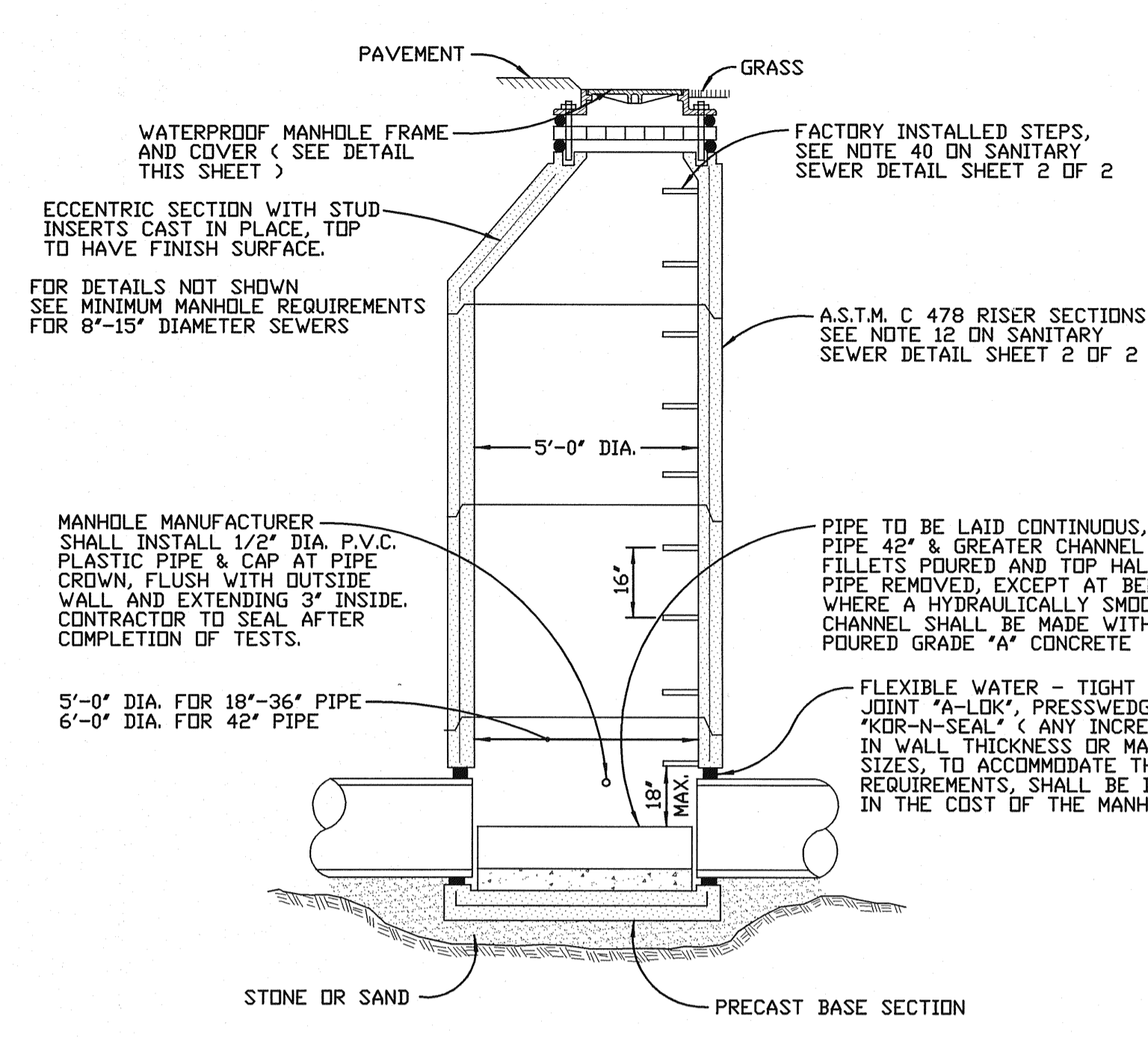
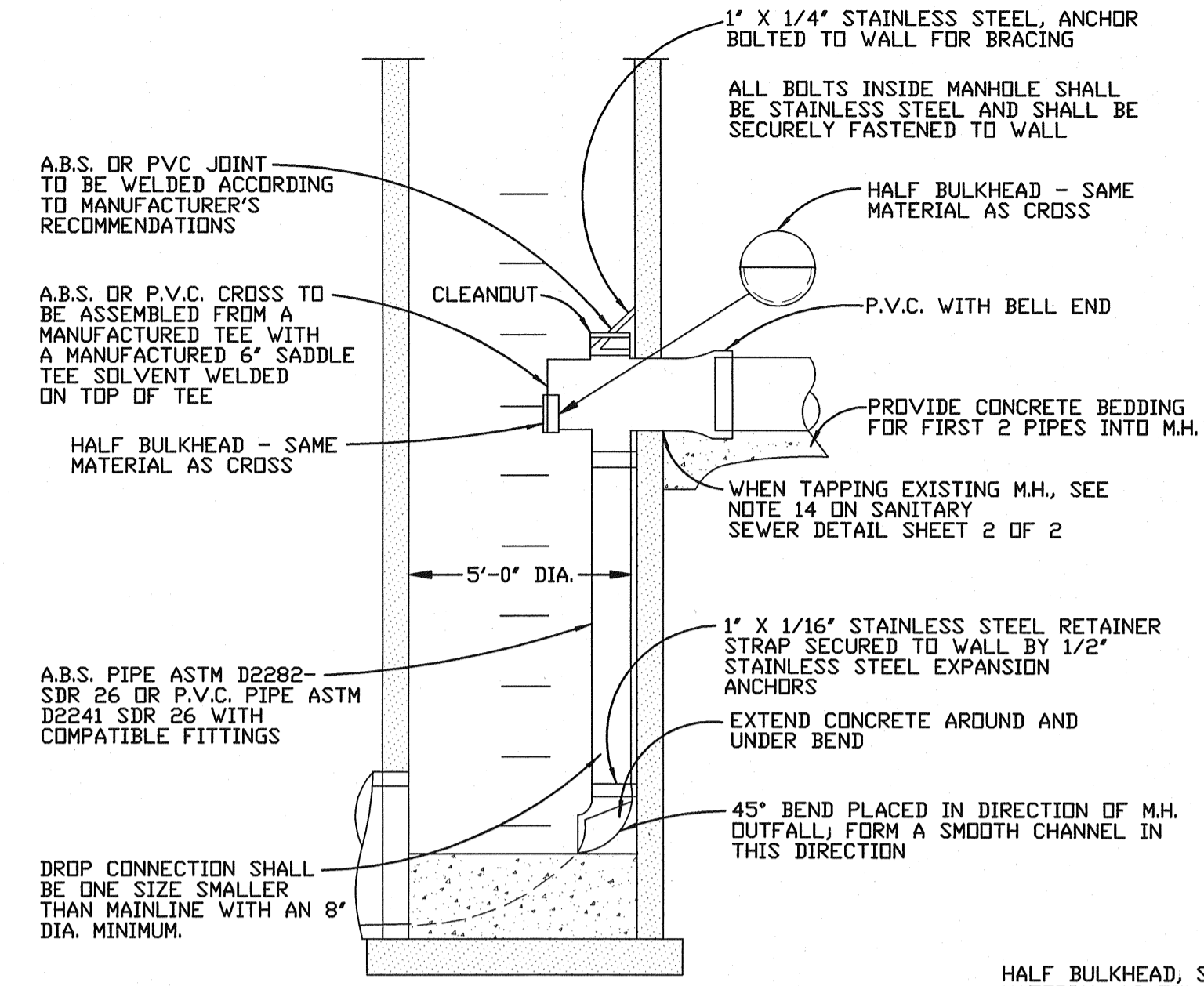


