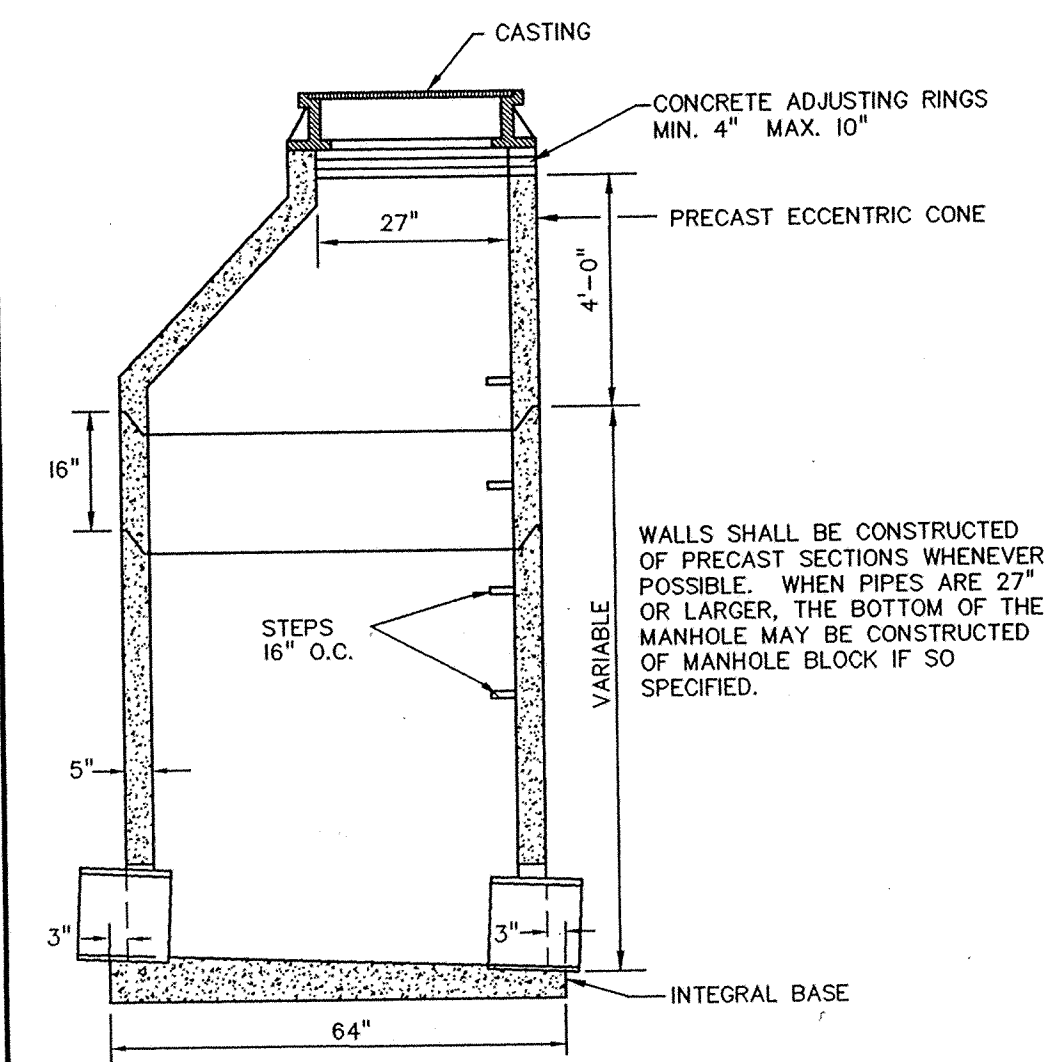


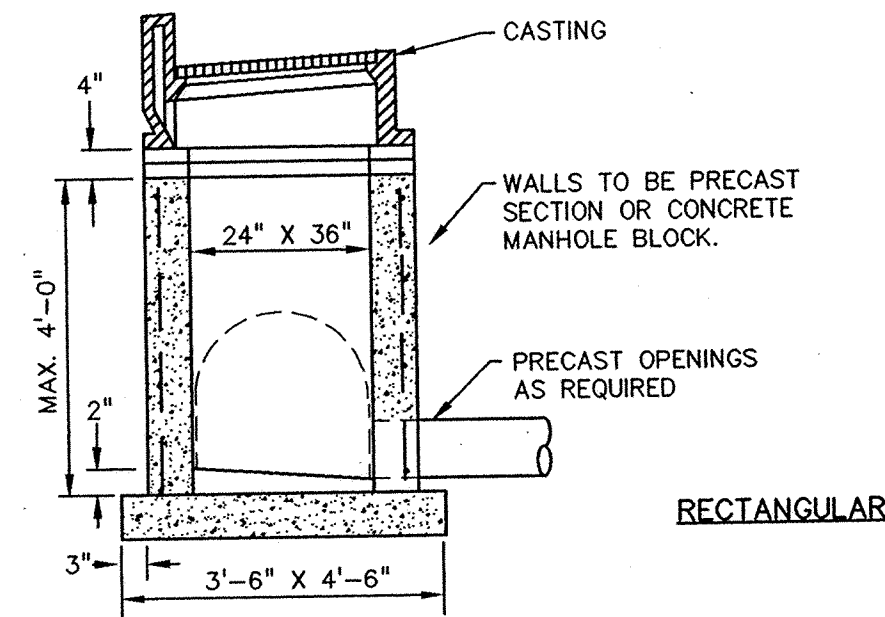
RECORD DRAWINGS



NOTES:

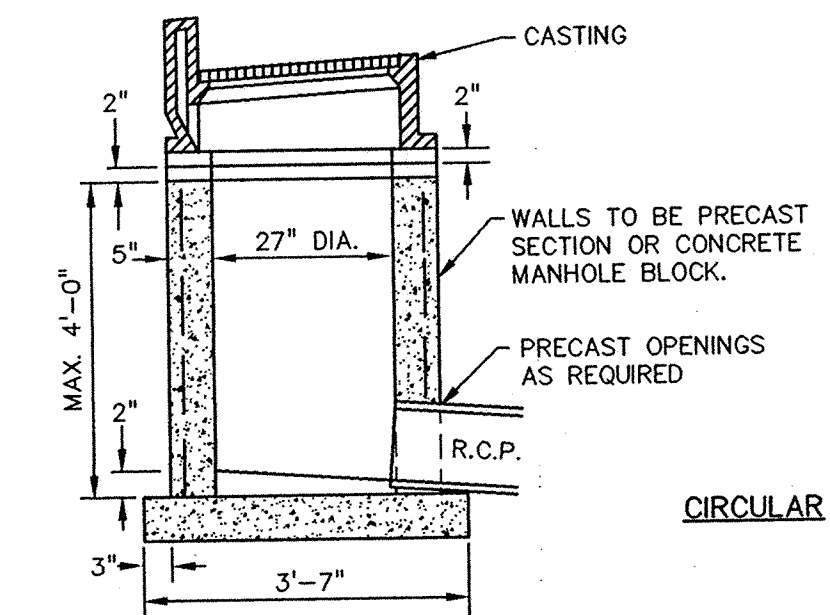
1. WHEN MANHOLE DEPTH IS LESS THAN 8' OR CASTING IS RECTANGULAR, A SLAB TOP SHALL BE USED IN PLACE OF THE CONE. THE SLAB SHALL BE SUITABLE FOR AASHTO HS 20 HIGHWAY LOADINGS. THE SLAB SHALL BE ON A MORTAR BED.
2. MANHOLE INVERT SHALL BE SLOPED TO PROVIDE SMOOTH FLOW FROM INLET TO OUTLET.
3. MANHOLE JOINTS MAY BE MADE WITH CEMENT MORTAR INSIDE AND OUT.

STANDARD STORM SEWER MANHOLE (D-01)

