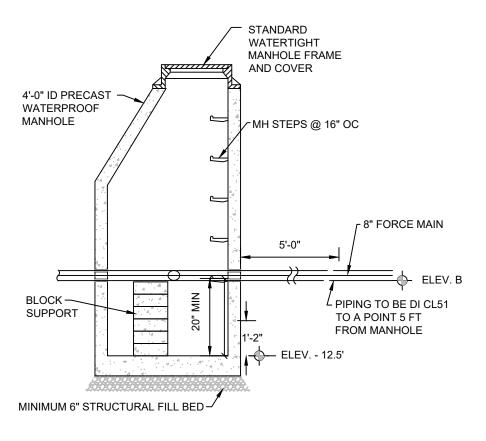


CLEANOUT MANHOLE PLAN

NOT TO SCALE



CLEANOUT MANHOLE SECTION

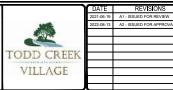
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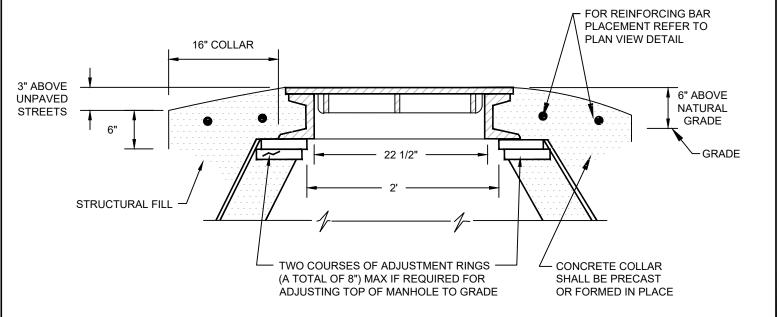
S-1 CLEANOUT MANHOLE

SHEET NOT TO SCALE

1 OF 1 APPROVED BY: XB DRAWN BY: QH







MANHOLE FRAME AND COVER

NOT TO SCALE

S-2 MANHOLE FRAME AND COVER

APPROVED BY: XB

SHEET

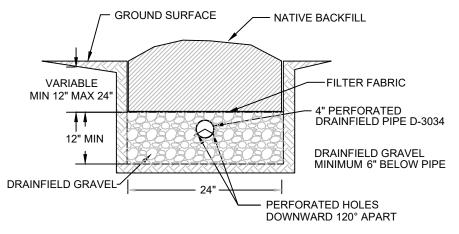
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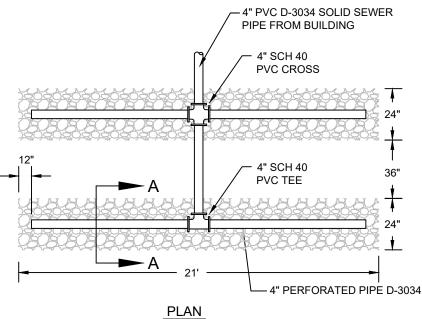
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SECTION A-A



DRAINFIELD DETAIL

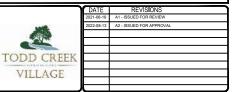
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DRAINFIELD DETAIL S-3 SHEET NOT TO SCALE 1 of 1

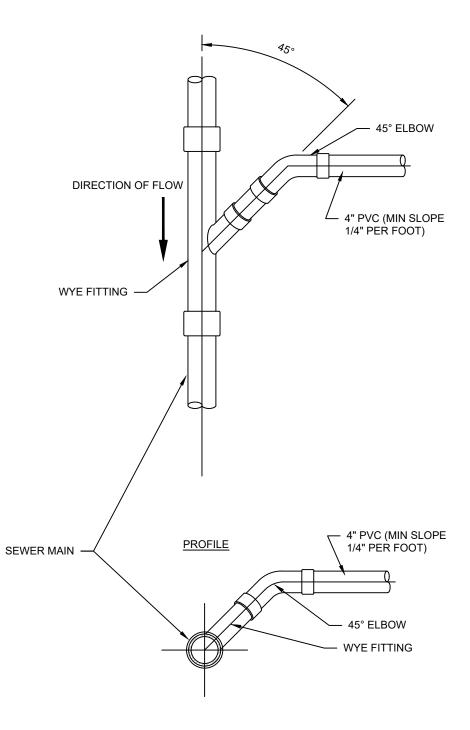
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APPROVED BY: XB





