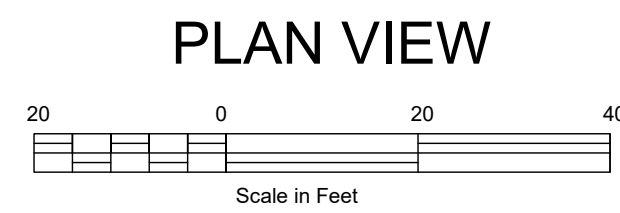




USER TO INSERT PLAN VIEW MAP



BENCH MARK DESCRIPTIONS

TBM #1 (IP): Elev = ????.??
Top of 1" X 2" wooden hub, marked by witness lath.

TBM #2: Elev = ????.??
Top of 1" X 2" wooden hub, marked by witness lath, near NW corner of building.

TBM #3: Elev = ????.??
Top of bolt in NW corner of concrete.

LANDOWNER - SITE NAME

COUNTY Soil Conservation District
JOB CLASS #



File Name
MD_0042_Pond.dwg

Drawing No.
MD_0042

Sheet 2 of 5

Designed	_____	_____	_____
Drawn	_____	_____	_____
Checked	_____	_____	_____
Approved	_____	_____	_____
Date	_____	_____	_____

TRACT # _____, Maryland



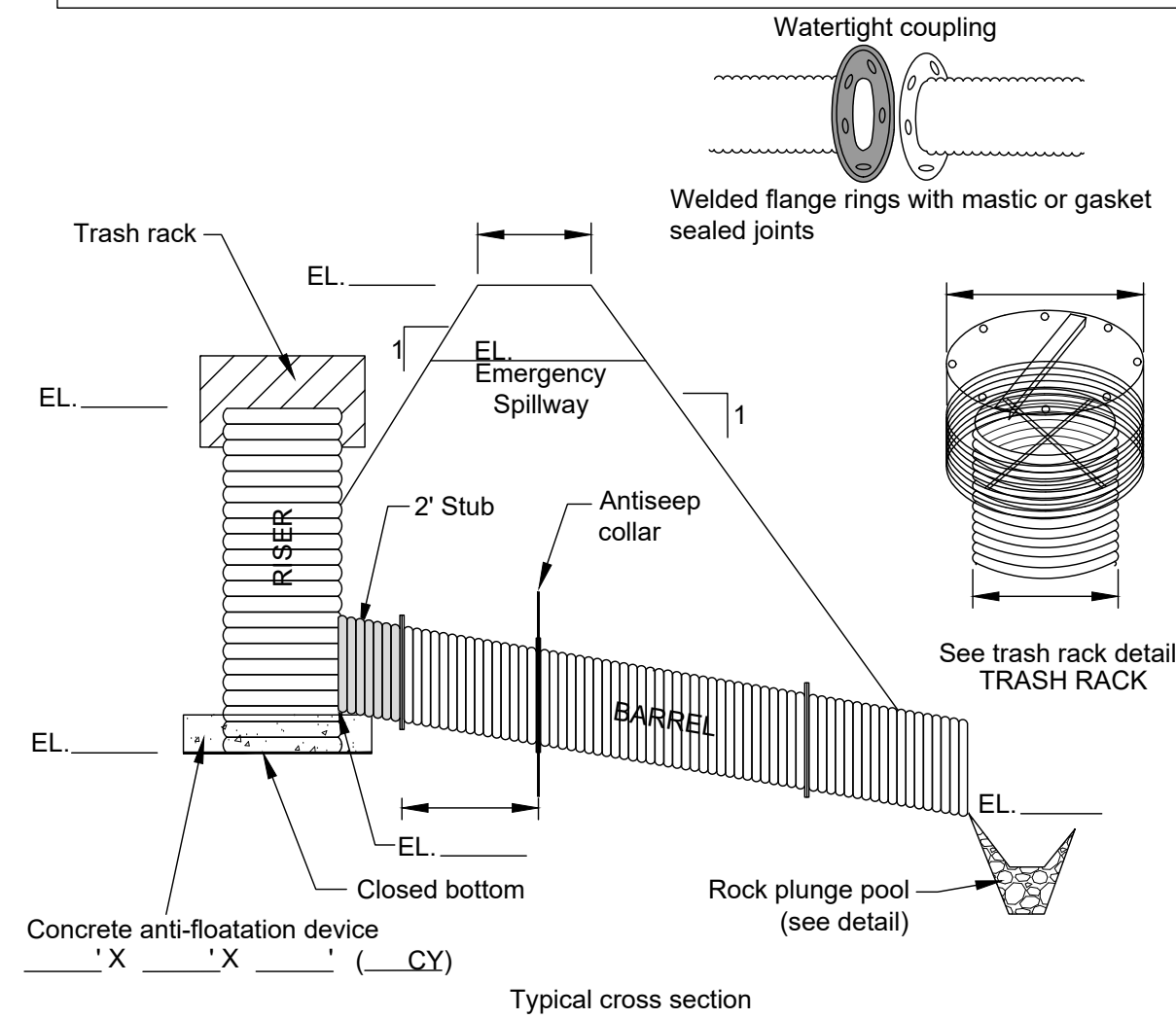
USER TO INSERT REQUIRED PROFILES AND CROSS SECTIONS

PROFILES/CROSS SECTIONS

USER TO SELECT RISER OPTION (SEE RISER OPTION SHEET)

Design Specifications:

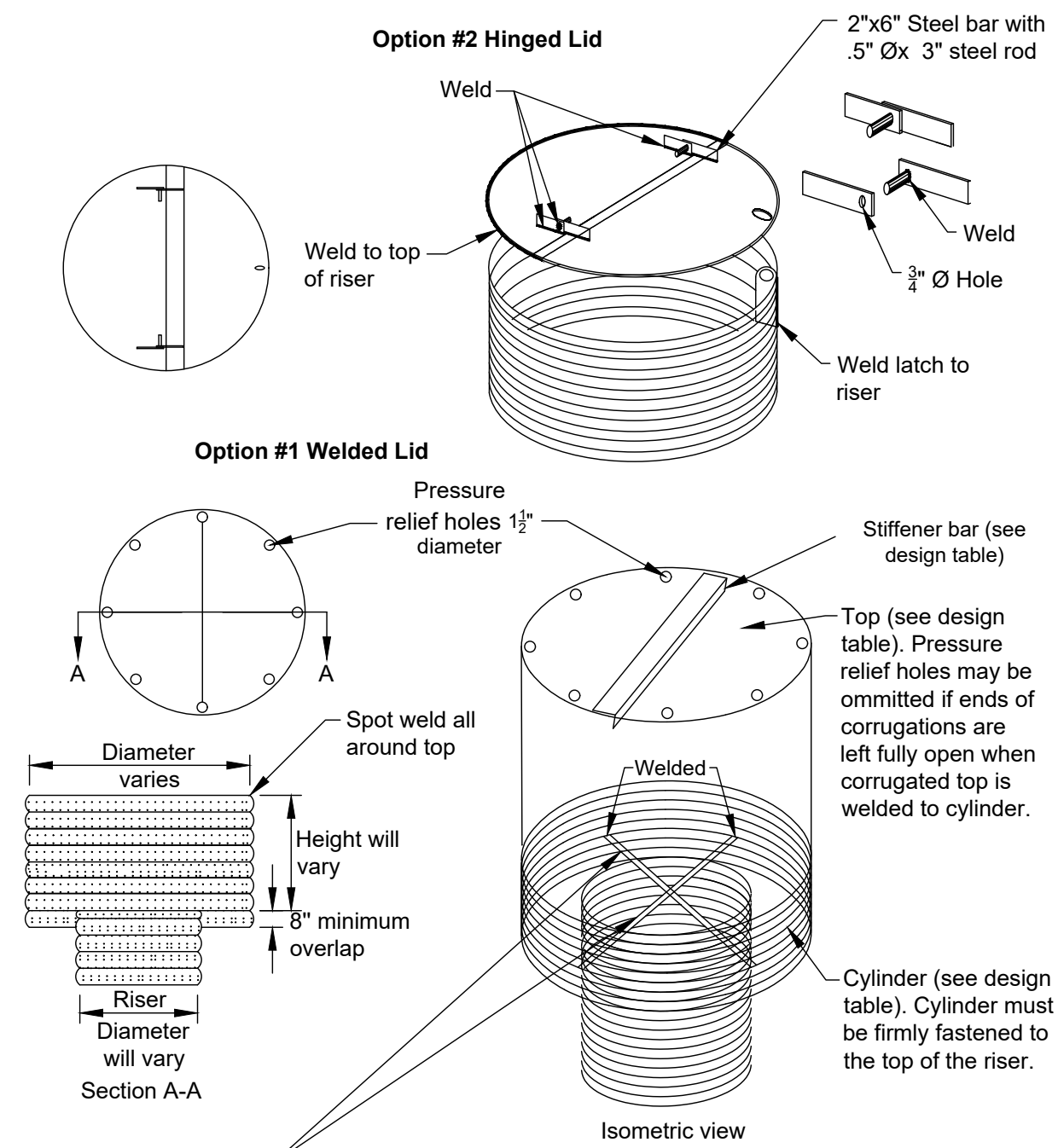
_____ X _____ Gage RISER	Slope _____ FT/FT
Corrugations 2 2/3" X 1/2" OR 3" X 1"	_____ Trash Rack
_____ X _____ Gage BARREL	Stub angle _____ °
Corrugations 2 2/3" X 1/2" OR 3" X 1"	Clearing _____ AC
Concrete _____ CY (Min 3500 PSI)	Fill _____ CY
Flange/Gasket kits _____ EA	Anti-Seep Collar _____ X _____



- GENERAL NOTES:
- All aluminum surfaces in contact with concrete shall be coated with ZINC CHROMATE PRIMER
 - A conservation technician must be present at the time of pipe installation to verify soil backfill material
 - Pipe shall be backfilled in minimum 6-8" lifts using compaction equipment

POND - ALUMINUM RISER
1 ANTI-SEEP COLLAR
Not to scale

USER TO CLICK ON BLOCK AND ENTER INFORMATION



CONCENTRIC TRASH RACK (SHEET 1 OF 2)
Not to scale

Riser Diam.	Trash Rack Cylinder			Minimum Size Support Bar	Minimum Top	
	Diam. in.	Thick. gage	H. in.		Thickness	Stiffener
12	18	16	6	# 6 Rebar	16 ga.	--
15	21	16	7	"	"	--
18	27	16	8	"	"	--
21	30	16	11	"	"	--
24	36	16	13	"	14 ga.	--
27	42	16	15	"	14 ga.	--
36	54	14	17	# 8 Rebar	12 ga.	--
42	60	14	19	"	"	--
48	72	12	21	1-1/4" pipe or 1-1/4 x 1-1/4 x 1/4 angle	10 ga.	--
54	78	12	25	"	"	--
60	90	12	29	1-1/2" pipe or 1-1/2 x 1-1/2 x 1/4	8 ga.	--
66	96	10	33	2" pipe or 2 x 2 x 3/16 angle	8 ga. w/ stiffener	2 x 2 x 1/4 angle
72	102	10	36	"	"	2-1/2 x 2 - 1/2 x 1/4 angle
78	114	10	39	2-1/2" pipe or 2x2x1/4 angle	"	"
84	120	10	42	2-1/2" pipe or 2-1/2 x 2-1/2 x 1/4 angle	"	2-1/2 x 2-1/2 x 5/16 angle

Note: The above trash rack and anti-vortex device information is only for corrugated metal/aluminum pipe. Concrete risers must meet the requirements of MD 378.

