SHEET INDEX

SHEET No.	SHEET
1	TITLE SHEET – PLAN
2	SEDIMENT CONTROL NOTES AND DETAILS
3	STORMWATER MANAGEMENT DETAILS

GENERAL NOTES:

1. ▨ This Area Designates A Private Sewerage Easement Of 10,000 Square Feet As Required By The Maryland State Department Of The Environment For Individual Sewage Disposal. Improvements Of Any Nature In This Area Are Restricted Until Public Sewerage Is Available. These Easements Shall Become Null And Void Upon Connection To A Public Sewerage System. The County Health Officer Shall Have The Authority To Grant Adjustments To The Private Sewerage Easement. Recordation Of A Modified Easement Shall Not Be Necessary.
2. The Lots Shown Hereon Comply With The Minimum Ownership Width And Lot Area As Required By The Maryland State Department Of The Environment.
3. Subject Property Is Zoned RC-DEO Per The 02/02/04 Comprehensive Zoning Plan And The "Comp Lite" Zoning Amendments Effective 7/28/06.
4. Coordinates Based On Nad '83, Maryland Coordinate System As Projected By Howard County Geodetic Control Stations No. 0042 And No. 216A.
   Sta. 0042 N 177,958.9870 M E 395,922.2400 M
   Sta. 216A N 177,611.9279 M E 396,391.9686 M
5. This Plat Is Based On Field Run Monumented Boundary Survey Performed On Or About August, 2002, By Fisher, Collins And Carter, Inc.
6. B.R.L. Denotes Building Restriction Line.
7. For Flag Or Pipestem Lots, Refuse Collection, Snow Removal And Road Maintenance Are Provided To The Junction Of Flag Or Pipe Stem And The Road R/W Line And Not Into The Flag Or Pipe Stem Driveway.
8. Driveways Shall Be Provided Prior To Issuance Of A Use And Occupancy Permit For Any New Dwellings To Ensure Safe Access For Fire And Emergency Vehicles Per The Following (Minimum) Requirements:
   a) Width – 12 Feet (14 Feet Serving More Than One Residence);
   b) Surface – Six (6") Inches Of Compacted Crusher Run Base With Tar And Chip Coating. (1 –1/2" Minimum);
   c) Geometry – Maximum 15% Grade, Maximum 10% Grade Change And 45–Foot Turning Radius;
   d) Structures (Culverts/Bridges) – Capable Of Supporting 25 Gross Tons (H25–Loading);
   e) Drainage Elements – Capable Of Safely Passing 100 Year Flood With No More Than 1 Foot Depth Over Surface;
   f) Structure Clearances – Minimum 12 Feet;
   g) Maintenance – Sufficient To Ensure All Weather Use.
9. All Areas Are More Or Less (±).
10. Distances Shown Are Based On Surface Measurement And Not Reduced To Nad '83 Grid Measurement.
11. Traffic Study Was Prepared By Traffic Group, Inc. On August, 2005.
12. No Cemeteries Exist Within This Subdivision By Visual Observation And Based On An Examination Of The Howard County Cemetery Inventory Map.
13. Wetland Delineation Was Prepared By Eco–Science Professionals, Inc., Dated August, 2005. No Wetlands Exist Within Plat Subdivision Limits.
14. Articles Of Incorporation Of The Rivercrest Homeowner's Association By The State Department Of Assessments And Taxation Filed On January 23, 2006. Receipt Number 0110081791.
15. Plat Is Subject To Prior Department Of Planning And Zoning File Nos. S–01–16, P–02–20, BA–02–69C. And F–04–57.
16. Water Quality Volume (WQv) Will Be Met Via Section 5.1 "Natural Area Credit" In Accordance With The Maryland Stormwater Management Design Manual, As Stated In The Original Rivercrest Stormwater Management Report (F–04–57). Groundwater Recharge Volume (Rev) Has Been Overcompensated Over The Entire Rivercrest Site By Designing The Proposed Roadway To Allow The Roadside Ditches To Function As Grass Channels Thereby Providing Recharge Volume For The Site.
17. The Perimeter Landscaping Was Provided Under F–04–057.
18. This Property Is Located Within 2,500 Feet Of The Tridelphia Reservoir. Comar 26.04.02.04f. States; "A Lot Located Within 2,500 Feet Of The Normal Water Level Of Existing Or Proposed Water Supply Reservoirs, Measured Horizontally Or Within A 5,000–Foot Radius Upstream From The Water Intake On Streams Used As Potable Water Supply Sources And A 5,000–Foot Radius Of Water Intake Located Within A Reservoir Shall Have An Area Of Not Less Than 2 Acres With A Minimum Width Of 175 Feet, A Variance Dated March 11, 2003 From Maryland Department Of The Environment Was Granted To Allow Lots Smaller Than 2 Acres Within 2500 Feet Of A Water Supply Subject To The Following Provisions:
   1. Septic Systems Installed Are To Include Compartmentalized Watertight Tanks With Surface Access To Facilitate Pumping.
   2. Wastewater Effluent Filters Should Be Part Of The Septic System Installation.
   3. Lot Owners Should Be Provided Educational Materials Dealing With Septic System Maintenance.
19. Forest Conservation Obligation For This Submittal Was Provided With Developer's Agreement For F–04–57 Rivercrest, Lots 1 Thru 10, Buildable Preservation Parcel 'A', Non–Buildable Preservation Parcel 'B' And 'C' And Non–Buildable Bulk Parcel 'D' (Plat No's. 18208 Thru 18210). This Plat Complies With The Requirements Of Section 16.1200 Of The Howard County Code For Forest Conservation Since Rivercrest (Plat Nos. 18208 Thru 18210) Included Non–Buildable Bulk Parcel 'D' In The Net Tract Area And Provided A Total Of 12.1 Acres Retention With The Developers Agreement For F–04–057. It Should Be Noted That Credit for Forest Conservation Retention Within The Wooded Floodplain Of Buildable Preservation Parcel "A" Was Calculated In Accordance With Department Of Planning And Zoning Memorandum Dated May 9, 2003. According to the Memorandum, Wooded Floodplains Can Be Included In Forest Conservation Calculations For Credited Retention Of Forest If A Preservation Parcel Is Located Within A Rural Cluster Subdivision Where The Preservation Easement Will Be Held By The Agricultural Land Preservation Program. In This Case, Appendix "L", Option "B" Of The Forest Conservation Manual Was Used To Include The Wooded Floodplain In the Net Tract Area Calculations.

NOTE:

The Owner, Tenants And/Or Their Agents Shall Be Responsible For Maintenance Of The Required Landscaping Including Both Plant Materials And Berms, Fences And Walls. All Plant Materials Shall Be Maintained In Good Growing Conditions, And When Necessary, Replaced With New Materials To Ensure Continued Compliance With Applicable Regulations. All Other Required Landscaping Shall Be Permanently Maintained In Good Condition, And When Necessary, Repaired Or Replaced.

