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SITE DEVELOPMENT PLAN HARWOOD PARK OVERLOOK

LOT 1

ZONING: R-12 (RESIDENTIAL: SINGLE DISTRICT) TAX MAP No. 38 GRID No. 13 PARCEL Nos. 873 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

STORMWATER MANAGEMENT SUMMARY					
AREA 1D.	E50v Provided Cu.ft.	ESDV REQUIRED CU.FT.	REMARKS		
ROOF (1,600 5qFt.)	241	204	1 MICRO-BIORETENTION FACILITY (M-6)		
DRIVEWAY (006 5qft.)	180 (STORAGE)	100 (STORAGE)	1 PERMEABLE PAVEMENT (A-2)		
TOTAL SITE	421	416	FROM OVERALL SITE ASSESSMENT COMPUTATIONS		

SWM NARRATIVE

THIS REPORT WILL DEMONSTRATE HOW THE CRITERIA SET FORTH IN THE MARYLAND Stormwater design manual, volumes I and II (effective october 2000, revised MAY 2009) WILL BE SATISFIED ON THIS PROJECT. THE GOAL OF CREATING HYDROLOGY SIMILAR TO THAT OF "WOODS IN GOOD CONDITION" WILL BE ACCOMPLISHED THROUGH THE USE OF THE PRACTICES CONTAINED WITHIN CHAPTER 5 OF SAID MANUAL.

EUCLID PROPERTY IS A SINGLE LOT AND LOCATED ON TAX MAP 36, GRID 13, PARCEL 873, LOT 310 OF THE HOWARD COUNTY, MARYLAND TAX MAP DATABASE SYSTEM. THIS PROPERTY IS ZONED R-12 AND WILL UTILIZE PROPOSED PUBLIC WATER AND SEWER EXTENSIONS. THE PROPERTY IS located in the elkridge area of Howard County. Drains to a TRIBUTARY TO PATAPSCO RIVER, AND IN THE WATERSHED OF THE PATAPSCO RIVER (021309). WATER RUNOFF FLOWS FROM THE NORTH TO SOUTH. THIS PROPERTY IS RECTANGULAR IN SHAPE. NO FOREST EXISTS ON-SITE. THE WEB SOIL SURVEY SHOWS SOILS ON THE SITE CONSIST OF URBAN LAND-CHILLUM-BELTSVILLE (UCB), TYPE "B/C" SOILS. THE RUNOFF FROM THE ROOF OF THE PROPOSED HOUSE IS TO BE TREATED BY MICRO-BIORETENTION (M-6) AND RUNOFF FROM THE DRIVEWAY WILL BE TREATED BY PERMEABLE

- nvironmentally sensitive areas do not exist on—site.
- II. MAINTENANCE OF NATURAL FLOW PATTERNS: IT IS THE INTENT OF THE PROPOSED DESIGN TO DISCHARGE RUNOFF SIMILAR TO THE CHARACTERISTICS AND DIRECTION OF THIS SITE PRIOR TO ANY OF THE PROPOSED IMPROVEMENTS.
- <u>REDUCTION OF IMPERVIOUS AREAS THROUGH BETTER SITE DESIGN</u> ALTERNATIVE SURFACES AND NONSTRUCTURAL PRACTICES THE DESIGN OF THIS PROJECT UTILIZES ONE INDIVIDUAL DRIVEWAY FOR THE PROPOSED SINGLE FAMILY DETACHED HOUSE. NON-STRUCTURAL PRACTICES AS PERMITTED IN CHAPTER 5. MICRO-BIORETENTION (M-6) AND PERMEABLE PAVEMENT (A-2) WILL BE USED.

V. INTEGRATION OF EROSION AND SEDIMENT CONTROLS INTO STORMWATER STRATEGY:

SEDIMENT TRAPS WILL NOT BE NEEDED DUE TO THE LIMITED DRAINAGE AREA. SILT FENCE AND SUPER SILT FENCE WILL BE USED. NO OFF-SITE DRAINAGE

EASEMENTS WILL BE REQUIRED. V. <u>IMPLEMENTATION OF ESD PLANNING TECHNIQUES AND PRACTICES</u>

TO THE MAXIMUM EXTENT PRACTICABLE (MEP) IN ACCORDANCE WITH THE CHAPTER 5 ESD DEVICES THE FOLLOWING ARE BEING PROVIDED: M-2 PERMEABLE PAVING IS BEING PROVIDED ALONG WITH AN M-6 MICRO BIO-RETENTION FACILITY THE FULL REQUIRED ESD VOLUME