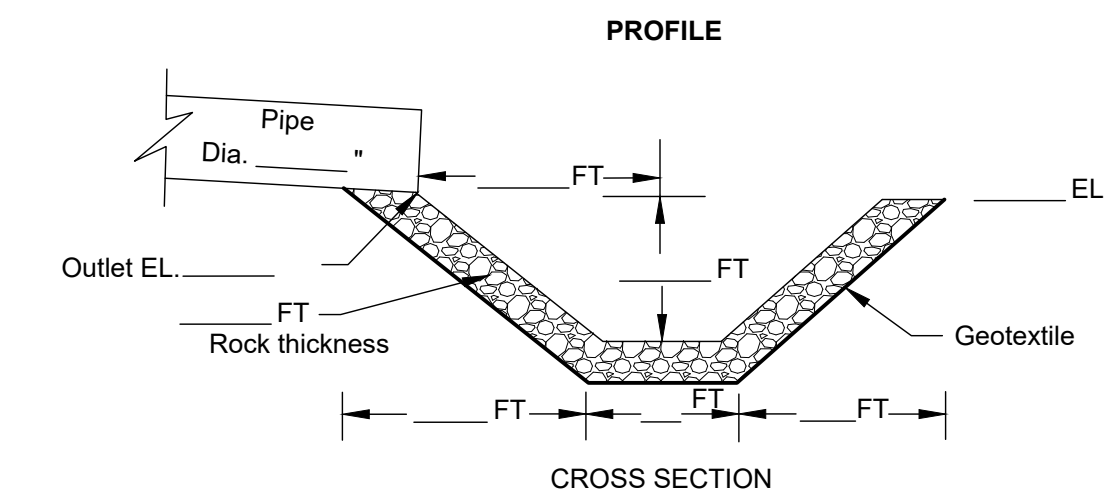
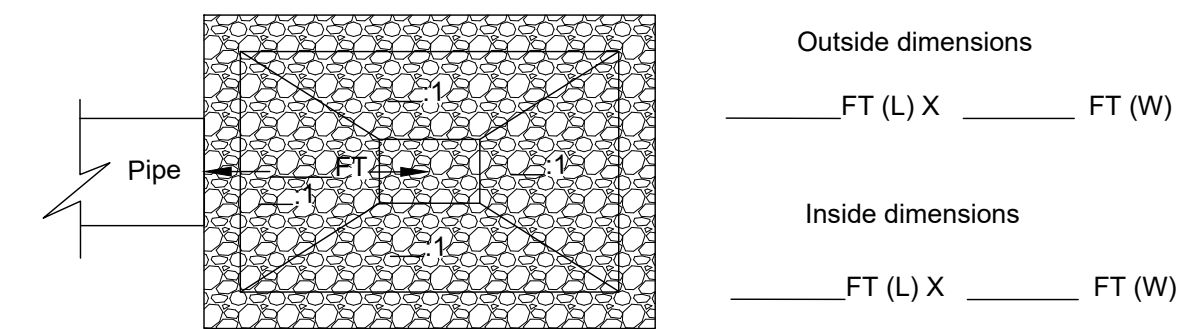
CONCENTRIC TRASH RACK (SHEET 2 OF 2)

Note: Geotextile to meet the following Maryland State Highway Administration requirements:

Maryland Application Class	Type of Geotextile	Grab Strength Lb D 4632	Puncture Strength Lb D 4833	Permittivity Sec 1	Apparent Opening Size Max Mm D 4751	Trapezoid Tear Strength Lb D 4533
SE	NONWOVEN	200	80	0.2	0.3	80
	WOVEN	250	90	0.2	0.3	90

Design Specifications:

Depth of Plunge _____ FT	Rock _____ " to _____ " d50 = _____ "
Distance to CL of plunge _____ FT	Riprap Thickness _____ FT
Riprap _____ TONS	Geotextile _____ FT ²
	Clearing _____ AC



ROCK PLUNGE POOL DETAIL
Not to scale

Date	_____
Designed	_____
Drawn	_____
Checked	_____
Approved	_____

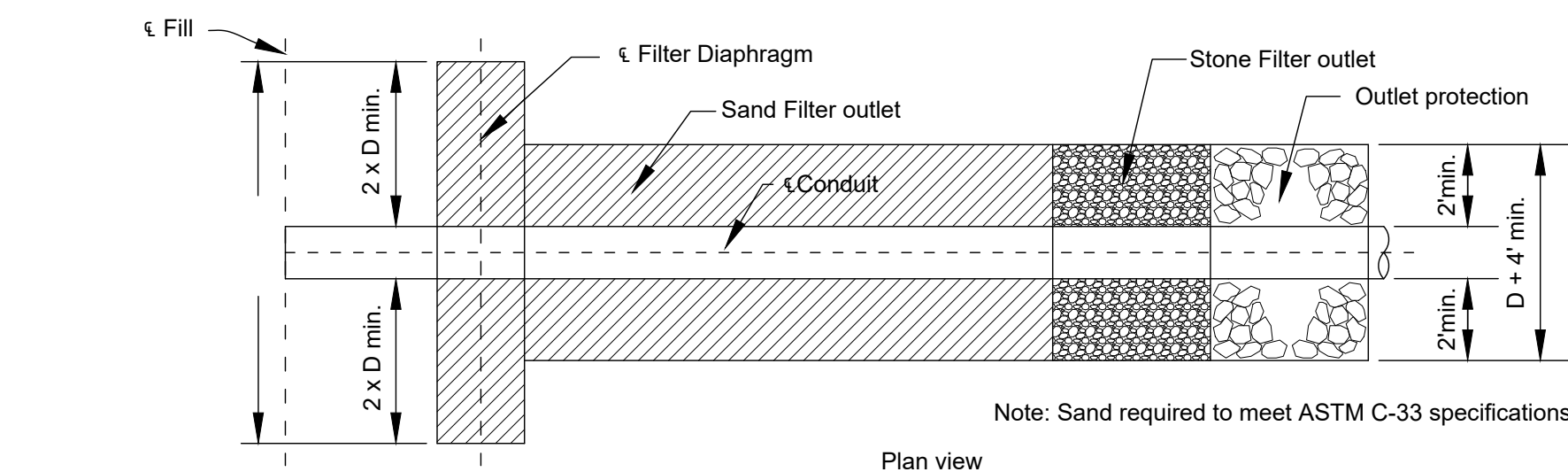
LANDOWNER - SITE NAME

COUNTY Soil Conservation District
JOB CLASS # _____, Maryland

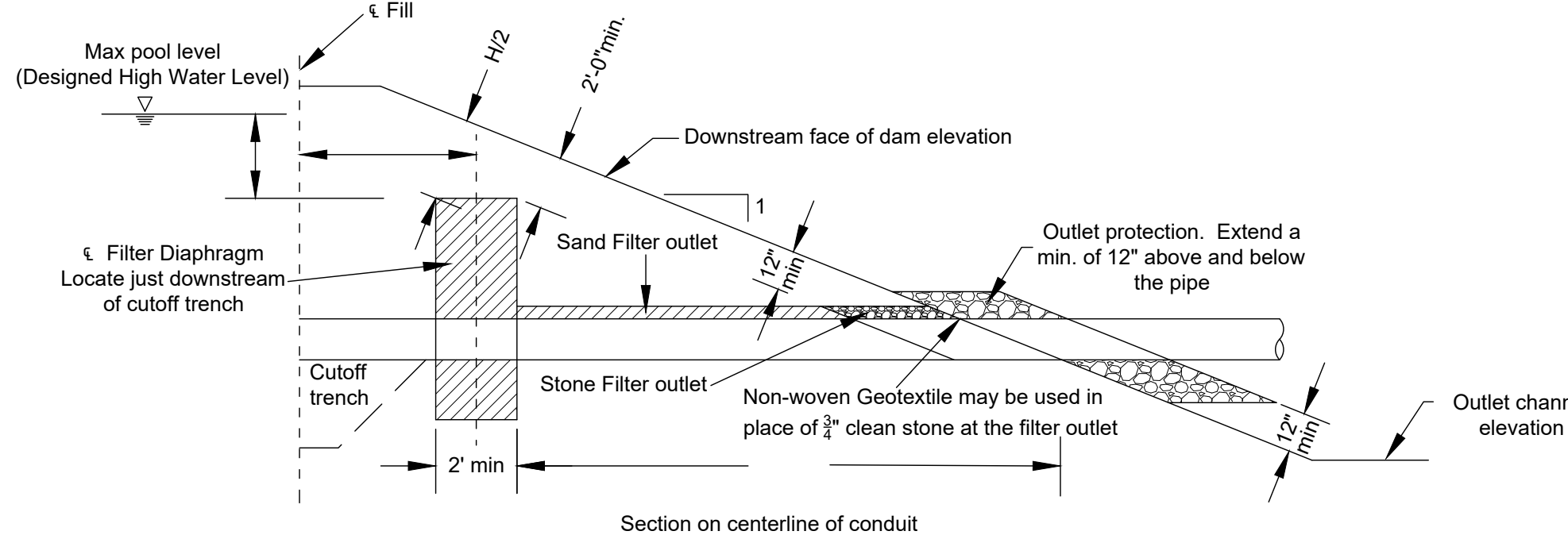
United States Department of Agriculture
USDA
Natural Resources Conservation Service

File Name
MD_0042_Pond.dwg

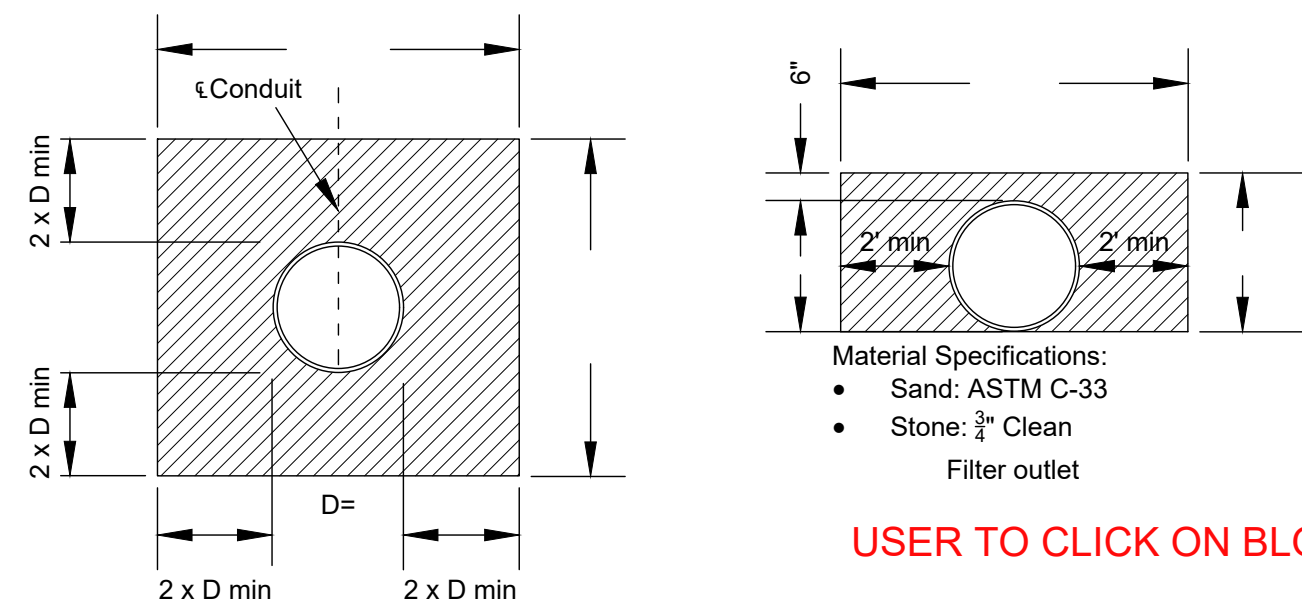
Drawing No.
MD_0042



Note: Sand required to meet ASTM C-33 specifications



Section on centerline of filter diaphragm



Section on centerline of filter diaphragm

USER TO CLICK ON BLOCK AND ENTER INFORMATION

SAND DIAPHRAGM

Not to scale

- Construction Notes:
- Natural ground or earth fill shall be placed to a height above the top of the sand envelope prior to trench excavation (per detail) for the pipe and sand envelope placement.
 - The sand envelope will be protected from surface erosion by 12 inches of crushed rock aggregate (max. size = 1 inch) covered with 12 inches of outlet protection material. This material may be rock riprap, broken concrete debris, or native stone (max. size = 8 inches).
 - Seepage protection filter and envelope material shall be compacted as specified in the construction specification.
 - Each layer of sand material shall be flooded prior to compaction.
 - Compaction shall be accomplished while the material is wet.
 - Each layer shall be compacted by a minimum of 2 passes of a hand-directed, vibratory compactor over the entire layer surface.
 - Layer thickness shall not exceed 12 inches after compaction.

