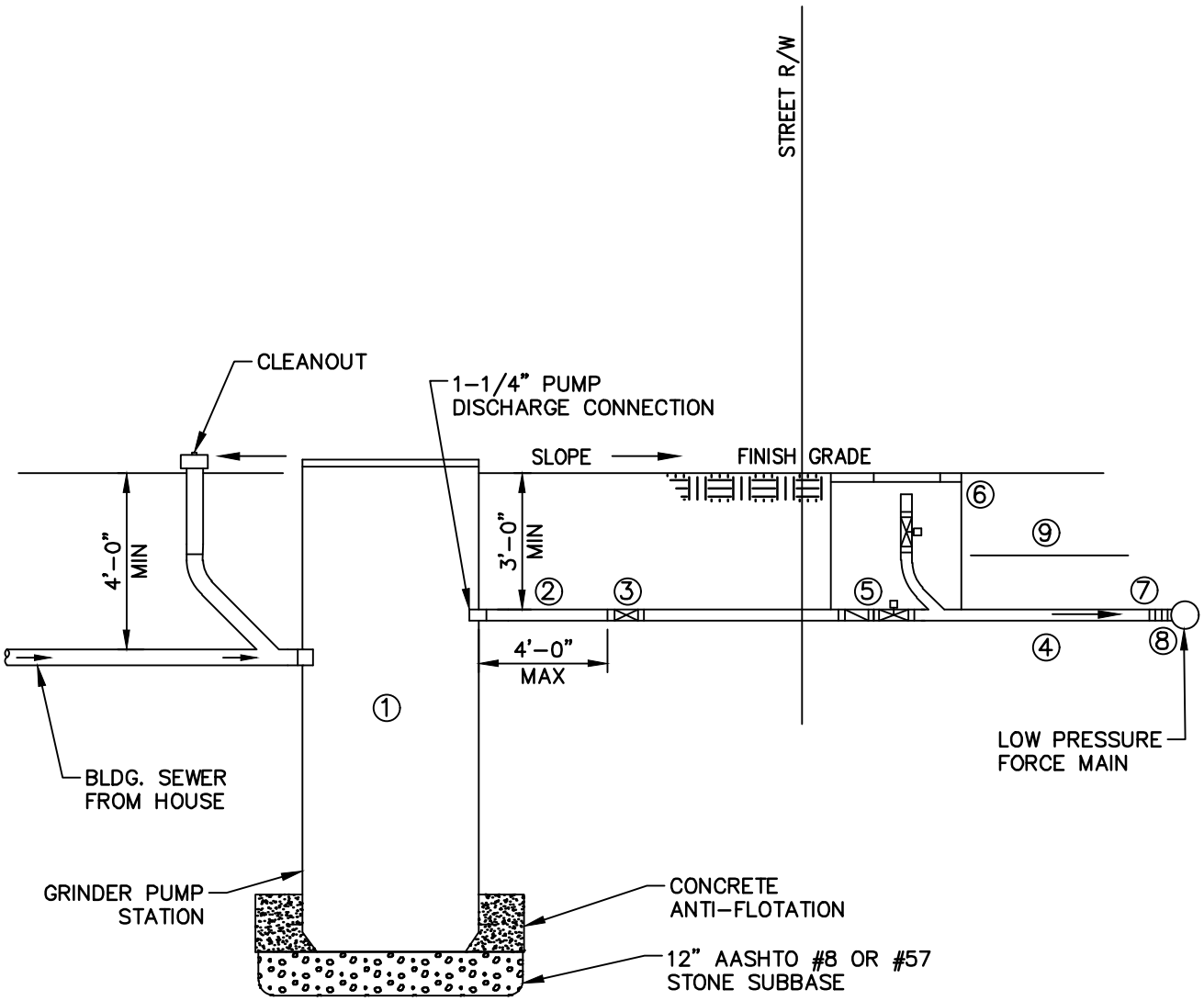
1. ALL NON-SHRINK CEMENT GROUT SHALL BE TROWELED SMOOTH.
2. EXCESS PREFORMED FLEXIBLE PLASTIC JOINT SEALANT SHALL BE NEATLY TRIMMED FOR ALL JOINTS.

MANHOLE GASKETS, LEVELING RINGS, AND BOLTED FRAME DETAIL

REV: AUG 2022

DATE: OCTOBER 2007

DETAIL: **NO** 20



EQUIPMENT & PIPING LEGEND

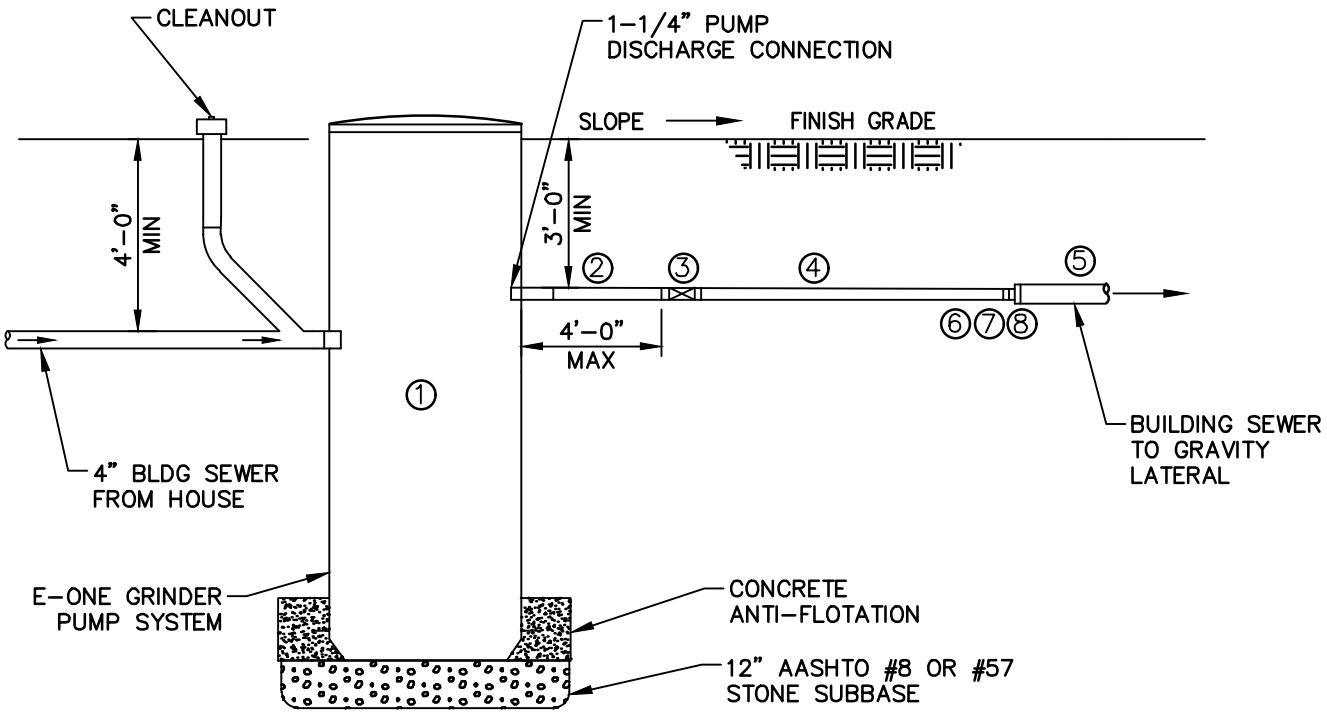
1. ENVIRONMENT ONE DH EXTREME SERIES GRINDER PUMP STATION OR EQUAL.
2. 4 FT. LONG 1 1/4" DR 11 POLYETHYLENE PEX304SSMPT TRANSITION.
3. 1 1/4" CEPEX POLYPROPYLENE COMPRESSION COUPLING.
4. 1 1/2" DR 11 POLYETHYLENE PIPE (PE 3408).
5. 1 1/4" SWING CHECK VALVE & BALL VALVE.
6. FORCE MAIN LATERAL CLEANOUT CHAMBER, SEE DETAIL.
7. 1 1/2" CEPEX POLYPROPYLENE COMPRESSION X MPT COUPLING.
8. APPROVED 304 S.S. SLEEVE OR POLYETHYLENE SADDLE W/ 1 1/2" FPT OUTLET.
9. METALLIC BACKED WARNING TAPE 18" ABOVE LATERAL PIPE AND TRACER WIRE.
10. AASHTO No. 57 STONE ENCASEMENT AROUND PIPE 6" UNDER AND 12" ABOVE PIPE.

SIMPLEX GRINDER PUMP CONNECTION TO LOW PRESSURE FORCE MAIN

REV: OCT 2024

DATE: JULY 2008

DETAIL: **NO** 21



EQUIPMENT & PIPING LEGEND:

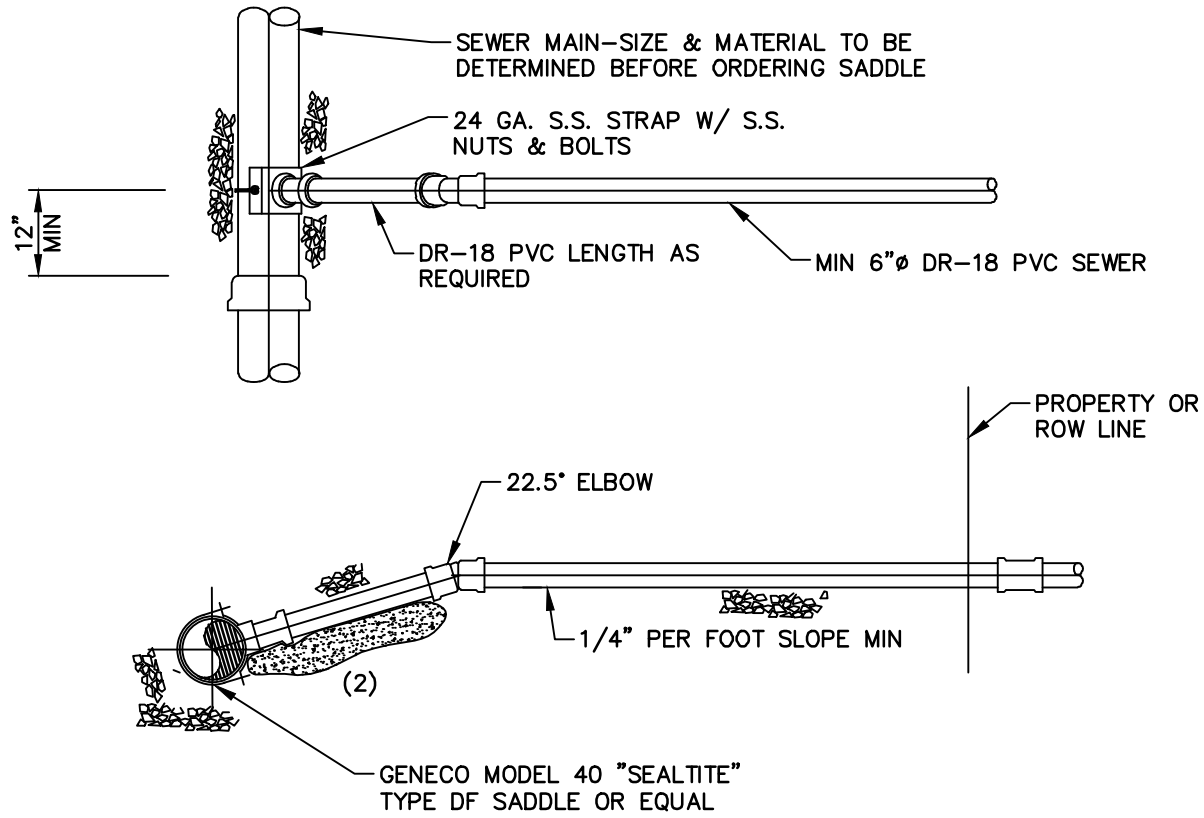
1. ENVIRONMENT ONE DH EXTREME SERIES GRINDER PUMP STATION OR EQUAL.
2. 4 FT. LONG 1 1/4" DR–11 POLYETHYLENE PEX304SSMPT TRANSITION.
3. 1 1/4" CEPEX POLYPROPYLENE COMPRESSION COUPLING.
4. 1 1/4" DR–11 POLYETHYLENE PIPE (PE 3408).
5. 4" DIAMETER BUILDING SEWER.
6. 1 1/4" P.E. COUPLING X 1 1/2" MALE ADAPTOR.
7. 1 1/2" P.E. FEMALE THREAD BUSHING X 2" MALE ADAPTOR.
8. 2" X 4" REDUCER (DR–18 PVC).
9. AASHTO No. 57 STONE ENCASEMENT AROUND PIPE 6" UNDER AND 12" ABOVE PIPE.
10. METALLIC BACKED WARNING TAPE 18" ABOVE PIPE AND TRACER WIRE.

SIMPLEX GRINDER PUMP CONNECTION TO GRAVITY SEWER LATERAL

REV: OCT 2024

DATE: JUNE 2008

DETAIL: **NO** 21A



NOTES:

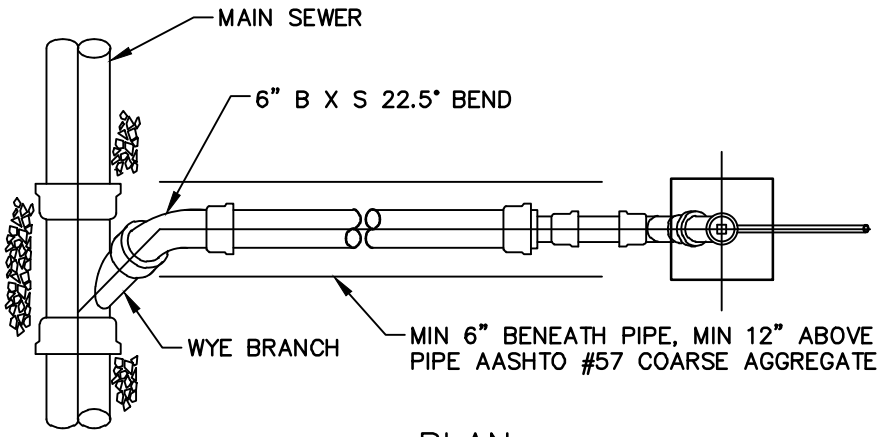
1. HOLE IN EXISTING SEWER MAIN TO BE CORE DRILLED TO MATCH SADDLE O.D.
2. CONCRETE SUPPORT OF SADDLE TO BE FIELD DETERMINED.
3. MAXIMUM CONNECTION SIZE SHALL BE TWO (2) PIPE DIAMETERS SMALLER THAN THE SEWER MAIN.
4. **SADDLES CAN ONLY BE USED WITH WRITTEN AUTHORITY APPROVAL.**

LATERAL CONNECTION WITH SADDLE ON EXISTING SEWER MAIN

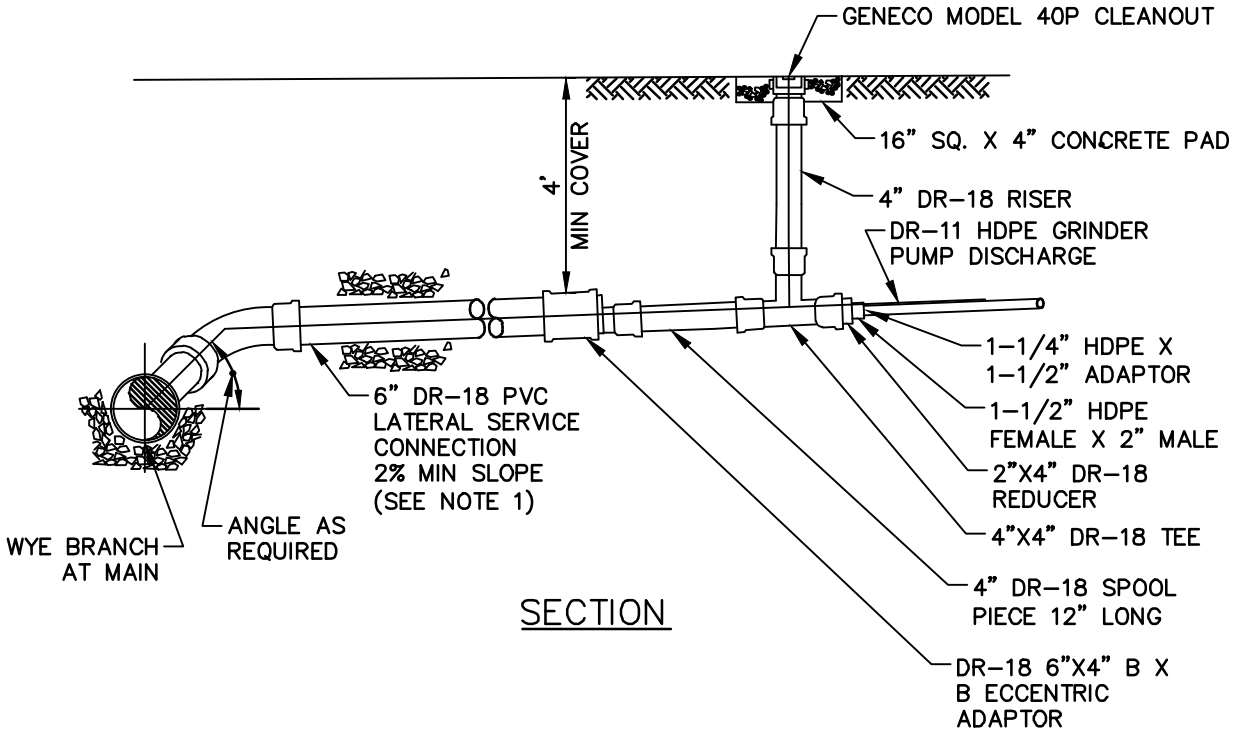
REV: OCT 2024

DATE: JUNE 2008

DETAIL: **NO** 22



PLAN



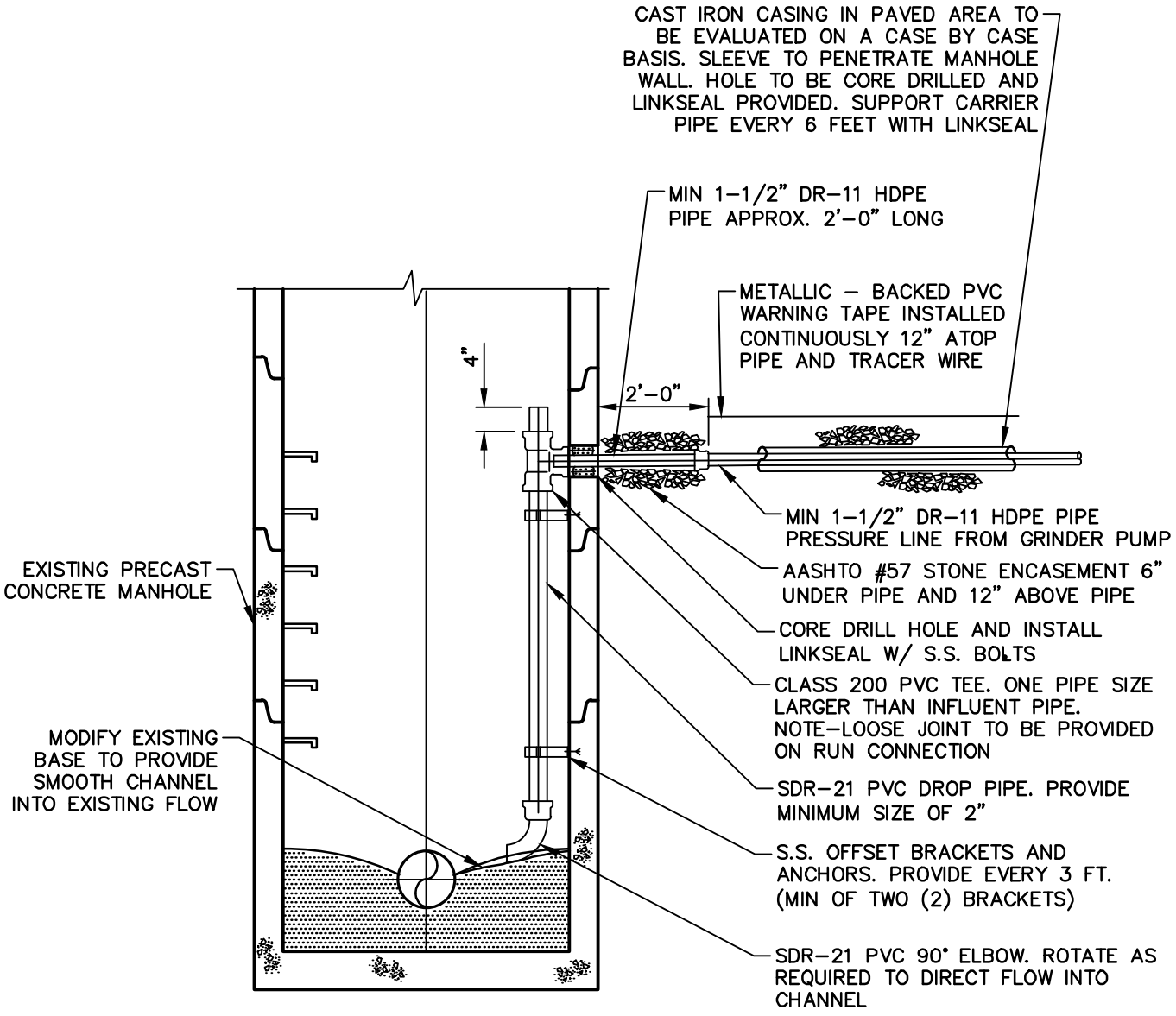
SECTION

NOTES:

1. IF CURBING OR PAVING DOES NOT EXIST, LATERAL SHALL BE 10 FEET IN LENGTH OR FOUR (4) FEET PAST THE EDGE OF THE RIGHT-OF-WAY, WHICHEVER IS GREATER

GRINDER PUMP DISCHARGE CONNECTION TO SEWER MAIN

REV:	AUG 2022
DATE:	JUNE 2008
DETAIL:	NO 23



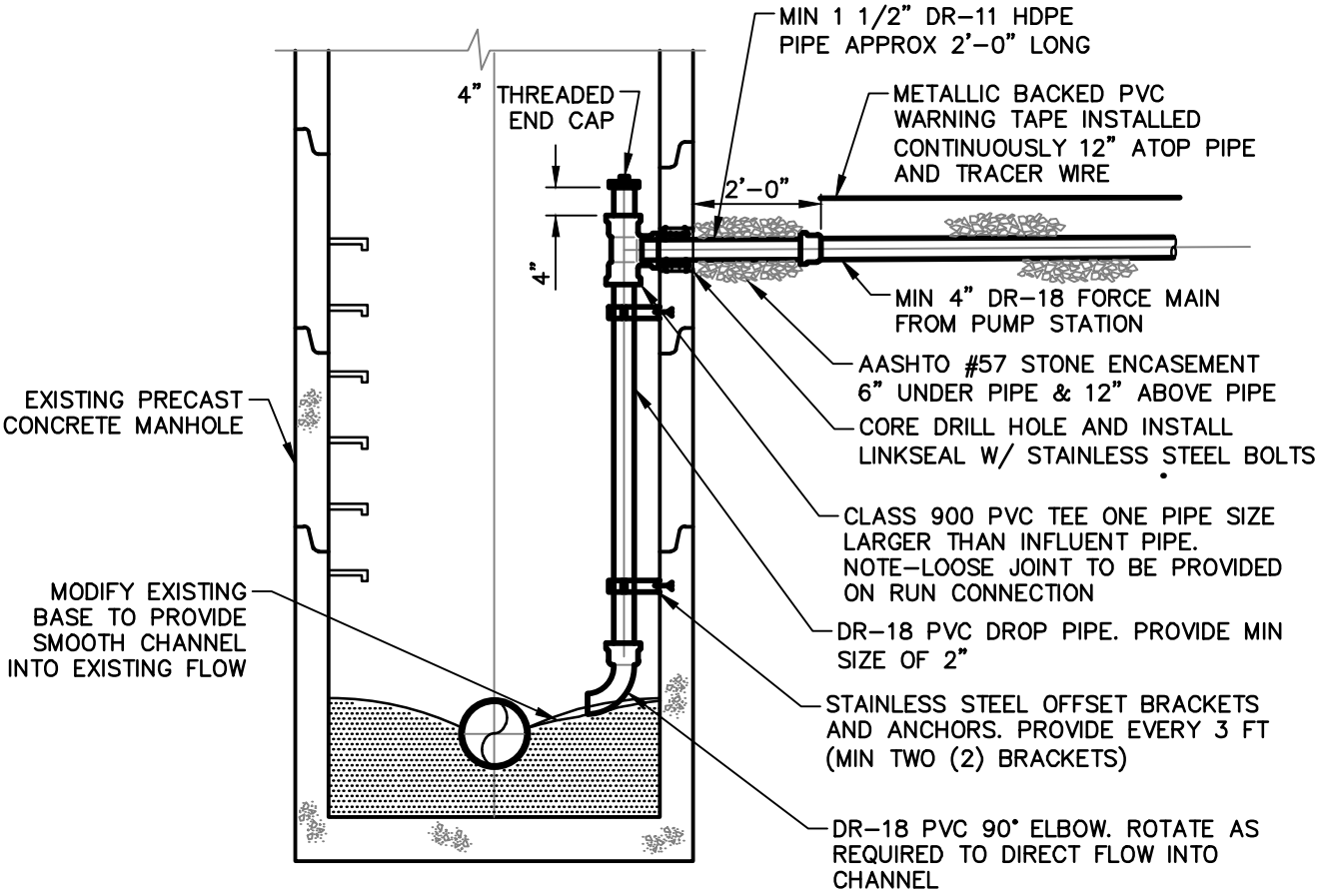
NOTES:

1. AN INSIDE DROP CONNECTION WILL NOT BE REQUIRED IF THE INVERT OF THE PRESSURE PIPE IS WITHIN 4" OF THE TOP OF THE EXISTING BENCHING. PROVIDE AN ELBOW INSIDE MANHOLE AS REQUIRED TO MINIMIZE SPLASHING AND A SMOOTH CHANNEL INTO EXISTING FLOW.

2. ANY PLAN OF COMMON DEVELOPMENT INVOLVING 5 OR MORE EDUs SERVED BY GRINDER PUMPS OR PUMP STATIONS SHALL BE REQUIRED TO LINE THE DISCHARGE MANHOLE. IN ADDITION, THE 4 NEAREST DOWNSTREAM MANHOLES MUST ALSO BE LINED.

GRINDER PUMP FORCE MAIN CONNECTION TO MANHOLE

REV:	OCT 2024
DATE:	JUNE 2008
DETAIL:	NO 24



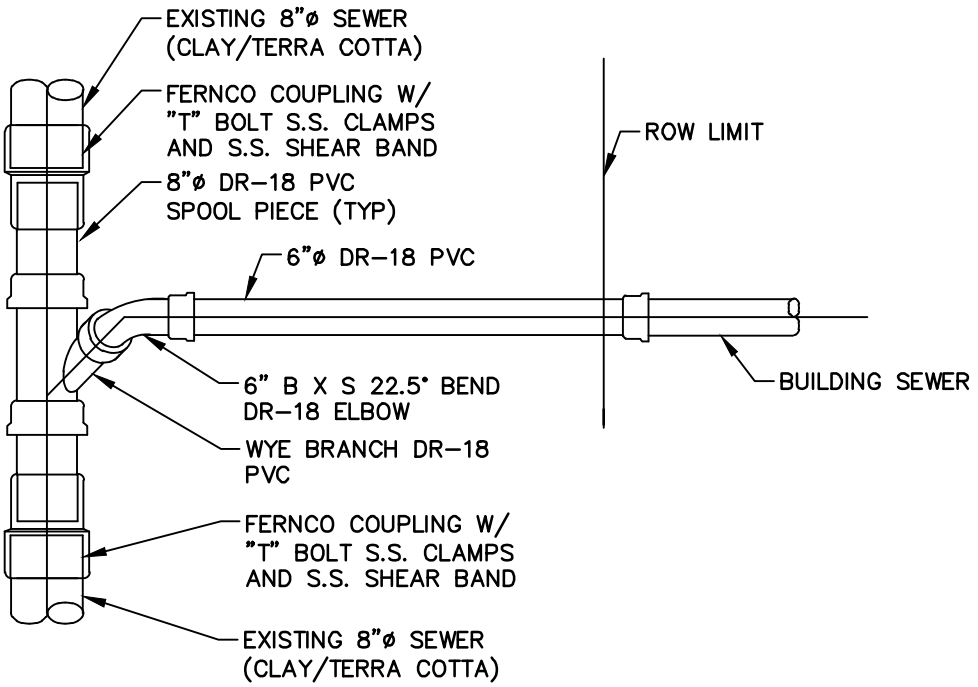
NOTES:

1. AN INSIDE DROP CONNECTION WILL NOT BE REQUIRED IF THE INVERT OF THE PRESSURE PIPE IS WITHIN 4" OF THE TOP OF THE EXISTING BENCHING. PROVIDE AN ELBOW INSIDE MANHOLE AS REQUIRED TO MINIMIZE SPLASHING AND A SMOOTH CHANNEL INTO EXISTING FLOW.

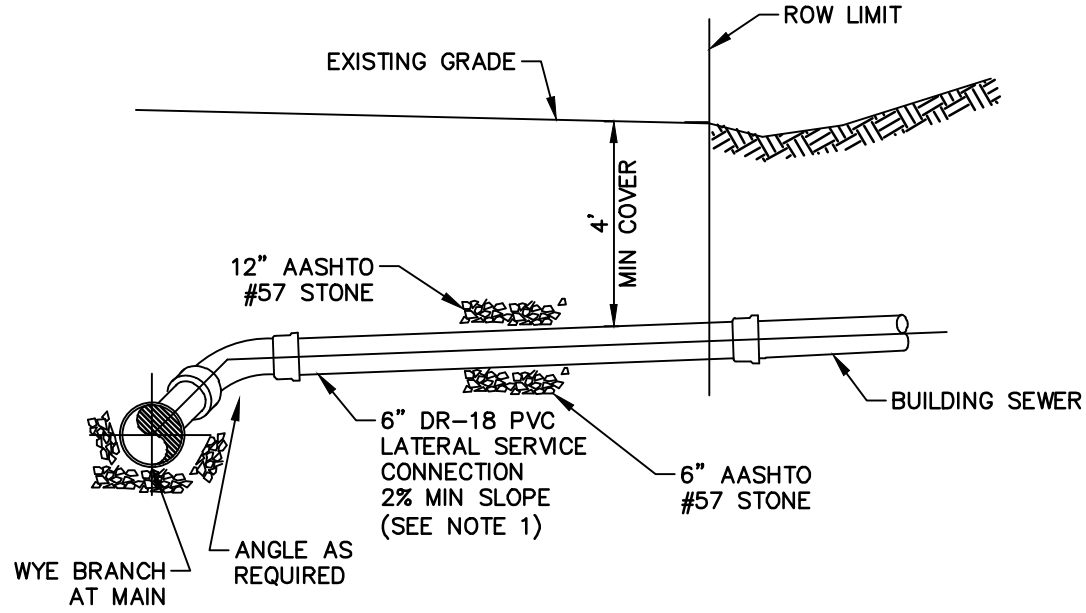
2. ANY PLAN OF COMMON DEVELOPMENT INVOLVING 5 OR MORE EDUs SERVED BY GRINDER PUMPS OR PUMP STATIONS SHALL BE REQUIRED TO LINE THE DISCHARGE MANHOLE. IN ADDITION, THE 4 NEAREST DOWNSTREAM MANHOLES MUST ALSO BE LINED.

