

SDP 05-081



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Using vegetation as cover for barren soil to protect it from forces that cause erosion.

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration Olup to one year), and Permanent Seeding, for long term vegetative cover Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared greas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and till slopes and other areas at final grade, former stockpile and staging areas, etc. EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff. infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters. SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation i. Install erosion and sediment control structures (either temporary of permanent) such as diversions,

grade stabilization structures, berms, waterways, or sediment control basins. ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding. iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres Soil Amendments (Fertilizer and Lime Specifications)

Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.

ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.

mi. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a 100 mesh sieve and 98-100% will pass through a 20

iv. Incorporate time and fertilizer into the top 3-5" of soil by disking or other suitable means. Seedbed Preparation
i. Temporary Seeding a Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of

suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.

b. Apply fertilizer and time as prescribed on the plans In corporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

ii Permanent Seeding a. Minimum soil conditions required for permanent vegetative establishment
 1. Soil pH shall be between 6.0 and 7.0.

Soluble salts shall be less than 500 parts per million (ppm) The soil shall contain less than 40% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serecia lespedezas is to be planted, then a sandy soil (30% silt plus clay) would be acceptable.

Soil shall contain 1.5% minimum organic matter by weight. Soil must contain sufficient pore space to permit adequate root penetration. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.

Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.

Apply soil amendments as per soil test or as included on the plans. Mix soil amendments into the top 3-5° of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specifications i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.

ite: Seed tags shall be made available to the inspector to verify type and rate of seed used ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F can weaken bacteria and make the inoculant less effective.

E. Methods of Seeding Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder. a. If fertilizer is being applied at the time of seeding, the application rates amounts will not

exceed the following: hitrogen, maximum of 100 lbs. per acre total of soluble nitrogen, P205 (phosphorous); 200 lbs/ac. K20 (potassium): 200 lbs/ac. b. Lime - use only ground agricultural limestone. (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one

time. Do not use burnt or hydrated lime when hydroseeding. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption

in Dry Seeding: This includes use of conventional drop or broadcast spreaders. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact

Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction in. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting. Where practical, seed should be applied in two directions perpendicular to each other.

Apply half the seeding rate in each direction.

F. Mulch Specifications (In order of preference) Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.

Wood Cellulose Fiber Mulch (WCFM) a. WCFM shall consist of specially prepared wood cellulose processed into a uniform

b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry. WCFM, including dye, shall contain no germination or growth inhibiting factors. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry The motch material shall form a blotter-like ground cover, on application, having

moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings. WCFM material shall contain no elements or compounds at concentration levels that

WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.

Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

SEQUENCE OF CONSTRUCTION

OBTAIN GRADING PERMIT INSTALL SEDIMENT AND EROSION CONTROL DEVICES AS SHOWN ON PLAN 7 DAYS CLEAR AND GRUB TO LIMITS OF DISTURBANCE 4. INSTALL TEMPORARY SEEDING 2 DAYS 60 DAYS CONSTRUCT BUILDINGS 6. FINE GRADE SITE AND INSTALL PERMANENT SEEDING AND LANDSCAPE REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED AND PERMISSION IS GRANTED BY E/S CONTROL INSPECTOR. 8. CONSTRUCT BIO-RETENTION FACILITY 2 DAYS G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
i. It grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in

ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs

of wood cellulose fiber per 100 gallons of water H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:

 i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. It used on sloping land, this practice should be used on the contour if possible.
 ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture chall contain a maximum of 50 enough of the contains. the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons

iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tax II. Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.

iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recom-

mendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long. I. Incremental Stabilization - Cut Slopes All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes

shall be excavated and stabilized in equal increments not to exceed 15% ii. Construction sequence (Refer to Figure 3 below): a. Excavate and stabilize all temporary swales, side ditches, or berms that will be

used to convey runoff from the excavation. Perform Phase I excavation, dress, and stabilize. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as

necessary.

Perform final phase excavation, dress and stabilize. Overseed previously seeded

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions int he operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization J. Incremental Stabilization of Embankments - Fill Slopes

Embarkments shall be constructed in litts as prescribed on the plans. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15, or when the grading operation ceases as prescribed in the plans.

iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embarkment to intercept surface runoff and convey it down the slope in a non-erosive manner to à sediment trapping device. Construction seduence: Refer to Figure 4 (below).

a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.

