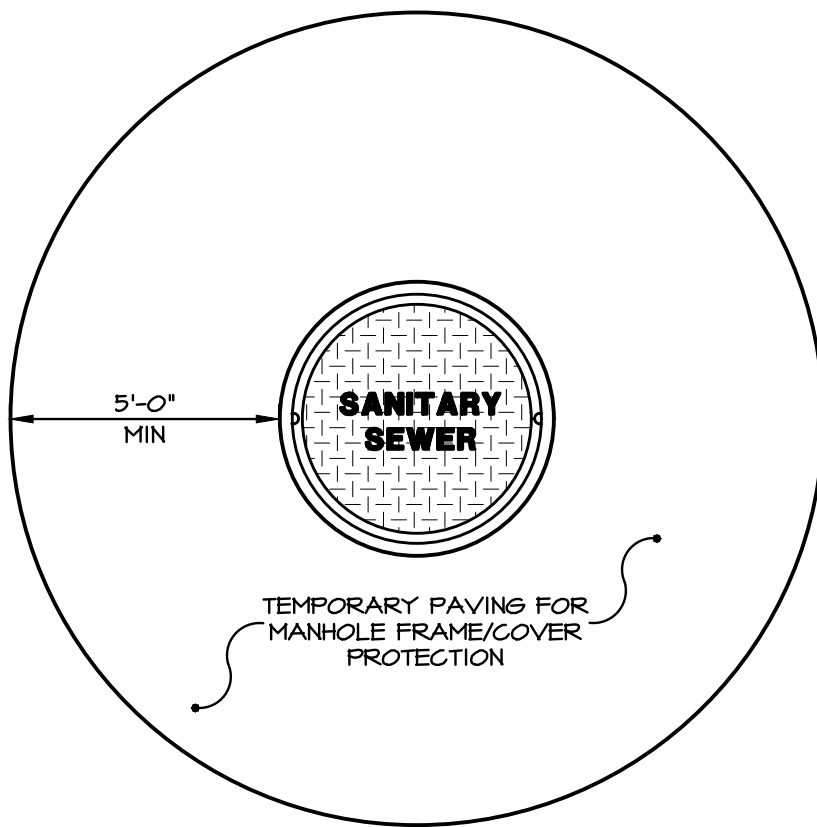
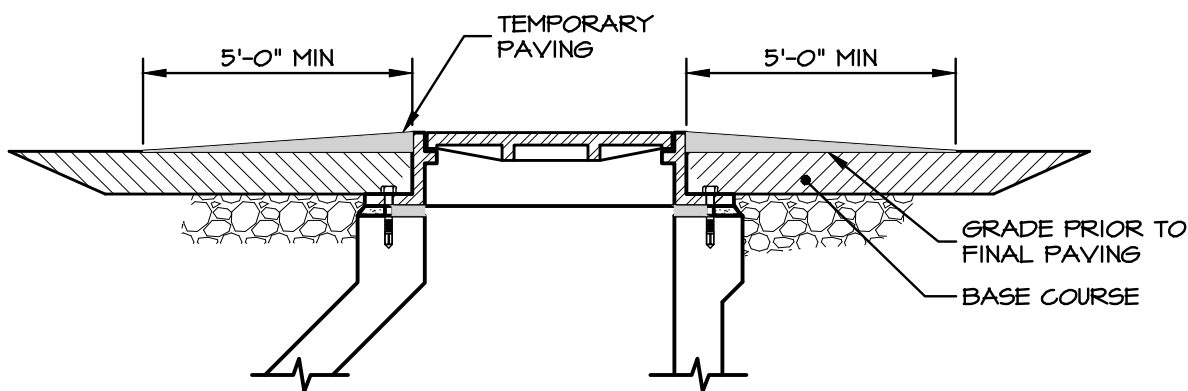


DRAWING: C:\Users\lmoberholzer\OneDrive\ELA Group\452-083 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:33 pm



PLAN



SECTION

MANHOLE FRAME/COVER PROTECTION DETAIL PRIOR TO FINAL PAVING

NO SCALE



MANHOLE FRAME/COVER PROTECTION DETAIL PRIOR TO FINAL PAVING STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-1

HEAVY DUTY CAST IRON
FRAME AND COVER SUIT-
ABLE FOR HS25 LOADING

2" RAISED LETTER
(TYP)

CONCEALED PICK HOLE
(2 REQD)

(4) 7/8" ϕ BOLT HOLES

**SANITARY
SEWER**

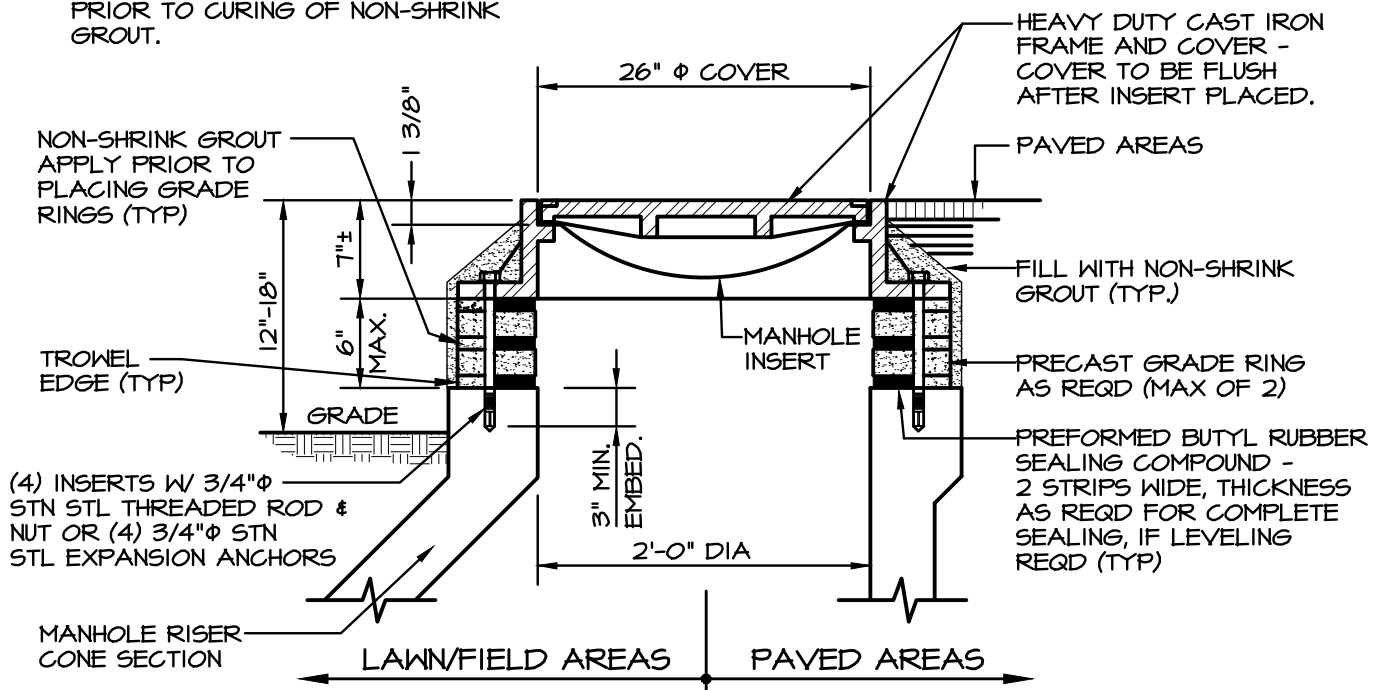
GUSSETS (MIN 6 REQD)

NOTES:

1.) ANCHOR BOLT HOLES SHALL BE
DRILLED WITH A PERCUSSION OR
ROTARY HAMMER DRILL UTILIZING
A CARBIDE DRILL BIT. CORE
DRILLING, OR ROTATIONAL ONLY
DRILLING, OF ANY KIND, IS NOT
ALLOWED.

COVER PATTERN

2.) FRAME ANCHORS SHALL BE TIGHTENED
PRIOR TO CURING OF NON-SHRINK
GROUT.



STANDARD MANHOLE FRAME & COVER WITH GRADE RINGS

NO SCALE



STANDARD MANHOLE FRAME & COVER WITH GRADE RINGS STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-2

HEAVY DUTY CAST IRON
FRAME AND COVER SUIT-
ABLE FOR HS25 LOADING

2" RAISED LETTER (TYP.)

CONCEALED PICK HOLE
(2 REQD)

(4) 7/8" ϕ BOLT HOLES

**SANITARY
SEWER**

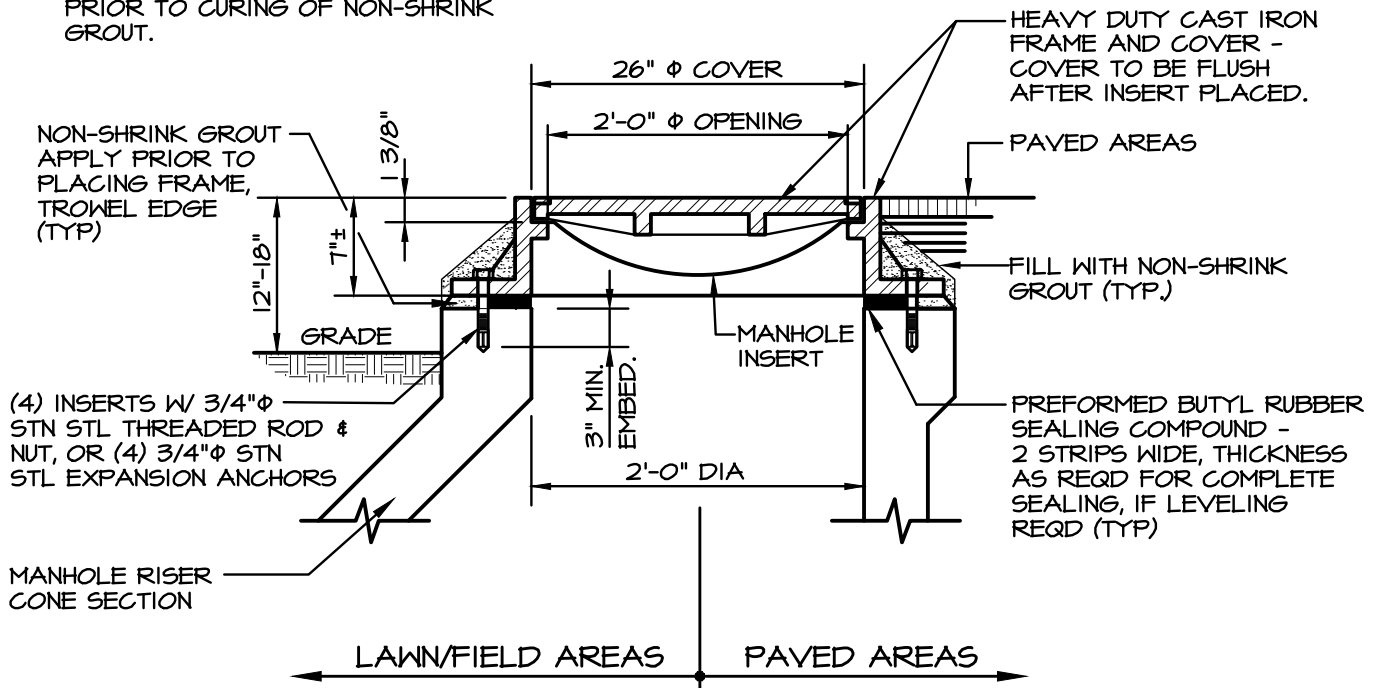
GUSSETS (MIN 6 REQD)

NOTES:

1.) ANCHOR BOLT HOLES SHALL BE
DRILLED WITH A PERCUSSION OR
ROTARY HAMMER DRILL UTILIZING
A CARBIDE DRILL BIT. CORE
DRILLING, OR ROTATIONAL ONLY
DRILLING, OF ANY KIND, IS NOT
ALLOWED.

COVER PATTERN

2.) FRAME ANCHORS SHALL BE TIGHTENED
PRIOR TO CURING OF NON-SHRINK
GROUT.



STANDARD MANHOLE FRAME & COVER WITHOUT GRADE RINGS

NO SCALE



STANDARD MANHOLE FRAME & COVER WITHOUT GRADE RINGS STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE: NO SCALE
DRAWN BY: TMO
DATE: AUGUST 2023

DRAWING:
S-3

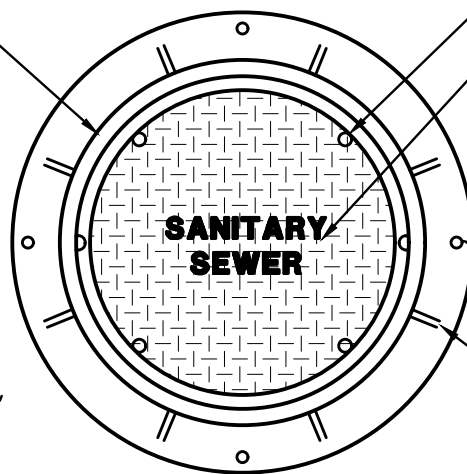
HEAVY DUTY CAST IRON
FRAME AND COVER SUIT-
ABLE FOR H525 LOADING

1/2" SS CAP SCREWS
W/WASHERS (4 REQD)

2" RAISED LETTER
(TYP)

NOTES:

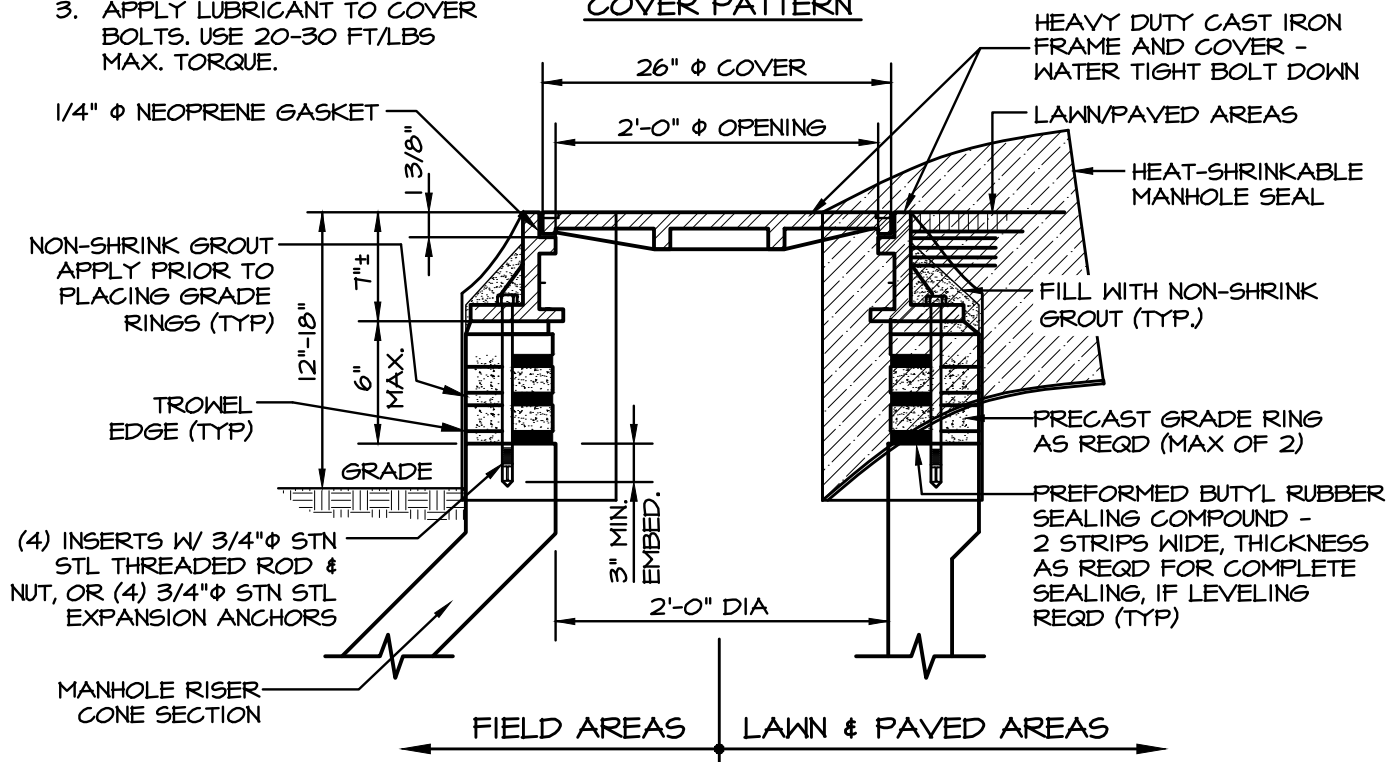
1. ANCHOR BOLT HOLES SHALL BE DRILLED WITH A PERCUSSION OR ROTARY HAMMER DRILL UTILIZING A CARBIDE DRILL BIT. CORE DRILLING, OR ROTATIONAL ONLY DRILLING, OF ANY KIND, IS NOT ALLOWED.
2. FRAME ANCHORS SHALL BE TIGHTENED PRIOR TO CURING OF NON-SHRINK GROUT.
3. APPLY LUBRICANT TO COVER BOLTS. USE 20-30 FT/LBS MAX. TORQUE.



(4) 7/8" ϕ BOLT HOLES

GUSSETS (MIN 6 REQD)

COVER PATTERN



NOTE:

PROVIDE WATERTIGHT MANHOLE FRAME & COVER IN SWALES, GUTTERS, FLOOD PRONE AREAS & ALL AREAS OUTSIDE OF ROADWAYS.

WATERTIGHT MANHOLE FRAME & COVER WITH GRADE RINGS

NO SCALE



WATERTIGHT MANHOLE FRAME & COVER WITH GRADE RINGS STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:

S-4

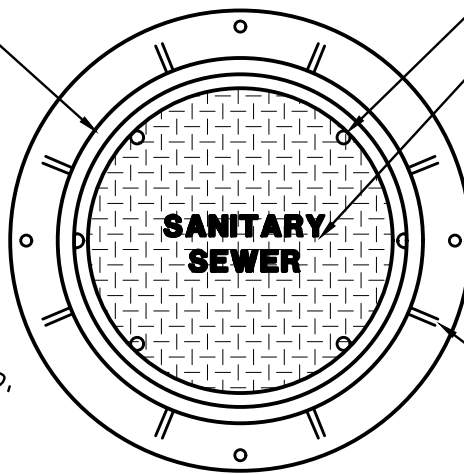
HEAVY DUTY CAST IRON
FRAME AND COVER SUIT-
ABLE FOR HS25 LOADING

1/2" SS CAP SCREWS
W/WASHERS (4 REQD)

2" RAISED LETTER
(TYP)

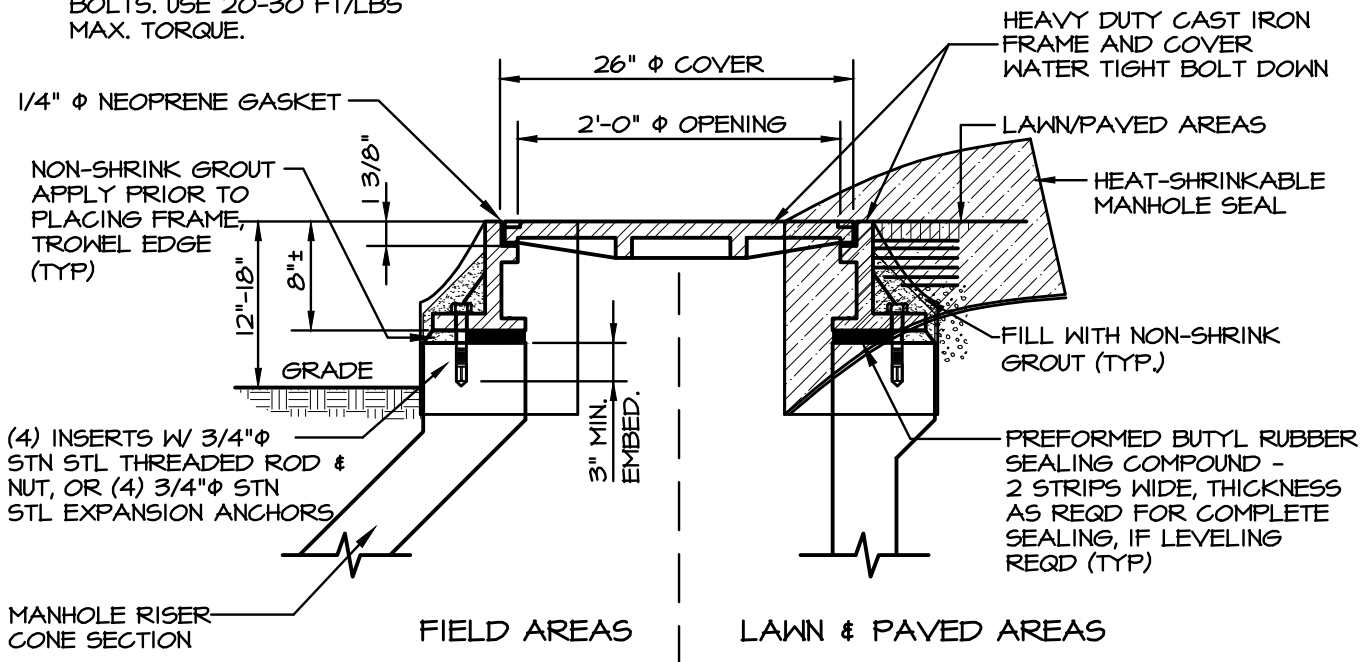
NOTES:

1. ANCHOR BOLT HOLES SHALL BE DRILLED WITH A PERCUSSION OR ROTARY HAMMER DRILL UTILIZING A CARBIDE DRILL BIT. CORE DRILLING, OR ROTATIONAL ONLY DRILLING, OF ANY KIND, IS NOT ALLOWED.
2. FRAME ANCHORS SHALL BE TIGHTENED PRIOR TO CURING OF NON-SHRINK GROUT.
3. APPLY LUBRICANT TO COVER BOLTS. USE 20-30 FT/LBS MAX. TORQUE.