PLAN VIEW



SEWER MAIN CONNECTION

NOT TO SCALE

SEWER MAIN CONNECTION

S-4

SHEET

1 of 1

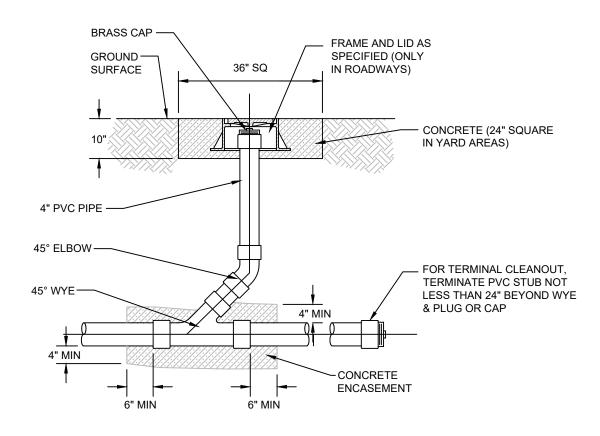
APPROVED BY: XB

NOT TO SCALE

DRAWN BY:







SEWER SERVICE CLEANOUT

NOT TO SCALE

SEWER SERVICE CLEANOUT

NOT TO SCALE

DRAWN BY:

S-5

SHEET

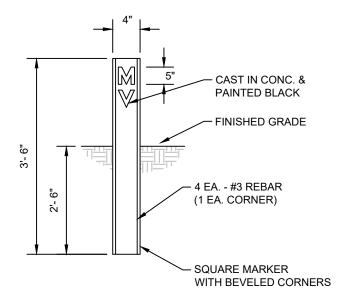
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APPROVED BY: XB





E:\Projects\48-TCVMD-Specification\3_SEWER\SewerDetailCADFiles-2022-08-13\S-6 VALVE MARKER DETAIL.dwg - Aug 25, 2022 - 12:28pm



VALVE MARKER DETAIL

NOT TO SCALE

VALVE MARKER DETAIL

S-6

SHEET

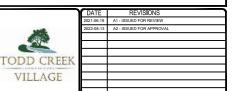
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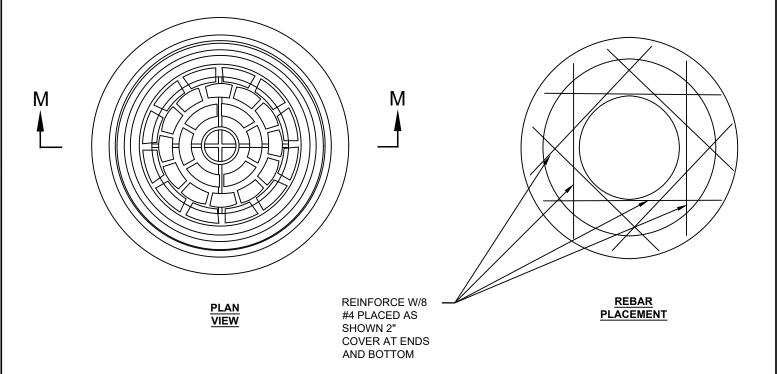
APPROVED BY: XB