Method of Placement Specification:

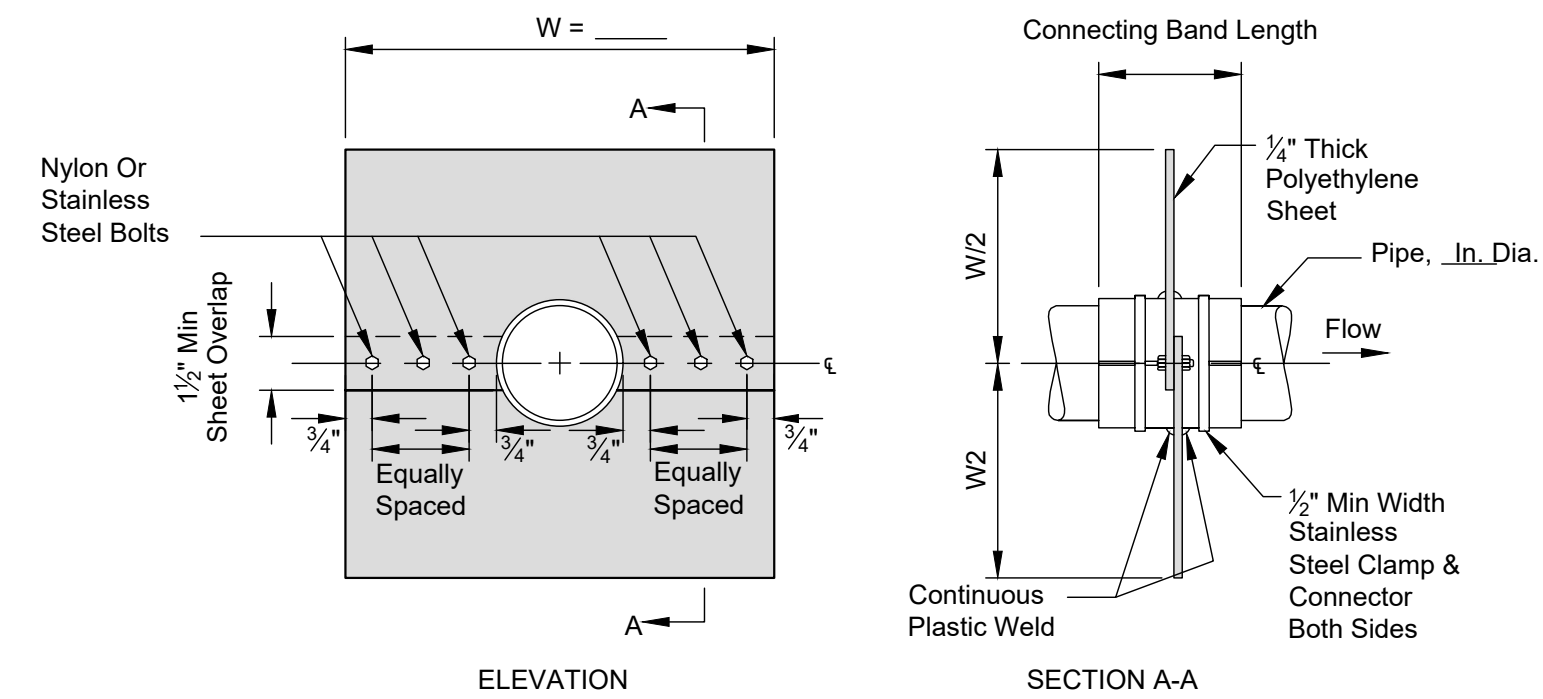
Filter diaphragm and sand envelope sand shall be placed uniformly in layers not to exceed 8 inches thick before compaction. Each layer shall be thoroughly wetted immediately prior to compaction. Clean water should be used to wet filter zones to avoid adding clay fines.

Each layer of sand shall be compacted by a minimum of two passes of a vibratory plate compactor weighing at least 160 pounds. The compactor shall have a minimum centrifugal force of 2,450 pounds at a vibrating frequency of no less than 5,000 cycles per minute (or by a minimum of two passes of a vibratory smooth wheeled roller weighing at least 325 pounds with a centrifugal force of 2,250 pounds at a vibrating frequency of no less than 4,500 cycles per minute).

The sand shall be placed to avoid segregation of particle sizes and to ensure the continuity and integrity of all zones. Avoid dropping the materials from heights more than 4 feet to prevent segregation. No foreign material shall be allowed to become intermixed with or otherwise contaminate the drainfill.

Traffic shall not be permitted to crossover filter zones at random. Equipment crossovers shall be maintained, and the number and location of such crossovers shall be established and approved before the beginning of diaphragm placement. Each crossover shall be cleaned of all contaminating material and shall be inspected and approved by the engineer before the placement of additional drain fill material.

Any damage to the foundation surface or the trench sides or bottom occurring during placement of sand filter shall be repaired before the sand filter zone placement is continued.



ELEVATION

SECTION A-A

NOTES:

- Pipe, connecting band and seam coating can be either silicon caulk (recommended), or mastic (asphalt or tar based).
- Apply silicon caulk, tar or mastic to bottom half of connecting band and lay pipe on connecting band.
- Apply silicon caulk or mastic to top half of collar and set in place, lining up both holes.
- Install clamps on split halves of collar and tighten bolts and clamps.
- Apply silicon caulk, tar or mastic on seams as needed to insure a good seal so that completed installation is watertight.
- Backfill and hand tamp soil around completed installation.
- Polyethylene antiseep collars can be used on corrugated and smooth PVC plastic, smooth steel and galvanized pipes

POLYETHYLENE SHEET ANTI-SEEP COLLAR

Not to scale

W FEET	Polyethylene Sheet Sq. Ft.	Stainless Steel Clamp & Connector	Connecting Band Length	Bolts & Nuts 3/8" x 1"	No. Of Collars
3	9.5	6	6	6	
4	16.7	6	6	6	
5	25.8	6	6	6	
6	37.0	6	6	6	
Totals					

