

1671

STORMWATER MANAGEMENT NOTES

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

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 50 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.

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. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

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 the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, 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.

Where a minimum required density is specified, it shall not be less than 95% of maximum dry density with a moisture content within $\pm/-$ 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.

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.

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 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 Conduits

All pipes shall be circular in cross section.

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

Materials — (Steel Pipe) — This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Nexon, Plasti-Cote, Blac-Klad, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

Materials - (Aluminum Coated Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

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 surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. 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 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 bands 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 band width. The following type connections are acceptable for pipes less than 48" in diameter: flanges on both ends of the pipe, a 12" wide standard lap type band with 12" wide by 3/8" thick closed cell circular neoprene gasket; and a 12" wide hugger type band with 0-ring gaskets having a minimum diameter of 1/2" greater than the corrugation depth. Pipes 48" in diameter and larger shall be connected by a 24" long annular corrugated band using rods and lugs. A 12" wide by 3/8" thick closed cell circular neoprene gasket will be installed on the end of each pipe for a total of 24". Helically corrugated pipe shall have either continuously welded seams or have lock

and the second second

- 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:

- 1. Materials Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361. An approved equivalent is AWWA Specification C-302.
- 2. Bedding All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3 inches, or as shown on the
- 3. 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 2 feet from the riser.
- 4. Backfilling shall conform to "Structure Backfill".
- 5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings

Polyvinyl Chloride (PVC) Pipe - All of the following criteria shall apply for polyvinyl chloride (PVC) pipe:

- 1. Materials PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.
- 2. Joints and connections to anti-seep collars shall be completely watertight.
- 3. 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.
- 4. Backfilling shall conform to "Structure Backfill."
- 5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608, Mix No.

Rock Riprap

All rock shall be dense, sound, and free from cracks, seams, and other defects conducive to accelerated weathering. The rock fragments shall be angular to subrounded in shape. The least dimension of an individual rock fragment shall be not less than one third the greatest dimension of the fragment.

The rock shall have the following properties:

- 1. Bulk specific gravity (saturated surface—dry basis) not less
- 2. Absorption not more than three percent.
- 3. Soundness: Weight loss in five cycles not more than 20 percent when sodium sulfate is used.

Bulk specific gravity and absorption shall be determined according to ASTM C 127. The test for soundness shall be performed according

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth 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 919.12.

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 the 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 of 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 to sumps from which the water shall be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a sightly 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 Maryland Soil Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

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 to be employed during the construction process.

EROSION CONTROL MATTING Construction Specifications

1. Key-in the matring by placing the top ends of the matting in a narrow tranch, 6" in depth. Sackfill the tranch and tamp firmly to conform to the channel cross-section. Secure with a row of stables about 4" down slope from the trench. Spacing between staples is

2. Stable the 4" overlap in the channel center using an 18" spacing

3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil 4. Stables shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 atternating rows down the center.

5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4". shiplab fashion. Reinforce the overlap with a double row of stables spaced 6" spart in a staggered pattern on either side.

secured with 2 double rows of stoples

Note: If flow will enter from the edge of the matting them the area-

SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (313-1850)
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO HE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1. B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED
- AREAS ON THE PROJECT SITE 4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD

COUNTY DESIGN MANUAL, STORM DRAINAGE

- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZÁTION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- - 11.32 ACRES TOTAL AREA OF SITE AREA DISTURBED AREA TO BE ROOFED OR PAVED AREA TO BE VEGETATIVELY STABILIZED TOTAL CUT (3800 CY TOPSOIL) OFFSITE WASTE/BORROW AREA LOCATION
 - 6.50 ACRES 1.30 ACRES 5.20 ACRES 16,900 CU YARDS LOCATION TO BE DETERMINED PREAPPROVAL OF THE SEDIMENT CONTROL INSPECTOR 15 REQUIRED
- 8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROMDED IF DEFMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL HISPECTOR.
- 10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING, OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- 11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

TEMPORARY SEEDBED PREPARATION

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR

OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED. SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT). SEEDING: FOR PERIOD MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT). FOR THE PÉRIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING, ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS FER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED

PERMANENT SEEDBED PREPARATION

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ON OF THE FOLLOWING

PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0- UREAFORM FERTILIZER

(9 LBS/1000 SQ FT). ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL

SEEDING: FOR THE PERIODS MARCH 1 THROUGH APRIL 30 AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 LBS/1000 SQ FT) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS PER ACRE OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING, ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GÁLLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND

WATER QUALITY FACILITY MAINTENANCE REQUIREMENTS

- Removal of silt when accumulation exceeds six (6) inches in sediment basins

- Removal of accumulated paper, trash and debris every six (6) months or as necessary. - Vegetation growing within the basin is not allowed to exceed 18 inches in height at any time.