NOT TO SCALE

DRAWN BY: QH







MANHOLE COVER

NOT TO SCALE

S-7 MANHOLE COVER

APPROVED BY: XB

SHEET

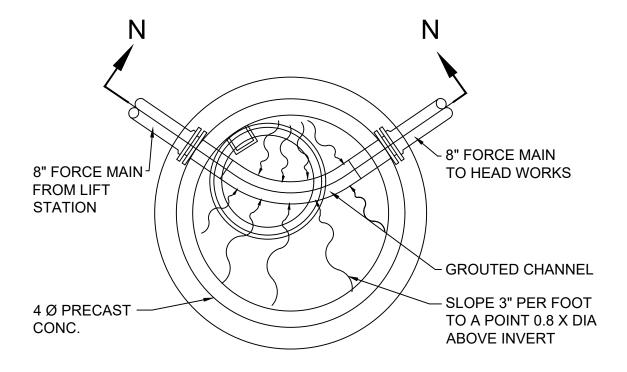
1 or 1

NOT TO SCALE

DRAWN BY:







PLAN VIEW

TRANSITION MANHOLE FLOW CHANNEL

NOT TO SCALE

ISSUED FOR REVIEW

S-8

SHEET

1 of 1

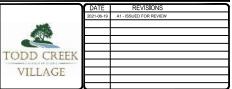
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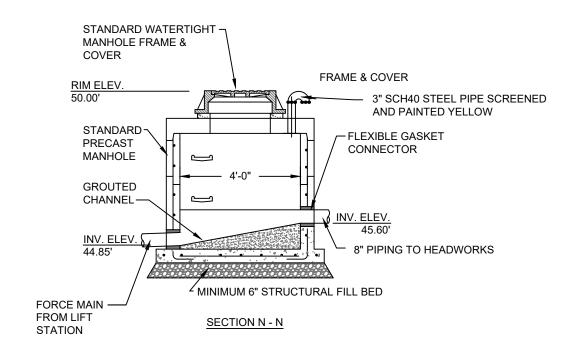
TRANSITION MANHOLE FLOW CHANNEL

NOT TO SCALE

DRAWN BY:







TRANSITION MANHOLE

NOT TO SCALE

TRANSITION MANHOLE S-9

NOT TO SCALE



TODD CREEK VILLAGE METROPOLITAN DISTRICT

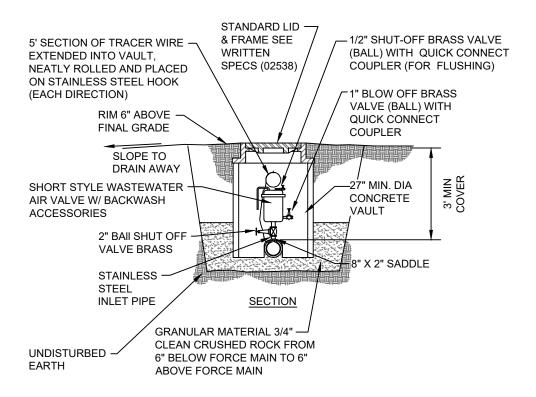


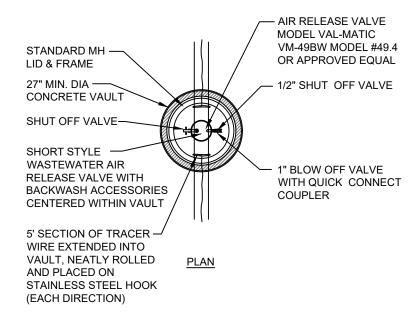
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SHEET

1 of 1

DRAWN BY:





SEWER AIR RELEASE VALVE

NOT TO SCALE

S-10 SEWER AIR RELEASE VALVE

SHEET

1

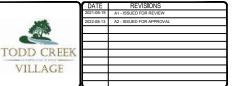
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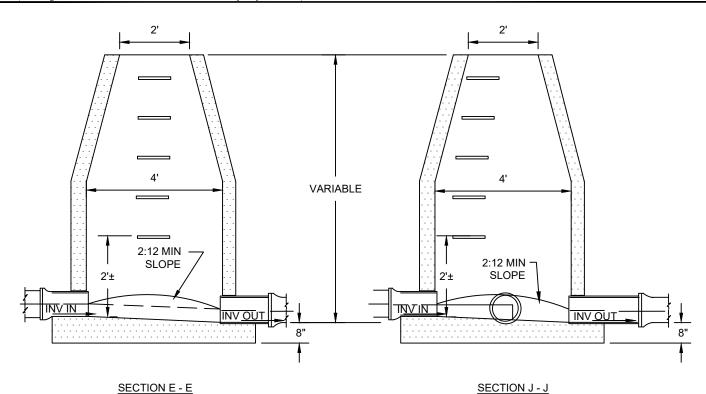
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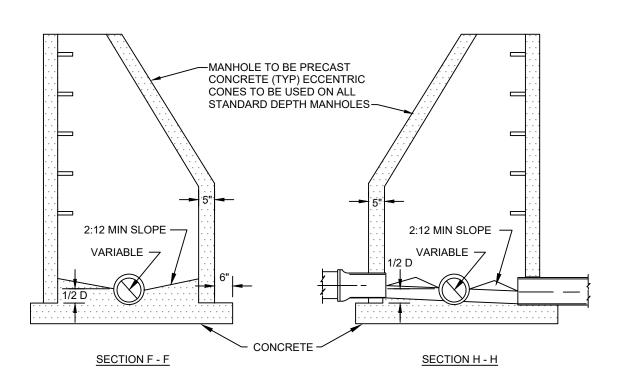
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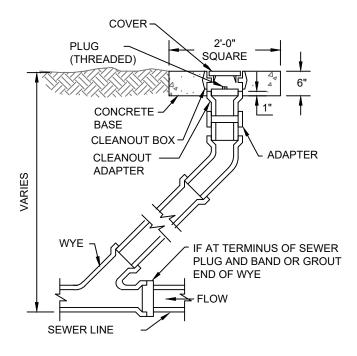


STANDARD MANHOLE

NOT TO SCALE







SEWER CLEANOUT

NOT TO SCALE

S-12 SEWER CLEANOUT

APPROVED BY: XB

SHEET

1 of 1

NOT TO SCALE

DRAWN BY:





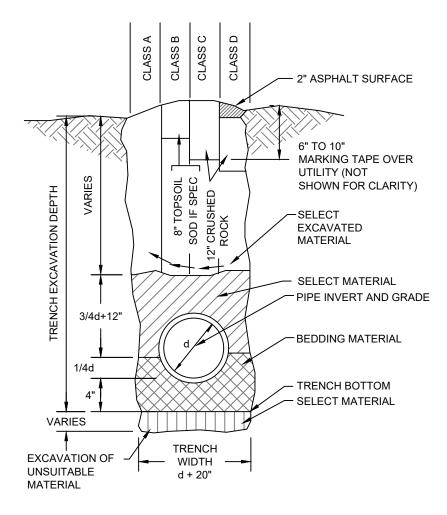
VILLAGE

DISTRICT

1 or 1

APPROVED BY: XB

DRAWN BY:



d = NOMINAL DIA.

SEWER MAIN TRENCH

NOT TO SCALE

S-14 SEWER MAIN TRENCH

APPROVED BY: XB

SHEET

1 of 1

NOT TO SCALE

DRAWN BY:





SHEET 1 of 1 APPROVED BY: XB

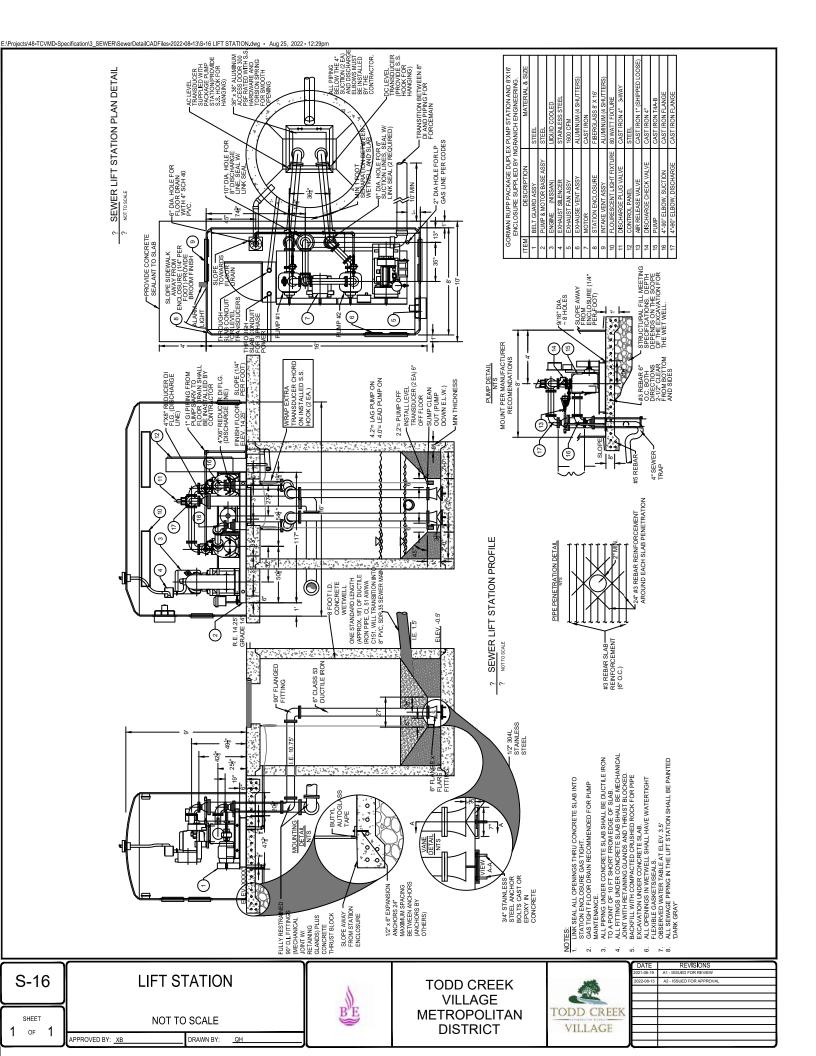
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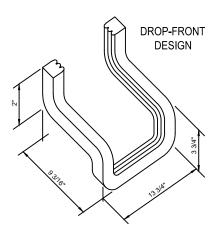
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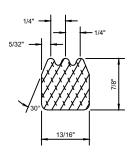
METROPOLITAN DISTRICT







TYP. CROSS SECTION ON ALL STEPS



ALCOA ALUMINUM MANHOLE STEP PART No. 12653B

CAPACITY

1,000 LBS WITH STEP EXTENDED 6 IN. FROM WALL. 1,500 LBS WITH STEP EXTENDED 4 IN. FROM WALL. LOAD APPLIED AT CENTER OF STEP. LOAD BASED ON NO PERMANENT DEFORMATION.

ALCOA ALUMINUM-MAGNESIUM-SILICIDE-TYPE ALLOY CONFORMING TO FEDERAL SPECIFICATION QQ-A-200/8.

MECHANICAL PROPERTIES

TENSILE SRTENGTH-38,000 psi (MIN); YIELD STRENGTH-35,000 psi (MIN); ELONGATION-10% IN 2 IN. (MIN).

NOMINAL CHEMICAL COMPOSITION MAGNESIUM-1.00%; SILICON-0.60%; COPPER-0.25%. ALUMINUM AND NORMAL IMPURITIES CONSTITUTE REMAINDER.

NOTE: ALUMINUM STEPS SHALL HAVE A BITUMINOUS COATING ON ALL AREAS IN CONTACT WITH CONCRETE.

SPECIFICATIONS

ALL ALCOA MANHOLE STEPS & LADDER RUNGS SHALL INCORPORATE TWO NON-SKID GROOVES NOT TO EXCEED 1/8" DEEP AND 1/8" WIDE. THEY SHALL BE MADE OF AUMINUM ALLOY CONFORMING TO FEDERAL SPECIFICATION QQ-A-200/8, HAVING A MINIMUM TENSILE STRENGTH OF 38,000 psi MINIMUM TENSILE STRENGTH OF 38,000 psi. & A MINIMUM YIELD STRENGTH OF 35,000 psi. THEY MUST HAVE AN ELONGATION OF NOT LESS THAN 10% IN 2", & MUST CARRY A LOAD IN THE CENTER OF THE CROSS BAR OF 1,000 LBS WHEN PROJECTED 6" FROM THE WALL & 1,500 LBS WHEN PROJECTED 4" FROM THE WALL WITHOUT PERMANENT DEFORMATION DEFORMATION.