I. <u>REQUEST FOR DESIGN MANUAL WAIVER:</u> NO WAIVERS WILL BE REQUIRED

Approved: Department Of Planning And Zoning

Director - Department of Planning and Zoning

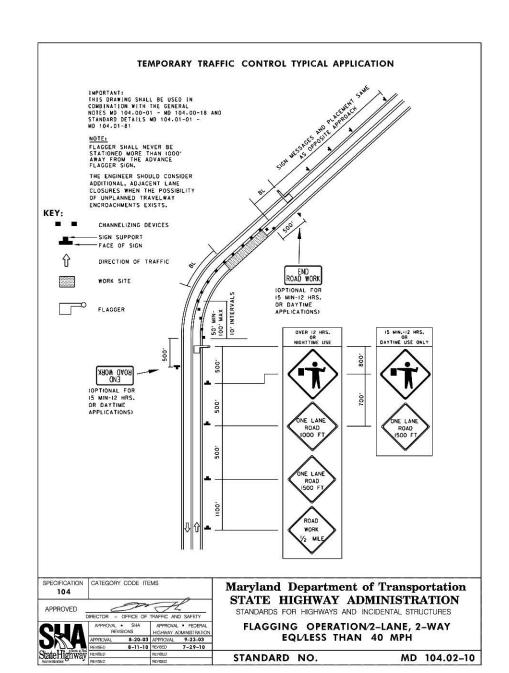
Chief. Development Engineering Division

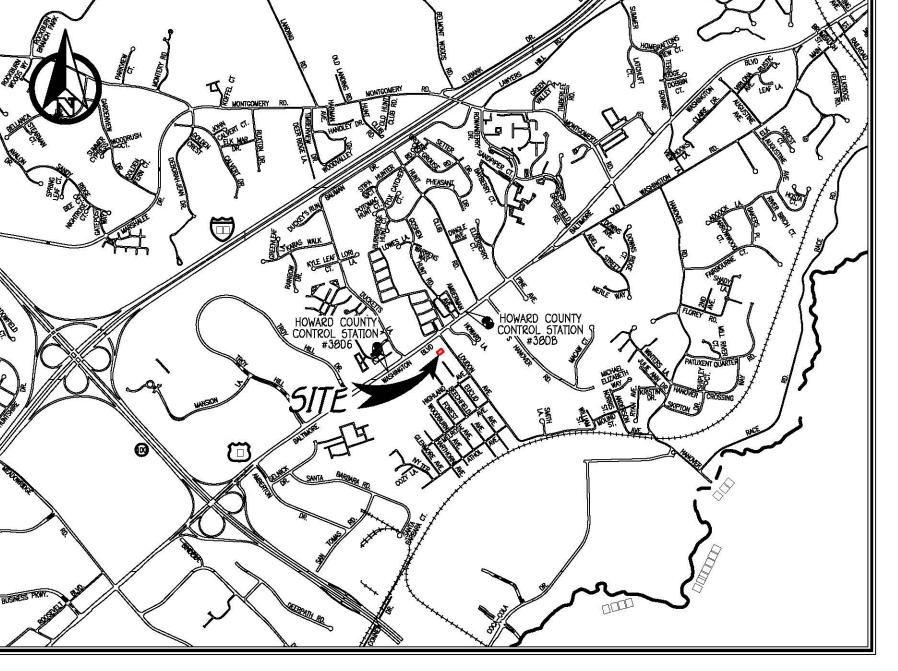
Chief. Division Of ELEMA Development

(Hd) Edmondson

ELLICOTT CITY, MARYLAND 21042

(410) 461 - 2855





HOWARD COUNTY GEODETIC SURVEY CONTROL NO. 38D6 GEODETIC SURVEY CONTROL NO. 38D8 N 557,155.424 E 1,384,992.312 **ELEVATION: 174.547**

N 558,427.202 E 1,386,582.476 **ELEVATION: 192.132**

SCALE: 1" = 2.000"

SCALE: 1" = 2.000"

Paul G. Cavanaugh

PRINTED NAME

REFER TO HOWARD CO. ADC MAP 35 C4

50ILS LEGEND CLASS K'VALUE Urban land-Chillum-Beltsville complex, 0 to 5 percent slopes B/C N/A C 0.37

GENERAL NOTES

STATIONS NO. 3806 AND NO. 3808:

- THE SUBJECT PROPERTY IS ZONED R-12 (PER 10/06/13 COMPREHENSIVE ZONING PLAN.) BOUNDARY IS BASED ON A FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS & CARTER ON OR ABOUT SEPTEMBER, 2021.
- 2. CONTOURS ARE BASED ON A TOPOGRAPHIC FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS AND CARTER,
- 3. COORDINATES BASED ON NAD'83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC

HOWARD COUNTY MONUMENT NO. 3006 N 577,155.424 £ 1.304.992.312 ELEV. 174.547

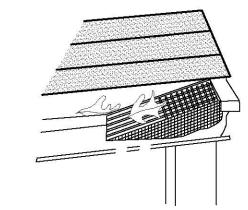
N 558,427.282 £ 1,306,502.476 ELEV. 192.132

- 4. STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. THIS PLAN PROPOSES THE USE OF ONE (1) M-6 MICRO-BIORETENTION FACILITY AND ONE (1)
- 5. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER AND SEWER WILL BE UTILIZED FOR THIS PROJECT. THIS SITE WILL BE SERVED BY PUBLIC WATER CONTRACT NO. 44-1015-D AND PUBLIC
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE
- 7. A PRE-SUBMISSION COMMUNITY MEETING IS NOT REQUIRED FOR THIS PROJECT. 8. THIS PROJECT IS EXEMPT FROM LANDSCAPE REQUIREMENTS OF SECTION 16.124 BECAUSE DEVELOPMENT IS
- INTERNAL TO THE HARWOOD PARK DEVELOPMENT AND IS A RESUBDIVISION THAT DOES NOT CREATE A NEW LOT. THIS PROJECT IS EXEMPT FROM FC BECAUSE IT IS DEVELOPMENT LESS THAN 40,000 SF PER SECTION
- 10. SOIL BORING HAS BEEN PROVIDED FOR THE PROPOSED MICRO-BIORETENTION FACILITY, AND IS REFLECTED II
- 11. AN ALTERNATIVE COMPLIANCE FOR FEE-IN-LIEU OF FRONTAGE IMPROVEMENTS WAS SUBMITTED AND DEEMED UNNECESSARY BY DPZ
- ON 6/21/2022 AS EUCLID AVE IS A PRIVATE PAPER STREET. 12. ALL AREAS ARE MORE OR LESS (+).
- 13. DISTANCES SHOWN ARE BASED ON SURFACE MEASUREMENT AND NOT REDUCED TO NAD '03 GRID MEASUREMENT 14. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW
- - B). SURFACE SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING $(1-1/2^{\prime\prime\prime} MINIMUM);$
 - 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 CLEARANCE MINIMUM 12 FEET; G). MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- 15. NO CEMETERIES EXIST ON THE SUBJECT PROPERTY BASED ON VISUAL OBSERVATION OR LISTED IN AVAILABLE
- HOWARD COUNTY CEMETERY INVENTORY MAP. 16. NO DWELLINGS OR HISTORIC STRUCTURES EXIST ON PARCEL 873 HARWOOD PARK OVERLOOK LOT 1. 17. THERE ARE NO FOREST STANDS, WETLANDS, WETLAND BUFFER, STREAM, STREAM BUFFER, STEEP SLOPES AND
- FLOODPLAIN EXISTING ON-SITE. 10. SITE IS NOT ADJACENT TO A SCENIC ROAD. 19. IN ACCORDANCE WITH SECTION 128 (0)(A)(1)(E)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.
- 20. 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 1.800.257.7777 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 .800.743.0033/410.224.9210

- 22. REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED AT THE JUNCTION OF THE PUBLIC ROAD RIGHT-OF-WAY AND NOT ONTO THE PRIVATE DRIVEWAY.
- 23. THERE IS NO M.I.H.U. (MODERATE INCOME HOUSING UNIT) REQUIREMENT FOR THIS SITE AS IT IS AN EXISTING LOT AND NOT CREATED THROUGH THE SUBDIVISION PROCESS.
- 24. THIS PLAN IS SUBJECT THE THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS (CB 45-2003) AND 2013 COMPREHENSIVE ZONING PLAN (EFFECTIVE 10/6/2013). DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH THE SETBACK AND BUFFER REGULATIONS IN EFFECT AT
- THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION, OR BUILDING/GRADING PERMIT. 25. THE PROJECT REQUIRES APPROVAL FROM THE MARYLAND AVIATION ADMINISTRATION. THE MAA APPROVAL APPLICATION HAS BEEN SUBMITTED AND IS PENDING.
- 26. THIS PROPERTY IS SUBJECT TO PRIOR OPZ FILE NO. ECP-22-027. 27. THIS DOCUMENT IS REFLECTIVE OF ORIGINALS ONLY CONSOLIDATION PLAT CALLED HARWOOD PARK OVERLOOK LOT 1 SUBMITTED JUNE 7, 2022, AND AUTHORIZATION LETTER RECEIVED WITH COMMENTS JUNE 21, 2022. THE REVISED PLAT (26155) HAS NOW BEEN RECORDED.



