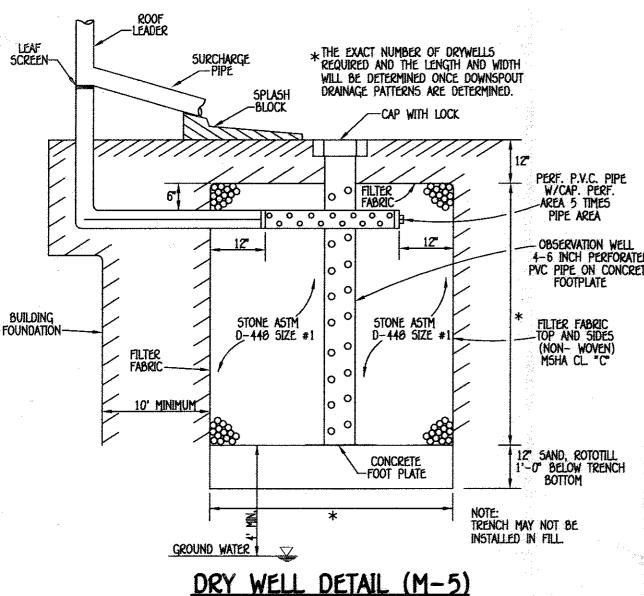
	SHEET INDEX	
SHEET NO	DESCRIPTION	
1	TITLE SHEET	
2	SITE DEVELOPMENT PLAN	
3	SEDIMENT & EROSION CONTROL NOTES & DETAILS	

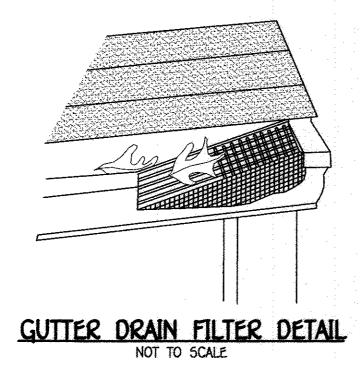
STORMWATER MANAGEMENT SUMMARY REQUIRED PROVIDED REMARKS CU.FT. CU.FT. DRY WELLS (M-5) 557 446

GRO55 AREA = 0.66 ACRE5 LOD = 0.43 ACRES RCN = 55 TARGET Pe = 1.0°



SITE DEVELOPMENT PLAN MONTGOMERY KNOLLS LOT 47

TAX MAP No. 31 GRID No. 13 PARCEL NOS. 383 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND



STORMWATER MANAGEMENT NOTES

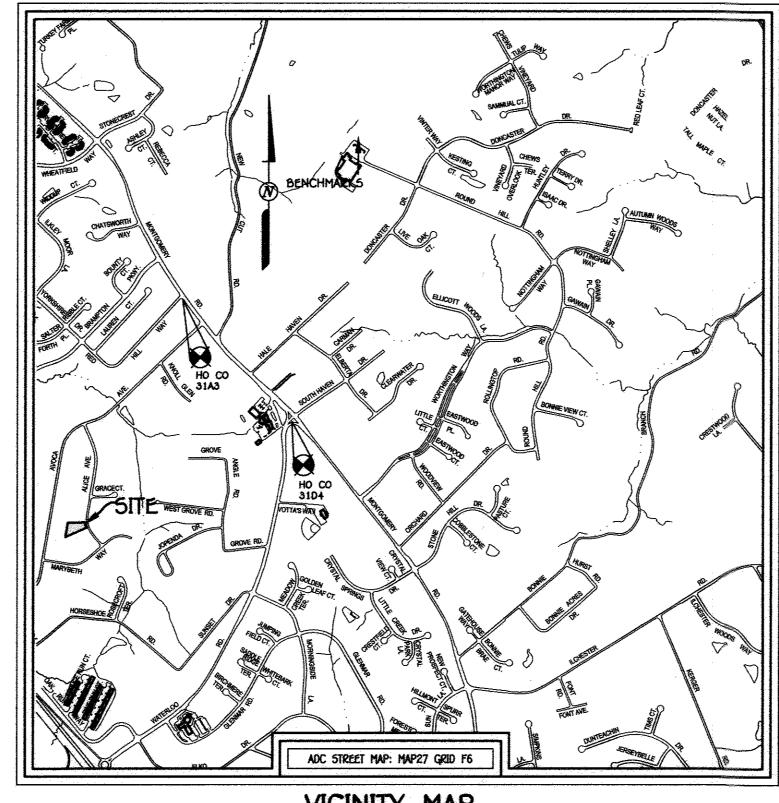
- 1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
- 2. MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 500 SQ. FT. OR LESS (A TOTAL OF 1,000 SQ.FT. PER DRYWELL) 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 THIE SITE DEVELOPMENT PLAN.