WEIGHT-2.23 LBS

MANHOLE STEP

NOT TO SCALE

S-17

SHEET

APPROVED BY: XB

1 of 1 MANHOLE STEP

NOT TO SCALE

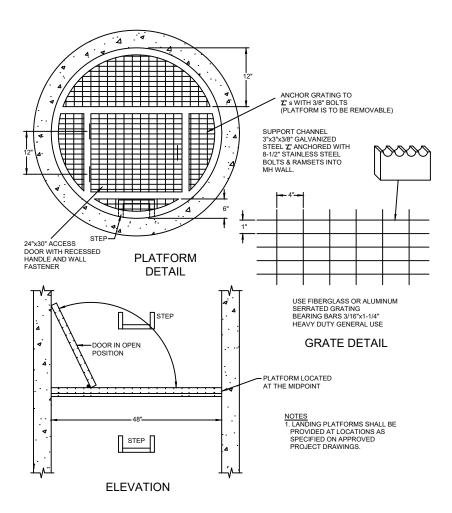
QH

DRAWN BY:





1	DATE	REVISIONS	
	2021-06-19	A1 - ISSUED FOR REVIEW	
	2022-08-13	A2 - ISSUED FOR APPROVAL	
CEL			
CEN			
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LANDING PLATFORM

NOT TO SCALE

QH

S-18 LANDING PLATFORM

APPROVED BY: XB

SHEET

1 or 1

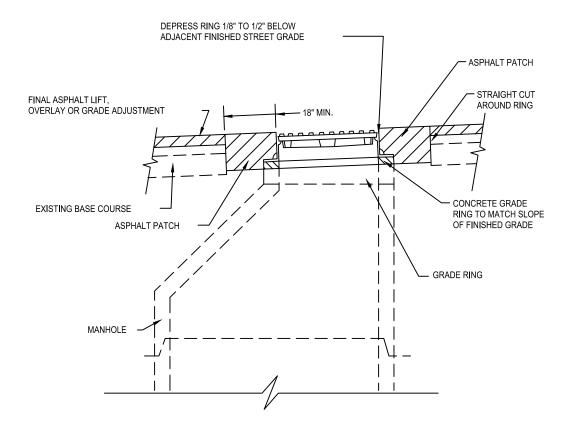
NOT TO SCALE DRAWN BY:



TODD CREEK VILLAGE **METROPOLITAN DISTRICT**



REVISIONS



MANHOLE RING & COVER ADJUSTMENT

NOT TO SCALE

S-19

SHEET

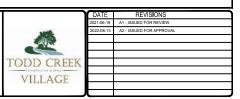
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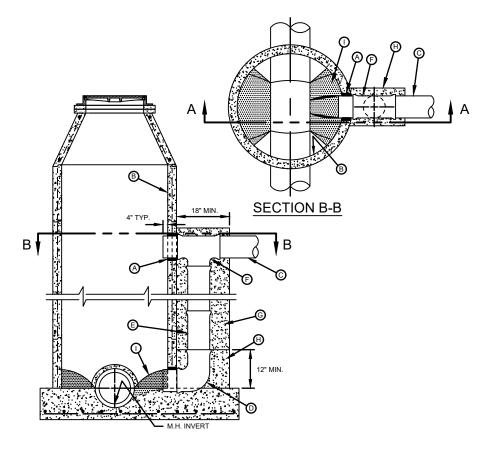
MANHOLE RING & COVER ADJUSTMENT

NOT TO SCALE

APPROVED BY: XB DRAWN BY: Q







SECTION A-A

GENERAL NOTES:

- DROP CONNECTION SHOWN MAY BE USED ON ALL MANHOLE TYPES (NOT RECOMMENDED IN GROUND WATER CONDITIONS). DROP CONNECTION TO BE CONSTRUCTED WHEN INVERT ELEVATION OF INFLUENT PIPE IS 2 FEET (OR GREATER) ABOVE THE MANHOLE INVERT.

