

FLOATING BAFFLE CURTAIN

PART I GENERAL

1.01 Work Included in this Section

- A. The contractor shall furnish all labor, materials, equipment and incidentals required to install, complete and ready for operation, the floating baffle curtain system indicated on the plans, and as specified herein.
- will be responsible for minor details that the construction may require, or for any special construction or accessories that may be found necessary to properly install, adjust, test, and place in successful and continuous operation a complete installation.

1.02 Scope and Description

also in a sealed pocket. The floating baffle curtain shall be constructed to lengths dependent upon the desired depth and length of the floating baffle curtain. Weight and ease of handling at the job site, shall be taken into account when determining the length of the prefabricated sections. Once the sections are delivered to the job site, the remaining fabrication shall be connecting the sections together to make the desired length. The floating baffle curtain shall be floated into position in the event the impoundment is full of fluid, or assembled on the bottom on the impoundment should the impoundment be empty.

1.03 <u>Manufacturer</u>

The floating baffle curtain shall be manufactured by Engineered Textile Products, Inc. located at 715 Loeffler Street in Mobile, Alabama 36670-0474 and may be contacted by phone at 800-222-8277, by facsimile at 888-222-8277, or via the web-site at www.etpinfo.com or approved equivalent.

1.04 <u>Submittals</u>

Shop drawings and the floating baffle manufacturer shall be submitted for approval prior to manufacture of the floating baffle curtain, complete with product data with specifications covering the materials, and instructions for the installation of the floating baffle curtain.

1.05 <u>Packaging</u>

heavy cardboard wrap and water-resistant film to protect from and prevent damage to the floating baffle curtain during shipment. The package shall be prominently and indelibly marked with the floating baffle curtain section number and size unless otherwise recommended by the manufacturer.

PARTS 2 PRODUCTS

2.01 <u>Flotation</u>

The floatation shall consist of closed cell poly foam logs, having the buoyancy of 60 pounds per cubic foot. The floatation shall be completely enclosed inside the floating baffle curtain's collar by means of a thermal seal. Each flotation log shall be sealed in its own chamber along the flotation collar.

In some cases, when added protection is required the flotation collar may be covered with an optional flexible HDPE protective cover. The HDPE protective cover is secured over the flotation collar using heavy duty, U.V. resistant, polyethylene fasteners.

The HDPE protective cover lessens the possibility of damage to the top of the flotation collar and the poly foam flotation logs as a result from pecking or chewing by wildlife, such as birds or rodents. This feature may be added if the threat of damage exists.

2.02 <u>Anchoring</u>

A. The floating baffle curtain shall be anchored in position by a galvanized chain sealed in a thermally sealed hem at the bottom of the floating baffle curtain.

- B. The chain shall be continuous from the berm through each floating baffle curtain section. In the event of multiple sections, the chains shall be joined to each other by the use of a stainless steel rapid link. The chain shall be ¹/₄", hot dipped galvanized, proof coil.
- links. Cut outs in the chain pocket of the floating baffle curtain shall make the chain accessible by forming an opening for the attachment of the concrete anchor.
- D. Stainless steel bolts, 3/8" diameter, with nuts and washers shall be provided to act as chain stops at the end of each section of the floating baffle curtain.
- E. The ballast chain is not to be used as a tension member.
- F. Shore anchorage shall consist of a 48" long, four to six inch diameter auger type, screw anchor or a 6' long three inch diameter steel post embedded in concrete. The steel post may be either galvanized or stainless steel.
- G. Depending upon soil conditions, additional anchorage may be required.

2.03 <u>Retrieval Rope</u>

The retrieval rope shall be 3/8" diameter, marine grade, polypropylene rope. The rope shall be attached to each of the bottom anchor attachment points and secured to a stainless steel grommet located in the flotation collar directly above each cutout in the chain pocket.