Place Phase 1 embankment, dress and stabilize

Place Phase 2 embankment, dress and stabilize. Place final phase embankment, dress and stabilize. Overseed previously seeded

areas as necessary.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of and placement of topsoil (if required) grading and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization

TYPICAL STAPLES NO. II

* OVERLAP OF MATTING

MORE STRIP WIDTHS ARE

STAPLES ON 18" CENTERS

STRIPS WHERE TWO OR

REQUIRED. ATTACH

STAPLE OUTSIDE

-- EDGE OF MATTING

ON 2' CENTERS

CROSS-SECTION

Construction Specifications

narrow trench, 6" in depth. Backfill the trench and tamp firmly to

conform to the channel cross-section. Secure with a row of staples

about 4" down slope from the trench. Spacing between staples is 6".

1. Key-in the matting by placing the top ends of the matting in a

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

3. Before stapling the outer edges of the matting, make sure the

4. Staples shall be placed 2' apart with 4 rows for each strip, 2

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°

shiplap fashion. Reinforce the overlap with a double row of staples

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

EROSION CONTROL MATTING

NOT TO SCALE

matting is smooth and in firm contact with the soil.

outer rows, and 2 alternating rows down the center.

spaced 6" apart in a staggered pattern on either side.

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

secured with 2 double rows of staples.

effected by the flow must be keyed-in

between staples.

GAUGE WIRE

SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES AND PERMITS, SEDIMENT CONTROL

DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855) 2) ALL VECETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.

3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

4) ALL SEDIMENT TRAPS/BASING SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE

5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SERIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION 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.

7) SITE ANALYSIS: 2.095 ACRES TOTAL AREA OF SITE AREA DISTURBED 1.746 ACRES AREA TO BE ROOFED OR PAVED 0.535 ACRES AREA TO BE VEGETATIVELY STABILIZED 1.211 ACRES 678 CU.YD5. TOTAL CUT

TOTAL FILL 2114 CULY05 OFFSITE WASTE/BORROW AREA LOCATION N/A 8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE

SAME DAY OF DISTURBANCE. 9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

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 LENGHTS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

34" MINIMUM

36" MINIMUM

8" MINIMUM

--- 16" MIN 15T LAYER OF

TANDARD SYMBOL

---- 55F --

FILTER CLOTH

Test: MSMT 509

Test: MSMT 509

Test: MSMT 322

Silt Fence Length

(māximum)

Unlimited

1,500 feet

500 feet

250 feet

1.000 feet

0.3 gal/ft /minuté (max.) Test: MSMT 322

FLOW

∠CHAIN LINK FENCE

WITH I LAYER OF

Construction Specification

latest Maryland State Highway Details for Chain Link Fencing. The specification

The lower tension wire, brace and truss rods, drive anchors and post caps are not

1. Fencing shall be 42° in height and constructed in accordance with the

for a 6' fence shall be used, substituting 42" fabric and 6' length posts.

2. Chain link fence shall be fastened securely to the fence posts with wire ties.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced

5. When two sections of filter cloth adjoin each other, they shall be overlapped

7. Filter cloth shall be fastened securely to each fence post with wire ties or

50 bs/in (min.)

Design Criteria

Slope

Steepness

0 - 10:1

10:1 - 5:1

5:1 - 3:1

3:1 - 2:1

2:1 +

Slope Length

(maximum

Unlimited

200 feet

100 feet

100 feet

50 feet

20 (bs/jn (min.)

develop in the silt fence, or when silt reaches 50% of fence height

6 Maintenance shall be performed as needed and silt buildups removed when "bulges"

staples at top and mid section and shall meet the following requirements for

4. Filter cloth shall be embedded a minimum of 8" into the ground.

FILTER CLOTH

1/8/1/2 -: 70

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed. Seedbed Preparation: Loosen upper three inches of soil by raking. discing or other acceptable means before seeding, if not previously

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules :

D Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 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. per 1000 sa.ft.).

2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding: For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 20, protect site by one of the following

D 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.

3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.(t.) for anchoring

Maintenance: Inspect all seeded areas and make needed repairs. replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed. Seedbed Preparation: Loosen upper three inches of soil by raking. discing or other acceptable means before seeding, it not previously loosened.