<u>GUTTER DRAIN FILTER DETAIL</u>

SITE ANALYSIS DATA CHART

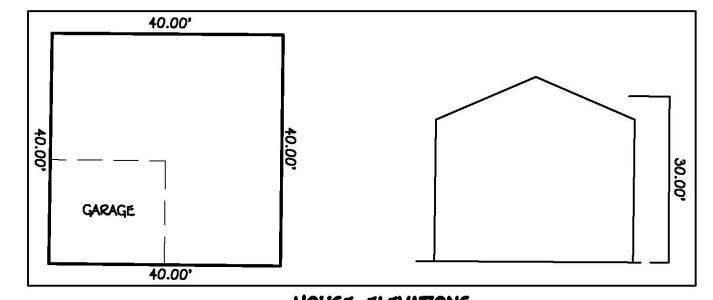
A. TOTAL AREA OF THIS SUBMISSION: 10,500 54.Ft. (0.241 Ac.)

B. LIMIT OF DISTURBED AREA = 9,740 54.Ft. (0.22 Ac.+) PRESENT ZONING DESIGNATION = R-12 PROPOSED USE: SINGLE FAMILY DETACHED HOUSING NET TRACT AREA = 0.207 AC.

BUILDING COVERAGE OF SITE: 1,600 54.Ft. (0.037 AC+) OR 17.7% PREVIOUS HOWARD COUNTY FILES: ECP-22-027, F-23-003, AND PLAT 26155 TOTAL AREA OF FLOODPLAIN LOCATED ON SITE 0.0 AC. TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.0 AC.

TOTAL AREA OF WETLANDS (INCLUDING BUFFER) LOCATED ON SITE = 0.0 AC. TOTAL FOREST 0.0 Ac. TOTAL GREEN SPACE = 6,600 SF = 0.152 Ac. =

1. TOTAL IMPERVIOUS AREA = 2,825 sq.ft. (0.06 Ac. 2) N. AREA OF ERODIBLE SOILS = 0.0 Ac. O. PARKING SPACES REQUIRED = 2.5 P. PARKING SPACES PROVIDED = 4.0



HOUSE ELEVATIONS

PARCEL NO.

673

CENSUS TR.

601204

OWNER/DEVELOPER

HS HOMEBUILDER LLC

10610 WARBURTON CT

ELLICOTT CITY MD, 21042

STORMWATER MANAGEMENT NOTES

- 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.
- MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 500 SQ. FT. OR LESS.
- MICRO-BIORETENTION AND PERMEABLE PAVEMENT SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS AND IN ACCORDANCE
- WITH THE DETAIL SHOWN ON THIS SHEET.

FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.

I l'ISHER. COLLINS & CARTER. INC engineering consultants & land surveyor

11/30/2022

11/29/2022

11/29/2022

NO.

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. 27020, EXPIRATION DATE: 01/25/24.

Paul G. Cavanaugh 11/3/2022 PAUL G. CAVANAUGH

BUILDER/DEVELOPER'S CERTIFICATE I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, FOR SEDIMENT AND EROSION CONTROL AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL

CONSERVATION DISTRICT." Surinder Single 11/1/2022 SIGNATURE OF DEVELOPER

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

THE HOWARD SOIL CONSERVATION DISTRICT.
Olexander Bratchie 11/29/2022 HOWARD SOIL CONSERVATION DISTRICT DATE

DESIGN CERTIFICATION 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. 11/3/2022 Paul G. Cavanaugh DESIGNER'S SIGNATURE

DATE IARDWOOD PARK OVERLOOK 27020 DEED # TAX MAP # ELEC. DIST. ZONE MD REGISTRATION NO. 60/115 P.E., R.L.S., OR R.L.A. (CIRCLE