	DRY WELL CHART							
DRYWELL NO.	AREA OF ROOF PER DOWN SPOUT		VOLUME PROVIDED	AREA OF TREATMENT	L W D			
FRONT (LT)	706 5Q. FT.	56 C.F.	128 C.F.	100%*	8' x 8' x 5'			
FRONT (RT)	836 SQ. FT.	67 C.F.	128 C.F.	100%*	8' x 8' x 5'			
REAR (LT)	514 5Q. FT.	41 C.F.	90 C.F.	100%*	8' x 8' x 4'			
REAR (RT)	514 5Q. FT.	41 C.F.	98 C.F.	100%*	8 x 8' x 4'			
DRIVEWAY	1,207 5Q. FT.	96 C.F.	96 C.F.	100%*	6' x 8' x 5'			

* AREA OF TREATMENT EXCEEDS THAT REQUIRED.

Material	Specification	5ize	Notes
Plantings	see Appendix A; Table A.4	n/a	plantings are site-specific
Planting soil [2' to 4' deep]	loamy sand 60-65% compost 35-40% or sandy loam 30% coarse sand 30% compost 40%		USDA soil types loamy sand or sandy loam; clay content <52
Organic Content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum
Pea gravel diaphragm	ped gravel: ASTM-D-440	No. 8 or No. 9 (1/8" to 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Georextile		n/à	PE Type 1 nonwoven
Grävel (underdräins and infiltration berms)	AASHTO M-43	No. 57 or No. Aggregate (3/6" to 3/4")	
Underdräin piping	F 756, Type P5 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or 5DR35	Slotted or perforated pipe; 3/6" pert. 9 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4 inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f = 3500 psi at 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n.a	on-site testing of poured-in-place concrete required: 26 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved 5tate or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the 5tate of Maryland - design to include meeting ACI Code 350.2/09; vertical loading (H-10 or H-201; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02 to 0.04	Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

APDRESS CHART LOT MUHBER STREET ADDRESS 5018 ALICE AVENUE



VICINITY MAP

BENCHMARK INFORMATION B.M.#1 - HOWARD COUNTY CONTROL STATION #31A3 - HORIZONTAL - NAD '63) N 573,217.009 ELEVATION = 486.905 - VERTICAL - (NAVD '88) B.M.#2 - HOWARD COUNTY CONTROL STATION #31D4 - HORIZONTAL - (NAD '83) N 571.700.664 E 1.369.606.417 ELEVATION = 494.445 - VERTICAL - (NAVD '80)