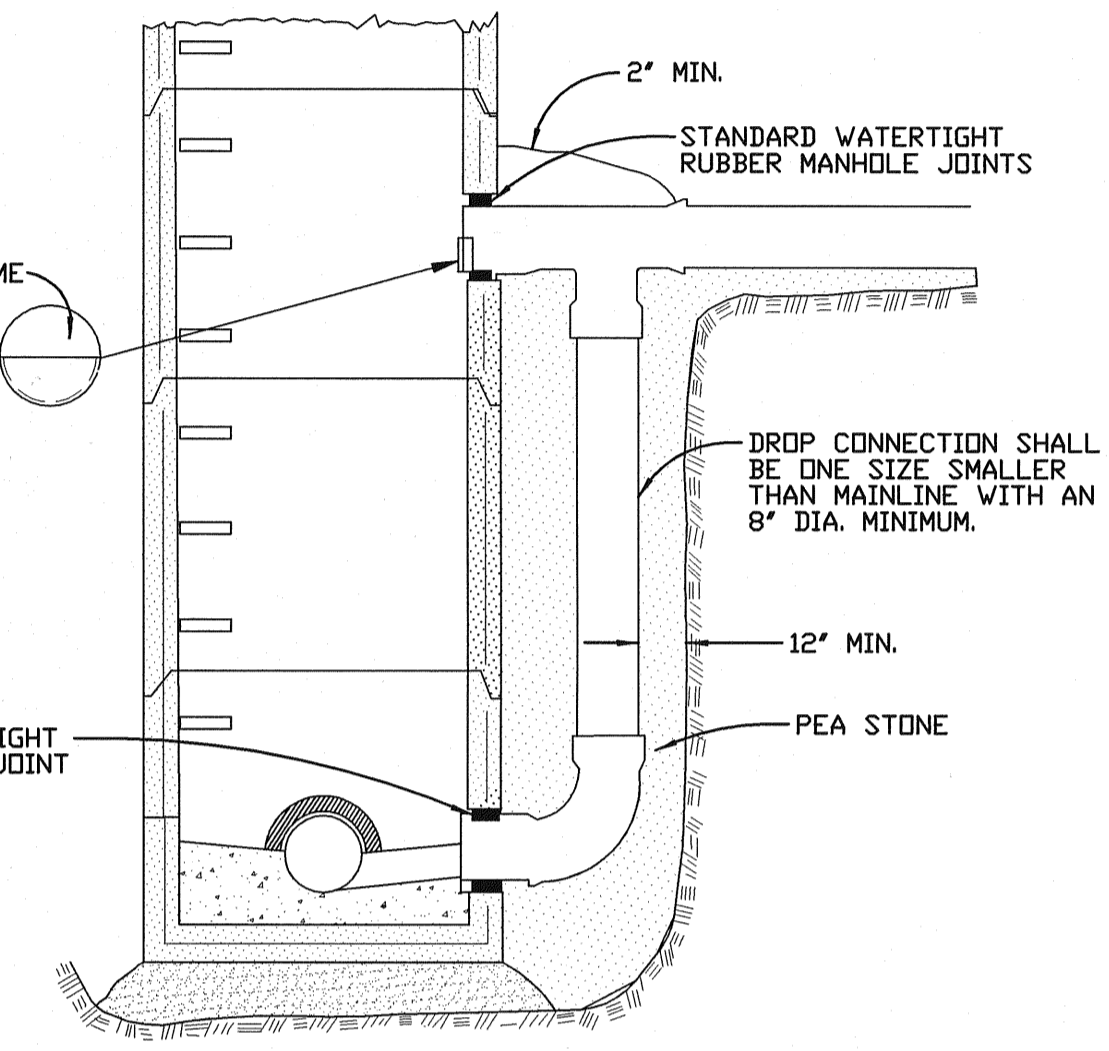
STANDARD SANITARY SEWER DETAILS
(8" THRU 15" DIA SEWER)