CONSTRUCTION KEY NOTES:

- A. PIPE OPENINGS IN MANHOLE RISERS SHALL HAVE COMPRESSION TYPE FLEXIBLE PIPE TO MANHOLE CONNECTORS (A.S.T.M. - C923) "KOR-N-SEAL" OR APPROVED EQUAL.
 MANHOLE WALL
 INFLUENT SEWER PIPE.
 90° BEND (P.V.C.)
 P.V.C. PIPE (SDR. 35)
 P.V.C. TEE

- P.V.C. TEE CONCRETE FLOWABLE FILL 2500 PSI CONCRETE USE GROUT TO FORM A SMOOTH CHANNEL TO MANHOLE INVERT

S-20

SHEET

OF

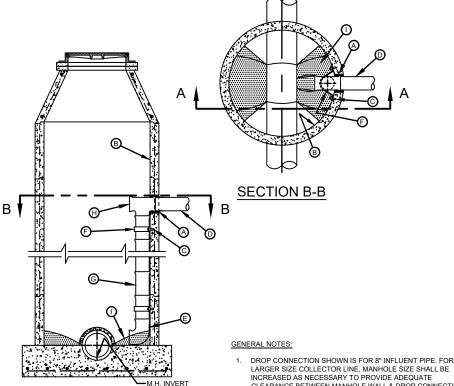
DROP CONNECTION - EXTERNAL MANHOLE CONNECTION

NOT TO SCALE

APPROVED BY: XB DRAWN BY:







- LARGER SIZE OCILECTOR LINE, MANHOLE SIZE SHALL BE INCREASED AS NECESSARY TO PROVIDE ADEQUATE CLEARANCE BETWEEN MANHOLE WALL & DROP CONNECTION PIPING AND SHALL ACCOMMODATE THE EPWU'S CONFINED SPACE ENTRY PERMIT PROGRAM. VERIFY MANHOLE STRUCTURAL INTEGRITY (I.E. BRICK TYPE
- MANHOLES) PRIOR TO INSTALLATION OF ANCHOR STRAPS & EXPANSION BOLTS (SEE NOTES "C" & "F" BELOW) ANCHOR STRAPS & BOLTS, SHALL HAVE ONE HEAVY COAT OF POLYAMIDE CURED COAL TAR EPOXY TO PREVENT
- CORROSION.
 DROP CONNECTION TO BE CONSTRUCTED WHEN INVERT
 ELEVATION OF INFLUENT PIPE IS 2 FEET (OR GREATER) ABOVE
 THE MANHOLE INVERT.

CONSTRUCTION KEY NOTES:

- PIPE OPENINGS IN MANHOLE RISERS SHALL HAVE COMPRESSION TYPE FLEXIBLE PIPE TO MANHOLE CONNECTORS (A.S.T.M. - C923) "KOR-N-SEAL" OR APPROVED EQUAL.
 MANHOLE WALL

- MANHOLE WALL 1/2" STAINLESS STEEL EXPANSION BOLT TO HAVE 2" MIN. ANCHORAGE INTO MANHOLE. 8" INFLUENT SEWER PIPE. 8" -90" BEND (P.V.C.). 2" WIDE X 3/16" THICK STAINLESS STEEL (T316) STRAP @ 4" O.C. (AS REQUIRED) 8" P.V.C. PIPE (SDR. 35) 8" X 8" P.V.C. TEE