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

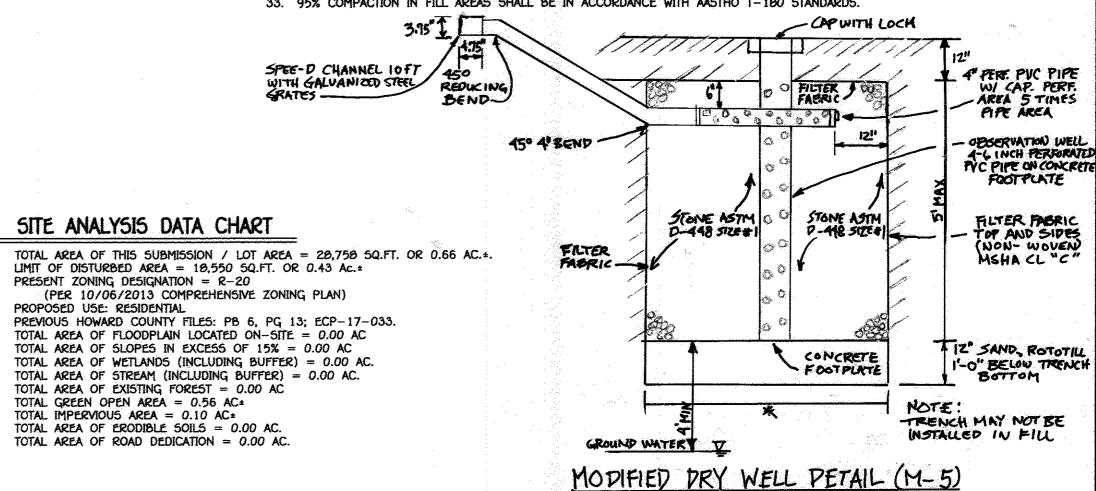
- A. THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT. B. THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS
- OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE. C. THE OWNER SHALL MAINTAIN A LOG 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.

GENERAL NOTES

- SUBJECT PROPERTY IS ZONED R-20 PER THE 10/06/2013 COMPREHENSIVE ZONING PLAN. TOTAL PROJECT AREA = 26,756 5Q.FT.±
 AREA OF PLAN SUBMISSION =26,750 5Q.FT.±
- EXISTING USE = VACANT
- PROPOSED USE = RESIDENTIAL (SINGLE FAMILY DETACHED)