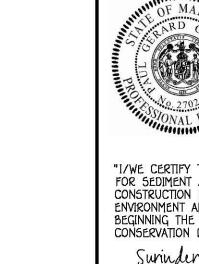
TITLE SHEET

HARWOOD PARK OVERLOOK

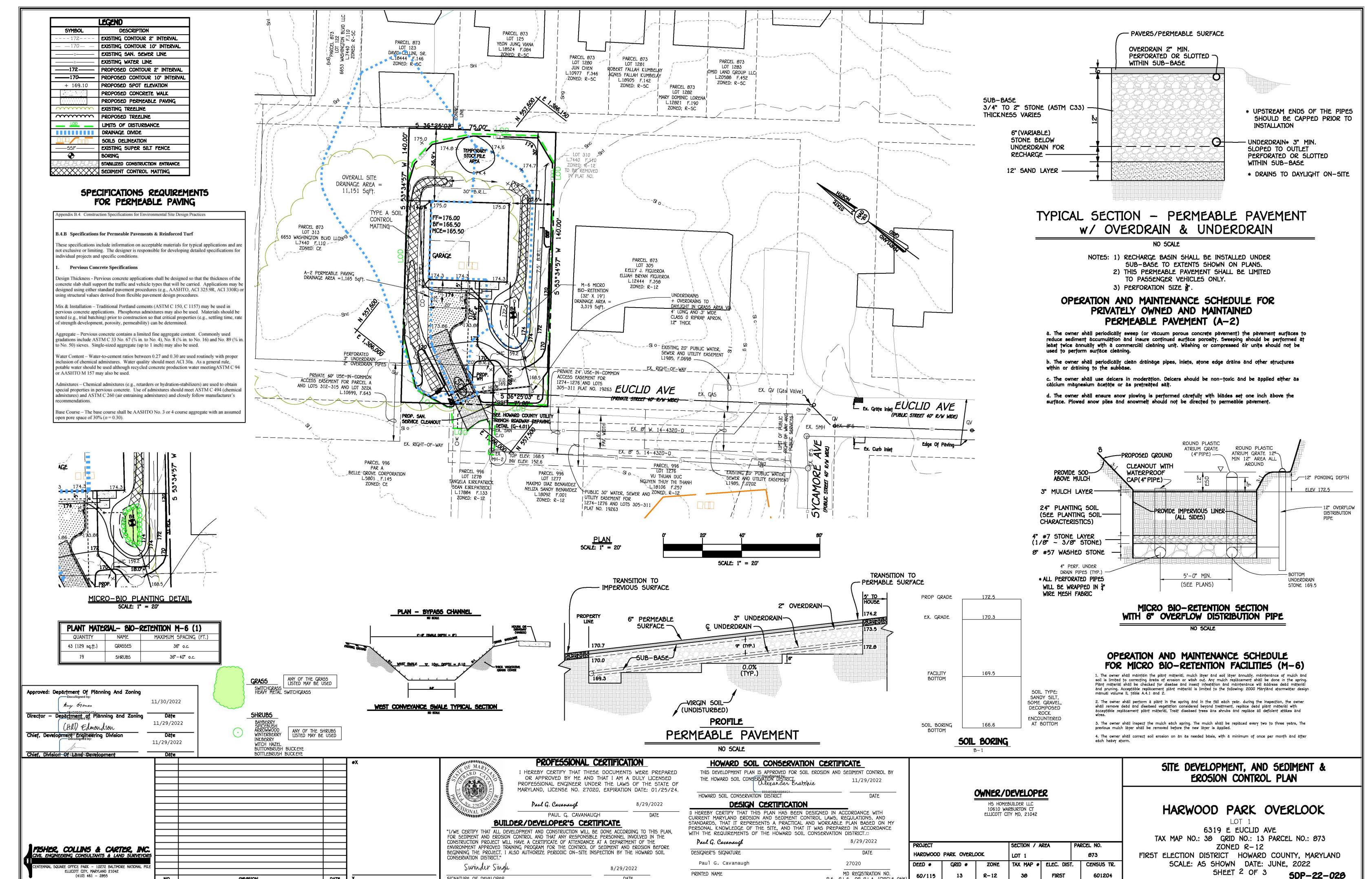
6319 E EUCLID AVE TAX MAP NO.: 38 GRID NO.: 13 PARCEL NO.: 873 ZONED R-12

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: JUNE, 2022

SHEET 1 OF 3 5DP-22-028



DATE



P.E., R.L.S., OR R.L.A. (CIRCLE

(410) 461 - 2855

NO.

REVISION

DATE

SIGNATURE OF DEVELOPER

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.

required for permanent vegetative establishment are:

- 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
- Soil pH between 6.0 and 7.0. i. 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.

3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

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

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,

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.