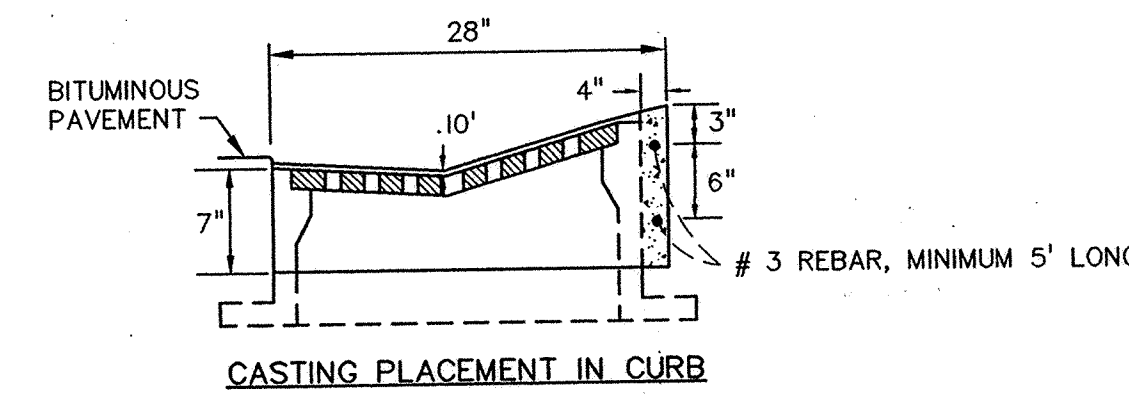
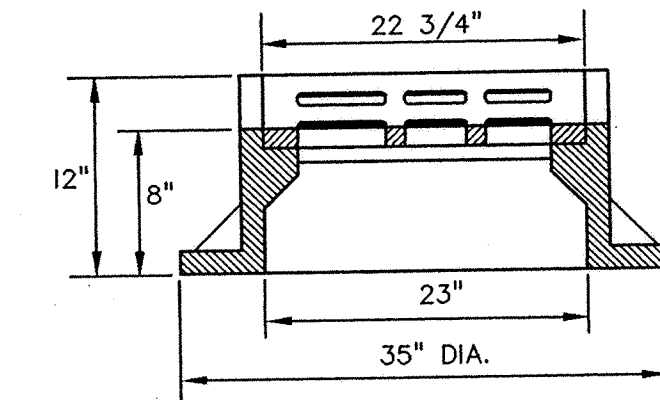
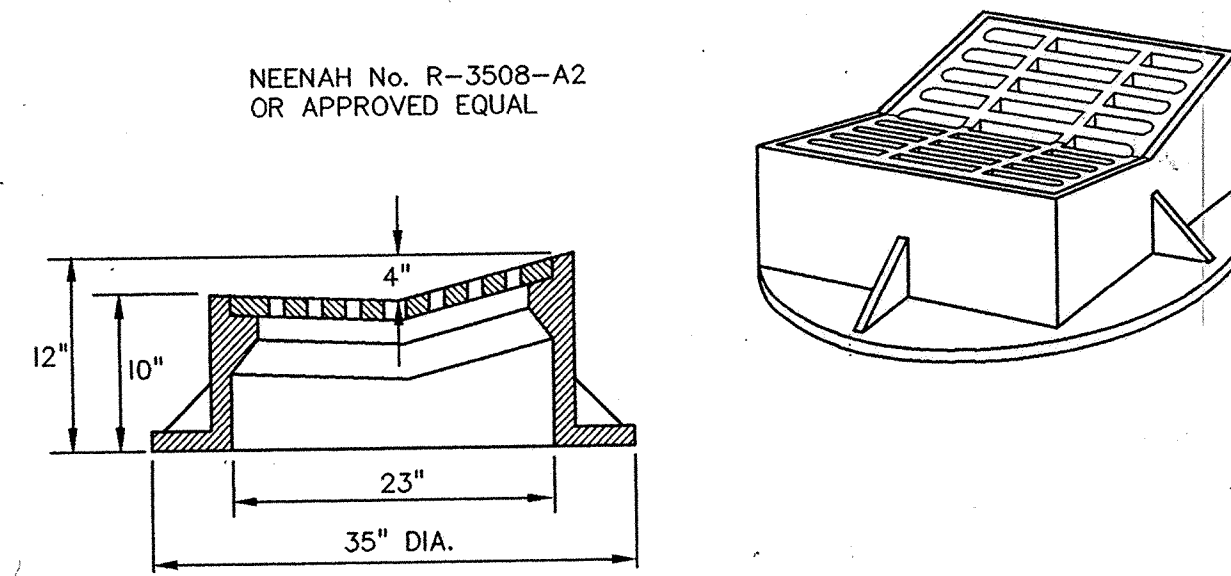


NOTES:

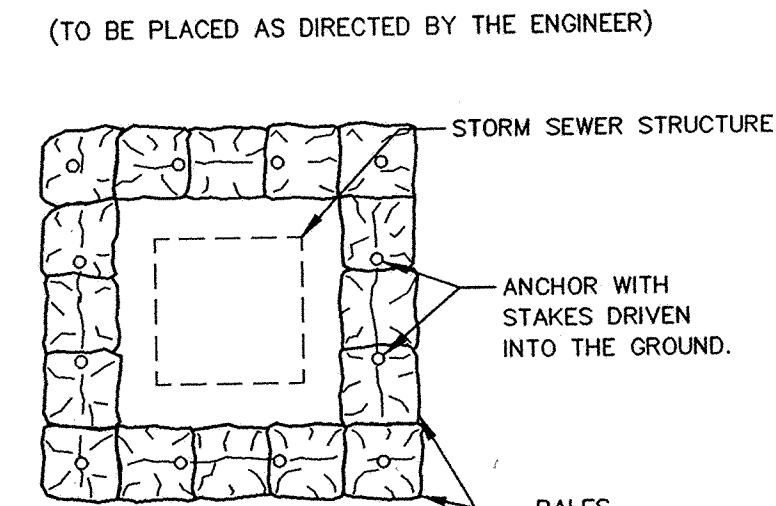
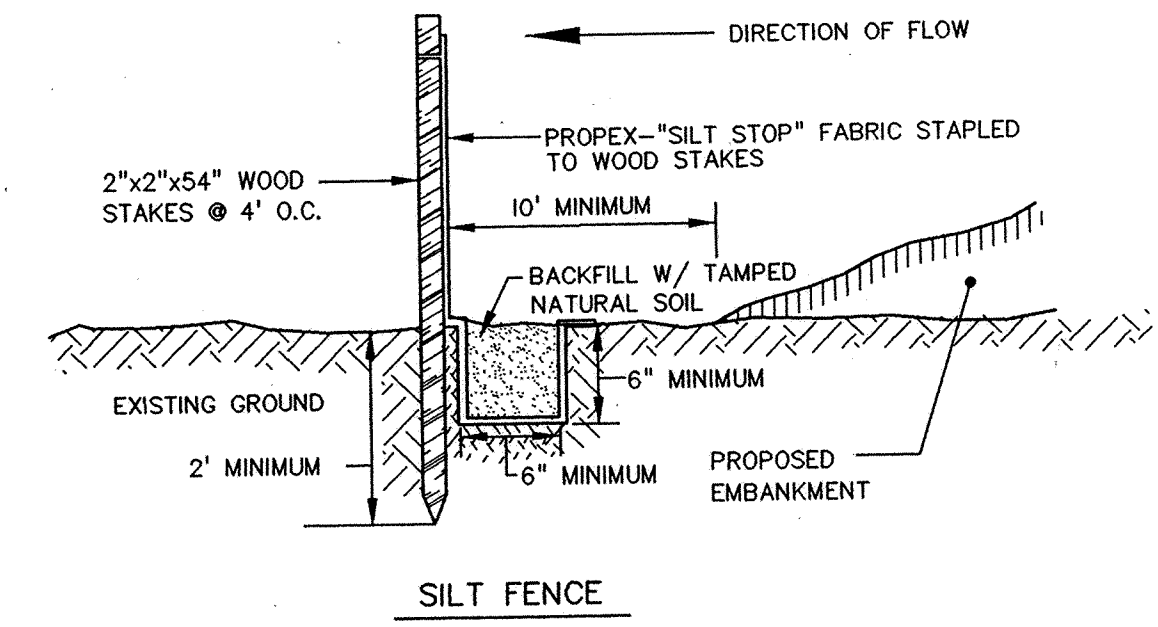
1. CONCRETE ADJUSTING RINGS, MIN. 4" MAX 10" NO MINIMUM WITH FINAL ADJUSTMENT.
2. CONCRETE BASE SHALL BE 6" POURED IN PLACE OR 5" PRECAST SLAB.