TABLE OF QUANTITIES

UPSTREAM ELEVATION

SECTION A - A

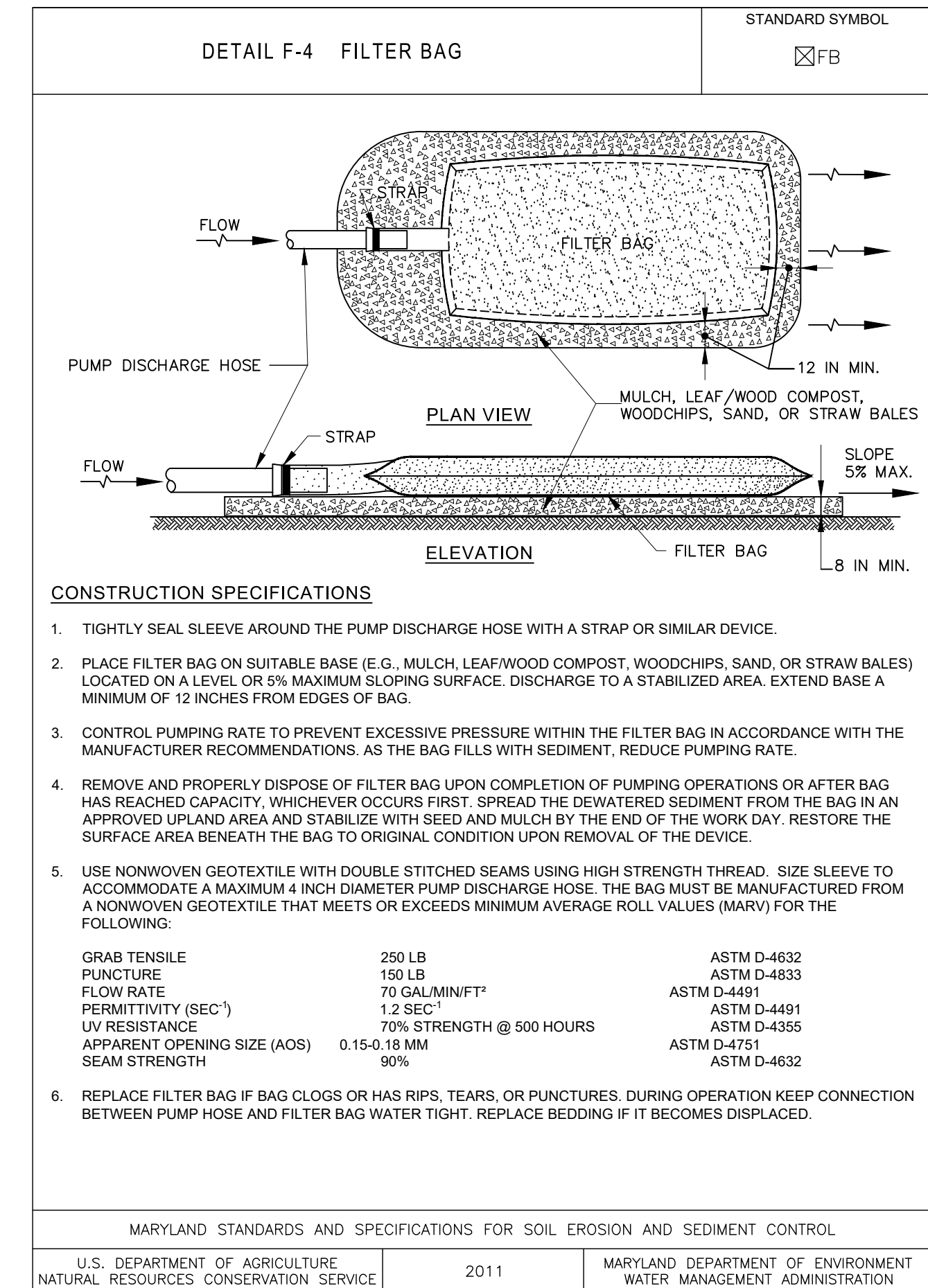
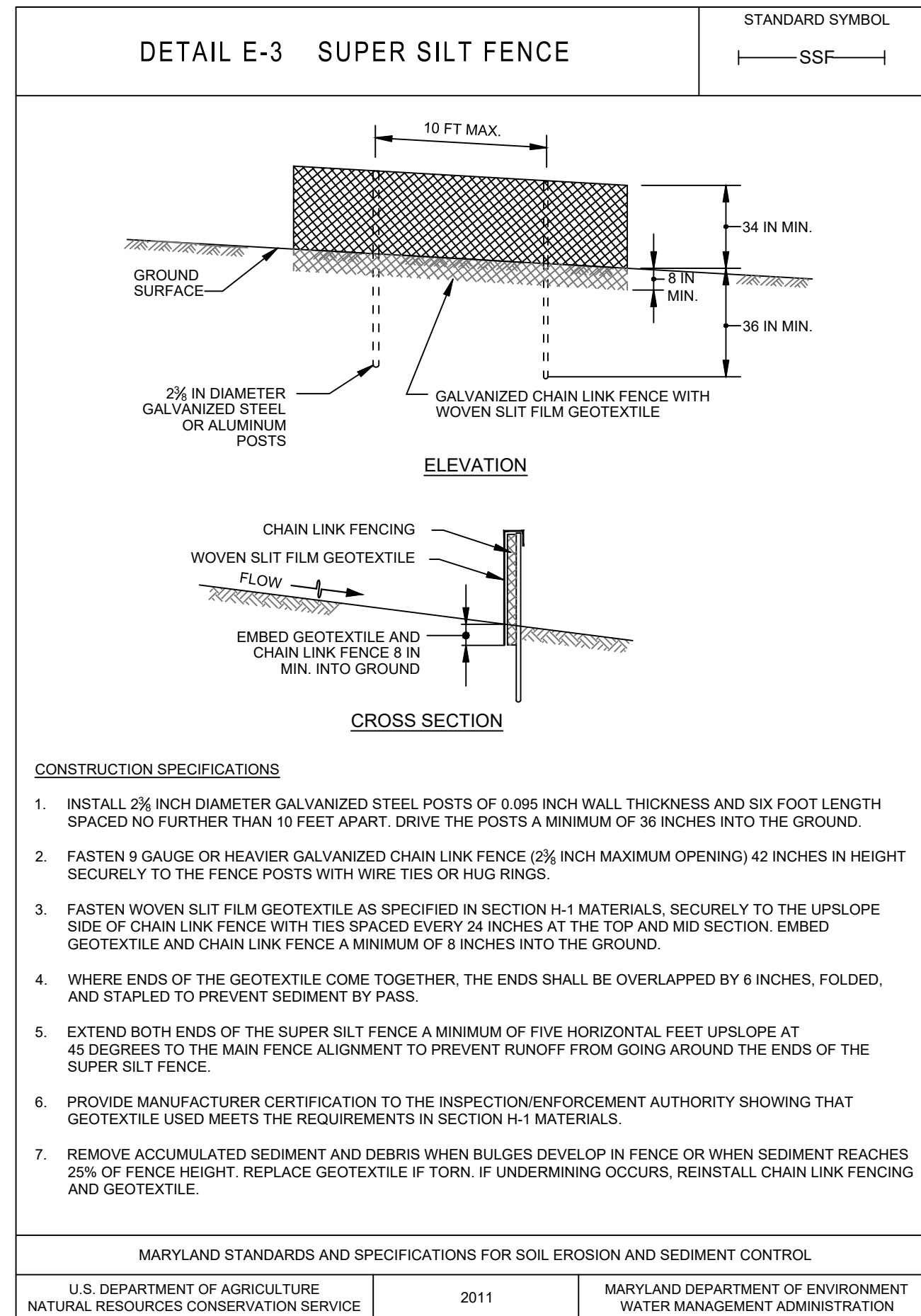
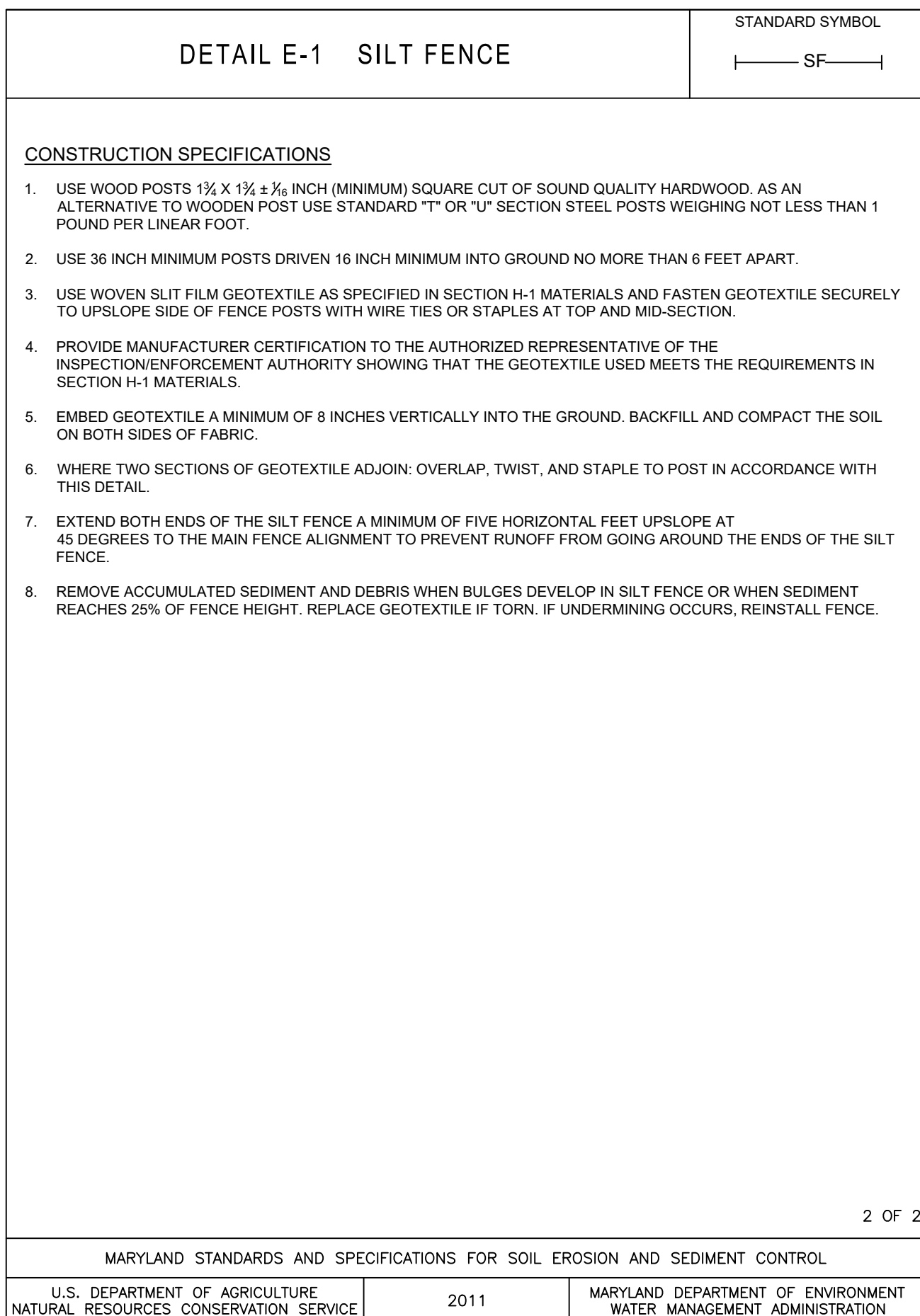
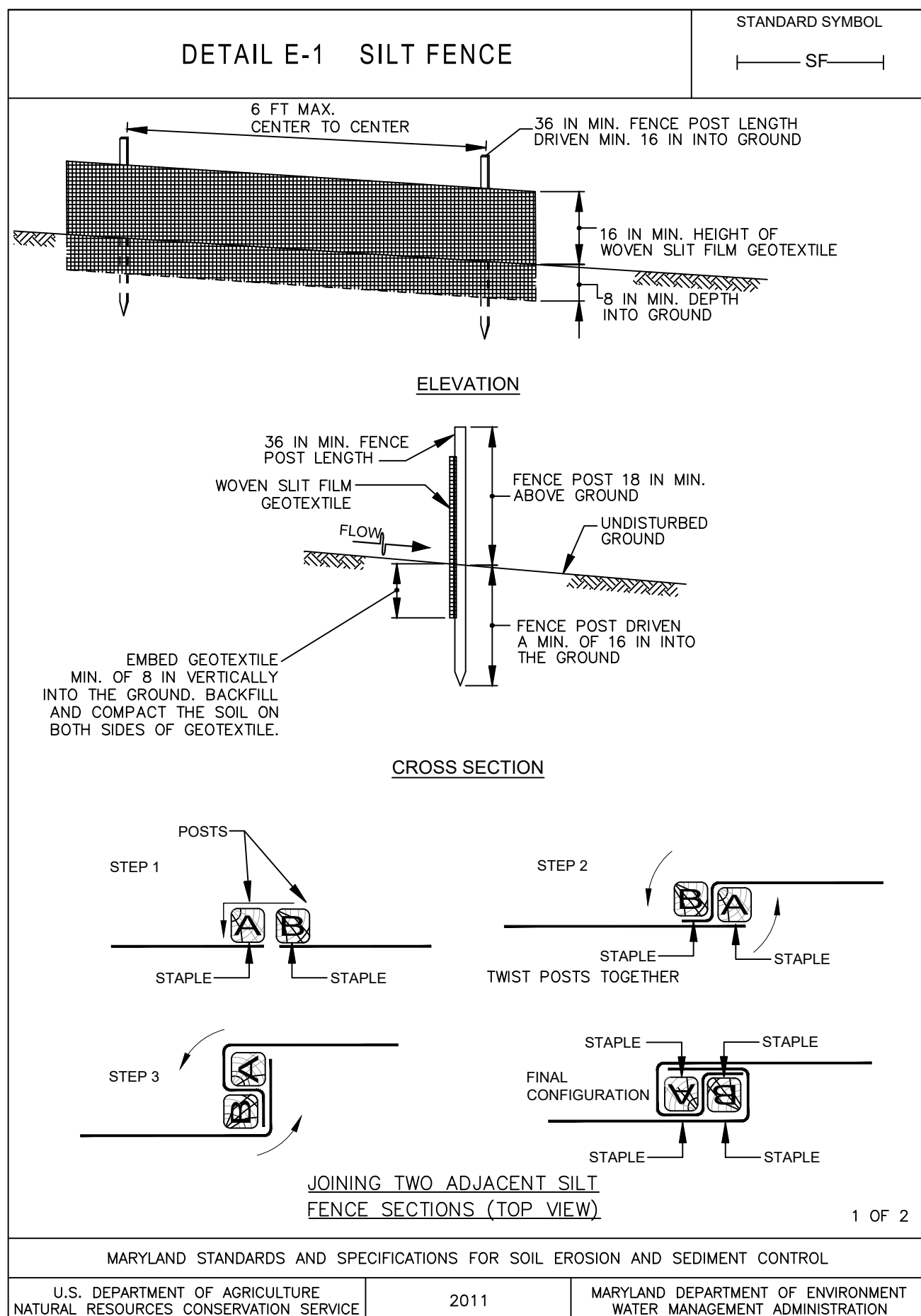
Pipe Diam. (D) (Inches)	Sheet Height (H) (Inches)	Sheet Width (W) (Inches)	Sheet Thickness (S) (Inches)	Pipe Length (L) (Inches)	Plate Thickness (P) (Inches)
6	48	48	3/16	12	1/2
8	48	48	3/16	15	1/2
10	48	48	3/16	17	1/2
12	48	48	3/16	17	1/2

NOTES:

- The bell end of the pvc pipe in the collar shall point upstream.
- Make pipe connections as needed to assure a watertight system.
- Apply silicon caulk on the seams as needed to insure a good seal so that the completed installation is watertight.

