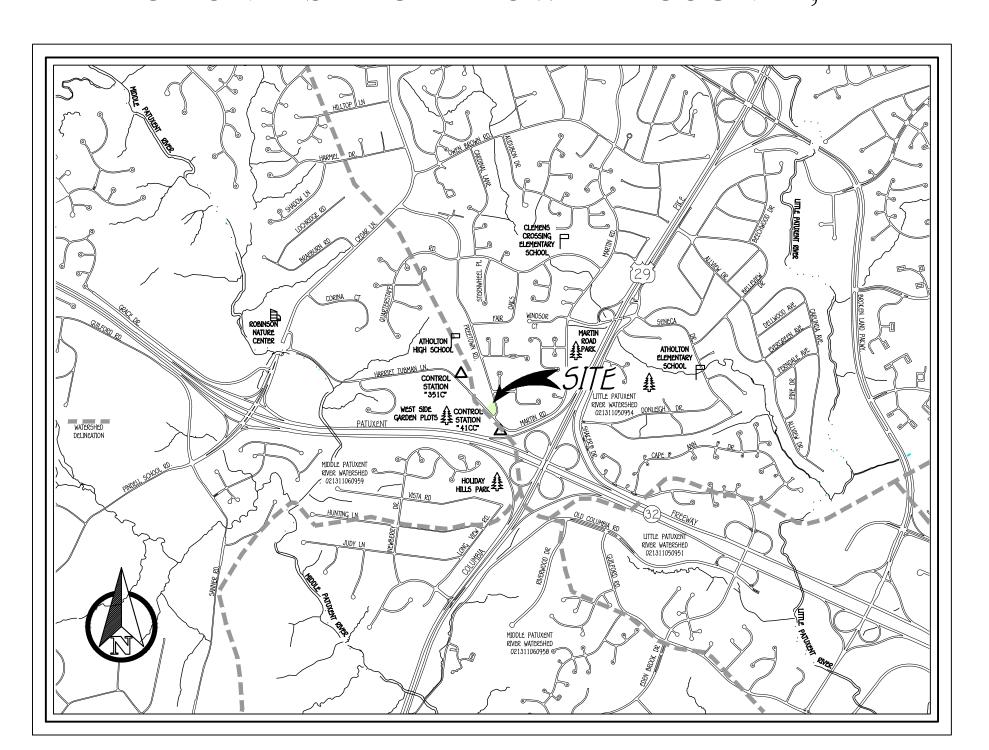
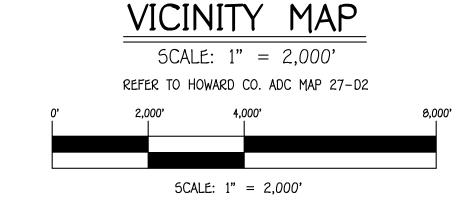


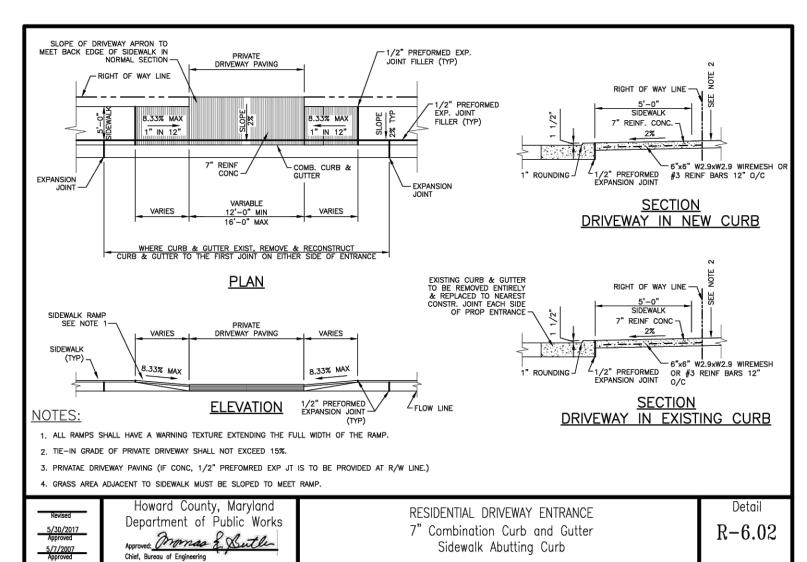
FIRST FLOOR

SITE DEVELOPMENT PLAN VAN BIK PROPERTY

TAX MAP No. 41 GRID No. 6 PARCEL NO. 520 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND







General Notes:

- SUBJECT PROPERTY ZONED R-SC PER 10/06/13 COMPREHENSIVE ZONING PLAN.
 COORDINATES BASED ON NAD '83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 351C AND NO. 41CC. Sta. 351C N 553,504.392 E 1,346,160.575 Elev.= 414.346
- 5ta. 41CC N 552,494.249 E 1,347,062.463 Elev.= 399.989 THIS PLAN IS BASED ON FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT 5/21/2020 BY
- FISHER, COLLINS & CARTER, INC. B.R.L. DENOTES BUILDING RESTRICTION LINE

ALL AREAS ARE MORE OR LESS (\pm) .

- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW
- A). WIDTH 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE); B). SURFACE - SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING.
- 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);

DISTANCES SHOWN ARE BASED ON SURFACE MEASUREMENT AND NOT REDUCED TO NAD '83 GRID MEASUREMENT.

- 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. NO CEMETERIES EXIST ON THE SUBJECT PROPERTY BASED ON VISUAL OBSERVATION OR LISTED IN AVAILABLE HOWARD COUNTY CEMETERY INVENTORY MAP.
- NO DWELLINGS OR HISTORIC STRUCTURES EXIST ON PARCEL 520. THERE ARE NO WETLANDS, WETLAND BUFFERS, STREAM, STREAM BUFFERS, STEEP SLOPES OR FLOODPLAINS
- EXISTING ON-SITE. THE SITE IS NOTED AS "PRIMARILY WOODED" WITHIN A LETTER OF FINDINGS PROVIDED BY FCO-SCIENCE PROFESSIONALS INC. DATED DECEMBER 7, 2020.
- 11. SITE IS NOT ADJACENT TO A SCENIC ROAD.
- 12. THIS PROJECT IS EXEMPT FROM THE REQUIREMENTS OF THE FOREST CONSERVATION ACT IN ACCORDANCE WITH SECTION 16.1202(B)(1)(i) FOR DEVELOPMENT ON A SINGLE LOT SMALLER THAN 40,000 SQUARE FEET.
- 13. WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.1228 OF THE HOWARD COUNTY CODE. PUBLIC WATER AND SEWER ALLOCATION WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT
- CAPACITY IS AVAILABLE AT THAT TIME. 15. STORMWATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II REVISED 2009. ESD PRACTICES IN ACCORDANCE WITH CHAPTER 5 AND AND QUANTITY MANAGEMENT PRACTICES IN ACCORDANCE WITH CHAPTER 3 ARE BEING UTILIZED. ESD PRACTICES ARE TO BE OWNED AND MAINTAINED BY
- 16. THIS PLAN IS IN COMPLIANCE WITH THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL 45-2003 AND THE 10/06/13 COMPREHENSIVE ZONING PLAN. DEVELOPMENT OR TOTAL AREA OF FOREST TO BE RETAINED = 8.636 Sq.Ft. (0.20 AC±) 37% CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME
 - OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION, OR BUILDING/GRADING PERMIT. 17. A SPEED STUDY WAS PERFORMED BY MARS GROUP IN DECEMBER 2020. 16. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT AND WILL BE SERVED BY PUBLIC WATER AND
 - SEWER (SEE CONTRACT NO. 12-W and 419-5). THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL, FINANCIAL SURETY IN THE AMOUNT OF \$1,950 BASED ON 5 SHADE
 - TREES @ \$300/SHADE, 3 EVERGREEN TREES @ \$150/TREE SHALL BE BONDED AS PART OF THE GRADING PERMIT. 20. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD
 - COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
 - 22. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 40 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
 - 23. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN
 - PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT. 24. DRIVEWAY SHALL BE PROVIDED IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL R-6.06 IN THE VOL. IV
 - DESIGN MANUAL. 25. SOILS INFORMATION BASED ON NRCS WEB SOIL SURVEY FOR HOWARD COUNTY, MARYLAND.
 - 26. 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. 27. 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) 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 .800.743.0033/410.224.9210