2.04 Baffle Connections

When necessary to fabricate the floating baffle curtain in multiple sections, the floating baffle curtain sections shall be joined by using connectors. The connectors consist of 1/4" thick by 2" wide by 10" long stainless steel flat bar battens and 3/8" diameter by 1 1/2" long stainless steel bolts, nuts, & washers.

secured with four 3/8" diameter by 1 ½" long bolts thru pre-drilled holes in the battens. The ballast chain at the bottom of each connection point shall be joined together using a stainless steel rapid link.

2.05 End Connections

eyebolt, and a $\frac{1}{2}$ " stainless steel shackle.

diameter by 1 1/2" long bolts and one 3/8" diameter stainless steel forged eyebolt thru pre-drilled holes in the end plate battens. The ballast chain shall be connected to the bottom of the endplate to the eyebolt using a stainless steel rapid link. The ½" stainless steel shackle shall be attached to the end plate thru a predrilled hole, then the shackle shall be secured to the anchor point embedded in the top of the berm using a piece of stainless steel cable or galvanized chain.

2.06 Miscellaneous Hardware

All of the hardware used in the manufacture of the floating baffle curtain shall be stainless steel, with the exception of the ballast chain, which in most cases shall be hot dipped galvanized unless specified stainless steel.

2.07 Baffle Curtain Material

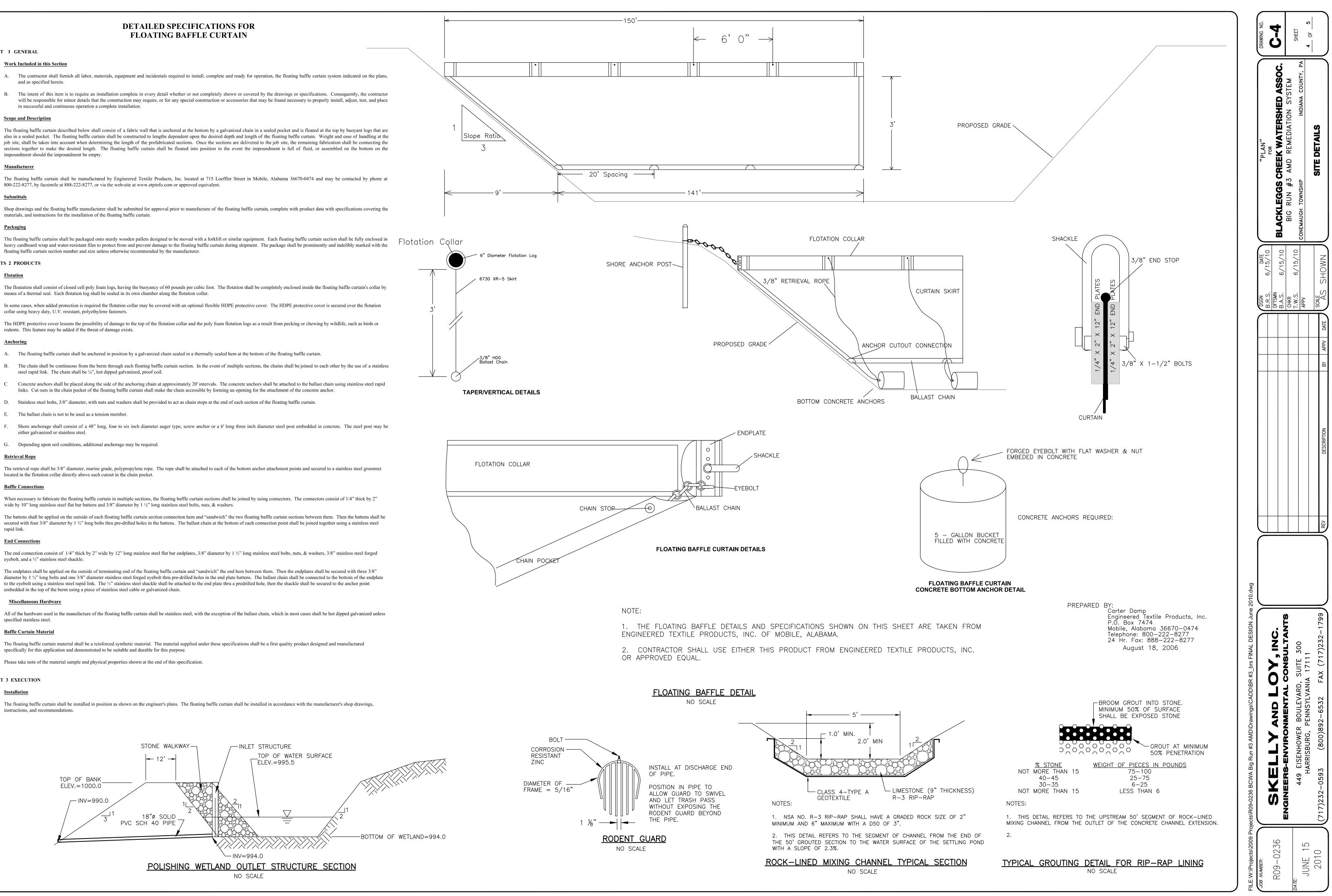
The floating baffle curtain material shall be a reinforced synthetic material. The material supplied under these specifications shall be a first quality product designed and manufactured specifically for this application and demonstrated to be suitable and durable for this purpose.