 NUMBER OF PARKING SPACES REQUIRED = 2 PER UNIT = 2.5 SPACES

 NUMBER OF PARKING SPACES PROPOSED = 4 SPACES (2 IN THE GARAGE AND 2 IN DRIVEWAY). DEED REFERENCE: LIBER 17145, FOLIO 378.
- LOCATION: 5018 ALICE AVENUE, ELLICOTT CITY, MARYLAND 21042. THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
- THIS PROPERTY IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT
- REGULATIONS EFFECTIVE 10/2/03 PER COUNCIL BILL 75-2003. PUBLIC WATER AND PUBLIC SEWER WILL BE USED WITHIN THIS SITE. WATER AND SEWER MAIN CONTRACT
- #11-W AND #32-5. CONNECTIONS PROVIDED UNDER CONTRACT #14-1694-D. BOUNDARY SHOWN HEREON IS BASED ON FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. DATED NOVEMBER, 2016. TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD RUN SURVEY BY FISHER, COLLINS & CARTER, INC. IN NOVEMBER, 2016 AND SUPPLEMENTED WITH HOWARD COUNTY GIS TOPOGRAPHY AT 5' CONTOUR INTERVAL INTERPOLATED FOR 2' CONTOUR INTERVAL.
- 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 THIS PROJECT. 8. PREVIOUS DPZ FILE NUMBERS: PB 6, PG 13, ECP-17-033.
- 9. SOIL BOUNDARIES ARE BASED ON NRCS WEBSOIL SURVEY AND HOWARD COUNTY SOIL SURVEY, MAP #9.
- 10. NO 100 YEAR FLOODPLAIN, WETLANDS, STREAM(S) AND/OR THEIR BUFFERS, NOR STEEP SLOPES EXIST ON-SITE. 11. NO FOREST STANDS OR WETLANDS EXIST ON-SITE PER ENVIRONMENTAL FINDINGS LETTER PREPARED BY
- ECO-SCIENCE PROFESSIONALS, INC. DATED JANUARY, 2017. 12. NO CEMETERIES OR HISTORIC STRUCTURES EXIST ON-SITE. NO STRUCTURES EXIST ON-SITE.
- 13. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION BGE(CONTRACTOR SERVICES) 410.850.4620 BGE(UNDERGROUND DAMAGE CONTROL) 410.787.9068 1.800.257.777
 - COLONIAL PIPELINE COMPANY 410.795.1390 HOWARD COUNTY, DEPT. OF PUBLIC WORKS, BUREAU OF UTILITIES 410.313.4900 HOWARD COUNTY HEALTH DEPARTMENT 410.313.2640
- 1.800.252.1133 1.800.743.0033/410.224.9210 14. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 40 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- 15. ANY DAMAGE TO PUBLIC RIGHT-OF WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE 16. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING CONSTRUCTION
- INSPECTION DIVISION AT (410) 313-1860 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK. 17. THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE
- MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT. 19. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD
- COUNTY IN ADDITION TO MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- FIELD SURVEYS, PUBLIC WATER AND SEWER PLANS AND OTHER AVAILABLE RECORD DRAWINGS. APPROXIMATE
- LOCATION OF THE EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S
- 21. ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF CALCULATING FEES.
 22. ALL TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF
- THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). 23. DRIVEWAY(5) 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 REQUIREMENTS: 1) WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE);
 2) SURFACE - SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING
 - 3) GEOMETRY MAXIMUM 14% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS; 4) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25-LOADING);
- 5) DRAINAGE ELEMENTS CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE; 6) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE
- 24. THIS LOT IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202(b)(1)(i), SINCE IT IS A
- 25. NO STRUCTURES EXIST ON THIS LOT.
- 26. ALL LOT AREAS ARE MORE OR LESS (±). 27. ALL DITCHES AND SWALES WILL HAVE EROSION CONTROL MATTING.
- 28. 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.
- 29. SEWER HOUSE CONNECTION (5HC) TO BE AT 2.0% UNLESS OTHERWISE NOTED. CLEANOUTS ARE TO BI PROVIDED AT ALL BENDS. SHC ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE
- 30. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD
- COUNTY CODE AND THE LANDSCAPE MANUAL. SINCE THIS IS AN EXISTING LOT, INTERIOR TO THE SUBDIVISION NO LANDSCAPING IS REQUIRED.
- 31. TRASH AND RECYCLABLES COLLECTION WILL BE AT OLD FREDERICK ROAD WITHIN 5' OF THE COUNTY ROADWAY.
- 32. DRIVEWAY SHALL BE PROVIDED IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL R-6.06 IN THE VOL. IV
- 33. 95% COMPACTION IN FILL AREAS SHALL BE IN ACCORDANCE WITH AASTHO T-100 STANDARDS.



OWNER 5Z INVESTMENTS, LLC 1029 CUMMINGS AVE CATONSVILLE, MARYLAND 21228 443-226-3799 ATTN: AYMAN SALEH AFISHER, COLLINS & CARTER, INC.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

PROFESSIONAL CERTIFICATION

HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME

AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF

HOWARD SOIL CONSERVATION DISTRICT."

Jyma 1 ENGINEER'S CERTIFICATE

"L'WE CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE plan based on my personal knowledge of the site conditions and that it was prepared in ccordance with the requirements of the Howard soil conservation district."

BUILDER/DEVELOPER'S CERTIFICATE

EROSION CONTROL AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF

SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, FOR SEDIMENT AND

6-17-13

8-2-17

APPROVED: DEPARTMENT OF PLANNING AND ZONING

PROPOSED USE: RESIDENTIAL

PLATBOOK 6 BLOCK NO.

PAGE 13

7/31/17 7. /8. /7 Date Chief, Development Engineering Division MONTGOMERY KNOLLS, LOT 47 SECTION PARCEL NO. 5018 ALICE AVENUE ELLICOTT CITY, MD 21043

TAX/ZONE

ELEC. DIST.

