

SOP-08-042

Venetative stabilization specifications are used to promote the establishment of venetation 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 areas being left ide between construction phases, earth dites, etc. and for Permanent Seeding are lawns, dams, cut and fill 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, berns, 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. B. Soil Amendments Ofertilizer and Lime Specifications
- i. 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 Haryland 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
- iii. Lime materials shall be ground imestone Ordrated or burnt time 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 mesh sieve. iv. Incorporate lime and fertilizer into the top 3-5° of soil by disking or other suitable means.
- C. 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 loreater than 3D should be tracked leaving the surface in an irregular condition with ridges
- running parallel to the contour of the slope. Apply fertilizer and time as prescribed on the plans. c. In corporate time 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 saits shall be less than 500 parts per million (ppm).
 - . The soil shall contain less than 40% clay, but enough fine grained material 030% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is it lovegrass or
 - serecia lespedezas is to be planted, then a sandy soil (C30% silt plus clay) would be acceptable. Soil shall contain 15% 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. b. 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 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 raited 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. Th top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on

newly disturbed areas. Seed Specifications

- 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. Note: Seed taos 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-froing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add tresh 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 i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacter seeder.
- a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen maximum of 100 bs. per acre total of soluble nitrogen P205 (phosphorous): 200 bs/ac; K20 (potassium): 200 bs/ac. b. Lime - use only ground agricultural limestone, Oup 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 indicated lime when indroseeding. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and
- without interruption.
 ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders. a. 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 roted with a weighted roller to provide good seed to soil confact.
- Where practical, seed should be applied in two directions perpendicular to each other.

 Apply half the seeding rate in each direction iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil. a. 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. . Mulch Specifications (In order of preference)
- Straw shall consist of thoroughly threshed wheat, rise or oat straw, reasonable bright in color, and shall not be mustly, moldy, cated decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Marjand Seed Law. ii. Wood Celebose Fiber Much (WCFI)
- a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
- b. WCTM shall be died green or contain a green die in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread stury.

 c. WCTM, including die, shall contain no germination or growth inhibiting factors.

 d. WCTM materials shall be manufactured and processed in such a manner that the wood cellulose fiber much will remain in uniform suspension in water under aditation and will blend with seed, fertilizer and other additives to form a homogeneous sturry.
- The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in confact with the soil without inhibiting the growth of the grass seedings.
 MCPM material shall contain no elements or compounds at concentration levels that
 will be phytol-toxic. f. WCM 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.

- G. Mulching Seeded Areas Mulch shall be applied to all seeded areas immediately after seeding.

 i. If 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
- accordance with these specifications. i. 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 25 tons/acre.
- iii. Wood cellulose fiber used as a much shall be applied at a net dry weight of 1,500 bs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 bs. of wood cellulose fiber per 100 gallons of water. Securing Straw Mulch Orluch Anchorings: 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 A much anchoring tool is a tractor drawn implement designed to punch and anchor much 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 safety. It used on sloping
- land, this practice should be used on the contour if possible.

 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 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-Tacl), DCA-70 Petroset, Terra Tav II. Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor much.
- iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.
- I. Incremental Stabilization Cut Slopes i. 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):
- Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
- b. Perform Phase 1 excavation, dress, and stabilize. c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as
- 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 lif required and permanent seed and mulch. Any interruptions in the 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 lifts 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 stope drains should be constructed along the top edge of the embaltiment to intercept surface rumoff and convert it down the stope in a non-erosive manner to
- a sediment trapping device.

 iv. Construction sequence: 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 n 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
- Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of and placement of topsoil of 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

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 (313-1055).
- 2) ALL VEGETATIVE 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 SPECS.
- 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. 1. 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 SEDIMENT 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

0.1606 ACRES 0.1477 ACRES

0.0810 ACRES

- CONTROL INSPECTOR. 7) SITE ANALYSIS: TOTAL AREA OF SITE
 - AREA DISTURBED AREA TO BE ROOFED OR PAVED AREA TO BE VEGETATIVELY STABILIZED
- 0.0667 ACRES 644 CU.YDS. 0 CU.YD5. OFFSITE WASTE AREA TO BE DETERMINED 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 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.

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT 2. INSTALL SEDIMENT AND EROSION CONTROL DEVICES AS SHOWN ON PLAN 7 DAYS 3. CLEAR AND GRUB TO LIMITS OF DISTURBANCE 4 DAYS
- 2 DAYS 4. INSTALL TEMPORARY SEEDING 5. CONSTRUCT BUILDINGS 60 DAYS 14 DAYS
- 6. FINE GRADE SITE AND INSTALL PERMANENT SEEDING AND LANDSCAPE 7. REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED 7 DAYS AND PERMISSION IS GRANTED BY E/S CONTROL INSPECTOR.

