SHEET INDEX SHEET NO. DESCRIPTION TITLE SHEET 2 SITE DEVELOPMENT PLAN 3 SEDIMENT AND EROSION CONTROL AND LANDSCAPE PLAN 4 SEDIMENT AND EROSION CONTROL NOTES & DETAILS

SITE DEVELOPMENT PLAN

AVOCA AVENUE

PLOTS 1 AND 2

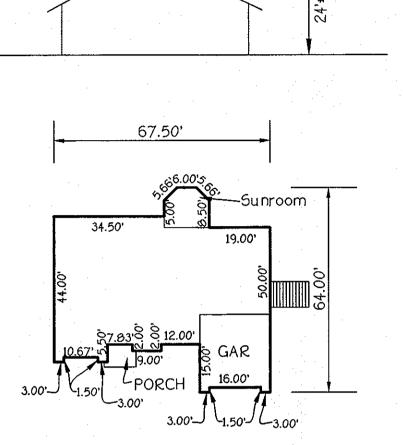
ZONED: R-20

TAX MAP No. 31 GRID No. 7

PARCEL No. 357

SECOND ELECTION DISTRICT

HOWARD COUNTY, MARYLAND



LEGEND

Denotes Wetlands

Denotes Ex. 25' Wetland

Plat Nos. 19120 thru 19123

Denotes Flood Plain

Super Silt Fence Existing Tree Line Existing Trees to remain Existing Trees to be removed Erosion Control Matting

Limit of Disturbance First Floor Elevation Basement Elevation

Ex. Water Ex. Sewer

Silt Fence

Existing Contour 2' interval

Existing Contour 10' interval Proposed Contour 2' interval Proposed Contour 10' interval

Denotes Existing Structures to be removed

Denotes Ex. Public 20' Sewer & Utility Easement

Denotes Existing Forest Conservation Easement Plate19120-19123

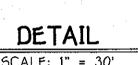
Denotes Existing Asphalt to be removed

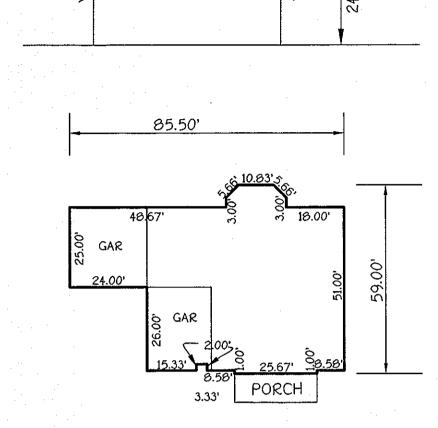
Denotes Receiving area for SWM

L. 536 F. 451

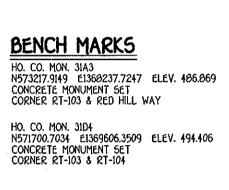
ALLEN RESIDENCE

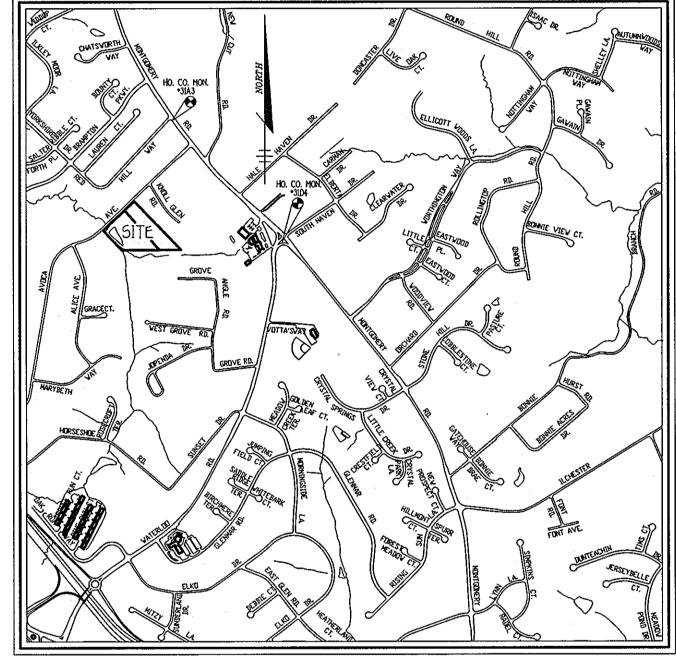






MILBACH RESIDENCE





ADC STREET MAP: MAP 4936 GRID B3 VICINITY MAP SCALE: 1" = 1200'

