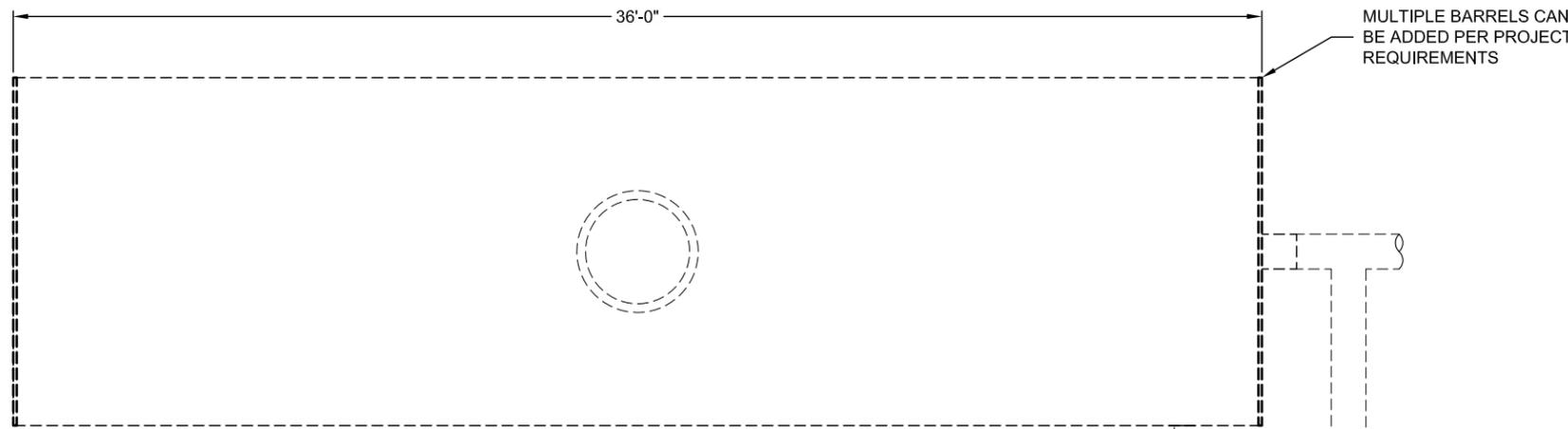
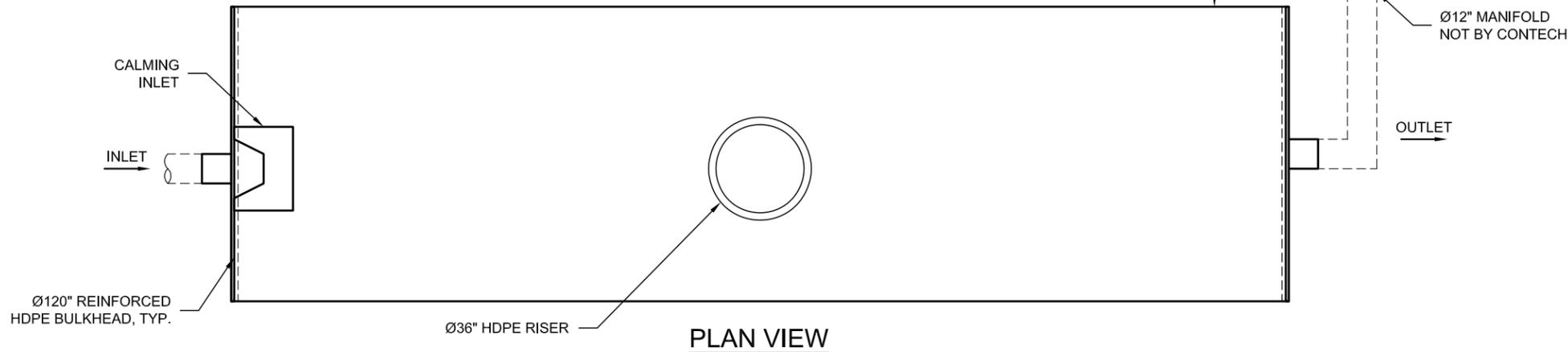