GUSSETS (MIN 6 REQD)

COVER PATTERN



NOTE: PROVIDE WATERTIGHT MANHOLE FRAME & COVER IN SWALES, GUTTERS, FLOOD PRONE AREAS & ALL AREAS OUTSIDE OF ROADWAYS.

WATERTIGHT MANHOLE FRAME & COVER WITHOUT GRADE RINGS

NO SCALE



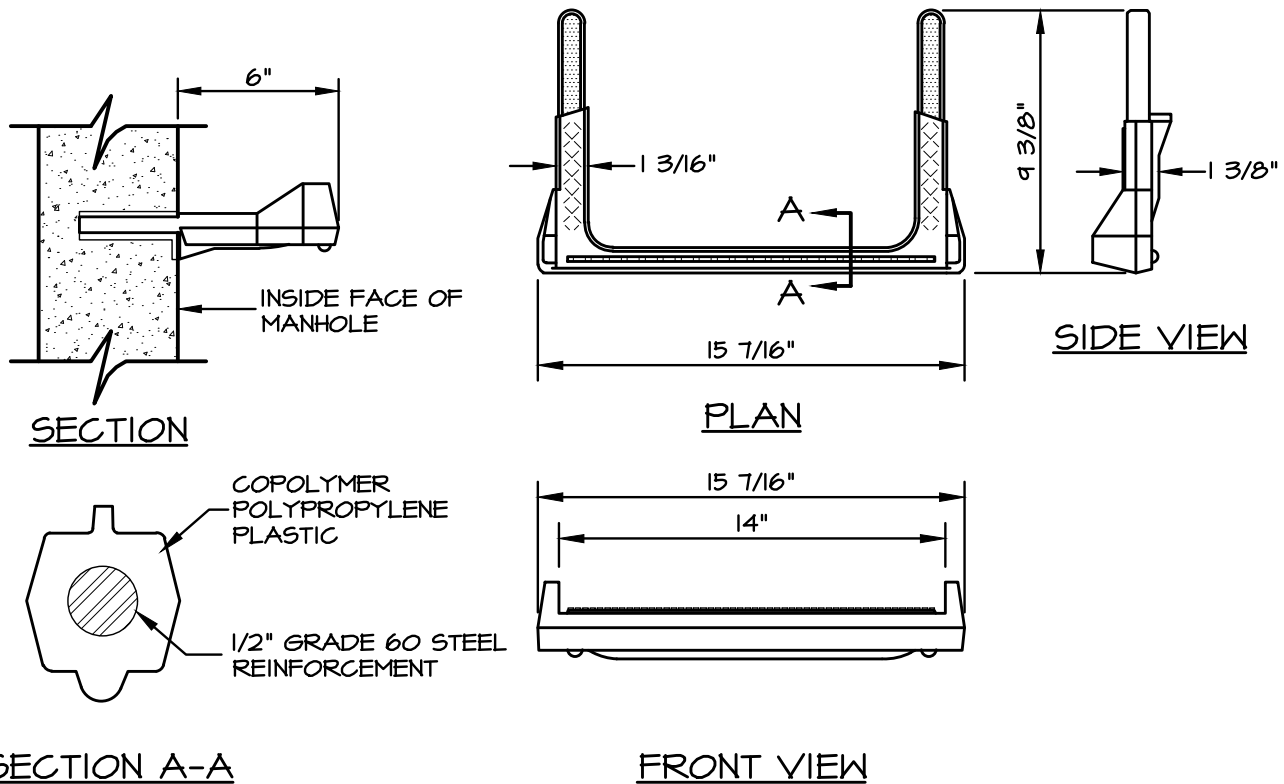
WATERTIGHT MANHOLE FRAME & COVER WITHOUT GRADE RINGS STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:

S-5



NOTES:

1. ATTACH INSERTS USING MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS.
2. DRIVE STEP INTO INSERTS UNTIL BOTH LEGS ARE COMPLETELY SEATED.
3. STEP SHALL MEET OR EXCEED ASTM C-478 AND OSHA STANDARDS WHEN PROPERLY INSTALLED.

MANHOLE STEP DETAIL

NO SCALE



743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

MANHOLE STEP DETAIL STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-6

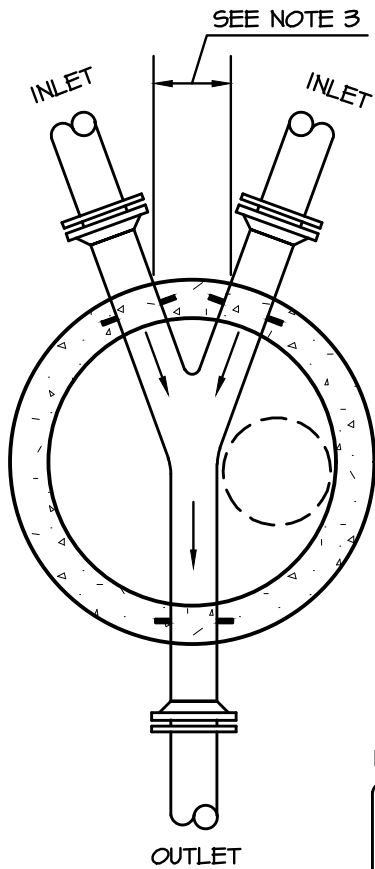
1. ADJUST TO GRADE WITH CONCRETE GRADE RINGS (MAX. VERT. ADJUST. 6")
SEE FRAME & COVER DETAILS.
2. MECHANICALLY VIBRATED PRECAST CONC SHALL CONFORM TO A.S.T.M. SPEC.
C-478.
3. IF INCOMING INVERT EXCEEDS OUTGOING INVERT BY GREATER THAN OR EQUAL
TO 6", SEE INSIDE SPLASH/ INSIDE DROP MANHOLE DETAILS.
4. FOR MANHOLES WHERE TOP OF RIM TO INVERT DISTANCE IS LESS THAN 5'-0",
USE FLAT TOP MANHOLE IN LIEU OF CONE TOP.
5. FILL ALL LIFTING HOLES WITH NON-SHRINK GROUT.
6. MANHOLE DIAMETER IS TO BE EVALUATED ON A CASE-BY CASE BASIS.
CONTRACTOR SHOULD ASSUME 4' DIAMETER FOR ANY STANDARD MANHOLE
(NOT SPECIAL, SPLASH GREATER THAN 1' DROP, OR INSIDE DROP) UNLESS
OTHERWISE SPECIFIED.
7. REFER TO SPECIFICATIONS FOR MINIMUM FLOOR SLAB AND WALL THICKNESS.



743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

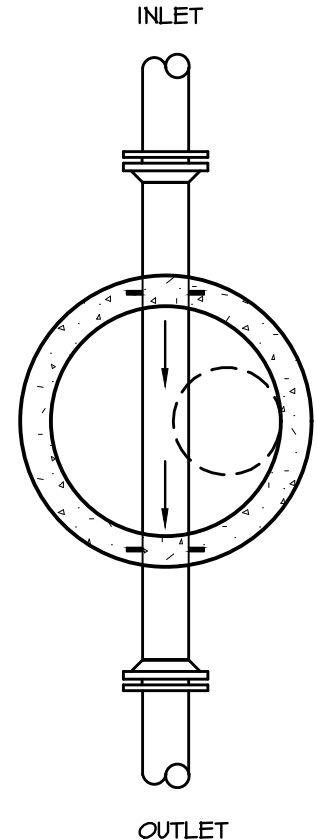
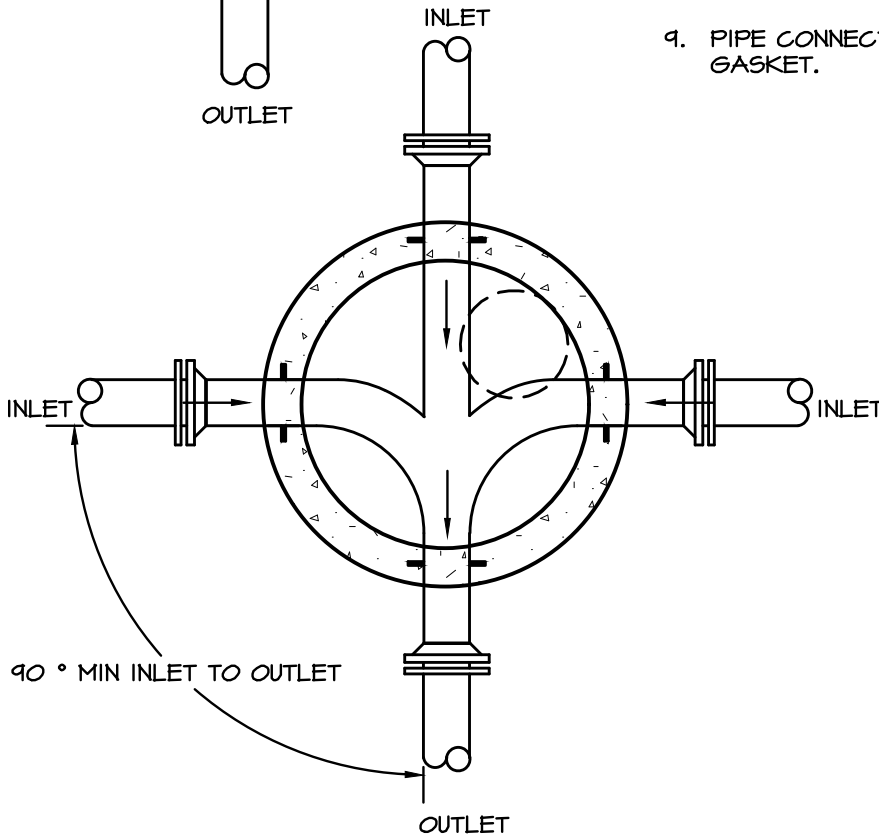
DRAWING:
S-7

DRAWING: C:\Users\lmoberholzer\OneDrive\ELA Group\452-083 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:33 pm



NOTES:

1. THREE INLET PIPES AND ONE OUTLET PIPE MAX INTO MANHOLE.
2. MINIMUM 12" SEPARATION FROM EDGE OF PIPE PENETRATION TO EDGE OF PIPE PENETRATION.
3. MINIMUM CHANNEL DROP THROUGH MANHOLE:
STRAIGHT THROUGH 0.1 FEET
BEND 0.2 FEET
4. ALL CHANNELS SHALL BE PRECAST, UNLESS OTHERWISE SPECIFICALLY NOTED OR APPROVED.
5. THESE DETAILS APPLY TO PRECAST AND FIELD-FORMED CHANNELS IN NEW AND EXISTING MANHOLES.
6. CHANNEL BENCH AT PIPE SHALL MATCH CROWN ELEVATION OF PIPE AND RISE 1/2" PER FOOT TO THE MANHOLE WALLS.
7. CHANNELS SHALL MATCH THE CROSS-SECTIONAL DIMENSIONS OF THE PIPES ENTERING AND EXITING THE MANHOLE. SMOOTH TRANSITIONS SHALL BE PROVIDED BETWEEN CHANGES IN PIPE SIZE.
8. THE DEPTH OF THE INVERT CHANNEL SHALL BE NOT LESS THAN 3/4 OF THE DIAMETER OF THE PIPE.
9. PIPE CONNECTION SHALL BE MADE WITH CAST-IN-PLACE GASKET.



PRECAST CHANNEL

NO SCALE

PRECAST CHANNEL

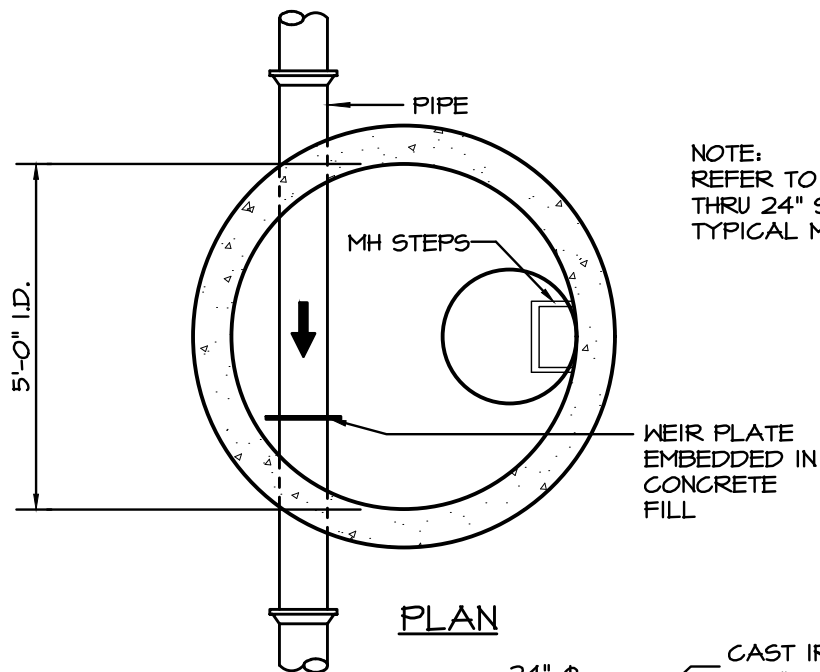
STRASBURG BOROUGH AUTHORITY STANDARD DETAIL



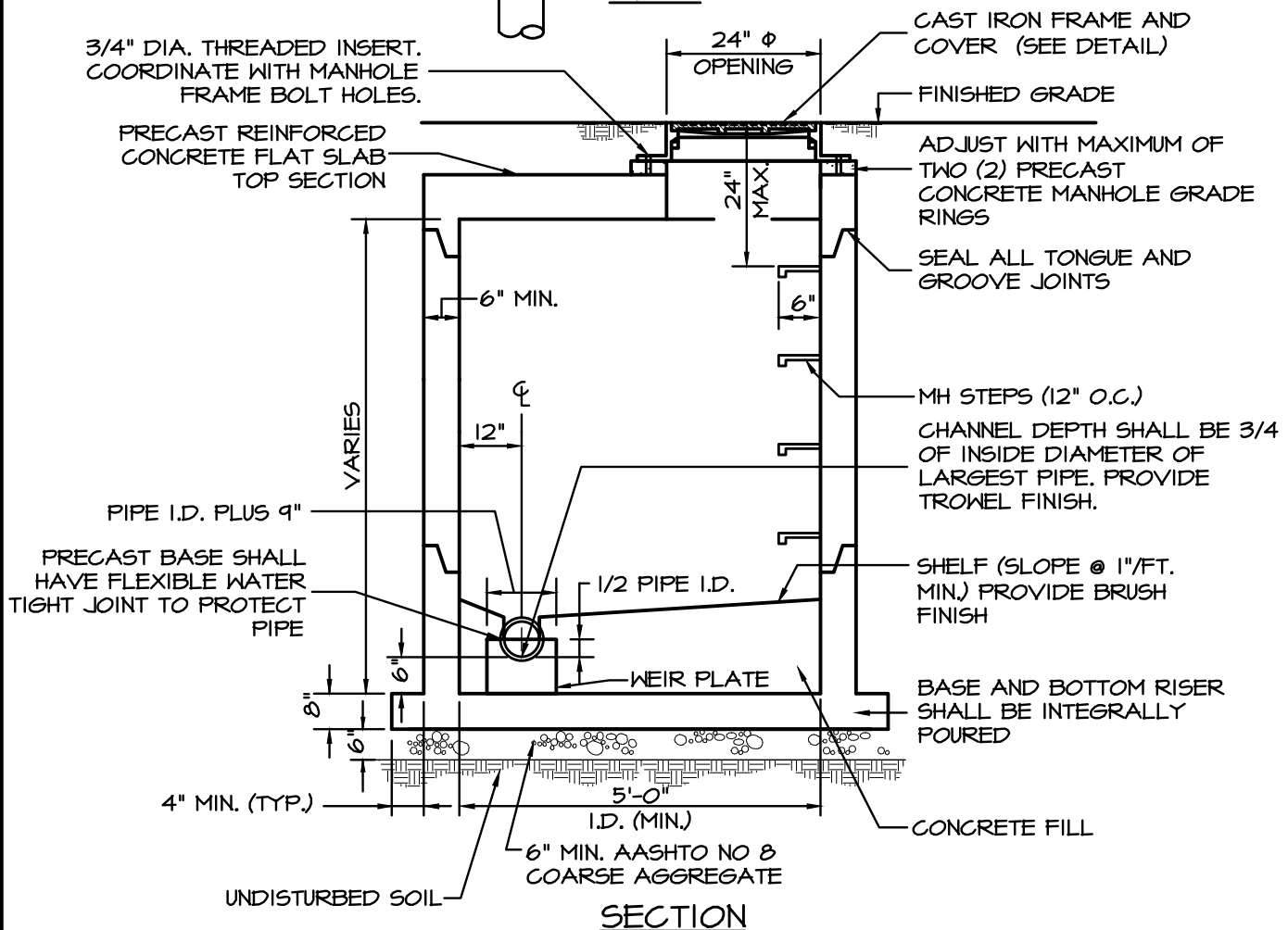
743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-8



NOTE:
REFER TO S1 PRECAST MANHOLE 8"
THRU 24" SEWER DETAIL FOR
TYPICAL MANHOLE DETAILS.



SAMPLING MANHOLE

NO SCALE

SAMPLING MANHOLE

STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

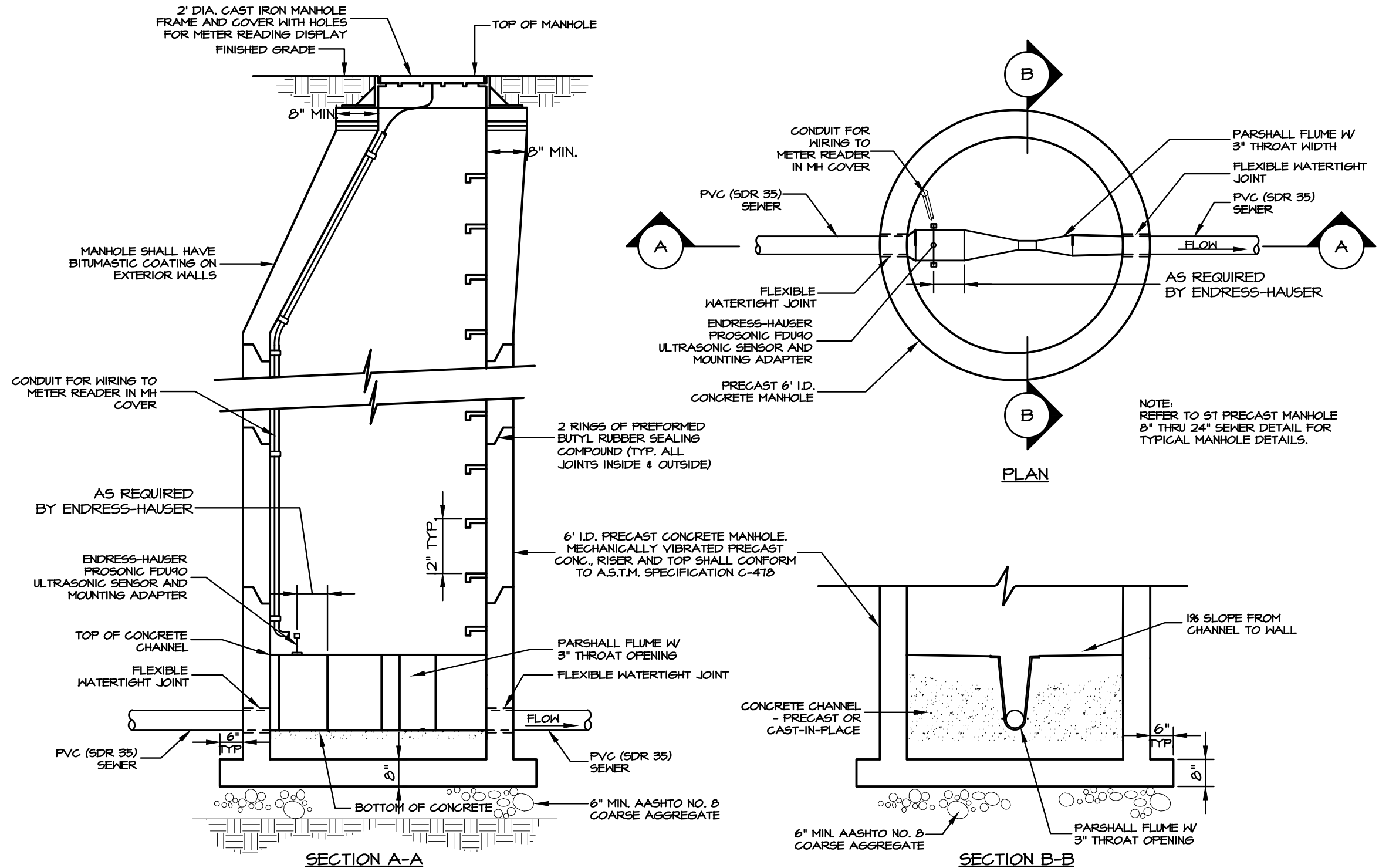
743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-9



DRAWING: C:\Users\lindbergholzer\ACCDocs\ELA_Group\452-033 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:33 pm



