SUBJECT PROPERTY IS ZONED R-SC PER THE 10-6-2013 COMPREHENSIVE ZONING PLAN. THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, DATED OCTOBER 7, 2007. PROJECT LIMITS ARE BASED ON A BOUNDARY SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC., ON OR ABOUT JUN 2018. INC., ON OR ABOUL JUN 2018. 4. TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD RUN SURVEY PREPARED BY BENCHMARK ENGINEERING, INC., DATED JUNE 2018, CONTOUR INTERVAL IS 2'. 5. THE COORDINATES SHOWN HEREON ARE BASED UPON HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 47GD AND 47GE WERE USED FOR THIS PROJECT. 6. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE

2.0'x5.0'

15.0'x5.5'

DESIGN FLOW

2.0'

2:1 0.06

SLOPE 0.023' BOTTOM DIMS

LENGTH 89'

WIDTH 2.0'

FOR CONVEYANCE ONLY

GRASS SWALE TYPICAL SECTION DETAIL

FIRST FLOOR

BASEMENT FLOOR

FF=8.77'

BF=0.00'

1,402 SF

GARAGE

20.00'

CLAREMONT

SCALE: 1" = 20'

- OPT. AREAWAY OPT. AREAWAY

FF=8.77'

BF=0.00'

1,402 SF

GARAGE

20.00'

2.0'x5.0'

PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM(S), OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS. THERE ARE NO STEEP SLOPES (25% OR GREATER) IN EXCESS OF 20,000 SF ON THIS SITE. THERE ARE NO FLOODPLAINS, STREAMS OR WETLANDS LOCATED ON-SITE.

O THE BEST OF OUR KNOWLEDGE THERE ARE NO CEMETERIES OR HISTORIC STRUCTURES LOCATED

GENERAL NOTES

ON THIS SITE.

10. A NOISE STUDY IS NOT REQUIRED FOR THIS PLAN. THIS SITE IS LOCATED WITHIN THE METROPOLITAN DISTRICT AND THE PLANNED SERVICE AREA. WATER AND SEWER WILL BE PUBLIC CONNECTIONS PROPOSED TO CONTRACT 24-0927-D. THE SITE AREA IS LESS THAN 20,000 SF. THEREFORE, THE SITE SHALL BE EXEMPT FROM THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION PER SECTION 16.1202(B)(1)(i) OF THE SUBDIVISION REGULATIONS FOR DEVELOPMENT ON LAND WHICH IS LESS THAN 40,000 SF IN SIZE. THIS SUBDIVISION WAS CREATED PRIOR TO THE EFFECTIVE DATE OF THE 1993 EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE ENACTMENT OF THE LANDSCAPE MANUAL AND THESE LOTS ARE CONSIDERED INTERNAL TO THE DEVELOPMENT. LANDSCAPING IS NOT

. DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR OPT. B.W. — FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS: A) WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE). B) SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN.) C) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM 45' TURNING D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE

THAN 1 FOOT DEPTH OVER DRIVEWAY. F) STRUCTURE CLEARANCES - MINIMUM 12 FEET. G) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.

15. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS, OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 16 FEET INTO ANY SETBACKS. PORCHES OR DECKS, OPEN OR ENCLOSED, MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.

16. IN ACCORDANCE WITH SECTION 16.108.(b)(28.1)(v), A PRE—SUBMISSION COMMUNITY MEETING FOR THIS PROJECT IS NOT REQUIRED, AS THIS PROJECT IS PART OF A RECORDED SUBDIVISION THAT AUTHORIZED AN EQUAL OR GREATER NUMBER OF RESIDENTIAL UNITS THAN PROPOSED ON THIS

ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING

8. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE. 19. EXISTING UTILITIES SHOWN ARE BASED ON A FIELD SURVEY, HOWARD COUNTY GIS. AND O. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE BUILDER'S EXPENSE CONTRACTOR SHALL ADJUST ELEVATIONS OF STRUCTURES AS NECESSARY. 1. SHC ELEVATIONS SHALL BE THE RESPONSIBILITY OF THE OWNER.
12. STORMWATER MANAGEMENT METHODS WERE DESIGNED BASED ON THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II. TREATMENT IS PROVIDED USING ENVIRONMENTAL SITE DESIGN

7. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF

METHODS, INCLUDING MICRO-BIORETENTION PRACTICE (M-6). THE FACILITIES SHALL BE OWNED AND 3. BRL INDICATES ZONING BUILDING RESTRICTION LINE, OTHER RESTRICTIONS MAY APPLY. 24. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS

5. THE STAKING OF FOUNDATIONS PRIOR TO CONSTRUCTION TO ENSURE COMPLIANCE WITH REGULATORY BUILDING RESTRICTION LINES IS RECOMMENDED. 26. TEMPORARY OR PERMANENT SEEDING AND STABILIZATION IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE TIME FRAME PROVIDED WITHIN THE 2011 MD STANDARDS & SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL; WHICHEVER IS MORE

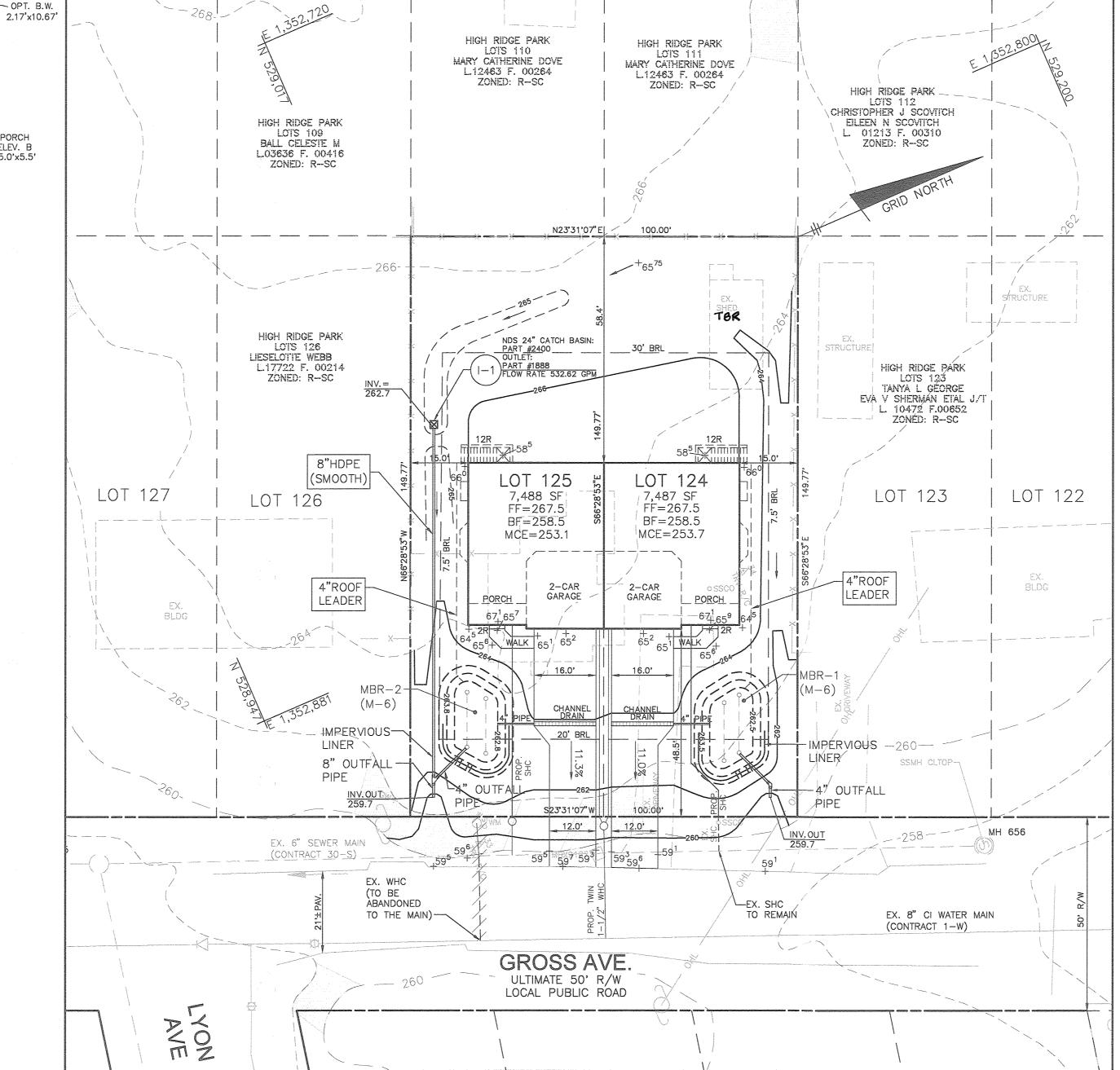
27. FOR DRIVEWAY ENTRANCE DETAIL, SEE HOWARD COUNTY STANDARDS DETAIL 6.06.
28. THIS PROJECT DISTURBANCE IS LESS THAN 30,000 SF, AND SEDIMENT CONTROL SHALL BE UNDER THE STANDARD SEDIMENT CONTROL PLAN. 29. IF ANY WELL OR SEPTIC ARE FOUND BEFORE AND OR DURING CONSTRUCTION THEY MUST BE PROPERLY ABANDONED WITH DOCUMENTATION SENT TO THE HEALTH DEPT 30. PREVIOUS HOWARD COUNTY FILE REFERENCE: ECP-19-035.