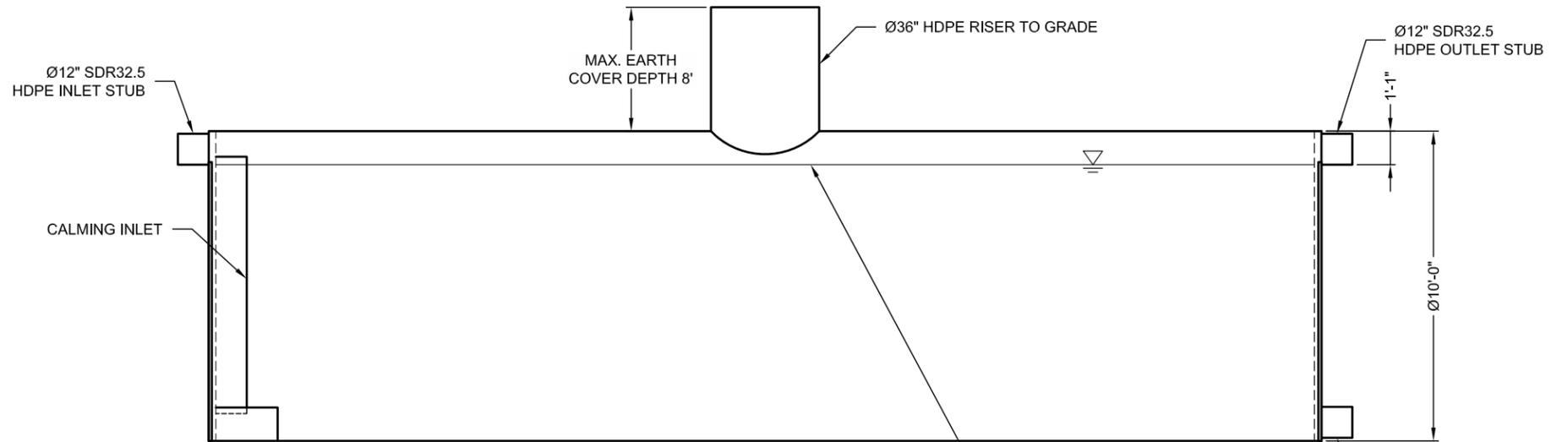
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**ASSEMBLY**  
 SCALE: 1" = 5'  
 TOTAL CISTERN VOLUME: 20,486 GAL. (2,739 C.F.)  
 ACTUAL STORAGE VOLUME: 19,231 GAL.  
 ESTIMATED HEAVIEST PICK WEIGHT = 5,500 LBS.  
 LOADING: H20/H25



**PLAN VIEW**



**ELEVATION VIEW**

ACTUAL STORAGE VOLUME REFERS TO THE VOLUME BELOW THE INVERT OF OVERFLOW OUTLET. OVERFLOW ASSUMED TO BE Ø12" DIAMETER.

OPTIONAL STUB FOR MANIFOLD CONNECTION

**NOTES**

- MULTIPLE TANK LAYOUTS AVAILABLE.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM D3350.
- ALL RISERS AND STUBS ARE HIGH DENSITY POLYETHYLENE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- FLOTATION CONTROL IS CRITICAL AND THE RESPONSIBILITY OF THE INSTALLER. THE INFORMATION IS SUBMITTED AS A GUIDELINE ONLY. CONTECH IS NOT RESPONSIBLE FOR THE USE AND INTERPRETATION OF THIS INFORMATION.
- ALL TANKS ARE TESTED FOR WATERTIGHTNESS PRIOR TO SHIPMENT.

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 ENGINEERED SOLUTIONS LLC  
 www.ContechES.com  
 9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069  
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**URBANGREEN**

**Ø120" URBANGREEN RWH SRPE CISTERN**  
 Ø120" X 36' LONG  
 20,000 GAL

PROJECT No.: ----	SEQ. No.: ----	DATE: 2/10/16
DESIGNED: DRA	DRAWN: ASB	
CHECKED:	APPROVED:	
SHEET NO.: 1 OF 4		

I:\COMMUNICATIONS\URBANGREEN RAINWATER HARVESTING\40 STANDARD DRAWINGS\SRPE\INDIVIDUAL STANDARD DETAILS\DWG\URWH SRPE 120 INCH 20000 GAL CISTERNDWG 7/27/2016 2:16 PM

**SPECIFICATION FOR STEEL REINFORCED POLYETHYLENE PIPE**

**SCOPE**

THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE STEEL REINFORCED POLYETHYLENE PIPE DETAILED IN THE PROJECT PLANS.