- 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

- a. Erosion and sediment control practices must be maintained when applying topsoil.
- b. Uniformly distribute topsoil in a 5 to 0 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 or 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 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 1,000 square feet) prior to the placement of topsoil.

B-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. 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
- 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.
- a. Dry Seeding: This includes use of conventional drop or broadcast spreaders. 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 ted 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 0 (phosphorus), 200 pounds per acre; K 0 (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 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 Mulch Materials (in order of preference)

(410) 461 - 2055

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.

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.
- i. 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.
- v. 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 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

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.

. 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

- 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 greas, but is limited to flatter slopes where equipment can operate safely. If used o
- 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 eaual 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)

- To stabilize disturbed soils with vegetation for up to 6 months.
- Purpose To use fast growing vegetation that provides cover on disturbed soils.

Criteria

- 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.
- 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): <u>6b</u> Seed Mixture (from Table B.1):				Lime Rațe
Application Rate (Ib/ac)	Seeding Dațes	Seeding Dep†hs		
96	3/1 - 5/15	1"	436 b/ac	2 †ons/āc
72	8/1 - 10/15	1"	(10 lb/ 1000 sf)	(90 lb/ 1000 sf)
112		1"		
	from Table B.1): Application Rate (b/ac) 96 72	Application Rate Seeding Dates	Application Rate (1b/ac) Seeding Dates Seeding Depths 96 3/1 - 5/15, 8/1 - 10/15 1"	Application Rate Seeding Depths (10-20-20)

PERMANENT SEEDING NOTES (B-4-5) A. Seed Mixtures

PLANT SPECS

COOL-SEASON GRASSES

ANNUAL RYEGRASS (LOLIUM PERENNE SSP. MUTIFLORUM)

Barley (Hordeum Vulgare)

WHEAT (TRITICUM AESTIVUM)

CEREAL RYE (SECALE CEREALE)

WARM-SEASON GRASSES

FOXTAIL MILLET (SETARIA ITALICA)

DATE

PEARL MILLET (PENNISETUM GLAUCUM)

OATS (AVENA SATIVA)

- 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 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

SEEDING RATE 1/

LB./AC. LB./1000 FT.

72

120

112

30

2. FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.

2.2

1.7

2.8

2.8

0.7

0.5

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. TABLE B.1 TEMPORARY SEEDING FOR SITE STABILIZATION

SEEDING

DEPTH 2

(INCHES)

0.5

0.5

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 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 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 B.3): <u>6b</u> Seed Mixture (from Table B.3): <u> </u>			Fertilizer Rate (10-20-20)			Lime Rațe		
No.	Species	Application Rate (lb/ac)	Seeding Da†es	Seeding Dep†hs	N	P ₂ O ₅	K ₂ 0	
8	TALL FESCUE	100	Mar. 1-May 15 Aug. 1-Oct. 15	1/4-1/2 in.	45 lbs. per acre	90 lb/ac (2 lb/	(2 lb/	(90 lb/
					(1.0 lb/ 1000 sf)	1000 sf)	1000 sf)	1000 sf)

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

- a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and
- b. Sod must be machine cut at a uniform soil thickness to % inch, plus or minus 1/4 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
- 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.
- 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
- 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.
- 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.
- 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 % 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.

STANDARD STABILIZATION NOTE

- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE
- A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1).
- B.) 5EVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS

- <u>Definition</u>
 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
- . 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. '. 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.
- <u>Maintenance</u> 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.

7a AND 7b

MAY 1 TO AUGUST 14

MAY 1 TO AUGUST 14

HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

- WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1055 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:
- BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER 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
- 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
- FROZEN, INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS VITH >15-0F CUT AND/OR FILL. STOCKPILES (SEC. B-4-0) IN EXCESS OF 20 FT. MUST BE SENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6). ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN
- SITE ANALYSIS: TOTAL AREA OF SITE:__ AREA DISTURBED:___
- 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.