SECOND

CENSUS TR.

6023.02

TITLE SHEET

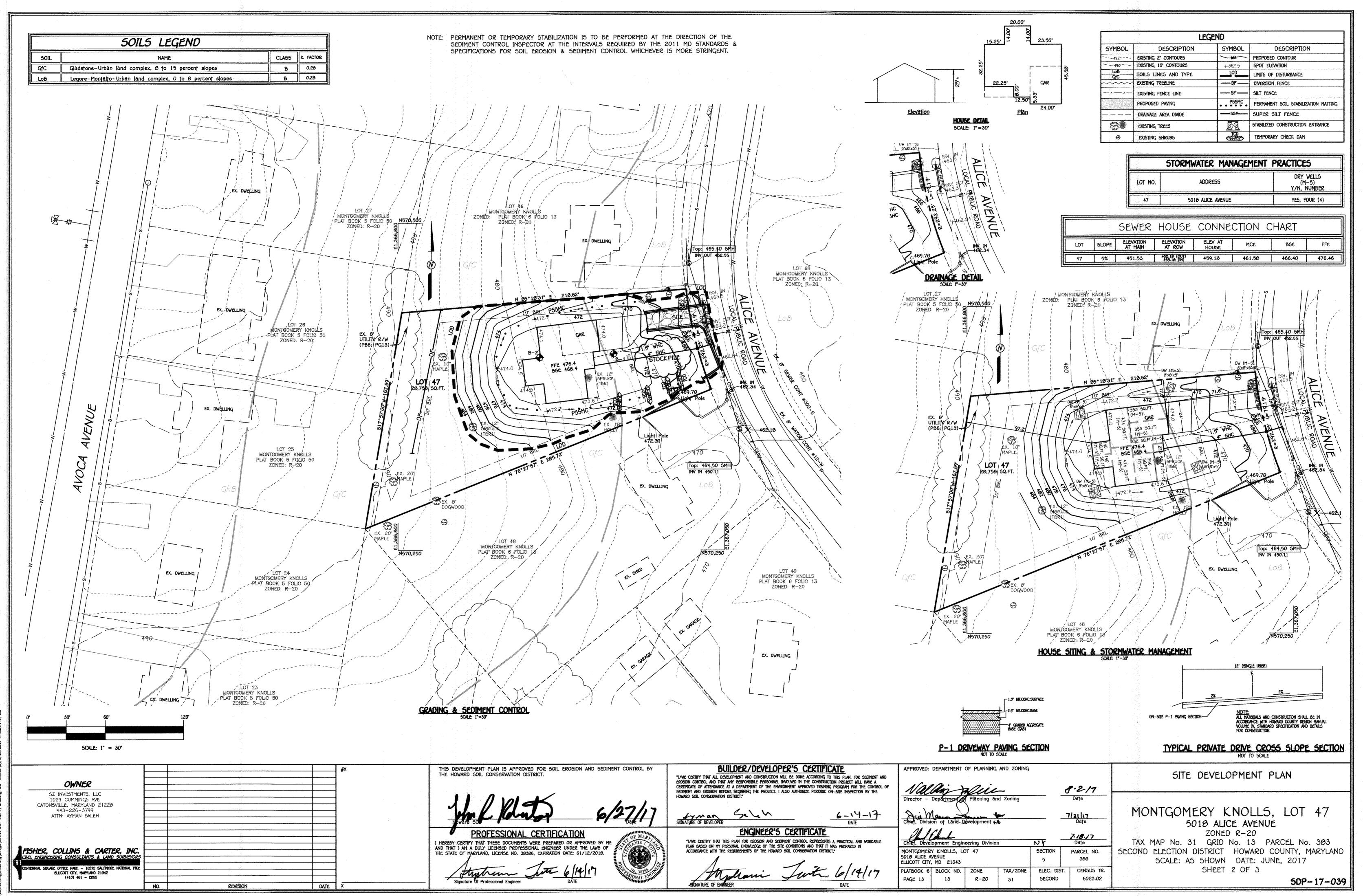
NOT TO SCALE

MONTGOMERY KNOLLS, LOT 47 5018 ALICE AVENUE

ZONED R-20 TAX MAP No. 31 GRID No. 13 PARCEL No. 383 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