SOILS LEGEND

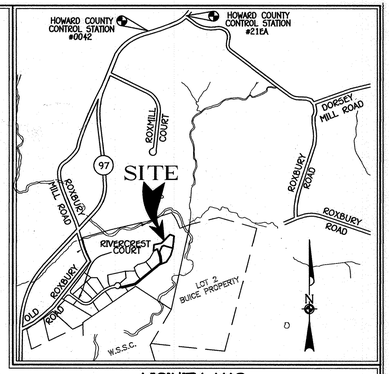
SOIL	NAME	CLASS	K'W
GbB	Gladstone loam, 3 to 8 percent slopes	B	.32
GgC	Glenelg loam, 8 to 15 percent slopes	B	.43
Co	Codorus and Hatboro silt loams, 0 to 3 percent slopes	C	.55
MaC	Manor–chanery loam, 8 to 15 percent slopes	B	–

GENERAL NOTES: (Cont.)

20. This Plat Is Subject To The Amended Fifth Edition Of The Subdivision And Land Development Regulations Per Council Bill 45–2004 And The Zoning Regulations As Amended By CB 75–2003. Development Or Construction On These Lots Must Comply With Setback And Buffer Requirements In Effect At The Time Of Submission Of The Building/Grading Permit.
21. Density Tabulation:
   a). Total Area Of Subdivision = 51.10 Ac.
   b). Allowed Development Rights For Subdivision (51.10 Ac. X 1 DU / 4.25 Ac.) = 12 DU
   c). Buildable Preservation Parcel "A" Contains 34.617 Ac. Which Exceeds The Minimum 25 Ac. Required To Include Buildable Parcel "A" In Addition to the 12 DU's Identified in Item 2b (b)
   d). Total Number Of Proposed Buildable Lots and Preservation Parcels = 13
      1. Rivercrest Subdivision, Lots 1 thru 10 And Buildable Preservation Parcel "A" (F–04–057), Plat Nos. 18208 thru 18210
      2. Rivercrest Subdivision, Lots 11 and 12 (F–06–241)
   e). Tentative Approval of Sketch Plan (S–01–16) is Granted Subject To Compliance With The Requirements of Comar 26.04.02.04k. Since This Project Is Located Within 2500 Feet Of The Normal Water Level Of the Existing Tridelphia Reservoir, The Minimum Lot Size Shall Be 2 Ac. The Density For This Project Will Yield An Average Lot Size Of 4.256 ac. (51.10 Ac. / 12 DU). The 12 Units Are The "By–Right" Yield and Per Section 104.F.1.C.11. The Project Is Entitled To A Bonus Lot For A Total Of 13 Lots. Also, Per Zoning Section 106.B.2.b. This Project Is Not Eligible To Be Density–Receiving Since It Is Located Within 2500 Feet Of The Normal Water Level Of A Water Supply Reservoir.
22. For final designs for Lots 11 & 12, including the on–lot stormwater management design see final permit (plot) plan. The concept design for stormwater management is proposed on this plan.

VICINITY MAP

SCALE : 1" = 1,200'



LEGEND

SYMBOL	DESCRIPTION
400	EXISTING 2' CONTOURS
400	EXISTING 10' CONTOURS
400	PROPOSED CONTOUR
+362.5	SPOT ELEVATION
	EX. LIMIT OF TREES AND FOREST
	PROPOSED TREELINE
	EXISTING TREES
	PROPOSED FOREST CONSERVATION EASEMENT (REFORESTATION)
	EXISTING & PROPOSED SEPTIC EASEMENT
MaC GgB	SOIL LINES AND TYPES
	PRIVATE USE–IN–COMMON DRIVEWAY
LOD	LIMITS OF DISTURBANCE
SCE	STABILIZED CONSTRUCTION ENTRANCE
TPF	TREE PROTECTIVE FENCING
SF	SILT FENCE
SSF	SUPER SILT FENCE
DW1	DRY WELLS

DESIGN CERTIFICATION

I Hereby Certify That This Plan Has Been Designed In Accordance With Current Maryland Grading And Sediment Control Laws, Regulations And Standards. That It Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site. That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Designer's Signature — Date: 2/19/2020

Printed Name: Aldo M. Vitucci — MD Registration No. 20749 P.E., R.L.S., or R.L.A. (circle one)

OWNER/DEVELOPER CERTIFICATION

"I/We Certify That Any Clearing, Grading, Construction Or Development Will Be Done Pursuant To This Approved Erosion And Sediment Control Plan. Including Inspecting And Maintaining Controls And That The Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Training At A Maryland Department Of The Environment (MDE) Approved Training Program For The Control On Erosion And Sediment Prior To Beginning The Project. I Certify Right–of–entry For Periodic On–site Evaluation By Howard County, The Howard Soil Conservation District And/or MDE."

Owner/Developer's Signature — Date: 2/16/2020

Printed Name & Title

Approved: This Plan Is Approved For Soil Erosion And Sediment Control By The Howard Soil Conservation District.

Howard Soil Conservation District — Date

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date: 3/3/20

Chief, Development Engineering Division — Date: 2-28-20

REVISIONS		
NO.	DESCRIPTION	DATE
1	SHOW FINAL HOUSE, GRADING, & SWM FOR LOT 12	2/18/20
2	ADDED GAS, SILT FENCE & LOD ON LOT 11	10/6/20
3	SHOW HOUSE, GRADING & SWM LOT 11	10/5/20

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 20749, EXPIRATION DATE: 02/22/21.

"I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

ALDO M. VITUCCI — DATE: 2/19/2020

REVISED FINAL ROAD CONSTRUCTION PLAN

RIVERCREST

LOTS 11 AND 12

(A RESUBDIVISION OF NON–BUILDABLE BULK PARCEL 'D', RIVERCREST SUBDIVISION)
PLAT NO'S. 18208 THRU 18210

ZONED: RC–DEO

TAX MAP NO. 21 GRID NO. 20 PARCEL NO. 270
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
DATE: FEB. 19, 2020
SHEET 1 OF 3

F–06–241

PURPOSE STATEMENT

THIS PLAN IS FOR THE PURPOSE OF ESTABLISHING A PLAN OF RECORD FOR LOTS 11 AND 12, SINCE NO PLAN OF RECORD WAS ESTABLISHED AT THE TIME OF PLAT RECORDATION FOR LOTS 11 AND 12.