20. ANY DAMAGE TO PUBLIC RIGHT-OF WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. 29. THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PERFORMED BY NJR ASSOCIATES IN MAY, 2016 AND SUPPLEMENTED WITH HOWARD COUNTY GIS TOPOGRAPHY AT 2' CONTOUR INTERVAL. EXISTING UTILIZES ARE BASED ON FIELD LOCATION OF VISIBLE STRUCTURES AND SUPPLEMENTED WITH HOWARD COUNTY GIS

31. SEWER HOUSE CONNECTION (SHC) ELEVATIONS ARE LOCATED AT THE PROPERTY LINE.

- 32. MAINTAIN 10 FEET OF SEPARATION BETWEEN THE WATER HOUSE CONNECTION (WHC) AND THE SEWER HOUSE CONNECTION (SHC) AT THE STREET RIGHT-OF-WAY. 33. SPECIMEN TREE NOTE: CONTRACTOR SHALL BE RESPONSIBLE TO PERFORM ADEQUATE PRE (DURING) AND POST CONSTRUCTION
- PRACTICES AND MEASURES AS DESCRIBED IN APPENDIX G OF THE LATEST HOWARD COUNTY FOREST CONSERVATION MANUAL WHEN WORKING IN THE VICINITY OF THE SPECIMEN TREE IDENTIFIED TO REMAIN WITHIN THIS PROJECT TO ENSURE THE SURVIVAL OF THE TREE 34. NO STATE CHAMPION TREES OR TREES 75% OF THE DIAMETER OF A STATE CHAMPION EXISTS ON SITE
- 35. THIS DEVELOPMENT IS SUBJECT TO SECTION 110.0.E. OF THE ZONING REGULATIONS. AT LEAST 10% OF THE DWELLING UNITS SHALL BE MODERATE INCOME HOUSING UNITS (M.I.H.U.) OR AN ALTERNATIVE COMPLIANCE WILL BE PROVIDED. THE DEVELOPER SHALL EXECUTE A M.I.H.U. AGREEMENT WITH THE DEPARTMENT OF HOUSING TO INDICATE HOW THE M.I.H.U. REQUIREMENT WILL BE MET. THE M.I.H.U. AGREEMENT WILL BE RECORDED IN THE LAND RECORDS OFFICE OF HOWARD COUNTY, MARYLAND. THIS DEVELOPMENT WILL MEET M.I.H.U. ALTERNATIVE COMPLIANCE BY A PAYMENT OF A FEE-IN-LIEU TO THE DEPARTMENT OF HOUSING FOR EACH REQUIRED UNIT. MODERATE INCOME HOUSING UNIT (M.I.H.U.) TABULATION:
- M.I.H.U. REQUIRED = (1 LOT X 10%) = 0.1 M.I.H.U. b. M.I.H.U. PROPOSED = DEVELOPER WILL PURSUE ALTERNATIVE COMPLIANCE BY PAYING A FEE-IN-LIEU TO THE HOWARD COUNTY HOUSING DEPARTMENT FOR THE UNITS REQUIRED BY THE DEVELOPMENT.

MODERATE INCOME HOUSING UI ALLOCATION EXEMPTIONS TO	NITS (MIHU) RACKING
Total Number of Lots/Units Proposed	1
Number of MIHU Required	0.1
Number of MIHU Provided Onsite (exempt from APFO allocations)	0
Number of APFO Allocations Required (remaining lots/units)	1
MIHU Fee-in-Lieu (indicate lot/unit numbers)	PARCEL 520 (1 UNIT)

THIS DEVELOPMENT IS SUBJECT TO THE MIHU FEE-IN-LIEU REQUIREMENT THAT IS TO BE CALCULATED AND PAID TO THE DEPARTMENT OF INSPECTIONS, LICENSES, & PERMITS AT THE TIME OF BUILDING PERMIT ISSUANCE BY THE PERMIT APPLICANT.

Director - Department of Alanning and Zoning FISHER, COLLINS & CARTER, INC. VIL ENGINEERING CONSULTANTS & LAND SURVEYO QUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIK ELLICOTT CITY, MARYLAND 21042 DATE

SIDE ELEVATION

BIO-RETENTION

BIO-RETENTION DRY WELL DISCONNECTION F-6 (Y/N) M-5 CREDIT

F-6 (Y/N)

STORMWATER MANAGEMENT PRACTICE CHART

8077 HARRIET TUBMAN LN.

DRAINAGE IMPERVIOUS AREA SF. SF.

Approved: Howard County Department Of Planning And Zoning

(Hd1) Edmondson

Chief, Development Englishering Division

Chief, Division Of 1 Electric Development

Amy Gonan

(M-6) 1 10,509 4,823 547 (STORAGE) 644 (STORAGE)

9/9/2022

9/12/2022

PROFESSIONAL CERTIFICATION

HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 07/14/2023.

Frank Manalansan II Signature Of Professional Land Surveyor

5/31/2022

OWNER/ BUILDER VAN LAL BIK & ISABEL BIAKHNEMPAR BIK 12207 SNOWDEN WOODS ROAD LAUREL, MD 20708

SITE ANALYSIS DATA CHART

PRESENT ZONING DESIGNATION = R-SC

PREVIOUS HOWARD COUNTY FILES: ECP-21-044

PROPOSED USE: RESIDENTIAL

X 4 4 8 5

15 RCCP

 $-\frac{8^{\circ}5}{}$

EX. F.H.

TOTAL AREA OF THIS SUBMISSION = 0.634 AC.± (PARCEL 520)

LIMIT OF DISTURBED AREA = 19.616 SQ.FT. OR 0.45 Ac. ±

(PER 10/06/2013 COMPREHENSIVE ZONING PLAN)

TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 0.00 AC±

TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.00 AC. ±

TOTAL AREA OF EXISTING FOREST = 22,899 Sq.Ft. (0.53 AC±)

TOTAL AREA OF STREAM (INCLUDING BUFFER) = 0.00 AC. ±

TOTAL AREA OF LOTS / BUILDABLE PARCELS = 0.643 AC+

TOTAL NUMBER OF REQUIRED PARKING SPACES = 2.5.

LEGEND

SPOT ELEVATION

EXISTING STORM DRAIN

EXISTING WATER LINE

EXISTING SEWER LINE

PROPOSED SEWER

PROPOSED WATER

EXISTING GAS LINE

EXISTING CABLE LINE

EXISTING OVERHEAD WIRE

PROPOSED PAVING/PATH

PROPOSED SIDEWALKS

__ LIMIT OF DISTURBANCE

EXISTING TREE LINE

PROPOSED TREE LINE DRYWELL (M-5)-TYPICAL

SOIL LINES AND TYPES

BIO RETENTION FACILITY

(F-6) OR (M-6) AS NOTED

PROPOSED ROOF LEADER

SWM DRAINAGE DIVIDE

-CRITICAL ROOT ZONE

TREE PROTECTION FENCE

SILT FENCE

→FOREST CONSERVATION EASEMENT (REFORESTATION)

FOREST CONSERVATION EASEMENT FENCING

STABILIZED CONSTRUCTION ENTRANCE

EXISTING WETLANDS & WETLAND BUFFER

DENOTES EXISTING TREES TO BE REMOVED

DENOTES EXISTING TREES TO REMAIN

DENOTES 15%-24.9% SLOPES

EXISTING CONTOUR 2' INTERVAL

EXISTING CONTOUR 10' INTERVAL

PROPOSED CONTOUR 10' INTERVAL

PROPOSED CONTOUR 2' INTERVAL

PROPOSED STORM DRAIN PIPE

DESCRIPTION

TOTAL GREEN OPEN AREA = 21,429 5q.Ft. (0.49 AC±)

TOTAL IMPERVIOUS AREA = 6,600 Sq.Ft. (0.15 AC±)

TOTAL AREA OF ERODIBLE SOILS = 0.005 AC.±

TOTAL AREA OF ROAD DEDICATION = 0.00 AC.±

TOTAL NUMBER OF PARKING PROVIDED = 6.