Please take note of the material sample and physical properties shown at the end of this specification.

PART 3 EXECUTION

3.01 <u>Installation</u>

The floating baffle curtain shall be installed in position as shown on the engineer's plans. The floating baffle curtain shall be installed in accordance with the manufacturer's shop drawings, instructions, and recommendations.



CONSTRUCTION SEQUENCE:

- 1. CONTACT THE INDIANA COUNTY CONSERVATION DISTRICT (ICCD) THREE TO SEVEN DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. MOBILIZE EQUIPMENT TO THE WORK SITE.
- CONSTRUCT BOTH ROCK CONSTRUCTION ENTRANCES ON THE EAST SIDE OF SPORTSMAN ROAD (TR 304) TO ACCESS THE WORK AREA AT THE LOCATIONS SHOWN ON DRAWING NO. C-1.
- INSTALL ALL SILTSOXX AROUND THE SITE PERIMETER FOR THE CONSTRUCTION ACTIVITIES. AS SHOWN ON DRAWING NO. C-1. 5. CLEAR AND GRUB AREAS OF SITE AS NECESSARY TO GRADE AND CONSTRUCT THE PROPOSED SETTLING POND AND POLISHING
- WETLAND 6. PERFORM ROUGH GRADING OF SETTLING POND, CUTTING MATERIAL TO APPROXIMATE BOTTOM ELEVATIONS. AS SHOWN ON DRAWING NO. C-1.
- GRADE AND CONSTRUCT POLISHING WETLAND, USING CUT MATERIAL FROM SETTLING POND AREA FOR DOWNSTREAM BERM. 8. INSTALL INLET STRUCTURE, ASSOCIATED PIPING, AND PROPOSED RIP-RAP OUTLET PROTECTION #2 FOR CONSTRUCTED POLISHING WETLAND. PLACE STONE (AASHTO #57 SIZE) WALKWAY FROM TOP OF BERM TO TOP OF AND AROUND THE INLET STRUCTURE TO PROVIDE ACCESS FOR OPERATION AND MAINTENANCE (SEE DRAWINGS C-1 AND C-4 FOR LOCATION AND DETAILS).
- 9. CONSTRUCT ROCK-LINED EMERGENCY SPILLWAY IN CONSTRUCTED POLISHING WETLAND (NOTE SIDE SLOPES ON DRAWING NO. C-3). PLACE APPROPRIATE RIP-RAP LINING IN SPILLWAY AS INDICATED ON DRAWING C-5. 10. INSTALL RIP-RAP CHECK DAM AT LOCATION SHOWN ON DRAWING C-1 IN CONSTRUCTED POLISHING WETLAND.
- 11. FINALIZE GRADING OF SETTLING POND PER DRAWING NO. C-1.
- 12. INSTALL INLINE STRUCTURE W/ HOUSING IN CONSTRUCTED SETTLING POND, ASSOCIATED PIPING, AND RIP-RAP OUTLET PROTECTION #1 TO EXISTING AMD BYPASS SWALE FROM BIG RUN #7. 13. CONSTRUCT ROCK-LINED PRINCIPAL SPILLWAY IN CONSTRUCTED SETTLING POND TO POLISHING WETLAND. PLACE APPROPRIATE
- RIP-RAP LINING IN SPILLWAY AS INDICATED ON DRAWING NO. C-5. 14. INSTALL FLOATING VINYL BAFFLE IN CONSTRUCTED SETTLING POND AS SHOWN ON DRAWING C-1.