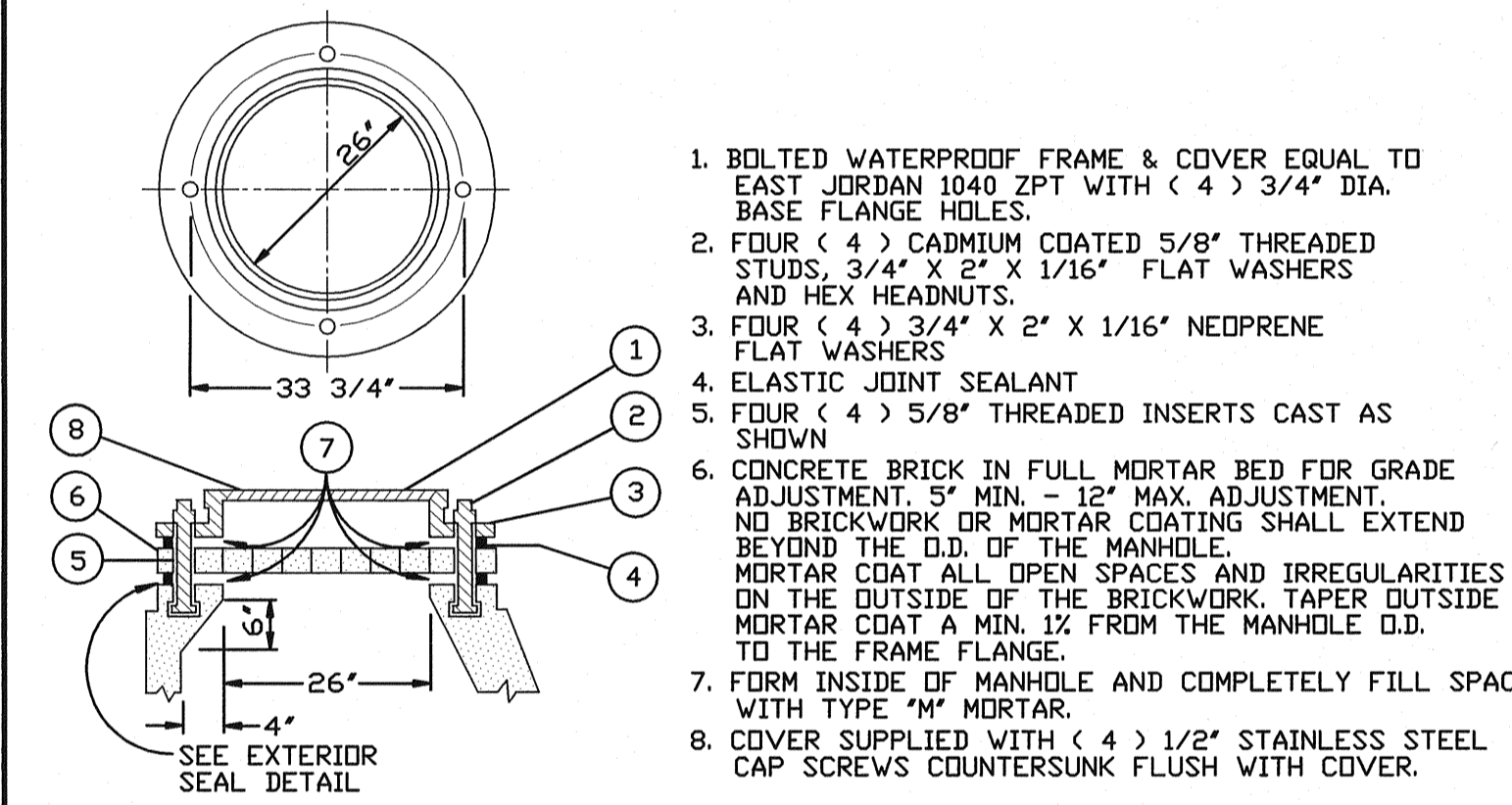
STANDARD SANITARY SEWER MANHOLE
(18" THRU 42" DIA SEWER)