> SCALE: AS SHOWN DATE: JUNE, 2017 SHEET 1 OF 3

> > 5DP-17-039



6040 Engineering Durck 16040 CDD 1 of 47 alf durch CDD Chast (2) 6/13/2017 4:40:20 DM 1-1

A. Soil Preparation

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.

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

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

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 triable. Seedbed loosening may be unnecessary on newly disturbed areas.

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 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

c. The original soil to be vegetated compains 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, sailt 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 My, thistie, or others

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.

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.

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)

acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may Le 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 percen 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 90 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

8-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

The application of seed and mulch to establish vegetative cover

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.

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 8.4 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 noculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very importan 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. 5od 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.

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.

i. 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.

8. Mulching
1. Mulch Materials (in order of preference)

OWNER

SZ INVESTMENTS, LLC

1029 CUMMINGS AVE CATONSVILLE, MARYLAND 21228 443-226-3799

ATTN: AYMAN SALEH

FISHER, COLLINS & CARTER, INC

ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855

al square office park — 10272 baltimore national pike

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

NO.

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 biotter-like ground cover, on application, having moisture

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.

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.

In the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre. Mix the wood

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

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

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)

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

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.

 Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure 8.3), 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.

	ne (from Figure B.: (from Table B.1):	3): <u>6b</u>	Fertilizer Rațe (10-20-20)	Lime Rațe	
Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	-	w.i.,
BARLEY	96	3/1 - 5/15,	1"	436 lb/ac (10 lb/ 1000 sf)	2 tons/do (90 lb/ 1000 sf)
OATS	72	0/15 - 10/15	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 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

(Hardiness Zones: 7a, 7b)

DATE

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will

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. . 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 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 iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For

establishment in high quality, intensively managed turt 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

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 Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 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

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 moving 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 8.3): 6b Seed Mixture (from Table 8.3): 8					Fertilizer Rate (10-20-20)			Lime Rate	
No.	Species	Application Rate (lb/ac)		Seeding Dates	Seeding Depths	N	P ₂ O ₅	K ₂ 0	
8	TALL FESCUE	100	Mar. Aug.	1-May 15 15-Oct. 15	1/4-1/2 in.	45 lbs. per acre	90 lb/ac (2 lb/	(2 lb/ (90	(90 lb/
		· ·				(1.0 lb/ 1000 sf)	1000 sf)	1000 sf)	1000 sf)
				-					

THE HOWARD SOIL CONSERVATION DISTRICT.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY

PROFESSIONAL CERTIFICATION

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. 38386, EXPIRATION DATE: 01/12/2018.

thystram Just

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

b. Sod must be machine cut at a uniform soil thickness to % inch, plus or minus % 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

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.

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 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. 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.

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 1% 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.

8-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS

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

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

 $\frac{\text{Conditions Where Practice Applies}}{\text{Stockpile areas are utilized when it is necessary to salvage and store soil for later use.}}$

the discharge.

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

7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard 8-4-1 Incremental 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. The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section 8-4 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 8-3 Land Grading.

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

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 40 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. 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.

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.