OWNER AND DEVELOPER

ROXBURY FARM, LLC
C/O COLUMBIA DEVELOPERS LLC
6420 AUTUMN SKY WAY
COLUMBIA, MARYLAND 21044
(443)324–4732

PLAN

SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

K:\SDSKPROJ\30838 BUICE NAD 83\Redline\30838 SHEET 1 F-06-241.dwg, Model, 1:50

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

A. Soil Preparation

1. Temporary Stabilization

a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches 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 must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.

b. Apply fertilizer and lime as prescribed on the plans.

c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.

2. Permanent Stabilization

a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:

i. Soil pH between 6.0 and 7.0.
ii. Soluble salts less than 500 parts per million (ppm).
iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
iv. Soil contains 1.5 percent minimum organic matter by weight.
v. Soil contains sufficient pore space to permit adequate root penetration.

b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.

c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.

d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.

e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

B. Topsoiling

1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.

3. Topsoiling is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

4. Areas having slopes steeper than 2:1 require special consideration and design.

5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:

a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 inches in diameter.

b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.

c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

6. Topsoil Application

a. Erosion and sediment control practices must be maintained when applying topsoil.

b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.

c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

C. Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.
4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

Definition

The application of seed and mulch to establish vegetative cover.

Purpose

To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria

A. Seeding
1. Specifications
a. All seed must meet the requirement of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cook as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

2. Application
a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller to provide good seed to soil contact.
b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
i. 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.
ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P O (phosphorus), 200 pounds per acre; K O (potassium), 200 pounds per acre.
ii. 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.
iii. Mix seed and fertilizer on site and seed immediately and without interruption.
iv. When hydroseeding do not incorporate seed into the soil.

B. Mulching
1. Mulch Materials (in order of preference)
a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical state.
i. WCFM is to 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.
ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
iii. WCFM materials are to 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 must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
iv. WCFM material must not contain elements or compounds at concentration levels that will by phyto-toxic.
v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

2. Application
a. Apply mulch to all seeded areas immediately after seeding.
b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
c. Wood cellulose fiber used as mulch must be applied to a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

3. Anchoring
a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the 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 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4-15 feet wide and 300 to 3,000 feet long.

TEMPORARY SEEDING NOTES (B-4-4)

Definition

To stabilize disturbed soils with vegetation for up to 6 months.

Purpose

To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), 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 plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.

2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.

3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

Temporary Seeding Summary

Hardiness Zone (from Figure B.3): 6b Seed Mixture (from Table B.1):				Fertilizer Rate (10-20-20)	Lime Rate
Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
BARLEY	96	3/1 - 5/15, 8/15 - 10/15	1"	436 lb/ac (10 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)
OATS	72		1"		
RYE	112		1"		

PERMANENT SEEDING NOTES (B-4-5)

A. Seed Mixtures

1. General Use

a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.

b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.

c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency. d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary .

2. Turfgrass Mixtures

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.

b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.

i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.

iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

Notes:

Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line

c. Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.

e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Permanent Seeding Summary

Hardiness Zone (from Figure B.3): 6b Seed Mixture (from Table B.3): 8					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P_2O_5	K_2O	
8	TALL FESCUE	100	Mar. 1-May 15 Aug. 15-Oct. 15	1/4-1/2 in.	45 lbs. per acre (1.0 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)

B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

1. General Specifications
a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
b. Sod must be machine cut at a uniform soil thickness to ¾ inch, plus or minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
d. Sod must not be harvested or transplanted when moisture content (excessively dry of wet) may adversely affect its survival.
e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.

2. Sod Installation
a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping, and irrigating for any piece of sod within eight hours.

3. Sod Maintenance
a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
b. After the first week, sod watering is required as necessary to maintain adequate moisture content.
c. Do not mow until the sod is firmly rooted. No more than ⅓ of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS

Definition

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Purpose

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Conditions Where Practice Applies

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

Criteria

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
3. Runoff from the stockpile area must drain to a suitable sediment control practice.
4. Access the stockpile area from the upgrade side.
5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

Maintenance

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hour notice to CID must be given at the following stages:
a. Prior to the start of earth disturbance,
b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading,
c. Prior to the start of another phase of construction or opening of another grading unit,
d. Prior to the removal or modification of sediment control practices.

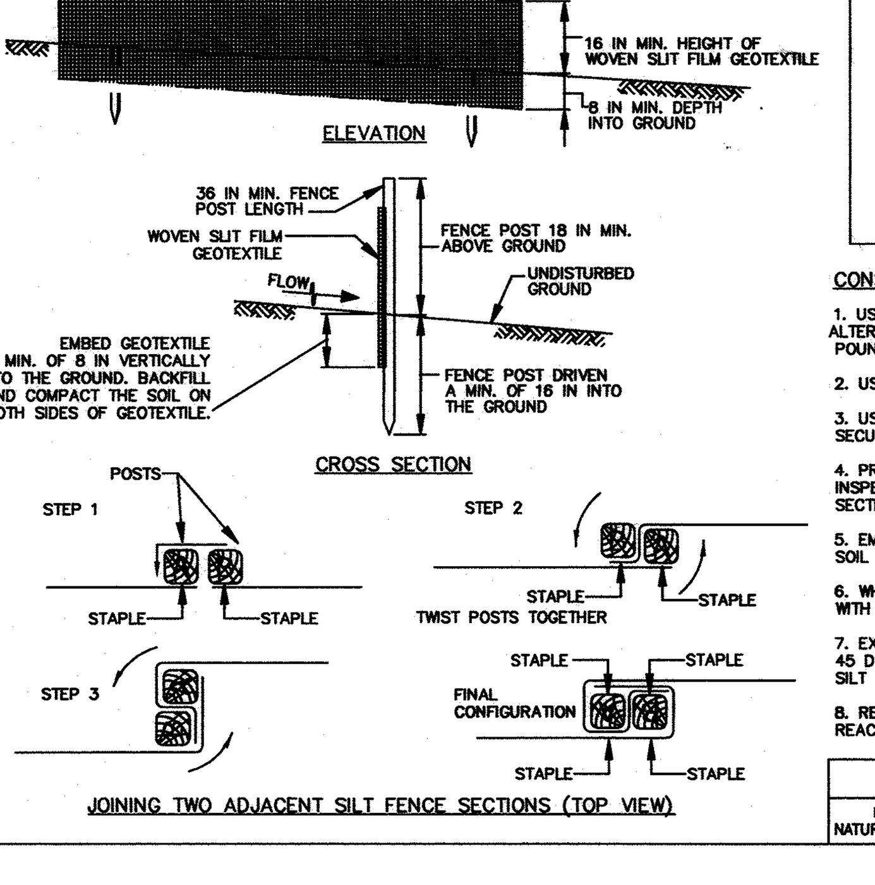
Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan.