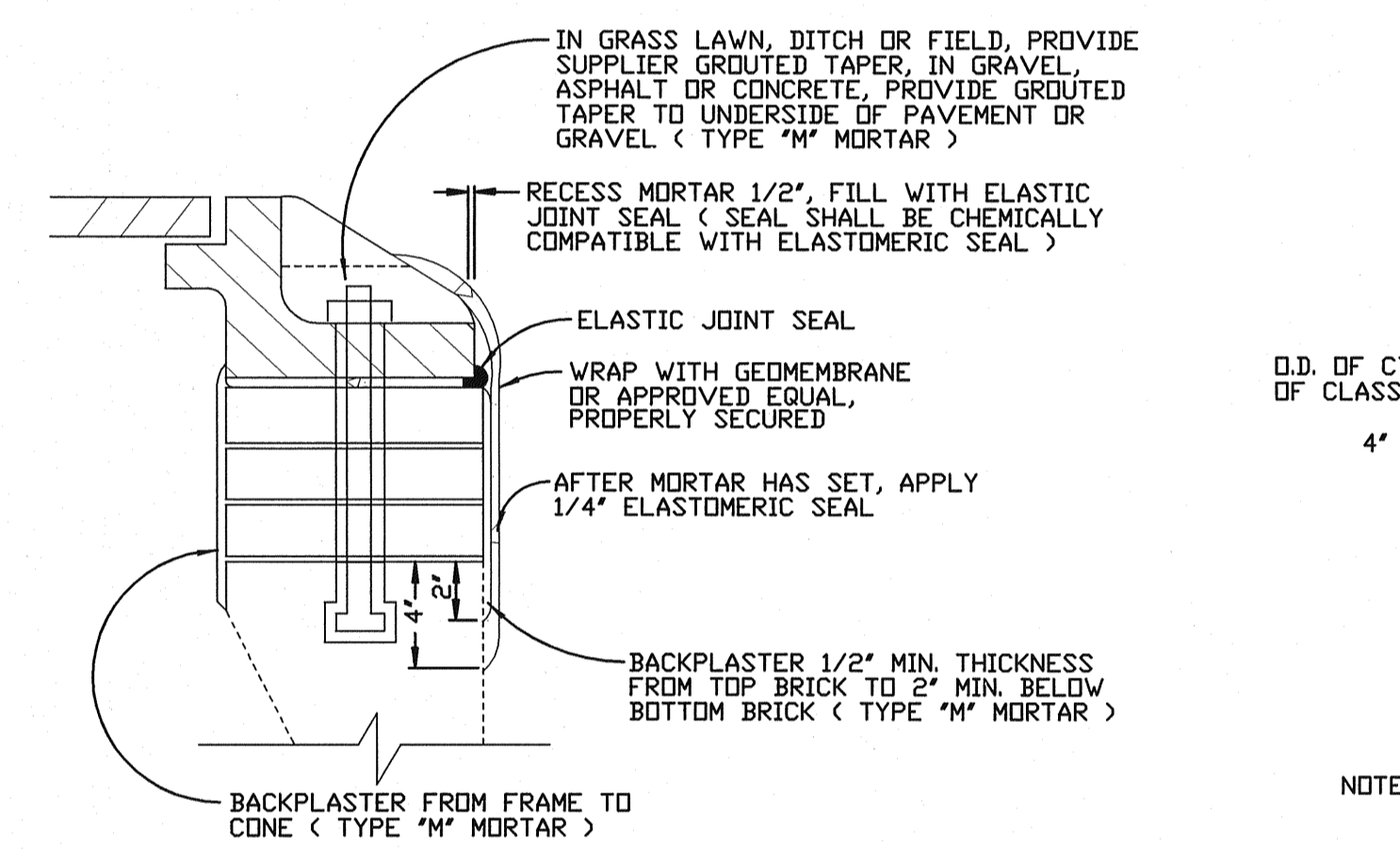
INTERIOR DROP ASSEMBLY
ONLY WITH DEPARTMENT OF SEWER & WATER APPROVAL