METERING MANHOLE - ROUND

NO SCALE

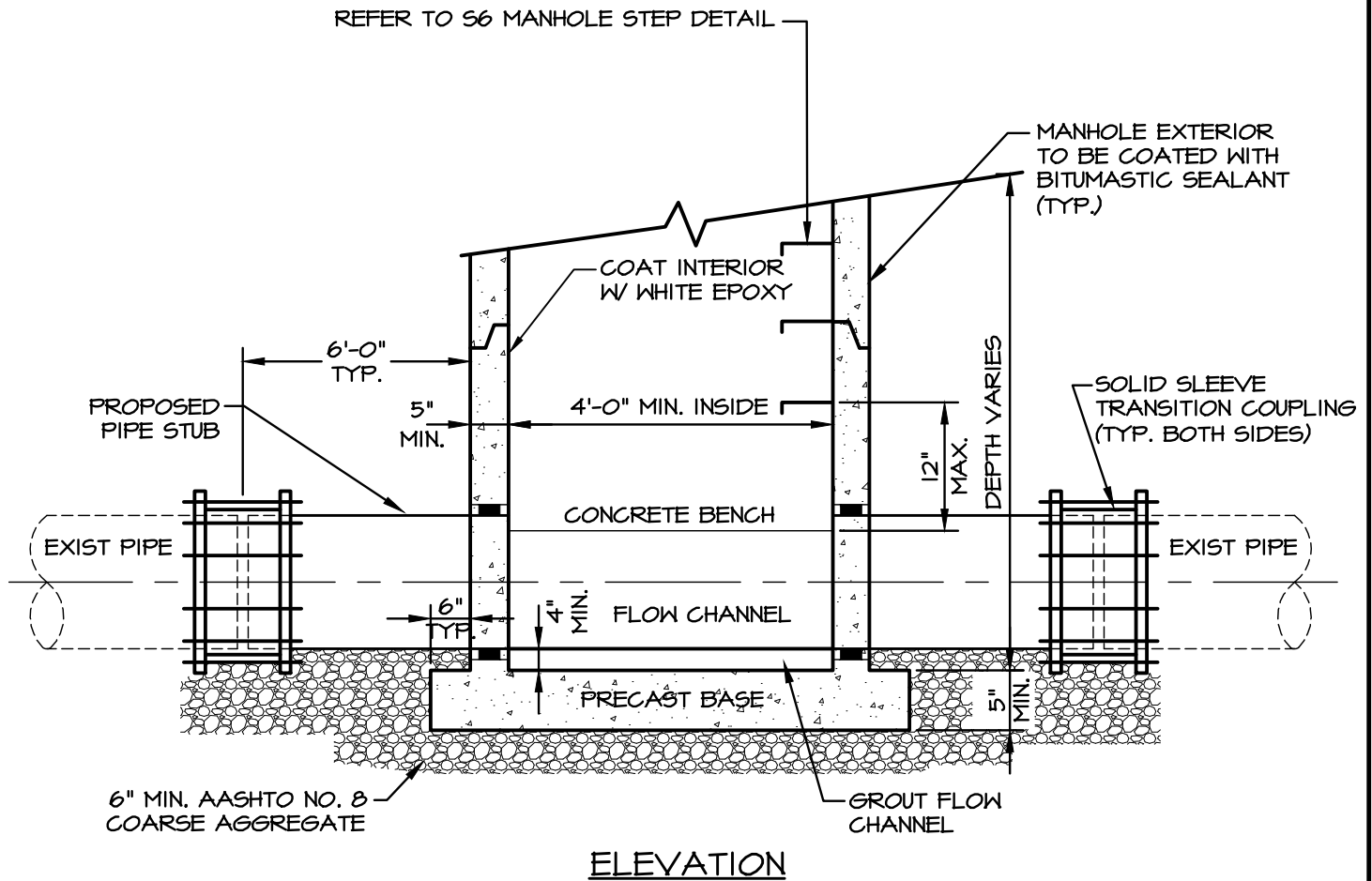
METERING MANHOLE - ROUND STRASBURG BOROUGH AUTHORITY STANDARD DETAIL



743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE	DRAWING: S-10
DRAWN BY:	TMO	
DATE:	AUGUST 2023	

DRAWING: C:\Users\lmoberholzer\OneDrive\Documents\ELA Group\452-083 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:33 pm



NOTES:

1. THE BENCH SHALL SLOPE TO INVERT CHANNEL AT THE RATE OF 1" PER FOOT (MIN.)
2. THE DEPTH OF THE INVERT CHANNEL SHALL BE NOT LESS THEN $\frac{3}{4}$ OF THE DIAMETER OF THE PIPE.
3. THE 48"Ø MANHOLE SHALL BE USED ON PIPE SIZES 8" TO 18"
4. FINISH GRADE SHALL BE FLUSH WITH TOP OF COVER, UNLESS OTHERWISE NOTED. MANHOLES INSTALLED OUTSIDE OF PAVED AREAS SHOULD BE RAISED BETWEEN 12"-18" ABOVE GROUND ELEVATION.
5. ALL PIPE TO MANHOLE CONNECTIONS SHALL BE MADE WITH A CAST-IN-PLACE GASKET. (TYP.)
6. REFER TO APPROPRIATE MANHOLE DETAILS FOR UPPER SECTION REQUIREMENTS.
7. SOLID SLEEVE TRANSITION COUPLINGS SHALL INCLUDE A DUCTILE IRON MECHANICAL JOINT SOLID SLEEVE WITH MEGA-LUG GLANDS AND TRANSITION GASKETS (IF REQUIRED).

INSERTION MANHOLE DETAIL

NO SCALE

INSERTION MANHOLE DETAIL

STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

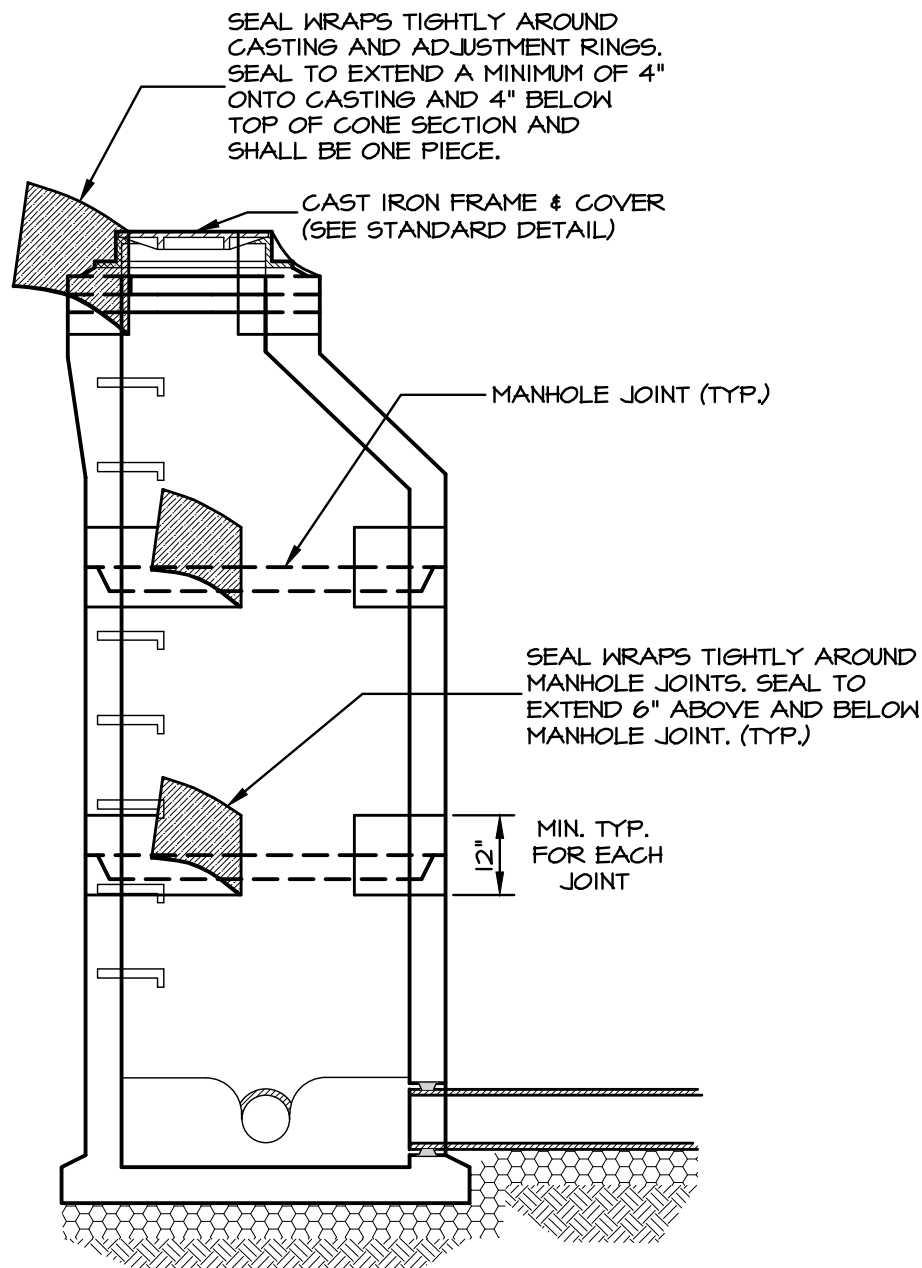


743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-12

DRAWING: C:\Users\lmoberholzer\OneDrive\ELA Group\452-083 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:33 pm



NOTES:

1. MANHOLE SEAL SHALL BE "WRAPIDSEAL"™ MANUFACTURED BY CANUSA-CPS (SHAWCOR CO.) OR APPROVED EQUAL.
2. MANHOLE JOINT SEAL SHALL BE INSTALLED AS SHOWN ON THIS DETAIL.

HEAT SHRINKABLE MANHOLE SEAL DETAIL

NO SCALE

HEAT SHRINKABLE MANHOLE SEAL DETAIL STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

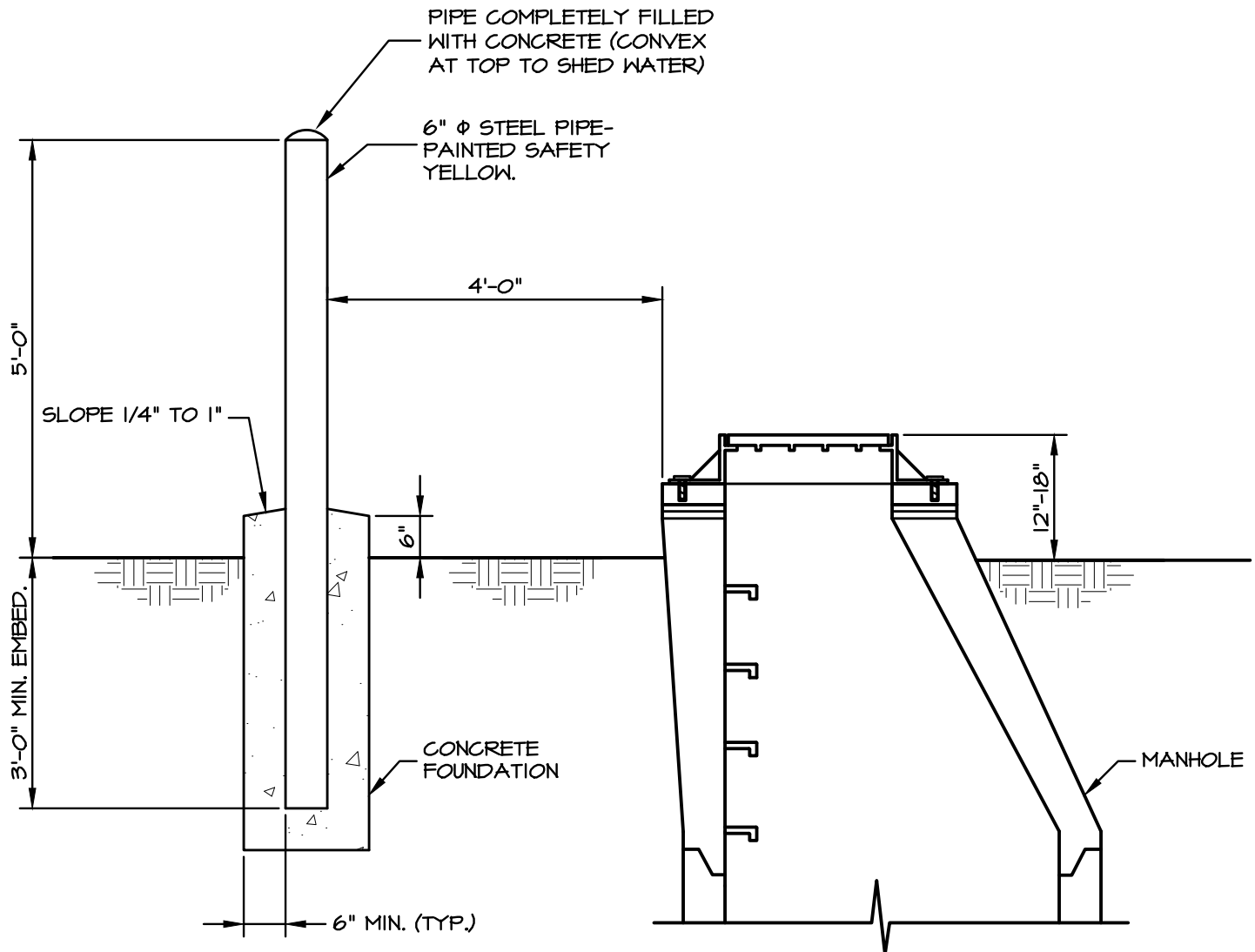
SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:

S-13

ELA
group, inc.
ENGINEERS • LANDSCAPE ARCHITECTS

DRAWING: C:\Users\lmoberholzer\OneDrive\ELA_Group\452-083 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility DETAILS.dwg - PLOTTED: Sep 12, 2023 4:33 pm



NOTES:

1. INSTALL IN FIELD AREAS OR ADJACENT TO PARKING AREAS.
2. INSTALL A TOTAL OF 4 POSTS AT EACH MANHOLE SPACED IN AN EQUIDISTANT SQUARE AROUND THE MANHOLE WITH THE SQUARE RING PARALLEL WITH CROP CONTOURS, ROADWAYS, CURBLINES, OR ANY NEARBY PAVEMENT.

MANHOLE PROTECTION POST-FIELD AREAS

NO SCALE



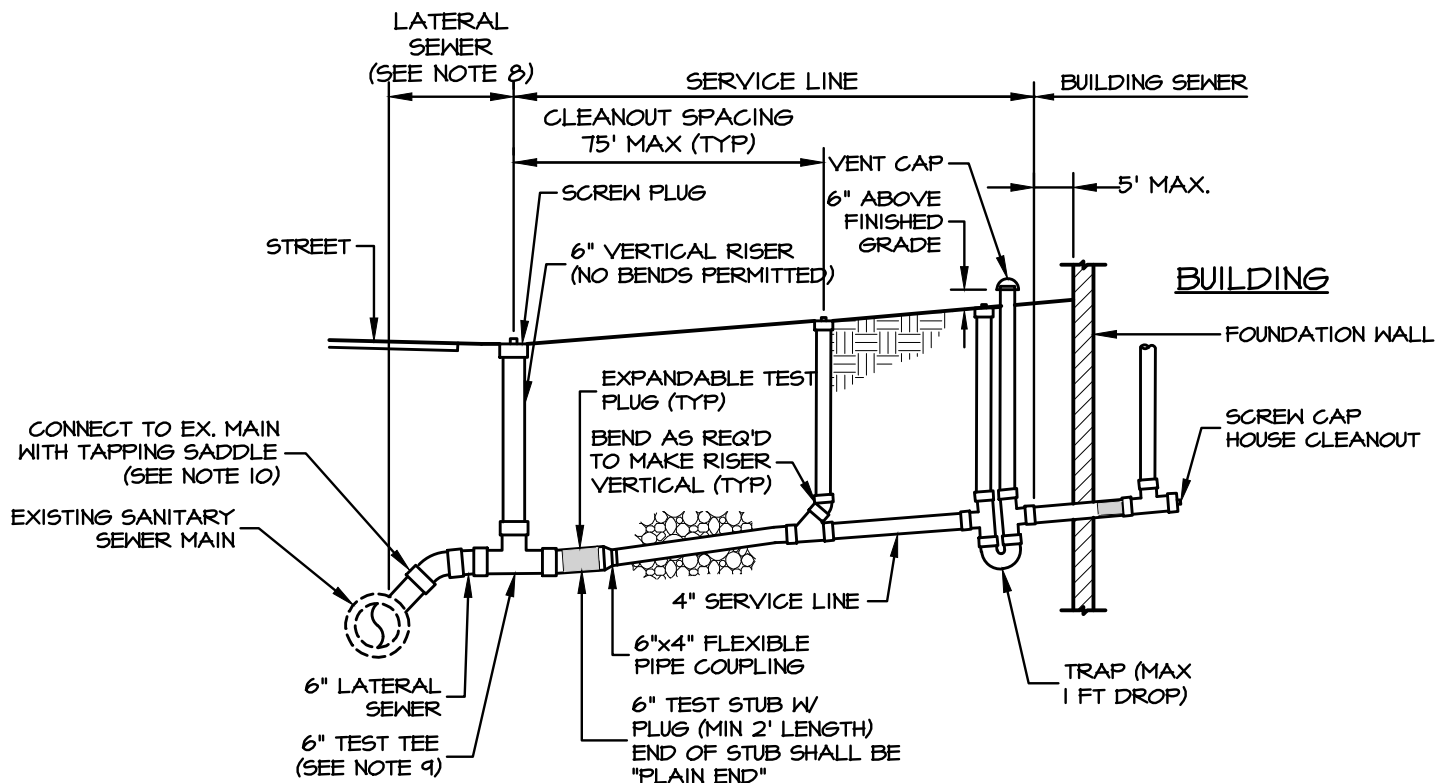
MANHOLE PROTECTION POST-FIELD AREAS STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-14

DRAWING: C:\Users\lmoberholzer\Documents\ELA Group\452-083 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:33 pm



NOTES:

1. PROVIDE 6" OF AASHTO NO. 8 (1B) STONE BELOW PIPE AND 12" ABOVE PIPE (TYPICAL ENTIRE LENGTH OF LATERAL).
2. MINIMUM SLOPE: 6" MIN. SLOPE = 1% (1/8" PER FT.), 4" MIN. SLOPE = 2% (1/4" PER FT.)
3. MINIMUM DEPTH OF COVER: 4 FT (UNLESS SPECIFICALLY APPROVED BY AUTHORITY)
4. PIPE MATERIALS: LATERAL SEWER AND SERVICE LINES SHALL CONSIST OF PVC SDR-35 PIPING (UNLESS SPECIFICALLY APPROVED BY AUTHORITY).
5. TO CONDUCT AIR TESTING OF SERVICE LINE, INSTALL EXPANDABLE PLUGS AT LOCATIONS SHOWN. AT COMPLETION OF AIR TESTING, REMOVE PLUGS, & INSTALL RISER ON 6" LATERAL SEWER 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 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 POINT, AS REQUIRED, TO CLEAR STREET SIDEWALKS AND UNDERGROUND UTILITIES.
9. SET 6" TEST TEE AT 1% SLOPE TO PERMIT VERTICAL RISER INSTALLATION W/ NO BENDS.
10. REFER TO S16 SADDLE CONNECTION DETAIL OR S17 TAPPING LINED RIGID PIPE DETAIL.

TYP. LATERAL SEWER & SERVICE LINE INSTALLATION

NO SCALE



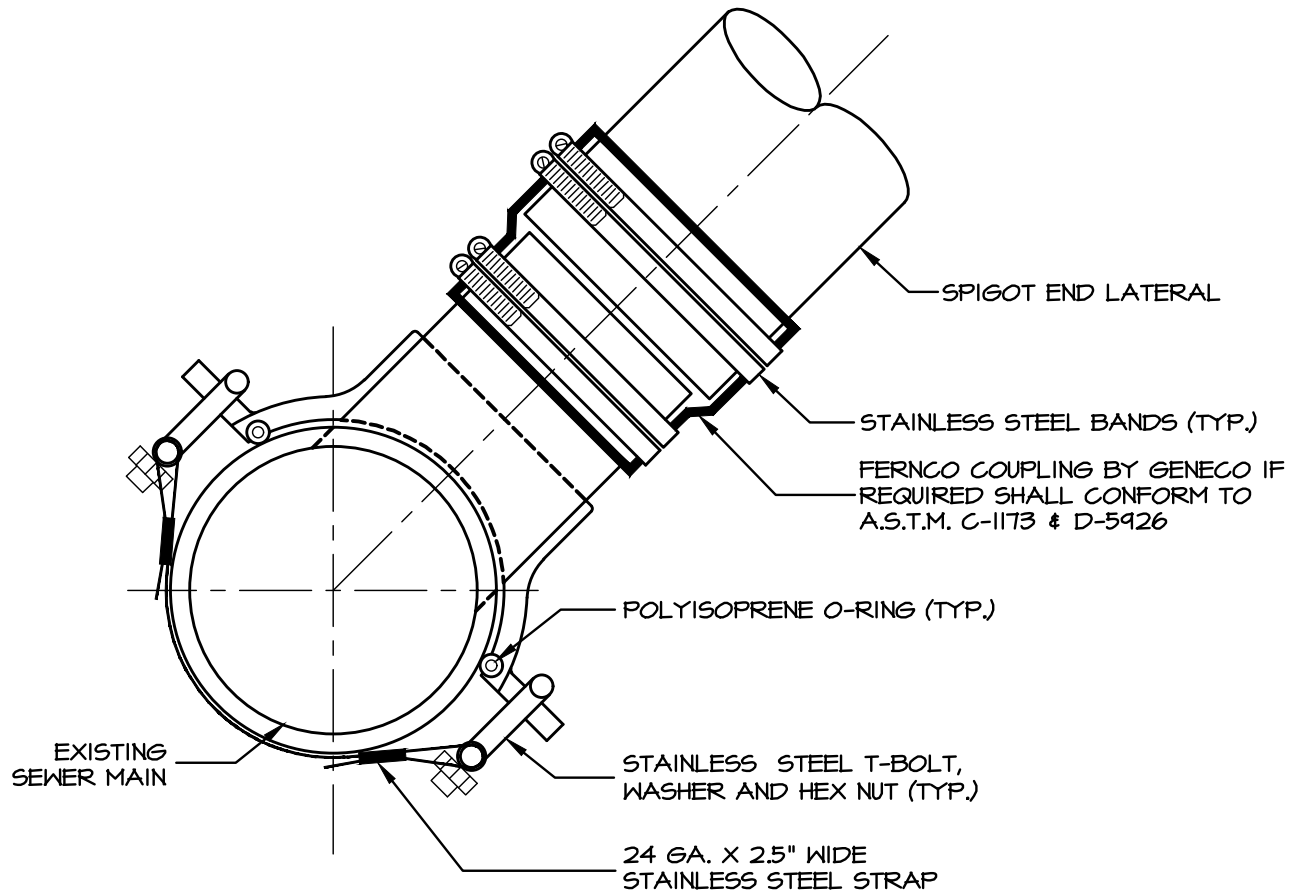
TYP. LATERAL SEWER & SERVICE LINE INSTALLATION STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-15

DRAWING: C:\Users\lmoberholzer\OneDrive\ELA Group\452-083 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:33 pm



NOTES:

1. PIPE SADDLES SHALL BE "GENECO" SEALTITE SADDLE AS MANUFACTURED BY THE GENERAL ENGINEERING COMPANY OR APPROVED EQUAL.
2. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. THE CONTRACTOR SHALL MAKE THE TAP INTO THE EXISTING PIPE USING SUITABLE HOLE CUTTING EQUIPMENT AND WITHOUT DAMAGING THE EXISTING PIPE.