FORCE MAIN
CONNECTION TO MANHOLE

REV:	OCT 2024
DATE:	JUNE 2008
DETAIL:	NO 24A



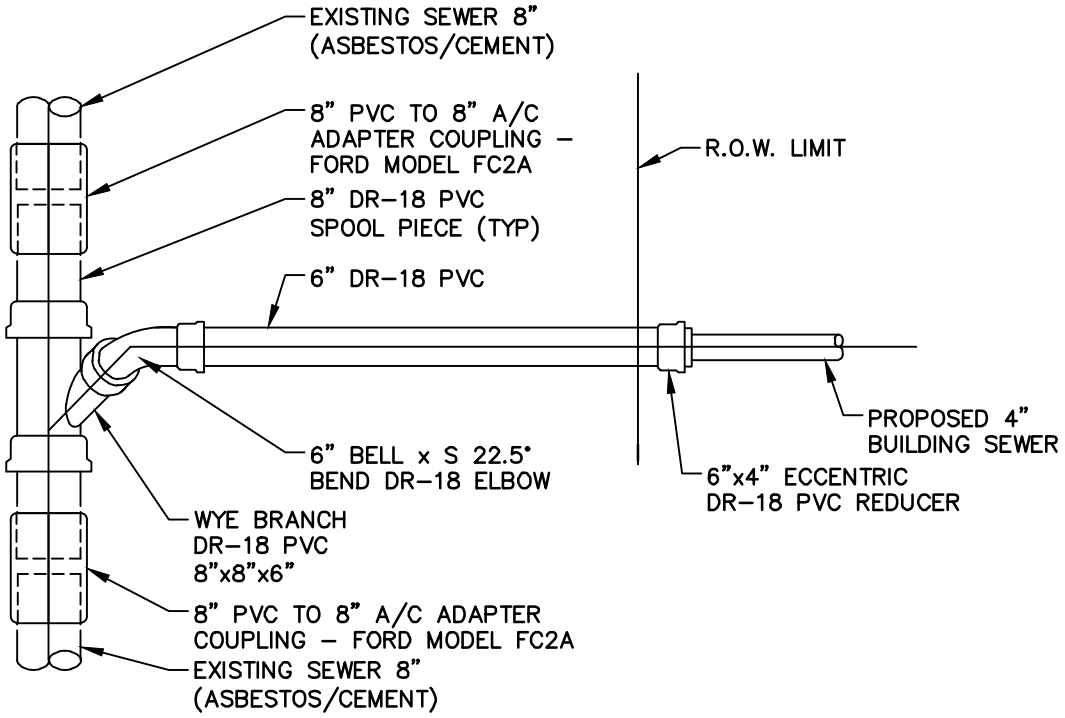
PLAN



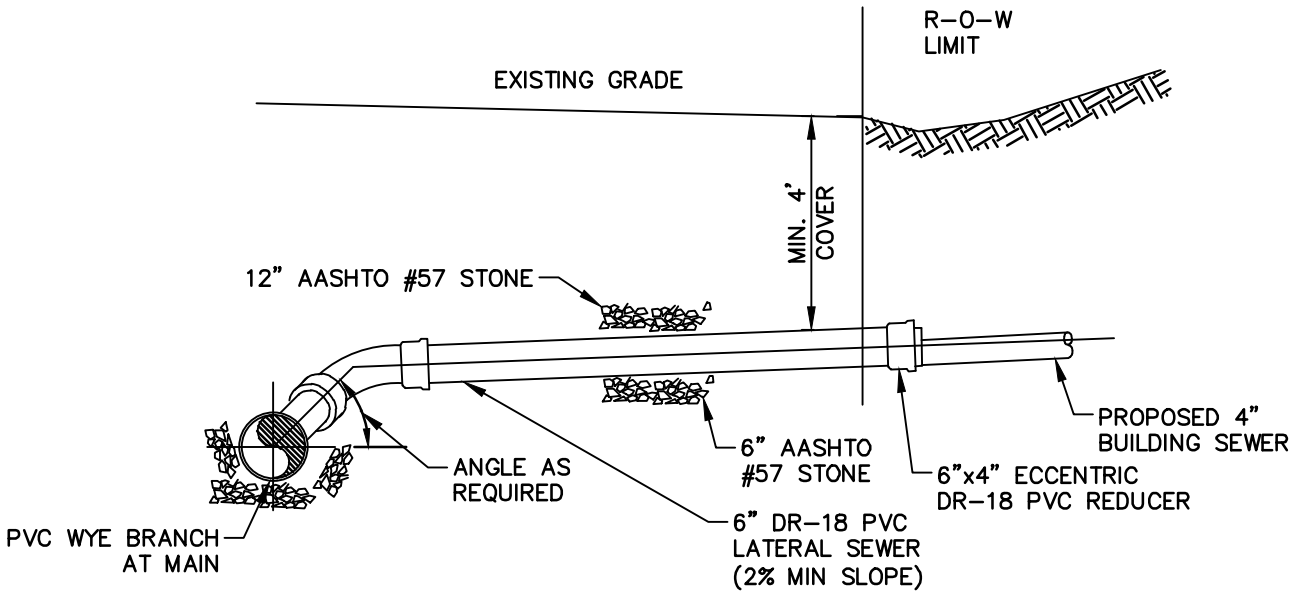
SECTION

LATERAL CONNECTION TO EXISTING CLAY OR TERRA COTTA SEWER MAIN

REV:	AUG 2022
DATE:	JUNE 2008
DETAIL:	NO 25



PLAN



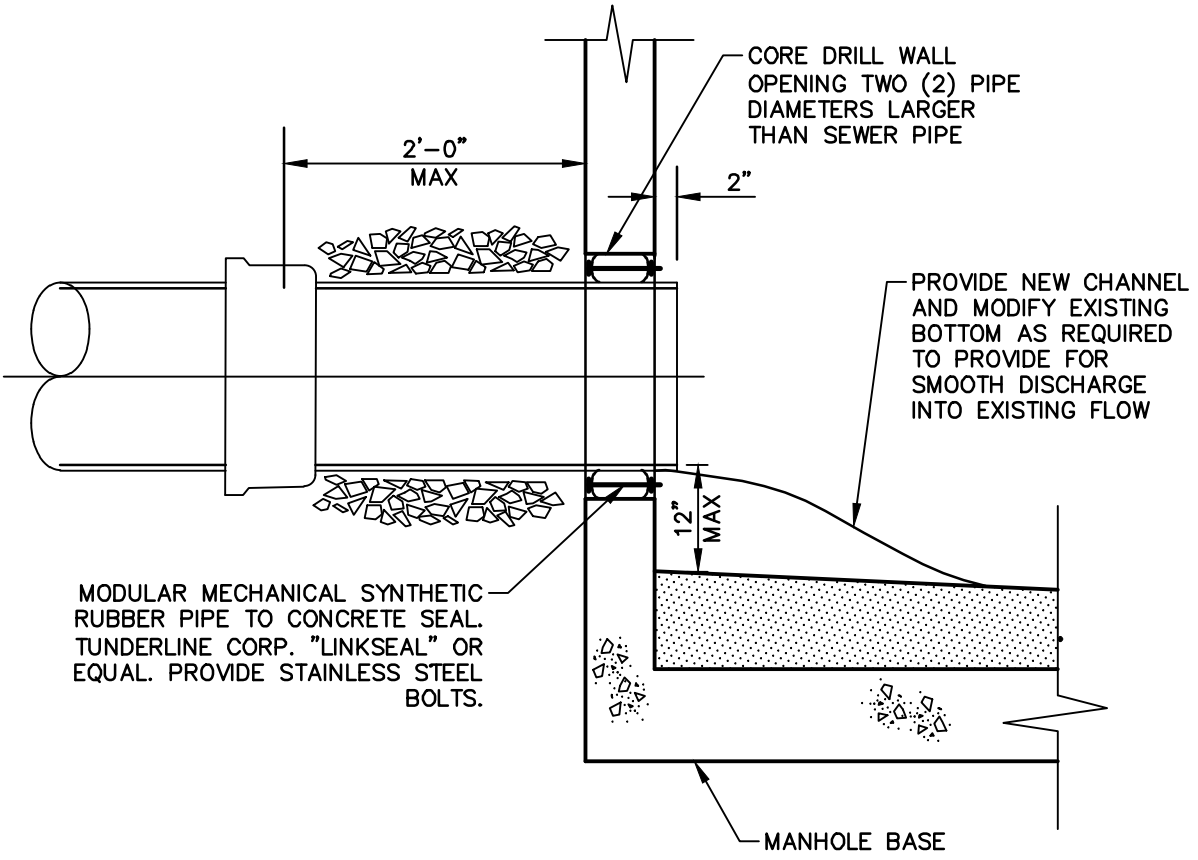
SECTION

LATERAL CONNECTION TO EXISTING ASBESTOS / CEMENT SEWER MAIN

REV: AUG 2022

DATE: JUNE 2008

DETAIL: NO 26



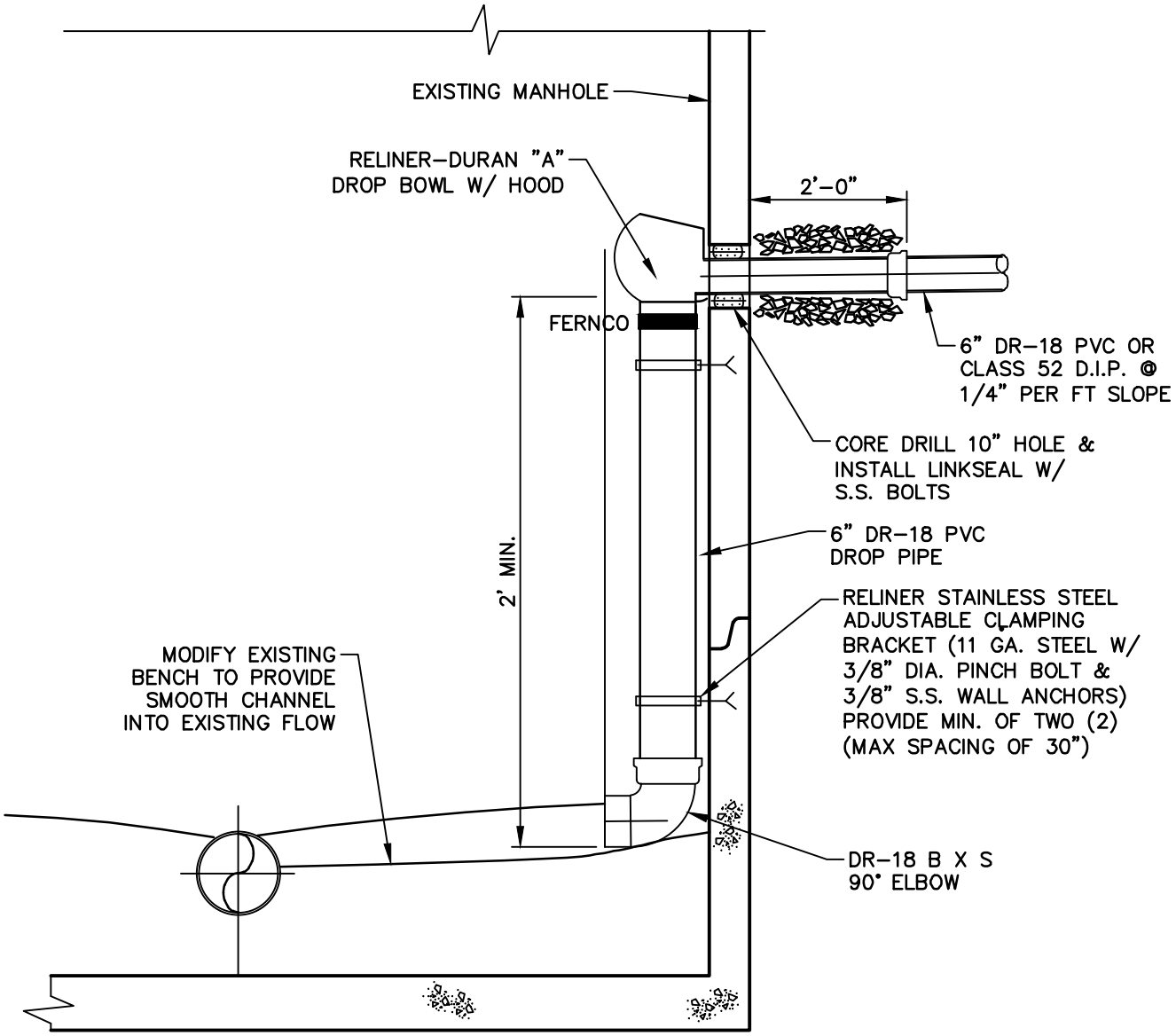
PIPE CONNECTION TO AN EXISTING SANITARY MANHOLE

REV: AUG 2022

DATE: JUNE 2007

DETAIL: **NO** 27

NOTE:
WHEN THE DISTANCE BETWEEN THE INVERT OF THE PROPOSED LATERAL AND THE SPRING LINE OF THE EXISTING SEWER IS LESS THAN 24", THE PROPOSED LATERAL SHALL CONNECT INTO THE MANHOLE AT THE SPRING LINE ELEVATION.

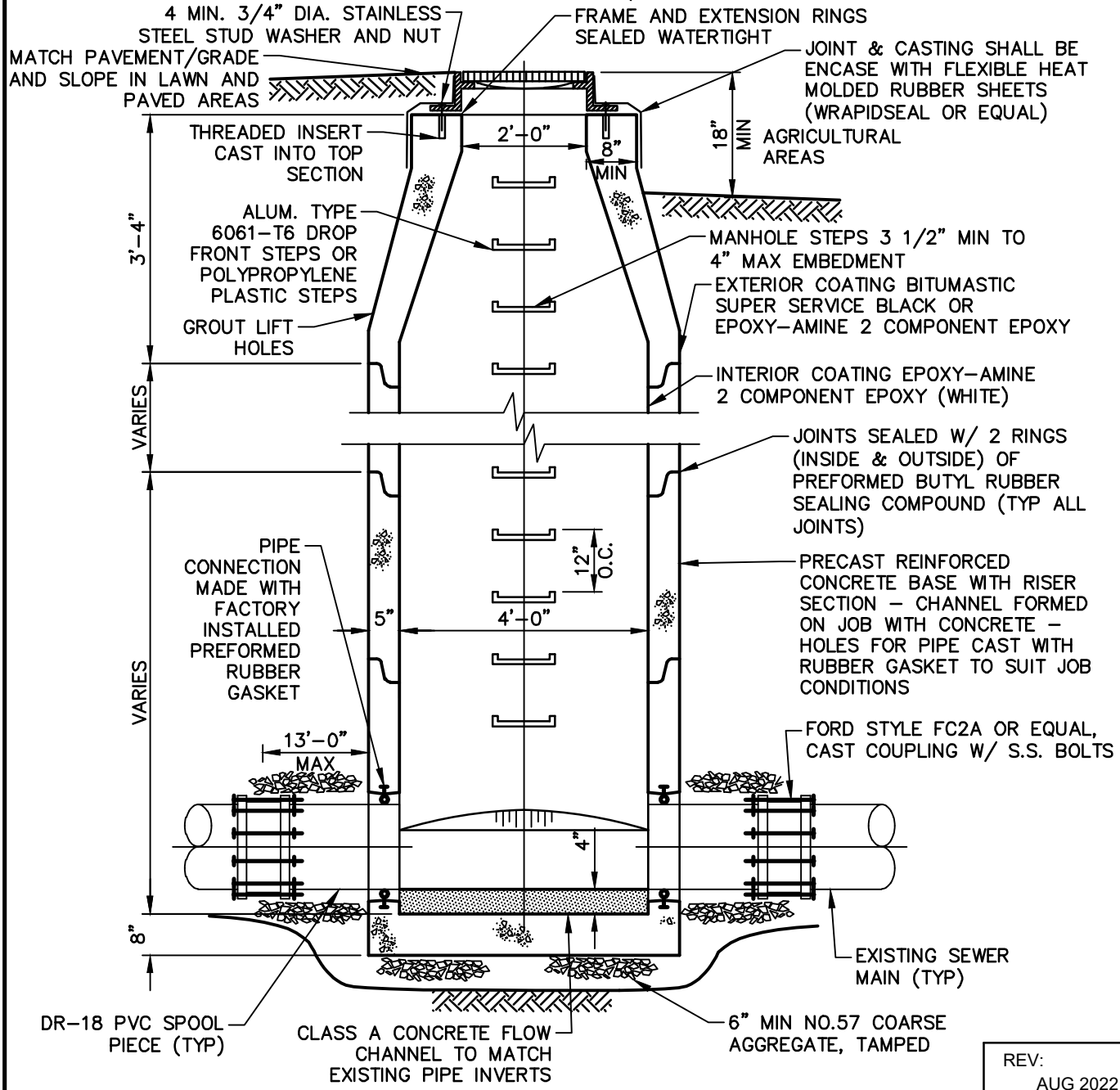


6" LATERAL CONNECTION TO AN EXISTING SANITARY MANHOLE