Soil Amendments: Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.).

Seeding For periods March I thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs. per 1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 16 thru 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.

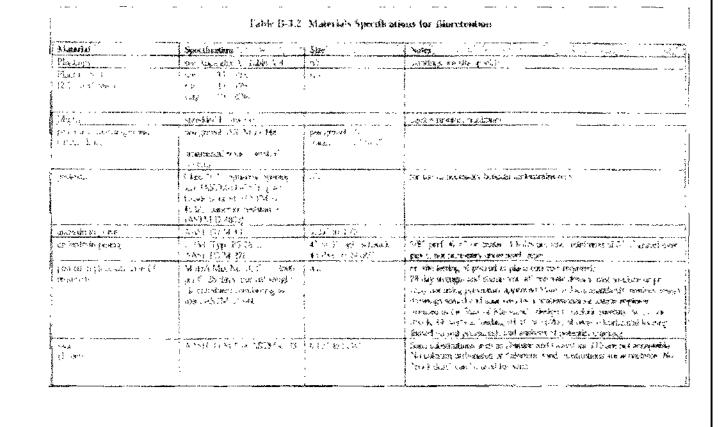
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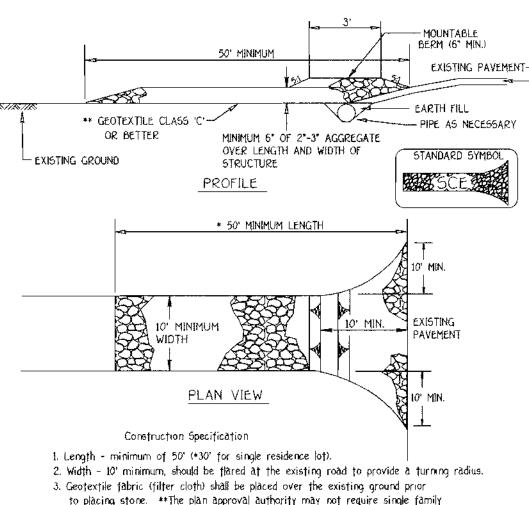
Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

RAIN GARDEI	N PLANT MATERIA	AL FOR LOT 2
QUANTITY	NAME	MAXIMUM SPACING (FT.)
40	CORNFLOWER	2 FT.
100	NARROW LEAF BUSH CLOVER	1 FT.

RAIN GARDEN PLANT MATERIAL FOR LOT 3			
QUANTITY	NAME	MAXIMUM SPACING (FT.)	
150	BIG BLUESTEM	1 FT.	
100	BLACK EYED SUSAN	2 FT.	

RAIN GARDEI	N PLANT MATERI	AL FOR LOT 4
QUANTITY	NAME	MAXIMUM SPACING (FT)
200	BROOM - SEDGE	1 FT.
72	WHITE HEATH ASTER	3 FT.



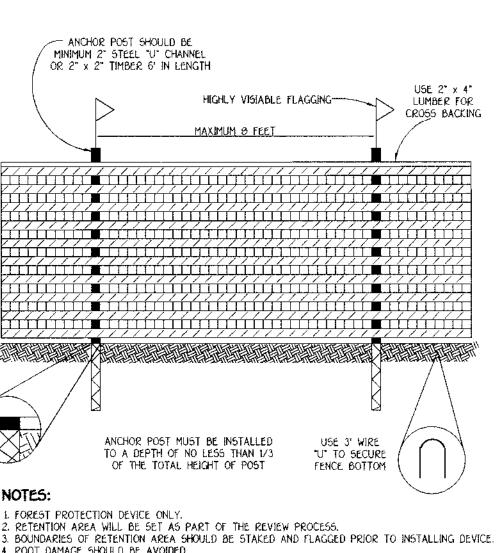


to placing stone. **The plan approval authority may not require single family residences to use geotextile.