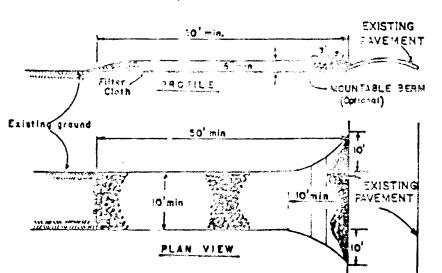
- Corrective maintenance is required any time a sedimentation basin does not drain the equivalent of the Water Quality Volume within 60 hours (i.e., no standing water is allowed). - Corrective maintenance is required any time the sediment trap (optional) does not drain down completely within 96 hours (i.e., no standing vater allowed).

o Filtration Basins

- Removal of silt when accumulation exceeds 1/2 inch. - Removal of accumulated paper, trash and debris every six (6) months or as necessary. - Vegetation growing within the basin is not allowed to exceed 18

inches in height. - Corrective maintenance is required any time draw-down does not occur within 36 hours after the sedimentation basin has emptied. - Annual inspection and repair of the structure.

STANDARD SYMBOL



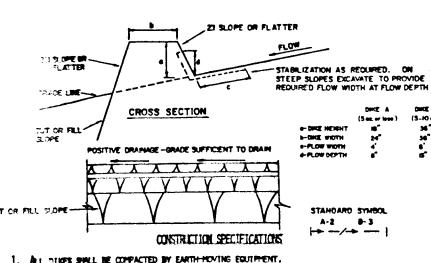
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CONSTRUCTION SPECIFICATIONS

- Stone Size Use 2° stone, or reclaimed or recycled concrete equivalent. Length - As required, but not less than 50 feet (except on a single resi-
- dence lot where a 30 foot minimum length would apply). Thickness - Not less than six (6) inches. 4. Width - Ten (10) foot minimum, but not less than the full width at
- points where ingress or egress occurs. 5. Filter Cloth - Will be placed over the entire area prior to placing of stone.
- Filter will not be required on a single family residence lot. 6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted. Maintenance - The entrance shall be maintained in a condition which will
- prevent tracking or flowing of rediment onto public rights-of-wey. This may equire periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All mediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately. 8. Washing - Wheels shall be cleaned to remove sediment prior to entrance Onto
- pushic rights-of-way. When washing is required, it shall be lone on an area stabilized with stone and which drains into an approved sed ment trapping 9. Periodic inspection and needed maintenance shall be provided after each rain.

NOT TO SCALE

STABILIZED CONSTRUCTION ENTRANCE



LL DINES SWILL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
LL DINES SWILL HAVE MOSITIVE DRAINAGE TO AN OUTLEY.
OF KIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE ORSSING BY CONSTRUCTION TRAFFIC.

FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.

EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. PLANOFF

SHALL BE CONSTRUCT TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT MASIN HERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT FOUNTELY STABILIZED.
ABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED DISTURY MALCH OR STRAW MALCH IF NOT IN SEEDING SEASON, (B) FLOM GRANNEL AS PER

BLOW CHANGEL STABILIZATION DIKEA DIKE B .5-3,0% SEED AND STRAN MULCH SEED AND STRAN MULCH 3.1-5.0% SEED AND STRAW MULCH SEED USING JUTE, OR EXCELSION: SOD: 2" STONE SEED WITH JUTE, OR SOD; LINED RIP-RAP 4-8" 8.1-20% LINED RIP-RAP 4-8" ENGINEERING DESIGN

A. Stone to be 2 inch stone, or recycled concrete equivalent, in a layer at least 3

B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THIONESS AND PRESSED INTO THE SOIL.
APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

EARTH DIKE

NOT TO SCALE

-ANCHOR POSTS SHOULD BE MINIMUM Z" STEEL "U'CHANNEL OR Z" X Z" TIMBER & IN LENGTH

1. Woven wire fence to be fastened securely to fence posts with wire ties or staples. FENCE: Hoven wire, 14: Ga. 6" Max. MESH UPENING 2. FILTER CLOTH TO BE FASTENED SECURELY TO 3. When this sections of filter cloth about each other they shall be over LAPPED BY SIX INCHES AND FOLDED. PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVE 4. MAINTENANCE SHALL BE PERFORMED A NEEDED AND MATERIAL REMOVED WHEN BULGES DEVELOP IN THE SILT FENCE.