SADDLE CONNECTION DETAIL

NO SCALE



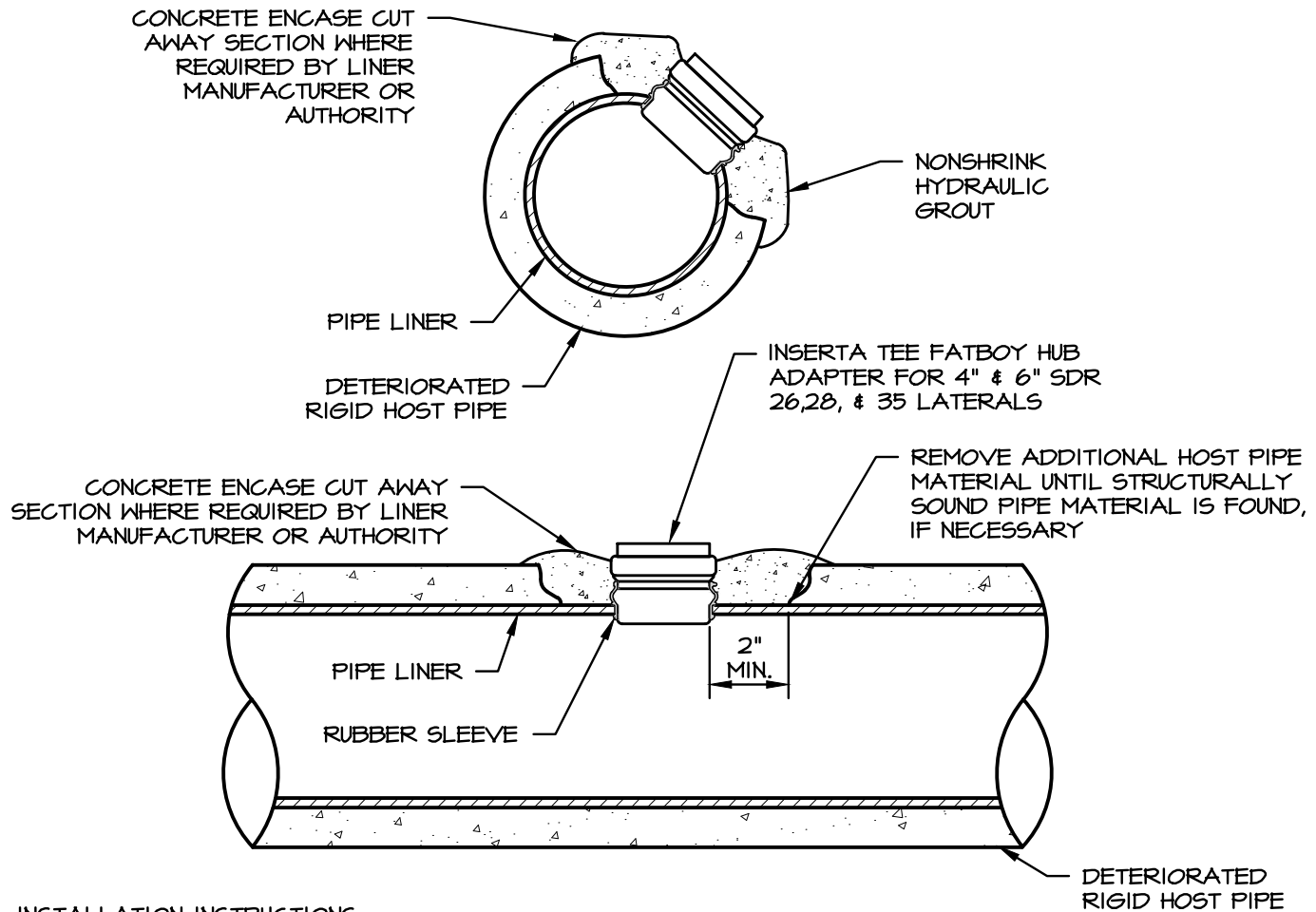
743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SADDLE CONNECTION DETAIL STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-16

DRAWING: C:\Users\lmoberholtzer\OneDrive\Documents\Projects\Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:33 pm



INSTALLATION INSTRUCTIONS:

1. MARK AREA TO BE TAPPED ON SURFACE OF RIGID PIPE. WORKING AREA SHOULD BE 2 INCHES WIDER THAN DIAMETER OF INSERTA TEE.
2. BREAK AWAY RIGID PIPE SECTION TO BE TAPPED AND EXPOSE NEW LINER SECTION.
3. BRUSH AND CLEAN PIPE LINER SURFACE AND REMOVE DAMAGED SECTIONS OF RIGID PIPE.
4. CORE HOLE INTO LINER WITH APPROPRIATE INSERTA TEE HOLE SAW.
5. INSTALL INSERTA TEE FATBOY TAP CONNECTION PER PROVIDED INSTALLATION INSTRUCTIONS.
6. ENCASE CUT OUT SECTION OF RIGID PIPE WITH CONCRETE WHERE REQUIRED BY LINING MANUFACTURER.
7. AUTHORITY STAFF SHALL DETERMINE IF ADDITIONAL HOST PIPE MATERIAL MUST BE REMOVED AND IF FULL CONCRETE ENCASEMENT OF THE SEWER MAIN IS REQUIRED FOR SEVERELY DETERIORATED SECTIONS OF SEWER MAIN.
8. DAMAGE TO THE PIPE LINER THAT COULD IMPACT THE STRUCTURAL INTEGRITY OF THE LINER SHALL BE REMOVED, THE LIMITS DETERMINED BY THE AUTHORITY STAFF, AND BE REPLACED USING AUTHORITY APPROVED FLEXIBLE COUPLINGS CONNECTING DIRECTLY TO THE PIPE LINER AND FULLY CONCRETE ENCASED 6-INCH IN MINIMUM THICKNESS 2-FEET PAST EACH FLEXIBLE COUPLING.

TAPPING LINED RIGID PIPE DETAIL

NO SCALE

TAPPING LINED RIGID PIPE DETAIL STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

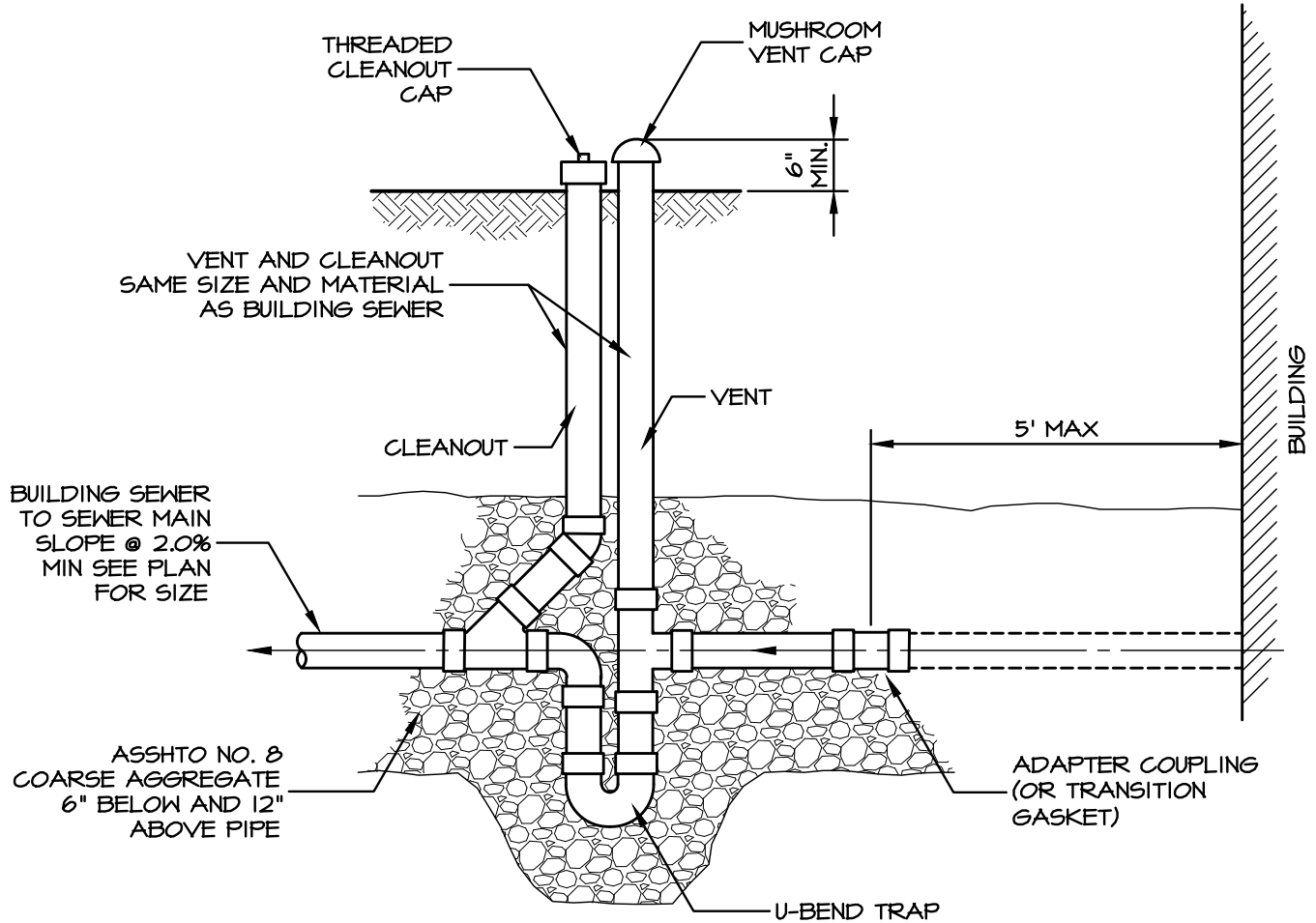


743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:

S-17



TRAP AND VENT DETAIL

NO SCALE



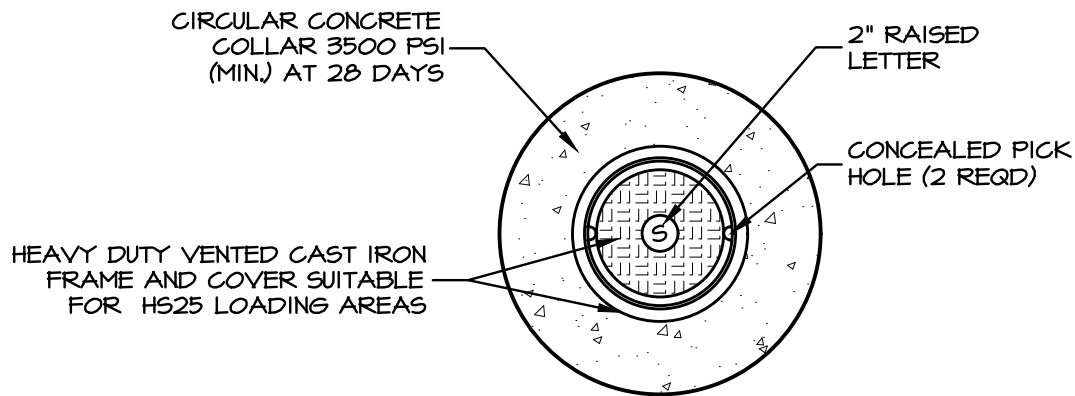
743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

TRAP AND VENT DETAIL STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

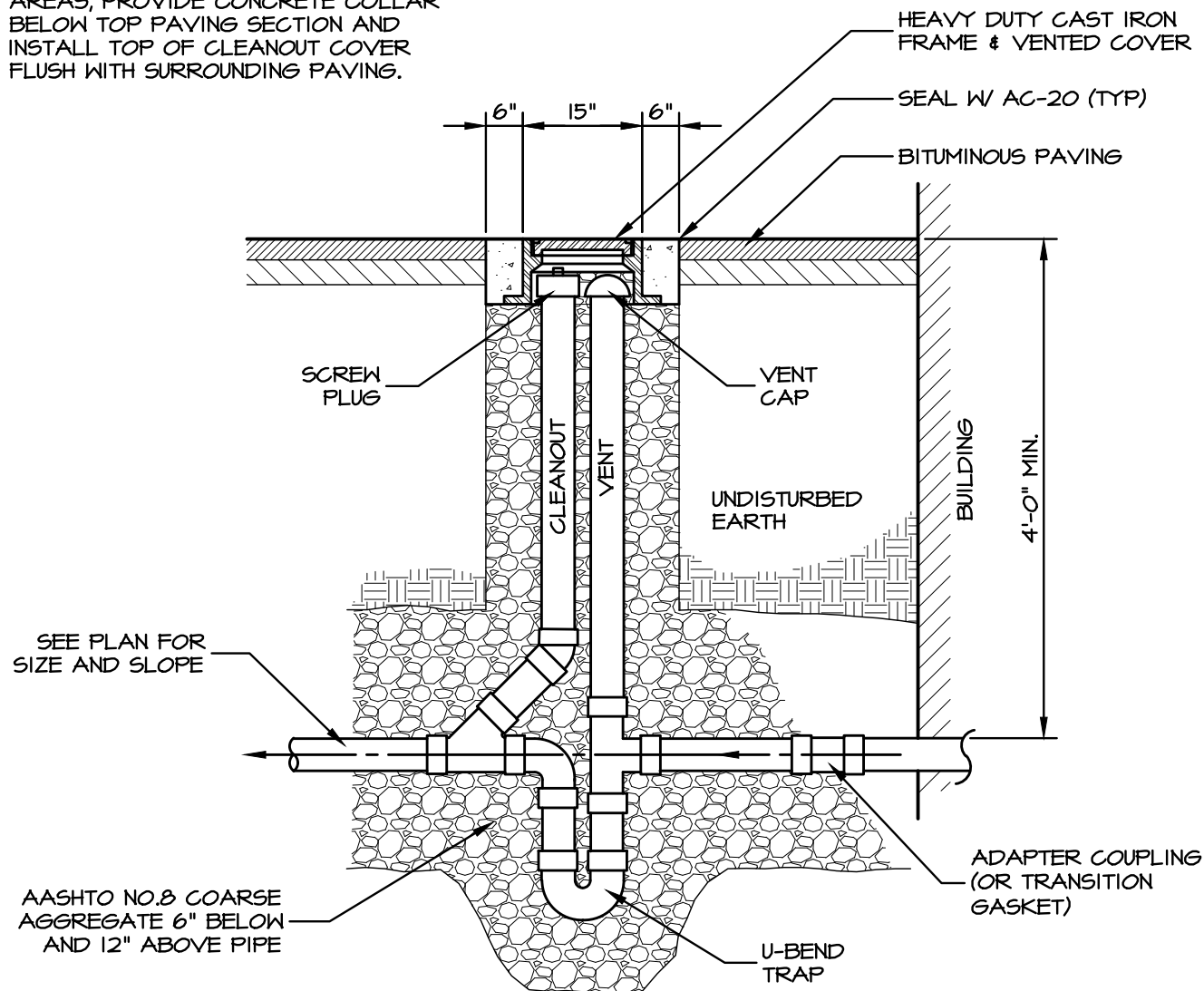
DRAWING:
S-18

DRAWING: C:\Users\lmoberholzer\OneDrive\ELA_Group\452-083 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:34 pm



NOTE:
BITUMINOUS OR CONCRETE PAVING (SEE PLAN) IN BITUMINOUS PAVING AREAS, PROVIDE CONCRETE COLLAR BELOW TOP PAVING SECTION AND INSTALL TOP OF CLEANOUT COVER FLUSH WITH SURROUNDING PAVING.

COVER PATTERN



TRAP & VENT IN PAVING DETAIL (BY SPECIAL EXCEPTION ONLY)

NO SCALE

VENT & TRAP IN PAVING DETAIL (BY SPECIAL EXCEPTION ONLY)

STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

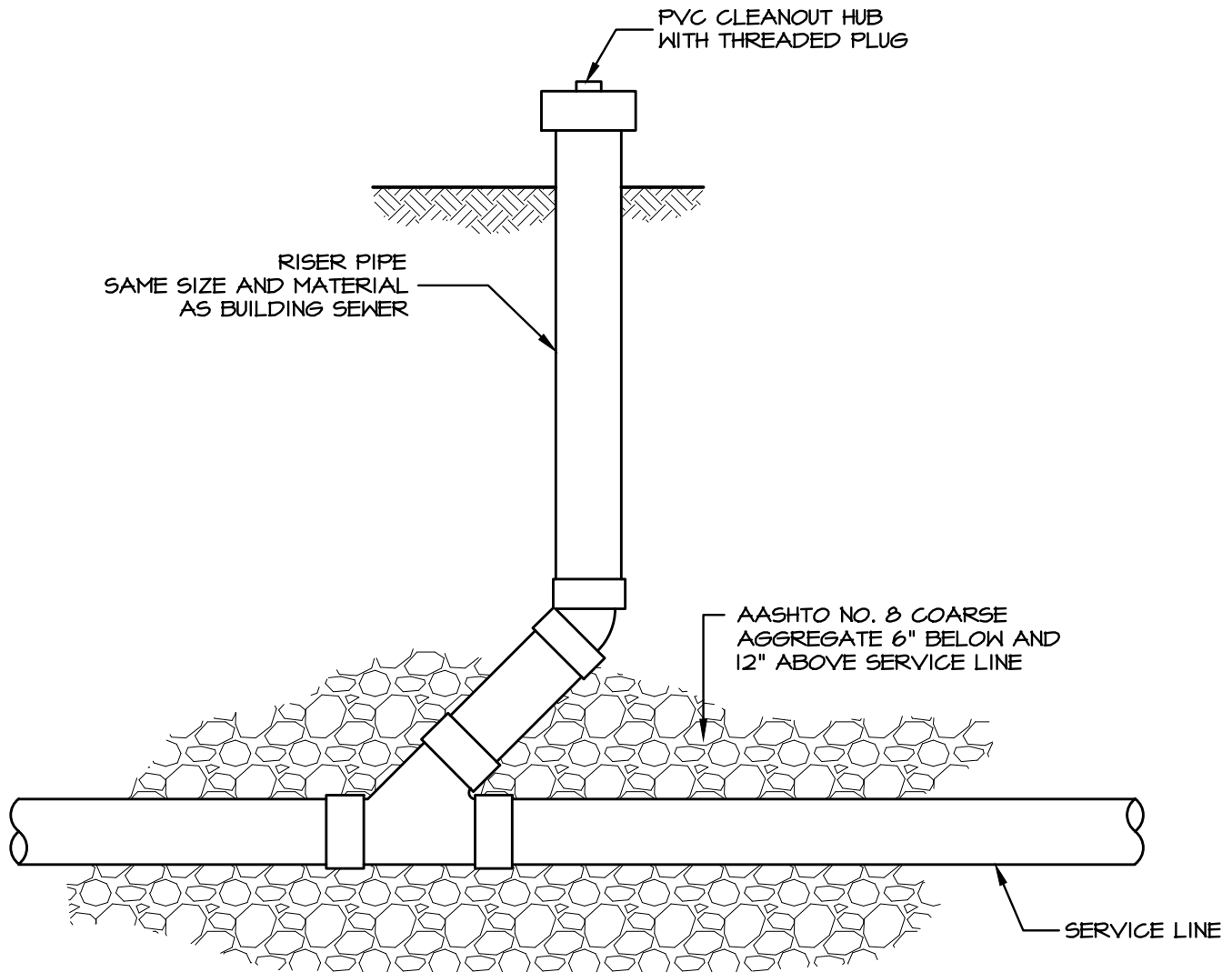


743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-19

DRAWING: C:\Users\lmoberholzer\OneDrive\Documents\ELA Group\452-083 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:34 pm



NOTES:

1. CLEANOUTS SHALL BE INSTALLED ON ALL GRAVITY SERVICE LINE AND LATERAL BENDS AND SHALL BE A MAXIMUM OF 75' APART ON STRAIGHT RUNS.
2. TOPS OF CLEANOUTS SHALL BE SET 3"-6" ABOVE GRADE UNLESS OTHERWISE DIRECTED BY THE AUTHORITY.