FLOW 6"MIN. ALL SLOPES 2:1 EXISTING GROUND CROSS SECTION PROVIDE POSITIVE DRAINAGE PLAN VIEW STANDARD SYMBOL ____ PD<u>/5-1</u>__

PERIMETER DIKE / SWALE

NOT TO SCALE

COMPACTED EARTH -

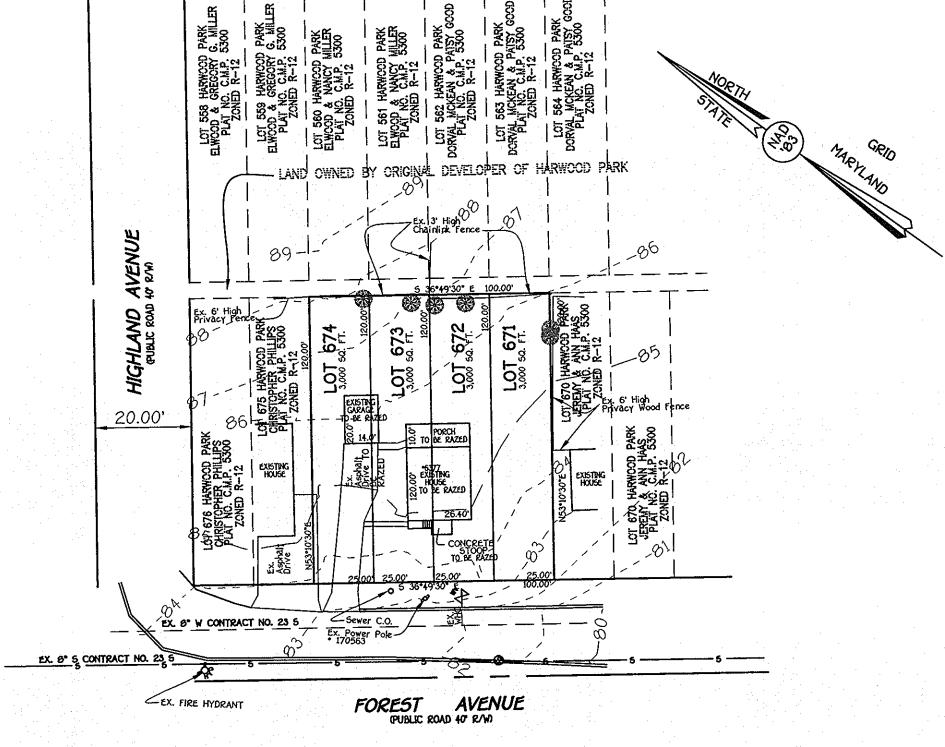
STABILIZATION

- PD/5-1 SEED AND MULCH (DRAINING \(\) 1 ACRE) PD/S-2 SEED AND COVER WITH SOIL STABILIZATION MATTING OR LINE WITH SOD (DRAINING BETWEEN 1 AND 2 ACRES)
- 1. All perimeter dike/swales shall have an uninterrupted positive grade to an outlet. Spot elevations may be necessary for

Construction Specifications

- grades less than 1%.
- 2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
- 3. Runoff diverted from an undisturbed area shall outlet into an undisturbed stabilized area at a non-erosive velocity.
- 4. The swale shall be excavated or shaped to line, grade, and cross-section as required to meet the criteria specified in the standard.
- 5. Fill shall be compacted by earth moving equipment.
- 6. Stabilization with seed and mulch or as specified of the area disturbed by the dike and swale shall be completed within 7 days upon removal.
- 7. Inspection and required maintenance shall be provided after each rain event.
- Note: The maximum drainage area for this practice is 2 acres.

BEECHFIELD AVENUE



EXISTING CONDITIONS

SCALE: 1"=40'

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, if not previously
- lbs. per 1000 sq.ft.). Seeding: For periods March 1 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.

Soil Amendments: Apply 600 lbs. per acre 10-10-10 fertilizer (14

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.ft.) for anchoring.

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

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

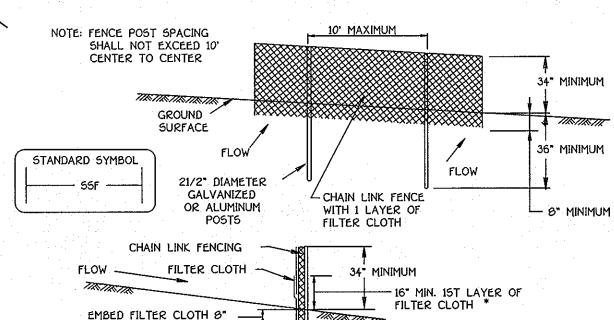
Soil Amendments: In lieu of soil test recommendations, use one of the following schedules :

- 1) 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 sa.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 sq.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 Ibs. 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 28, protect site by one of the following

- 1) 2 tons per acre of well—anchored mulch straw and seed as soon as possible in the spring.
- Use sod.
- 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 sa.ft.) for anchoring.