1) A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC

- B. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS,
- SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN. LL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS
- 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
- PPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID.
- AREA DISTURBED: 0.23 ACRES
 AREA TO BE ROOFED OR PAVED: 0.06 ACRES
 AREA TO BE VEGETATIVELY STABILIZED: 0.17 ACRES
 TOTAL CUT: 550 CU. YDS.
 TOTAL FILL:

DATE

OVERLAP OR ABUT EMBED GEOTEXTILE LINING A MIN. OF 4 IN SECTION A-A IN MIN. OVERLAP___ T ROLL END CHANNEL CROSS SECTION WILL TRANSITION FROM A—A TO B—E PLAN VIEW PREPARED SURFACE WITH SEED IN PLACE ISOMETRIC VIEW CONSTRUCTION SPECIFICATIONS _0%__ USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS. NONWOVEN GEOTEXTILE OR STONE FILTER -USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURI TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING O **PROFILE** CONSTRUCTION SPECIFICATIONS 2×2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS (RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIA . SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. 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 1½ 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 A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH—SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (% TO 1½ INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED 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. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF THE RIPRAP. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING. KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END. OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS B 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MA STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE STABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE NTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE CUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

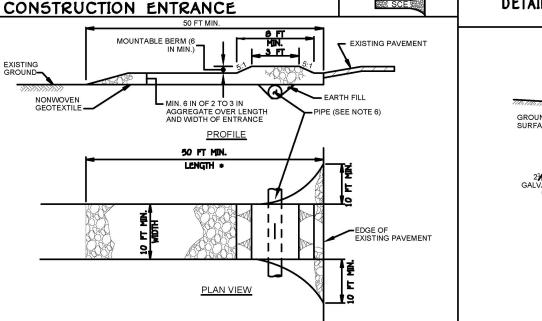
DETAIL D-4-1-A

PROTECTION

SSMC - * 1.5 lb/

(* INCLUDE SHEAR STRESS

ROP1



CONSTRUCTION SPECIFICATIONS

U.S. DEPARTMENT OF AGRICULTURE

DETAIL B-1 STABILIZED

DETAIL B-4-6-A

TEMPORARY SOIL

STABILIZATION MATTING CHANNEL APPLICATION

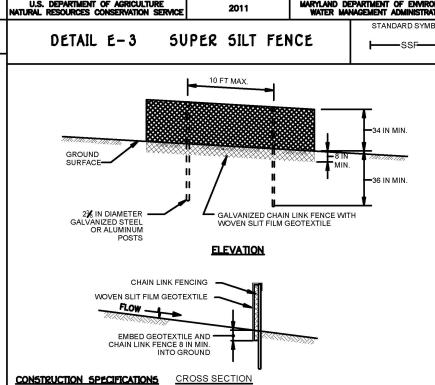
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

- TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- . 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.
- . MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BEEM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO AJACENT 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

- 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 F EVERY INSPECTION AND SHOULD INCLUDE
- □ 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 PROJECTS STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES LEAST 24 HOURS BEFORE STARTING WORK.
- IDENTIFICATION OF PLAN DEFICIENCIES IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE DENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
- 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). TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH 8. CONVERT BIO-RETENTION WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR. 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 HE 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.
 TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE 4) ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, OR BE IMBRICATED AT 25-MAXIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2-IN ELEVATION. 15) STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS
- USE III AND IIIP OCTOBER 1 APRIL 30 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.

601204



- NSTALL 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.
- 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 2-inches at the top and mid section. Embed geotextile and chain link fence a minimum of ${\mathfrak o}$ inches into the ground.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET 45 DECREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION $H\!-\!1$ MATERIALS 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.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL FROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE
RAL RESOURCES CONSERVATION SERVICE MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION

SEQUENCE OF CONSTRUCTION

OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. NOTIFY "MISS UTILITY" AT LEAST 40 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION / INSPECTION AT 410-313-1330 AT (2 DAY5) (7 DAY5) CLEAR AND GRUB AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS INSTALL THE STABILIZED CONSTRUCTION ENTRANCE AND SUPER SILT FENCE WITH PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, BEGIN ROUGH GRADE DRIVEWAY, ROUGH GRADE AROUND HOUSE SITE AND INSTALL TEMPORARY SEEDING, IF REQUIRED. MUST MAINTAIN ACCESS TO EXISTING LOT 1278 (6318 EUCLID AVE) (Ø MONTHS)

(2 DAY5)

6. BEGIN CONSTRUCTION BUILDING, DRIVEWAY AND UTILITIES. THE CONTRACTOR SHALL INSTALL ALL THE INFRASTRUCTURE AND STABILIZE BEFORE INSTALLING THE PERMEABLE PAVING AND MICRO BIO-RETENTION. FINE GRADE SITE AND INSTALL PERMANENT SEEDING. 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, (3 DAY5) THE SEDIMENT CONTROL DEVICES MAY BE REMOVED 1) THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE EACH RAINFALL AND ON A

DAILY BASIS.	
Approved: Department Of Planning And Zoning Docusigned by: Any Gonan	11/30/2022
Director - Department, Planning and Zoning (HD) Edmondson	Dāţe 11/29/2022
Chief, Development Docusion Division	Dațe 11/29/2022

