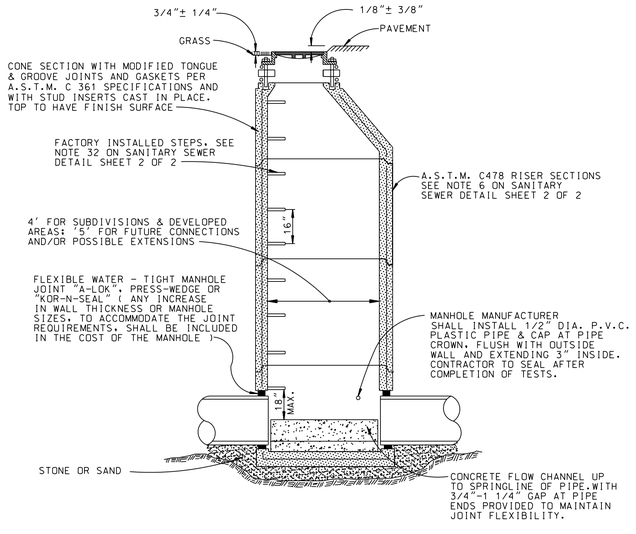
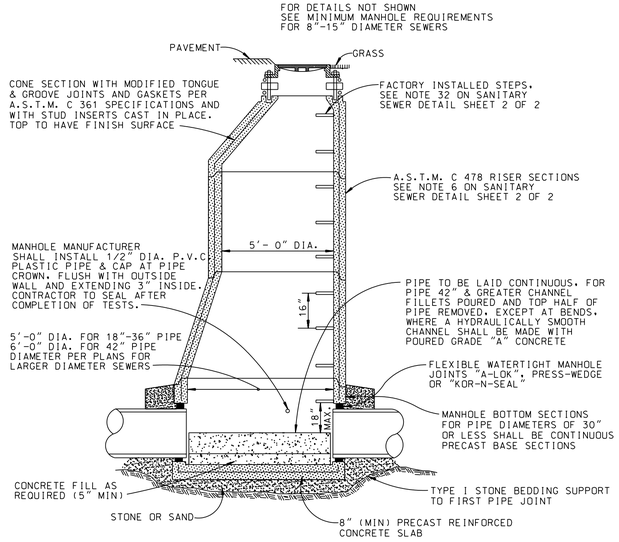


NOTE: ALL PRECAST MANHOLES, SLAB BASE & CONCRETE CHANNELIZATION SHALL BE MANUFACTURED WITH TYPE II, IP, OR IIA CEMENT.

SANITARY SEWER MANHOLE

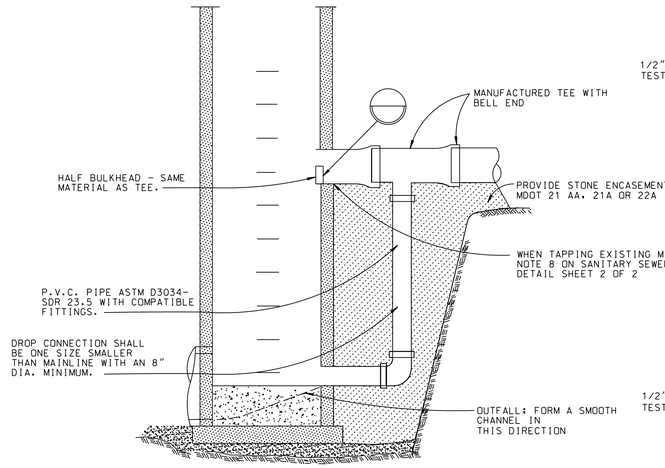
(8" THRU 15" DIA.SEWERS)



NOTE: ALL PRECAST MANHOLES, SLAB BASE & CONCRETE CHANNELIZATION SHALL BE MANUFACTURED WITH TYPE II, IP, OR IIA CEMENT.