- 15. GRADE AND CONSTRUCT THE ROCK-LINED MIXING CHANNEL AND SLUDGE DEWATERING BASIN PER DRAWING NO. C-1. PLACE APPROPRIATE RIP-RAP LINING AND GROUTED SECTION IN CHANNEL AS INDICATED ON DRAWING NO. C-4.
- 16. CONSTRUCT GRASS-LINED EMERGENCY/PRINCIPAL SPILLWAY IN SLUDGE DEWATERING BASIN. PLACE APPROPRIATE TEMPORARY AND PERMANENT LININGS WITHIN THE SPILLWAY AS SHOWN ON DRAWING NO. C-5. 17. EXCAVATE AND PREPARE AREA FOR CONSTRUCTION OF LIME DOSER CONCRETE PAD, CONCRETE WALL AND CONCRETE CHANNEL EXTENSION STRUCTURES. CONSTRUCT CONCRETE CHANNEL EXTENSION AND CONCRETE WALL AS SHOWN ON DRAWING NOS. C-1 AND C-3. REFER TO LIME DOSER MANUFACTURERS DRAWINGS FOR SPECIFICS ON CONSTRUCTING THE LIME DOSER PAD AND INSTALLATION OF THE LIME DOSER UNIT.
- 18. INSTALL THE 18"Ø VALVE W/ HOUSING AND EXTEND THE 18"Ø PIPE FROM THE EXISTING OUTLET PIPE OF THE FLUSHING INLINE STRUCTURE FOR THE BIG RUN #7 LIMESTONE POND UNDER SPORTSMAN ROAD (TR 304) AND INTO THE CONSTRUCTED ROCK-LINED MIXING CHANNEL AT THE LOCATION SHOWN ON DRAWING NO. C-1.
- 19. EXCAVATE AROUND EXISTING BEND IN 18"0 OUTLET PIPES FROM THE BIG RUN #7 AND #8 TREATMENT SYSTEMS AT APPROXIMATE LOCATION SHOWN ON DRAWING NO. C-1. REDIRECT FLOWS FROM THE BIG RUN #7 AND #8 TREATMENT SYSTEMS AS NEEDED. REMOVE THE EXISTING BEND AND OUTLET PIPES AND INSTALL NEW PIPING AND FITTINGS FOR EACH SYSTEM OUTLET PIPE AND DIRECT INTO THE SYSTEM AS SHOWN ON THE DRAWINGS (SEE DRAWING NOS. C-1 AND C-2).
- 20. INSTALL HOSE HANGER, TEE FITTING, VALVE, REDUCER, AND 25' FLEXIBLE HOSE LINE OFF OF THE 3"Ø HYDRAULIC FEED LINE FROM THE BIG RUN #7 SETTLING POND ON EITHER THE OUTSIDE OR INSIDE OF THE LIME DOSER AND SILO UNIT PRIOR TO LINE CONNECTION INTO THE TIPPING BUCKET APPARATUS. CONSULT ENGINEER AS NEEDED. 21. INSTALL ACCESS RESTRICTION/GATES AT LOCATIONS SHOWN ON DRAWING NO. C-1 AS DETERMINED BY THE PROJECT OWNER.
- 22. SEED AND MULCH ALL DISTURBED AREAS NOT OTHERWISE TO BE INUNDATED WITH WATER OR COVERED WITH LIMESTONE AS WORK PROGRESSES AND GRADING IS COMPLETED IN THOSE AREAS. 23. BLEND ANY EXCESS MATERIAL INTO THE SITE WHERE FEASIBLE. ANY REMAINING EXCESS MATERIAL TO BE REMOVED FROM THE
- SITE MUST FIRST BE APPROVED BY THE ICCD, AND THE OFF-SITE DISPOSAL AREA MUST HAVE AN APPROVED E&S CONTROL 24. ONCE A UNIFORM 70% VEGETATIVE COVER OF A PERENNIAL EROSION-RESISTANT SPECIES HAS BEEN ACHIEVED ON THE SITE, REMOVE SILTSOXX AND ROCK FILTERS.