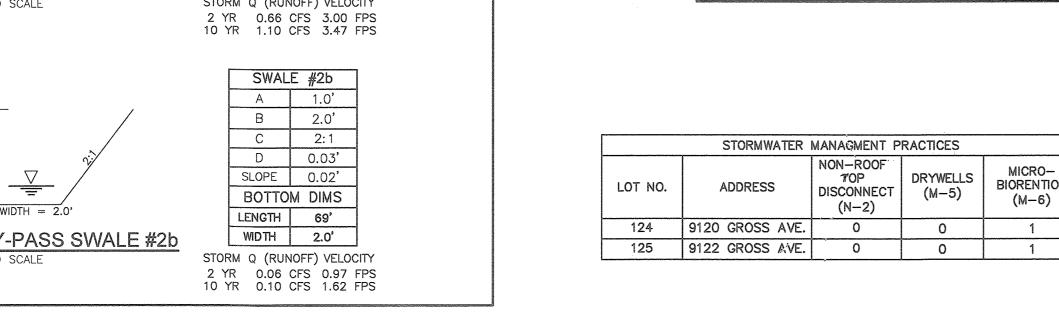
SITE DEVELOPMENT PLAN HIGH RIDGE PARK

LOTS 124-125, PLAT BOOK 111 PARCEL 0413

6th ELECTION DISTRICT

HOWARD COUNTY, MARYLAND





	STORMWATER	MANAGMENT P	RACTICES		
LOT NO.	ADDRESS	NON-ROOF FOP DISCONNECT (N-2)	DRYWELLS (M-5)	MICRO- BIORENTION (M-6)	
124	9120 GROSS AVE.	0	0	1	
125	9122 GROSS AVE.	0	0	1	

DI ANIN/15-10/	A.)	TOTAL PROJECT AREA	_ 0.34 AC.
<u>PLAN VIEW</u>	В.)	AREA OF THIS PLAN SUBMISSION	_ 0.34 AC.
SCALE: $1" = 20'$	c.)	APPROXIMATE LIMIT OF DISTURBANCE	_ 0.34 AC.
0 10 20	·	PRESENT ZONING:	RESIDENTIAL
	E.)	PROPOSED USE OF SITE:	_ SINGLE FAMILY SEMI-DETACHED
(IN FEET)	F.)	TOTAL NUMBER OF UNITS ALLOWED AS SHOWN ON FINAL PLAT(S)	_ 2
1 inch = 20 ft.	G.)	TOTAL NUMBER OF UNITS PROPOSED	_ 2
	н.)	REQUIRE PARKING PER UNIT:	_ 2.5 SPACES
	1.)	PROVIDED PARKING PER UNIT:	_ 4 (2 GARAGE AND 2 DRIVEWAY)
	J.)	APPLICABLE DPZ FILE REFERENCES:	_ ECP-19-035
	к.)	MAXIMUM LOT COVERAGE (BY STRUCTURE)	60%
	L.)	LOT COVERAGE	_ 19% (LOT 124)
	M.)	LOT COVERAGE	_ 19% (LOT 125)
	N.)	PROPOSED WATER AND SEWER SYSTEMS: _X PUB	BLIC PRIVATE

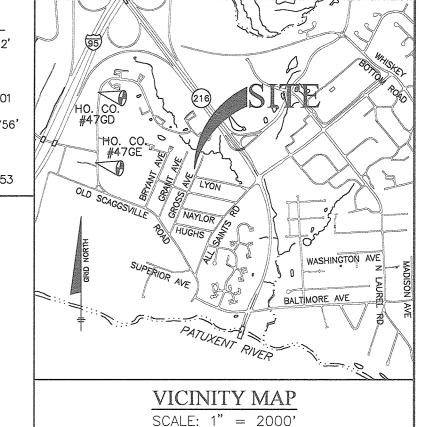
AD	ADDRESS CHART						
LOT No.	ADDRESS						
124	9120 GROSS AVE.						
125	9122 GROSS AVE.						