NEW CLEANOUT IN LAWN AREAS

NO SCALE

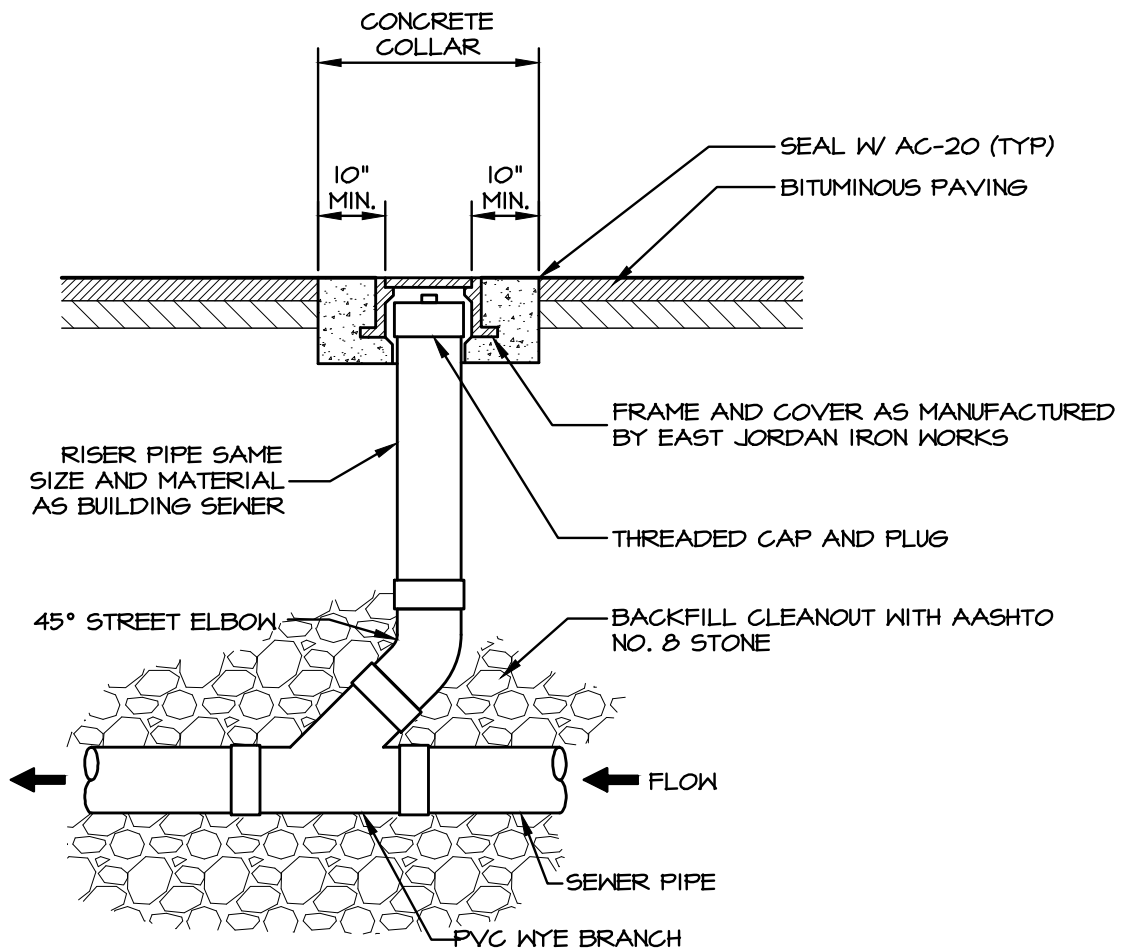


743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

NEW CLEANOUT IN LAWN AREAS STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-20



GRAVITY SEWER CLEANOUT IN PAVED AREAS (BY SPECIAL EXCEPTION ONLY)

NO SCALE

GRAVITY SEWER CLEANOUT IN PAVED AREAS (BY SPECIAL EXCEPTION ONLY) STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

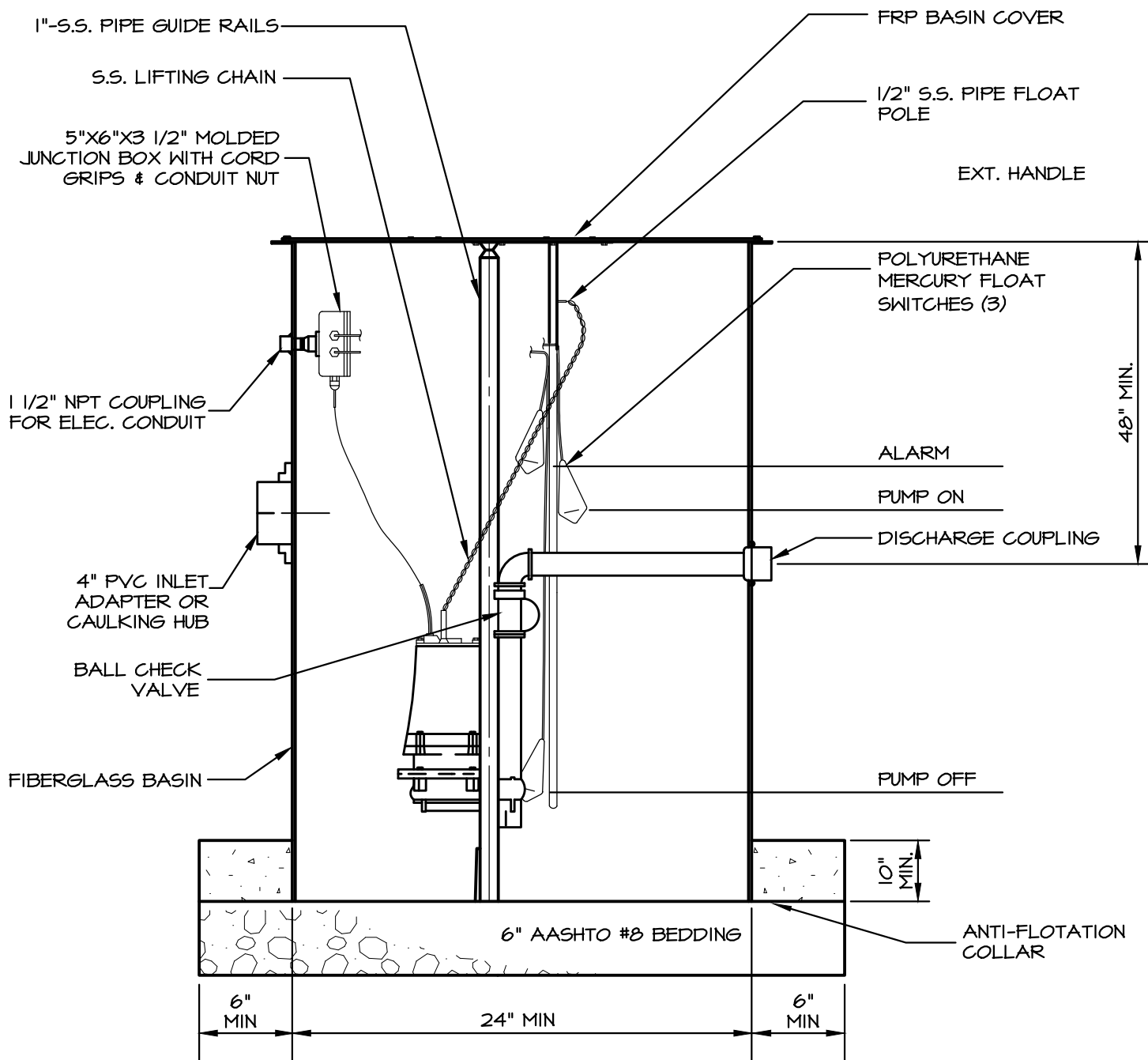


743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-21

DRAWING: C:\Users\studeverm\Documents\ELA_Group\152-033 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Dec 11, 2023 3:01 pm



TYPICAL RESIDENTIAL GRINDER PUMP STATION-FIBERGLASS

NO SCALE



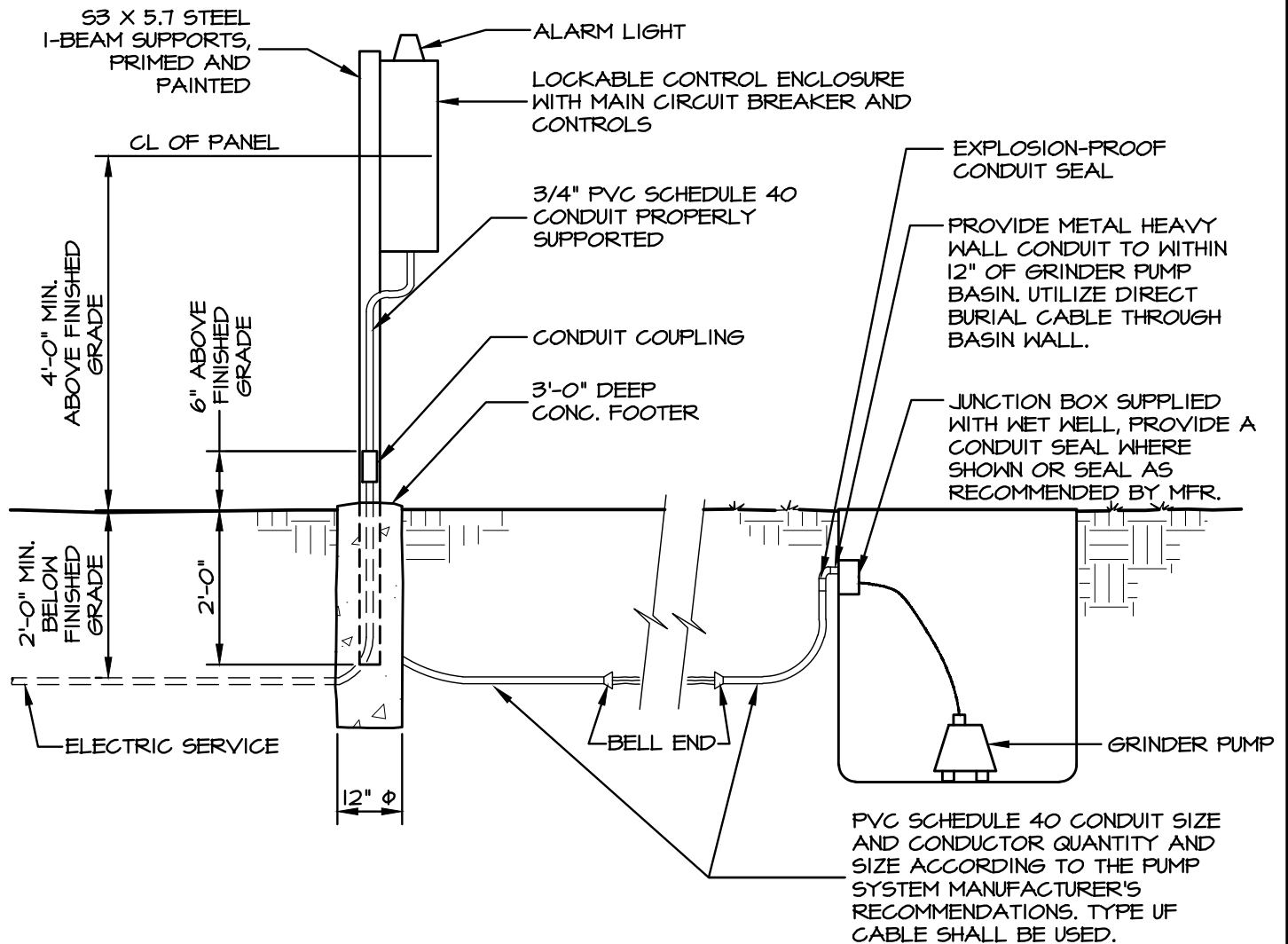
TYPICAL RESIDENTIAL GRINDER PUMP STATION-FIBERGLASS STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-22

DRAWING: C:\Users\lmoberholzer\OneDrive\Documents\ELAGroup\452-083 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:34 pm



GRINDER PUMP ELECTRICAL DETAIL

NO SCALE

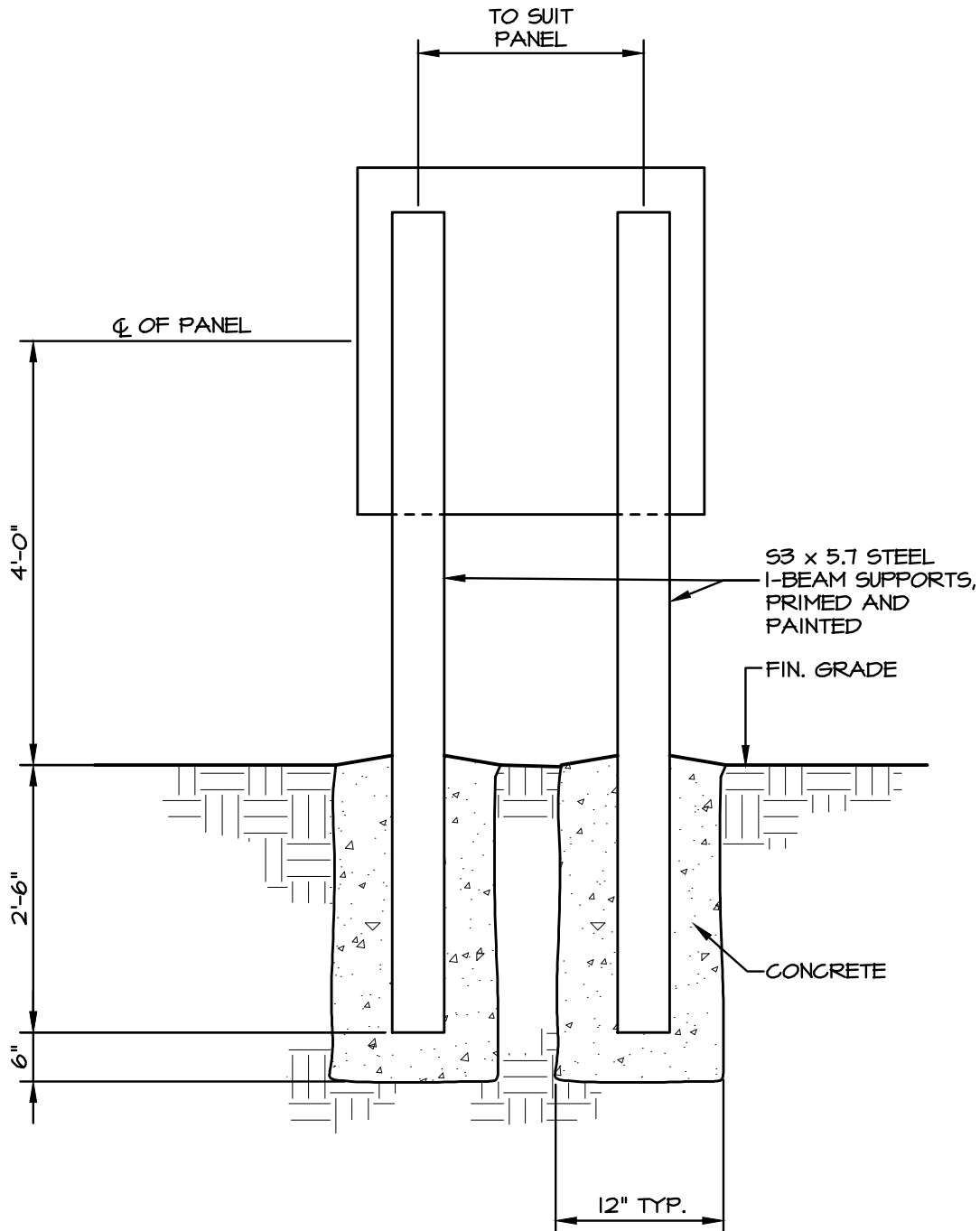


743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

GRINDER PUMP ELECTRICAL DETAIL STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-23



PUMP STATION CONTROL PANEL SUPPORT POST

NO SCALE



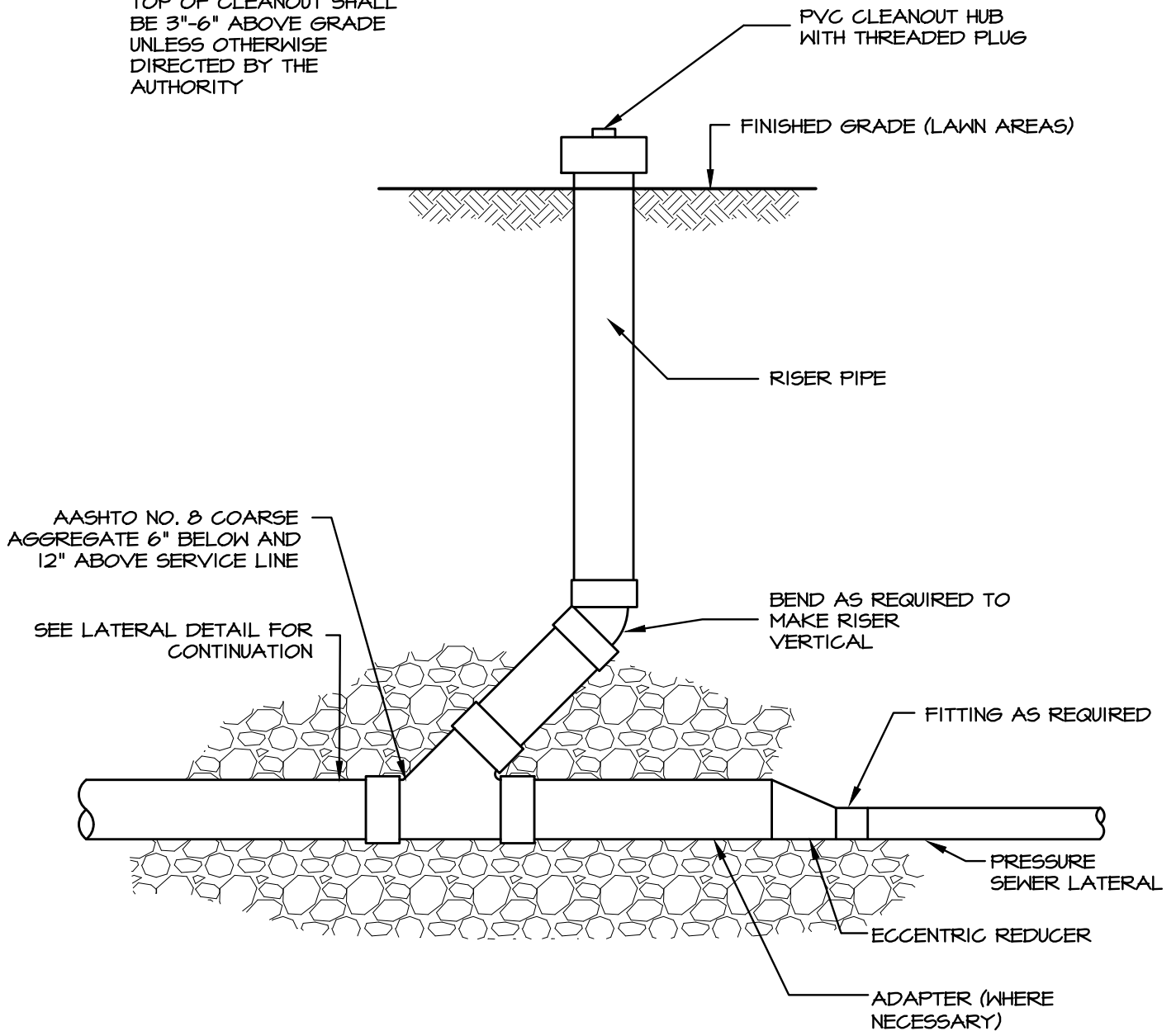
743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

PUMP STATION CONTROL PANEL SUPPORT POST STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-23A

NOTE:
TOP OF CLEANOUT SHALL
BE 3"-6" ABOVE GRADE
UNLESS OTHERWISE
DIRECTED BY THE
AUTHORITY



PRESSURE LATERAL PIPE TRANSITION TO GRAVITY SEWER

NO SCALE



PRESSURE LATERAL PIPE TRANSITION TO GRAVITY SEWER STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

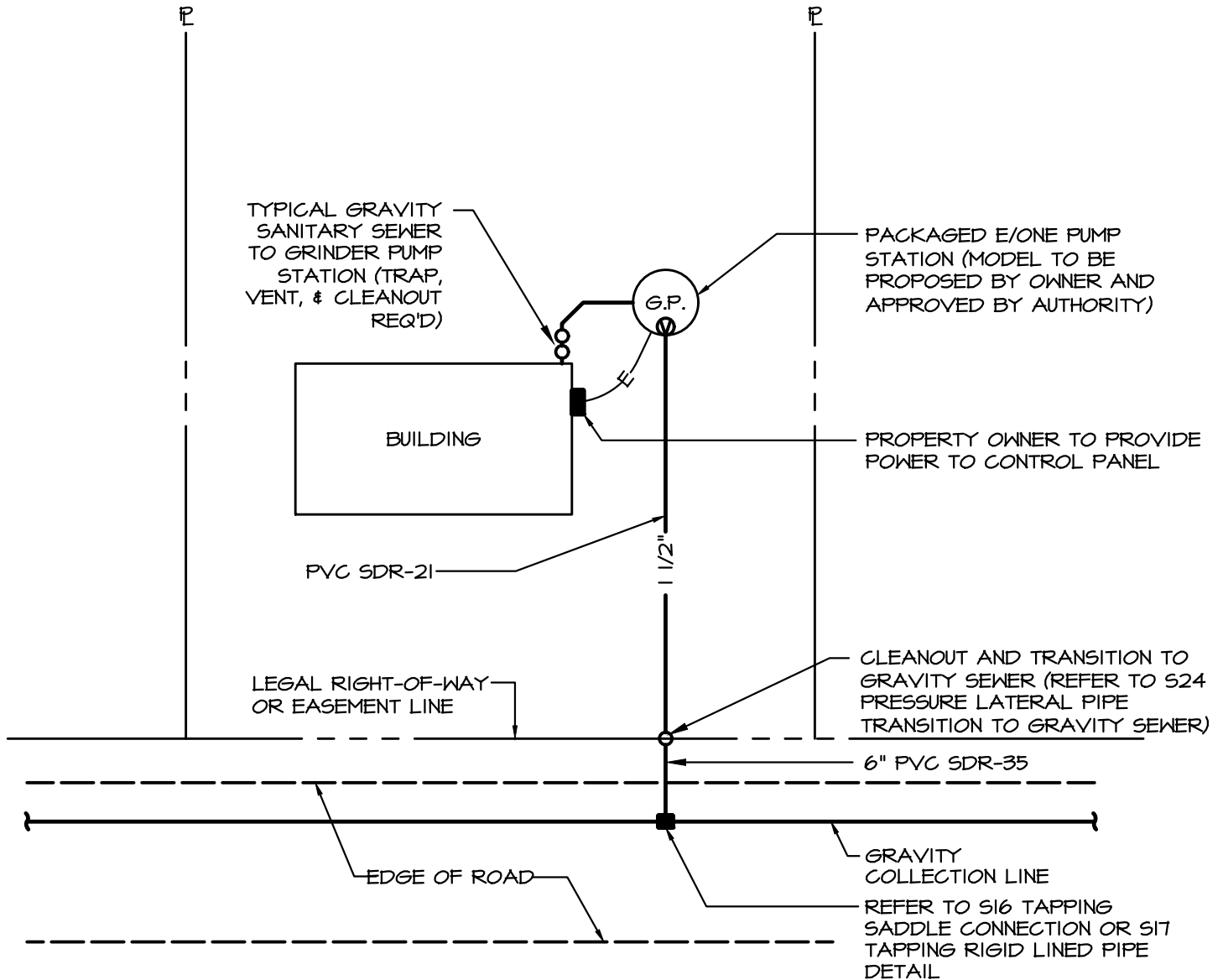
743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-24

NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE TO LINE NEXT FOUR (4) DOWNSTREAM MANHOLES OR ALL MANHOLES WITHIN 1,000 LINEAR FEET DOWNSTREAM OF CONNECTION POINT, WHICHEVER IS GREATER. MANHOLES SHALL BE LINED WITH SPRAYROQ SPRAYWALL LINING SYSTEM, OR APPROVED EQUAL.