ANTI-SEEP COLLAR (PVC)

Not to scale



Date	Designed	Drawn	Checked	Approved

LANDOWNER - SITE NAME

####

COUNTY Soil Conservation District

JOB CLASS #

TRACT #



File Name
MD_0042_Pond.dwg

Drawing No.
MD_0042

Sheet 4 of 5

POND CONSTRUCTION SPECIFICATIONS AS PER 378-CPS-2000

CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

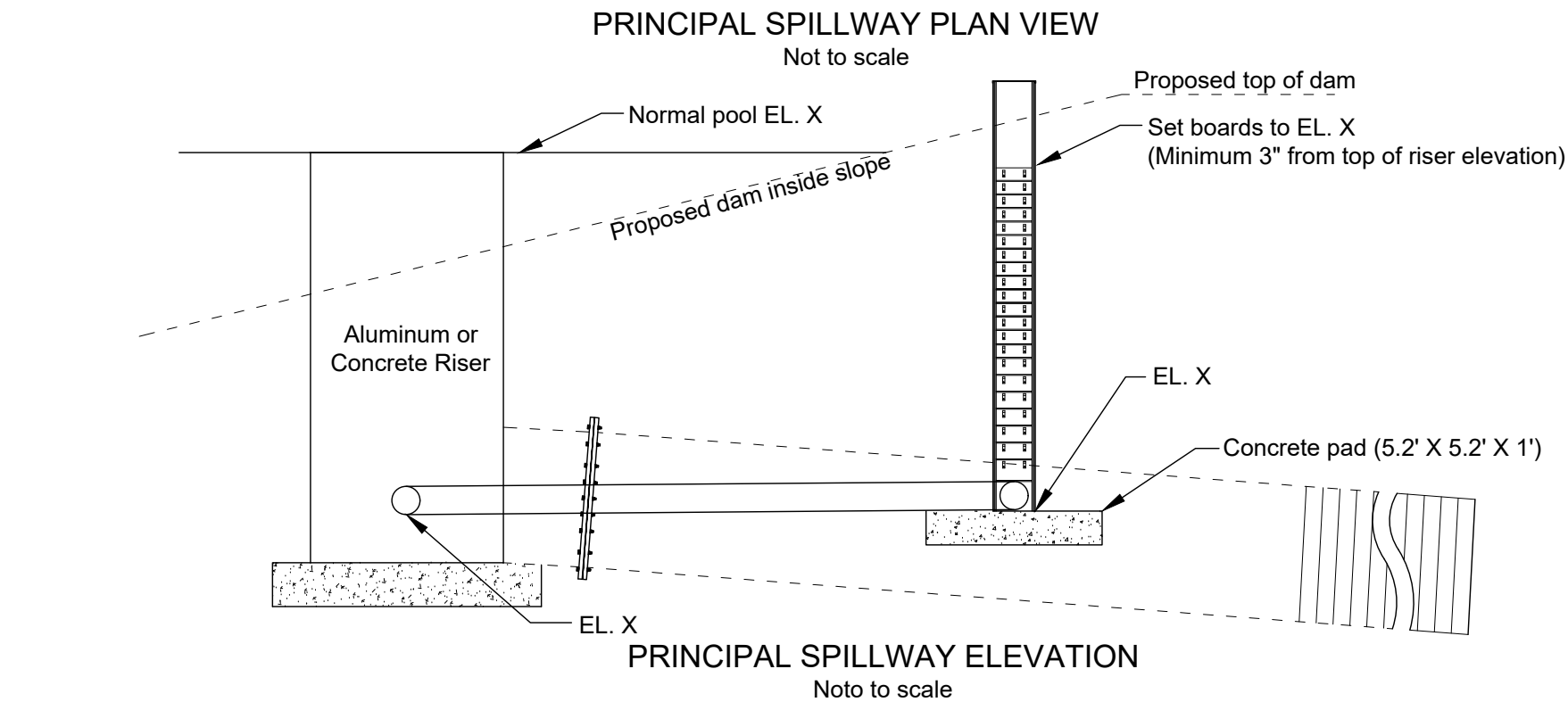
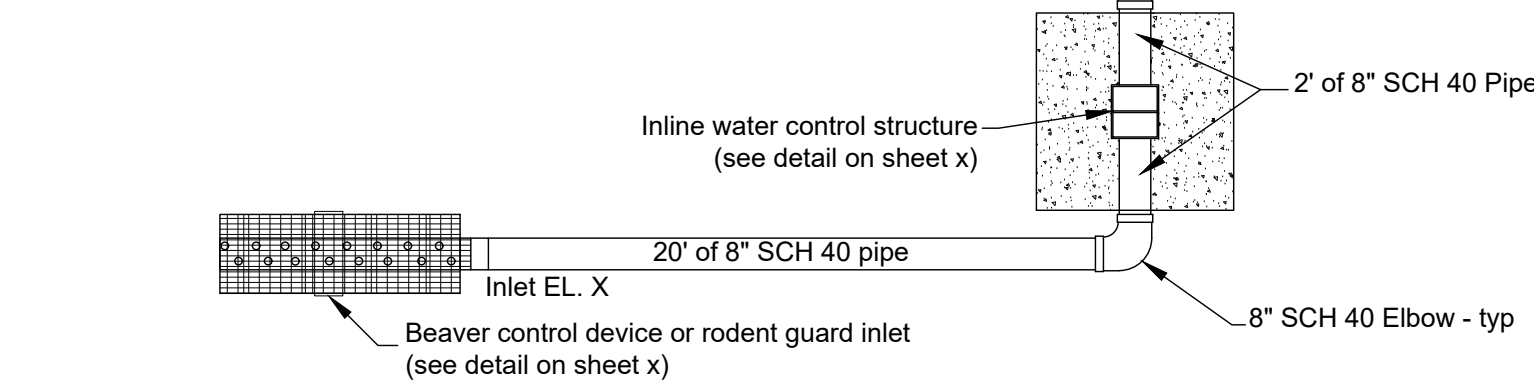
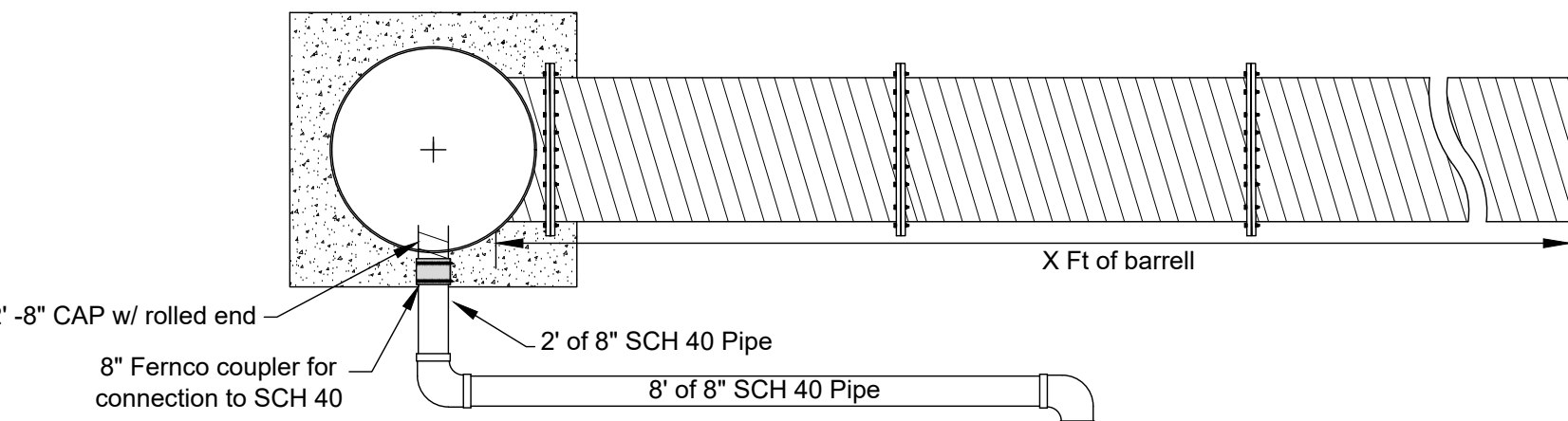
When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within ±2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

USER TO ENTER DESIGN INFORMATION



Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

- Materials - (Polymer Coated steel pipe) Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges. Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling

bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

- Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.
- Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple collars are not considered to be watertight.

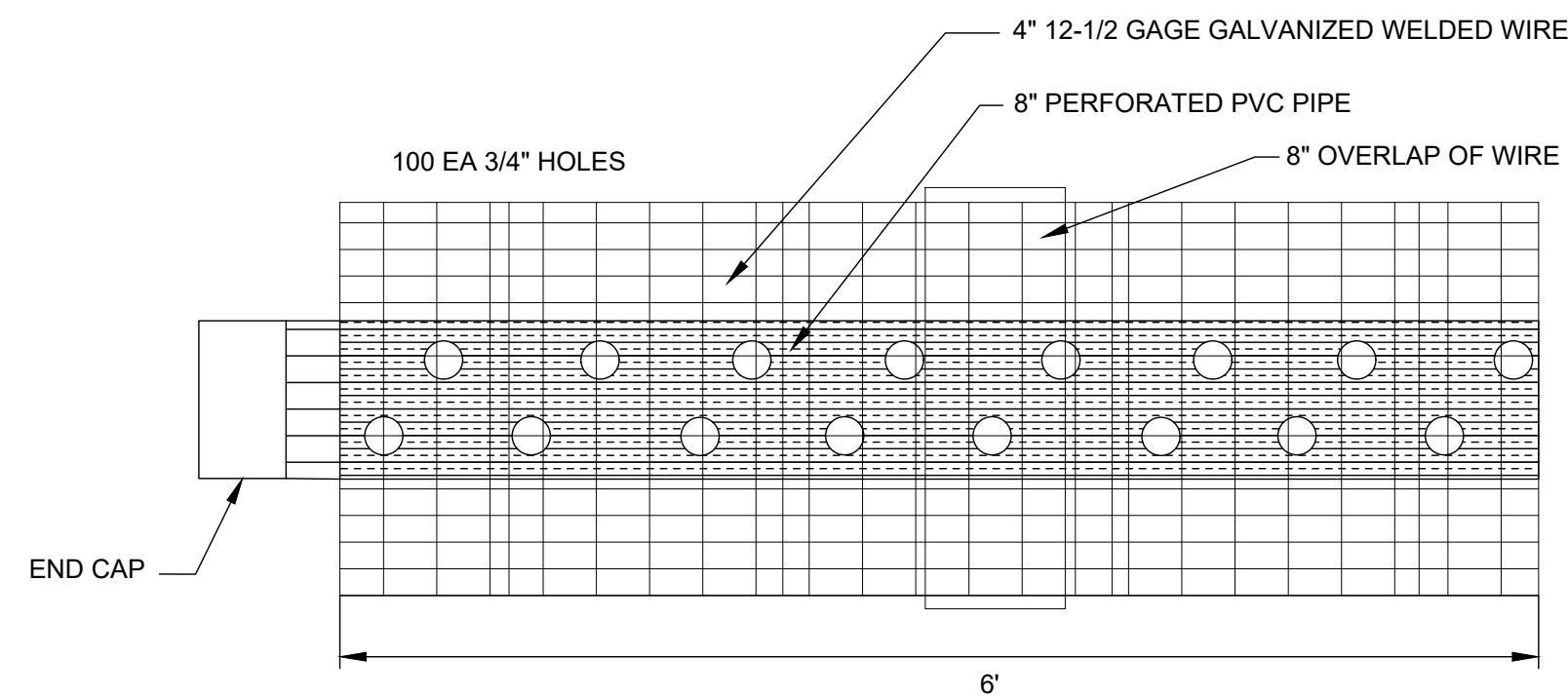
All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24 inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, prepunched to the flange both circle, sandwiched between adjacent flanges; a 12inch wide standard lap type band with 12inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

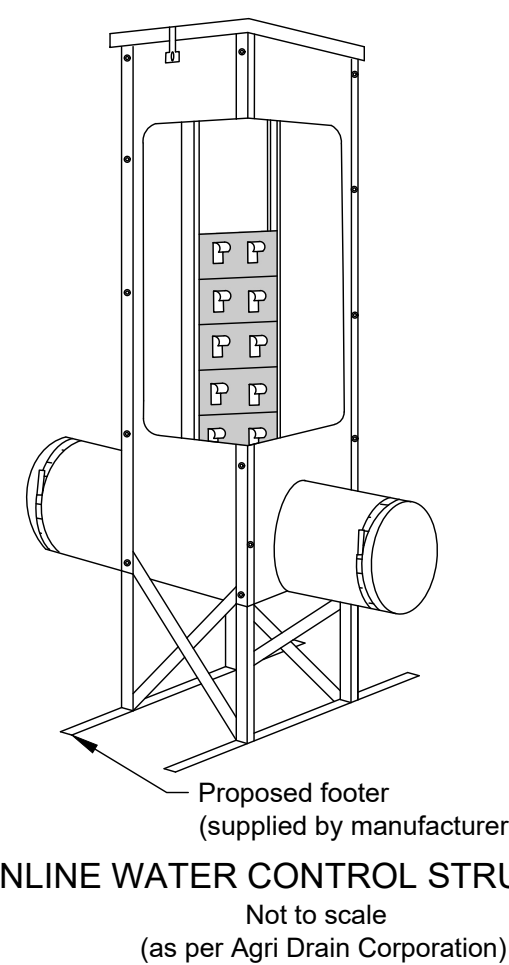
- Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

- Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.
- Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding / cradle for their entire length. This bedding / cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.
- Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.
- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.