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 2011 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 is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.
4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15? of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 ft. must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).
5. 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 CID.
6. Site Analysis:
Total Area of Site: 2.28 Acres
Area Disturbed: 1.50 Acres
Area to be roofed or paved: 0.174 Acres
Area to be vegetatively stabilized: 1.43 Acres
Total Cut: 224 Cu. Yds.
Total Fill: 245 Cu. Yds.
Offsite waste/borrow area location: N/A .
7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
8. Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:
? Inspection date
? Inspection type (routine, pre-storm event, during rain event)
? Name and title of inspector
? Weather information (current conditions as well as time and amount of last recorded precipitation)
? Brief description of project's status (e.g., percent complete) and/or current activities
? Evidence of sediment discharges
? Identification of plan deficiencies
? Identification of sediment controls that require maintenance
? Identification of missing or improperly installed sediment controls
? Compliance status regarding the sequence of construction and stabilization requirements
? Photographs
? Monitoring/sampling
? Maintenance and/or corrective action performed
? Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).
9. Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.
10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may allowed by the CID per the list of HSCD-approved field changes.
11. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively may be disturbed at a given time.
12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.
14. All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25? minimum intervals, with lower ends curled uphill by 2? in elevation.
15. Stream channels must not be disturbed during the following restricted time periods (inclusive):
? Use I and IP March 1 - June 15
? Use III and IIIP October 1 - April 30
? Use IV March 1 - May 31
16. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

DETAIL E-1 SILT FENCE

STANDARD SYMBOL

SF



CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± ⅛ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.

2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.

3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.

4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.

5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.

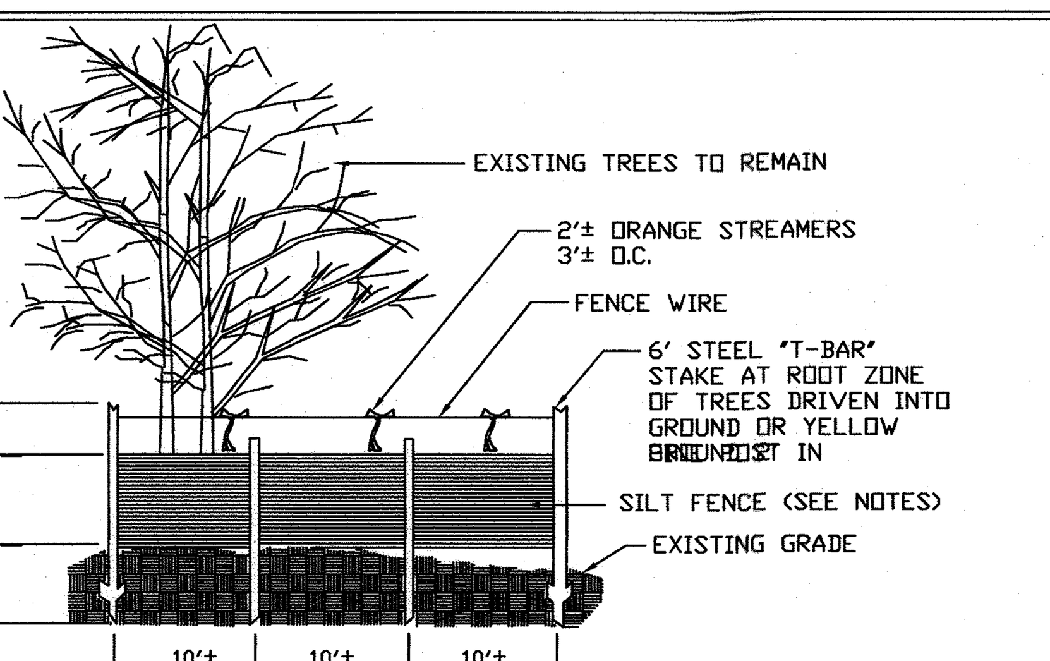
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.

7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.

8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

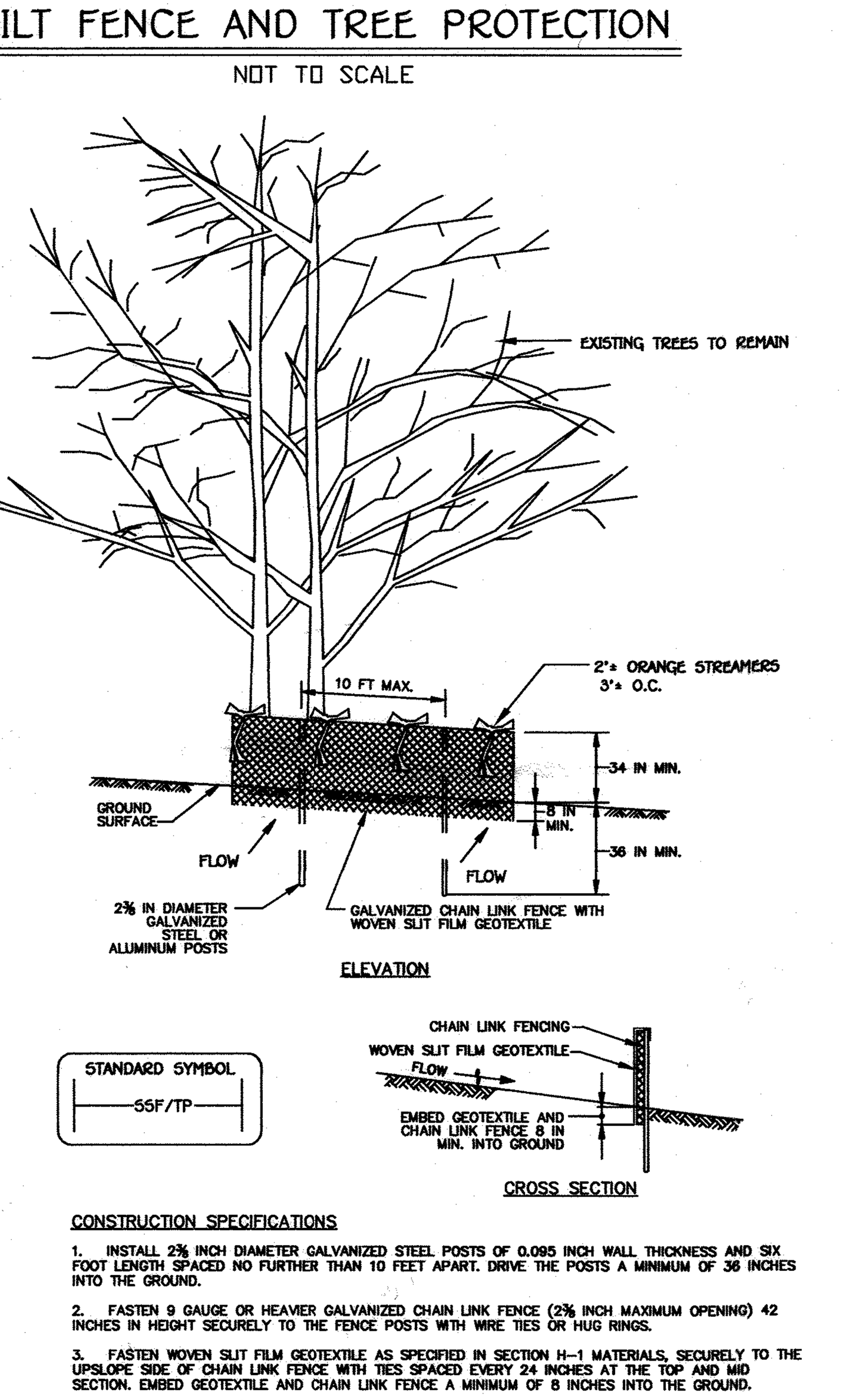
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