1/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO

BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION

ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

4-2743

PERSPECTIVE VIEW

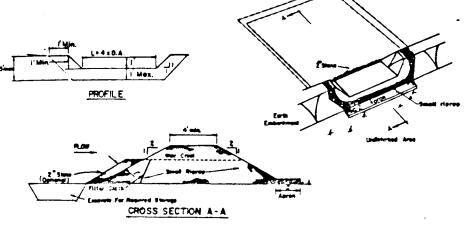
WOVEN WIRE PENCE (14 % BA. MIL, MAX. 4" MESH SPROME) WITH PETER CLOTH O

MIN. S" INTO SHOWN

SILT FENCE NOT TO SCALE

THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION

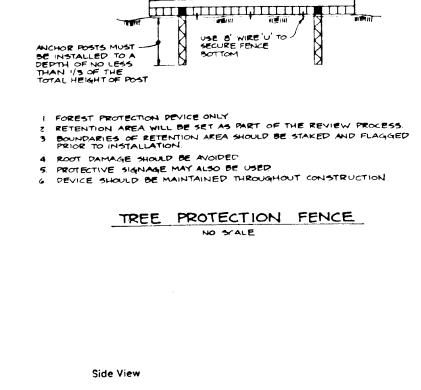
PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE



OFFICE: A one foot layer of 2" stone may be placed on the upstream side of the riprap in

- CONSTRUCTION SPECIFICATIONS FOR ST-V
 . Area under embaniment shall be cleared, grunbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embenhment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embeniment shall be compected by traversing with equipment while it is being constructed 3. All out and fill sloves shall be 2:1 or flatter.
- 4. The stone used in the outlet shall be small ripray 4"-8" along with a 1' thickness of 2" aggregate placed on the up-grade side on the small riprap of embedded filter clots in the
- 5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 's the design depth of the trap. 6. The structure shall be inspected after each rain and repairs made as needed
- 7. Construction operations shall be carried out in such a manner them erosion and water
- 8. The structure shall be removed and the eres stabilized when the drainage area has been

STONE OUTLET SEDIMENT TRAP NOT TO SCALE



of Perforated PVC Pipe,

DRY WELL DIMENSION

4' x 4' x 4'

lash Block Cap with Lock

LOT 38:39 DRY WELL

NOT TO SCALE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION." in Jamiia ENGINEER: JOHN, M. ELORRIAGA, P.E. # 16891 THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL. THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

DEVELOPER: JAMES R. MOXLEY, JR.,

SDC GROUP, INC. - PRESIDENT

BY THE DEVELOPER:

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING Jim Surmany MSION OF LAND DEVELOPMENT AND RESEARCH A

NO DATE REVISION TSA GROUP, INC. planning • architecture • engineering 8480 Baltimore National Pike . Ellicott City, Maryland 21043 . (410) 465-6105

OWNER/DEVELOPER: 5DC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MARYLAND 21043

(410) 465-4244

DES: JME

DRN:

RICE PROPERTY SECTION 1, AREA 1 LOTS 1-44 TAX MAP 37-PARCELS 203, 204, 432-435 1 of ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN

STORMWATER MANAGEMENT NOTES, SEDIMENT CONTROL NOTES AND DETAILS P-93-03 5-90-07 APRIL 20, 1993 PROJECT NO. 0483 DATE: APRIL 7, 1994

DRAWING 7 OF 8F-93-124

6. The discharge end of the matting liner should be similarly

- Annual inspection and repair of the structure.

-CAP END UNLESS EQUAL TO OR GREATER THAN ELEV. OF PRIMARY RISER CREST - RISER " PERFORATIONS MINIMUM 6" DIAMETER PVC FILTER CLOTH OVER WIRE MESH 333.00 Z" STONE CORE CONTINUOUS BAND 12 LF PERMANENT 8" PVC - INV. 328,25 BARREL PERFORATIONS OR SLITS-SIZE: D+24 MUST NOT BE MADE ANY TEMP B"x6" REDUCER LOWER THAN 6" ABOVE TOP OF THE HORIZONTAL OUTFALL BARREL PERFORATIONS - G'SPACING HORIZ . A VERT. LOCATED IN CONCAVE

TEMPORARY DEWATERING DEVICE

NOT TO SCALE

-ROOF ORAIN

BY HOME BUILDER

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