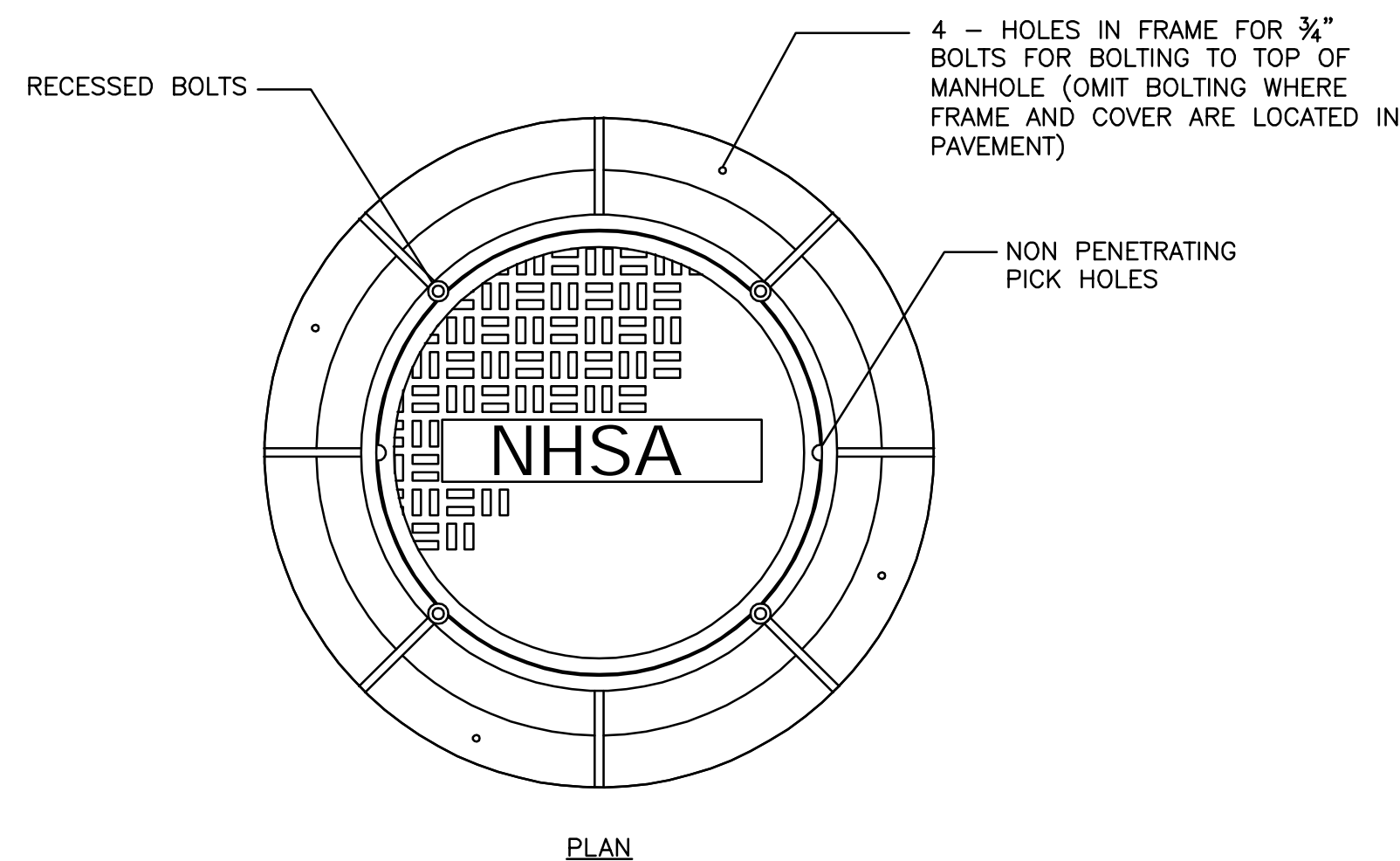
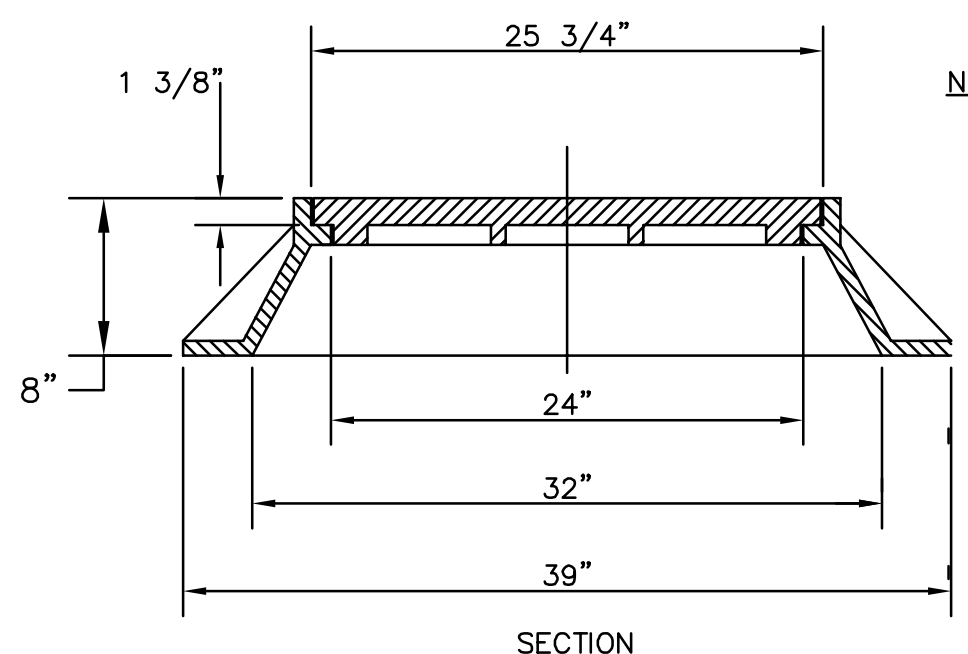


DOGHOUSE MANHOLE DETAIL
NOT TO SCALE

NOTES:
1. DOES NOT APPLY TO LARGE DIAMETER SEWERS. LARGER SEWER CONNECTIONS ARE TO BE CUSTOMIZED.



PLAN

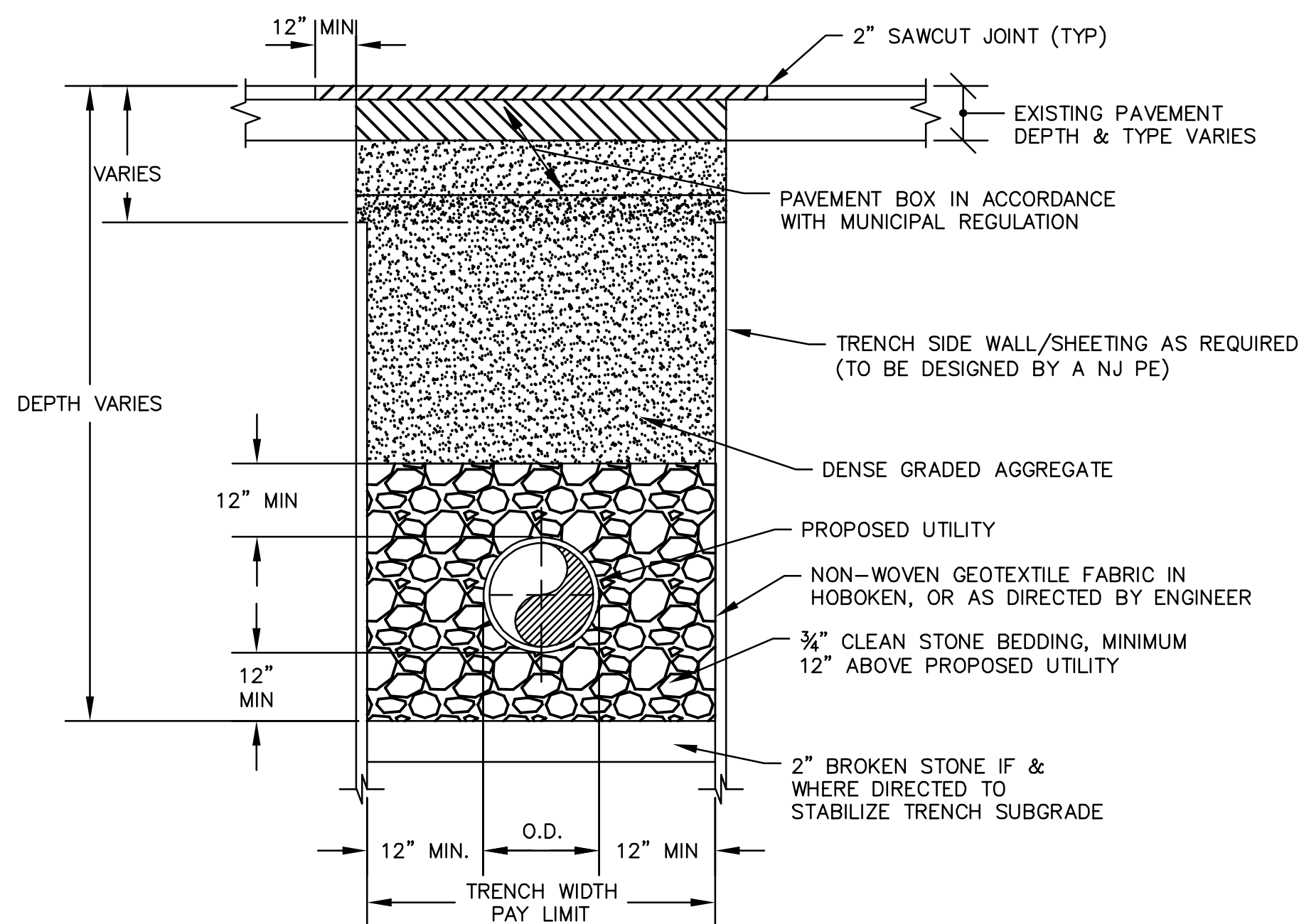


SECTION

DETAIL OF STANDARD MANHOLE FRAME AND COVER
MODEL 1203B WATERTIGHT

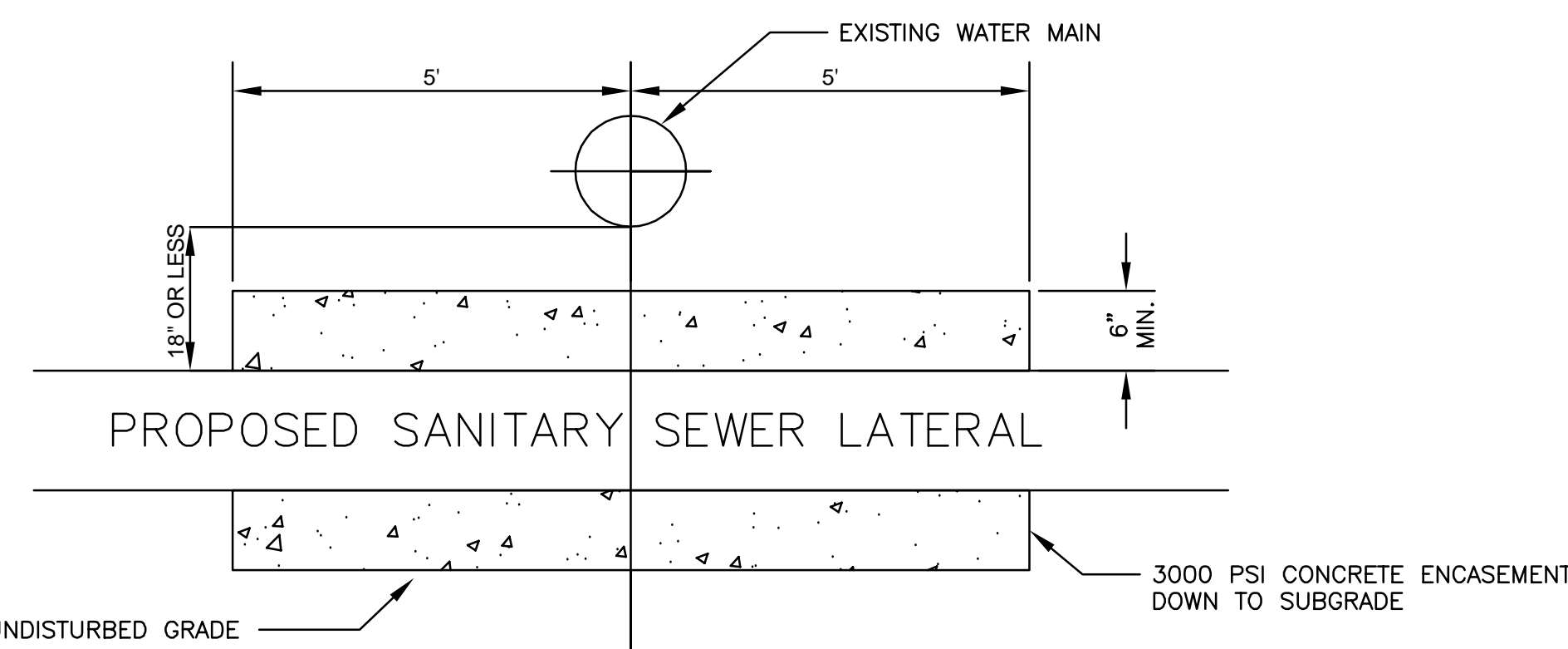
MANHOLE FRAME AND COVER DETAILS
NOT TO SCALE

NOTES:
1. MANHOLE COVERS SHALL BE A STANDARD CAMPBELL FOUNDRY 1203B COVER, OR EQUAL. WHEN NECESSARY, COVER SHALL BE WATER TIGHT.
2. MANHOLE FRAMES AND COVERS SHALL COMPLY WITH THE FOLLOWING SPECIFICATIONS:
• MATERIAL - GRAY CAST IRON ASTM A48-83, CLASS 35.
• AASHTO HS20-44 HIGHWAY LOADING.
• BEARING SURFACE AT SEAT OF FRAME AND COVER SHALL BE MACHINED FOR UNIFORMITY.