4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete

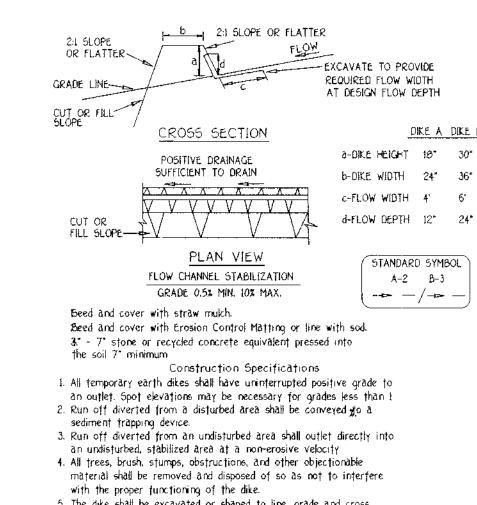
equivalent shall be placed at least 5" deep over the length and width of the entrance. 5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

STABILIZED CONSTRUCTION ENTRANCE NOT TO SCALE



 ROOT DAMAGE SHOULD BE AVOIDED. 5. PROTECTIVE SIGNAGE MAY ALSO BE USED 6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

> BLAZE ORANGE PLASTIC MESH TREE PROTECTION DETAIL NOT TO SCALE



DIKE A DIKE B

STANDARD SYMBOL

A-2 B-3

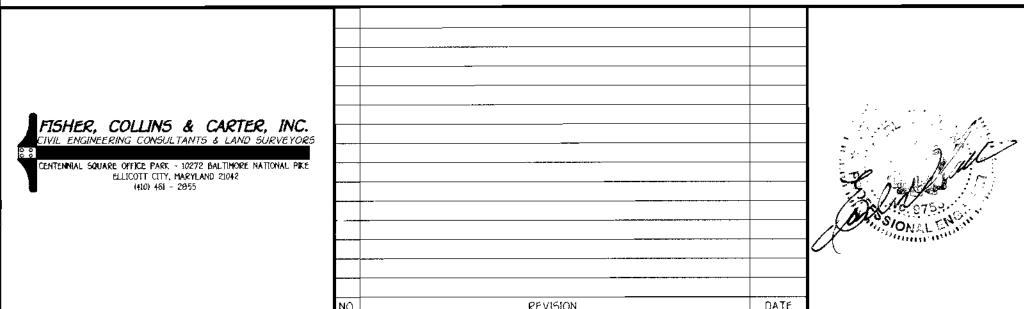
2. Run off diverted from a disturbed area shall be conveyed to a 3. Run off diverted from an undisturbed area shall outlet directly into

material shall be removed and disposed of so as not to interfere 5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede

normal flow. 6. Fill shall be compacted by earth moving equipment 7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.

8. Inspection and maintenance must be provided periodically and after each rain event.

EARTH DIKE NOT TO SCALE



STAPLE OUTSIDE

ON 2' CENTERS

EDGE OF MATTING

ENGINEER'S CERTIFICATE certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

4.4.05 EARL D COLLING

FENCE POST SPACING

118 118 118 118 T

GROUND? SURFACE

GALVANIZED

OR ALUMINUM

TINTA

by 6" and folded.

Geotextile Class I

Tensile Strength

Tensile Modulus

0 - 10%

10 - 20%

20 - 33%

33 - 50%

50% +

Filtering Efficiency

Flow Rate

* IF MULTIPLE LAYERS ARE

REQUIRED TO ATTAIN 42"

CHAIN LINK FENCING

EMBED FILTER CLOTH 8"-

required except on the ends of the fence.

every 24" at the top and mid section.

MINIMUM INTO GROUND

SHALL NOT EXCEED !

CENTER TO CENTER

BUILDER/DEVELOPER'S CERTIFICATE I/We certify that all development and construction will be done according to this plan. for sediment and erosion control and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before

beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District." 4-4-05 B. JAMES GREENFIELD

BUILDER/DEVELOPER K.D. BUILDERS, LLC P.O. BOX 999 COLUMBIA, MARYLAND 21044

410-730-3940

PPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 1,2,3 & 4 NZA FROTTER'S GLEN BLOCK NO. ZONE TAX/ZONE | ELEC. DIST. CENSUS TR 17309 FIFTH 6069.02 17310 WATER CODE SEWER CODE