TYPICAL PRESSURE SEWER WITH GRAVITY SEWER PROPERTY CONNECTION SCHEMATIC

NO SCALE



TYPICAL PRESSURE SEWER WITH GRAVITY SEWER PROPERTY CONNECTION SCHEMATIC STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

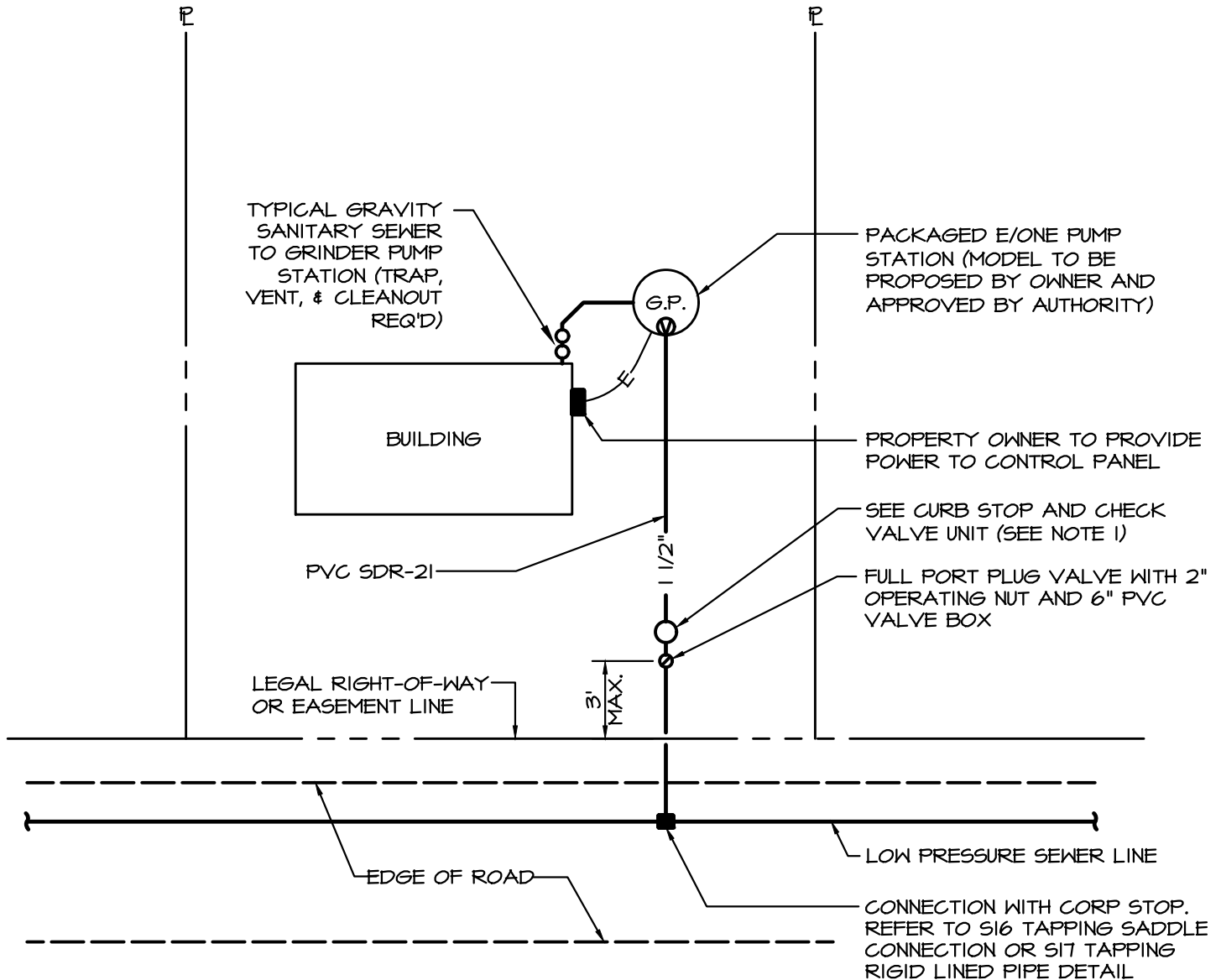
743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-25

NOTES:

1. REFER TO S27 PRESSURE SERVICE LATERAL CURB STOP/CHECK VALVE ASSEMBLY DETAIL.
2. CONTRACTOR SHALL BE RESPONSIBLE TO LINE NEXT FOUR (4) DOWNSTREAM MANHOLES OR ALL MANHOLES WITHIN 1,000 LINEAR FEET DOWNSTREAM OF CONNECTION POINT, WHICHEVER IS GREATER. MANHOLES SHALL BE LINED WITH SPRAYROQ SPRAYWALL LINING SYSTEM, OR APPROVED EQUAL.



TYPICAL PRESSURE SEWER PROPERTY CONNECTION SCHEMATIC (BY SPECIAL EXCEPTION ONLY)

NO SCALE

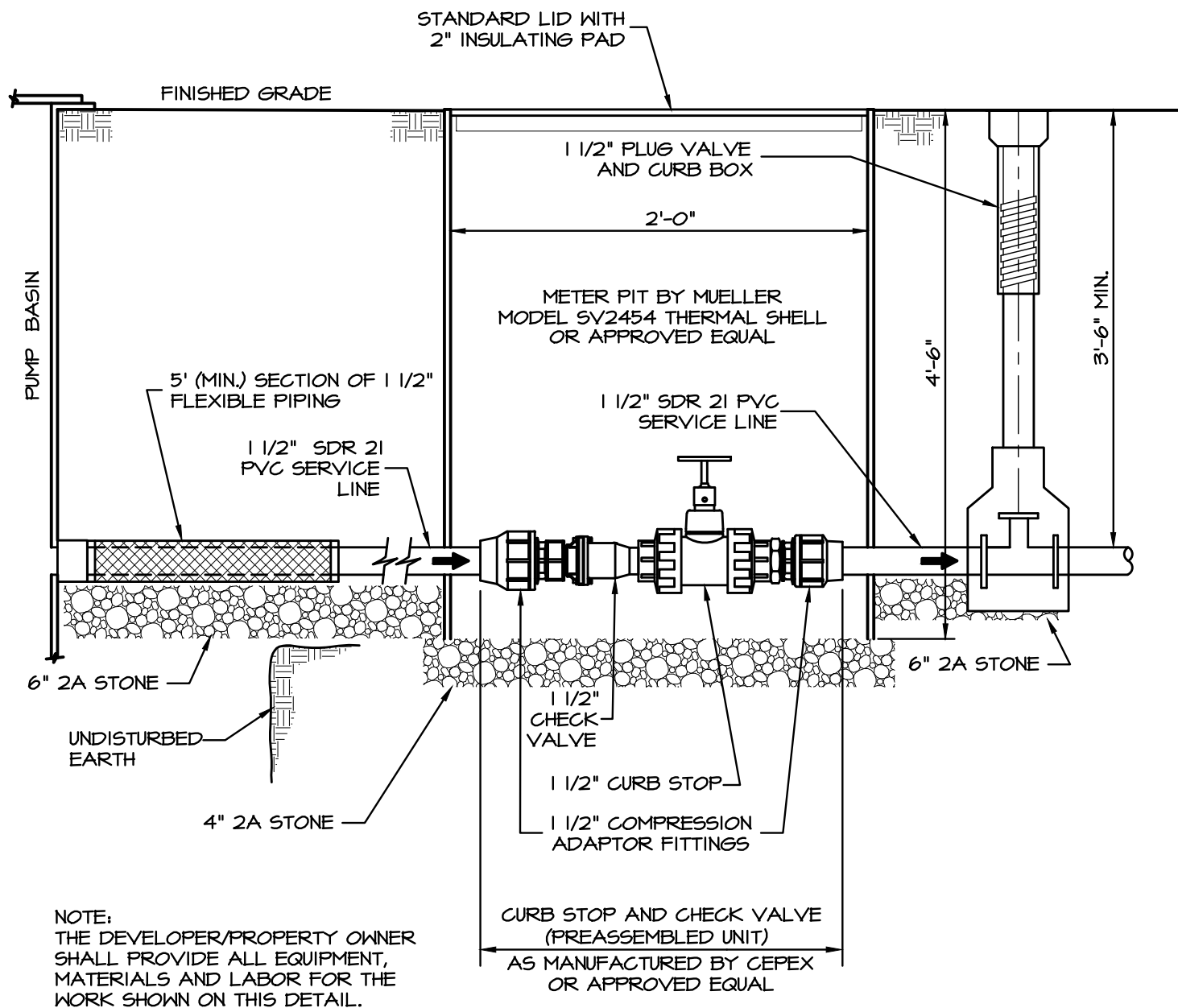


743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

TYPICAL PRESSURE SEWER PROPERTY CONNECTION SCHEMATIC (BY SPECIAL EXCEPTION ONLY) STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-26



LOW PRESSURE SERVICE LATERAL CURB STOP/CHECK VALVE ASSEMBLY

NO SCALE



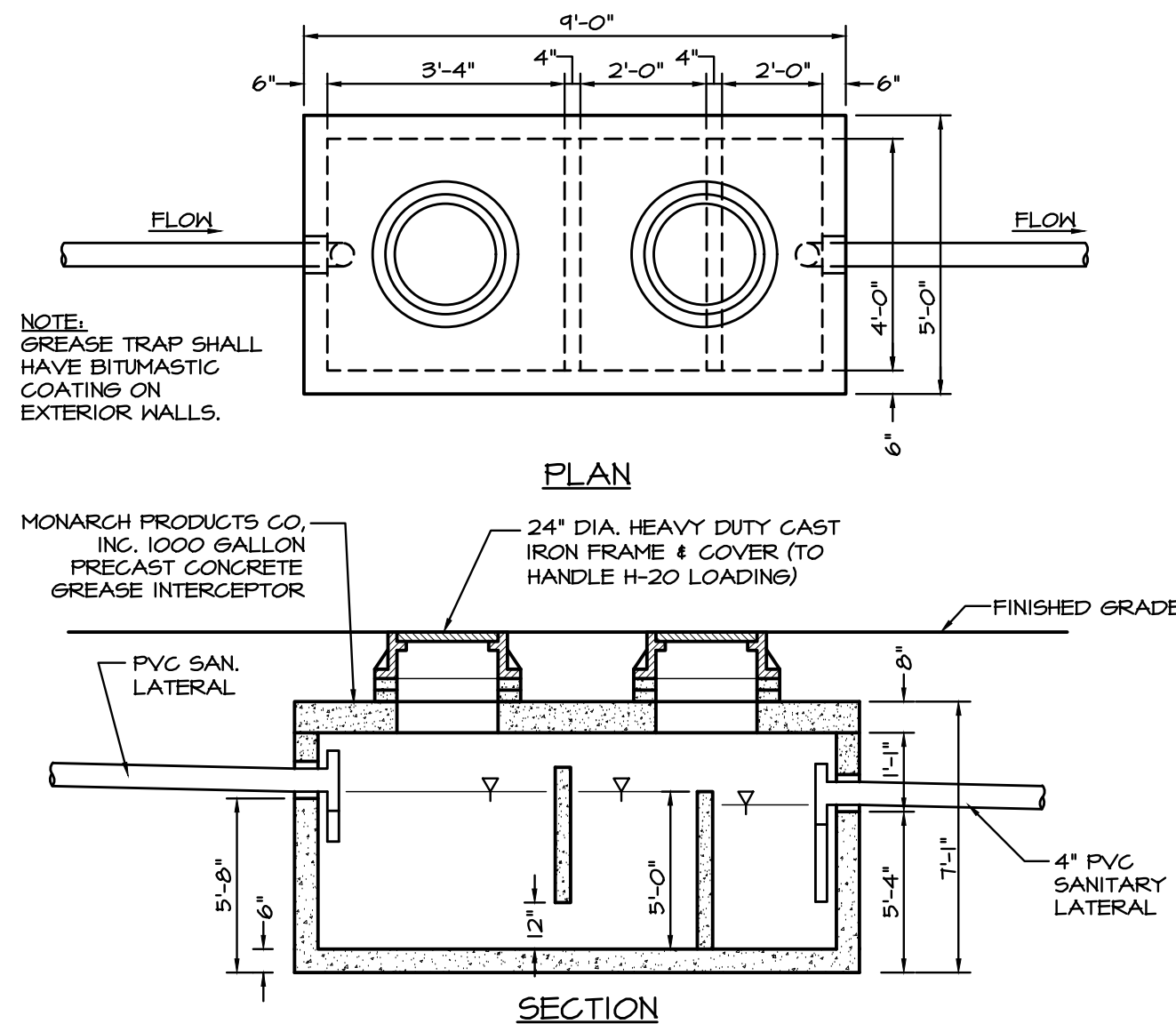
LOW PRESSURE SERVICE LATERAL CURB STOP/CHECK VALVE ASSEMBLY
STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-27

DRAWING: C:\Users\limberholtzer\ACCDocs\ELA_Group\452-033 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:34 pm



NOTES:

1. TANK TO BE PRECAST AS MANUFACTURED BY: MONARCH, OR APPROVED EQUAL.
2. ALL WASTE MUST ENTER THROUGH INLET FITTING ONLY. NO OTHER CONNECTION PERMITTED.
3. INTERIOR PIPE SHALL BE 6" DIA. MAX. PVC SDR 26 OR SCHEDULE 40 PVC.
4. A WATERSTOP CONSISTING OF A STANDARD MANHOLE ADAPTOR GASKET AS SUPPLIED BY THE PIPE MFR. TO BE GROUTED INTO THE BOX WALL NEAR THE CENTER OF THE WALL.
5. CONCRETE MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
6. GREASE INTERCEPTORS SHALL BE LOCATED OUTSIDE OF BUILDINGS IN A LOCATION ACCESSIBLE TO WASTEHAULER PUMPER.
7. INTERCEPTOR TO BE USED IN CONJUNCTION WITH SAMPLING MANHOLE PER STANDARD.
8. ALL WASTE MUST ENTER THROUGH INLET FITTING ONLY.
9. 'INLET' TO BE STENCILED ON UPPER LEFT HAND CORNER ON INLET END IN WHITE.
10. STAINLESS STEEL CLAMP AND BOLTS 3' O.C. MAX. (TYP.) MIN. 2 REQUIRED.
11. TANK CAPACITY TO BE DETERMINED AT THE TIME OF PERMIT APPLICATION.
12. PIPE AND FITTINGS SHALL BE 4" SCH. 40 PVC OR SDR 26 PVC.
13. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE AUTHORITY.
14. STRUCTURE, RISERS, AND FRAME/COVER SHALL BE DESIGNED FOR H-20 LOADING IN TRAFFIC AREAS.
15. PRECAST SUPPLIER SHALL PROVIDE STRUCTURAL AND FLOATATION CALCULATIONS FOR REVIEW.
16. ALL DIMENSIONS ARE MINIMUM VALUES.
17. ALL STRUCTURE AND RISER JOINTS SHALL BE WATERTIGHT.
18. CALCULATIONS SUPPORTING SIZING OF GREASE TRAP / OIL & WATER SEPARATOR SHALL BE PROVIDED BY THE ENGINEER OF RECORD FOR REVIEW BY THE AUTHORITY. IF A LARGER INTERCEPTOR IS REQUIRED, ENGINEER OF RECORD SHALL PROVIDE A SEPARATE DETAIL.

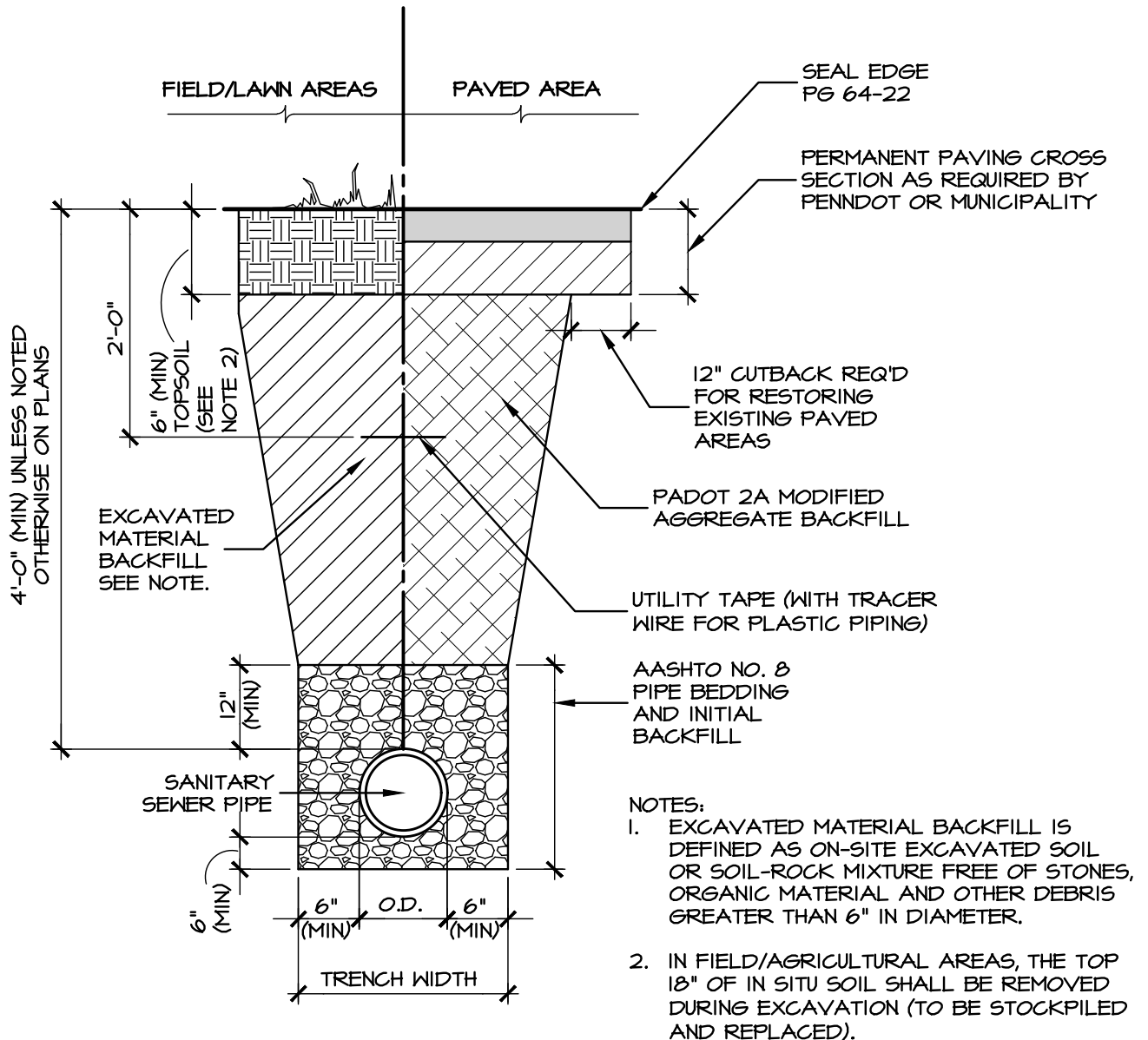
1,000 GAL GREASE TRAP / OIL & WATER SEPARATOR
NO SCALE



743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

1,000 GAL GREASE TRAP / OIL & WATER SEPARATOR
STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

SCALE:	NO SCALE	DRAWING: S-28
DRAWN BY:	TMO	
DATE:	AUGUST 2023	



GRAVITY SANITARY SEWER PIPE INSTALLATION

NO SCALE



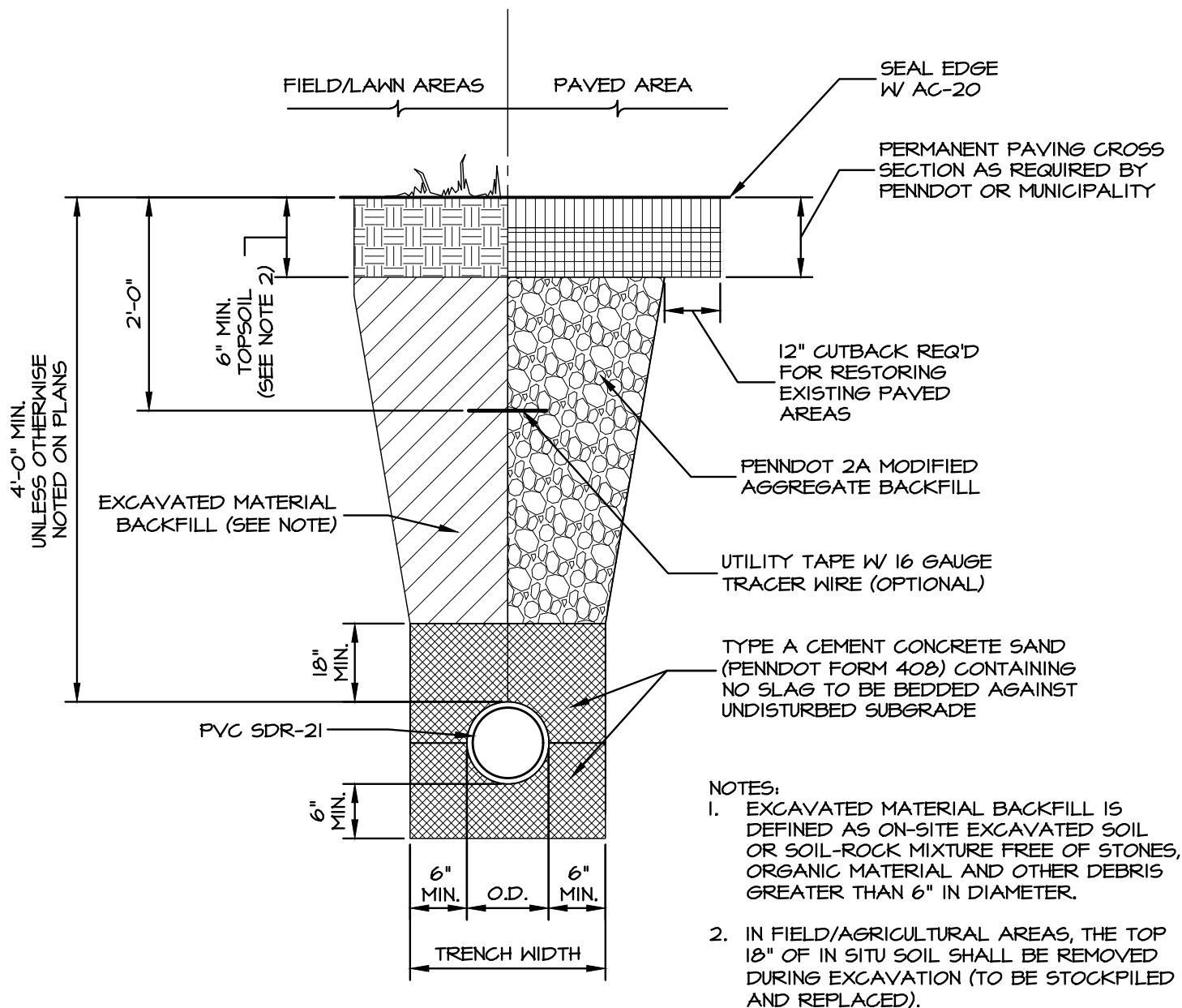
GRAVITY SANITARY SEWER PIPE INSTALLATION STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-29