GENERAL NOTES

- 1. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK. 2. THE CONTRACTOR SHALL NOTIFY (MISS UTILITY) AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION
- 3. THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD RUN SURVEY WITH 2' CONTOURS INTERVALS PREPARED BY FISHER, COLLINS & CARTER, INC. DATED DECEMBER 31, 2009.
- 4. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 31A3 AND 31D4 WERE USED FOR
- 5. STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. WE ARE PROVIDING STORM WATER MANAGEMENT BY THE USE OF ROOFTOP AND NON-ROOFTOP DISCONNECTIONS. THE ROOFTOP DISCONNECTIONS ARE LOCATED ON SLOPES 5% MAXIMUM AND ARE AT LEAST 75' LONG. IN ACCORDANCE WITH THE NEW CHAPTER 5 CRITERIA, A REQUIRED PE VALUE OF 1.0" IS MET WITH JUST THESE PROPOSED DISCONNECTIONS. THE NON-ROOFTOP DISCONNECTIONS ARE AT A 1:1 RATIO AND THE NEW CHAPTER 5 STORM WATER MANAGEMENT REGULATIONS STIPULATE THAT THIS NON-ROOFTOP DISCONNECTIONS ALLOWS A PE VALUE OF 1.0" FOR THIS PROJECT'S DRIVEWAYS. THEREFORE, WE CAN CONCLUDE THAT THIS PROJECT MEETS THE CHAPTER 5
- CRITERIA AND WOODS IN GOOD CONDITION HAS BEEN ACHIEVED. 6. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT AND PUBLIC WATER & SEWER IS PROPOSED WITHIN
- THIS DEVELOPMENT. CONTRACT No. 12-W AND CONTRACT No. 302-5, RESPECTIVELY 7. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- 8. THE SHC ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE. 9. FOR DRIVEWAY ENTRANCE DETAILS REFER TO THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV STANDARD DETAIL
- 10 THE SUBJECT PROPERTY IS ZONED R-20 (PER 02/02/04 COMPREHENSIVE ZONING PLAN AND THE COMP-LITE ZONING
- 11. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR
- 12. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY
- 13. THIS PROJECT IS EXEMPT FROM THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202 (B)(2)(I)(A) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WHICH STATES EXEMPTIONS REQUIRING A DECLARATION OF INTENT:
- THE TOTAL CUTTING, CLEARING OR GRADING OF FOREST RESOURCES IS LESS THAN 20,000 SQUARE FEET. 14. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS,
- PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK (APPLIES FOR RESIDENTIAL SOP'S). 15. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO
 - INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS: WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE);
- SURFACE 6" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING (1-1/2" MIN.);

MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.

THE HOWARD COUNTY CAPITAL PROJECT A-80.

- GEOMETRY MAX. 15% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS; STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING);
- DRAINAGE ELEMENTS CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE;
- 16. THE EXISTING 100 YEAR FLOODPLAIN IS BASED ON A STUDY PREPARED BY MILDENBERG, BOENDER & ASSOCIATES, INC. AND DATED AUGUST 2005 FOR THE ADJACENT SPD-06-030 PLAN. THIS STUDY IS A REFINEMENT FOR A PORTION OF
- 17.DECLARATION OF COVENANTS WILL BE EXECUTED FOR STORMWATER MANAGEMENT PRACTICES PROPOSED FOR THESE
- 18. THIS PROJECT IS SUBJECT TO A LETTER DATED AUGUST 18, 2010 AND SIGNED BY MR. RONALD G. LEPSON, CHIEF, BUREAU OF ENGINEERING APPROVING A WAIVER OF BASEMENT GRAVITY SEWER SERVICE TO LOTS 1 AND 2.