3 INTERNAL SPACES & 3 EXTERIOR SPACES.

TOTAL AREA OF MODERATE STEEP SLOPES: 15%-24.9% =225.5 SqFf(0.005

PROJECT			SECTION / A	REA	PARCEL NO.
VAN BIK PI	ROPERTY			-	520
DEED #	GRID #	ZONE	TAX MAP #	ELEC. DIST	CENSUS TR.
18929/195	06	R-5C	41	FIFTH	605602

(443-745-5505)

TITLE SHEET

VAN BIK PROPERTY

8077 HARRIET TUBMAN LANE

ZONED R-5C TAX MAP No. 41 GRID No. 06 PARCEL No. 520 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: MAY, 2022

SHEET 1 OF 4

5DP-22-017

FISHER, COLLINS & CARTER, INC.

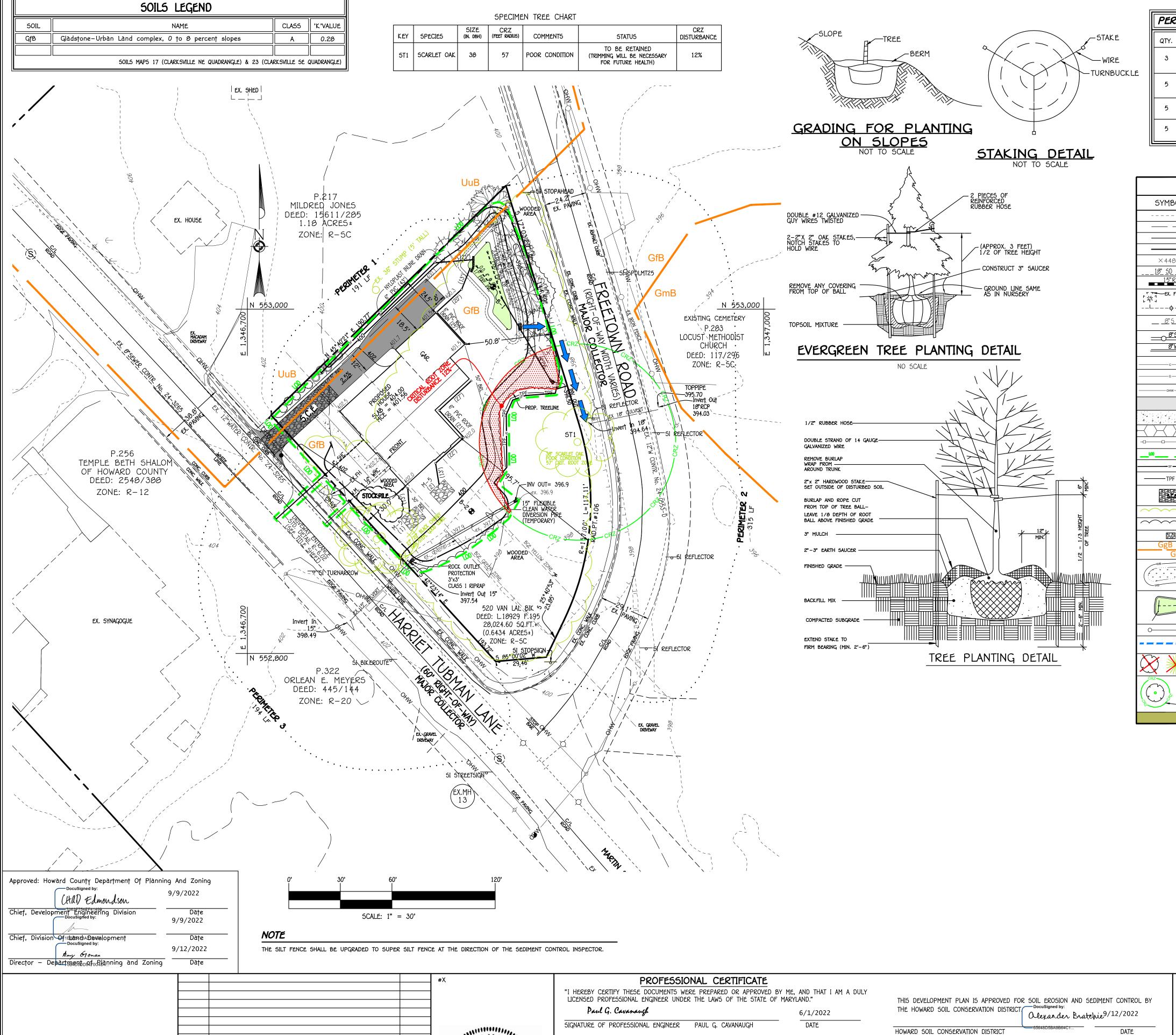
IVIL ENGINEERING CONSULTANTS & LAND SURVEYOR

ELLICOTT CITY, MARYLAND 21042

QUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE

NO.

REVISION



BUILDER/DEVELOPER'S CERTIFICATE

SIGNATURE OF DEVELOPER

DATE

"I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE

DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND

PERIMETER LANDSCAPING PLANT LIST NYSSA SYLVATICA CALIPER FULL (BLACK GUM) CROWN, B&B 5'-6' HT. ILEX OPACA (AMERICAN HOLLY) RHODODENDRON MAXIMUM (ROSEBAY RHODODENDRON)

> VIBURNUM DENTATUM (ARROWOOD VIBURNUM)

	LEGEND
5YMBOL	DESCRIPTION
	EXISTING CONTOUR 2' INTERVAL
	EXISTING CONTOUR 10' INTERVAL
	PROPOSED CONTOUR 10' INTERVAL
	PROPOSED CONTOUR 2' INTERVAL
× 448.5	SPOT ELEVATION
18"_5D	EXISTING STORM DRAIN
15" RCCP	PROPOSED STORM DRAIN PIPE
「	EXISTING WATER LINE
<u> </u>	EXISTING SEWER LINE
<u></u>	PROPOSED SEWER
	PROPOSED WATER
с	EXISTING CABLE LINE
G	EXISTING GAS LINE
ОНW	EXISTING OVERHEAD WIRE
	PROPOSED PAVING/PATH
4 4 4 4	PROPOSED SIDEWALKS
\rightarrow	FOREST CONSERVATION EASEMENT (REFORESTATION)
-00	FOREST CONSERVATION EASEMENT FENCING
<u> 100 </u>	LIMIT OF DISTURBANCE
SF	SILT FENCE
———TPF ———	TREE PROTECTION FENCE
	STABILIZED CONSTRUCTION ENTRANCE
~~~~	EXISTING TREE LINE
~~~~	PROPOSED TREE LINE
	DRYWELL (M-5)-TYPICAL
GgB GgC	SOIL LINES AND TYPES
WB	EXISTING WETLANDS & WETLAND BUFFER
	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
· · · · · · ·	PROPOSED ROOF LEADER
	SWM DRAINAGE DIVIDE
X *	DENOTES EXISTING TREES TO BE REMOVED
CRZ W	DENOTES EXISTING TREES TO REMAIN
711	CRITICAL ROOT ZONE
	DENOTES 15%-24.9% SLOPES

LANDSCAPE NOTES

- 1. THE PERIMETER LANDSCAPE OBLIGATION IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL, A LANDSCAPE SURETY IN THE AMOUNT OF \$1,950 BASED ON 5 SHADE TREES @ \$300/SHADE, 3 EVERGREEN TREES @ \$150/TREE SHALL BE BONDED AS PART OF THE GRADING PERMIT.
- . AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE

PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.