N.	.) PROPOSED WATER	AND SEWE	R SYS	TEMS:	_X PUBLIC	PRIVATE			od wy dominion in the contract of the contract	410-73	2 2000
		PERMI	T INF	OR	MATION CH	HART			New Arte you will be about the province of the about the province of the about the abo		
3	SUBDIVISION NAME:			SE	CTION/AREA:	LOT		PARCEL #	W. Washandoode		
	HIGH RID	GE PAF	RK		N/A	LOTS 124-1	25	413	ANNINGENERAL MANINGENERAL MANIN		
	PLAT No. PB 111	GRID No.	ZOI	vE	TAX MAP	ELECTION DISTRICT		CENSUS TRACT	descriptions and a second law		
	FOLIO 597	2	R-9	SC	50	6TH	(6.069.06	DESIGN:	LDD	DRAFT: LDD

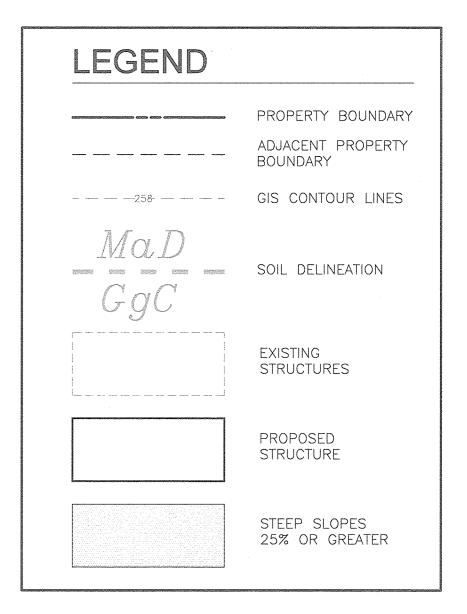
SITE ANALYSIS DATA CHART

A.) TOTAL PROJECT AREA _____

BENCH MARKS (NAD83) HO. CO. No. 47GD ELEV. 312 NEAR 9028 OLD SCAGGSVILLE ROAD ELEV. 312.32' 6 FEET FROM FIRE HYDRANT 33.9 FEET FROM BGE 315258 N 530494.447 E 1350872.301 ELEV. 335.756' BY 9160 OLD SCAGGSVILLE ROAD 19.8 FEET FROM WATER METER 76.5 FEET FROM BGE 31000 N 529044.964 E 1350854.953

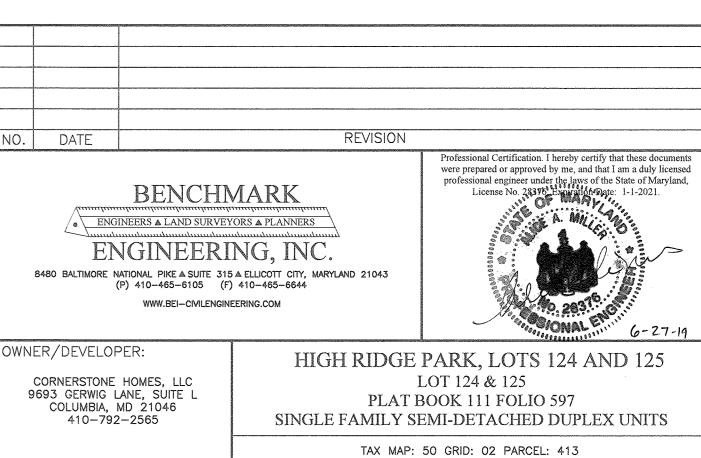


ADC MAP 40, GRID B8



	SHEET INDEX
No.	DESCRIPTION
1	SITE DEVELOPMENT AND GRADING PLAN
2	STORMWATER MANAGEMENT PLAN, NOTES AND DETAILS
3	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

NOTE: THE MODERATE INCOME HOUSING UNIT REQUIREMENT DOES NOT APPLY TO THIS SDP, AS THE SUBDIVISION WAS CREATED PRIOR TO THE IMPLEMENTATION OF 2013 MIHU REQUIREMENTS, AND NO NEW LOTS ARE BEING CREATED.