REV: AUG 2022
DATE: JUNE 2008
DETAIL: NO 28

NOTES:

1. PRIOR TO INSTALLATION OF MANHOLE THE CONTRACTOR SHALL TEST DIG AND DETERMINE THE O.D. AND QUALITY OF THE EXISTING PIPE.
2. THE CONTRACTOR SHALL SUBMIT A PLAN FOR MAINTAINING THE EXISTING FLOW WHILE INSTALLING THE NEW MANHOLE.
3. ADJUST CASTING TO GRADE W/ PREFORMED RUBBER & CONCRETE GRADE RINGS. (MAX VERT. ADJUSTMENT IS 6")
4. CONCRETE SHALL CONFORM TO A.S.T.M. C-478
5. FOR MANHOLE WHERE RIM TO INVERT DISTANCE IS LESS THAN 5', USE FLAT TOP.
6. MANHOLE INSIDE DIAMETER FOR 8"-12" DIAMETER SEWERS. LARGER MANHOLES REQUIRED FOR LARGER PIPE DIAMETERS.
7. MANHOLE INSERTS WILL BE INSTALLED AS PER MANUFACTURER SPECIFICATIONS AND MANUFACTURED BY PARSON ENVIRONMENTAL OR EQUAL.

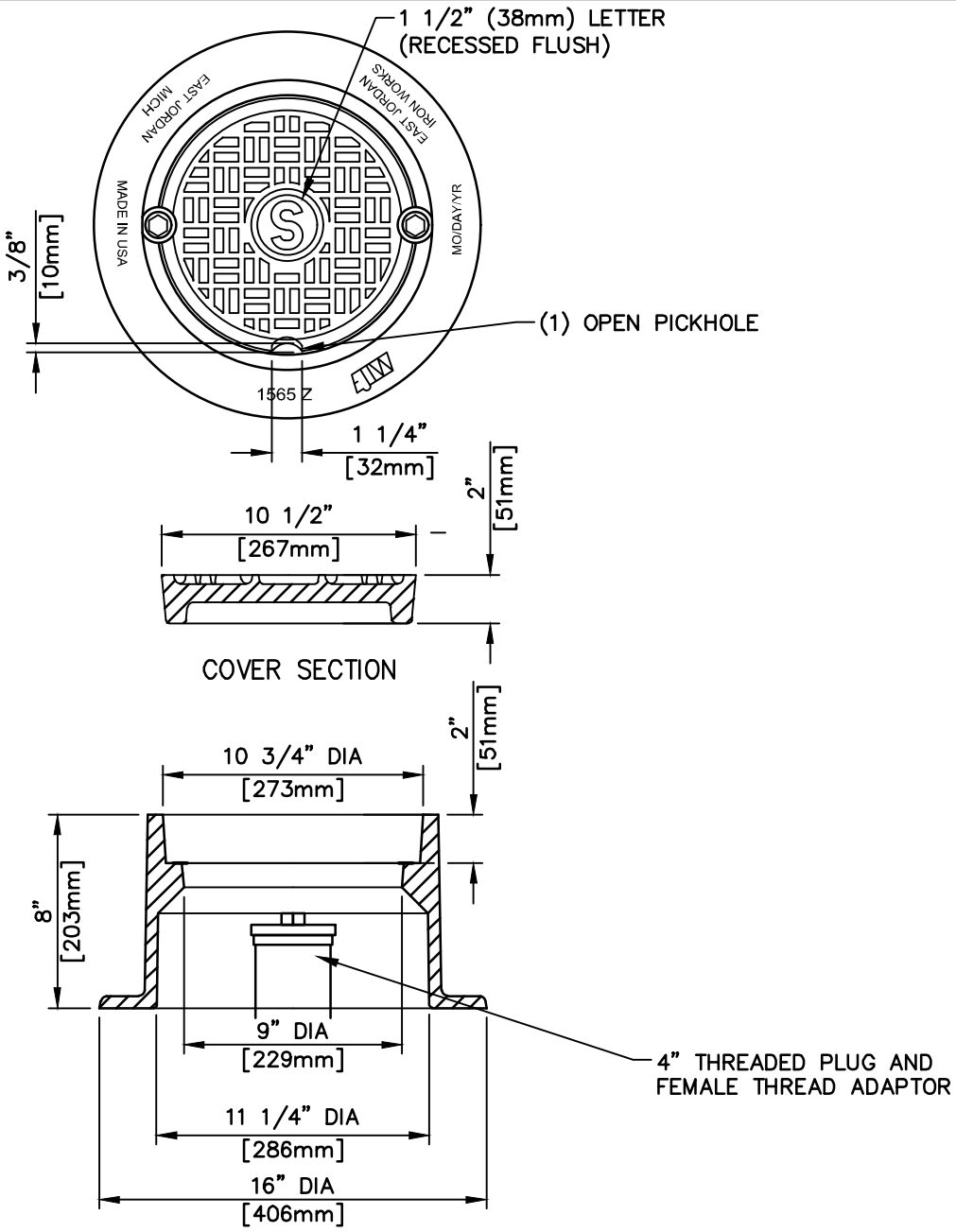


INSERTION OF A PRECAST CONCRETE MANHOLE INTO AN EXISTING SEWER MAIN

REV: AUG 2022

DATE: JUNE 2008

DETAIL: NO 29



NOTES:

1. THIS CAN ONLY BE USED WITH WRITTEN PERMISSION FROM THE AUTHORITY. THE PERMISSION MUST BE OBTAINED PRIOR TO THE START OF THE PROJECT.
2. NO SEWER SERVICE LINE VENT OR CLEAN OUT CAP SHALL BE INSTALLED WITHIN A 100–YEAR FLOOD PLAIN OR WITHIN FLOOD PRONE AREAS.
3. CLEAN OUT MUST BE INSTALLED INSIDE CLEAN OUT BOX WITH COVER LABELED "S".
4. SERVICES SHOULD BE DESIGNED TO AVOID ALIGNMENT WITH DRIVEWAYS.
5. CASTINGS TO BE TREATED BY THE MANUFACTURER WITH WATER–BASED, BLACK ASPHALTIC, ENVIRONMENTALLY SAFE COATING, FREE OF SURFCE RUST BEFORE LEAVING THE FOUNDRY

CLEAN OUT FRAME AND COVER ASSEMBLY

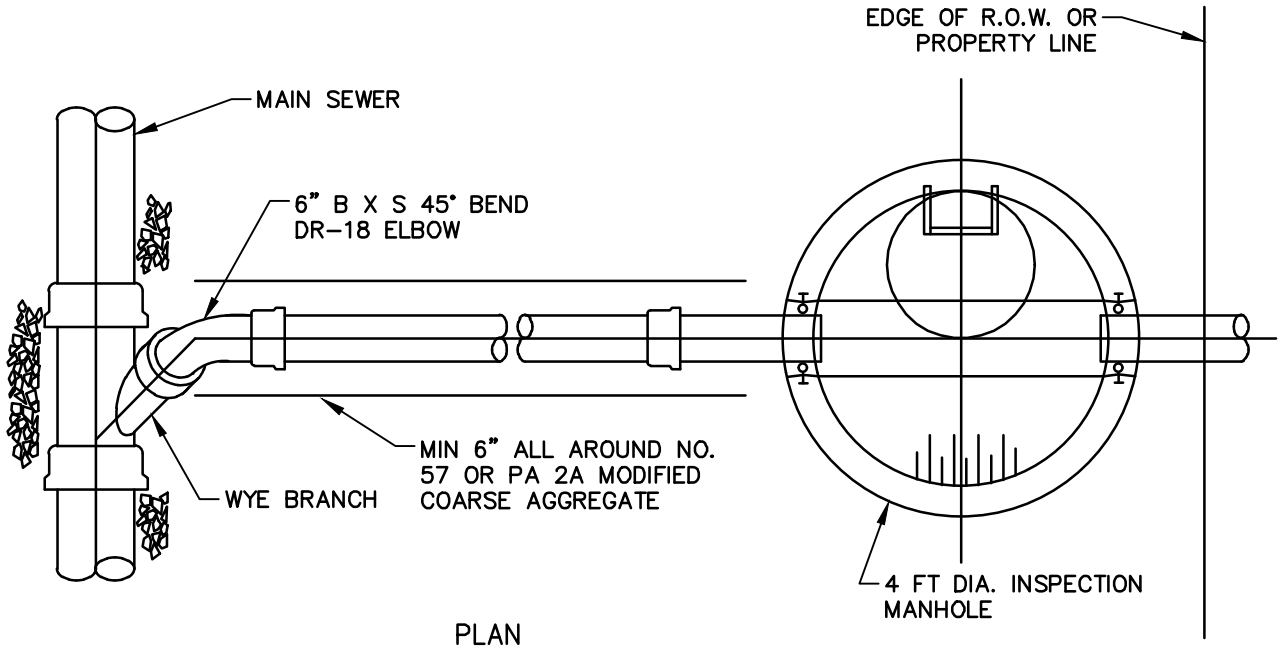
REV: AUG 2022

DATE: MARCH 2017

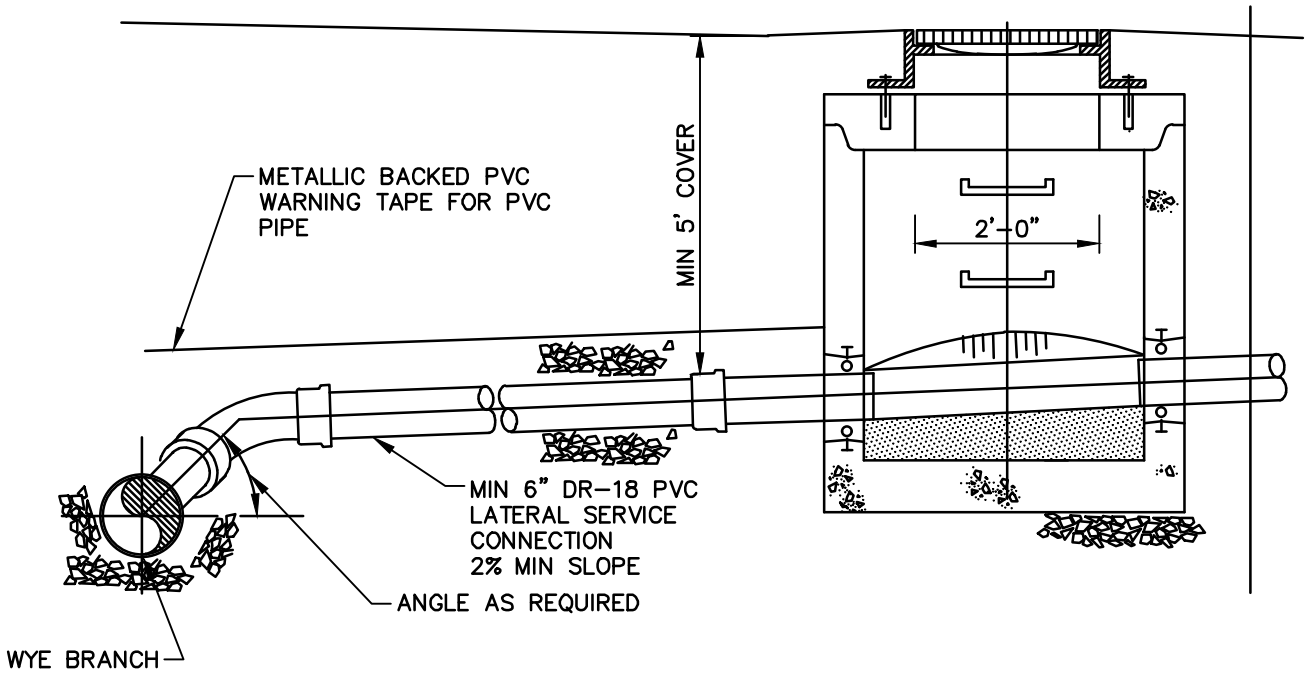
DETAIL: **NO** 30

NOTE:

1. CONNECTION FROM INSPECTION MANHOLE SHALL BE IN ACCORDANCE WITH TOWNSHIP PLUMBING CODE.



PLAN



SECTION

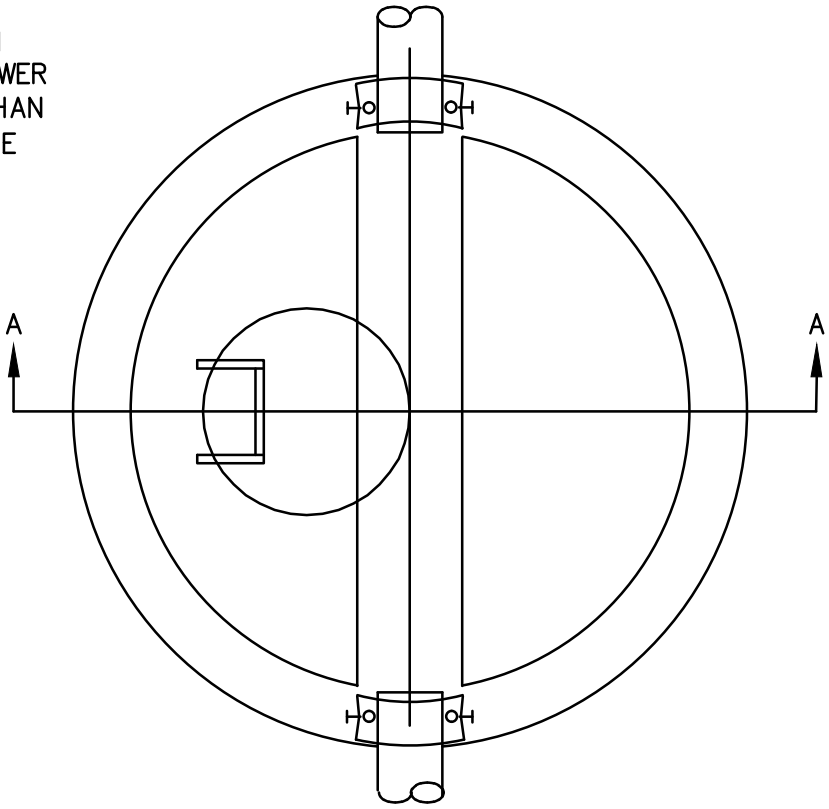
TYPICAL LATERAL DETAIL FOR INDUSTRIAL / COMMERCIAL CONNECTION