DRAWING: C:\Users\lmoberholzer\OneDrive\Documents\ELA Group\452-083 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:34 pm



PRESSURE SEWER SERVICE LINE INSTALLATION

NO SCALE



PRESSURE SEWER SERVICE LINE INSTALLATION STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

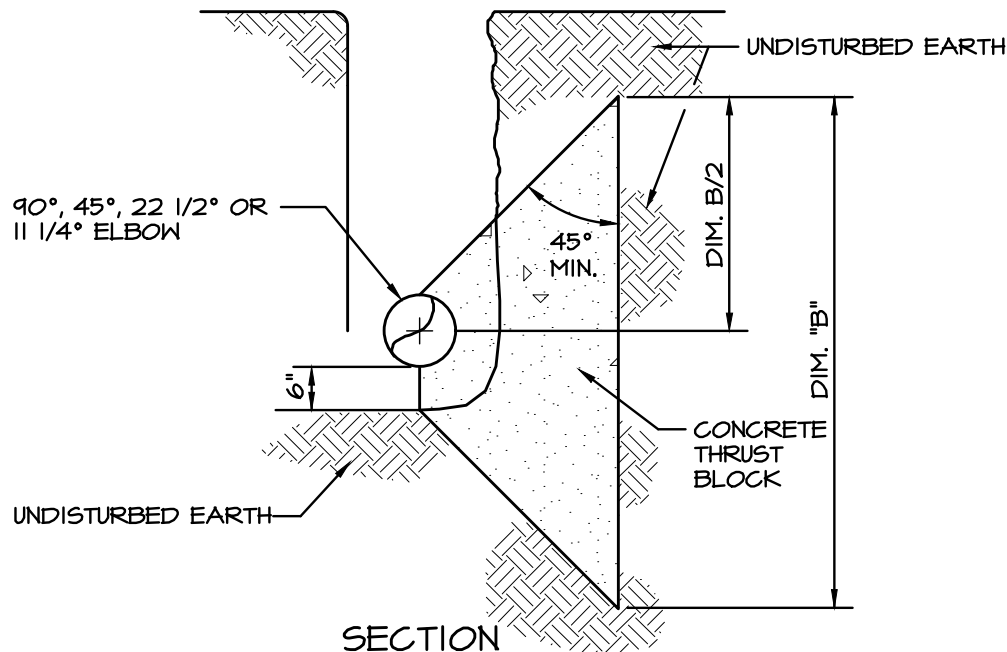
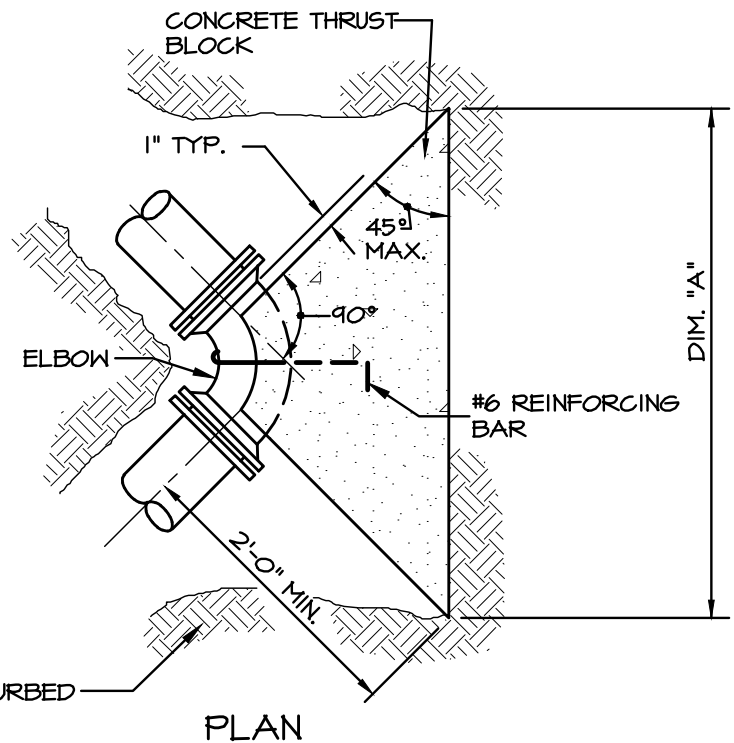
DRAWING:
S-30

THRUST BLOCK DIMENSION
SCHEDULE - ELBOWS(*)
(DUCTILE IRON PIPE)

PIPE DIAM.	DIM.	ELBOW DEFLECTION ANGLE			
		11 1/4°	22 1/2°	45°	90°
4"	A	12"	18"	24"	24"
	B	12"	12"	12"	18"
6"	A	18"	24"	30"	42"
	B	12"	18"	24"	30"
8"	A	24"	24"	42"	60"
	B	12"	24"	30"	36"
12"	A	30"	42"	54"	90"
	B	24"	30"	36"	48"

(*) THRUST BLOCK DESIGN BASED ON THE MINIMUM SOIL HORIZONTAL BEARING STRENGTH OF 3000 PSF AND 150 PSI WORKING PRESSURE PLUS 50% WATER HAMMER ALLOWANCE.

FOR PIPE SIZES GREATER THAN 12", SUBMIT ENGINEERING CALCULATIONS TO VERIFY PROPOSED THRUST BLOCK SIZES.



HORIZONTAL AND VERTICAL UP RESTRAINT THRUST BLOCKING DETAIL - ELBOWS

NO SCALE



HORIZONTAL & VERTICAL UP RESTRAINT THRUST BLOCKING DETAIL - ELBOWS STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE: NO SCALE
DRAWN BY: TMO
DATE: AUGUST 2023

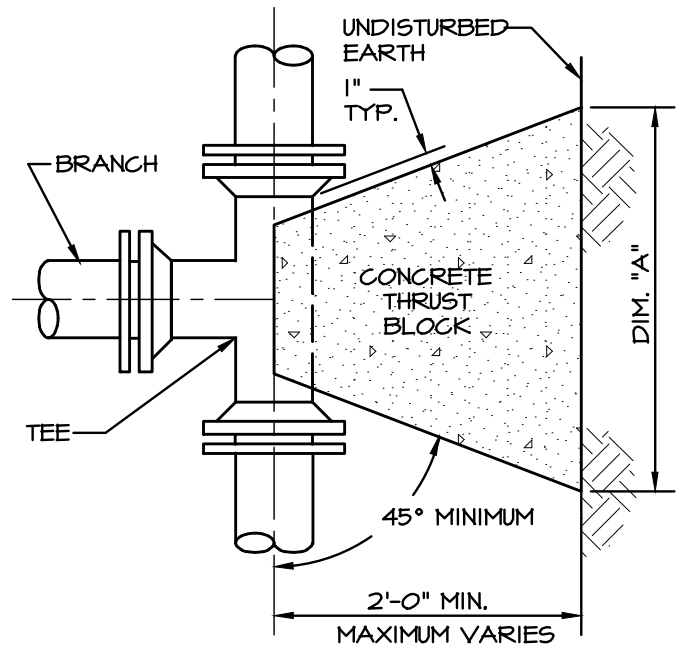
DRAWING:
S-31

DRAWING: C:\Users\lmoberholzer\OneDrive\ELA Group\452-083 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:34 pm

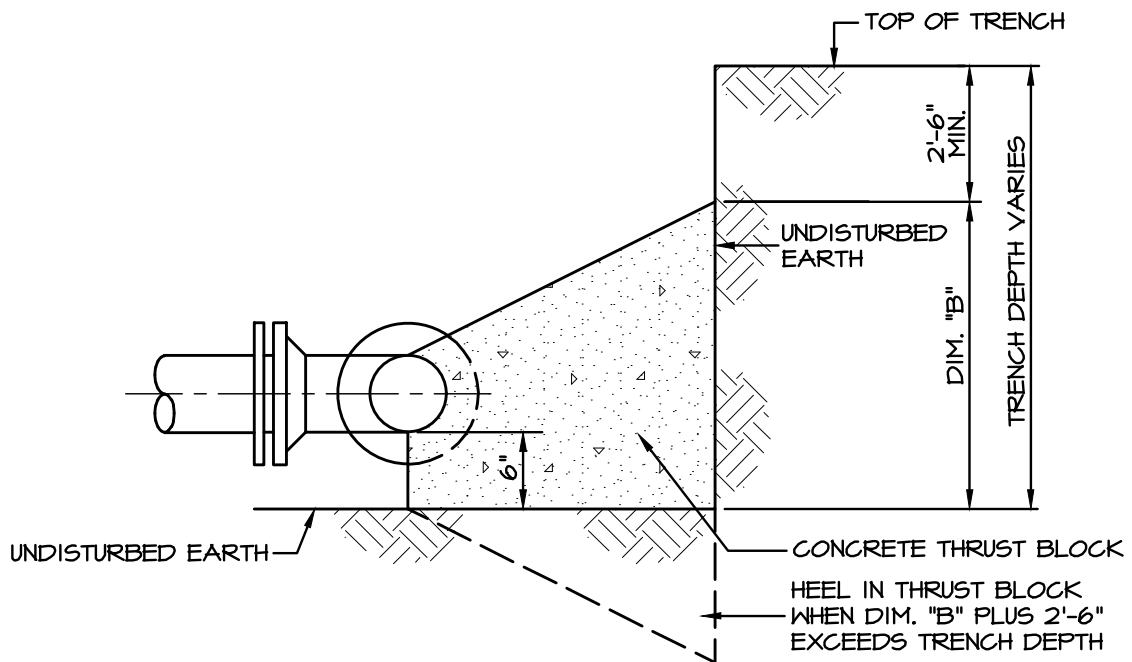
THRUST BLOCK DIMENSION SCHEDULE - ELBOWS(*) (DUCTILE IRON PIPE)				
DIM.	BRANCH SIZE			
	4"	6"	8"	12"
A	36"	42"	60"	96"
B	18"	24"	30"	42"

(*) THRUST BLOCK DESIGN BASED ON THE MINIMUM SOIL HORIZONTAL BEARING STRENGTH OF 3000 PSF AND 150 PSI WORKING PRESSURE PLUS 50% WATER HAMMER ALLOWANCE.

FOR PIPE SIZES GREATER THAN 12", SUBMIT ENGINEERING CALCULATIONS TO VERIFY PROPOSED THRUST BLOCK SIZES.



PLAN



SECTION

HORIZONTAL RESTRAINT THRUST BLOCKING DETAIL - TEES

NO SCALE



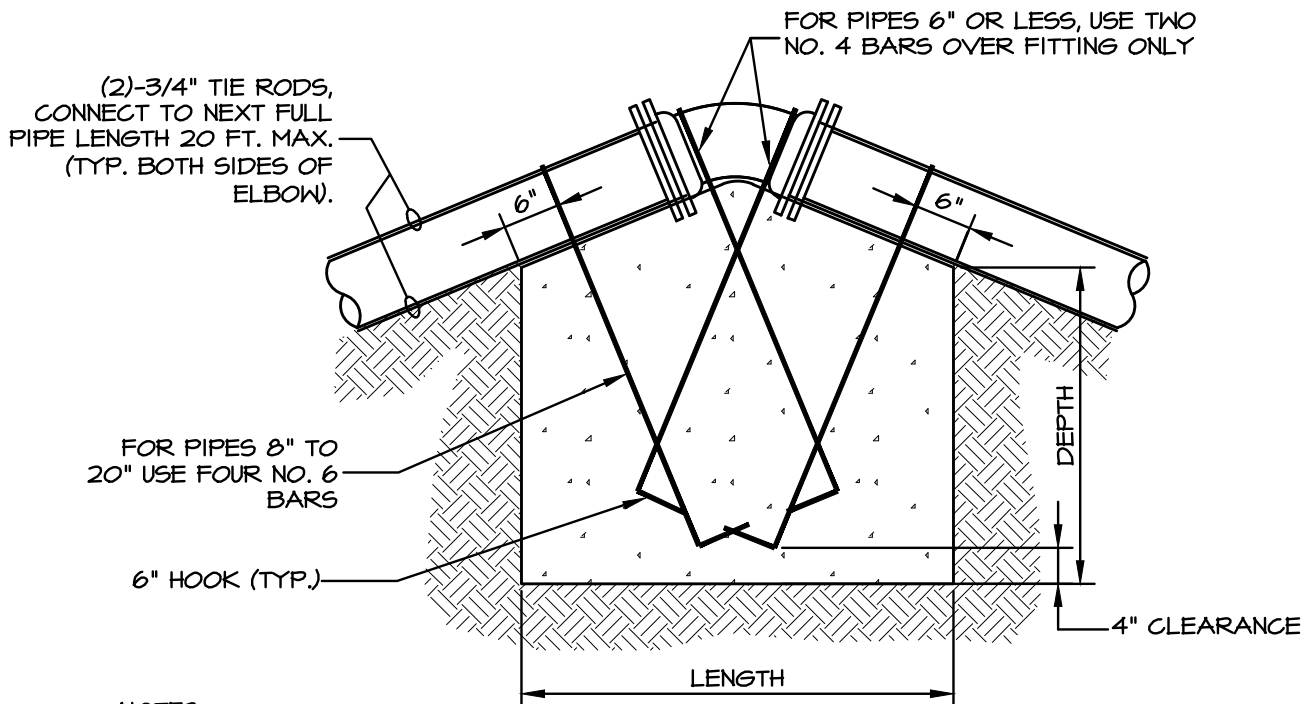
HORIZONTAL RESTRAINT THRUST BLOCKING DETAIL - TEES STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE: NO SCALE
DRAWN BY: TMO
DATE: AUGUST 2023

DRAWING:
S-32

PIPE SIZES	DIMENSIONS OF CONCRETE BLOCKING								
	LENGTH			WIDTH			DEPTH		
	11 1/4°	22 1/2°	45°	11 1/4°	22 1/2°	45°	11 1/4°	22 1/2°	45°
4" AND SMALLER	2'	4'	4'	1.5'	3'	3'	1'	2'	3'
6" AND 8"	3'	4'	6'	3'	3'	3'	2'	3'	4'
10" AND 12"	4.5'	6'	8'	3'	3'	4'	3'	4.5'	5'
14" AND 16"	6'	8'	11'	3.5'	3.5'	5'	2.5'	5'	5'
18" AND 20"	7'	9'	13'	4'	5'	5.5'	4'	5'	6'



NOTES:

1. DIMENSIONS OF CONCRETE BLOCKS VERIFIED USING AWWA M41 DUCTILE IRON PIPE AND FITTINGS. ASSUMPTIONS USED FOR CALCULATIONS WERE A WORKING PRESSURE OF 200 PSI AND A SAFETY FACTOR OF 1.5.
2. IF THE OWNER AGREES, TIE RODS MAY BE ELIMINATED PROVIDED ALL JOINTS ARE MECHANICAL JOINT TYPE WITH JOINT RESTRAINT. (MEGALUG BY EBAA IRON SERIES 1100 OR APPROVED EQUAL).
3. NO COUPLING OR JOINTS SHALL BE COVERED WITH CONCRETE
4. REINFORCING BAR STRAPS TO BE SHAPED TO PIPE CURVATURE.
5. ALL EXPOSED STEEL TO BE PAINTED WITH TWO COATS ASPHALTIC PAINT.
6. CONCRETE BEARING SURFACES SHALL BE UNDISTURBED SOIL.

TYPICAL THRUST BLOCKING FOR VERTICAL UPWARD THRUSTS

NO SCALE



TYPICAL THRUST BLOCKING FOR VERTICAL UPWARD THRUSTS STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE: NO SCALE
DRAWN BY: TMO
DATE: AUGUST 2023

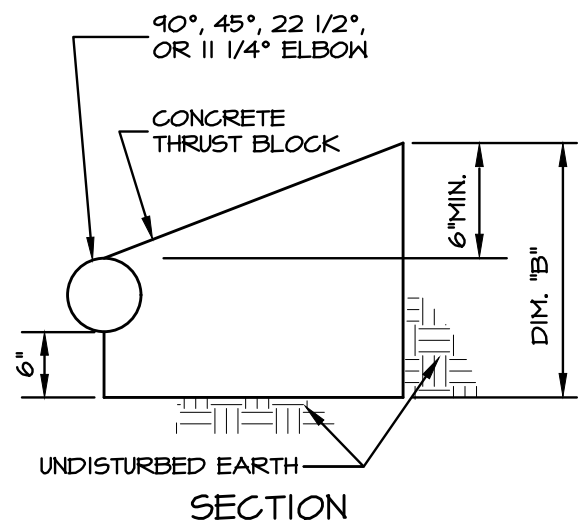
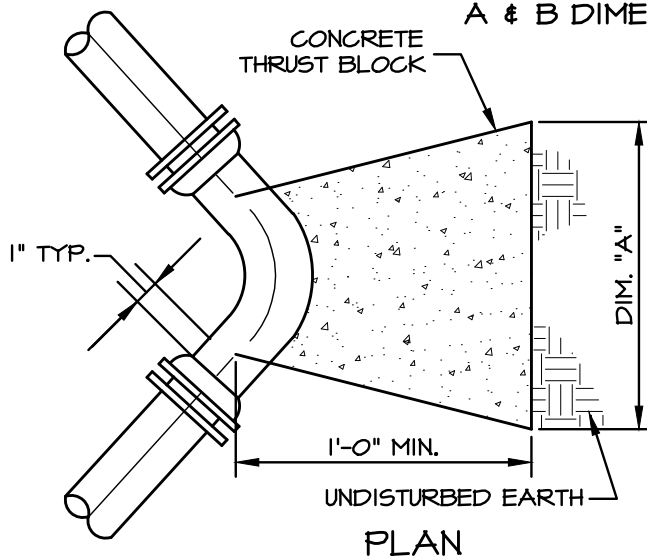
DRAWING:
S-33

ELBOW DIMENSION SCHEDULE															
DIM.	4"-90°	6"-90°	8"-90°	12"-90°	4"-45°	6"-45°	8"-45°	12"-45°	4"-22 1/2°	6"-26°	8"-22 1/2°	12"-22 1/2°	4"-11 1/4°	6"-11 1/4°	8"-11 1/4°
A	24	42	60	90	24	30	42	54	18	24	24	42	12	18	24
B	18	30	36	48	12	24	30	36	9	18	24	30	9	12	12

A & B DIMENSIONS ARE IN INCHES

ELBOW DIMENSION SCHEDULE											
DIM.	3"-90°	2 1/2"-90°	2"-90°	1 1/2"-90°	3"-45°	2 1/2"-45°	2"-45°	1 1/2"-45°	3"-22 1/2°	2 1/2"-22 1/2°	3"-11 1/4°
A	20	18	16	14	18	16	14	12	16	14	12
B	15	15	14	14	15	15	14	14	15	15	14

A & B DIMENSIONS ARE IN INCHES

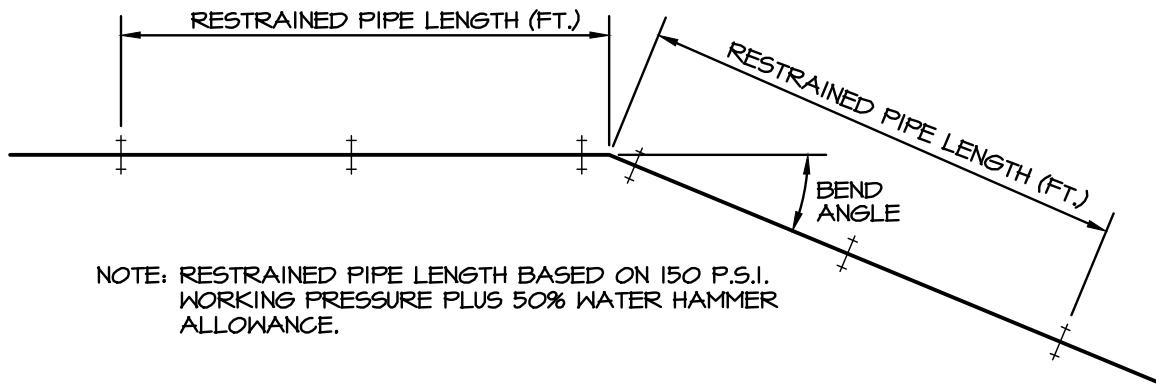


HORIZONTAL THRUST BLOCKING DETAILS (LOW PRESSURE SEWER)