- USE GROUT TO FORM A SMOOTH CHANNEL TO MANHOLE INVERT

S-21

SHEET

OF

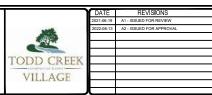
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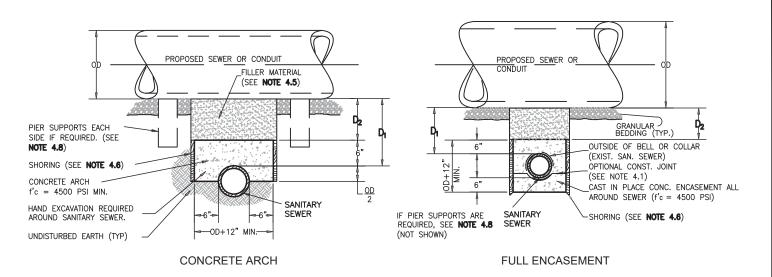
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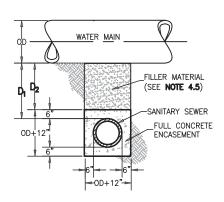


SECTION A-A





TYPE I - SANITARY SEWER CROSSING SEWER OR STORM





WATER MAIN

OD+12'

FULL CONCRETE ENCASEMENT

SANITARY SEWER

FILLER MATERIAL

(SEE NOTE 4.5)

<u>LEGEND</u>

OD: OUTSIDE DIAMETER
D1: DISTANCE FROM OD TO OD

D2: DEPTH OF FILLER MATERIAL

TYPE II - SEWER CROSSING UNDER WATER MAIN IF D1>24", ENCASEMENT NOT REQUIRED

NOTES:

- CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED AND BOTTOM HALF OF ENCASEMENT IS POURED SEPARATELY, A ONE INCH LAYER OF SAND OR MORTAR SHALL BE PLACED BETWEEN BOTTOM OF SANITARY SEWER AND TOP OF CONCRETE.
- - (A) TYPE I ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
 - TYPE II & III ENCASEMENT SHALL EXTEND AT LEAST 10 FEET EACH SIDE OF WATER MAIN
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I, II, & III ENCASEMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, TO BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I, II OR III ENCASEMENT REQUIRED UNDER FOLLOWING CONDITIONS:
 - (A) TYPE I REQUIRED IF D≤18" (D2≤12") EXCEPT FOR SANITARY SEWERS CROSSING OVER OR UNDER WATER MAINS.
 - (B) TYPE II REQUIRED FOR SANITARY SEWERS CROSSING UNDER WATER MAINS AND $D_{\underline{L}} \leq 24$ " ($D_{\underline{L}} \leq 18$ ").
 - (C) TYPE III REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS, REGARDLESS OF DIMENSION "D1".
 - (D) EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS, OR WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASEMENT WILL NORMALLY BE SATISFACTORY.
 - (E) IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF CAST IRON PIPE (AWWA C-106 OR C-108) OR DUCTILE IRON PIPE (AWWA C-150 OR C-151), CONCRETE ENCASEMENT MAY NOT BE REQUIRED.
- 4.5 FILLER MATERIAL BETWEEN CONDUITS TO BE:
 - (A) APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC., IF D₂≤6".
 - (B) COMPACTED GRANULAR BEDDING IF D₂>6" (IF D₂>6" FOR TYPE IIB ENCASEMENT POUR CONCRETE ON UNDISTURBED SOIL).
 - (C) OR DICTATED BY UTILITY OWNER.
- SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT. 4.6
- THESE ENCASEMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS.
- IN CERTAIN SITUATIONS WHERE THE EXISTING CONDUIT DIAMETER IS EXTREMELY LARGE, PIER SUPPORTS ON EACH SIDE OF SANITARY SEWER 4.8 MAY ALSO BE REQUIRED. IF REQUIRED, SUPPORTS TO BE SPECIFIED AND DETAILED SEPARATELY ON PLAN AND PROFILE DRAWINGS. NO PIPE JOINTS OVER TOP OF WATER MAIN.
- INTERNATIONAL PLUMBING CODE APPROVED MATERIALS ALLOWED.

S-22 SHEET

OF

PIPE ENCASEMENT AT SEWER UTILITY CROSSING

NOT TO SCALE

DRAWN BY:



