

ADS HP RETENTION/DETENTION PIPE SYSTEM SPECIFICATION

THIS SPECIFICATION DESCRIBES ADS HP RETENTION/DETENTION PIPE SYSTEMS FOR USE IN NON-PRESSURE, GRAVITY-FLOW STORM WATER COLLECTION SYSTEMS UTILIZING ADS HP PIPE PRODUCTS AND A CONTINUOUS CUT-FALL STRUCTURE.

PIPE REQUIREMENTS

ADS RETENTION/DETENTION SYSTEMS MAY UTILIZE ANY OF THE VARIOUS PIPE PRODUCTS BELOW:

- N-12 AND SANITITE HP PIPE SHALL MEET ASTM F2136 FOR APPLICABLE DIAMETERS
- N-12 AND SANITITE HP PIPE SHALL MEET ASTM F2164 FOR APPLICABLE DIAMETERS

ALL PRODUCTS SHALL HAVE A SMOOTH INTERIOR AND EITHER ANNULAR EXTERIOR CORRUGATIONS OR SMOOTH EXTERIOR WITH ANNULAR INNER CORRUGATIONS. PRODUCT-SPECIFIC PIPE SPECIFICATIONS ARE AVAILABLE IN THE DRAINAGE HANDBOOK SECTION 1 SPECIFICATIONS.

JOINT PERFORMANCE

HP PIPE PRODUCTS PIPE SHALL BE JOINED USING A BELL & SPIGOT JOINT. THE JOINT SHALL BE WATERTIGHT ACCORDING TO THE REQUIREMENTS OF ASTM D322. SPIGOTS SHALL HAVE GASKETS MEETING THE REQUIREMENTS OF ASTM F411. 12" THROUGH 60" INCH (300 TO 1500mm) DIAMETERS SHALL HAVE A BELL REINFORCED WITH A POLYMER COMPOSITE BAND. THE BELL TOLERANCE DEVICE SHALL BE INSTALLED BY THE MANUFACTURER. PIPE & FITTING CONNECTIONS SHALL UTILIZE A SPIN-ON WELDED OR INTEGRAL BELL AND SPIGOT. DETENTION SYSTEMS ARE SUBJECT TO GREATER LEAKAGE THAN TYPICAL STORM SEWER APPLICATIONS AND THEREFORE ARE NOT APPROPRIATE FOR APPLICATIONS REQUIRING LONG-TERM FLUID CONTAINMENT OR HYDROSTATIC PRESSURE. FOR ADDITIONAL DETAILS REFER TO TECHNICAL NOTE 121 RAINWATER HARVESTING.

FITTINGS

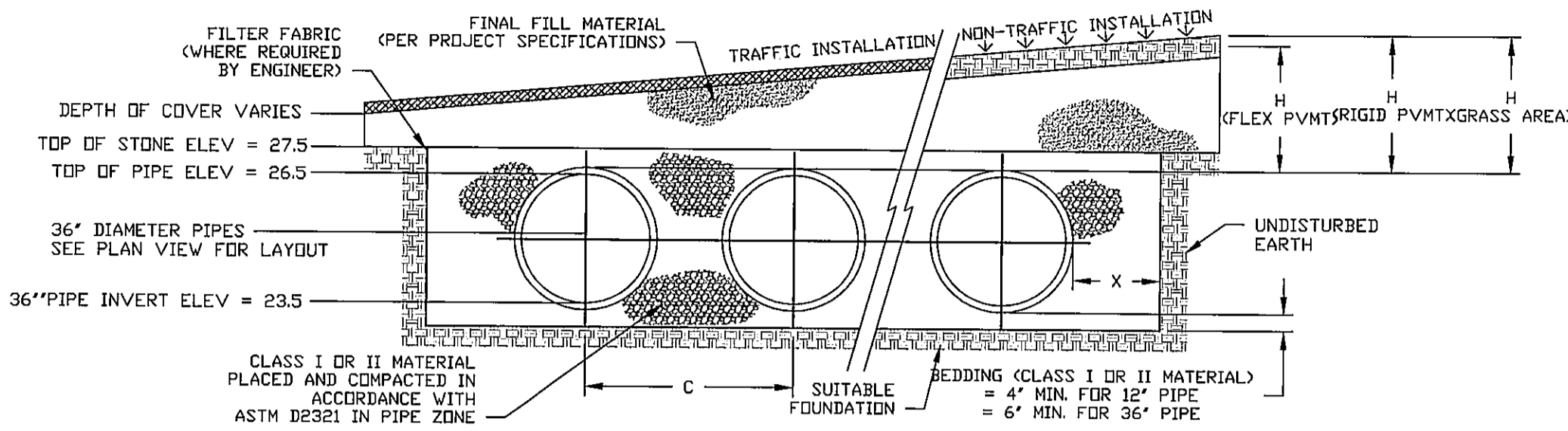
FITTINGS SHALL CONFORM TO ASTM F2136 FOR APPLICABLE DIAMETERS AND MEET JOINT PERFORMANCE INDICATED ABOVE FOR FITTING CONNECTIONS. CUSTOM FITTINGS ARE AVAILABLE AND MAY REQUIRE SPECIAL INSTALLATION CRITERIA.

INSTALLATION

INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321 AND ADS RECOMMENDED INSTALLATION GUIDELINES, THE EXCEPTION THAT MINIMUM COVER IN NON-TRAFFIC AREAS FOR 12" THROUGH 60" INCH (300 TO 1500mm) DIAMETERS SHALL BE ONE FOOT (0.3M). MINIMUM COVER IN TRAFFICKED AREAS FOR 12" THROUGH 36" INCH (300 TO 900mm) DIAMETERS SHALL BE ONE FOOT (0.3M) AND FOR 42" THROUGH 60" INCH (1050 TO 1500mm) DIAMETERS, THE MINIMUM COVER SHALL BE 2 FT (0.6M). BACKFILL SHALL CONSIST OF CLASS I (COMPACTED) OR CLASS II (MINIMUM 90% SPD) MATERIAL WITH THE EXCEPTION THAT 60"-INCH FITTINGS SHALL USE CLASS I MATERIAL ONLY. MINIMUM COVER HEIGHTS DO NOT ACCOUNT FOR PIPE BUOYANCY. REFER TO ADS TECHNICAL NOTES 9.05 PIPE FLOTATION FOR BUOYANCY DESIGN CONSIDERATIONS. MAXIMUM COVER OVER SYSTEM USING STANDARD BACKFILL IS 8'-FT (2.4M). CONTACT A REPRESENTATIVE WHEN MAXIMUM FILL HEIGHT MAY BE EXCEEDED.

NOTES:

1. ALL ELEVATIONS, DIMENSIONS AND LOCATIONS OF RISERS, INLETS AND OUTLETS, SHALL BE VERIFIED BY THE ENGINEER PRIOR TO RELEASING FOR FABRICATION.
2. IN SITUATIONS WHERE A FINE GRAINED BACKFILL MATERIAL IS USED ADJACENT TO THE PIPE SYSTEM AND ESPECIALLY INVOLVING GROUND WATER CONDITIONS, CONSIDERATION SHOULD BE GIVEN TO THE USE OF GASKETED PIPE JOINTS. AT THE VERY LEAST THE PIPE JOINTS SHOULD BE WRAPPED IN A SUITABLE NON-WOVEN GEOTEXTILE FABRIC TO PREVENT INFILTRATION OF FINES INTO THE PIPE SYSTEM.
3. CONSIDERATION FOR CONSTRUCTION EQUIPMENT LOADS MUST BE TAKEN INTO ACCOUNT.
4. ALL PIPE DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.
5. ALL RISERS TO BE FIELD EXTENDED OR TRIMMED TO FINAL GRADE.

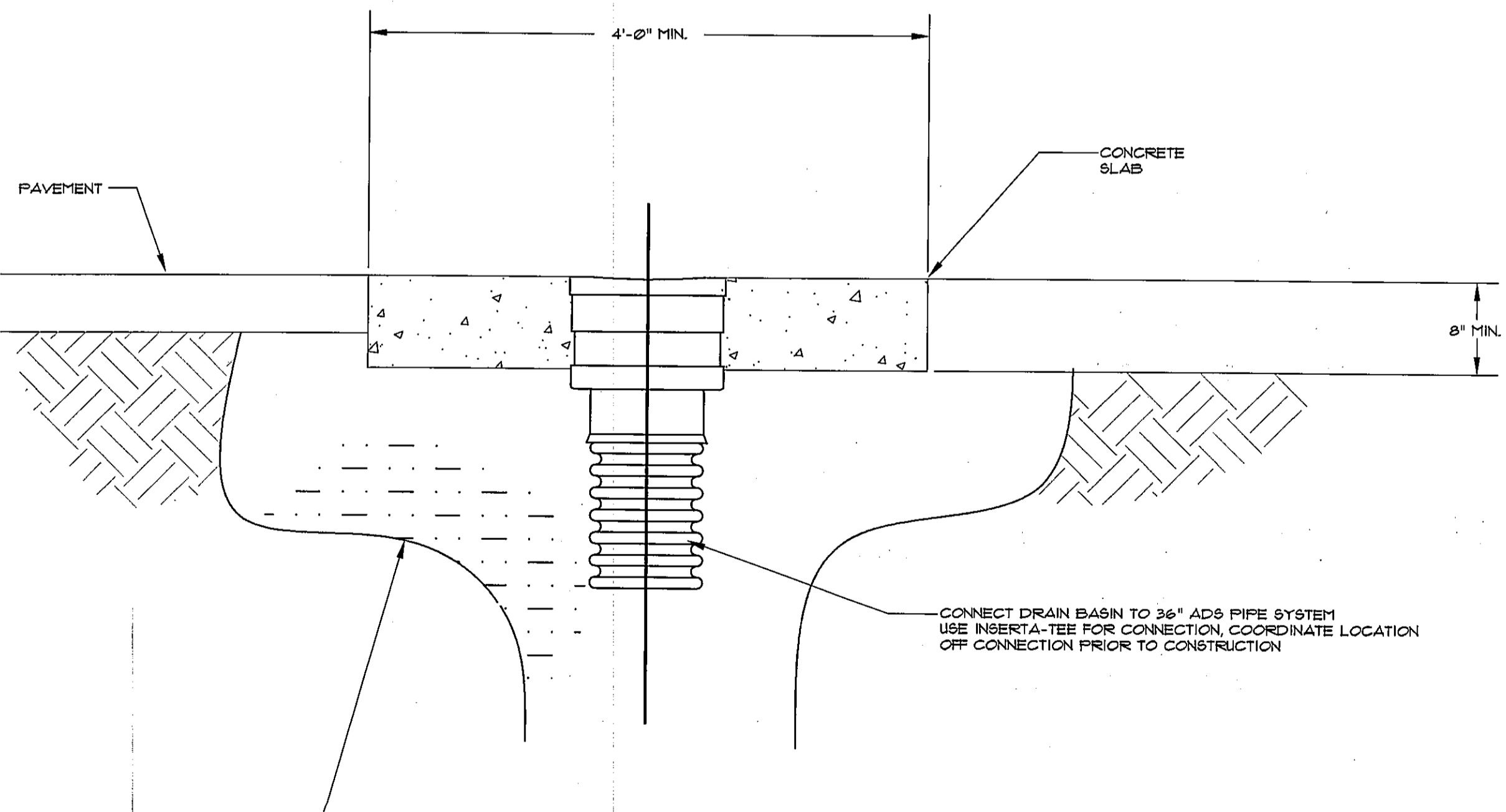


NOMINAL DIAMETER	NOMINAL I.D.	TYPICAL SPACING "C"	TYPICAL SIDE WALL "X"	MIN. H (NON-TRAFFIC)	MIN. H (TRAFFIC)	MAX. HM
36"	42"	62"	15"	12"	12"	8"
(900 MM)	(1067 MM)	(1575 MM)	(381 MM)	(292 MM)	(292 MM)	(203 MM)

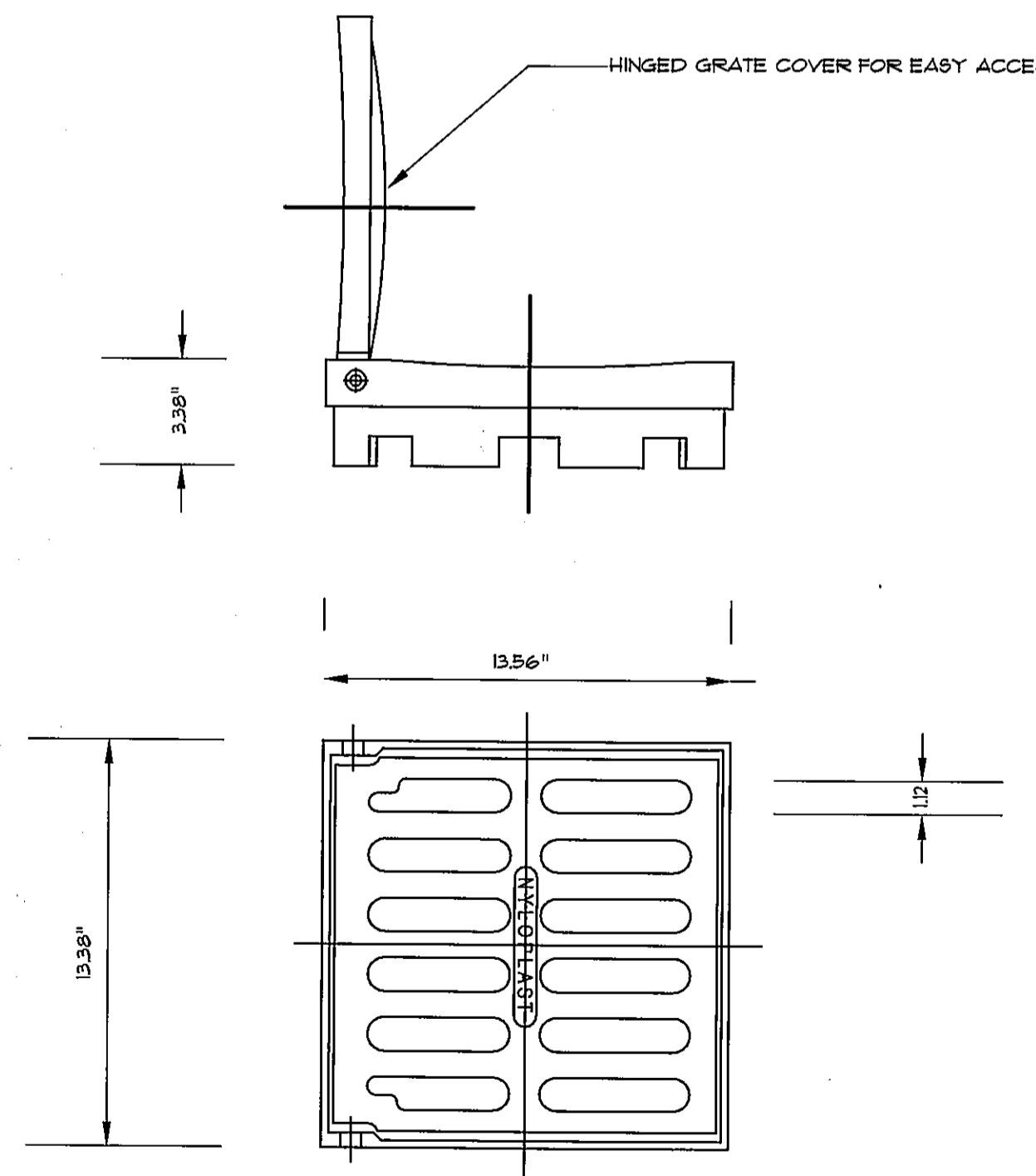
* MAXIMUM FILL HEIGHTS OVER MANIFOLD FITTINGS. CONTACT MANUFACTURER'S REPRESENTATIVE FOR INSTALLATION CONSIDERATIONS WHEN COVER EXCEEDS 8-FT.

NOTES:

1. ALL REFERENCES TO CLASS I OR II MATERIAL ARE PER ASTM D2321 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS, LATEST EDITION.
2. ALL RETENTION AND DETENTION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, LATEST EDITION AND THE MANUFACTURER'S PUBLISHED INSTALLATION GUIDELINES.
3. MEASURES SHOULD BE TAKEN TO PREVENT THE MIGRATION OF NATIVE FINES INTO THE BACKFILL MATERIAL, WHEN REQUIRED. SEE ASTM D2321.
4. FILTER FABRIC: A GEOTEXTILE FABRIC MAY BE USED AS SPECIFIED BY THE ENGINEER TO PREVENT THE MIGRATION OF FINES FROM THE NATIVE SOIL INTO THE SELECT BACKFILL MATERIAL.
5. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
6. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I OR II. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER UNLESS OTHERWISE NOTED BY THE ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).
7. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I OR II IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
8. COVER: MINIMUM COVER OVER ALL RETENTION/DETENTION SYSTEMS IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 1' FROM TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER IS 12" UP TO 36" DIAMETER PIPE AND 24" ABOVE CROWN OF PIPE. FOR 42" - 60" DIAMETER PIPE MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT. MAXIMUM FILL HEIGHT LIMITED TO 8-FT OVER FITTINGS FOR STANDARD INSTALLATIONS. CONTACT A SALES REPRESENTATIVE WHEN MAXIMUM FILL HEIGHTS EXCEED 8-FT FOR INSTALLATION CONSIDERATIONS.

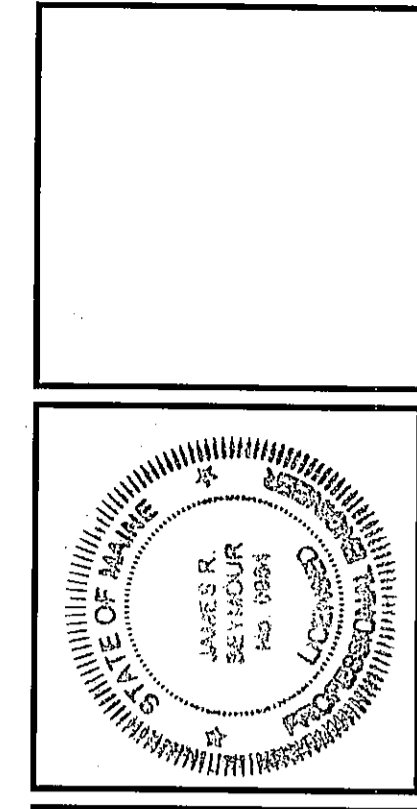


12" NYLOPLAST DRAIN BASIN WITH 12" STANDARD H25 GRATE



NYLOPLAST 12" STANDARD H25 GRATE

STANDARD GRATE HAS H-25 HEAVY DUTY RATING
SOLID COVER HAS H-25 HEAVY DUTY RATING
PEDESTRIAN GRATE HAS H-10 MEDIUM DUTY RATING
QUALITY MATERIALS SHALL CONFORM TO ASTM
A536 GRADE 10-50-05 4 A48-CLASS 3005
MATERIAL. DUCTILE IRON GRATE W/CAST IRON FRAME
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST
PRICE INCLUDES FRAME & GRATE/COVER



REV.	DATE	BY	STATUS
B	05-05-12	JRS	REVISED PER CONDITIONS OF APPROVAL
A	05-11-12	JRS	ISSUED TO CITY FOR REVIEW

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PROJECT NO. | FIELD BOOK | DESIGN | CHKD | DRAWN | JRS | JRH

05108 | WTC | JRS

ADS RETENTION SYSTEM DETAILS
 OF: **THE BAY HOUSE**
 112-113 NEWBURY STREET / 40 HANCOCK STREET
 PORTLAND, MAINE
 FOR: **THE VILLAGE AT OCEAN GATE, LLC**
 35 FAY STREET, SUITE 107B
 BOSTON, MA 02118-4320