Chief, Division of 15876d78Development SEDIMENT & EROSION CONTROL NOTES AND DETAILS

HARWOOD PARK OVERLOOK

LOT 1 6319 E EUCLID AVE TAX MAP NO.: 38 GRID NO.: 13 PARCEL NO.: 873 ZONED R-12

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: JUNE, 2022

> SHEET 3 OF 3 5DP-22-028

I. SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIVE SEED (PLS). ACTUAL PLANTING RATES SHALL BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND PURITY, AS TESTED. ADJUSTMENTS ARE USUALLY NOT NEEDED FOR THE COOL-SEASON GRASSES. SEEDING RATES LISTED ABOVE ARE FOR TEMPORARY SEEDINGS, WHEN PLANTED ALONE. WHEN PLANTED AS A NURSE CROP WITH PERMANENT SEED MIXES, USE 1/3 OF THE SEEDING RATE LISTED ABOVE FOR BARLEY,

5b AND 6a

JUNE 1 TO JULY 31

JUNE 1 TO JULY 31

OATS AND WHEAT. FOR SMALLER-SEEDED GRASSES (ANNUAL RYEGRASS, PEARL MILLET, FOXTAIL MILLET). DO NOT EXCEED MORE THAN 5% (BY WEIGHT) OF THE OVERALL PERMANENT SEEDING MIX, CEREAL RYE GENERALLY SHOULD NOT BE USED AS A NURSE CROP, UNLESS PLANTING WILL OCCUR IN VERY LATE FALL BEYOND THE SEEDING DATES FOR OTHER TEMPORARY SEEDINGS. CEREAL RYE HAS ALLELOPATHIC PROPERTIES THAT INHIBIT THE GERMINATION AND GROWTH OF OTHER PLANTS. IF IT MUST BE USED AS A NURSE CROP, SEED AT 1/3 OF THE RATE LISTED ABOVE. OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.

> PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24.

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED

OR APPROVED BY ME AND THAT I AM A DULY LICENSED

11/28/2022

PROFESSIONAL CERTIFICATION

RECOMMENDED SEEDING DATES BY PLANT HARDINESS ZONE 3/

MAR. 15 TO MAY 31; AUG. 1 TO 5EPT. 30 | MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15 | FEB. 15 TO APR. 30; AUG. 15 TO NOV. 30

| Mar. 15 to may 31; aug. 1 to 5ept. 30 | mar. 1 to may 15; aug. 1 to oct. 15 | Feb. 15 to Apr. 30; aug. 15 to Nov. 30

MAR. 15 TO MAY 31; AUG. 1 TO SEPT. 30 | MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15 | FEB. 15 TO APR. 30; AUG. 15 TO NOV. 30

MAR. 15 TO MAY 31; AUG. 1 TO SEPT. 30 | MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15 | FEB. 15 TO APR. 30; AUG. 15 TO NOV. 30

Mar. 15 to May 31; aug. 31 to oct. 31 | Mar. 1 to May 15; aug. 1 to Nov. 15 | Feb. 15 to apr. 30; aug. 15 to dec. 1

MAY 16 TO JULY 31

MAY 16 TO JULY 31

Paul G. Cavanaugh 11/28/2022 PAUL G. CAVANAUGH

BUILDER/DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN. FOR SEDIMENT AND EROSION CONTROL AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY 11/29/2022 Olexander Bratchie HOWARD SOIL CONSERVATION DISTRICT

HOWARD SOIL CONSERVATION CERTIFICATE

DESIGN CERTIFICATION 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... Paul G. Cavanaugh

11/28/2022 DESIGNER'S SIGNATURE DATE Paul G. Cavanaugh 27020 MD REGISTRATION NO. PRINTED NAME P.E., R.L.S., OR R.L.A. (CIRCLE ON

PROJECT PARCEL NO. IARDWOOD PARK OVERLOOK 873 DEED # GRID # ZONE TAX MAP # ELEC. DIST. CENSUS TR. 60/115 13 R-12

USE I AND IP MARCH 1 - JUNE 15

OWNER/DEVELOPER

HS HOMEBUILDER LLC

10610 WARBURTON CT

ELLICOTT CITY MD, 21042

I FISHER, COLLINS & CARTER, INC <u>VIL ENGINEERING CONSULTANTS & LAND SÜRVEYOR</u> NNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PI



Surinder Single

SIGNATURE OF DEVELOPER