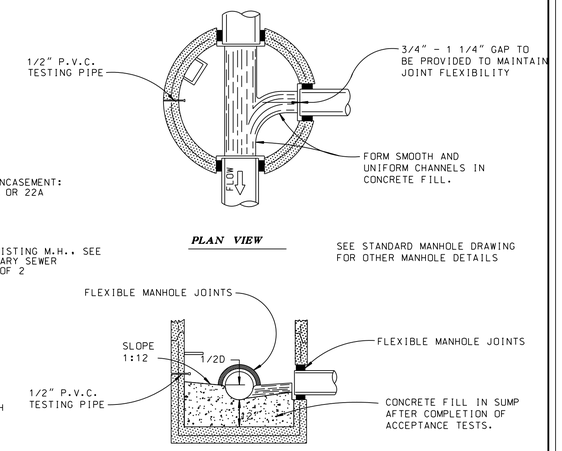
SANITARY SEWER MANHOLE

(18" AND LARGER DIA.SEWERS)



EXTERIOR DROP ASSEMBLY

FOR ALL DROP CONNECTIONS



SUMP MANHOLE

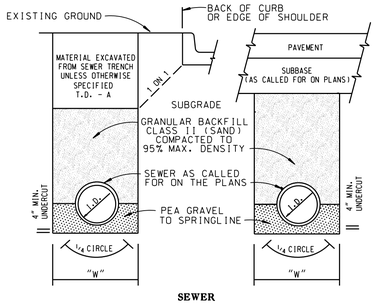
FOR TESTING, CLEANING & DEWATERING

GENERAL PIPE BEDDING & TRENCH NOTES

1. THE CONTRACTOR SHALL INSTALL THE PIPE IN ACCORDANCE WITH THE BEDDING DETAIL REQUIRED FOR THE PIPE DEPTH (MEASURED FROM THE TOP OF THE PIPE), AND TRENCH WIDTH (MEASURED ACROSS THE TRENCH AT THE TOP OF THE PIPE) CONSTRUCTED. A CONTRACTOR MAY ALWAYS USE A HIGHER QUALITY BEDDING CLASS THAN REQUIRED. ANY OTHER VARIATIONS MUST BE APPROVED IN WRITING BY THE ENGINEER.
2. CRUSHED STONE BEDDING SHALL BE UTILIZED FOR ALL DEWATERED GROUND TRENCHES AND SHALL UTILIZE A TRENCH WIDTH OF 30" (MINIMUM).
3. BEDDING & BACKFILL MATERIAL SHALL BE AS FOLLOWS:

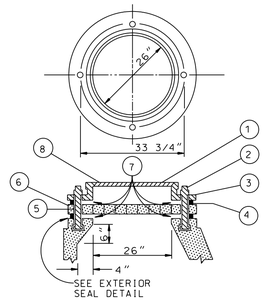
TYPE I: SHALL CONSIST OF WELL GRADED CRUSHED STONE. THE STONE SHALL CONFORM TO ASTM D 448. #67, ASTM D 2487 CLASS 1. OR ALTERNATIVE APPROVED BY THE ENGINEER. ANY MATERIAL INCORPORATED SHALL PROVIDE A MINIMUM OF 90% CRUSHED MATERIAL. MDOT COURSE AGGREGATES 6A, 6AA, 9A, 17A & 25 SERIES ARE ALSO APPROVED FOR USE IF THEY ARE MANUFACTURED WITH SUFFICIENT CRUSHED MATERIAL AND NO STONE IS LARGER THAN 1-1/4 INCH IN DIAMETER. SPADING THE HAUNCH AREA IS REQUIRED. FOR DENSITY.

TYPE II: SHALL CONSIST OF WELL GRADED COURSE SANDS AND GRAVEL (1-1/4 INCH MAXIMUM DIAMETER) CONTAINING A SMALL PERCENTAGE OF FINES. THE MATERIAL SHALL CONFORM TO ASTM D 2487 CLASS II AND SHALL INCLUDE PEA PEBBLE AND MDOT AGGREGATES 2O SERIES. 21 SERIES, 22 SERIES, 23A, 26A, 28 SERIES & 31 SERIES. 95% MINIMUM DENSITY REQUIRED. TYPE II MAY BE SUBSTITUTED FOR TYPE III BACKFILL.



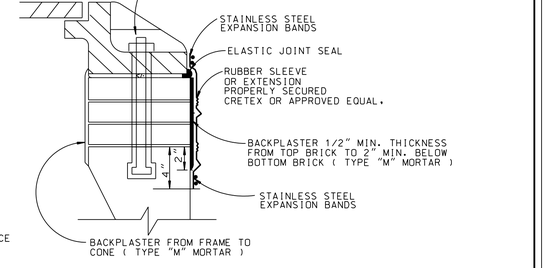
SEWER
- UNDER ROAD BED
OR WITHIN THE INFLUENCE OF ROADBED

TRENCH DETAIL 'B'