SHALLOW STORM SEWER MANHOLE OR CATCH BASIN (D-03)



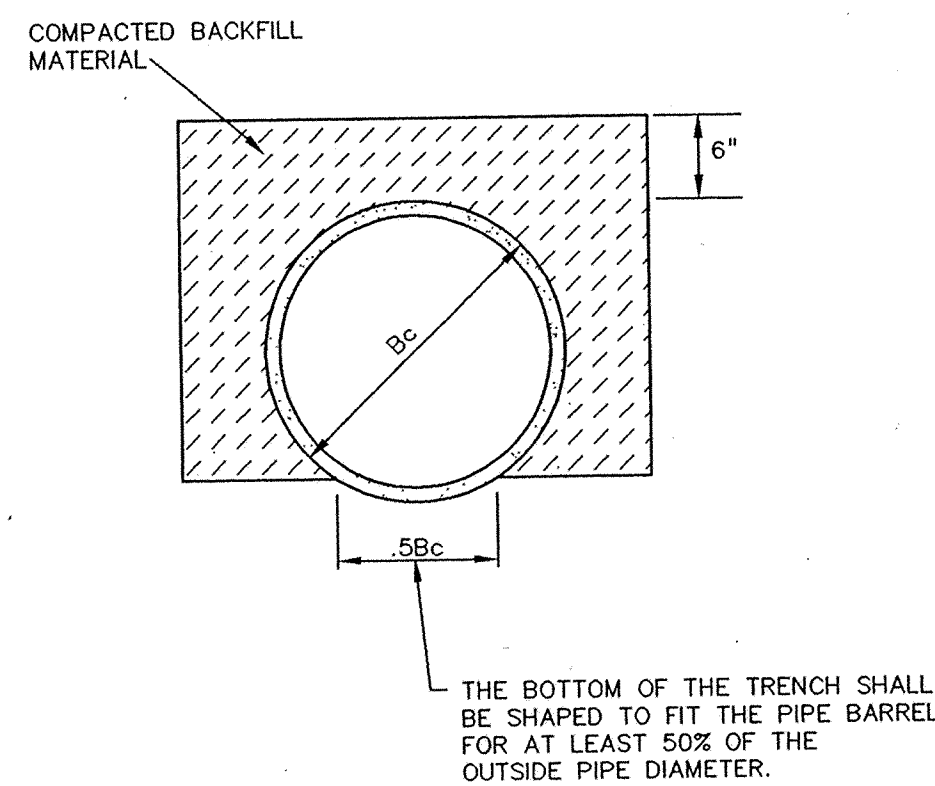
STANDARD INLET CASTING (C-04)



TEMPORARY BARRIER OF SEDIMENT CONTROL BALES TO PREVENT SEDIMENT - LADEN WATER FROM ENTERING INCOMPLETE STORM SEWER SYSTEM.

SUGGESTED PLACEMENT OF SEDIMENT CONTROL BALES

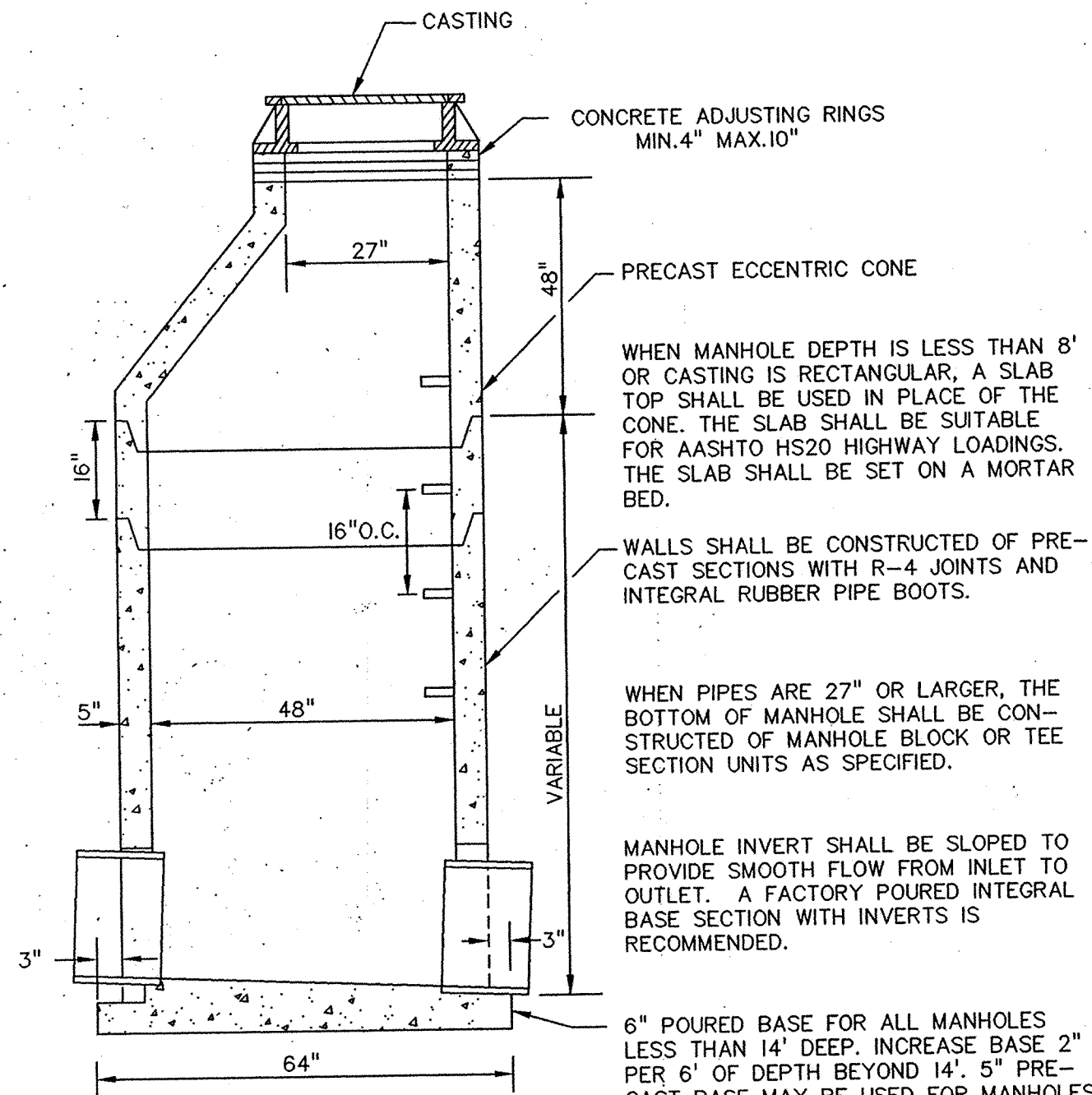
EROSION CONTROL MEASURES (E-02)



REFERENCE:
CONCRETE PIPE DESIGN MANUAL
PREPARED BY AMERICAN CONCRETE PIPE INSTITUTE

NOTE:
FOR ROCK OR OTHER INCOMPRESSIBLE MATERIALS, THE TRENCH SHOULD BE OVER EXCAVATED A MINIMUM OF 6" AND BACKFILLED WITH GRANULAR MATERIAL.

CLASS C CONCRETE PIPE BEDDING (S-10)

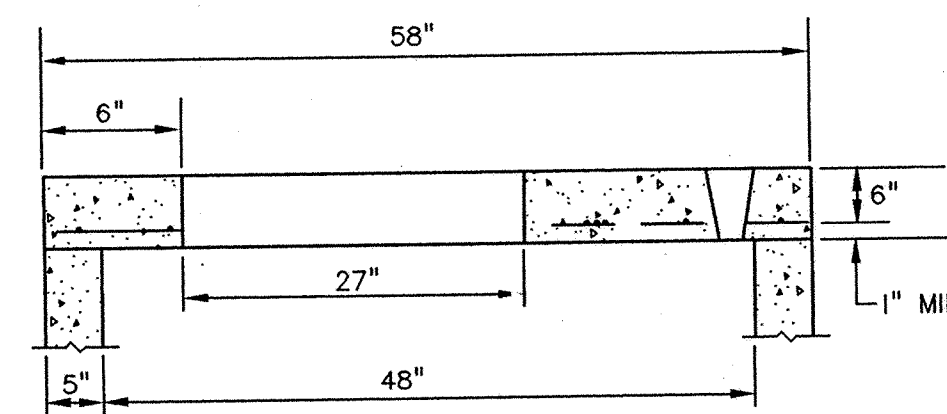
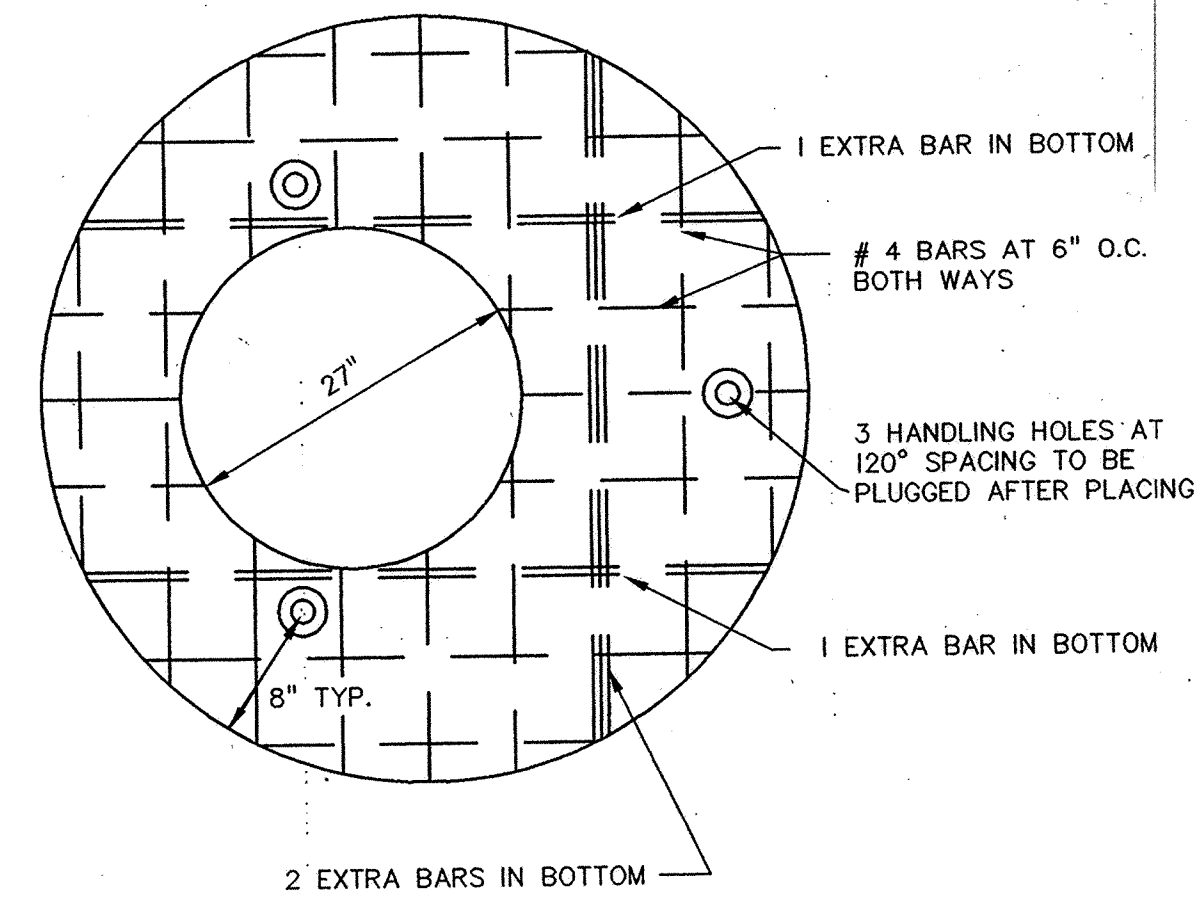


WHEN PIPES ARE 27" OR LARGER, THE BOTTOM OF MANHOLE SHALL BE CONSTRUCTED OF MANHOLE BLOCK OR TEE SECTION UNITS AS SPECIFIED.

MANHOLE INVERT SHALL BE SLOPED TO PROVIDE SMOOTH FLOW FROM INLET TO OUTLET. A FACTORY POURED INTEGRAL BASE SECTION WITH INVERTS IS RECOMMENDED.