**DESCRIPTION**

DUROMAXX IS A REINFORCED POLYETHYLENE PIPE WITH A SMOOTH WATERWAY WALL AND EXTERIOR PROFILE THAT IS REINFORCED WITH HIGH STRENGTH GALVANIZED STEEL RIBS. THE CONTINUOUS REINFORCING RIBS ARE COMPLETELY ENCASED WITHIN THE POLYETHYLENE PROFILE. DUROMAXX IS MANUFACTURED USING A HELICAL WINDING PROCESS THAT RESULTS IN A CONTINUOUSLY FUSION WELDED CIRCUMFERENTIAL LAP SEAM. THE PIPE PROFILE IS MANUFACTURED USING A HIGH QUALITY PRESSURE-RATED THERMOPLASTIC MEETING THE REQUIREMENTS OF ASTM F2562 "STANDARD SPECIFICATION FOR STEEL REINFORCED THERMOPLASTIC RIBBED PIPE AND FITTINGS FOR NON-PRESSURE DRAINAGE AND SEWERAGE". FOR THE PURPOSE OF HYDRAULIC DESIGN, THE RECOMMENDED MANNING'S "N" VALUE SHALL BE 0.012 FOR PIPE DIAMETERS INCLUDED WITHIN THIS SPECIFICATION. PIPE LENGTH & ALL DIMENSIONS SHOWN ARE SUBJECT TO MANUFACTURERS TOLERANCES OF ±1% ACCORDING TO ASTM F2562.

**MATERIAL PROPERTIES**

VIRGIN HIGH DENSITY POLYETHYLENE PRESSURE-RATED RESINS ARE USED TO MANUFACTURE DUROMAXX PIPE. RESINS SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF CELL CLASSIFICATION 345464 C AS DEFINED AND DESCRIBED IN THE LATEST VERSION OF ASTM D3350 "STANDARD SPECIFICATION FOR POLYETHYLENE PLASTICS PIPE AND FITTINGS MATERIALS".

**FITTINGS**

ALL FITTINGS SHALL BE FABRICATED FROM DUROMAXX PIPE. ANY FITTINGS 30"Ø AND BELOW WILL BE HDPE PIPE.

ALL FABRICATION OF THE PRODUCT SHALL OCCUR WITHIN THE UNITED STATES.

**INSTALLATION**

INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321 "PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS" ALONG WITH PRODUCT-SPECIFIC RECOMMENDATIONS CONTAINED IN CONTECH INSTALLATION GUIDELINES FOR DUROMAXX PIPE.