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 8-4-1) specifications shall be enforced in areas with >15 of cut and/or fill. Stockpiles (Sec. 8-4-8) 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. 8-4-6). 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

Total Area of Site: 0.43 Area Disturbed: Area to be roofed or paved:

Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

BUILDER/DEVELOPER'S CERTIFICATE

FROSION CONTROL AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A

SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, FOR SEDIMENT AND

CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF

ENGINEER'S CERTIFICATE

PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN

"I/WE CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE

Justrum Just 6/14/1

inspection type (routine, pre-storm event, during rain event) 3. 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 3. Identification of sediment controls that require maintenance entification of missing or improperly installed sediment controls Compliance status regarding the sequence of construction and stabilization

Photographs Monitoring/sampling Maintenance and/or corrective action performed 29. Other inspection items as required by the General Permit for Stormwater

Associated with Construction Activities (NPDES, MDE). 30. 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. 31. 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. 32. Disturbance shall not occur outside the LO.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 H5CD. Unless otherwise specified and approved by the H5CD, no more

than 30 acres cumulatively may be disturbed at a given time. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout 4. Topsoil shall be stockpiled and preserved on-site for redistribution onto

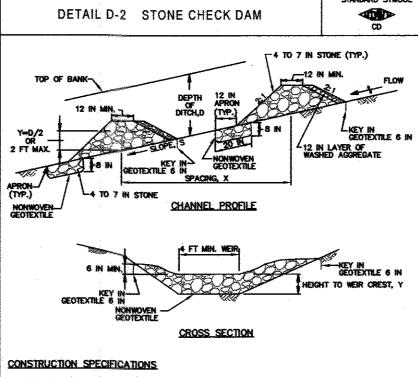
35. All 5ift Fence and Super 5ift Fence shall be placed on-the-contour, and be imbricated at 25 minimum intervals, with lower ends curted uphill by 2 in elevation. 36. Stream channels must not be disturbed during the following restricted

time periods (inclusive): 37. Use I and IP March 1 - June 15 38. Use III and IIIP October 1 - April 30 39. Use IV March 1 - May 31 40. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall

HOWARD SOIL CONSERVATION DISTRICT."

11man

be on-site and available when the site is active



PLACE NONWOVEN GEOTEXTILE, AS SPECIFED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND SIDES OF THE DAM PRIOR TO PLACEMENT OF STONE, CONSTRUCT THE CHECK DAM WITH WASHED 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) WITH SIDE SLOPES OF 2.1 OR FLATTER AND A MINIMUM TOP WIDTH OF 12 INCHES, PLACE THE STONE SO THAT IT COMPLETELY COVERS THE WOTH OF THE CHANNEL AND CHANNEL BANKS, FORM THE WER SO THAT TOP OF THE OUTLET CREST IS APPROXIMATELY 6 INCHES LOWER THAN THE OUTLE EDGES. LINE THE UPSTREAM

. SET THE HEIGHT FOR THE WEIR CREST EQUAL TO ONE—HALF THE DEPTH OF THE CHANNEL OR DITCH. TO AVOID SCOUR THE MAXIMUM HEIGHT OF THE WEIR CREST MUST NOT EXCEED 2.0 FEET. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE—HALF OF THE HEIGHT OF THE WEIR CREST. MAINTAIN LINE, GRADE, AND CROSS SECTION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

6-14-13

5018 ALICE AVENUE

PAGE 13

ELLICOTT CITY, MD 21043

13

R-20

MARYLAND DEPARTMENT OF ENVIRONMENT ADMINISTRATION DIVERSION ├── DF ─── I FENCE MAXIMUM DRAMAGE AREA = 2 ACRES ELEVATION UV RESISTANT IMPERMEABLE SHEETING ON BOTH SIDES OF FENCE SECTION CONSTRUCTION SPECIFICATIONS

USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2% INCH MAXIMUM OPENING) FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.

EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF RAPERMEABLE SHEETING ALONG FLOW SURFACE. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.

KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSIOI REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN, IF UNDERMINING OCCURS, REINSTALL FENCE. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

8-2-17 7/31/17 7.18.17 Chief, Development Engineering Division

TAX/ZONE

ELEC. DIST.

SECOND

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

APPROVED: DEPARTMENT OF PLANNING AND ZONING SEDIMENT & EROSION CONTROL NOTES & DETAILS

ZONED R-20 MONTGOMERY KNOLLS, LOT 47 SECTION PARCEL NO.