BEAVER CONTROL DEVICE AS PER SOUTHEASTERN PIPE & DRAIN SYSTEM Not to scale



INLINE WATER CONTROL STRUCTURE Not to scale (as per Agri Drain Corporation)

Plastic Pipe - The following criteria shall apply for plastic pipe:

- Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.
- Joints and connections to anti-seep collars shall be completely watertight.
- Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION		STANDARD SYMBOL
		TSSMS - * lb/ft ² (* INCLUDE SHEAR STRESS)
<p>ISOMETRIC VIEW</p>		
<p>CONSTRUCTION SPECIFICATIONS</p> <ol style="list-style-type: none"> USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SHOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN. UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING. OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT. KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. 		
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Date	_____
Designed	_____
Drawn	_____
Checked	_____
Approved	_____

LANDOWNER - SITE NAME

COUNTY Soil Conservation District
JOB CLASS #

TRACT #

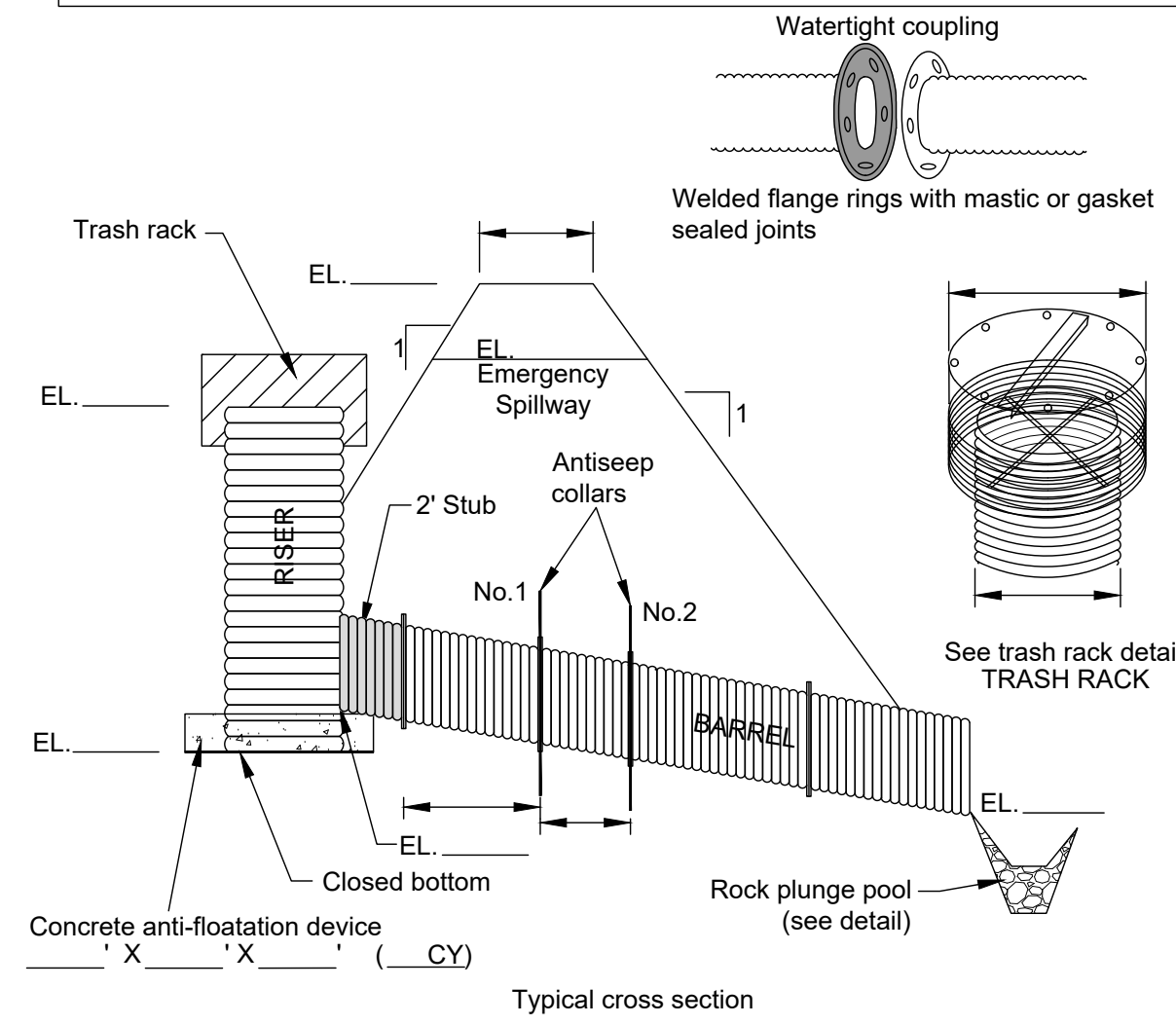


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Drawing No.
MD_0042

Sheet 5 of 5

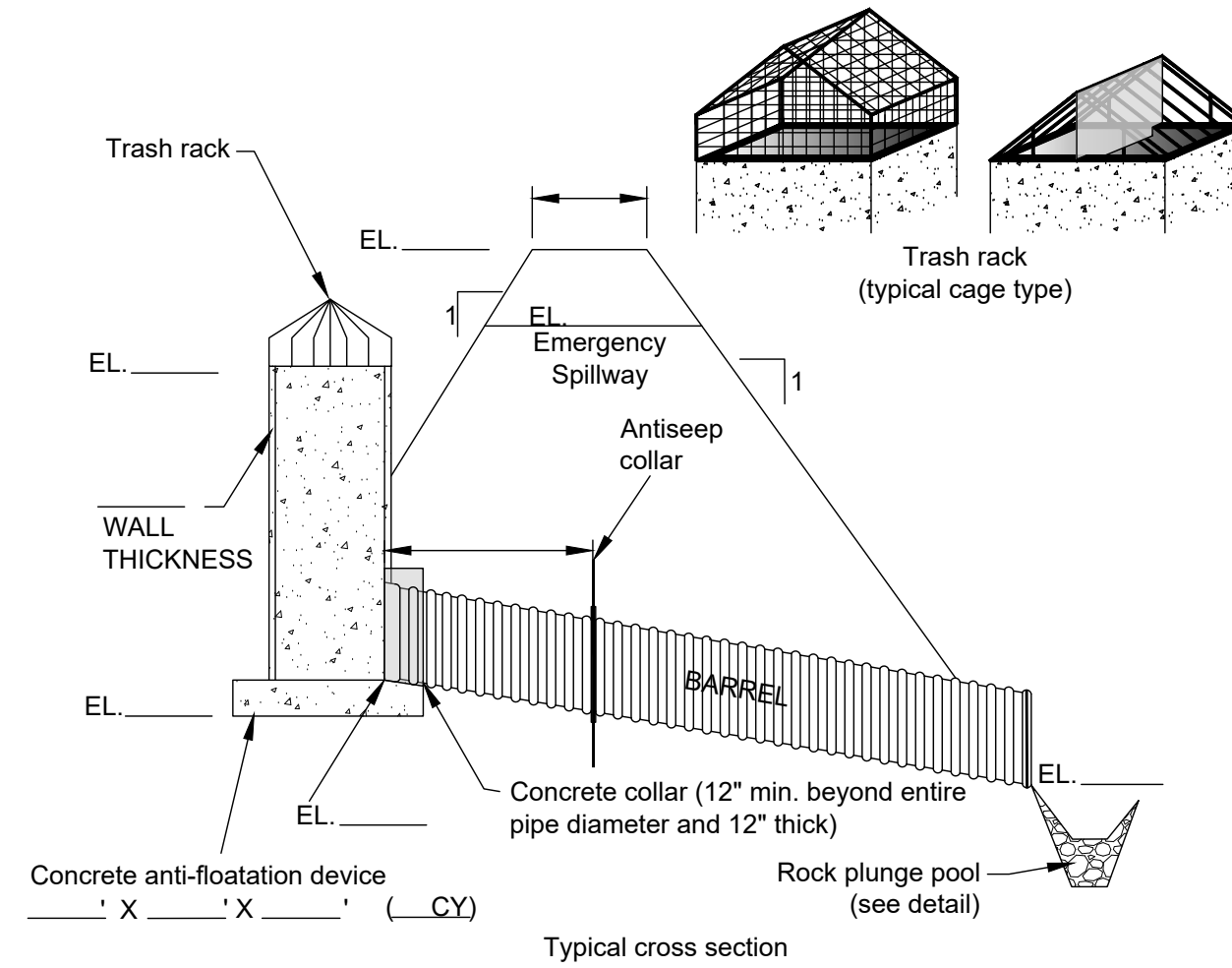
Design Specifications:	
' X " Gage RISER	Slope FT/FT
Corrugations 2 3/4" X 1/2" OR 3" X 1"	" Trash Rack
' X " Gage BARREL	Stub angle °
Corrugations 2 3/4" X 1/2" OR 3" X 1"	Clearing AC
Concrete CY (Min 3500 PSI)	Fill CY
Flange/Gasket kits EA	
Anti-Seep Collars EA X X	



- GENERAL NOTES:**
- All aluminum surfaces in contact with concrete shall be coated with ZINC CHROMATE PRIMER
 - A conservation technician must be present at the time of pipe installation to verify soil backfill material
 - Pipe shall be backfilled in minimum 6-8" lifts using compaction equipment

**POND - ALUMINUM RISER
2 ANTI-SEEP COLLARS**
Not to scale

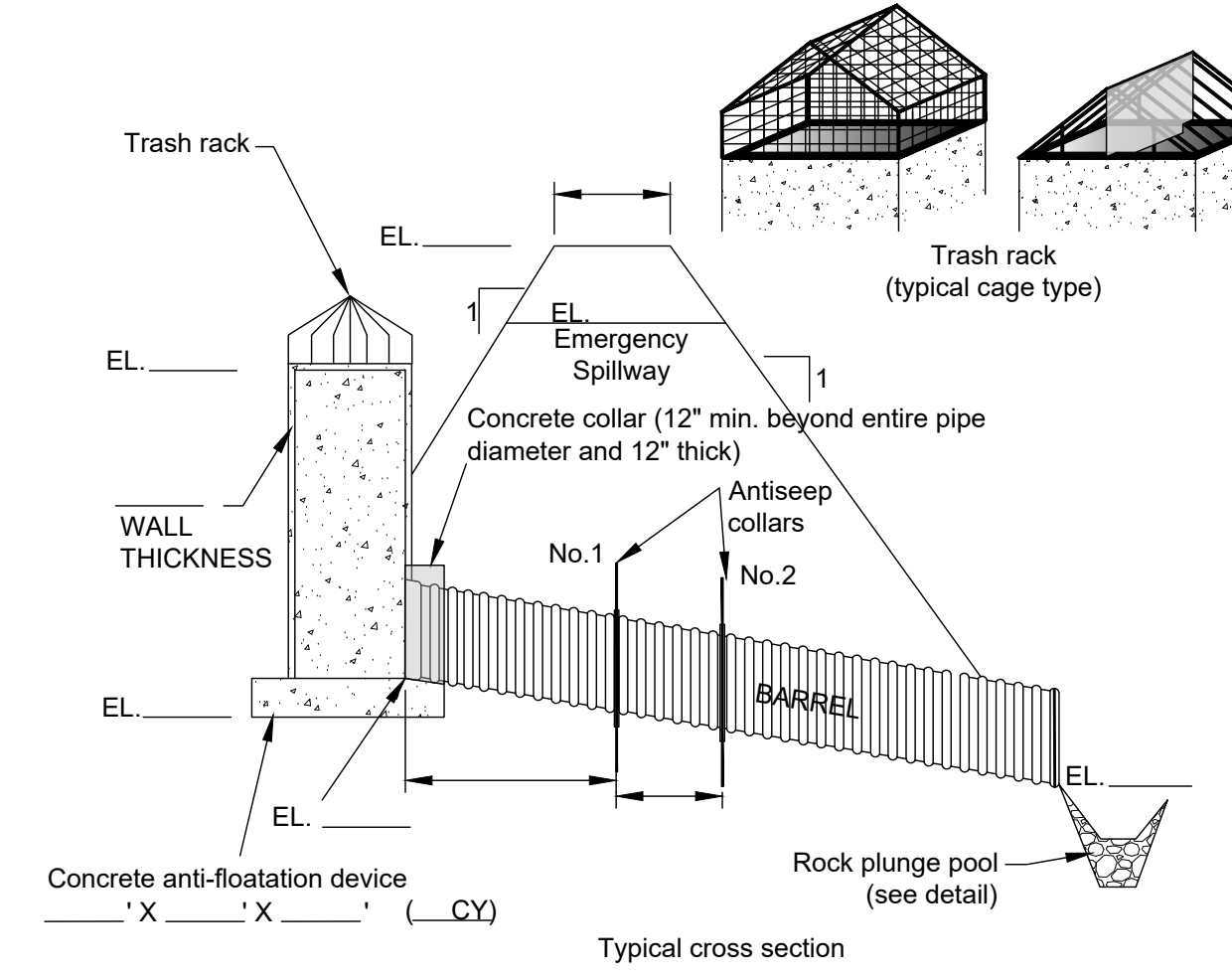
Design Specifications:	
' X ' X CONCRETE RISER	" Trash Rack
' X " BARREL	Clearing AC
Concrete CY (Min 3500 PSI)	Fill CY
Slope FT/FT	Anti-Seep Collar X



- GENERAL NOTES:**
- Opening where barrel enters into concrete riser must be sealed using hydraulic cement or equal to obtain watertight seal.
 - A conservation technician must be present at the time of pipe installation to verify soil backfill material.
 - Pipe shall be backfilled in minimum 6-8" lifts using compaction equipment.