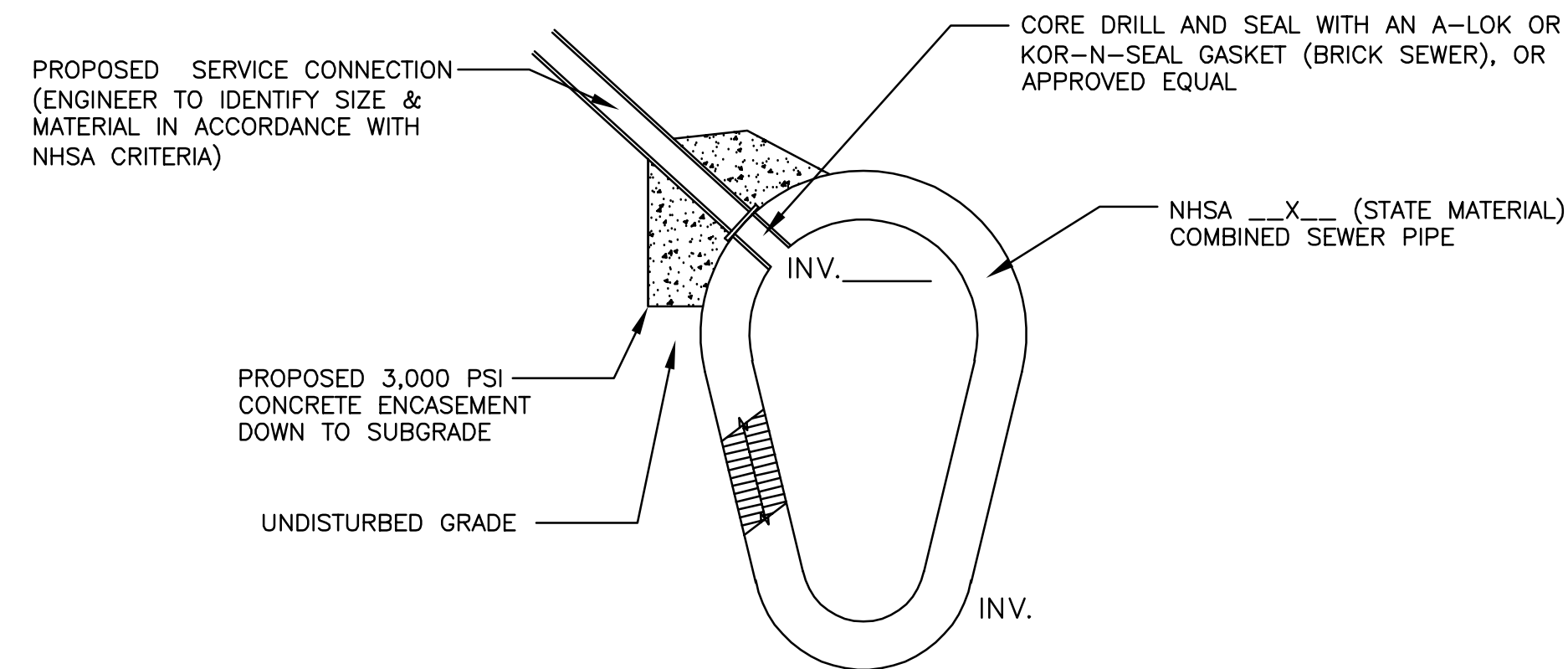
NOTES:
1. FOR MAJOR UTILITY WORK, REPAIR WIDTH AND LENGTH (MILLING AND PAVING) TO BE A MINIMUM OF 3' PAST TRENCH OPENING OR AS DETERMINED BY THE ENGINEER OR AS SHOWN ON THE PLANS.

TYPICAL TRENCH AND PAVEMENT RESTORATION DETAIL
NOT TO SCALE

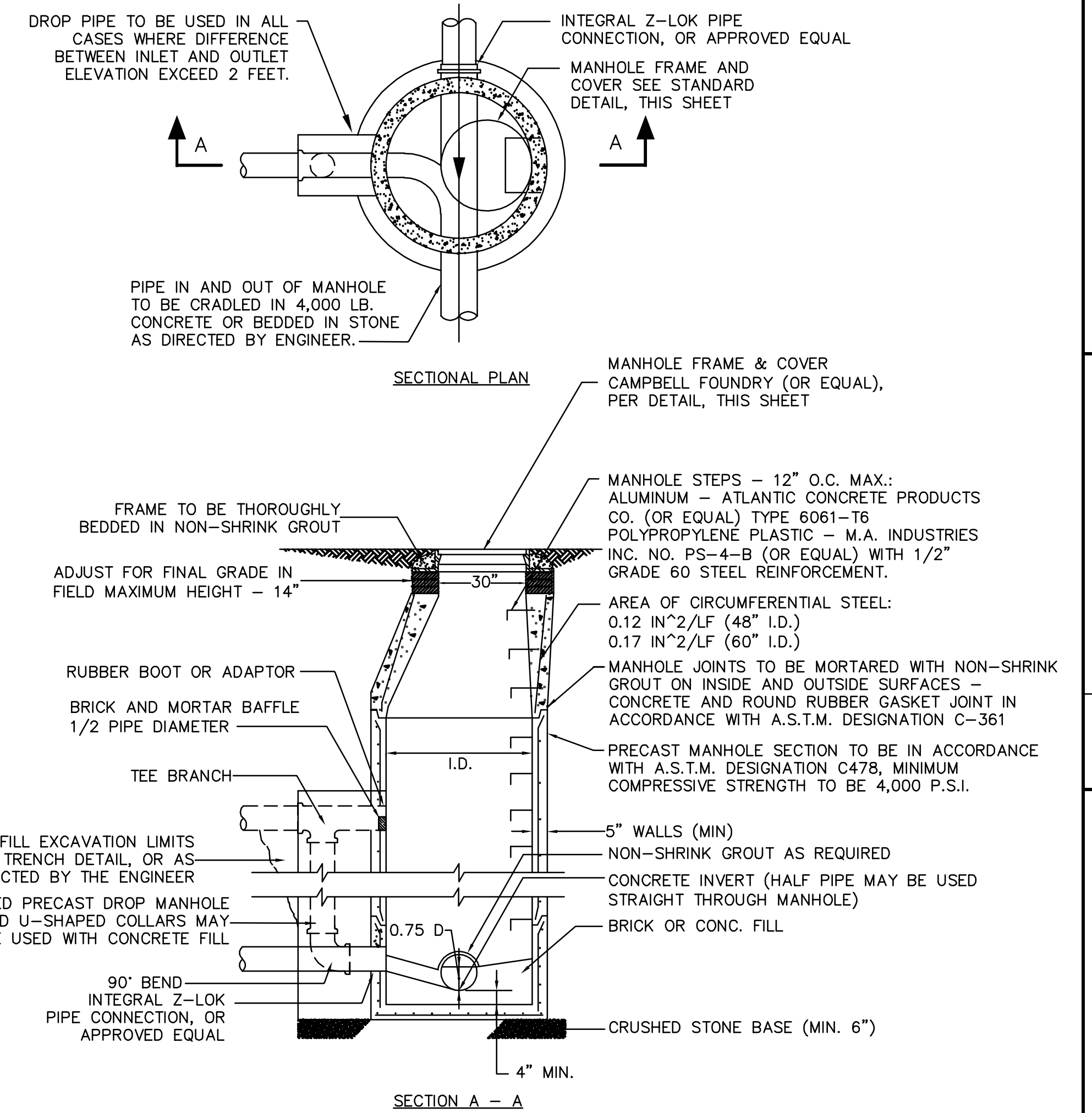


CONCRETE ENCASEMENT FOR WATER MAIN SEPARATION

NOTES:
1. WHERE APPROPRIATE SEPARATION FROM THE WATER MAIN IS NOT POSSIBLE, THE SEWER SHALL BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE IRON PIPE USING MECHANICAL OR SLIP ON JOINTS FOR A DISTANCE OF AT LEAST 5 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE.