- 3. THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY. REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- 4. FOR ANY TREE DESIGNATED FOR PRESERVATION, FOR WHICH CREDIT IS GIVEN, BE REMOVED OR DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR IF THE TREE IS LISTED AS A PROHIBITED OR INVASIVE SPECIES ON THE DPZ TREE LIST IT SHOULD BE REPLACED WITH A RECOMMENDED TREE SPECIES WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE LANDSCAPE MANUAL."

SCHEDULE A - PERIMETER LANDSCAPE EDGE						
PERIMETER	P-1	P-2	P-3	TOTAL		
CATEGORY	ADJACENT TO PERIMETER PROPERTIES	SIDE/REAR ADJACENT TO ROADWAYS	FRONT ADJACENT TO ROADWAY			
LANDSCAPE TYPE	A	В	N/A			
LINEAR FEET OF PERIMETER	191 L.F.	315 L.F.	194 L.F.			
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES	(191'/60' = 3.10 OR 3) 0	(122'/50' = 2.4 OR 2) (122'/40' = 3.05 OR 3)	0 0	5 3		
CREDIT FOR EXISTING VEGETATION SHADE TREES EVERGREEN TREES	NO 0 0	193 LF 0 0	60 LF 0 0	261 LF		
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES SHOURS	1 *2	2 3	0	3 5		

PERIMETER 1 - * 2 EVERGREEN TREES ARE SUBSTITUTED FOR 1 SHADE TREE

** 10 SHRUBS ARE SUBSTITUTED FOR 1 SHADE TREES DUE TO THE PRESENCE OF OVERHEAD WIRES AND THE PROXIMITY OF THE DRIVEWAY TO THE PROPERTY LINE.

PLANTING SPECIFICATIONS

PLANTS, RELATED MATERIAL, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.

ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED, HAVE A VIGOROUS ROOT SYSTEM, AND SHALL CONFORM TO THE SPECIES, SIZE, ROOT AND SHAPE SHOWN ON THE PLANT LIST AND THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUN SCALD INJURIES, ABRASIONS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, BORERS AND ALL FORMS OF INSECT INFESTATIONS OR OBJECTIONABLE DISFIGUREMENTS. PLANT MATERIAL THAT IS WEAK OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL BE REJECTED. TREES WITH FORKED LEADERS WILL NOT BE ACCEPTED. ALL PLANTS SHALL BE FRESHLY DUG; NO HEALED-IN PLANTS FROM COLD STORAGE WILL BE ACCEPTED.

UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATION SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS", (HEREINAFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECT, LATEST EDITION, INCLUDING

CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE LANDSCAPE GUIDELINES CONTRACTOR'S ATTENTION IS DIRECTED TO THE MAINTENANCE REQUIREMENTS FOUND WITHIN THE ONE YEAR SPECIFICATIONS INCLUDING WATERING AND REPLACEMENT OF SPECIFIED PLANT MATERIAL.

BID SHALL BE BASE ON ACTUAL SITE CONDITIONS. NO EXTRA PAYMENT SHALL BE MADE FOR WORK ARISING FROM SITE CONDITIONS DIFFERING FROM THOSE INDICATED ON DRAWINGS AND SPECIFICATIONS

ALL SHRUBS SHALL BE PLANTED IN CONTINUOUS TRENCHES OR PREPARED PLANTING BEDS AND MULCHED WITH COMPOSTED HARDWOOD MULCH AS DETAILS AND SPECIFIED EXCEPT WHERE NOTED ON PLANS.

POSITIVE DRAINAGE SHALL BE MAINTAINED IN PLANTING BEDS 2 PERCENT SLOPE).

PLANTING MIX SHALL BE AS FOLLOWS: DECIDUOUS PLANTS - TWO PARTS TOPSOIL, ONE PART WELL-ROTTED COW OR HORSE MANURE. ADD 3 LBS. OF STANDARD FERTILIZER PER CUBIC YARD OF PLANTING MIX. EVERGREEN PLANTS - TWO PARTS TOPSOIL, ONE PART HUMUS OR OTHER APPROVED ORGANIC MATERIAL. ADD 3 LBS. OF EVERGREEN (ACIDIC) FERTILIZER PER CUBIC YARD OF PLANTING MIX. TOPSOIL SHALL CONFORM TO THE LANDSCAPE GUIDELINES.

WEED CONTROL: INCORPORATE A PRE-EMERGENT HERBICIDE INTO THE PLANTING BED FOLLOWING RECOMMENDED RATES ON THE LABEL. CAUTION: BE SURE TO CAREFULLY CHECK THE CHEMICAL USED TO ASSURE ITS ADAPTABILITY TO THE SPECIFIC GROUND COVER TO BE TREATED.

ALL AREAS WITHIN CONTRACT LIMITS DISTURBED DURING OR PRIOR TO CONSTRUCTION NOT DESIGNATED TO RECEIVE PLANTS AND MULCH SHALL BE FINE GRADED AND SEEDED.

> SITE DEVELOPMENT, LANDSCAPE, AND SEDIMENT & EROSION CONTROL PLAN

VAN BIK PROPERTY

8077 HARRIET TUBMAN LANE

SHEET 2 OF 4

ZONED R-5C TAX MAP No. 41 GRID No. 06 PARCEL No. 520 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: MAY, 2022

5DP-22-017

MAINTAINING CONTROLS, AND THAT RESPONSIBLE PERSONN HAVE CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMI	IEL INVOLVED IN THE CONSTRUCTION PROJECT WILL	OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN	Y THAT UPON COMPLETION, A LETTER EXECUTED ONE YEAR GUARANTEE OF						
TRAINING PROGRAM FOR THE CONTROL OF EROSION AND		PLANT MATERIALS WILL BE SUBMITTED TO THE DEPA	RTMENT OF PLANNING AND ZONING.	PROJECT			SECTION / A	REA P	ARCEL NO.
CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUA		4		VAN BIK P	ROPERTY			_	520
CONSERVATION DISTRICT, AND/OR MDE."	5/31/2022	VAN LANKES	5/31/2022	DEED #	GRID #	ZONE	TAX MAP #	ELEC. DIST.	CENSUS TR.

18929/195 06 R-5C 41

OWNER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING

TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD

OWNER/ BUILDER

VAN LAL BIK &

12207 SNOWDEN WOODS ROAD

LAUREL, MD 20708 (443-745-5505)

ISABEL BIAKHNEMPAR BIK

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

A. Soil Preparation

1. Temporary Stabilization

a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.

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

- c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
- a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
- Soil of between 60 and 70 ii. Soluble salts less than 500 parts per million (ppm). iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus
- clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable. iv. Soil contains 1.5 percent minimum organic matter by weight.
- v. Soil contains sufficient pore space to permit adequate root penetration b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions. c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
- d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test. e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to

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

B. Topsoiling

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

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

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

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

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing

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 tragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 inches in diameter. b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.

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

6. Topsoil Application

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

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

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

C. Soil Amendments (Fertilizer and Lime Specifications)

- 1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses. 2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by
- appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name. trade name or trademark and warranty of the producer 3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 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

Criteria

The application of seed and mulch to establish vegetative cover.

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

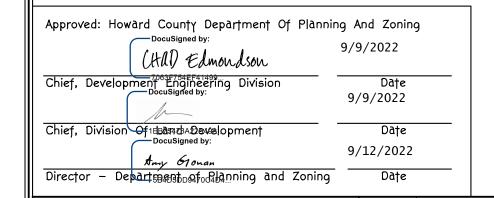
Conditions Where Practice Applies To the surface of all perimeter controls, slopes, and any disturbed area not under active grading

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

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

NO.



a. Drv 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. . 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. 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). . 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

Mulch Materials (in order of preference) a. Straw consisting of thoroughly threshed wheat, rve. 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:

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.