EXTERIOR DROP CONNECTION
FOR ALL DROP CONNECTIONS

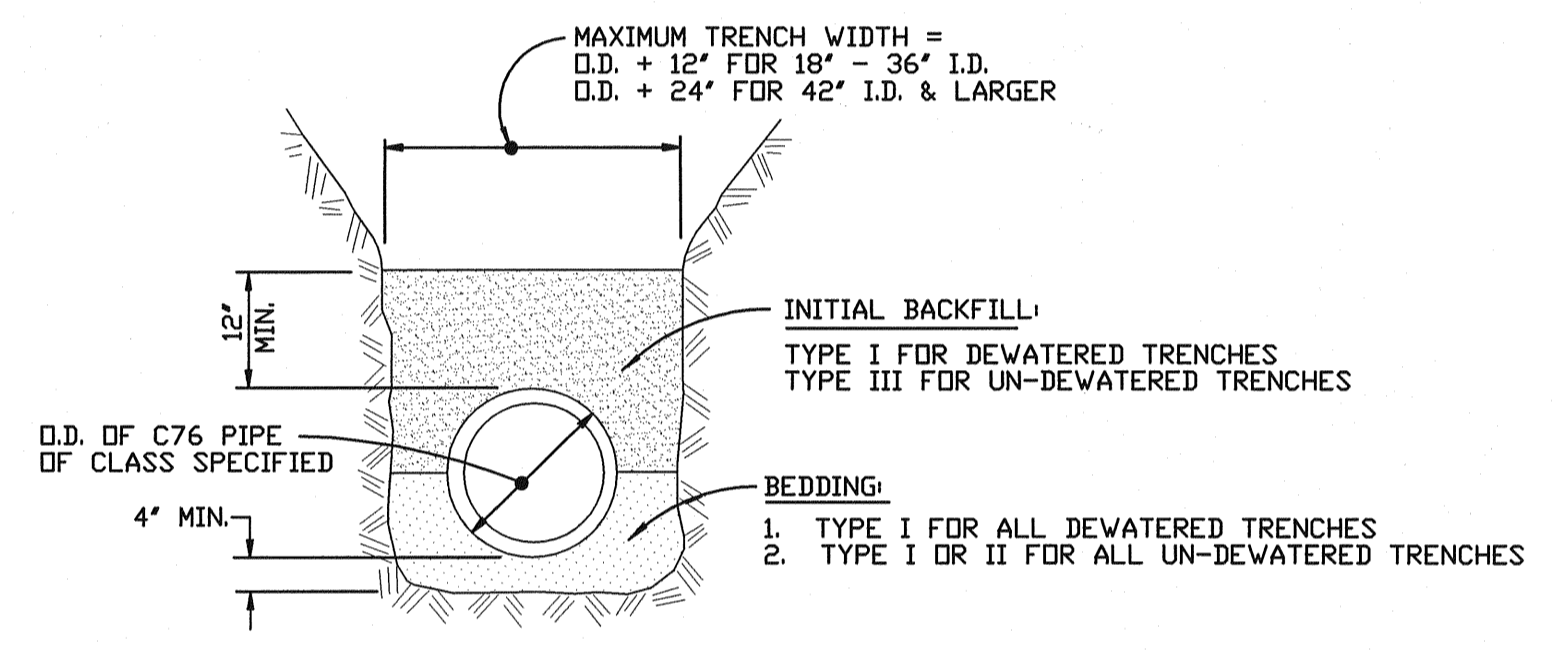


WATER PROOF MANHOLE FRAME & COVER



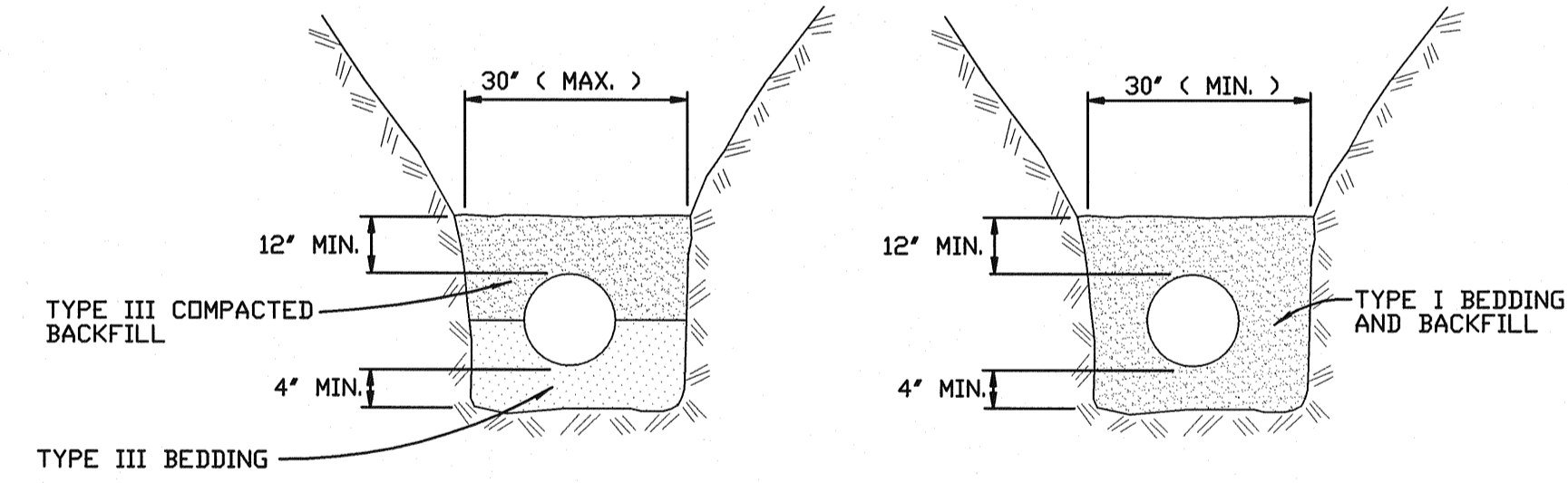
EXTERIOR SEAL DETAL
MATERIAL

- ELASTIC JOINT SEAL: BUTYL RUBBER JOINT SEALANT (A-LOK, BUTYL-LOK SYSTEM OR APPROVED EQUAL)
- ELASTOMERIC SEAL: BUTYL RUBBER SEALANT (TROWELABLE-GRADE) (A-LOK, BUTYL-LOK SYSTEM OR APPROVED EQUAL)
- GEDMEMBRANE: PVC GEDMETRIC, IN THICKNESS 20 MIL, STAFF INDS., OR APPROVED EQUAL.
- ADHESIVE PRIMER: WATER EMULSION OR SOLVENT PER MANUFACTURERS RECOMMENDATIONS.