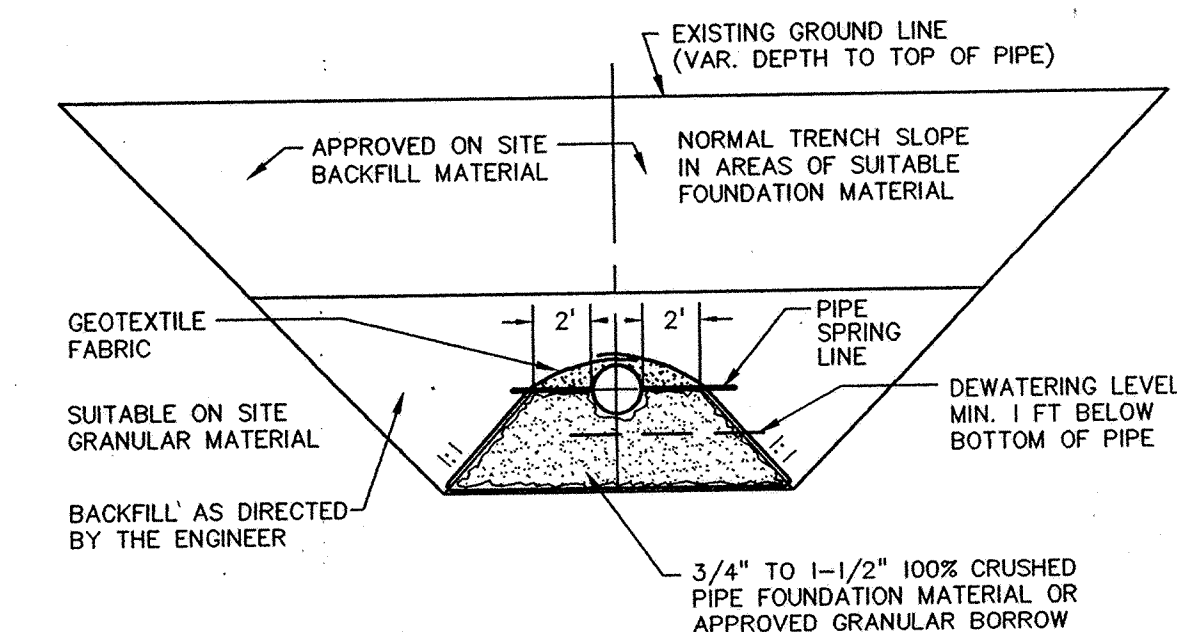
6" POURED BASE FOR ALL MANHOLES LESS THAN 14' DEEP. INCREASE BASE 2" PER 6' OF DEPTH BEYOND 14'. 5" PRECAST BASE MAY BE USED FOR MANHOLES LESS THAN 14' DEEP.

STANDARD SANITARY SEWER MANHOLE (S-01)



NOTE: SLAB SHALL BE DESIGNED FOR AASHTO, H. S. 20 LIVE LOADS.

STANDARD CIRCULAR MANHOLE SLAB TOP (D-04)



TYPICAL PIPE SUBGRADE CORRECTION (S-07)

PRIME CONTRACTOR/UTILITIES: C. W. HOULE, INC.
CURB & GUTTER: HALVORSON CONCRETE, INC.
STREETS: BAUERLY BROS., INC.
INSPECTION: STEVE TORGESON, HOWARD R. GREEN CO.
SURVEY: JOHN OLIVER & ASSOCIATES, INC.
EARTHWORK: SOIL-CON, INC.
RECORD DRAWINGS: FRED FRITSCHEL, JOHN OLIVER & ASSOCIATES, INC.
CONSTRUCTED: 2000

John Oliver & Associates, Inc.
Civil Engineering, Land Surveying, Land Planning
560 Dodge Avenue
Elk River, Minnesota
(612)441-2072 (FAX)441-5665
201 W. Travelers Trail, Suite 200
Burnsville, MN 55337
(612)894-3045 (FAX)894-5049

LAFAYETTE WOODS
FOURTH ADDITION
ELK RIVER, MN
WINDSOR DEVELOPMENT L.L.P.
DETAILS

SHEET NO. 5 OF 7

14104

REV. NO.	DATE	DESCRIPTION
1	3/24/01	RECORD DRAWINGS
2	5/2/99	DATE: 5/2/99 DESIGN BY: JB DRAWN BY: BC CHECKED BY: JB DWG FILE: 5-PPDET. TEXT FILE: NONE FILE NO.: 7024.40-03

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

John C. Shatt
Signed: _____
Date: 5/2/99 Reg. No. 14960

PRODUCTS • NEW HOPE, MINNESOTA
 REPRODUCED BY PART NUMBER 8532
 SAFCO PRODUCTS • NEW HOPE, MINNESOTA
 REPRODUCED BY PART NUMBER 8532
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