SITE ANALYSIS DATA CHART

- A. TOTAL AREA OF THIS SUBMISSION =7.28 AC. *. LIMIT OF DISTURBED AREA = 2.36 Ac. *
- PRESENT ZONING DESIGNATION = R-20
- (PER 02/02/04 COMPREHENSIVE ZONING PLAN AND THE COMP-LITE ZONING AMENDMENTS DATED 07/28/06) . PROPOSED USE: SINGLE FAMILY DETACHED
- E. FLOOR SPACE ON EACH LEVEL OF BUILDING: N/A TOTAL NUMBER OF UNITS ALLOCATED: 2 UNITS
- G. TOTAL NUMBER OF UNITS PROPOSED: 2 UNITS TOTAL NUMBER OF EMPLOYEES, TENANTS ON SITE PER USE: N/A
- OPEN SPACE ON SITE: N/A RECREATIONAL AREA PROVIDED: N/A
- K. BUILDING COVERAGE OF SITE: N/A L. PREVIOUS HOWARD COUNTY FILES: N/A
- M. TOTAL AREA OF FLOODPLAIN LOCATED ON SITE 1.43 AC.
- N. TOTAL AREA OF SLOPES IN EXCESS OF 25% = 0.000 AC+ O. NET TRACT AREA = 5.85 AC.
- (TOTAL SITE AREA FLOODPLAIN STEEP SLOPES AREA) (7.28 Ac - 1.43 Ac - 0.000 Ac)
- P. TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 2.57 AC.*
- Q. TOTAL AREA OF FOREST = 3.43 AC±
- R. TOTAL GREEN OPEN AREA = 4.18 AC±
- 5. TOTAL IMPERVIOUS AREA = 0.30 AC±

	STREET	ADDRESS CHART					
	LOT NO.	STREET ADDRESS					
	1	4869 AVOCA AVENUE					
	2	4863 AVOCA AVENUE					
Ľ							



PROFESSIONAL CERTIFICATION I HEREBY CERTIFO THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT AM A BULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS MARYLAND LICENSE NO. 20784, EXPIRATION DATE: 2/22/11. 12-15-10

OWNERS THEODORE AND JUDITH MILBACH 12409 NEW HAMPSHIRE AVE. SIVLER SPRING MARYLAND 20904

RIDA AND ROBERT ALLEN 6332 SUNHIGH PL COLUMBIA MARYLAND 21045

BUILDER STEVENS BUILDERS C/O MARK STEVENS 4714 LINTHICUM RD DAYTON, MD 21036 410-531-2100

WATER CODE

G-01

APPROVED: DEPARTMENT OF PLANNING AND ZONING hief Division of Land Development SUBDIVISION SECTION/AREA AVOCA AVENUE 1 & 2 PLAT BOOK 6 PARCEL NO. ZONE TAX MAP ELEC. DIST. CENSUS TR. R-20 PAGE 88 357 2nd.