383

CENSUS TR.

6023.02

SCE I

I──SSF I

-PIPE (SEE NOTE 6)

* 50 VOS 18

PLAN VIEW

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

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.

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 SPECIFED 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

FENCE

WOVEN SLIT FILM GEOTEXTILE-

SUPER SILT

INSTALL 2% 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.

fasten 9 gauge or heavier galvanized chain link fence (2% inch maximum opening) 42 inches in height securely to the fence posts with wire ties or hug rings.

WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 8 INCHES FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.

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.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

GALVANIZED CHAIN LINK FENCE WITH WOVEN SLIT FILM GEOTEXTILE

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

DETAIL E-1

CONSTRUCTION SPECIFICATIONS

SILT FENCE

ELEVATION V

CROSS SECTION

JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

USE WOOD POSTS $1\frac{\pi}{4}$ X $1\frac{\pi}{4}$ \pm Xe 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.

USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APAR

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.

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

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

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.

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

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

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 VECETATION AND SEED GERMANITION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, RETTING MUST BE EXTENDED 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.

SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "I" SHAPED STEEL WRE 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 8 INCHES LONG. "I" 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-SAMIN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.

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

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

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

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.

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

SHEAR STRESS FOR PSSMC (left side) = $62.4 \text{ LBS/FT}^8 \times 1.5 \text{ FT} \times 0.02 = 1.9 \text{ LBS/FT}^8 \text{ SHEAR STRESS FOR PSSMC (garage)} = <math>62.4 \text{ LBS/FT}^8 \times 0.05 \text{ FT} \times 0.04 = 2.0 \text{ LBS/FT}^8 \times 0$

OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY

AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK.

REMOVE NECESSARY TREES AND ROUGH GRADE LOT. (2 DAYS)

INSTALL PERMANENT SEEDING WITH CONSTRUCTION. (1 DAY)

SEDIMENT CONTROL DEVICES MAY BE REMOVED. (3 DAYS)

SEQUENCE OF CONSTRUCTION

-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/ INSPECTION

INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SUPER SILT FENCE, AND TREE

INSTALL TEMPORARY SEEDING. (1 DAY)
CONSTRUCT HOUSE AND DRIVEWAY. INSTALL SEWER AND WATER HOUSE CONNECTIONS.

ALL FINAL GRADES AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF

CONTROLS. WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE

NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE EACH RAINFALL

been stabilized and with the permission of the sediment control inspector, the

INSTALL ROOF LEADERS & DRYWELLS UPON CONSTRUCTION OF HOUSE, FINE GRADE. INSTALL PERMANENT SOIL STABILIZATION MATTING IN SWALES AS SHOWN. (3 DAYS)

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

STABILIZATION MATTING

CHANNEL APPLICATION

CONSTRUCTION SPECIFICATIONS:::

U.S. DEPARTMENT OF AGRICULTURE
URAL RESOURCES CONSERVATION SERVICE

INSPECTOR. (2 WEEKS)

AND ON A DAILY BASIS.

VELOCITY (2 YR STORM) = 0.6 FP5

PROTECTIVE FENCING, (1 DAY)

PERMANENT SOIL

(* INCLUDE SHEAR STRESS)

STAPLE ---

STAPLE---

6 FT MAX. CENTER TO CENTER

|-----SF------|

"16 IN MIN. HEIGHT OF WOVEN SLIT FILM GEOTEXTILI

_36 IN MIN. FENCE POST LENGTH DRIVEN MIN. 16 IN INTO GROUND

MONTGOMERY KNOLLS, LOT 47 5018 ALICE AVENUE

SCALE: AS SHOWN DATE: JUNE, 2017

SHEET 3 OF 3

TAX MAP No. 31 GRID No. 13 PARCEL No. 383 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

5DP-17-039