**INSTALLATION**

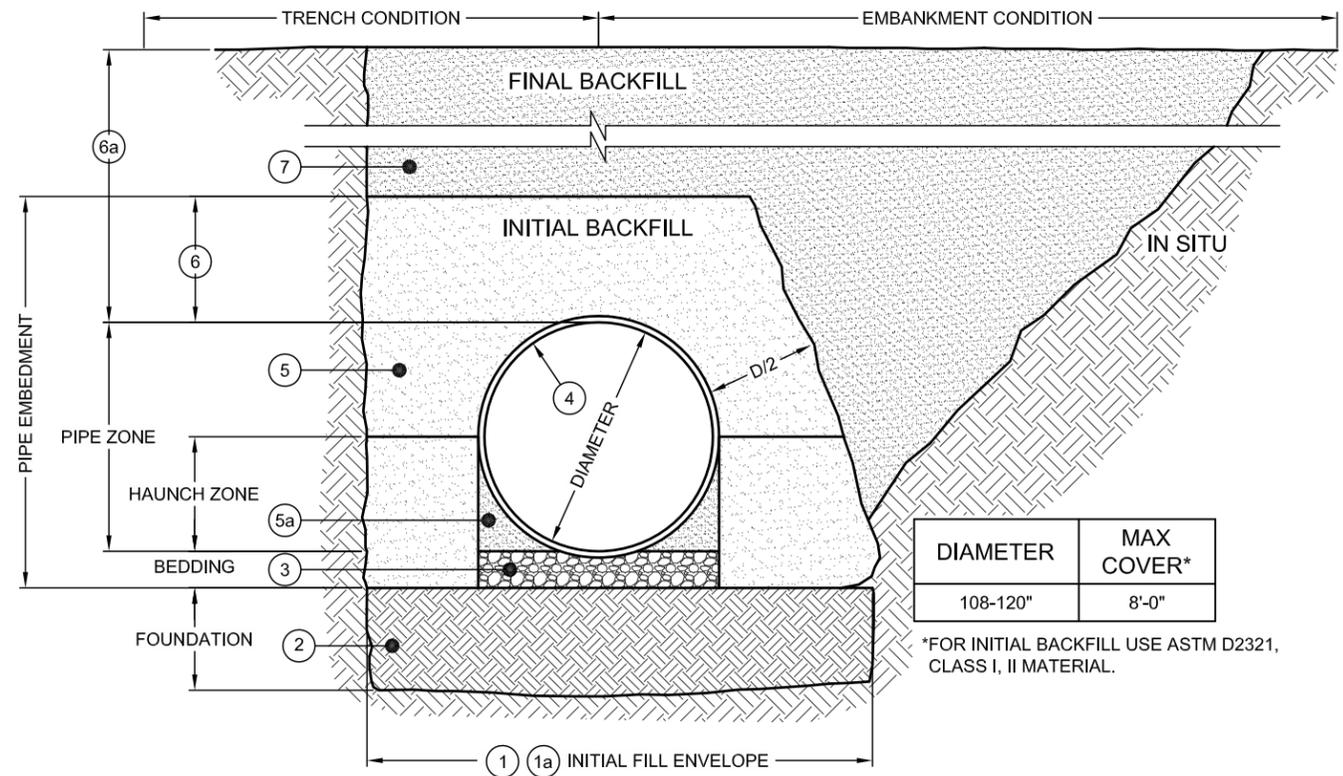
**PRE-CONSTRUCTION MEETING**

PRIOR TO INSTALLATION OF THE DRAINAGE SYSTEM A PRE-CONSTRUCTION MEETING SHALL BE CONDUCTED. THOSE REQUIRED TO ATTEND ARE THE SUPPLIER OF THE DRAINAGE SYSTEM, THE GENERAL CONTRACTOR, SUB CONTRACTORS AND THE ENGINEER.

**INSTALLATION OF PIPE:**

IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND/OR PROJECT ENGINEER TO ENSURE THAT ALL QUESTIONS ABOUT INSTALLATION ARE ADDRESSED PRIOR TO APPROVAL OF SYSTEM. ALL DETAILS FOR INSTALLATION ARE LOCATED IN THIS DRAWING PACKAGE ANY QUESTIONS CONCERNING THESE STANDARD DETAILS CAN BE ADDRESSED BY YOUR CONTECH REPRESENTATIVE PRIOR TO APPROVAL.

BACKFILL SHALL BE PLACED TO THE PROPER ELEVATION OVER THE SYSTEM AS OUTLINED IN THE PLANS. MINIMUM COVER FOR CONSTRUCTION LOADING NEEDS TO BE DETERMINED BASED ON THE TYPE OF EQUIPMENT THAT IS PLANNED FOR CONSTRUCTION. PROPER COVER FOR CONSTRUCTION EQUIPMENT SHALL BE DETERMINED PRIOR TO THE PRE-CONSTRUCTION MEETING BY THE ENGINEER.