E&S CONTROL NOTES:

IS CLASSIFIED AS A COLD WATER FISHERY (CWF). EMBANKMENTS DUE TO THIN LAYER AND SEEPAGE. APPLICATION OF HAY OR STRAW AT A RATE OF 3 TONS PER ACRE. 5. MAINTENANCE OF E&S CONTROL MEASURES:

OR TOPPED SILTSOXX WITH A ROCK FILTER OUTLET. ROCK TO REBUILD THE STRUCTURE. SHALL BE REMOVED AND RETURNED TO THE SITE. APPLIED.

100-200-200 PER ACRE AND WORK INTO SOIL WHEREVER POSSIBLE.

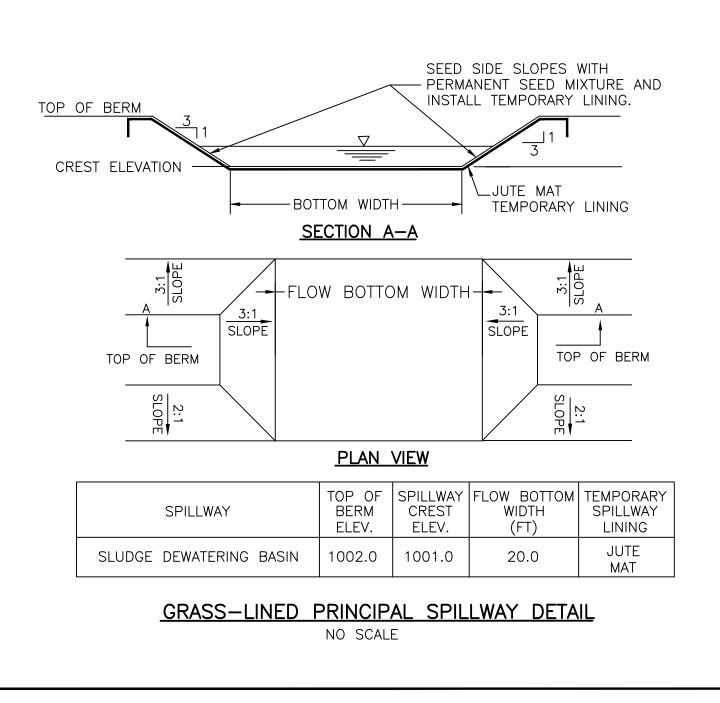
RECYCLING NOTE:

1. WHEREVER FEASIBLE, THE CONTRACTOR SHALL RECYCLE WASTE MATERIALS RATHER THAN DISPOSAL. THE CONTRACTOR SHALL HAVE MEASURES IN PLACE TO CONTROL WASTE MATERIALS. MEASURES SHALL BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING, MATERIALS MANAGEMENT, AND LITTER CONTROL. ANY MATERIALS DISPOSED OF OFF-SITE SHALL BE UNDERTAKEN IN ACCORDANCE WITH DEPARTMENT OF ENVIRONMENTAL PROTECTION REGULATIONS.