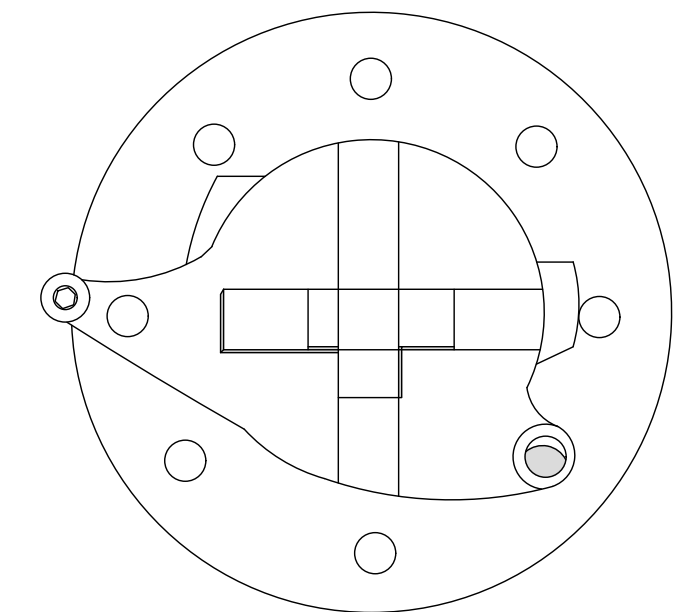
**POND - CONCRETE RISER HDPE PIPE
1 ANTI-SEEP COLLAR**
Not to scale

Design Specifications:	
' X ' X CONCRETE RISER	" Trash Rack
' X " BARREL	Clearing AC
Concrete CY (Min 3500 PSI)	Fill CY
Slope FT/FT	Anti-Seep Collars EA X X



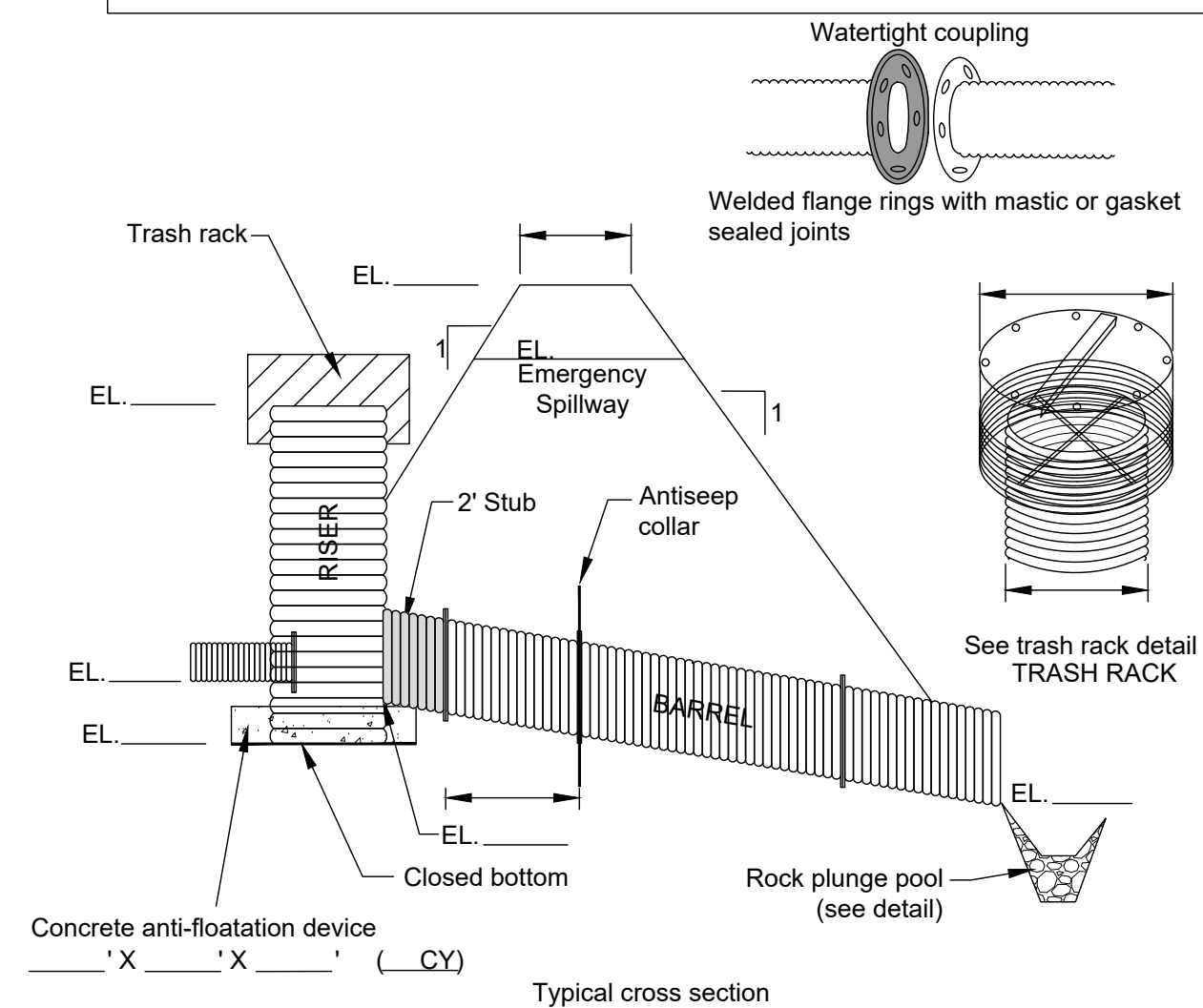
- GENERAL NOTES:**
- Opening where barrel enters into concrete riser must be sealed using hydraulic cement or equal to obtain watertight seal.
 - A conservation technician must be present at the time of pipe installation to verify soil backfill material.
 - Pipe shall be backfilled in minimum 6-8" lifts using compaction equipment.

**POND - CONCRETE RISER HDPE PIPE
2 ANTI-SEEP COLLARS**
Not to scale



Pipe size _____
As per southeastern pipe & drain systems
SHEAR GATE
Not to scale

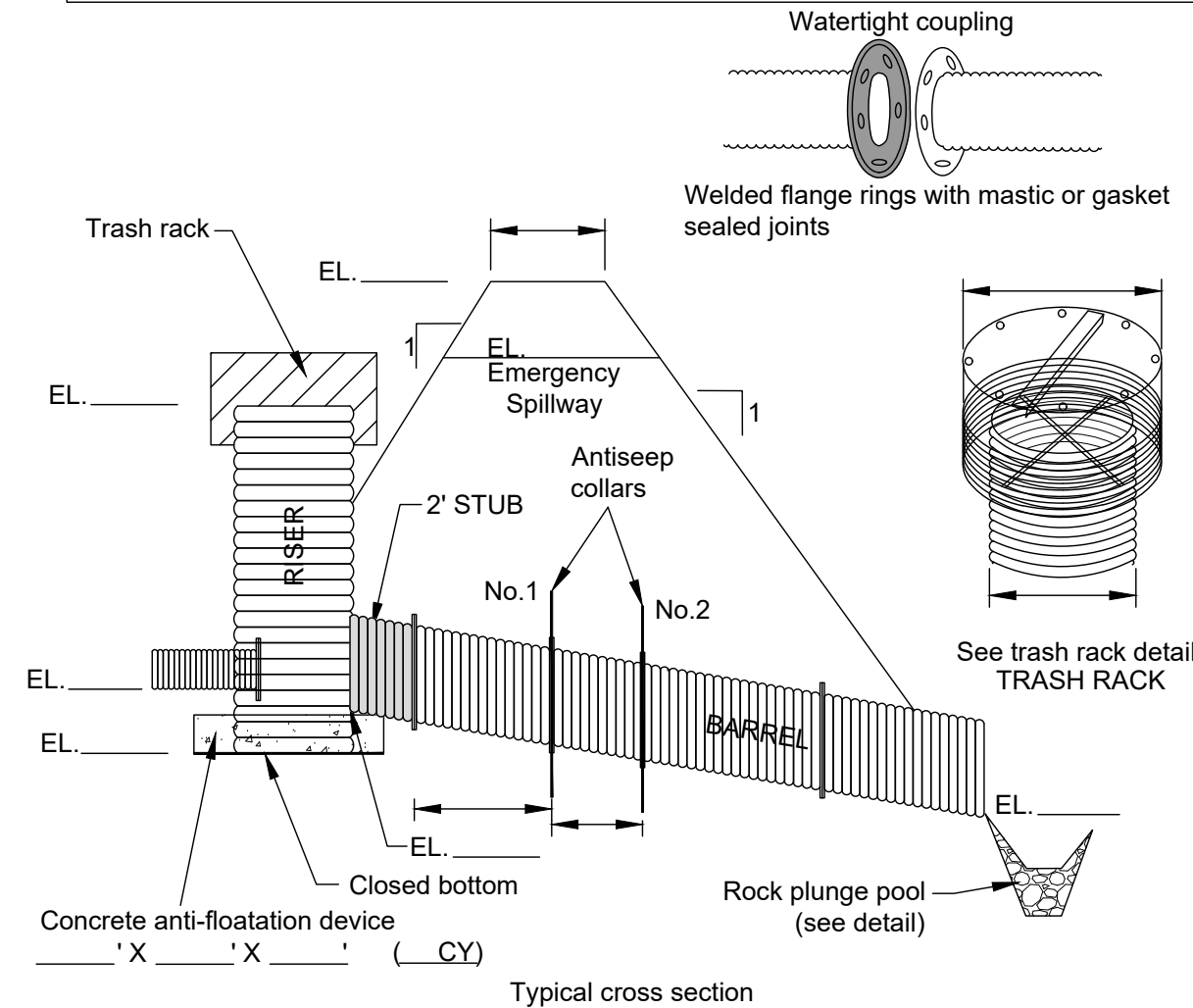
Design Specifications:	
' X " Gage RISER	Slope FT/FT
Corrugations 2 3/4" X 1/2" OR 3" X 1"	" Trash Rack
' X " Gage BARREL	Stub angle °
Corrugations 2 3/4" X 1/2" OR 3" X 1"	Clearing AC
Concrete CY (Min 3500 PSI)	Fill CY
Flange/Gasket kits EA	Anti-Seep Collar X
Drain Pipe " X " Gage DRAIN	