- ① MINIMUM TRENCH WIDTH MUST ALLOW ROOM FOR PROPER COMPACTION OF HAUNCH MATERIALS UNDER PIPE. MIN. WIDTH = (1.25 x DIAMETER) + 12" (FOLLOW ASTM D2321)
- ①a MINIMUM EMBANKMENT WIDTH IS 3 PIPE DIAMETERS.
- ② FOUNDATION SHALL BE WELL CONSOLIDATED & STABLE.
- ③ BEDDING MATERIAL SHALL BE A RELATIVELY LOOSE MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE, 4" TO 6" IN DEPTH.
- ④ DUROMAXX STEEL REINFORCED (SRPE) PIPE.
- ⑤ INITIAL BACKFILL FOR PIPE EMBEDMENT MATERIAL TO MEET ASTM D2321 CLASS I OR APPROVED EQUAL, COMPACTED TO 90% STANDARD PROCTOR (NATIVE MATERIAL CAN BE UTILIZED THAT MEETS ASTM D2321 OR APPROVED EQUAL).
  - ALL LIFTS PLACED IN CONTROLLED MANNER. TO PREVENT UNEVEN LOADING, IT IS RECOMMENDED THAT LIFTS NOT EXCEED 8" UNCOMPACTED LIFT HEIGHTS.
- ⑤a HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVEL SLICED INTO PLACE TO ALLOW FOR PROPER COMPACTION.
- ⑥ INITIAL BACKFILL ABOVE PIPE MAY INCLUDE ROAD BASE MATERIAL AND RIGID PAVEMENT, MINIMUM COVER STILL APPLIES, OTHERWISE: 18" MINIMUM FOR PIPE DIAMETERS 108" - 120"
- ⑥a HEIGHT OF COMPACTED COVER PER DIAMETER FOR CONVENTIONAL HIGHWAY LOADS (DISTANCE MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT): 36" MINIMUM FOR PIPE DIAMETERS 120"
- ⑦ FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS PER THE PROJECT PLANS, SPECIFICATIONS. ENGINEER OF RECORD.

**NOTES:**

- GEOTEXTILE SHALL BE USED AS REQUIRED TO PREVENT SOIL MIGRATION.
- FOR MULTIPLE BARREL INSTALLATION THE RECOMMENDED STANDARD SPACING BETWEEN PARALLEL PIPE RUNS SHALL BE = PIPE DIA./2 OR 3' FOR PIPE DIAMETERS 72" AND LARGER. CONTACT YOUR CONTECH REPRESENTATIVE FOR NONSTANDARD SPACING.
- BACKFILL REQUIREMENTS SHALL FOLLOW ASTM D2321. IN THE EVENT OF DISCREPANCIES, ASTM D2321 SHALL SUPERCEDE THIS DETAIL.

① **BACKFILL DETAIL**  
② SCALE: N.T.S.