- USE OF THE CANUSA WRAPID SEAL ENCAPSULATION SYSTEM INSTALLED PER MANUFACTURERS' RECOMMENDATION IS AN APPROVED ALTERNATE TO THIS DETAIL UNLESS OTHERWISE NOTED ON THE PLANS.



BEDDING & TRENCH DETAIL,
18" & LARGER SEWER
CLASS C

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



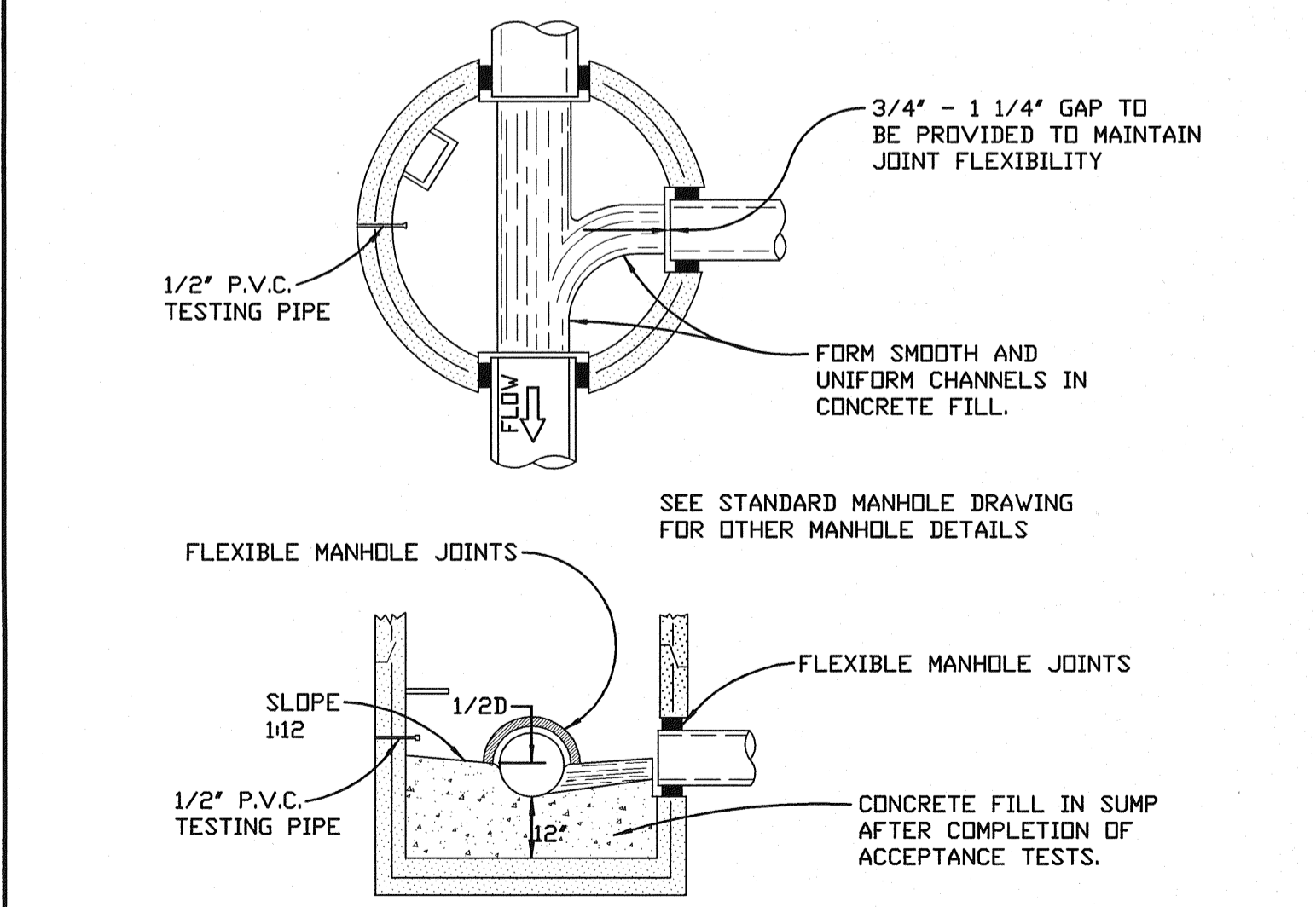
CLASS "C" BEDDING
FOR ALL UN-DEWATERED TRENCHES LESS THAN 20' IN DEPTH

CRUSHED STONE ENCASUREMENT
FOR ALL TRENCHES 30" AND GREATER IN WIDTH, DEWATERED TRENCHES AND ALL TRENCHES GREATER THAN 20' IN DEPTH.