1. SILT FENCE TO BE HEELED INTO THE SOIL.
2. WIRE, SNOW FENCE, ETC. FOR TREE PROTECTION ONLY.
3. BOUNDARIES OF RETENTION AREA WILL BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
4. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
5. AVOID ROOT DAMAGE WHEN PLACING ANCHOR POSTS.
6. DEVICE SHOULD BE PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION. 7. PROTECTION SIGNS ARE ALSO REQUIRED, SEE FIGURE C-4.
8. LOCATE FENCE OUTSIDE THE CRICTICAL ROOT ZONE.

SILT FENCE AND TREE PROTECTION

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.

2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.

3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.

4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.

5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.

6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.

7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

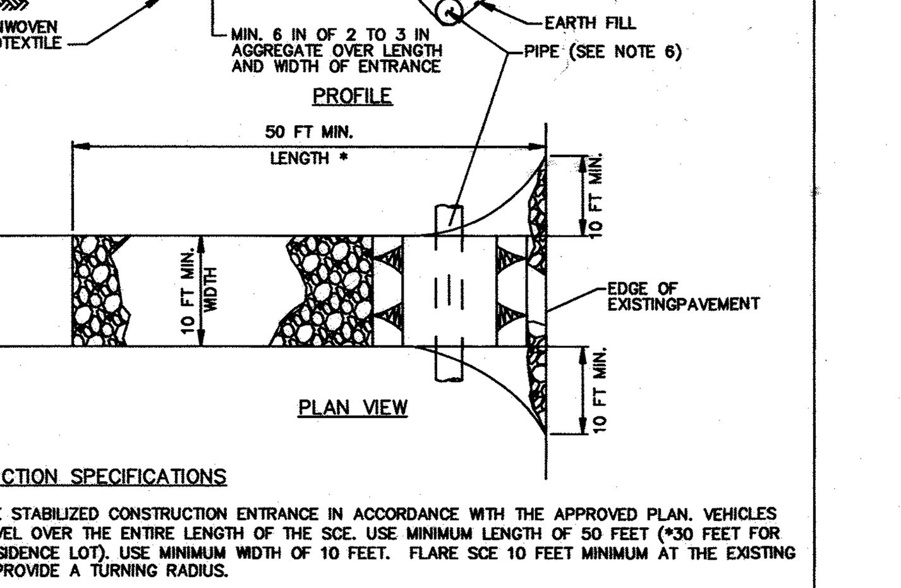
SUPER SILT FENCE, TREE PROTECTION FENCE

NOT TO SCALE

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL

SCE



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.

2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.

3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.

4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.

5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DESIGN CERTIFICATION

I Hereby Certify That This Plan Has Been Designed In Accordance With Current Maryland Erosion And Sediment Control Laws, Regulations And Standards, That It Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site, And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Designer's Signature 2/10/2020

Printed Name 20749 MD Registration No. P.E., R.L.S., or R.L.A. (circle one)

OWNER/DEVELOPER CERTIFICATION

"I/We Certify That Any Clearing, Grading, Construction Or Development Will Be Done Pursuant To This Approved Erosion And Sediment Control Plan, Including Inspecting And Maintaining Controls And That The Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Training At A Maryland Department Of The Environment (MDE) Approved Training Program For The Control On Erosion And Sediment Prior To Beginning The Project. I Certify Right-of-entry For Periodic On-site Evaluation By Howard County, The Howard Soil Conservation District And/or MDE."

Owner's/Developer's Signature 2/18/2020 Date

Printed Name & Title

Approved: This Plan Is Approved For Soil Erosion And Sediment Control By The Howard Soil Conservation District. See GP-20-60

Howard Soil Conservation District Date

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development 3/3/20 Date

Chief, Development Engineering Division 2.28.20 Date

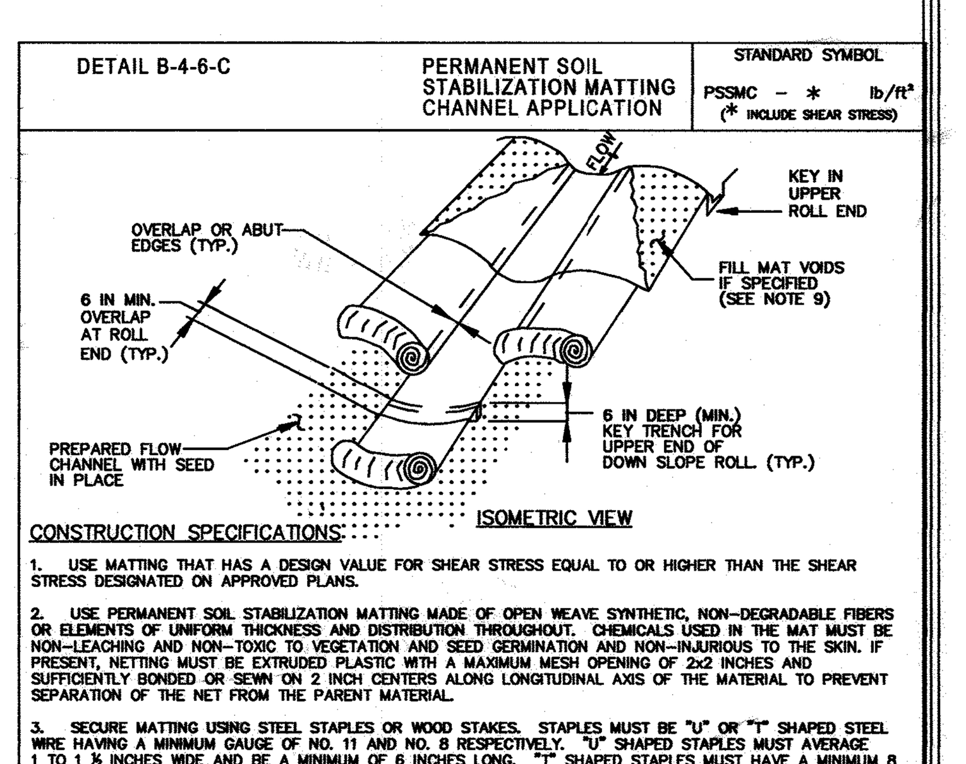
Approved: Howard County Department Of Public Works

Chief, Bureau Of Highways Date

REVISIONS

NO.	DESCRIPTION	DATE
1	REVISED HSCD SITE ANALYSIS	10/16/20

DETAIL B-4-6-C	PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION	STANDARD SYMBOL PSSMC - * lb/ft² (* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.