NO SCALE

HORIZONTAL THRUST BLOCKING DETAILS (LOW PRESSURE SEWER) STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

SCALE:	NO SCALE	DRAWING:
DRAWN BY:	TMO	S-34
DATE:	AUGUST 2023	



HORIZONTAL RESTRAINED PIPE LENGTH SCHEDULE (DUCTILE IRON PIPE)				
PIPE DIAMETER	HORIZONTAL ELBOW DEFLECTION ANGLE			
	90°	45°	22 1/2°	11 1/4°
3" THRU 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 12% 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°
3" THRU 4"	20'	10'	5'
6"	28'	14'	7'
8"	37'	18'	9'
10"	44'	21'	11'
12"	52'	25'	12'

*ADD 12% TO LENGTH IF PIPE IS POLYETHYLENE ENCASED

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

DUCTILE IRON RESTRAINED PIPE LENGTH SCHEDULE

NO SCALE

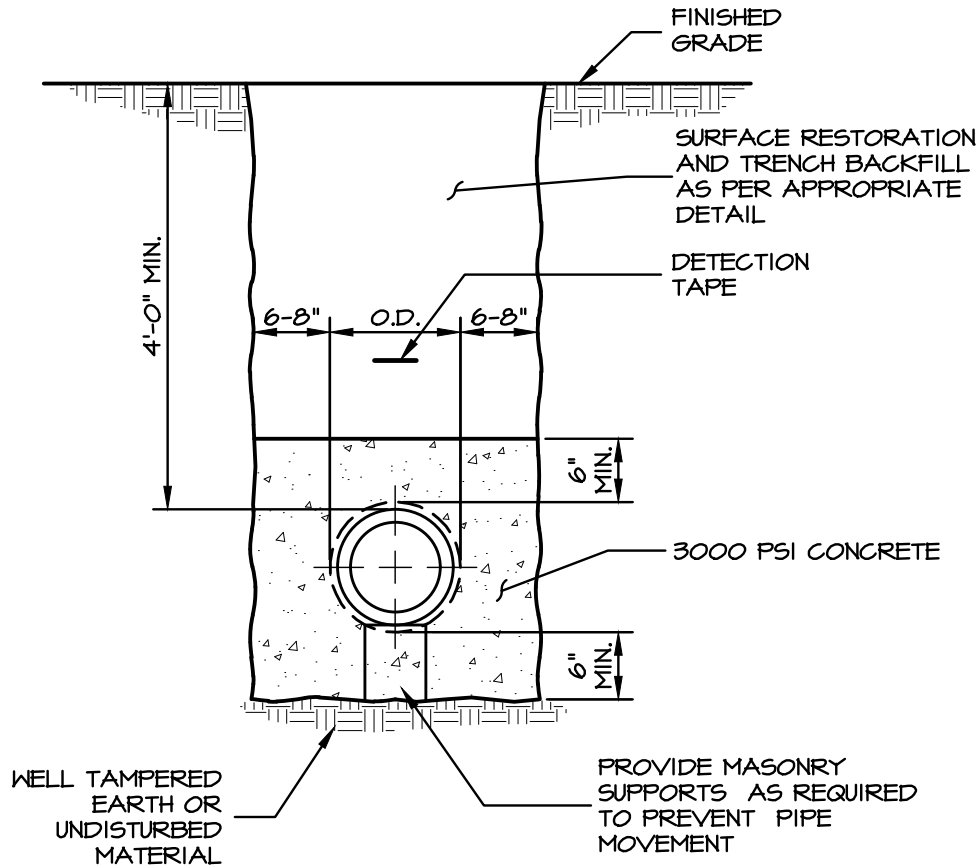


DUCTILE IRON RESTRAINED PIPE LENGTH SCHEDULE STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE: NO SCALE
DRAWN BY: TMO
DATE: AUGUST 2023

DRAWING:
S-35



NOTES:

1. CONCRETE ENCASEMENT TO BE USED WHERE MINIMUM CLEARANCE CANNOT BE OBTAINED BETWEEN WATER LINE AND SANITARY SEWERS AND STORM SEWER. ENCASEMENT SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER IN THE FIELD.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO PREVENT FLOATATION OF THE PIPE WHEN CONCRETE IS POURED.

CONCRETE ENCASEMENT

NO SCALE

CONCRETE ENCASEMENT

STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

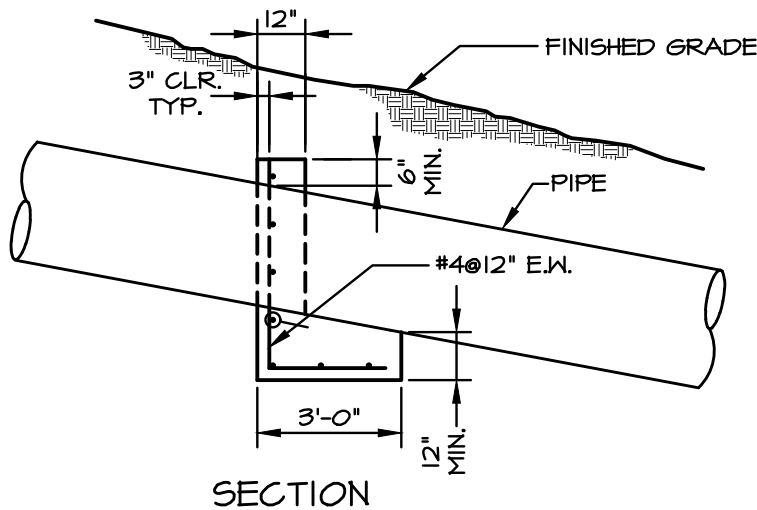
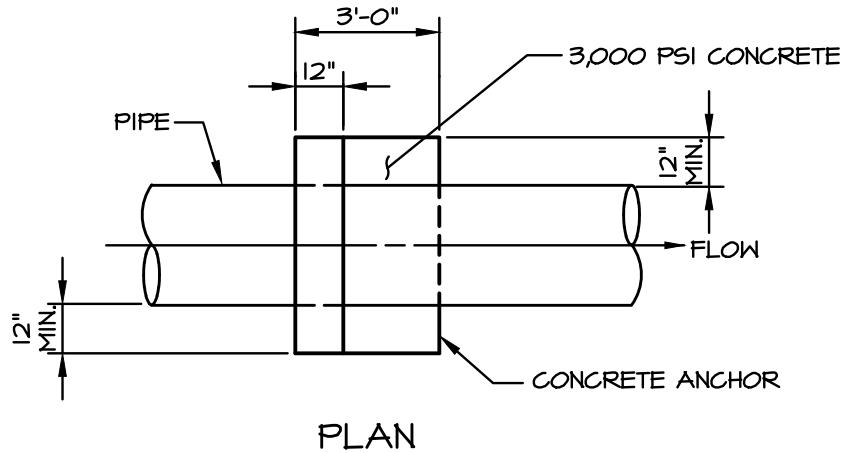


743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-36

SPACING: GRADES 20% UP TO 35% - NOT OVER 36FT C.T.C.
 GRADES 35% UP TO 50% - NOT OVER 24FT C.T.C.
 GRADES 50% AND OVER - NOT OVER 16FT C.T.C.



TYPICAL CONCRETE ANCHOR (8" THRU 36" SEWERS)

NO SCALE

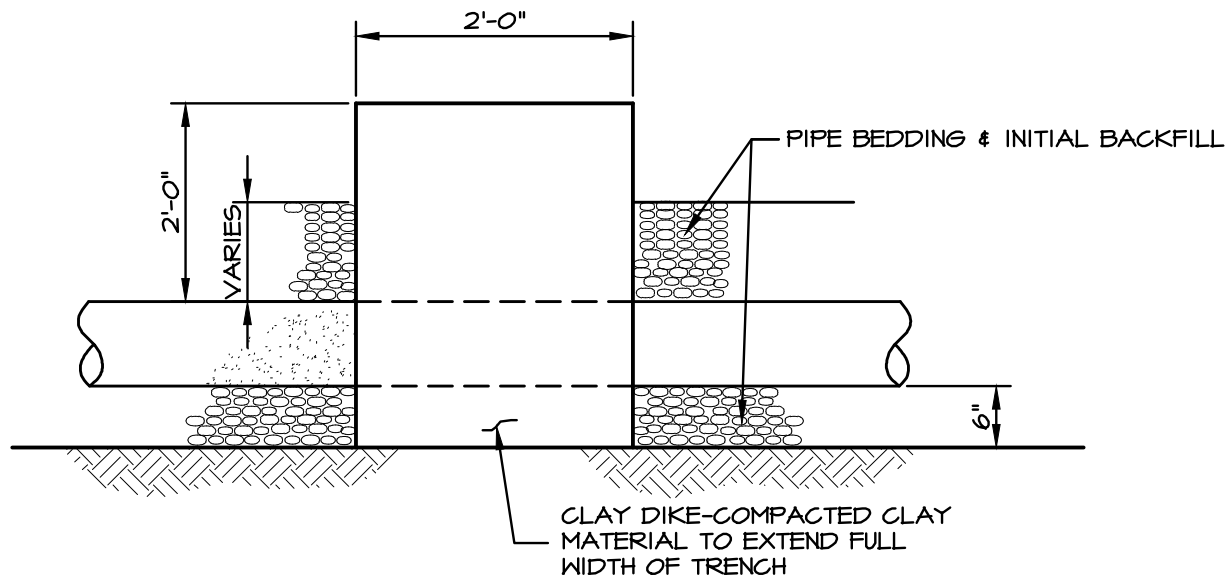


743 S. BROAD ST.
 LITITZ, PA 17543
 (717) 626-7271
 elagroup.com

TYPICAL CONCRETE ANCHOR (8" THRU 36" SEWERS) STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
 S-37



NOTE:

CLAY DIKE SHALL CONSIST OF CLAY CONTAINING NO MORE THAN 15% (BY VOLUME) STONE NO LARGER THAN TWO (2) INCHES IN DIAMETER. CLAY SHALL BE PLACED IN SIX (6) INCH LIFTS AND COMPACTED BY A MECHANICAL TAMPER TO NOT LESS THAN 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT.

CLAY DIKE

NO SCALE



743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

CLAY DIKE

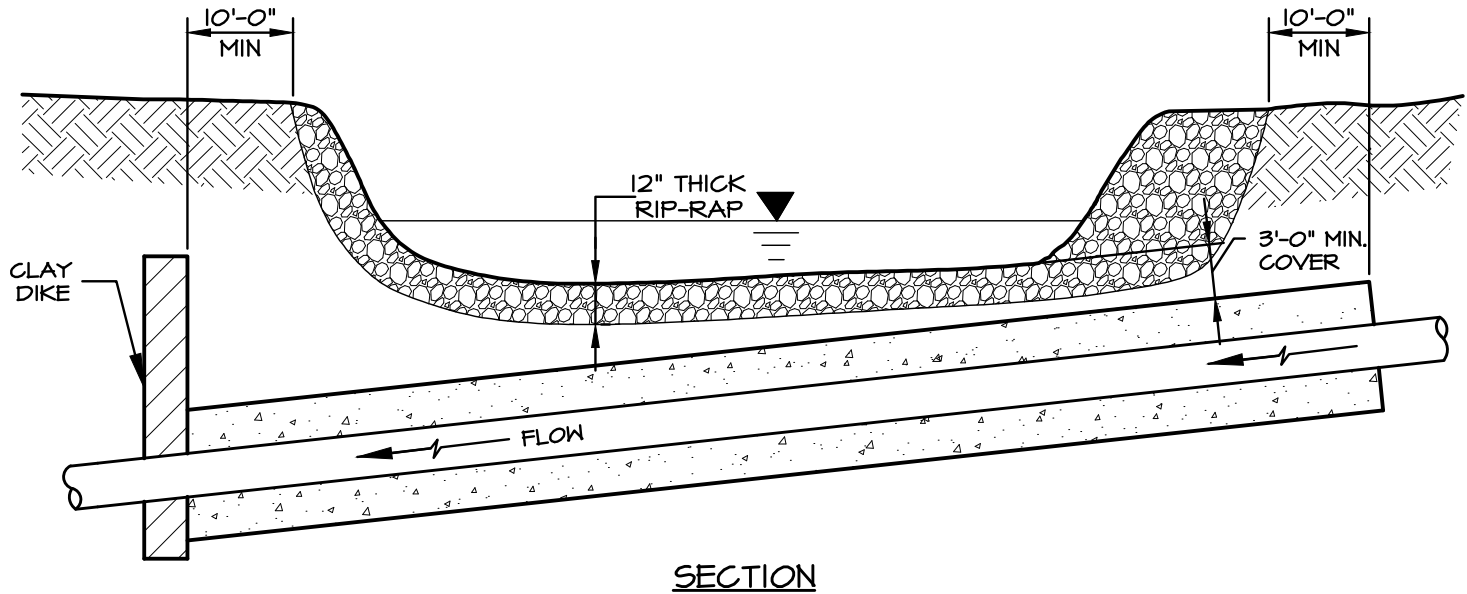
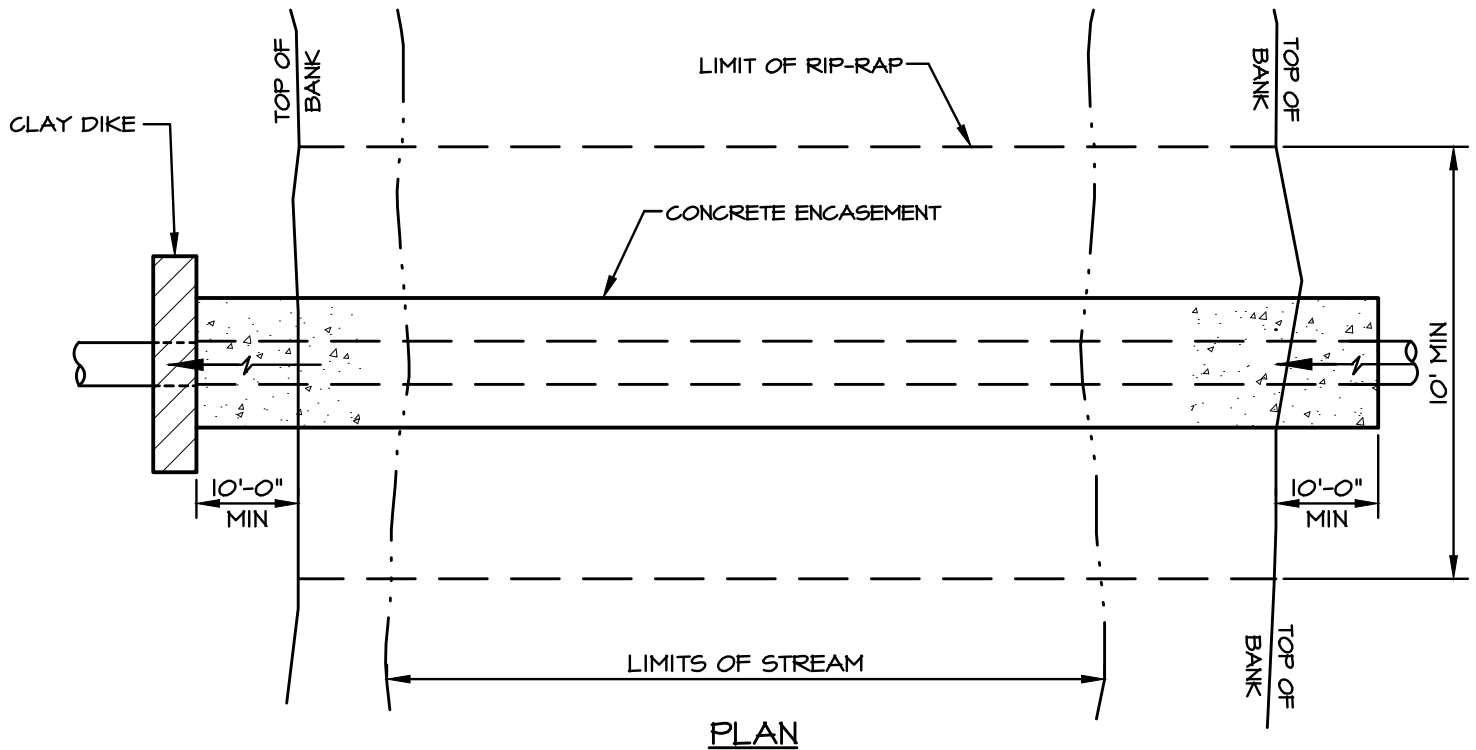
STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:

S-38

DRAWING: C:\Users\lmoberholzer\OneDrive\ELA Group\452-083 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:35 pm



STREAM CROSSING-GRAVITY SANITARY SEWER

NO SCALE



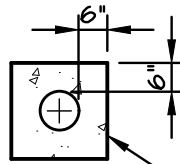
743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

STREAM CROSSING - GRAVITY SANITARY SEWER STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

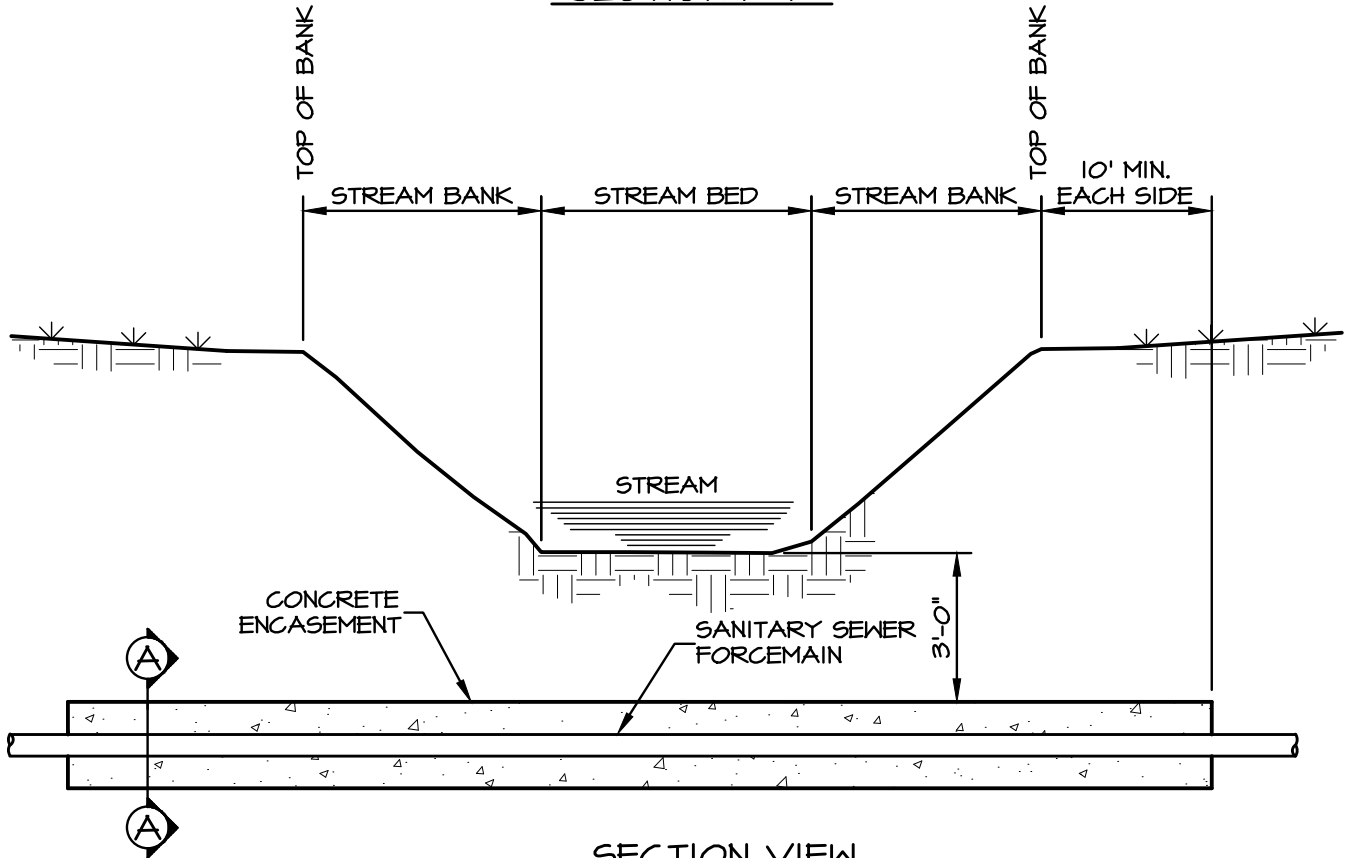
DRAWING:
S-39

DRAWING: C:\Users\lmoberholzer\OneDrive\ELA Group\452-083 Sanitary Sewer Specs and Detail Updates\Project Files\CAD Data\Utility\DETAILS.dwg - PLOTTED: Sep 12, 2023 4:35 pm



3,000 PSI CONCRETE
ENCASEMENT

SECTION A-A



SECTION VIEW

NOTES:

1. ALL NECESSARY CHAPTER 102 AND 105 PERMITS SHALL BE ACQUIRED PRIOR TO INSTALLATION. CONTRACTOR SHALL IMPLEMENT ALL BEST MANAGEMENT PRACTICES AS SET FORTH WITHIN SAID PERMITS.
2. CONTRACTOR SHALL CONDUCT AN ONSITE MEETING WITH THE AUTHORITY PRIOR TO ORDERING MATERIALS FOR THE STREAM CROSSING.
3. ANY CHANGES TO THE DESIGN OR LAYOUT OF THE STREAM CROSSING SHALL BE APPROVED BY THE AUTHORITY PRIOR TO INSTALLATION.
4. ALL HORIZONTAL AND VERTICAL BENDS SHALL HAVE ADEQUATE CONCRETE THRUST BLOCKING OR RODDED PIPE RESTRAINT.

STREAM CROSSING - FORCEMAIN

NO SCALE



743 S. BROAD ST.
LITITZ, PA 17543
(717) 626-7271
elagroup.com

STREAM CROSSING - FORCEMAIN STRASBURG BOROUGH AUTHORITY STANDARD DETAIL

SCALE:	NO SCALE
DRAWN BY:	TMO
DATE:	AUGUST 2023

DRAWING:
S-40