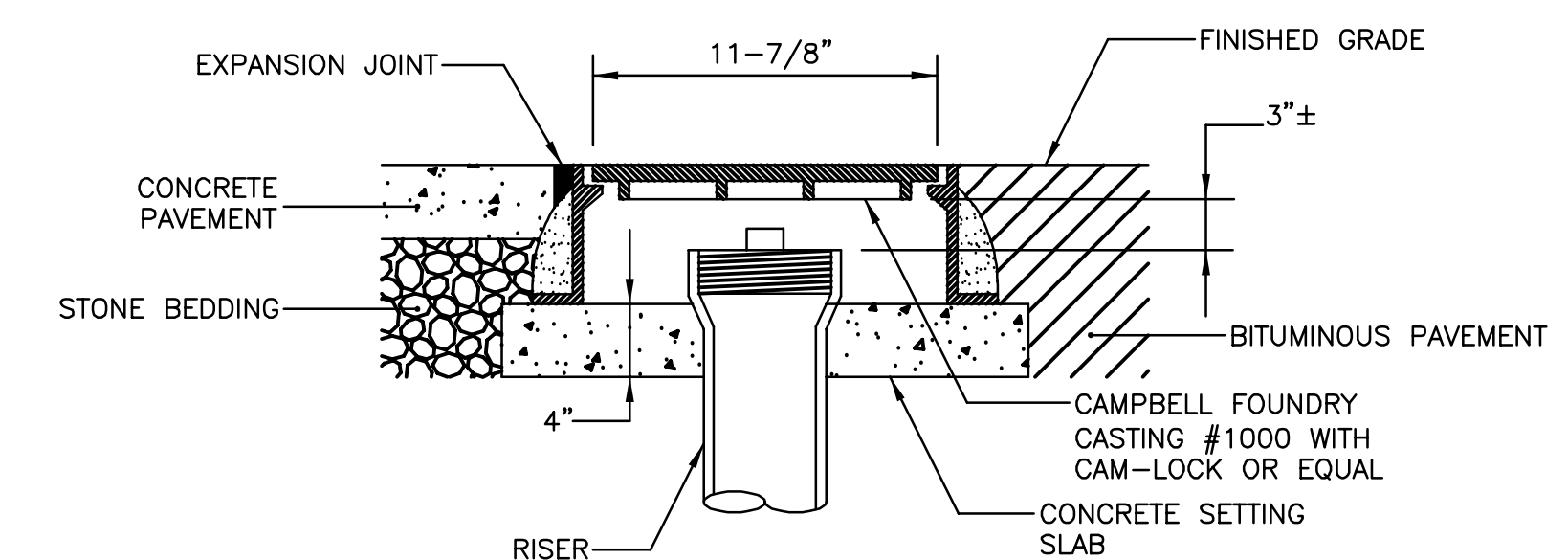


COMBINED CONNECTION DETAIL
(FOR NON-CIRCULAR OR BRICK SEWER)



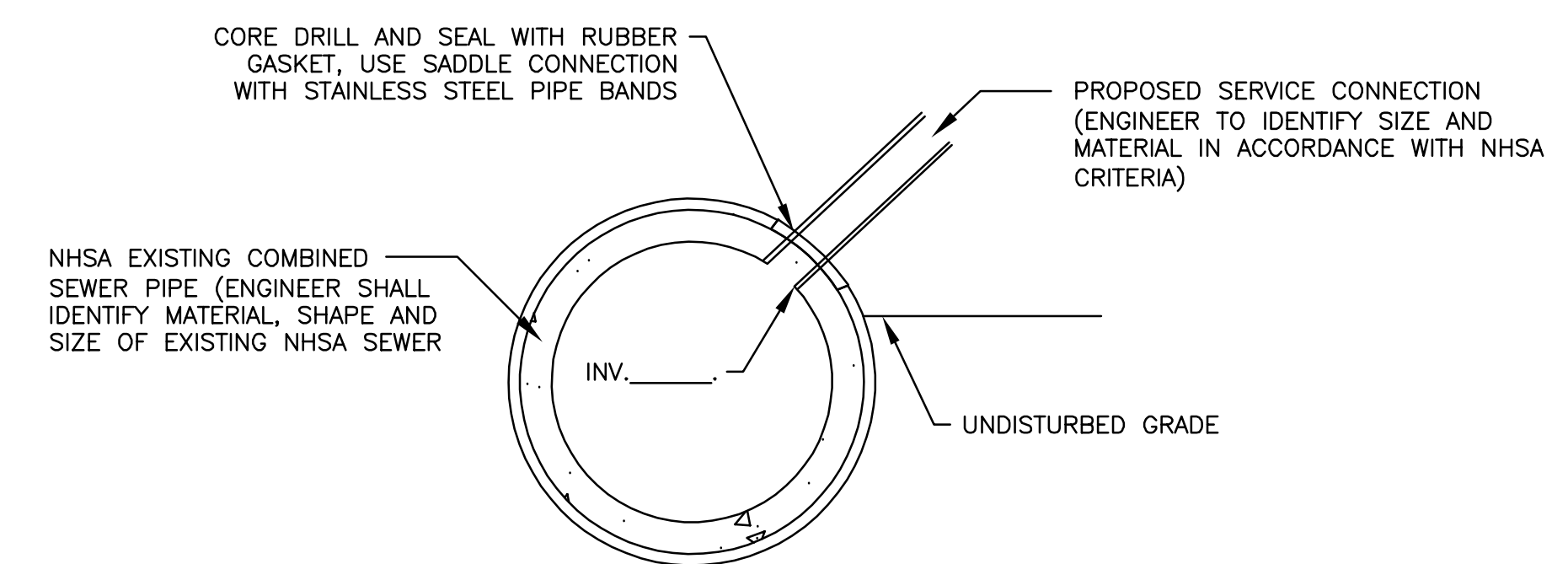
STANDARD SANITARY MANHOLE AND DROP CONNECTION DETAIL
NOT TO SCALE

NOTES:
1. ENTIRE EXTERIOR TO RECEIVE COATING OF BITUMINOUS SEALER.
2. LATERAL CONNECTIONS INTO EXISTING MANHOLES SHALL NOT BE USED.
3. ALL LIFT HOLES, PIPE CUTOUPS, ETC. ARE TO BE MORTAR PLUGGED PRIOR TO PLASTERING.



CLEANOUT RISER ACCESS COVER DETAIL FOR PAVED AREAS
NOT TO SCALE

NOTE:
FOR ALL LATERALS, RISER COVER SHALL BE LOCATED OUTSIDE THE R.O.W. AND BE MAINTAINED BY THE OWNER



COMBINED CONNECTION DETAIL FOR CIRCULAR PIPES

PREPARED FOR NHSA
BY MOTT MACDONALD

REVISION 2: ADDED AUTOMATED VALVE AND ABANDONMENT
10/25/19
Date

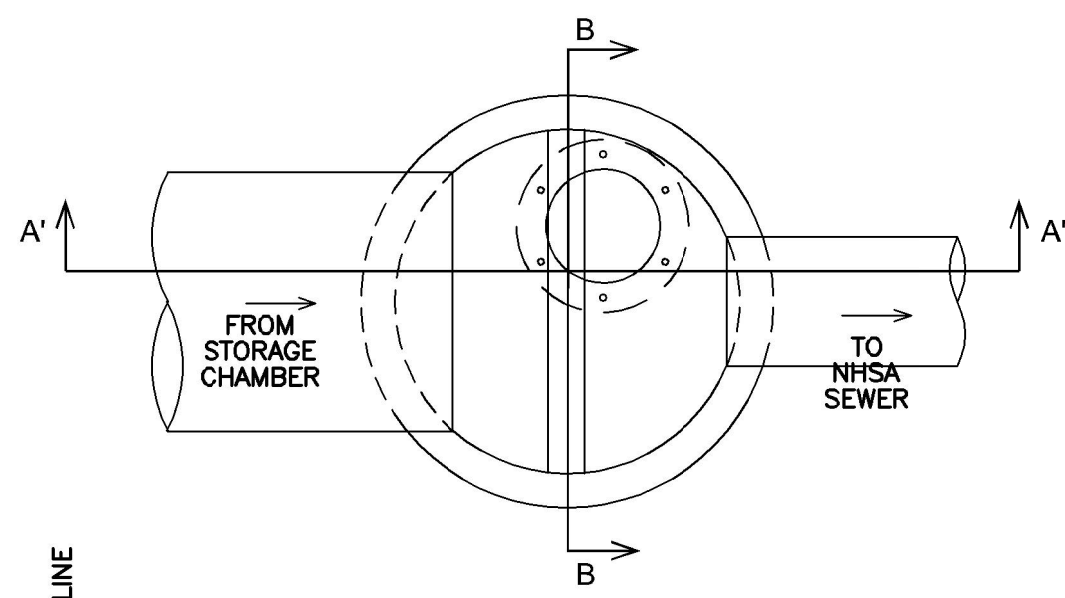
Date
Approved
Checked
Drawn
Designed

M MOTT MACDONALD
Certificate No. 24GA28016600
111 Wood Avenue South
Iselin, New Jersey 08830