SEWER CODE

5750673

SITE DEVELOPMENT PLAN

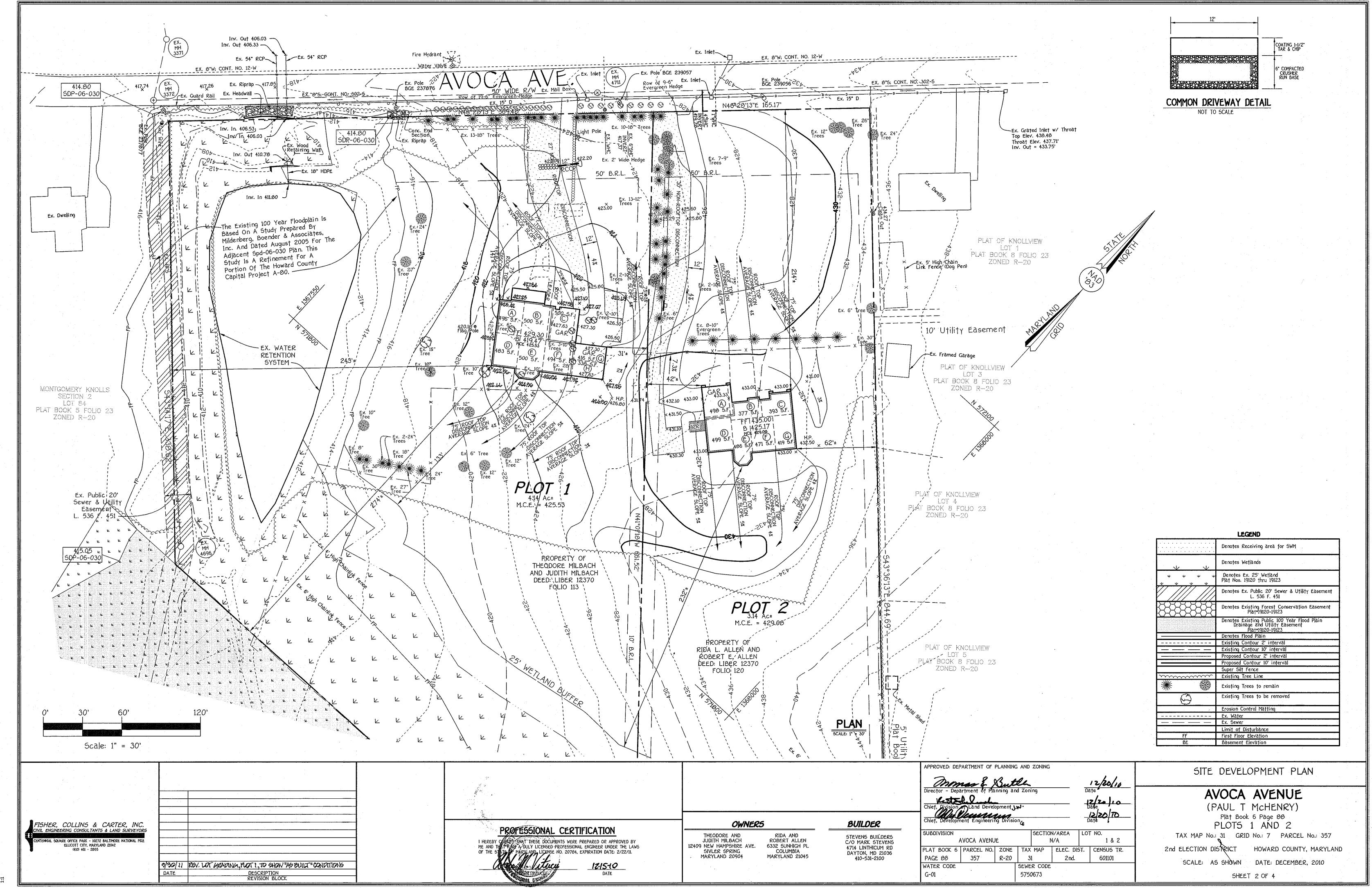
TITLE SHEET AVOCA AVENUE

(PAUL T McHENRY) Plat Book 6 Page 88 PLOTS 1 AND 2

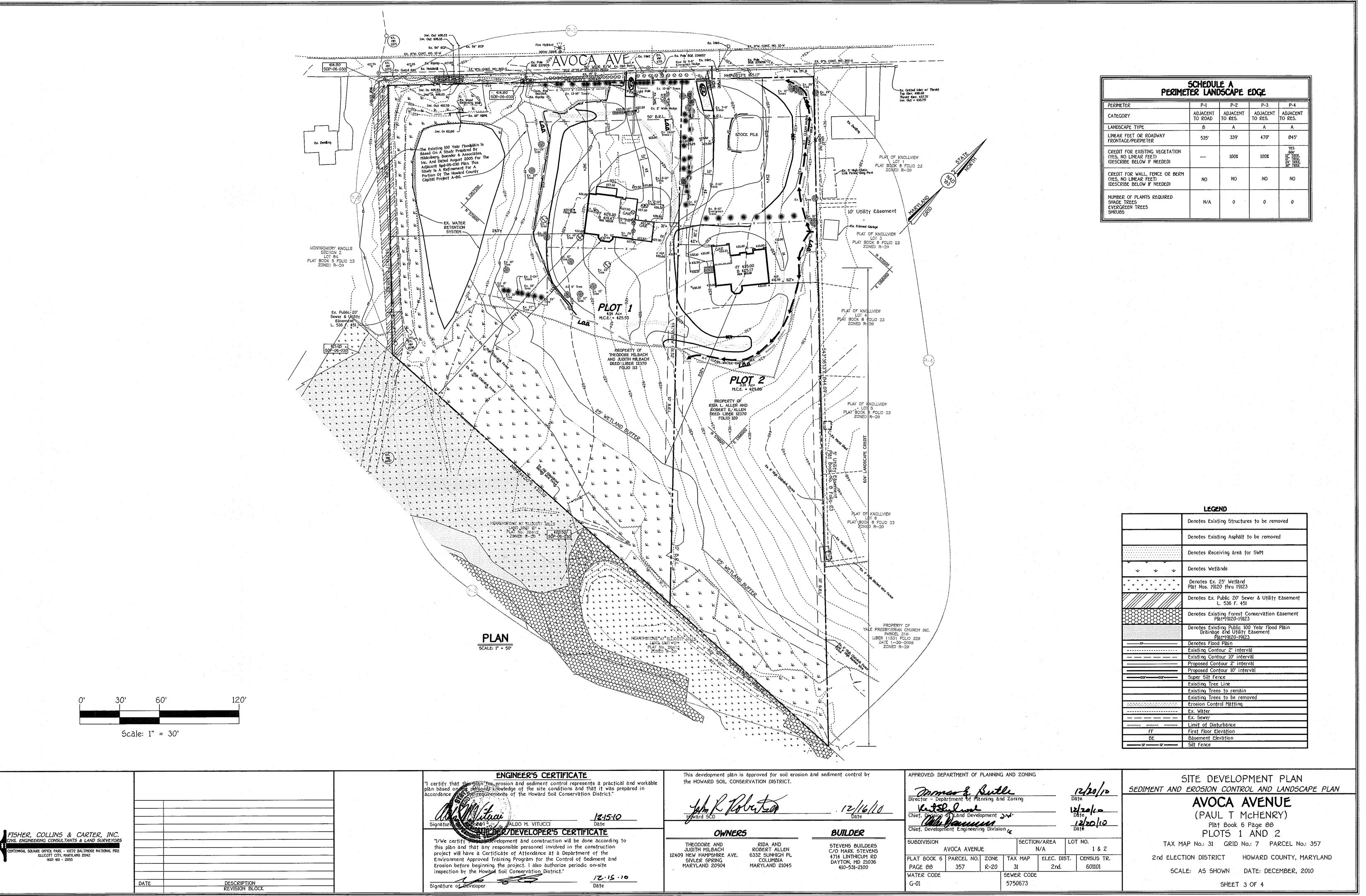
TAX MAP No.: 31 GRID No.: 7 PARCEL No.: 357

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: DECEMBER, 2010

SHEET 1 OF 4



SDP-10-059



SDP-10-059

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

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

PURPOSE 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 O(up 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 idle between construction phases, earth dikes, 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, 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. B. Soil Amendments (Fertilizer 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 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 iii. 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 mesh sieve.
iv. Incorporate lime 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 lime as prescribed on the plans. c. 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. 5. Soil must contain sufficient pore space to permit adequate root penetration

6. 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 slidina down a slope.

c. Apply soil amendments as per soil test or as included on the plans. d. 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. top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

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. Note: 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.

i. 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 no exceed the following: nitrogen, 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. c. 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 rolled with a weighted roller to provide good seed to soil contact.

b. 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.

. 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. b. 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)

i. 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.

SEQUENCE OF CONSTRUCTION

FISHER, COLLINS & CARTER, INC.

ELLICOTT CITY, MARYLAND 21042

ENGINEERING CONSULTANTS & LAND SURVEYORS

1. OBTAIN GRADING PERMIT 2. INSTALL SEDIMENT EROSION CONTROL DEVICES AS SHOWN ON PLAN 5 DAYS 3. CLEAR AND GRUB TO LIMITS OF DISTURBANCE 5 DAYS I. INSTALL TEMPORARY SEEDING 1 DAYS . CONSTRUCT BUILDINGS . FINE GRADE SITE AND INSTALL PERMANENT SEEDING AND LANDSCAPE 7 DAYS 7. REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED AND PERMISSION IS GRANTED BY E/S CONTROL INSPECTOR. 5 DAYS

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

fibrous physical statė. 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.
 c. WCFM, including dye, shall contain no germination or growth inhibiting factors.

I. 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 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 contact with the soil without inhibiting the growth of the grass seedlings.

e. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic.

f. 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. 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.