ARE USED OR STORED ON SITE.

FLOW

CHECK DAM.



1. ACCORDING TO CHAPTER 93 WATER QUALITY STANDARDS, BLACKLEGGS CREEK, TO WHICH BIG RUN IS TRIBUTARY, 2. SOIL TYPES ON THE SITE ARE ErC2, ERNEST SILT LOAM, IS MODERATELY WELL-DRAINED WITH SLOW PERMEABILITY AND IS VERY LIMITED FOR USE IN EMBANKMENTS DUE TO DEPTH TO SATURATED ZONE. WKF2, WEIKERT AND GILPIN SHALY SILT LOAMS, IS WELL-DRAINED WITH MODERATE PERMEABILITY AND IS SOMEWHAT LIMITED FOR USE IN

3. TEMPORARY E&S CONTROL MEASURES TO USE AT THE SITE DURING THE CONSTRUCTION ACTIVITIES SHALL INCLUDE 8" SILTSOXX, ROCK FILTERS, AND TEMPORARY SEEDING AND MULCHING. A ROCK CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT THE ENTRANCE TO THE SITE OFF OF SPORTSMAN ROAD (T.R. 304). REFER TO THE SITE PLAN AND DETAIL DRAWINGS FOR THE LOCATION AND SPECIFICATIONS FOR EACH BMP. 4. FOR TEMPORARY SEEDING, APPLY ANNUAL RYEGRASS SEED AT A 40 LB/ACRE RATE AND FOLLOW WITH THE

-SILTSOXX SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN EVENT. WHEN SEDIMENT ACCUMULATES MORE THAN HALF THE HEIGHT ON THE UPSLOPE FACE OF THE SILTSOXX, REMOVE SEDIMENT. REPLACE UNDERMINED -ROCK FILTERS SHALL BE REMOVED WHEN CLOGGED. WASH OFF ACCUMULATED MATERIALS OR USE NEW

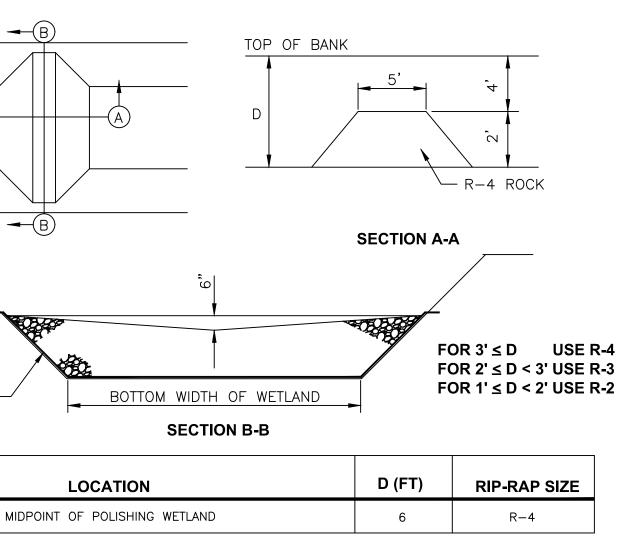
-ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCKS. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS -SEEDED AREAS THAT BECOME ERODED SHALL HAVE THE TOPSOIL REPLACED, GRASS RESOWN, AND MULCH