NORTH HUDSON SEWERAGE AUTHORITY
HUDSON COUNTY, NEW JERSEY
NORTH HUDSON SEWERAGE AUTHORITY
SEWER CONNECTION DETAILS
SHEET 1

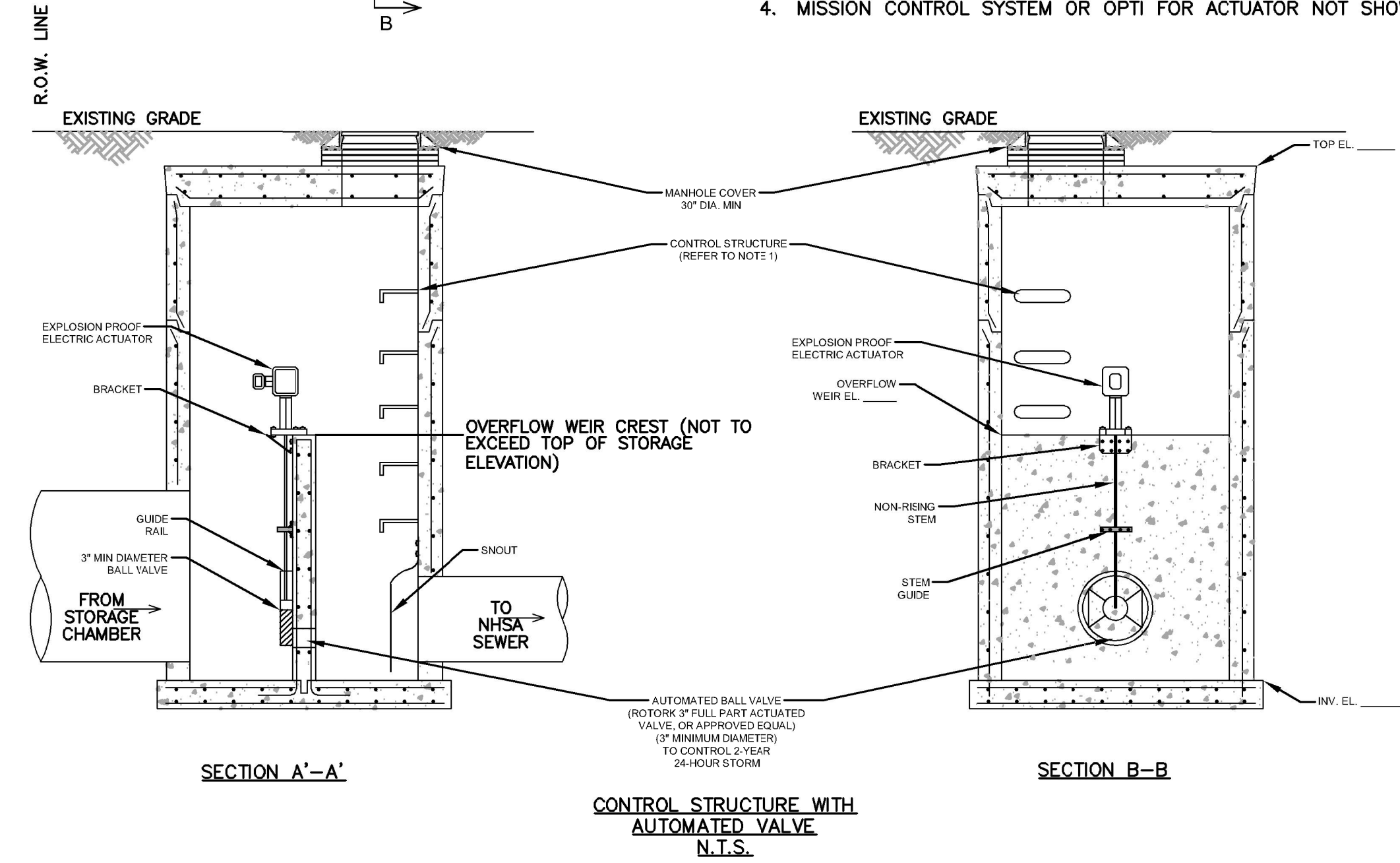
No. D-1
B/O 1 Total 2

Contract No.

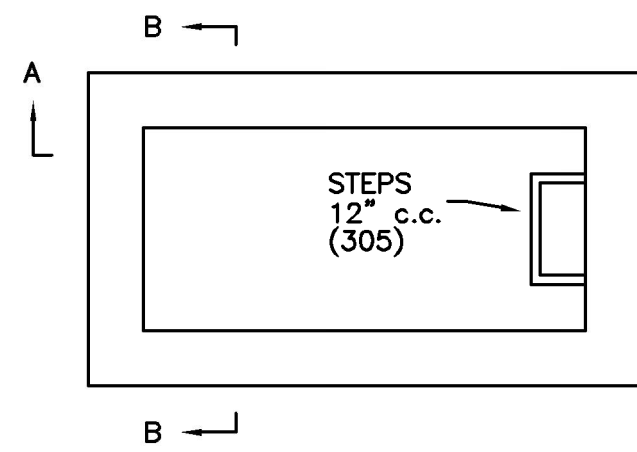


DESIGN NOTES:

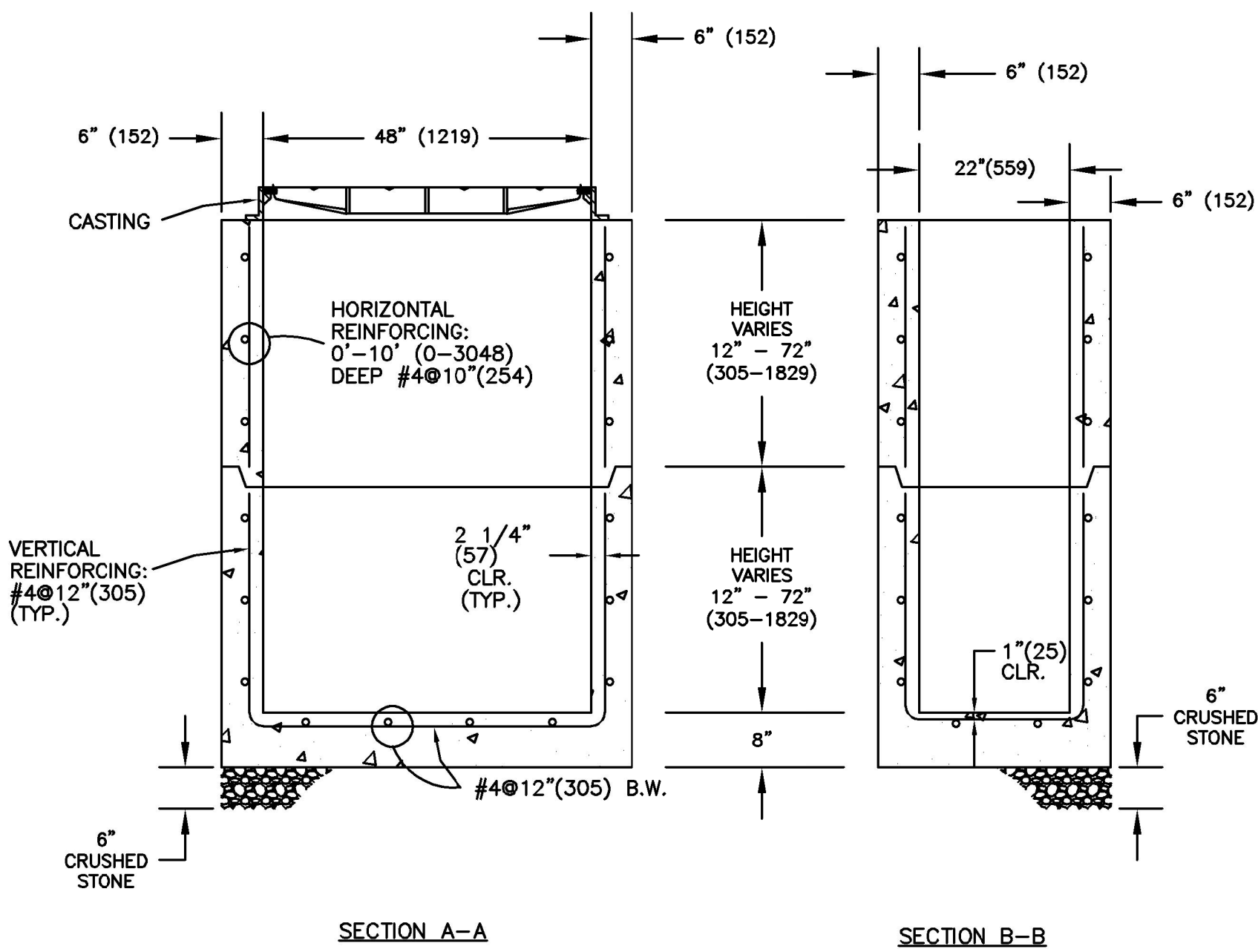
1. ALTERNATIVE DESIGNS MAY BE PROPOSED TO NHSA. THE OWNER SHALL OWN AND MAINTAIN THE CONTROL STRUCTURE. THEREFORE, NHSA DOES NOT ACCEPT RESPONSIBILITY FOR STRUCTURAL DESIGN. THIS IS A CONCEPTUAL DESIGN TO BE MODIFIED FOR SITE SPECIFIC CONDITIONS.
2. PROVIDE SITE SPECIFIC ELEVATIONS.
3. AUTOMATED VALVE UNIT SHALL CONNECT TO MISSION M280 COMMUNICATIONS UNIT (REFER TO NHSA SPECIFICATION) OR OPTI RTC AUTOMATED CONTROL TECHNOLOGY. NHSA SHALL RECOMMEND AND APPROVE DESIGN BASIS.
4. MISSION CONTROL SYSTEM OR OPTI FOR ACTUATOR NOT SHOWN.



CONTROL STRUCTURE WITH AUTOMATED VALVE N.T.S.



PLAN



SECTION A-A

SECTION B-B

STATE OF NJ
PRECAST CONCRETE INLET
SHALLOW TYPE "A"

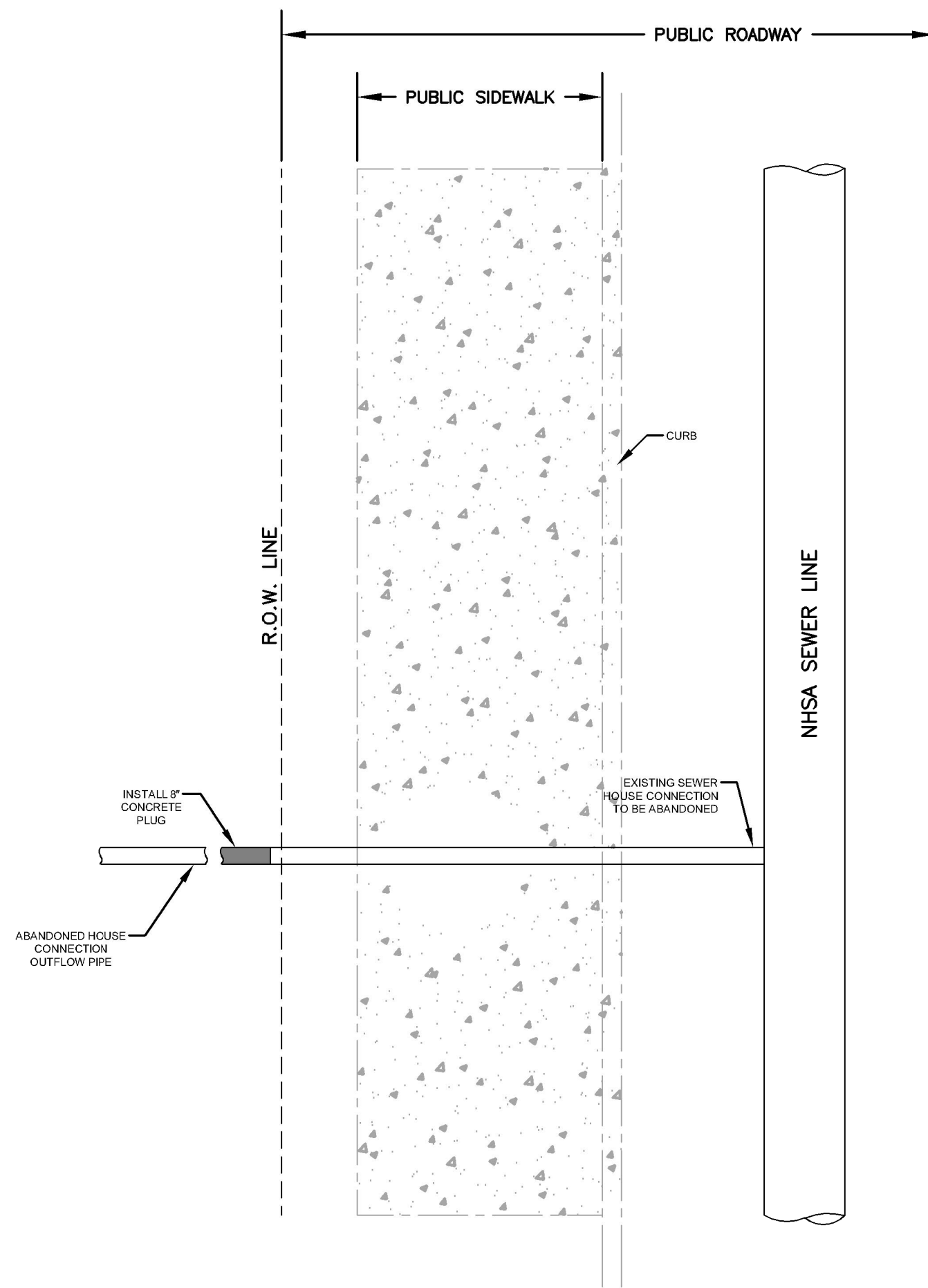
NOT TO SCALE

SPECIFICATIONS:

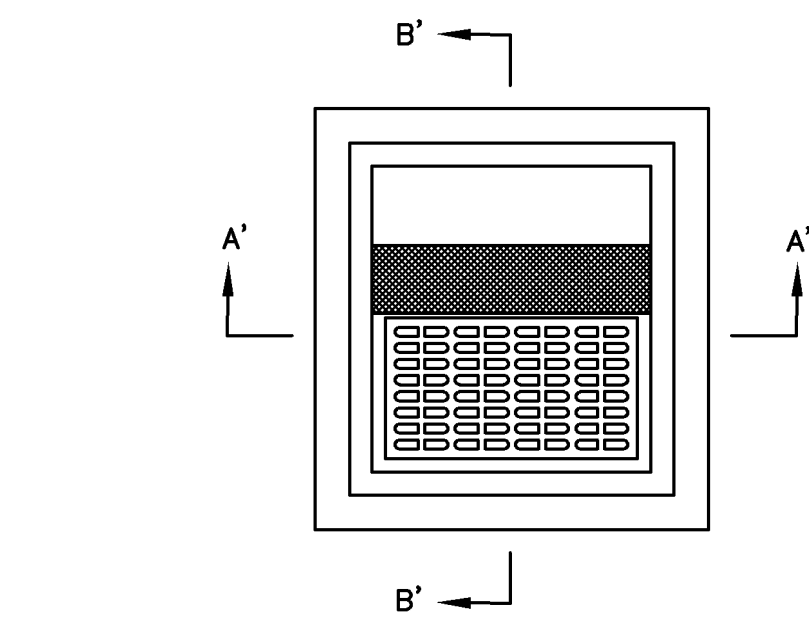
1. CONCRETE IS TO OBTAIN A STRENGTH OF 4,000 PSI. (27 MPa) IN 28 DAYS.
2. REINFORCING STEEL TO HAVE A YIELD STRENGTH OF 60,000 PSI (414 MPa).
3. THE INLET TO MEET THE REQUIREMENTS OF ASTM C-913 "PRECAST CONCRETE WATER AND WASTEWATER STRUCTURES"
4. THE WALLS AND BASE SLAB TO BE DESIGNED FOR A MINIMUM EARTH COVER OF 10FT. (3048) (EARTH COVER = FINISH GRADE TO TOP OF BASE SLAB.
5. BOX TO BE DESIGNED TO MEET NJDOT SPECS.

PRECAST CONCRETE STRUCTURE TO BE WET CAST WITH MONOLITHIC BASE SECTION, AS MANUFACTURED BY ATLANTIC CONCRETE PRODUCTS, OR APPROVED EQUAL.

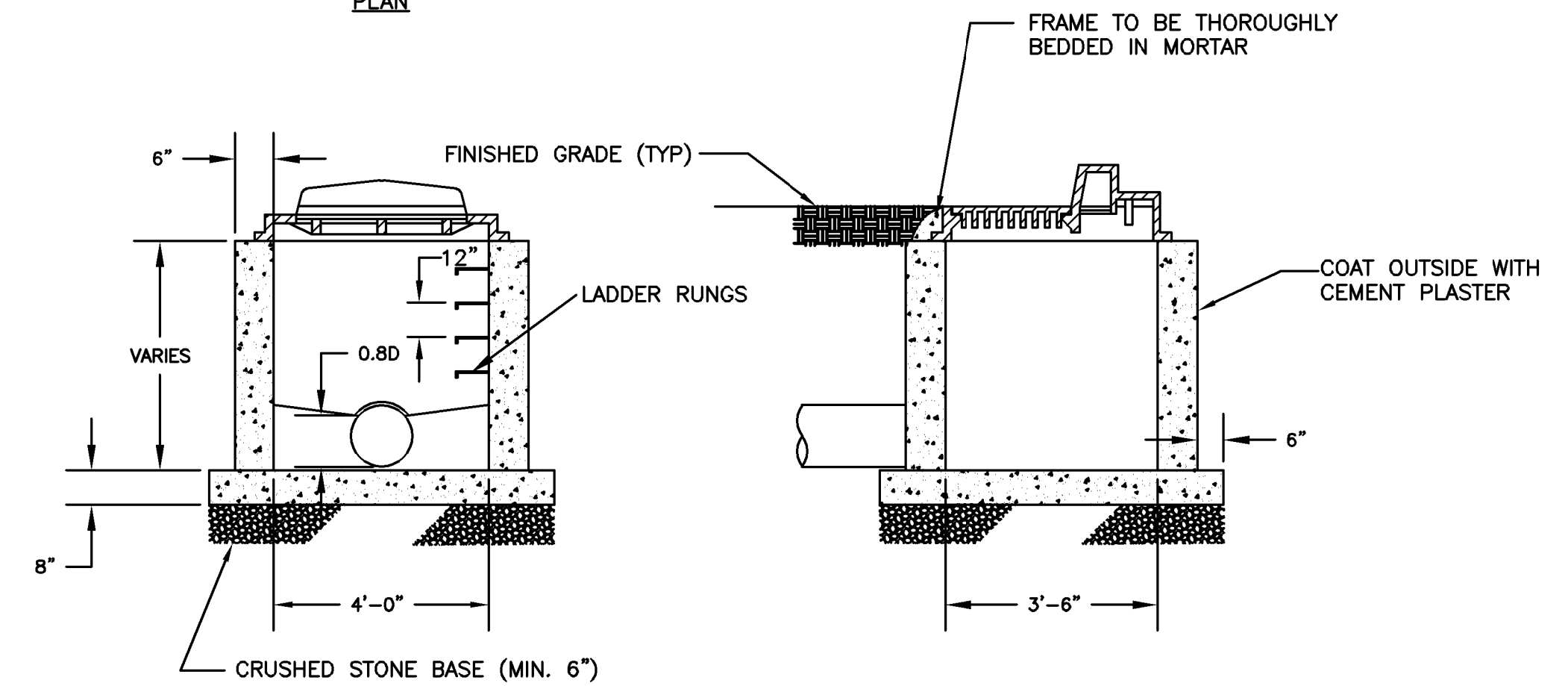
ALL DIMENSIONS IN (PARENTHESES) ARE MILLIMETERS, UNLESS OTHERWISE NOTED.



SEWER HOUSE CONNECTION ABANDONMENT PLAN N.T.S.