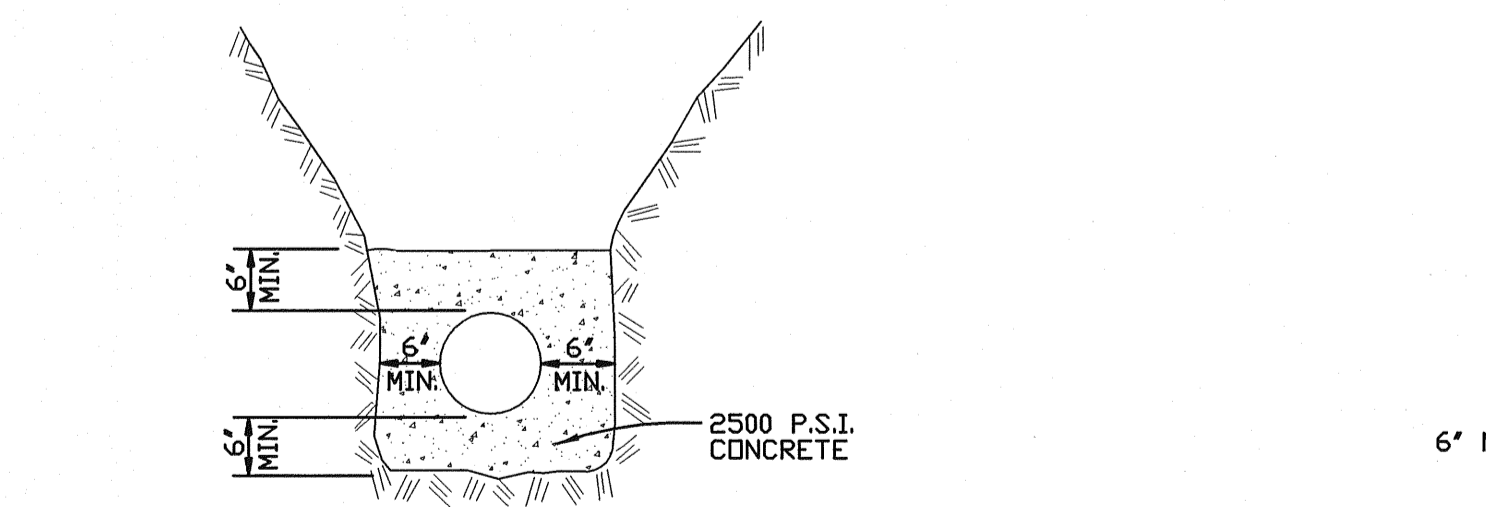
BEDDING & TRENCH DETAIL, 6"-15" SEWERS

GENERAL PIPE BEDDING & TRENCH NOTES

- THE CONTRACTOR SHALL INSTALL THE PIPE IN ACCORDANCE WITH THE CLASS BEDDING DETAIL REQUIRED FOR THE TYPE OF PIPE, PIPE DEPTH (MEASURED 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.
- CRUSHED STONE ENCASUREMENT SHALL BE UTILIZED FOR ALL DEWATERED GROUND TRENCHES AND SHALL UTILIZE A TRENCH WIDTH OF 30" (MINIMUM).
- BACKFILL/ BEDDING MATERIAL SHALL BE AS FOLLOWS:
 - TYPE I: SHALL CONSIST OF WELL GRADED CRUSHED STONE. THE STONE SHALL CONFORM TO ASTM D 448 #5, #6, #7, #8, #10, #12, #14, #16, #18, #20, #24, #28, #30, #36, #42, #48, #60, #75, #90, #108, #125, #150, #180, #210, #250, #300, #360, #420, #480, #540, #600, #675, #750, #825, #900, #975, #1050, #1125, #1200, #1275, #1350, #1425, #1500, #1575, #1650, #1725, #1800, #1875, #1950, #2025, #2100, #2175, #2250, #2325, #2400, #2475, #2550, #2625, #2700, #2775, #2850, #2925, #3000, #3075, #3150, #3225, #3300, #3375, #3450, #3525, #3600, #3675, #3750, #3825, #3900, #3975, #4050, #4125, #4200, #4275, #4350, #4425, #4500, #4575, #4650, #4725, #4800, #4875, #4950, #5025, #5100, #5175, #5250, #5325, #5400, #5475, #5550, #5625, #5700, #5775, #5850, #5925, #6000, #6075, #6150, #6225, #6300, #6375, #6450, #6525, #6600, #6675, #6750, #6825, #6900, #6975, #7050, #7125, #7200, #7275, #7350, #7425, #7500, #7575, #7650, #7725, #7800, #7875, #7950, #8025, #8100, #8175, #8250, #8325, #8400, #8475, #8550, #8625, #8700, #8775, #8850, #8925, #9000, #9075, #9150, #9225, #9300, #9375, #9450, #9525, #9600, #9675, #9750, #9825, #9900, #9975, #10050.
 - TYPE II: SHALL CONSIST OF WELL GRADED COURSE SANDS AND GRAVEL (1 INCH MAXIMUM DIAMETER) CONTAINING A SMALL PERCENTAGE OF FINES. THE MATERIAL SHALL CONFORM TO ASTM D 2321 CLASS II AND SHALL INCLUDE PEA PEBBLE AND MDDT AGGREGATES 20 SERIES, 21 SERIES, 22 SERIES, 23A, 24A, 25 SERIES & 31 SERIES. 95% MINIMUM DENSITY REQUIRED. TYPE II MAY BE SUBSTITUTED FOR TYPE III BACKFILL.
 - TYPE III: SHALL CONSIST OF FINE SAND AND CLAYEY GRAVELS CONFORMING TO ASTM 2321 CLASS III AND SHALL INCLUDE PEA PEBBLE. IT SHALL NOT CONTAIN ANY STONE LARGER THAN 1 INCH IN DIAMETER AND SHALL REQUIRE 95% MINIMUM DENSITY.