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. It 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. wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 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 archoring tool is a tractor drawn implement designed to punch and archor 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 archoring 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

he 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 recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

1. 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): a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey rumoff from the excavation.
 b. Perform Phase 1 excavation, dress, and stabilize.

c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as

necessary.
d. 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 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 i. Embankments shall be constructed in lifts as prescribed on the plans.

ii. 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, femporary 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

sediment trapping device. nstruction 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 in Figure 5, unless other methods shown on the plans address this area.

b. Place Phase 1 embankment, dress and stabilize.

c. Place Phase 2 embankment, dress and stabilize. d. 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. SECTION 2 - TEMPORARY SEEDING

Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed mixtures - Temporary Seeding

Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary seeding summary below, along with application rates, seeding dates and seeding depths. If this summary is not put on the plans and completed, then Table 26 must be put on the plans.

ii. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in Soil tests are not required for Temporary Seeding.

5e	ed Mixture (Hard From	Ferțilizer	Lime Rate			
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	(10-10-10)	
i	BARLEY OATS RYE	122 96 140	3/1 - 5/15, 8/15 - 10/15	1" - 2" 1" - 2" 1" - 2"	600 lb/ac (15 lb/1000sf)	2 tons/ac (100 lb/1000sf

SECTION 3 - PERMANENT SEEDING

Seeding grass and legumes to establish groung cover for a minimum of one year on disturbed areas

A. Seed mixtures - Permanent Seeding

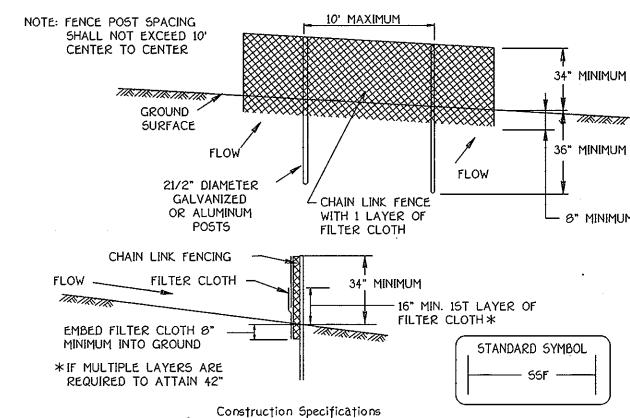
generally receiving low maintenance.

i. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Techinical Field Office Guide, Section 342 - Critical Area Plantino. For special lawn maintenance areas, see Sections IV Sod and V Turforass

ii. For sites having disturbed area over 5 areas, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in

iii. For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/ac), in addition to the above soil amendments shown in the table below, to be performed at

Seed Mixture (Hardiness Zone6b_) From Table 25					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
3	TALL FESCUE (05%) PERENNIAL RYE GRASS (10%) KENTUCKY BLUEGRASS (5%)	125 15 10	3/1 - 5/15, 8/15 - 10/15	1" - 2"	90 lb/ac 175 lb/ac (2.0 lb/ (4 lb/ 1000sf) 1000sf)		175 lb/ac (4 lb/	2 tons/ac (100 lb/
10	TALL FESCUE (80%) HARD FESCUE (20%)	120 30	3/1 - 5/15, 8/15 - 10/15	1" - 2"		1000sf)	1000sf)	



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 posts.

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

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

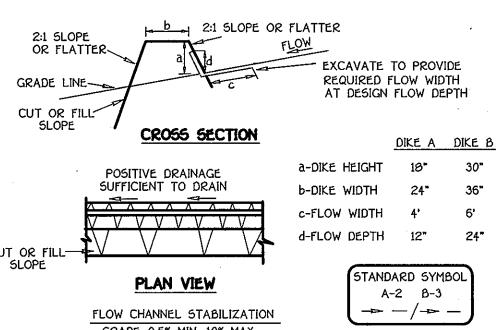
develop in the silt fence, or when silt reaches 50% of fence height 7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for

Geotextile Class F: Test: MSMT 509 Tensile Strength 50 lbs/in (min.) Test: MSMT 509 Tensile Modulus 20 |bs/in (min.) Flow Rate 0.3 gal/ft /minute²(max.) Test: MSMT 322 Test: MSMT 322 Filtering Efficiency 75% (min.)