6. FOR PERMANENT SEEDING (BAMR SEEDING SPECS) ON AREAS OF 3:1 SLOPE AND STEEPER APPLY ORCHARDGRASS SEED AT A 20 LB/ACRE RATE, WEEPING LOVEGRASS SEED AT A 6 LB/ACRE RATE. PERENNIAL RYEGRASS SEED AT A 20 LB/ACRE RATE, BIRDSFOOT TREFOIL SEED AT A 10 LB/ACRE RATE, FIELD OR SMOOTH BROMEGRASS SEED AT A 14 LB/ACRE RATE, AND SPRING OATS OR WINTER WHEAT OR WINTER RYE SEED AT A 10 LB/ACRE RATE. FOR AREAS FLATTER THAN 3:1 SLOPES APPLY BIG BLUESTEM SEED AT A 10 LB/ACRE RATE, LITTLE BLUESTEM SEED AT AN 8 LB/ACRE RATE, SAND DROPSEED SEED AT A 0.1 LB/ACRE RATE, REDTOP SEED AT A 5 LB/ACRE RATE, AND SPRING OATS OR WINTER WHEAT OR WINTER RYE SEED AT A 25 LB/ACRE RATE. FOLLOW SEEDING WITH THE APPLICATION OF HAY OR STRAW MULCH AT A MINIMUM RATE OF THREE (3) TONS PER ACRE. IF SOIL TESTS ARE NOT PERFORMED, APPLY AT LEAST 6 TONS OF AGRICULTURE-GRADE LIMESTONE AND FERTILIZER 7. EXCESS MATERIAL FROM THE CONSTRUCTION ACTIVITY SHALL BE BLENDED INTO THE SITE WHERE POSSIBLE AND

STABILIZED WITH PERMANENT SEEDING. ANY EXCESS MATERIAL NOT CAPABLE OF BEING BLENDED INTO THE SITE SHALL BE HAULED OFF-SITE AND DISPOSED AT AN APPROVED SITE WITH THE APPROPRIATE E&S CONTROLS.

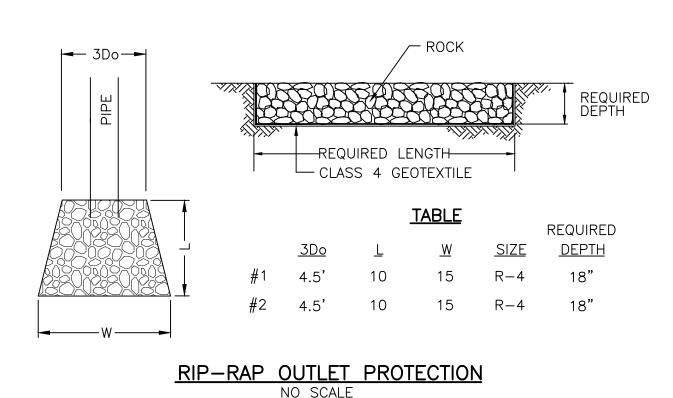
1. THE CONTRACTOR IS RESPONSIBLE TO PREPARE AND HAVE AVAILABLE ON SITE AT ALL TIMES A PPC PLAN, PREPARED IN ACCORDANCE WITH THE PA DEP GUIDELINES FOR THE DEVELOPMENT AND IMPLEMENTATION OF ENVIRONMENTAL EMERGENCY RESPONSE PLANS, IN THE EVENT CHEMICALS, SOLVENTS, OR OTHER HAZARDOUS WASTES THAT HAVE THE POTENTIAL TO CAUSE ACCIDENTAL POLLUTION DURING EARTH DISTURBANCE ACTIVITIES