3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.

4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.

7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.

8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

9. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.

10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (2 WEEKS)
2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/ INSPECTION AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, AND SUPER-SILT FENCE (1 DAY)
4. INSTALL TEMPORARY SEEDING. (1 DAY)
5. CONSTRUCT BUILDING, PORCH, AND DRIVEWAY. INSTALL PUBLIC WATER AND PRIVATE SEPTIC SYSTEM TO HOUSE. (4 MONTHS)
6. INSTALL ROOF LEADERS, FINE GRADE SITE, AND INSTALL MICRO-BIORETENTION FACILITY (M-6) & CONNECT ROOF LEADERS FROM HOUSE TO FACILITY.
7. ALL FINAL GRADES AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS. WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT CONTROL DEVICES MAY BE REMOVED. (3 DAYS)

NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE EACH RAINFALL AND ON A DAILY BASIS.

REVISED
FINAL ROAD CONSTRUCTION PLAN
SEDIMENT CONTROL NOTES & DETAILS

RIVERCREST

LOTS 11 AND 12
(A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'D', RIVERCREST SUBDIVISION)
PLAT NO'S. 18208 THRU 18210

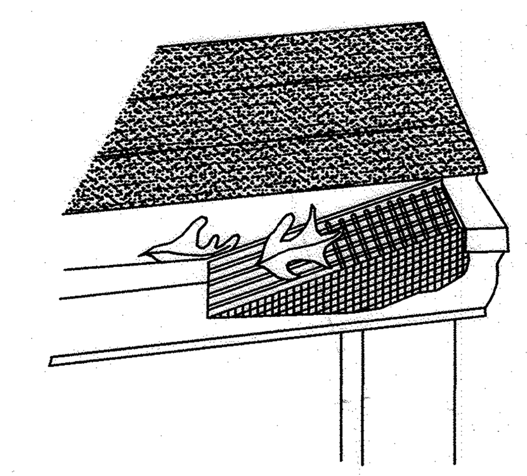
ZONED: RC-DEO
TAX MAP NO. 21 GRID NO. 20 PARCEL NO. 270
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
DATE: FEB. 18, 2020
SHEET 2 OF 3

F-06-241

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

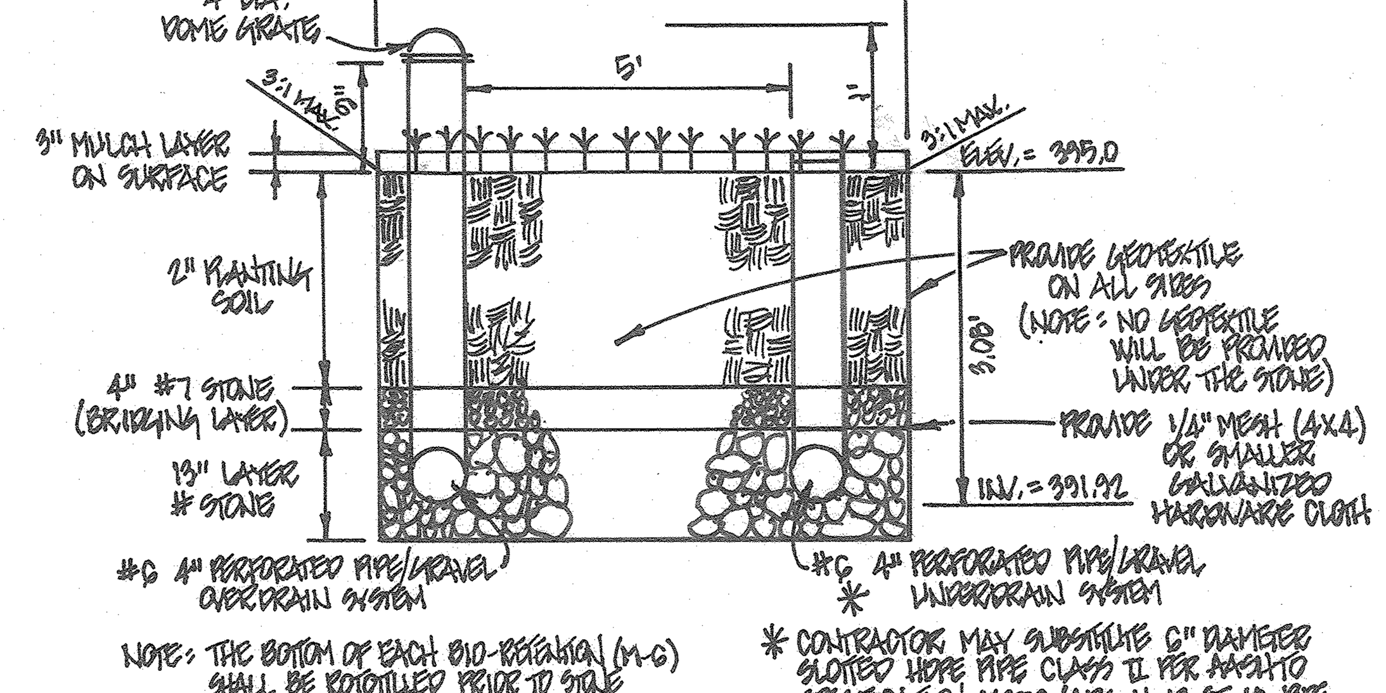
STORMWATER MANAGEMENT NOTES

1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
2. MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000 SQ. FT. OR LESS.
3. DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5%. THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.
4. FINAL GRADING IS SHOWN ON SHEET 1 OF THESE PLANS.



GUTTER DRAIN FILTER DETAIL

NOT TO SCALE



NOTE: THE BOTTOM OF EACH BIO-RETENTION (M-6) SHALL BE ROTOTILLED PRIOR TO STONE INSTALLATION.