REV: AUG 2022

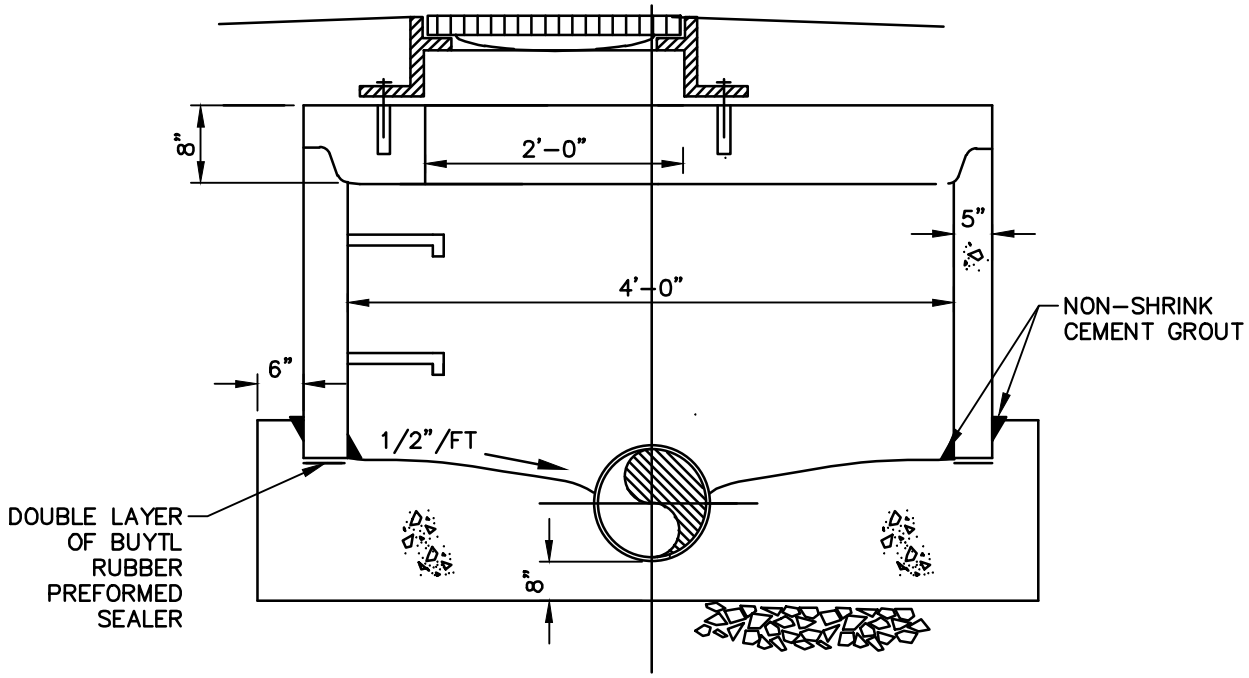
DATE: JUNE 2008

DETAIL: **NO** 31

NOTES:
1. USE FLAT TOP ON MANHOLES ON SEWER LINES W/ LESS THAN 5' TO TOP OF PIPE



PLAN



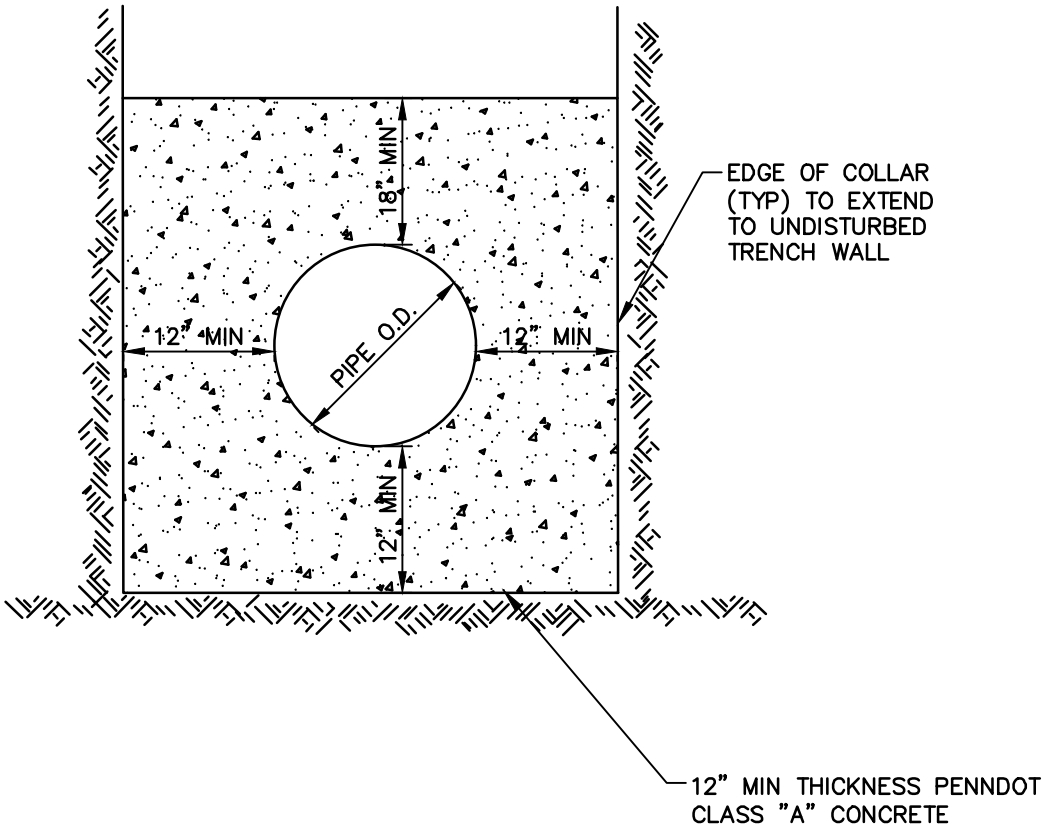
SECTION A-A

PRECAST CONCRETE SHALLOW MANHOLE W/ FLAT TOP & POURED MONOLITHIC CONC. BASE

REV: AUG 2022

DATE: JUNE 2007

DETAIL: NO 32



NOTE:

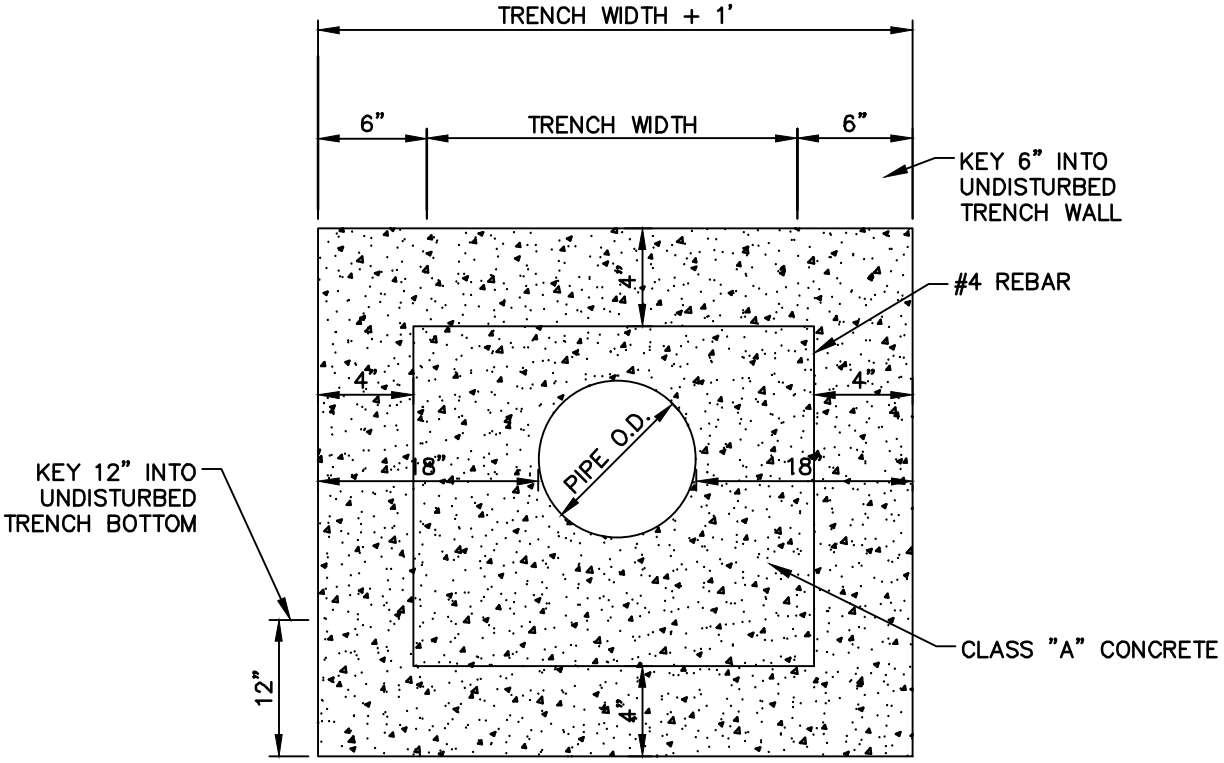
1. COLLAR TO BE PRECAST OR POURED IN PLACE CLASS "A" CONCRETE