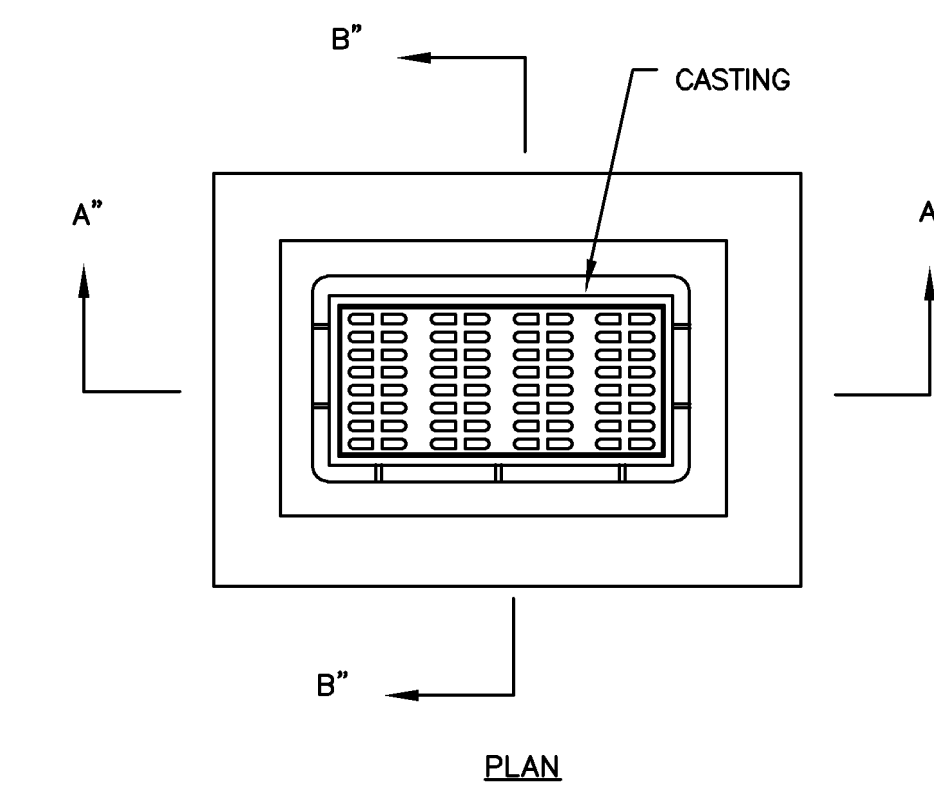
PLAN



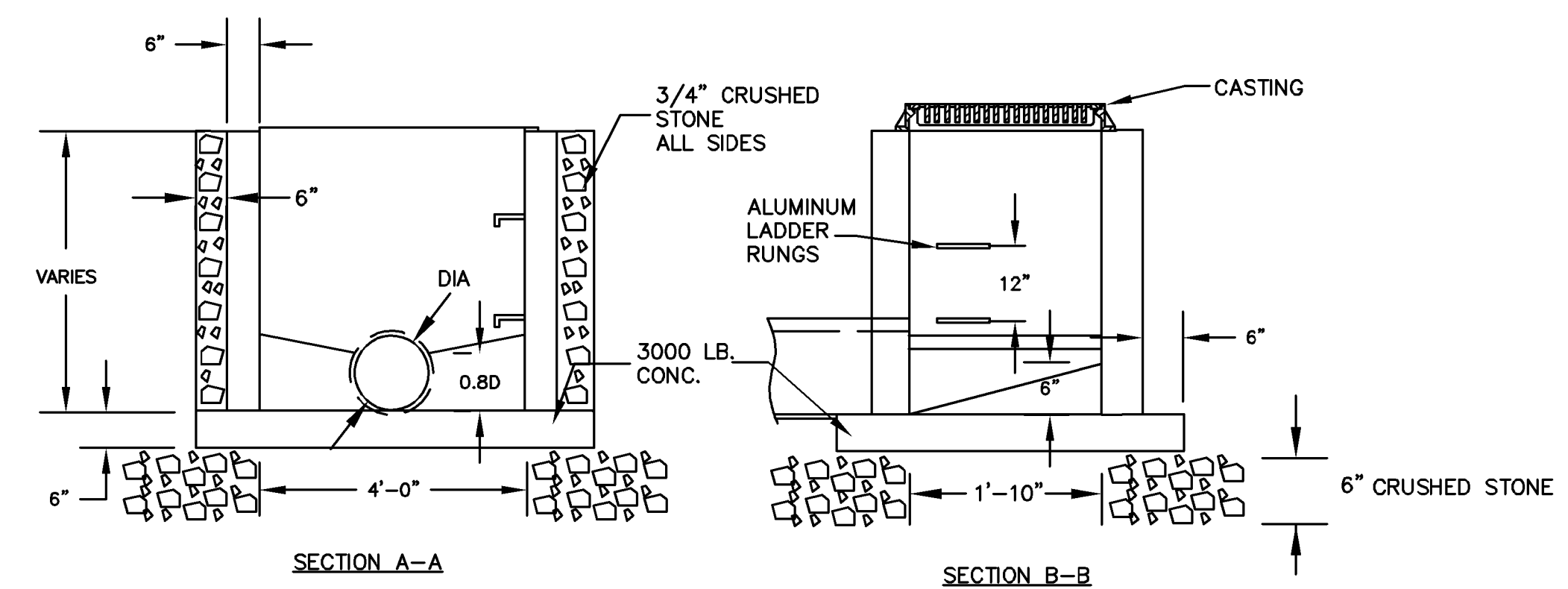
SECTION A-A THROUGH INVERT DETAIL

SECTION B-B TERMINAL INVERT DETAIL

TYPE "B" INLET
(NOT TO SCALE)



PLAN



SECTION A-A

SECTION B-B

TYPE "A" INLET
NOT TO SCALE

NOTES:

1. FOOTING TO BE N.J.D.O.T., CLASS "C"
2. INVERT TO BE CLASS "C" CONCRETE
3. IF WALL CONSTRUCTION IS OTHER THAN CONCRETE, THE WALLS SHALL BE PLASTERED BOTH INSIDE AND OUTSIDE WITH 1/2" THICK CEMENT PLASTER.
4. FRAME AND GRATE TO BE NO. 2617 AS MANUFACTURED BY CAMPBELL FOUNDRY CO. OR APPROVED EQUAL.
5. PROVIDE POLYPROPYLENE LADDER RUNGS @ 12" CENTER TO CENTER.
6. WHEN ADDITIONAL DEPTH IS SCHEDULED WALLS BELOW THE DEPTH OF 8'-0" MEASURED FROM THE INLET GUTTER TO THE INVERT, SHALL BE 12" THICK. THE FOUNDATION DIMENSIONS SHALL BE INCREASED TO 12" WIDTH AND TO 12" IN DEPTH.
7. CURB HEAD TO BE 6", OR 8" BASED ON CURB HEIGHT. TYPE N CURB PIECE.

NOTES:

1. FOOTING TO BE N.J.D.O.T., CLASS "C" CONC.
2. INVERT TO BE CLASS "C" CONC.
3. IF WALL CONSTRUCTION IS OTHER THAN CONCRETE, THE WALLS SHALL BE 6" CONCRETE SOLID MANHOLE BLOCKS, ALTERNATE VERTICAL JOINTS TO BE UNMORTARED.
4. FRAME AND GRATE TO BE #3405 AS MANUFACTURED BY CAMPBELL FOUNDRY CO. OR EQUAL. BICYCLE GRATE SHALL BE USED.
5. PROVIDE ALUMINUM LADDER RINGS @ 12" CENTER TO CENTER.
6. WHEN ADDITIONAL DEPTH IS SCHEDULED, WALLS BELOW THE DEPTH OF 8'-0" MEASURED FROM THE INLET GUTTER TO THE INVERT SHALL BE 12" THICK. THE FOUNDATION DIMENSIONS SHALL BE INCREASED TO 12" WIDTH AND TO 12" DEPTH.
7. FOUNDATIONS AND INVERT TO BE CONSTRUCTED IN TWO STAGES. THE TOP OF FOUNDATION TO BE LEFT ROUGH.

PREPARED FOR NHSA
BY MOTT MACDONALD

REVISION 2: ADDED AUTOMATED VALVE
AND ABANDONMENT

10/25/19

Date

Revision

Date

Approved

Checked

Drawn

Designed

Certificate No. 246A28016000

111 Wood Avenue South
Iselin, New Jersey 08830

NORTH HUDSON SEWERAGE AUTHORITY
HUDSON COUNTY, NEW JERSEY
NORTH HUDSON SEWERAGE AUTHORITY
SEWER CONNECTION DETAILS

SHEET 2

No. D-2

B/O 2

Total 2

Contract No.