* CONTRACTOR MAY SUBSTITUTE 6" DIAMETER SLOTTED HDPE PIPE CLASS II PER AASHTO SPECIFICATION M252 (ADS N-12 ST 18 PIPE OR EQUIVALENT)

BIO-RETENTION FACILITY (M-6) TYPICAL SECTION

NOT TO SCALE

STORMWATER MANAGEMENT PRACTICES LOT 11									
LOT	ADDRESS	DRYWELLS (M-5) Y/N	NUMBER	ROOFTOP DISCONNECTION (N-1) Y/N	NUMBER	NON-ROOFTOP DISCONNECTION (N-2) Y/N	NUMBER	MICRO-BIO (M-6) Y/N	NUMBER
11	15451 RIVERCREST COURT	Y	(1)	N		Y		Y	(1)

STORMWATER MANAGEMENT SUMMARY TABLE (PRIVATELY OWNED AND MAINTAINED)						
FACILITY NAME AND NUMBER	DRAINAGE AREA	TYPE	% IMPERVIOUS	Pe = 1.2" ESDv REQUIRED CU.FT.	Pe = 1.2" ESDv REQUIRED CU.FT.	OWNERSHIP & MAINTENANCE
M-5 (1)	243	DRYWELL	100%	90	113	PRIVATE
M-2 (1)	1,412	NON-ROOFTOP DISCONNECTION CREDIT	100%	112	112	PRIVATE
M-6 (1)	10,760	MICRO BIO-RETENTION	100%	399 (STORAGE)	398 (STORAGE)	PRIVATE

BIO-RETENTION PLANT MATERIAL DRAINAGE AREA M-6 (1)		
QUANTITY	NAME	MAXIMUM SPACING (FT.
23	MIXED PERENNIALS	1FT.
11	SHRUBS/MIXED GRASSES	2FT.

DESIGN CERTIFICATION

I Hereby Certify That This Plan Has Been Designed In Accordance With Current Maryland Erosion And Sediment Control Laws, Regulations And Standards, That It Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site, And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Designer's Signature — 2/19/2020

Printed Name — MD Registration No. 20749 — P.E., R.L.S., or R.L.A. (circle one)

OWNER/DEVELOPER CERTIFICATION

"I/We Certify That Any Clearing, Grading, Construction Or Development Will Be Done Pursuant To This Approved Erosion And Sediment Control Plan, Including Inspecting And Maintaining Controls And That The Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Training At A Maryland Department Of The Environment (MDE) Approved Training Program For The Control On Erosion And Sediment Prior To Beginning The Project. I Certify Right-of-entry For Periodic On-site Evaluation By Howard County, The Howard Soil Conservation District And/or MDE."

Owner's/Developer's Signature — Date 2/19/2020

Printed Name & Title

Approved: This Plan Is Approved For Soil Erosion And Sediment Control By The Howard Soil Conservation District. SCC GP-20-60

Howard Soil Conservation District — Date

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date 3/3/20

Chief, Development Engineering Division — Date 2.28.20

Approved: Howard County Department Of Public Works

Chief, Bureau Of Highways — Date

REVISIONS		
NO.	DESCRIPTION	DATE
1	ADD BIO-RETENTION FACILITY DETAIL, NOTES & CHARTS	12/3/20

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

A. THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
B. THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
C. THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
D. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO (72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
E. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
F. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED. THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

DRY WELL CHART					
DRYWELL NO.	AREA OF ROOF PER DOWN SPOUT	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L D W
DW1	369 & 500 SQ. FT.	76 C.F.	116 C.F.	100%*	10.5' x 5.5' x 5'
DW2	420 & 500 SQ. FT.	73 C.F.	100 C.F.	100%*	10' x 5' x 5'

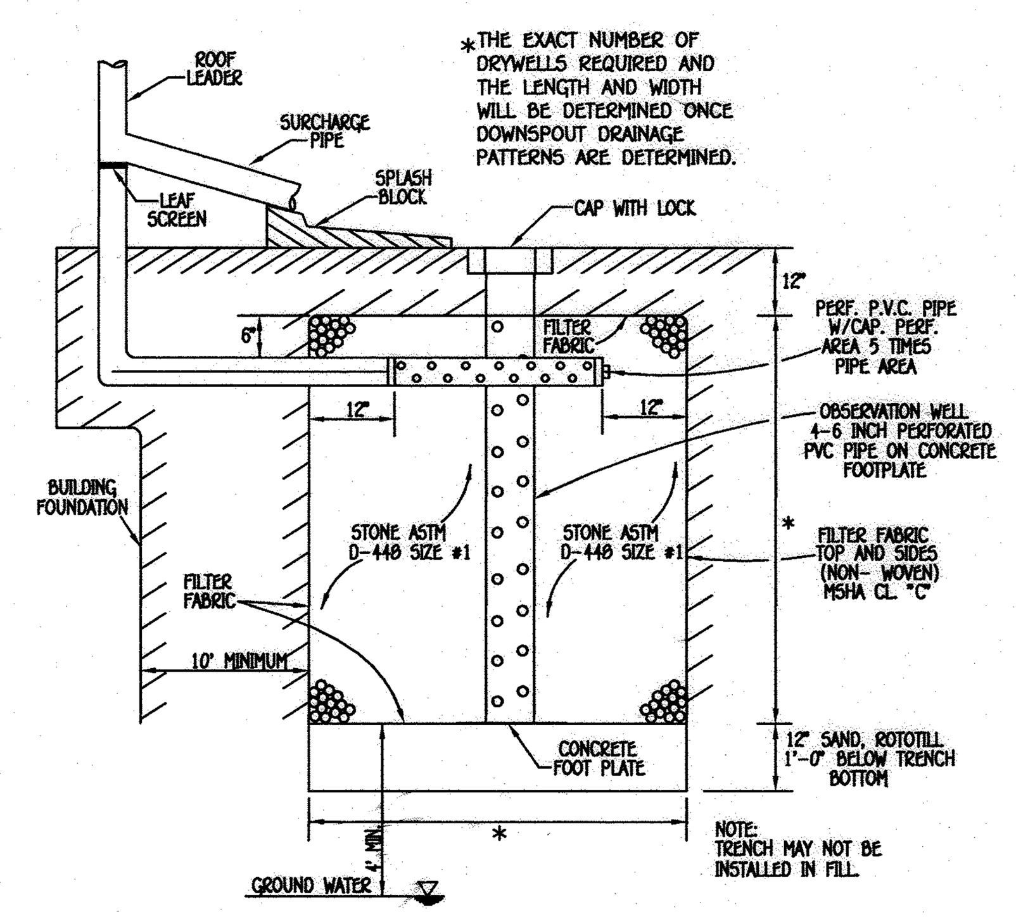
NOTE: AREA OF TREATMENT EXCEEDS THE REQUIRED.

OPERATION & MAINTENANCE SCHEDULE FOR MICRO BIO-RETENTION (M-6)

A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER & SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH & SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE & INSECT INFESTATION & MAINTENANCE WILL ADDRESS DEAD MATERIAL & PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 & 2.
B. THE OWNER SHALL PERFORM A PLANT IN THE SPRING & IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD & DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES & SHRUBS & REPLACE ALL DEFICIENT STAKES & WIRES.
C. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH & AFTER EACH HEAVY STORM.