E-15

7640000

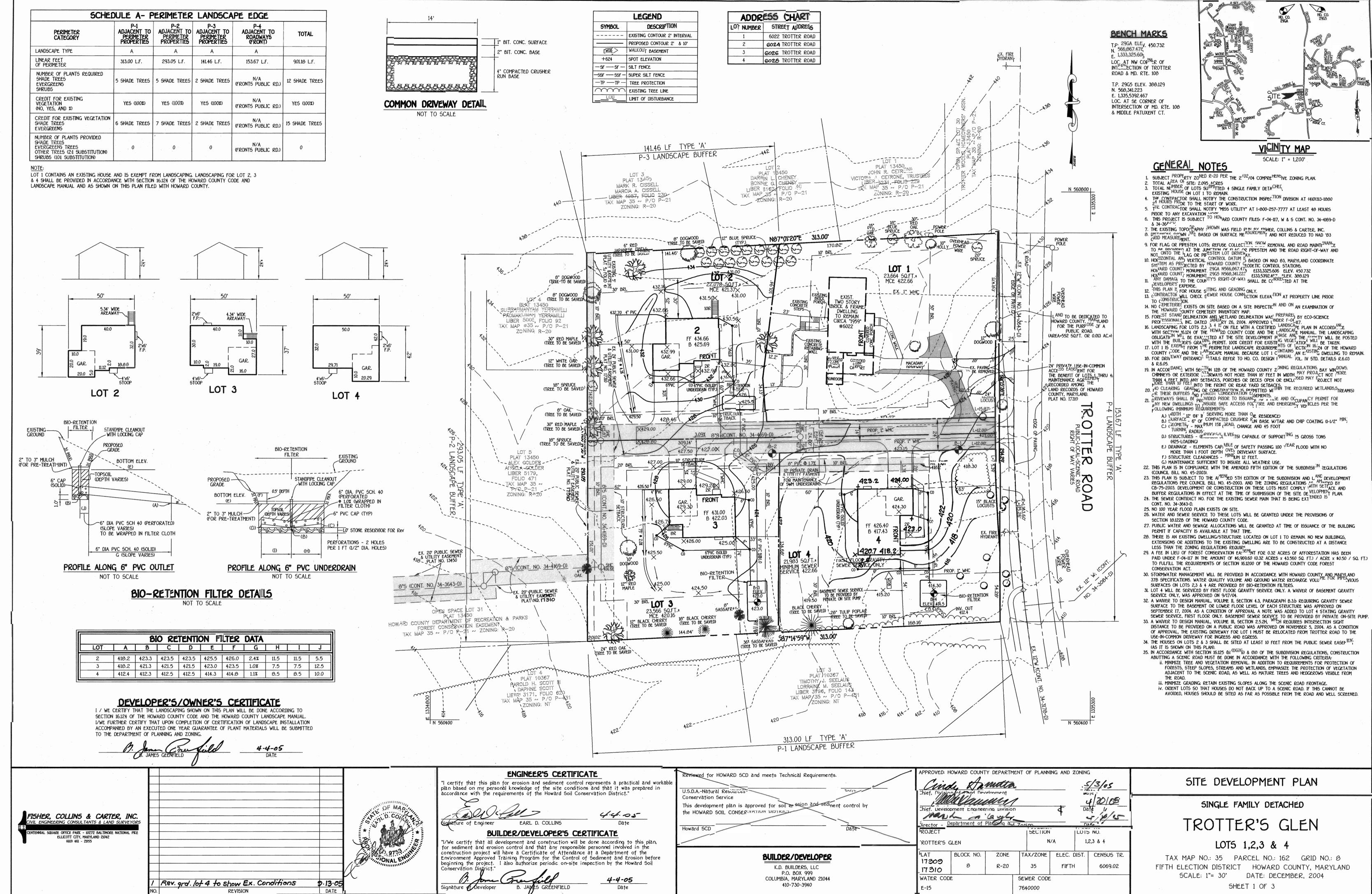
SEDIMENT/EROSION CONTROL NOTES & DETAILS

SINGLE FAMILY DETACHED

TROTTER'S GLEN

LOT5 1,2,3 & 4

TAX MAP NO.: 35 PARCEL NO.: 162 GRID NO.: 8 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: 1"= 30' DATE: DECEMBER, 2004 SHEET 3 OF 3



K:\Drawings 3\30795 Trotter Road\dwg\30795 Sdp Lots 1,2,3 & 4.dwg, 4/4/200

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