- GENERAL NOTES:**
- All aluminum surfaces in contact with concrete shall be coated with ZINC CHROMATE PRIMER
 - A conservation technician must be present at the time of pipe installation to verify soil backfill material
 - Pipe shall be backfilled in minimum 6-8" lifts using compaction equipment

**POND - ALUMINUM RISER WITH DRAIN
1 ANTI SEEP COLLAR**
Not to scale

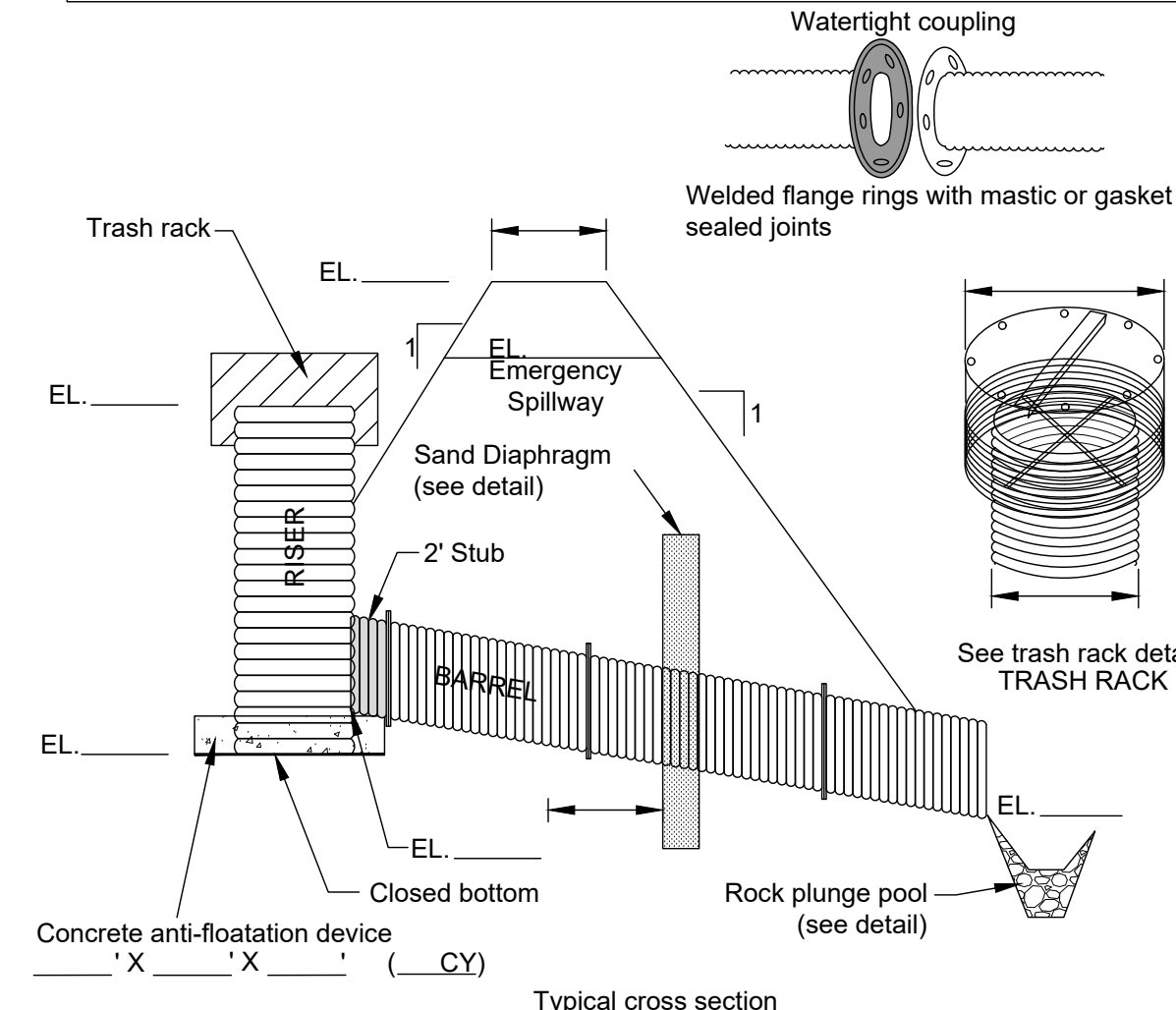
Design Specifications:	
' X " Gage RISER	Slope FT/FT
Corrugations 2 3/4" X 1/2" OR 3" X 1"	" Trash Rack
' X " Gage BARREL	Stub angle °
Corrugations 2 3/4" X 1/2" OR 3" X 1"	Clearing AC
Concrete CY (Min 3500 PSI)	Fill CY
Flange/Gasket kits EA	Anti-Seep Collars EA
Drain Pipe " X " Gage DRAIN	X X



- GENERAL NOTES:**
- All aluminum surfaces in contact with concrete shall be coated with ZINC CHROMATE PRIMER
 - A conservation technician must be present at the time of pipe installation to verify soil backfill material
 - Pipe shall be backfilled in minimum 6-8" lifts using compaction equipment

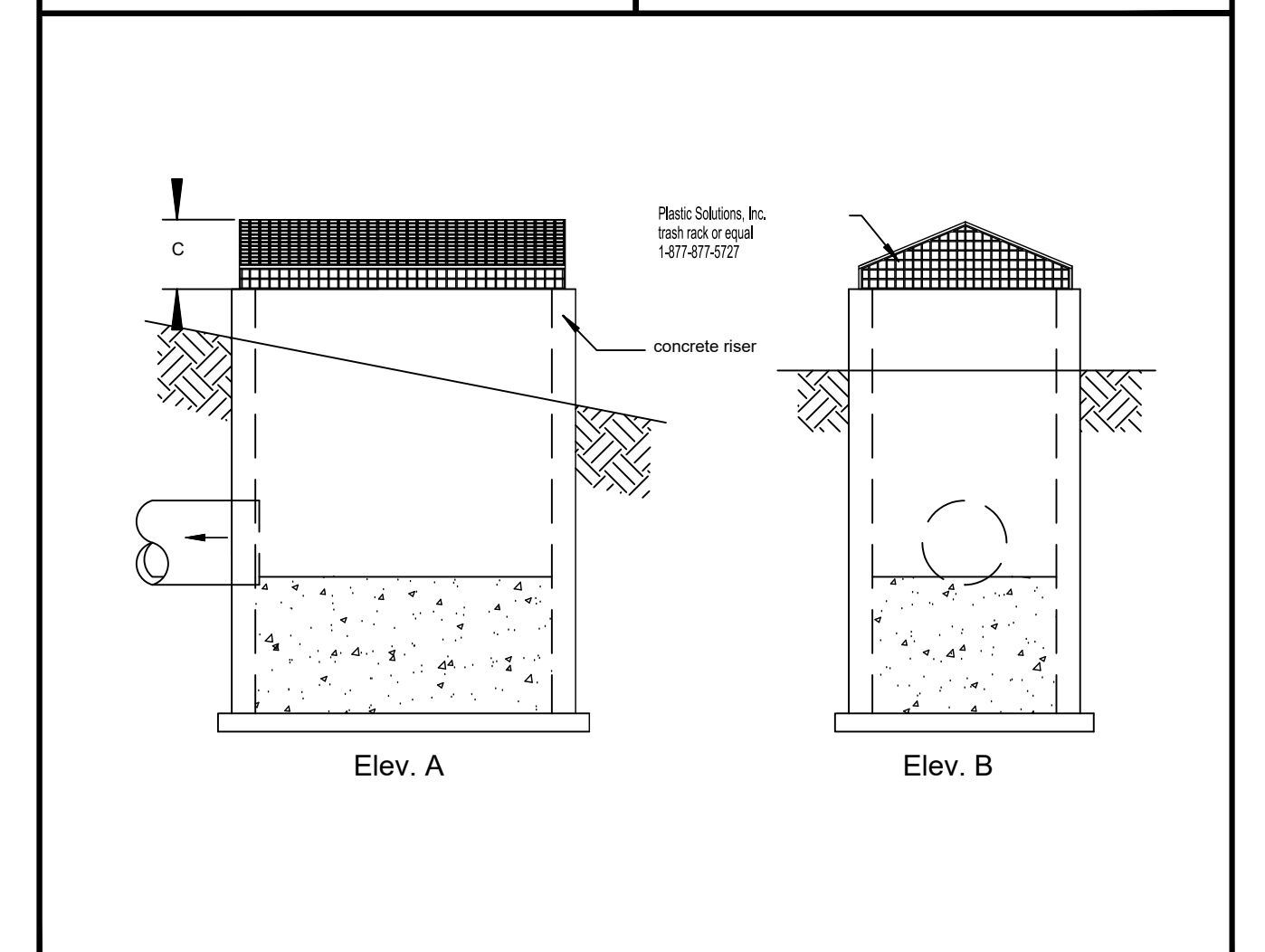
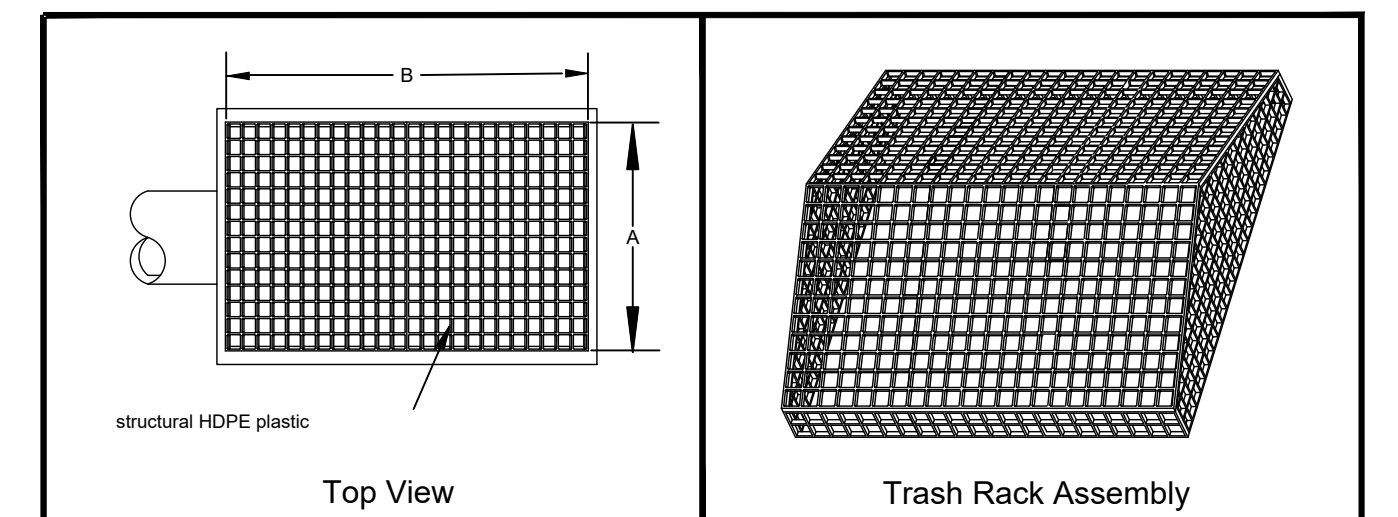
**POND - ALUMINUM RISER WITH DRAIN
2 ANTI-SEEP COLLARS**
Not to scale

Design Specifications:	
' X " Gage RISER	Slope FT/FT
Corrugations 2 3/4" X 1/2" OR 3" X 1"	" Trash Rack
' X " Gage BARREL	Stub angle °
Corrugations 2 3/4" X 1/2" OR 3" X 1"	Clearing AC
Concrete CY (Min 3500 PSI)	Fill CY
Flange/Gasket kits EA	



- GENERAL NOTES:**
- All aluminum surfaces in contact with concrete shall be coated with ZINC CHROMATE PRIMER
 - A conservation technician must be present at the time of pipe installation to verify soil backfill material
 - Sand Diaphragm shall be installed per detail
 - Pipe shall be backfilled in minimum 6-8" lifts using compaction equipment

**POND - ALUMINUM RISER
SAND DIAPHRAGM**
Not to scale



PEAK ROOF TRASH RACK