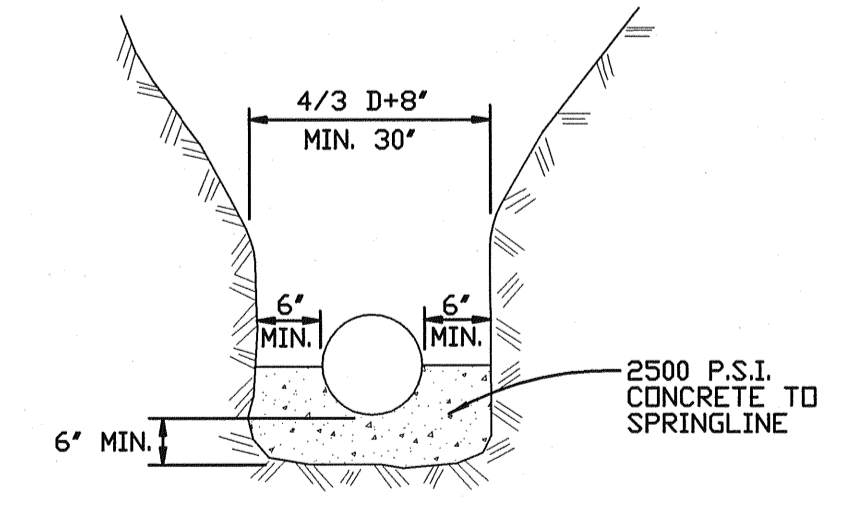


SUMP MANHOLE
FOR TESTING, CLEANING & DEWATERING



CONCRETE ENCASUREMENT
DETAIL

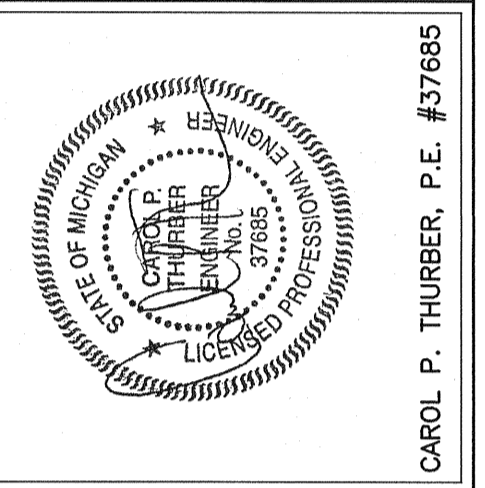
- PLACE 2,500 PSI CONCRETE AGAINST UNDISTURBED EARTH FOR ENTIRE WIDTH OF TRENCH.
- CONCRETE ENCASUREMENT SHALL BE USED UNDER ALL RIVERS OR COUNTY DRAINS WHERE THE WIDTH FROM TOP OF BANK TO TOP OF BANK IS IN EXCESS OF 10 FEET & CROWN OF SEWER IS NOT COVERED BY 5 FEET.
- CONCRETE ENCASUREMENT SHALL EXTEND A DISTANCE OF 10 FEET BEYOND THE TOP OF BANK ON EACH SIDE OF THE STREAM. (MINIMUM ENCASUREMENT 30 FEET).
- FOR SANITARY SEWER IN EXCESS OF 15 INCHES IN DIAMETER CLASS V REINFORCED PIPE MAY BE SUBSTITUTED FOR CONCRETE ENCASUREMENT, WITH OWNER'S APPROVAL.



CONCRETE CRADLE
DETAIL

- CONCRETE CRADLE MAY BE SPECIFIED AT OWNER'S DISCRETION WHERE THE TRENCH WIDTH IS EXCESSIVE, OR WHERE THE TRENCH IS NOT SUITABLE FOR PIPE LAYING.
- THE USE OF CONCRETE CRADLE FOR THESE PURPOSES WILL NOT BE CONSIDERED AS A PAY ITEM FOR THE CONTRACT UNLESS SPECIFICALLY DESIGNATED BY THE SPECIFICATIONS.

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DEPARTMENT OF PUBLIC WORKS

APPROVED BY: *Michael Barnett*
MICHAEL BARNETT
DIRECTOR OF PUBLIC WORKS
DATE: 8-1-07

VILLAGE OF NEW HAVEN
STANDARD DETAILS
FOR SANITARY SEWER
(1 OF 2)