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



- Construction Specifications 1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length
- 2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not
- required except on the ends of the fence. 3. Filter cloth shall be fastened securely to the chain link fence with ties spaced
- every 24" at the top and mid section. 4. Filter cloth shall be embedded a minimum of 8" into the ground.

* IF MULTIPLE LAYERS ARE

Filtering Efficiency

REQUIRED TO ATTAIN 42"

5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.

75% (min.)

6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height 7. Filter cloth shall be fastened securely to each fence post with wire ties or

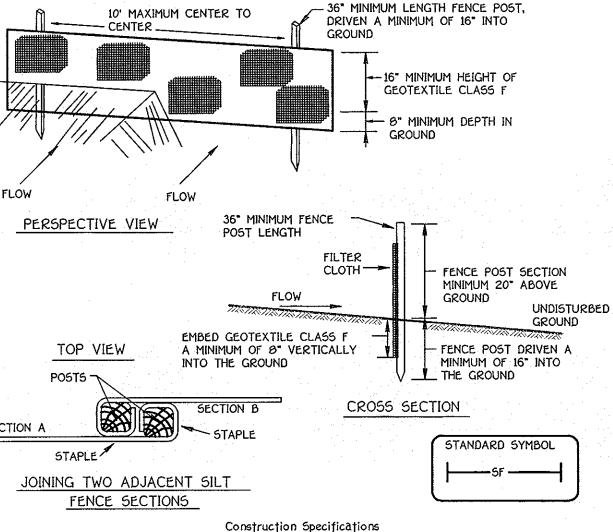
staples at top and mid section and shall meet the following requirements for Geotextile Class F: Test: MSMT 509 Tensile Strength 50 lbs/in (min.) 20 lbs/in (min.) Test: MSMT 509 Tensile Modulus 0.3 gal/ft /minuté (max.) Test: MSMT 322 Flow Rate

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

SUPER SILT FENCE

SILT FENCE



1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

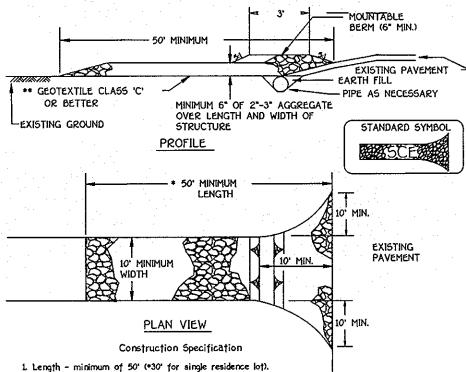
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength 50 lbs/in (min.) Test: MSMT 509 Test: MSMT 509 Tensile Modulus 20 lbs/in (min.) Flow Rate 0.3 gal ft / minute (max.)2 Test: MSMT 322 Filtering Efficiency 75% (min.) Test: MSMT 322

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric

3. Where ends of geotextile fabric come together, they shall be overlapped,

folded and stapled to prevent sediment bypass.



2. Width - 10' minimum, should be flared at the existing road to provide a turning 3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior

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 6" deep over the length and width of the

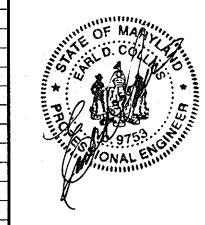
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6° of stone 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 occording 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

STABILIZED CONSTRUCTION ENTRANCE

FISHER, COLLINS & CARTER, INC. IVIL ENGINEERING CONSULTANTS & LAND SURVEYORS SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE



ENGINEER'S CERTIFICATE

TOP COAT

DRIVEWAY PAVING DETAIL

NO SCALE

"I 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."

_ 1 1/2" BIT. CONC. SURFACE

6" CRUSHER RUN BASE COURSE

- 2 1/2" BIT CONC. BASE

5.28.08 BUILDER/DEVELOPER'S CERTIFICATE

1) 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."

5.28.08

OWNER/BUILDER WILLIAM WELZENBACH

2434 WOOD STREAM COURT

ELLICOTT CITY, MD. 21042

301-529-9336

PROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 6/17/08 6000

Test: MSMT 322

EXISTING CONDITIONS, SEDIMENT AND EROSION CONTROL DETAILS

SINGLE FAMILY SEMI-DETACHED UNITS HARWOOD PARK LOTS 671 AND 672

TAX MAP NO: 38 PARCEL NO.: 873 GRID NO.: 13 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: JULY, 2007

> SHEET 2 OF 2 SDP-08-042