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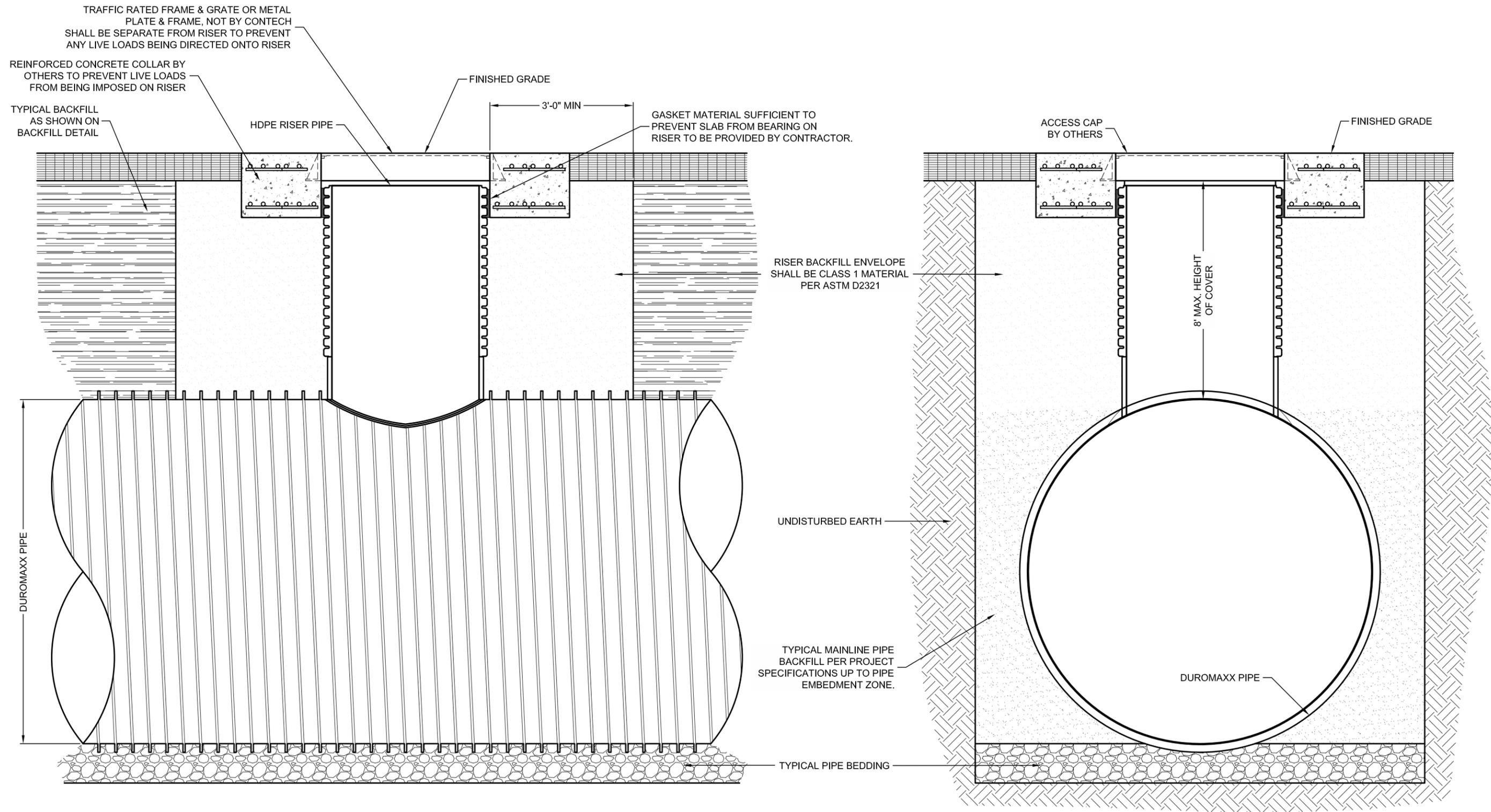
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ENGINEERED SOLUTIONS LLC  
www.ContechES.com  
200 Enterprise Drive, Scarborough, ME 04074  
877-907-8676 207-885-9830 207-885-9825 FAX

**URBANGREEN**  
ENGINEERED SOLUTIONS LLC

Ø120" URBANGREEN RWH SRPE CISTERN  
Ø120" X 36' LONG  
20,000 GAL

PROJECT No.: ----	SEQ. No.: ----	DATE: 2/10/16
DESIGNED: DRA	DRAWN: ASB	
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2 STANDARD RISER INSTALLATION DETAIL  
 3 SCALE: N.T.S.