Use only sterile straw mulch in areas where one species of grass is desired. b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical state. i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection

of the uniformly spread slurry. ii. WCFM, including dye, must contain no germination or growth inhibiting factors. iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under gaitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.

iv. WCFM material must not contain elements or compounds at concentration levels that will by phyto-toxic. v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

a. Apply mulch to all seeded areas immediately after seeding. b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2

inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre. c. Wood cellulose fiber used as mulch must be applied to a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

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

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

inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on

wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited. iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4—15 feet wide and 300 to 3,000 feet long.

TEMPORARY SEEDING NOTES (B-4-4) Definition

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

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

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

Criteria 1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.

2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding. 3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

		remporary seedin	g summary		
Hardiness Zone Seed Mixture	e (from Figure B. (from Table B.1):	Fertilizer Rate (10-20-20)	Lime Rațe		
Species	Application Rate (Ib/ac)	Seeding Dațes	Seeding Depths		
BARLEY	96	3/1 - 5/15,	1"	436 b/ac	2 †ons/àc
OAT5	72	8/15 - 10/15	1"	(10 lb/ 1000 sf)	(90 lb/ 1000 sf)
RYE	112		1"		

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

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. Turfgrāss Mixtures

DATE

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 symmary is to be placed on the plan.

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

establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

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

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

Select turforass 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.

SIGNATURE OF DEVELOPER

Permanent Seeding Summary CONSTRUCTION ENTRANCE Hardiness Zone (from Figure B.3): __<u>6b</u>_ Fertilizer Rate (10-20-20) Lime Rate Seed Mixture (from Table B.3): Species Application Rate P205 (lb/ac) Dates Depths 100 per acre | (2 |b/ | (2 |b/ | (90 lb/ 1000 sf) | 1000 sf) | 1000 sf)

DETAIL B-1 STABILIZED

SCE

ONSTRUCTION SPECIFICATION

DETAIL D-4-1-A ROCK OUTLET PROTECTION

FLOW

HEIGHT OF I

L₁₂ IN MIN

RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.

—— A

PLAN VIEW

0%

PROFILE

CONSTRUCTION SPECIFICATIONS

NONWOVEN

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

| − d/2 |-

SECTION A-A

SECTION B-B

THICKNESS (

STANDARD SYMBOL

DISCHARGE TO SEMI CONFINED

ROP1

2011

EMBED GEOTEXTILE LINING A MIN. OF 4 IN

NONWOVEN

SECTION AT END NONWOVEN
OF APRON GEOTEXTUE

SLOPE TO DRAIN

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

EXISTING PAVEMENT

— EARTH FILL

PROFILE

<u>PLAN VIEW</u>

PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (+30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH

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 HININUM 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 SOFT.

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 DEHAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BEEM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STON, AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ANACENT ROADWAY BY VACUUMG, SCRAPING, AND/OR SWEEPING, WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.

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

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

50 FT MIN.

PIPE (SEE NOTE 6

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

General Specifications 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 3/2 inch. plus or minus 1/2 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. 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. Sod must not be harvested or transplanted when moisture content (excessively dry of wet) may adversely affect its 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. Sod Installation During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately price to laying the sod. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each

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 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

other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or

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 ½ of the grass leaf must be removed by the initial cutting 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 COMPLETED WITHIN:

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).

SEVEN (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

changes to drainage patterns.

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan. 2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading. 3. Runoff from the stockpile area must drain to a suitable sediment control practice.

4. Access the stockpile area from the upgrade side. 5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner. 6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.

7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B—4—1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization. 8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

<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. TABLE B.1 TEMPORARY SEEDING FOR SITE STABILIZATION

	SEEC	DING RATE 1/	SEEDING	RECOMMEN	DED SEEDING DATES BY PL	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.				
PLANT 5PEC5		LB./1000 FT. ²	DEPTH ² / (INCHES)		6Ь	7a AND 7b	3. 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 MATERIAL.			
COOL-SEASON GRASSES							4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF THE RIPRAP.			
· ·							5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A			
ANNUAL RYEGRASS (LOLIUM PERENNE SSP. MUTIFLORUM)	40	1.0	0.5	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	MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE EXTENT NECESSARY.			
BARLEY (HORDEUM VULGARE)	96	2.2	1.0	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	6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS			
OATS (AVENA SATIVA)	72	1.7	1.0	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	TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.			
WHEAT (TRITICUM AESTIVUM)	120	2.8	1.0	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	7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.			
CEREAL RYE (SECALE CEREALE)	112	2.8	1.0	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. 15	8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED			
WARM-SEASON GRASSES			•				SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.			
FOXTAIL MILLET (SETARIA ITALICA)	30	0.7	0.5	JUNE 1 TO JULY 31	MAY 16 TO JULY 31	MAY 1 TO AUGUST 14	MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL			
PEARL MILLET (PENNISETUM GLAUCUM)	20	0.5	0.5	JUNE 1 TO JULY 31	MAY 16 TO JULY 31	MAY 1 TO AUGUST 14	U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION			
	•		•		_		•			

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

3. THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

areas on the project site except for those areas under active grading.

DATE

1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 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 any other earth disturbance or grading, c. Prior to the start of another phase of construction or opening of another grading unit, d. Prior to the removal or modification of sediment control practices.

Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan. 2. All vegetative and structural practices are to be installed according to the provisions of this plan and are

to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto. 3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and

all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed

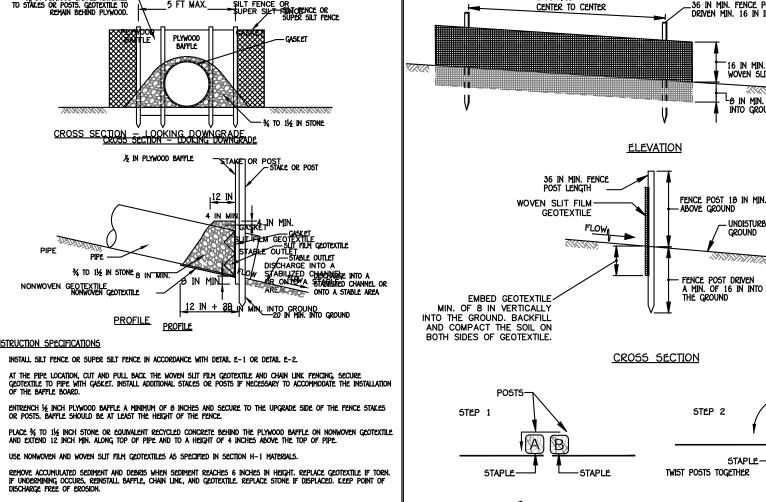
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Sec. B-4-0) in excess of 20 ft. must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6). 5. All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CID.

506 L.F.

4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011

6. Site Analysis: TOTAL AREA OF SITE 0.634 ACRES ARFA DISTURBED 0.416 ACRES AREA TO BE ROOFED OR PAVED 0.15 ACRES AREA TO BE VEGETATIVELY STABILIZED 0.48 ACRES TOTAL CUT 458 CU.YDS 472 CU.YD5. TOTAL FILL OFFSITE WASTE/BORROW AREA LOCATION N/A SILT FENCE

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



DETAIL E-15ILT FENCE

——5F——

----STAPLE

STAPLE -

FENCE SECTIONS (TOP VIEW)

STEP 3

. USE WOOD POSTS 13/4 X 13/4 ± 1/6 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.

JOINING TWO ADJACENT SILT

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

5IDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION. 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 Ø 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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMEN U.S. DEPARTMENT OF AGRICULTURE

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES CONT...

8. Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include: Inspection date

Inspection type (routine, pre-storm event, during rain event) Name and title of inspector · Weather information (current conditions as well as time and amount of last recorded precipitation) Brief description of project's status (e.g., percent complete) and/or current activities

 Evidence of sediment discharges Identification of plan deficiencie Identification of sediment controls that require maintenance

Identification of missing or improperly installed sediment controls • Compliance status regarding the sequence of construction and stabilization requirements Photographs

 Monitorina/sampling • Maintenance and/or corrective action performed • Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).

9. Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday whichever is shorter

10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may allowed by the HSCD per the list of HSCD-approved field changes. 11. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one

grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the HSCD. Unless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively may be disturbed at a 12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved

3. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade. 14. All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25' minimum intervals, with lower ends curled uphill by 2' in elevation. 15. Stream channels must not be disturbed during the following restricted time periods (inclusive): Use I and IP March 1 - June 15

Use III and IIIP October 1 - April 30
Use IV March 1 - May 31 16. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active. SEQUENCE OF CONSTRUCTION

OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (2 WEEKS) NOTIFY "MISS UTILITY" AT LEAST 40 HOURS BEFORE BEGINNING ANY WORK AT 1-000-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/ INSPECTION AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SUPER SILT FENCE, CLEAN WATER DIVERSION PIPE

AND TREE PROTECTIVE FENCING, IF REQUIRED (1 DAY) COMMENCE REMOVAL OF NECESSARY TREES AND ROUGH GRADE LOT. (2 DAYS) COMMENCE INSTALLATION OF TEMPORARY SEEDING. (1 DAY)
COMMENCE CONSTRUCTION OF HOUSE, DRIVEWAY AND INSTALLATION OF SEWER AND WATER HOUSE CONNECTIONS.

COMMENCE FINE GRADING AND INSTALLATION OF PERMANENT SEEDING. (3 DAYS)

ONCE SITE IS STABILIZED AND WITH THE PERMISSION OF SEDIMENT CONTROL INSPECTOR, INSTALL DRYWELLS AND BIO-RETENTION FACILITIES. 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 HE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT CONTROL DEVICES MAY BE REMOVED. (3 DAYS)

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

FISHER, COLLINS & CARTER, INC IVIL ENGINEERING CONSULTANTS & LAND SURVEYO QUARE OFFICE PARK — 10272 BALTIMORE NATIONAL PIK ELLICOTT CITY, MARYLAND 21042

PROFESSIONAL CERTIFICATE

"I HEREBY CERTIFY 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."

6/1/2022 Paul G. Cavanaugh SIGNATURE OF PROFESSIONAL ENGINEER PAUL G. CAVANAUGH

BUILDER/DEVELOPER'S CERTIFICATE "I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS. AND THAT RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL

HAVE CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE." (VAILWAZ) 5/31/2022

THIS DEVELOPMENT PLAN IS APPROVED FOR SCHEIGHER SION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. Olexander Bratchie HOWARD SOIL CONSERVATION DISTRICT DATE

> PROJECT SECTION / AREA PARCEL NO. VAN BIK PROPERTY 520 DEED # TAX MAP # ELEC. DIST. CENSUS TR. GRID # ZONE 18929/195 R-5C 605602

OWNER/ BUILDER

VAN LAL BIK & ISABEL BIAKHNEMPAR BIK

12207 SNOWDEN WOODS ROAD

LAUREL. MD 20708 (443 - 745 - 5505)

SEDIMENT & EROSION CONTROL NOTES AND DETAILS

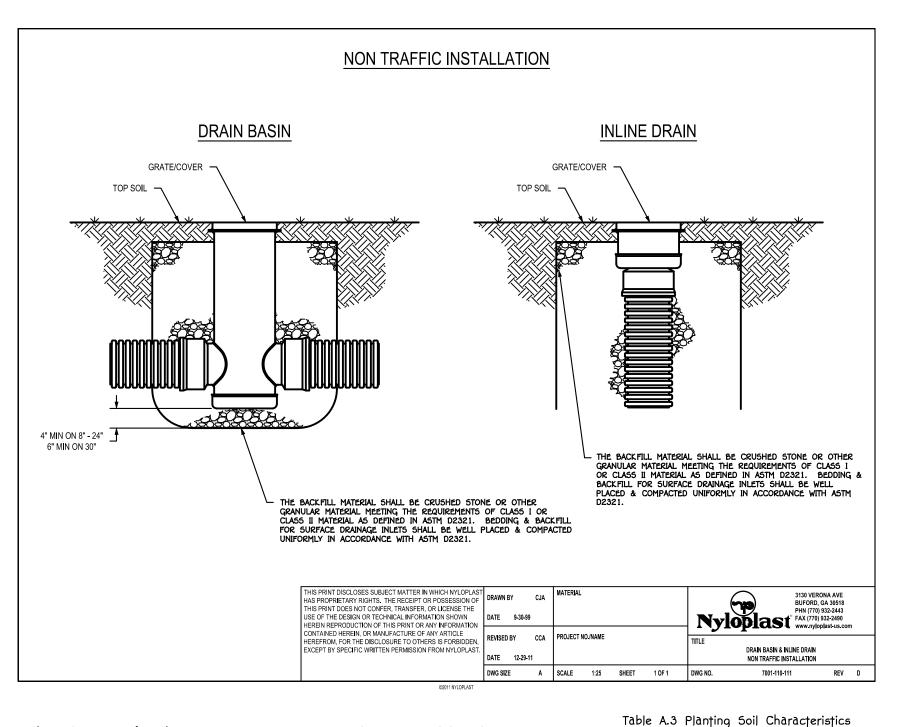
VAN BIK PROPERTY

8077 HARRIET TUBMAN LANE ZONED R-5C TAX MAP No. 41 GRID No. 06 PARCEL No. 520 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: MAY, 2022

SHEET 3 OF 4

5DP-22-017



ON ALL SIDES AND TO TOP OF EMBANKMENTS AND IMPERMEABLE > THERMOPLASTIC RESIN PVC LINER WHERE SHOWN ON PLAN-THIS SHEET (NOTE: NO GEOTEXTILE OR PVC LINER WILL BE PROVIDED UNDER THE STONE.) GUTTER DRAIN FILTER DETAIL 13" LAYER #2 STONE— NOTE: THE BOTTOM OF EACH BIO-RETENTION FACILITY (M-6 SHALL BE ROTOTILLED PRIOR TO STONE INSTALLATION TYPICAL SECTION MICRO-BIORETENTION FACILITY (M-6)

4" DIA. DOME GRATE—

ON SURFACE

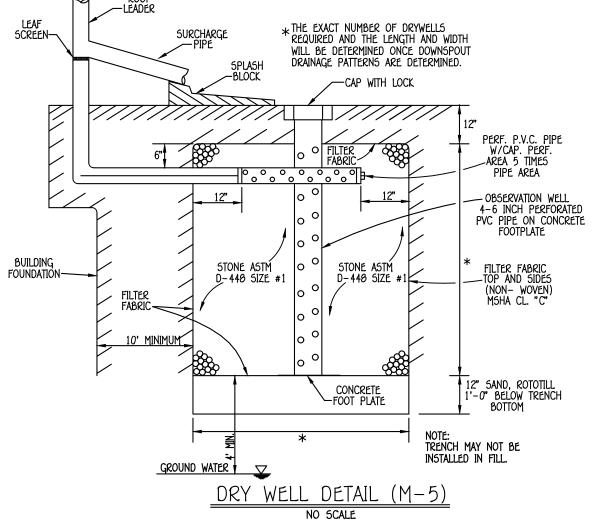
OPERATION & MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

WIDTH VARIES

SOLID CAP~

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

MI	RCO-1	BIORETENTI	ON INFO	O CHAR	Τ
Description	вмр	DA to BMP	Top El.	Bot. El.	Area (Bottom)
Micro-Bio #1	M-6	10,509 Sa.Ft.	401	400	465 Sa.Ft.



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.
- THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS. 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.
- 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.