WATERPROOF MANHOLE FRAME & COVER

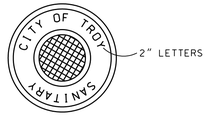
1. BOLTED WATERPROOF FRAME & COVER EQUAL TO EAST JORDAN 1040 ZPT WITH (4) 3/4" DIA. BASE FLANGE HOLES.
2. FOUR (4) CADMIUM COATED 5/8" THREADED STUDS. 3/4" X 2" X 1/16" FLAT WASHERS AND HEX HEADNUTS.
3. FOUR (4) 3/4" X 2" X 1/16" NEOPRENE FLAT WASHERS
4. ELASTIC JOINT SEALANT
5. FOUR (4) 5/8" THREADED INSERTS CAST AS SHOWN
6. CONCRETE BRICK IN FULL MORTAR BED FOR GRADE ADJUSTMENT. 5" MIN. - 12" MAX. ADJUSTMENT. NO BRICKWORK OR MORTAR COATING SHALL EXTEND BEYOND THE O.D. OF THE MANHOLE. MORTAR COAT ALL OPEN SPACES AND IRREGULARITIES ON THE OUTSIDE OF THE BRICKWORK. TAPER OUTSIDE MORTAR COAT A MIN. 1% FROM THE MANHOLE O.D. TO THE FRAME FLANGE.
7. FORM INSIDE OF MANHOLE AND COMPLETELY FILL SPACE WITH TYPE "M" MORTAR.
8. COVER SUPPLIED WITH (4) 1/2" STAINLESS STEEL CAP SCREWS COUNTERSUNK FLUSH WITH COVER.

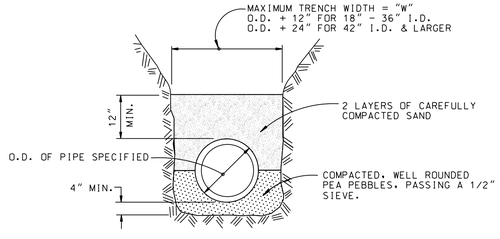


EXTERIOR SEAL DETAIL

MATERIALS

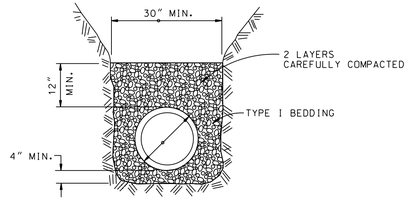
1. ELASTIC JOINT SEAL: BUTYL RUBBER JOINT SEALANT (A-LOK, BUTYL-LOK SYSTEM OR APPROVED EQUAL)
2. RUBER SLEEVE AND EXTENSION: HIGH GRADE RUBBER CONFORMING TO A.S.T.M. 923. MIN THICKNESS 3/16. CRETEX SPECIALTY PRODUCTS OR APPROVED EQUAL.
3. COMPRESSION BANDS: 16 GAUGE STAINLESS STEEL CONFORMING TO A.S.T.M A-240 TYPE 304. MIN WIDTH 1" CRETEX SPECIALTY PRODUCTS OR APPROVED EQUAL.





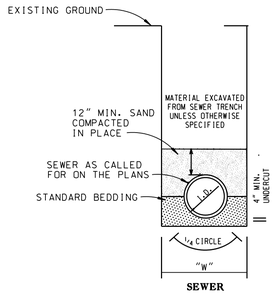
STANDARD BEDDING

NOTE: APPROVAL MAY BE GIVEN TO ALTERNATE MATERIALS AND METHODS TO ACHIEVE STANDARD BEDDING.



CRUSHED STONE BEDDING

NOTE: FOR ALL TRENCHES GREATER THAN 30" IN WIDTH, DEWATERED TRENCHES AND ALL TRENCHES GREATER THAN 20' IN DEPTH.



SEWER
NOT UNDER ROAD BED

TRENCH DETAIL 'A'

CITY OF TROY

OAKLAND COUNTY, MICHIGAN

STANDARD SANITARY SEWER DETAILS (1 OF 2)

ENGINEERING DEPARTMENT

APPROVED BY : STEVEN J. VANDETTE, CITY ENGINEER DATE : JANUARY 03, 2001

REVISIONS	DATE	REMARKS

PROJECT NO.	SHEET NO.
DATE: JANUARY 2001	
DRAWN BY: G.S.F.	CHECKED BY: W.D.J.

STATE OF MICHIGAN — STEVEN J. VANDETTE — ENGINEER NO. 28197 — LICENSED PROFESSIONAL ENGINEER

STEVEN J. VANDETTE, P.E. 28197

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