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 www.ContechES.com  
 11815 NE Glenn Widing Drive, Portland, OR 97220  
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**URBANGREEN**  
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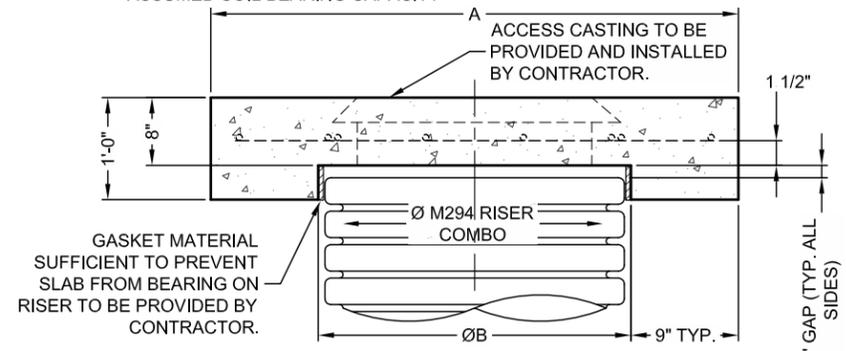
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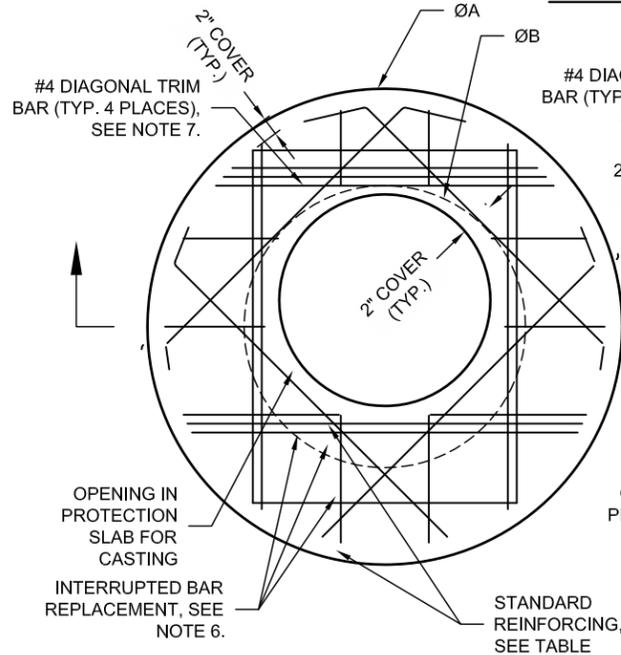
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REINFORCING TABLE				
RISER Ø	A	Ø B	REINFORCING	**BEARING PRESSURE (PSF)
36"	Ø 5'-0" 5'-0" X 5'-0"	42"	#4 @ 9" OCEW #4 @ 7" OCEW	2,410 1,660

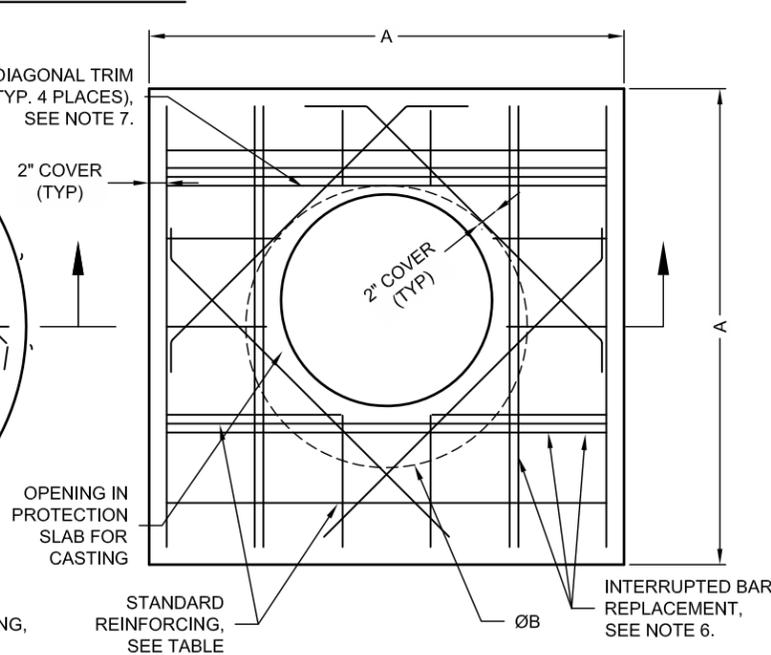
\*\* ASSUMED SOIL BEARING CAPACITY



**SECTION VIEW**



**ROUND OPTION PLAN VIEW**



**SQUARE OPTION PLAN VIEW**

**NOTES:**

- DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
- DESIGN LOAD HS25.
- EARTH COVER = 1' MAX.
- CONCRETE STRENGTH = 3,500 psi
- REINFORCING STEEL = ASTM A615, GRADE 60.

- PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
- TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
- PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
- DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON NY.

**3 MANHOLE CAP DETAIL**  
4 SCALE: N.T.S.

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