STORMWATER MANAGEMENT SUMMARY				
AREA ID.	ESDv REQUIRED CU.FT.	ESDv PROVIDED CU.FT.	REQUIRED & PROVIDED PE	REMARKS (15457 RIVERCREST COURT)
SITE	359	382	1 IN.	2-DRYWELLS (M-5) AND 2 NON-ROOFTOP DISCONNECTIONS
TOTAL	359	382	1 IN.	

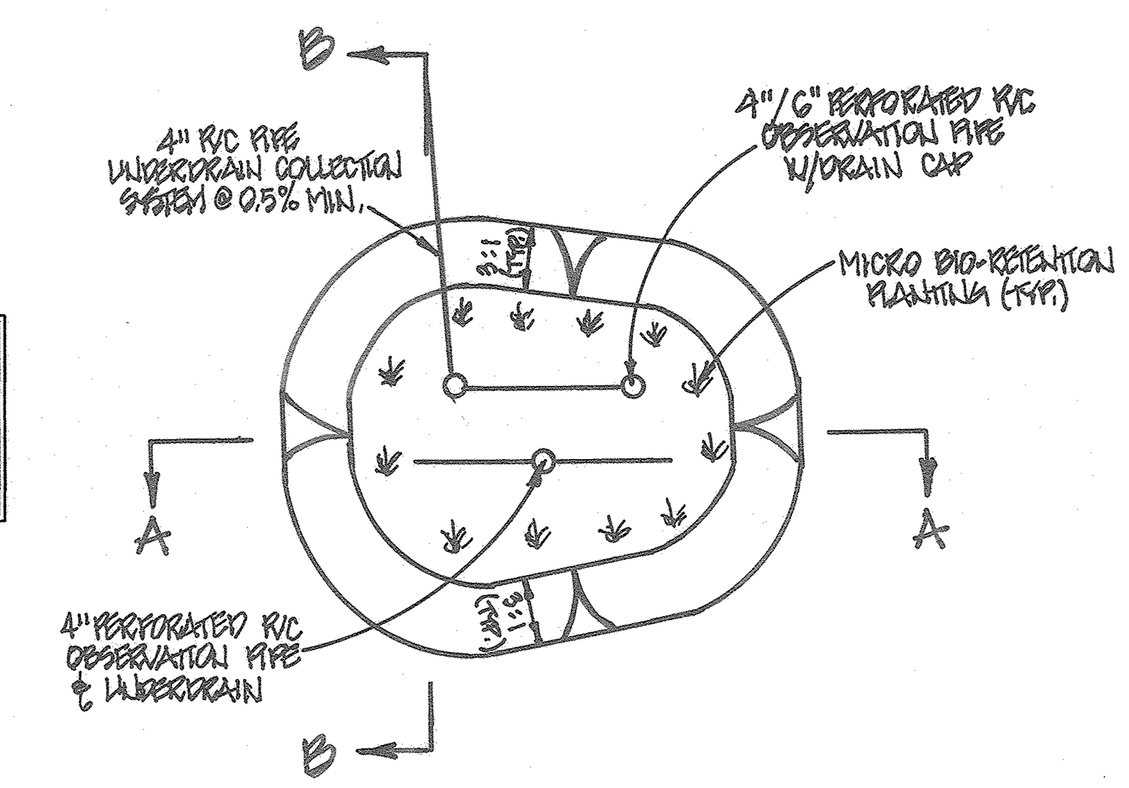
*THE EXACT NUMBER OF DRYWELLS REQUIRED AND THE LENGTH AND WIDTH WILL BE DETERMINED ONCE DOWNSPOUT DRAINAGE PATTERNS ARE DETERMINED.



DRY WELL DETAIL (M-5)

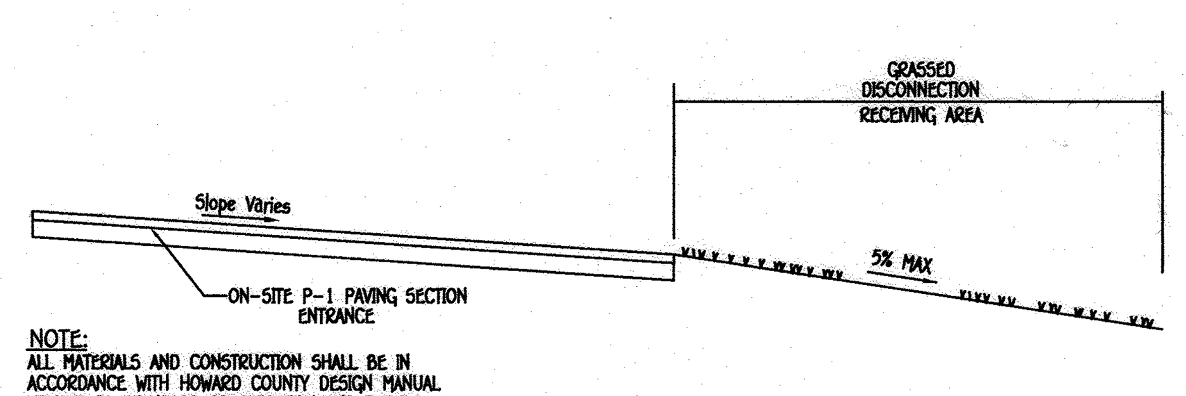
NOT TO SCALE

STORMWATER MANAGEMENT PRACTICES					
LOT	ADDRESS	DRYWELLS (M-5) Y/N, NUMBER	ROOFTOP DISCONNECTION (N-1) Y/N, NUMBER	NON-ROOFTOP DISCONNECTION (N-2) Y/N, NUMBER	MICRO BIO (M-6 Y/N, NUMBER
12	15457 RIVERCREST COURT	Y (2)	N	Y (2)	N



PLAN

NOT TO SCALE



NOTE:
ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.

TYPICAL PRIVATE DRIVEWAY CROSS SLOPE SECTION

NOT TO SCALE

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED, DISCONNECTION OF ROOFTOP RUNOFF (N-1) DISCONNECTION OF NONROOFTOP RUNOFF (N-2)

1. MAINTENANCE OF AREAS RECEIVING DISCONNECTION RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

REVISED FINAL ROAD CONSTRUCTION PLAN STORMWATER MANAGEMENT DETAILS

RIVERCREST

LOTS 11 AND 12

(A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'D', RIVERCREST SUBDIVISION)

PLAT NO'S. 18208 THRU 18210

ZONED: RC-DEO

TAX MAP NO. 21 GRID NO. 20 PARCEL NO. 270

FOURTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

DATE: FEB. 18, 2020

SHEET 3 OF 3

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

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