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)		
0 - 10%	O - 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



GRADE 0.5% MIN. 10% MAX.

1. Seed and cover with straw mulch. 2. Seed and cover with Erosion Control Matting or line with sod. 3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for 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 directly into an undisturbed, stabilized area at a non-erosive velocity. 4. All trees, brush, stumps, obstructions, and other objectionable

material shall be removed and disposed of so as not to interfere with the proper functioning of the dike. 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. 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.

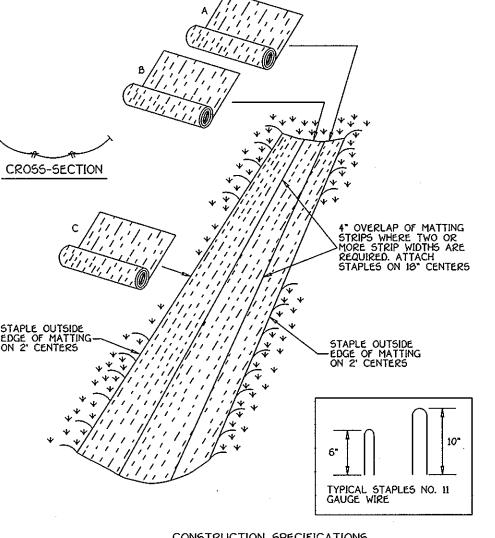
EARTH DIKE

NOT TO SCALE

the HOWARD SOIL CONSERVATION DISTRICT.

This development plan is approved for soil erosion and sediment control by

MARYLAND 21045



CONSTRUCTION SPECIFICATIONS

1. KEY-IN THE MATTING BY PLACING THE TOP ENDS OF THE MATTING IN A 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".

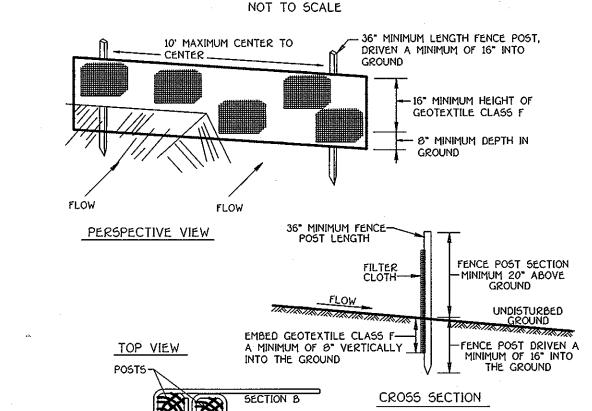
2. STAPLE THE 4" OVERLAP IN THE CHANNEL CENTER USING AN 10" SPACING BETWEEN STAPLES. 3. BEFORE STAPLING THE OUTER EDGES OF THE MATTING, MAKE SURE THE

MATTING IS SMOOTH AND IN FIRM CONTACT WITH THE SOIL. 4. STAPLES SHALL BE PLACED 2' APART WITH 4 ROWS FOR EACH STRIP. 2 OUTER ROWS, AND 2 ALTERNATING 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", SHIPLAP FASHION. REINFORCE THE OVERLAP WITH A DOUBLE ROW OF STAPLES 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.

NOTE: IF FLOW WILL ENTER FROM THE EDGE OF THE MATTING THEN THE AREA EFFECTED BY THE FLOW MUST BE KEYED-IN.

EROSION CONTROL MATTING



JOINING TWO ADJACENT SILT FENCE SECTIONS

Filtering Efficiency

Construction Specifications 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

STANDARD SYMBOL

Test: MSMT 322

staples at top and mid-section and shall meet the following requirements for Geotextile Class F: Tensile Strenath Test: MSMT 509 50 lbs/in (min.) Tensile Modulus 20 lbs/in (min.) Test: MSMT 509 Flow Rate 0.3 gal ft / minute (max.)2 Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass 4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

75% (min.)

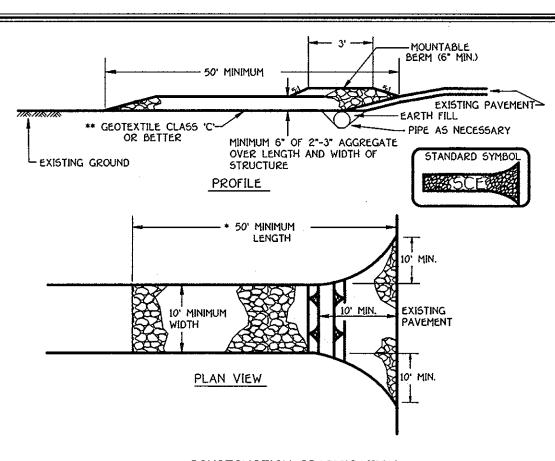
Slope Steepness Silt Fence Length Flatter than 50:1 unlimited unlimited 125 feet 1,000 feet 50:1 to 10:1 10:1 to 5:1 100 feet 750 feet 5:1 to 3:1 60 feet 500 feet 3:1 to 2:1 40 feet 250 feet 20 feet 2:1 and steeper 125 feet

Silt Fence Design Criteria

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control

APPROVED: DEPARTMENT OF PLANNING AND ZONING

SILT FENCE



CONSTRUCTION SPECIFICATION

1. LENGTH - MINIMUM OF 50' (*30' FOR SINGLE RESIDENCE LOT). 2. WIDTH - 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS. 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

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 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.

6. 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

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 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/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. 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 CONTROL INSPECTOR.

7) SITE ANALYSIS: TOTAL AREA OF SITE AREA DISTURBED ACRES AREA TO BE ROOFED OR PAVED 0.30
AREA TO BE VEGETATIVELY STABILIZED 2.06 CU.YD5 OFFSITE WASTE/BORROW AREA LOCATION 3) 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.

BLAZE ORANGE PLASTIC MESH

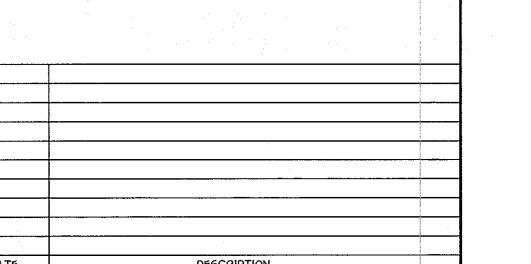
~ ANCHOR POST SHOULD BE MINIMUM 2" STEEL "U" CHANNEL OR 2" x 2" TIMBER 6" IN LENGTH LUMBER FOR CROSS BACKING MAXIMUM & FEE USE 3' WIRE "U" TO SECURE FENCE BOTTOM TO A DEPTH OF NO LESS THAN 1/3 OF THE TOTAL HEIGHT OF POST

FOREST PROTECTION DEVICE ONLY.
RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE. ROOT DAMAGE SHOULD BE AVOIDED PROTECTIVE SIGNAGE MAY ALSO BE USED.

DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION

TREE PROTECTION DETAIL

NOTES:



ENGINEER'S CERTIFICATE Man for exosion and sediment control represents a practical and workable resonal knowledge of the site conditions and that it was prepared in olan based o ements of the Howard Soil Conservation District." 12-15-10 R/DEVELOPER'S CERTIFICATE "I/We certify that all development and construction will be done according to

this plan 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." -

12-15-10

OWNERS THEODORE AND RIDA AND ROBERT ALLEN JUDITH MILBACH 12409 NEW HAMPSHIRE AVE. . 6332 SUNHIGH PL SIVLER SPRING COLUMBIA

MARYLAND 20904

BUILDER STEVENS BUILDERS C/O MARK STEVENS 4714 LINTHICUM RD DAYTON, MD 21036 410-531-2100

Division of and Development J.W. (S/S) 5UBDIVISION SECTION/AREA LOT NO. AVOCA AVENUE N/A 1 & 2 PLAT BOOK 6 PARCEL NO. ZONE TAX MAP ELEC. DIST. CENSUS TR. R-20 PAGE 88 357 2nd. WATER CODE SEWER CODE 5750673 G-01

SEDIMENT AND EROSION CONTROL NOTES & DETAILS AVOCA AVENUE

(PAUL T McHENRY) Plat Book 6 Page 88

SITE DEVELOPMENT PLAN

PLOTS 1 AND 2 TAX MAP No.: 31 GRID No.: 7 PARCEL No.: 357

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: DECEMBER, 2010

SHEET 4 OF 4

SDP-10-059