NO. REQUIRED PROVIDED TREATMENT L W D 1 743 SQ. FT. 106 C.F. 166 C.F. 100%* 11.5'x 9'x 4'	DRYWELL CHART							
	DRYWELL NO.	AREA OF ROOF	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L	W	D
2 697 50 FT 100 CE 166 CE 100% 11.5% 9° v 4°	1	743 5Q. FT.	106 C.F.	166 C.F.	100%*	11.5'x	9' x	4'
2 097 Sq. 11. 100 C.1. 100 C.1. 100%* 11.3x 9 x +	2	697 5Q. FT.	100 C.F.	166 C.F.	100%*	11.5'x	9' x	4'

ESDV ESDV REQUIRED PROVIDED

CU.FT.

332

(STORAGE)

18929/195

CU.FT.

206

(STÖRÄGE)

SITE

STORMWATER MANAGEMENT SUMMARY

3.	FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4.	WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.

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.

l FLOW

WOVEN SLIT FILM GEOTEXTILE—

embed geotextile and chain link fence 8 in Min. Into Ground

FLOW —

CHAIN LINK FENCING—

CROSS SECTION

- EXISTING TREES TO REMAIN

- 2'± ORANGE STREAMERS

3'± O.C.

5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 Degrees to the main fence alignment to prevent runoff from going around the ends of the super silt fence.

ELEVATION

STEP 3

FLOW

GROUND SURFACE

STANDARD SYMBOL

CONSTRUCTION SPECIFICATIONS

- . PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS
- 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.

Infiltration and Filter System Construction Specifications

Infiltration and filter systems either take advantage of existing permeable soils or create a permeable medium such as sand for WC), and Re v. In some instances where permeability is great, these facilities may be used for Qp as well. The most common systems include infiltration trenches, infiltration basins, sand filters, and organic filters.

When properly planted, vegetation will thrive and enhance the functioning of these systems. For example, pre-treatment buffers will trap sediments that often are bound with phosphorous and metals. Vegetation planted in the facility will aid in nutrient uptake and water storage. Additionally, plant roots will provide arteries for stormwater to permeate soil for groundwater recharge. Finally, successful plantings provide desthetic value and wildlife habitat making these facilities more desirable to the public

Design Constraints:

> Planting buffer strips of at least 20 feet will cause sediments to settle out before reaching the facility, thereby reducing the possibility of clogging.

> Determine areas that will be saturated with water and water table depth so that appropriate plants may be selected (hydrology will be similar to bioretention facilities, see figure A.5 and Table A.4 for planting material guidance). > Plants known to send down deep taproots should be avoided in systems where filter fabric is

used as part of facility design. > Test soil conditions to determine if soil amendments are necessary.

- > Plants shall be located so that access is possible for structure maintenance. > Stabilize heavy flow areas with erosion control mats or sod.
- > Temporarily divert flows from seeded areas until vegetation is established. > See Table A.5 for additional design considerations.

Bio-retention

Soil Bed Characteristics

The characteristics of the soil for the bioretention facility are perhaps as important as the facility location, size, and treatment volume. The soil must be permeable enough to allow runoff to filter through the media, while having characteristics suitable to promote and sustain a robust vegetative cover crop. In addition, much of the nutrient pollutant uptake (nitrogen and phosphorus) is accomplished through absorption and microbial activity within the soil profile. Therefore, soils must balance their chemical and physical properties to support biotic communities above and below ground.

The planting soil should be a sandy loam, loamy sand, loam (USDA), or a loam/sand mix (shou contain a minimum 35 to 60% sand, by volume). The clay content for these soils should be less than 25% by volume [Environmental Quality Resources (EQR), 1996; Engineering Technology Inc. and Biohabitats, Inc. (ETAB), 1993]. Soils should fall within the SM, ML, SC classifications or the Unified Soil Classification System (USCS). A permeability of at least 1.0 feet per day (0.5"/hr) is required (a conservative value of 0.5 feet per day is used for design). The soil should be free of stones, stumps, roots, or other woody material over 1" in diameter. Brush or seeds from noxious weeds (e.g., Johnson Grass, Mugwort, Nutsedge, and Canada Thistle or other noxious weeds as specified under COMAR 15.00.01.05.) should not be present in the soils. Placement of the planting soil should be in 12 to 18 lifts that are loosely compacted (tamped lightly with a backhoe bucket or traversed by dozer tracks). The specific characteristics are presented in Table A.3.

NO.

Value 5.2 to 7.00 pH range Organic matter 1.5 to 4.0% (by weight) Magnesium 35 lbs. per acre, minimum Phosphorus (phosphate - P2O5)| 75 lbs. per acre, minimum Potassium (potash —1(K2O) 85 lbs. per acre, minimum soluble salts 500 ppm 0 to 5% 30 to 55% 35 to 60%

The mulch layer plays an important role in the performance of the bioretention system. The mulch layer helps maintain soil moisture and avoids surface sealing, which reduces permeability. Mulch helps prevent erosion, and provides a microenvironment suitable for soil biota at the mulch/soil interface. It also serves as a pretreatment layer, trapping the finer sediments, which remain suspended after the primary pretreatment

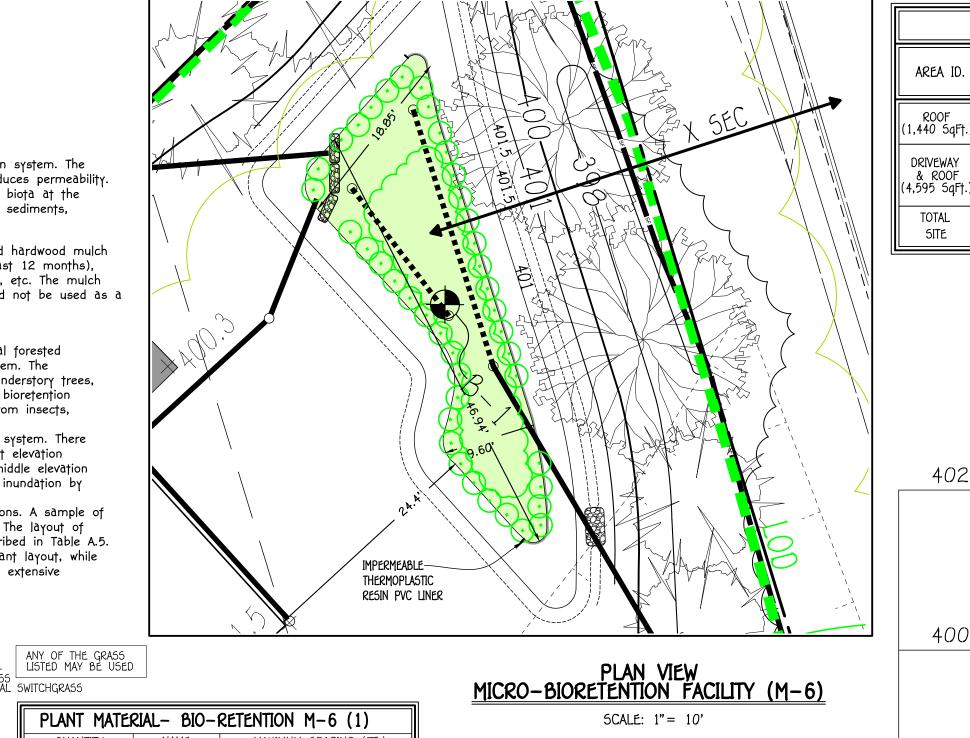
The mulch layer should be standard landscape style, single or double shredded hardwood mulch or chips. The mulch layer should be well aged (stockpiled or stored for at least 12 months), uniform in color, and free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to a maximum depth of three inches. Grass clippings should not be used as a mulch material.