CONCRETE
ANTI-SEEP COLLAR

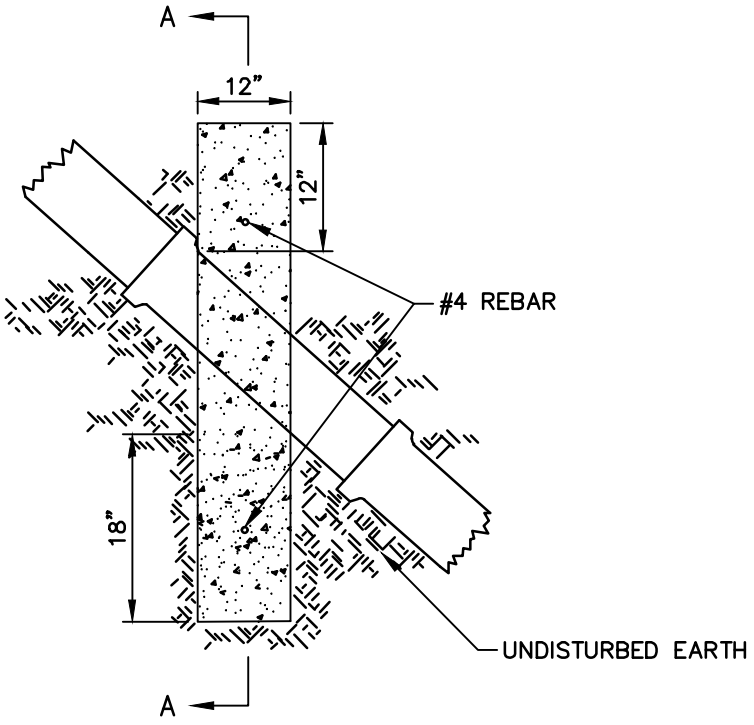
REV: AUG 2022

DATE: JUNE 2007

DETAIL: **NO** 33



SECTION A–A



ELEVATION

CONCRETE ANCHORS FOR STEEPLY SLOPED PIPES

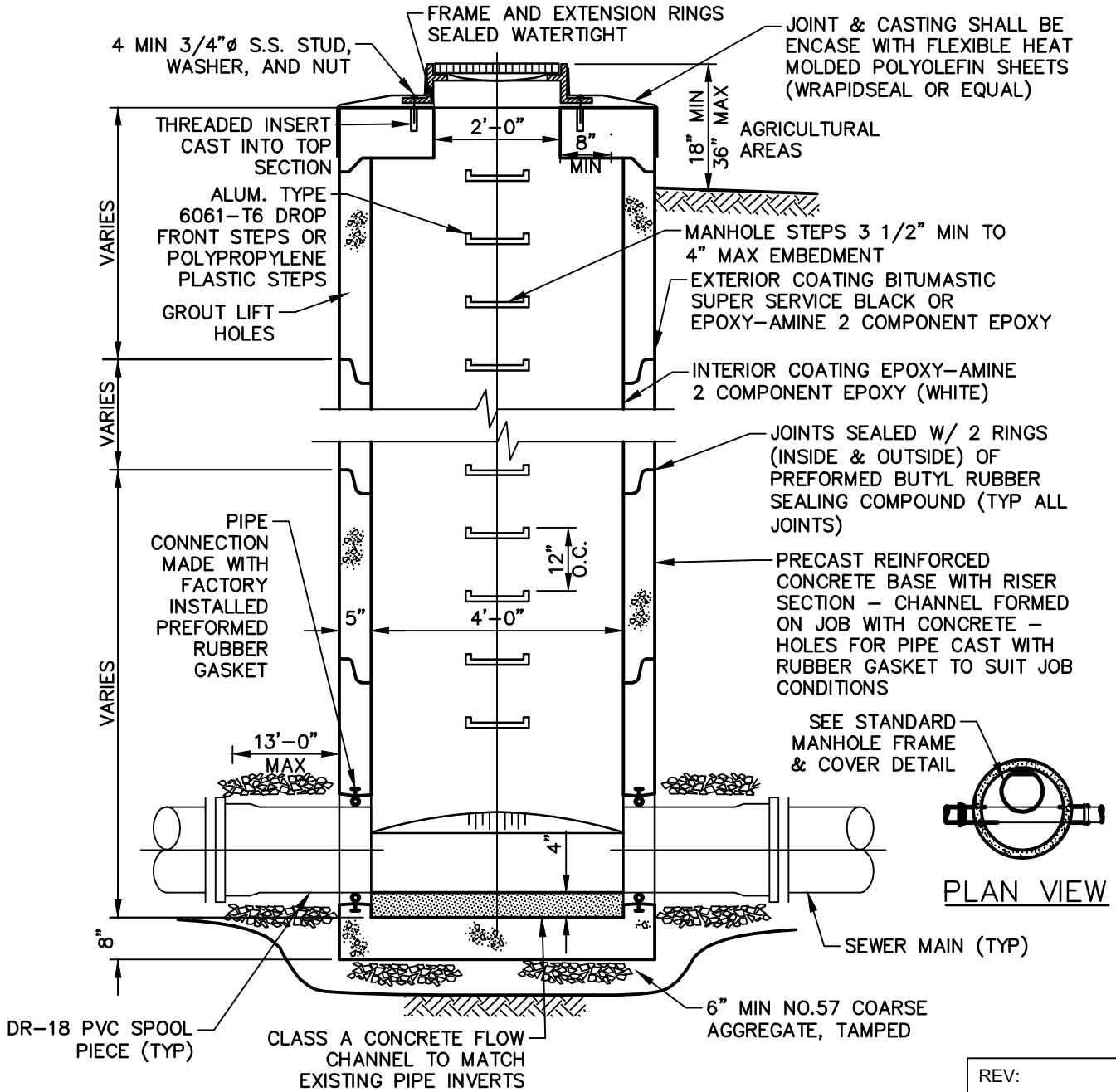
REV: AUG 2022

DATE: JUNE 2007

DETAIL: NO 34

NOTES:

1. BOLTING OF MANHOLE FRAME TO CONCRETE NOT REQUIRED FOR MANHOLES INSTALLED IN PAVED SURFACES.
2. PIPES SHALL PROTRUDE A MAXIMUM OF 2" INTO MANHOLE.
3. ADJUST CASTING TO GRADE W/ PREFORMED RUBBER & CONCRETE GRADE RINGS. (MAX VERTICAL ADJUSTMENT IS 6")
4. CONCRETE SHALL CONFORM TO A.S.T.M. C-478.
5. FOR MANHOLE WHERE RIM TO INVERT DISTANCE IS LESS THAN 5', USE FLAT TOP.
6. MANHOLE INSIDE DIAMETER FOR 8"-16" DIAMETER SEWERS. LARGER MANHOLES REQUIRED FOR LARGER PIPE DIAMETERS.
7. MANHOLE INSERTS WILL BE INSTALLED PER MANUFACTURER SPECIFICATIONS AND MANUFACTURED BY PARSON ENVIRONMENTAL OR EQUAL.

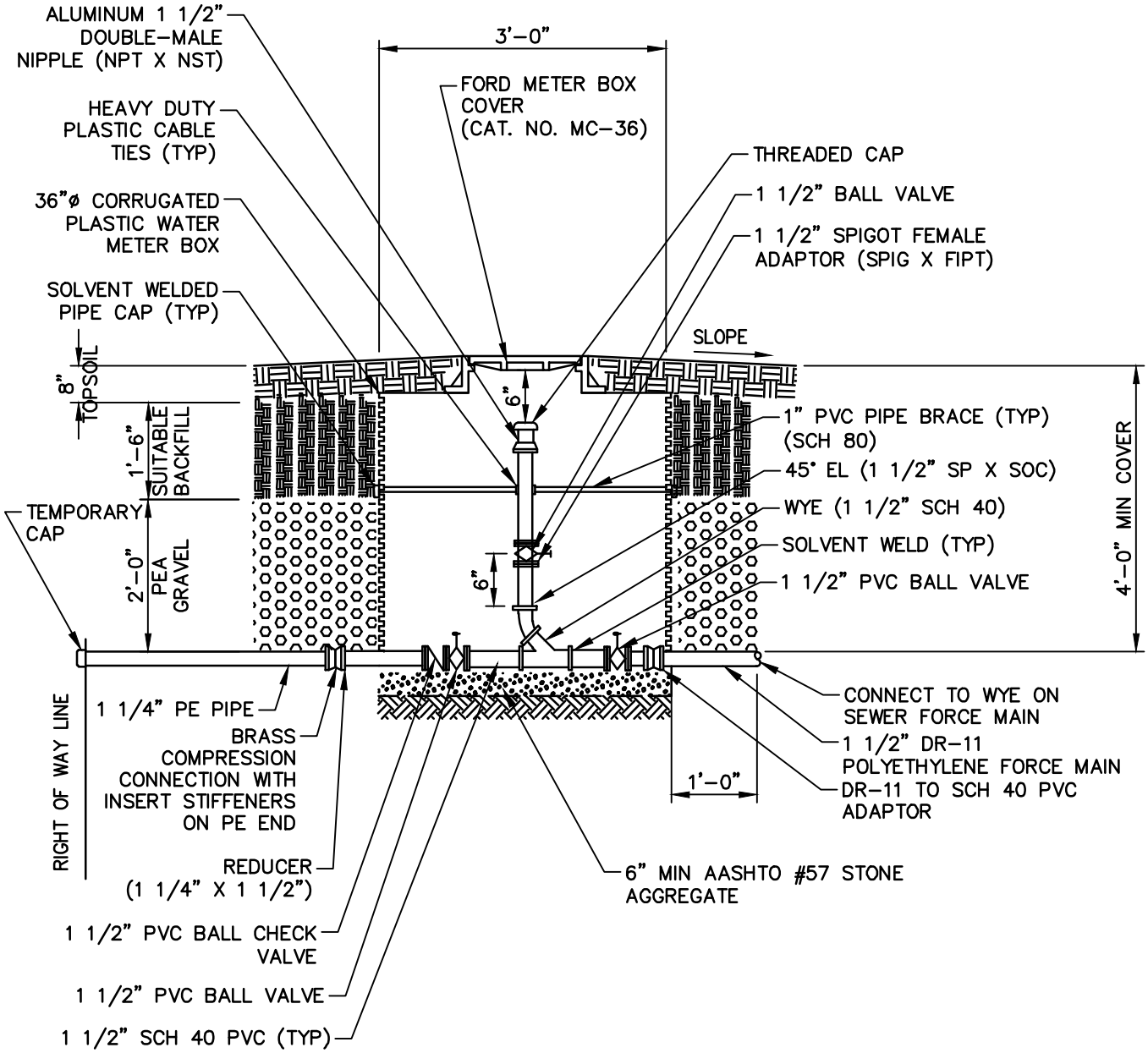


PRECAST CONCRETE FLAT TOP MANHOLE DETAIL 8" THRU 16" DIAMETER SEWERS

REV: AUG 2022

DATE: JUNE 2008

DETAIL: NO 35



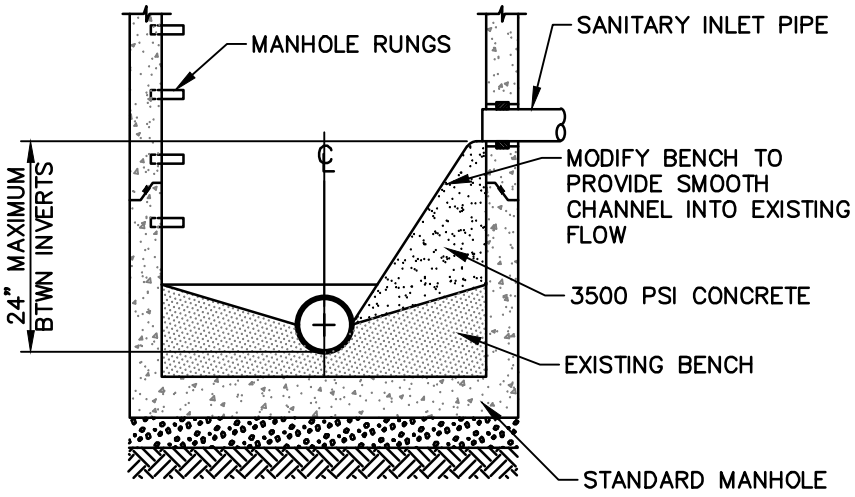
SECTION

FORCE MAIN LATERAL CLEANOUT CHAMBER

REV: AUG 2022

DATE: JULY 2008

DETAIL: NO 36



FLOW CHANNEL ADJUSTMENT DETAIL

REV: AUG 2022

DATE: JUNE 2008

DETAIL: **NO** 37