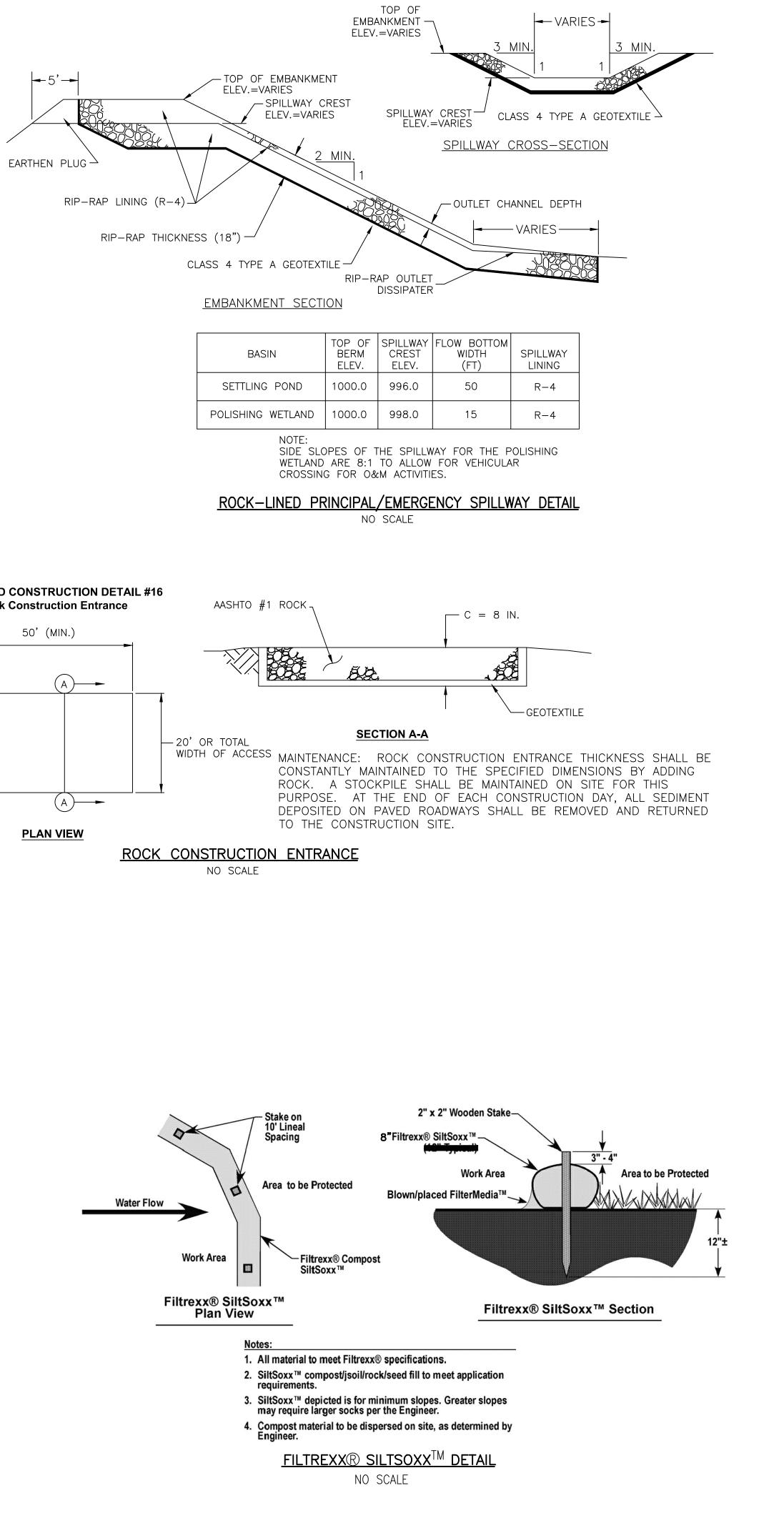
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE OWNERSHIP, OPERATIONS, AND MAINTENANCE OF THE SITE FOLLOWING CONSTRUCTION AND WILL ENSURE THE PERMANENT STABILIZATION OF THE DISTURBED AREAS AND THE REMOVAL OF E&S CONTROL MEASURES AFTER COMPLETION OF THE PROJECT.



SEDIMENT/SLUDGE MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE

RIP-RAP CHECK DAM DETAIL





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BASIN
SETTLING PO
POLISHING WET
Ni SI W