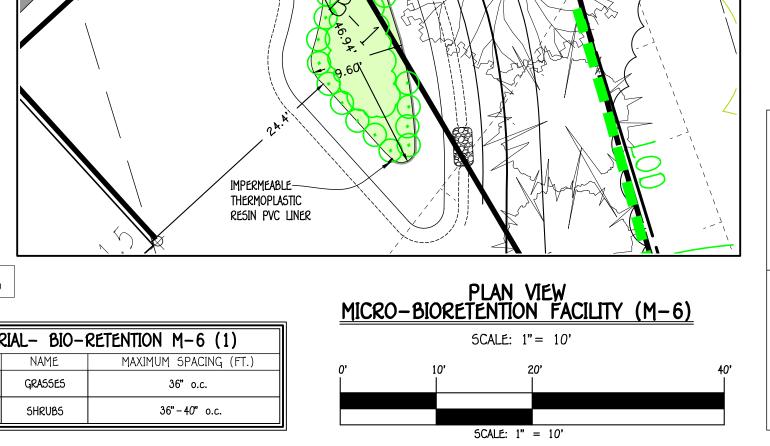
Planting Guidance

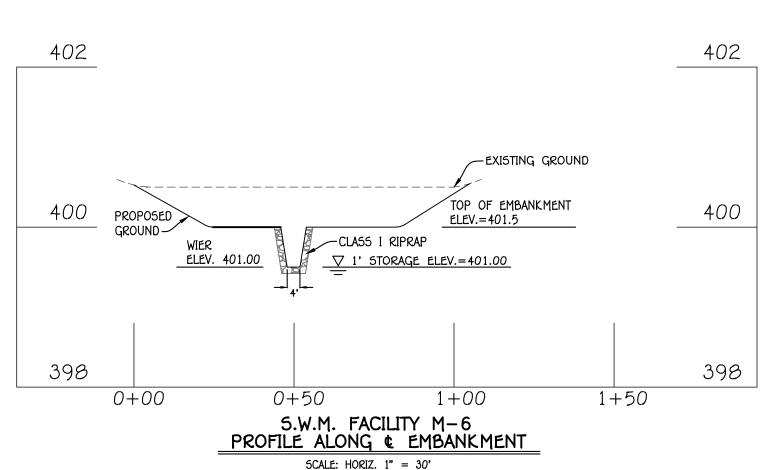
Plant material selection should be based on the goal of simulating a terrestrial forested community of native species. Bioretention simulates an upland-species ecosystem. The community should be dominated by trees, but have a distinct community of understory trees, shrubs and herbaceous materials. By creating a diverse, dense plant cover, a bioretention facility will be able to treat stormwater runoff and withstand urban stresses from insects, disease, drought, temperature, wind, and exposure.

The proper selection and installation of plant materials is key to a successful system. There are essentially three zones within a bioretention facility (Figure A.5). The lowest elevation supports plant species adapted to standing and fluctuating water levels. The middle elevation supports plants that like drier soil conditions, but can still tolerate occasional inundation by

is the highest elevation and generally supports plants adapted to dryer conditions. A sample of appropriate plant materials for bioretention facilities are included in Table A.4. The layout of plant material should be flexible, but should follow the general principals described in Table A.5. The objective is to have a system, which resembles a random, and natural plant layout, while maintaining optimal conditions for plant establishment and growth. For a more extensive bioretention plan, consult ETAB, 1993 or Claytor and Schueler, 1997.







VERT. 1" = 3"

R-5C

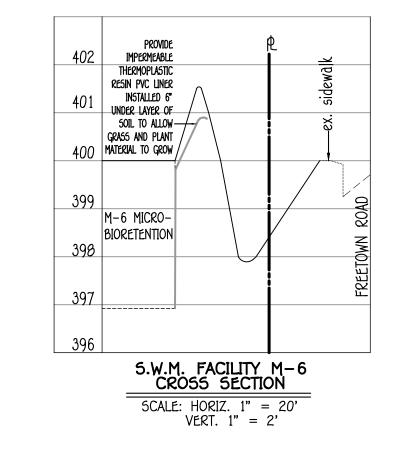
REMARKS

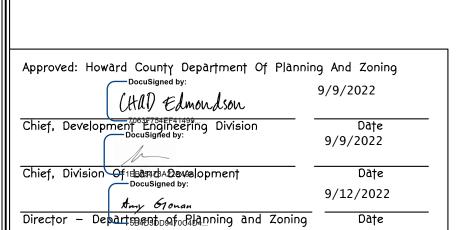
2 DRYWELLS (M-5)

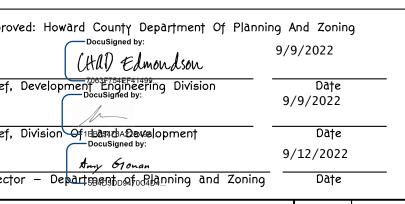
PRIVATELY OWNED & MAINTAINED

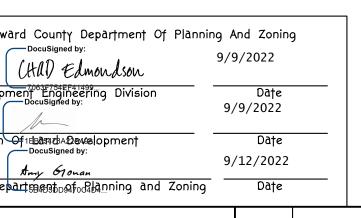
MICRO-BIORETENTION FACILITY (M-6)

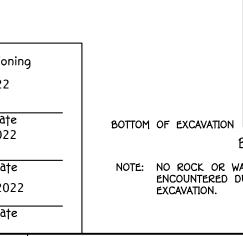
PRIVATELY OWNED & MAINTAINED

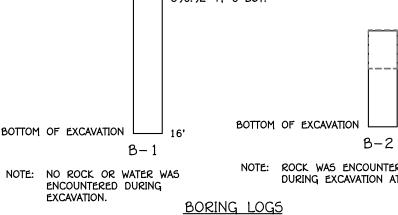




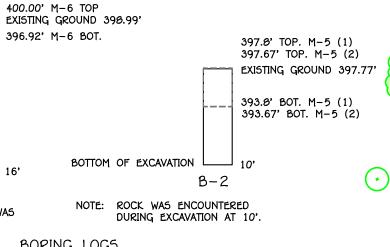


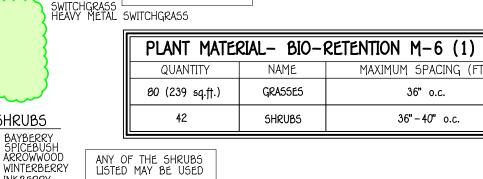




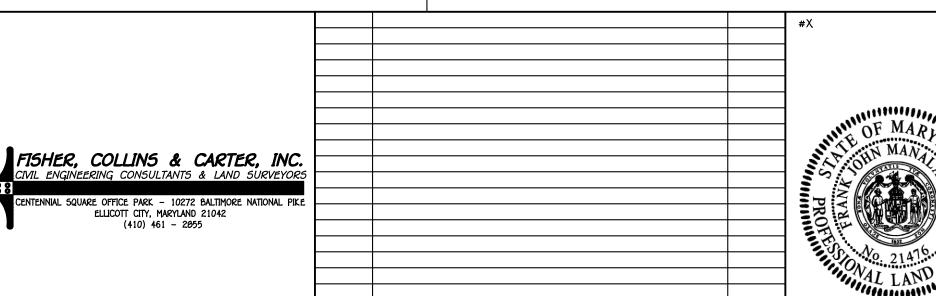


DATE









REVISION

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 07/14/2023.

Frank Manalansan 11 5/31/2022 Signature Of Professional Land Surveyor

VAN LAL BIK & ISABEL BIAKHNEMPAR BIK 12207 SNOWDEN WOODS ROAD LAUREL, MD 20708 (443-745-5505) PROJECT SECTION / AREA PARCEL NO. VAN BIK PROPERTY 520 DEED # TAX MAP # ELEC. DIST. CENSUS TR. GRID # ZONE

605602

OWNER/ BUILDER

STORMWATER MANAGEMENT NOTES AND DETAILS

VAN BIK PROPERTY

8077 HARRIET TUBMAN LANE

ZONED R-5C TAX MAP No. 41 GRID No. 06 PARCEL No. 520 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: MAY, 2022

SHEET 4 OF 4

5DP-22-017