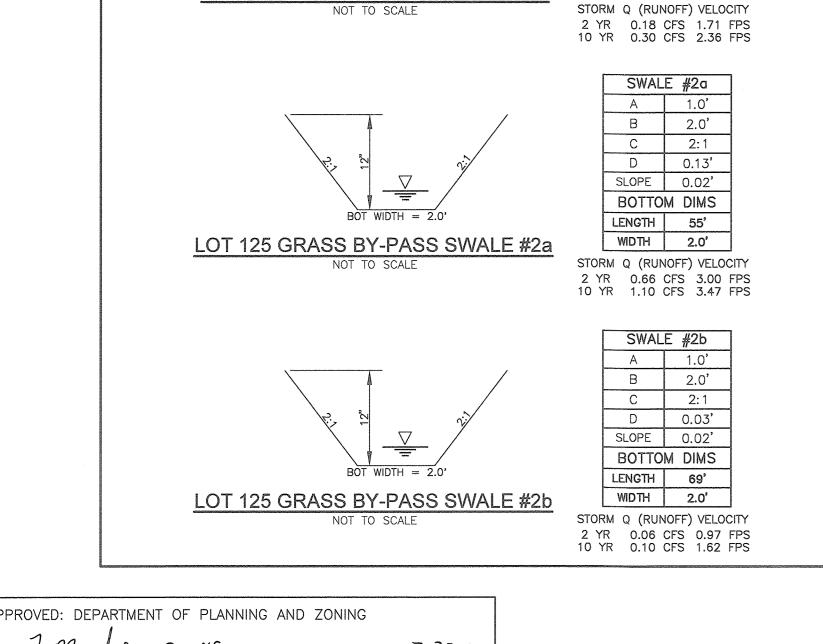


JUNE, 2019 BEI PROJECT NO. 2913 SCALE: AS SHOWN 1 of 3

SITE DEVELOPMENT AND GRADING PLAN

ZONED: R-SC ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SDP-19-046



LOT 124 GRASS BY-PASS SWALE #1

APPROVED: DEPARTMENT OF PLANNING AND ZONING J. Muches 7-22-19 CHIEF, DIVISION OF LAND DEVELOPMENT CHIEF, DEVELOPMENT ENGINEERING DIVISION 7-22-19

SOILS LEGEND UcB D Urban land—Chillum—Beltsville complex, 0 to 5 percent slopes 0.37 USDA - NRCS WEBSITE -SOIL SURVEY MAP No. 25- NO HYDRIC SOILS

CONSTRUCTION SPECIFICATIONS

B.4.C Specifications for Micro-Bioretention. Rain Gardens, Landscape Infiltration & Infiltration Berms

1. Material Specifications:

The allowable materials to be used in these practices are detailed in Table B.4.1.

2. Filtering Media or Planting Soil:

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro-bioretention practice that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05. The planting soil shall be tested and shall meet the following

Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification) Organic Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy and(60%-65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).

Clay Content - Media shall have a clay content of less than 5%. pH Range - Should be between 5.5 - 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.

There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

3. Compaction:

It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoes to remove original soil. If practices are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded

water before preparing (rototilling) base. When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to

create a gradation zone. Backfill the remainder of the topsoil to final grade. When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light

4. Plant Material:

Recommended plant material for micro-bioretention practices can be found in Appendix A, Section A.2.3.

equipment such as a compact loader or a dozer/loader with marsh tracks.

5. Plant Installation:

Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed in surrounding to a uniform thickness of 2" to 3". Shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8th of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1,000 square feet.

6. Underdrains:

Underdrains should meet the following criteria:

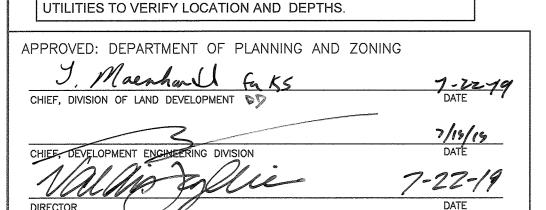
- Pipe- Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTMF 758, Type PS 28, or AASHTO-M-278) in a
- gravel layer. The preferred material is slotted, 4" rigid pipe (e.g., PVC or HDPE). • Perforations - If perforated pipe is used, perforations should be 3/8" diameter located 6" on center with a minimum of four holes
- per row. Pipe shall be wrapped with a ½" (No. 4 or 4x4) galvanized hardware cloth.
- Gravel The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain • The main collector pipe shall be at a minimum 0.5% slope.
- A rigid, non-perforated observation well must be provided (one per every 1,000 square feet) to provide a clean-out port and
- monitor performance of the filter. • A 4" layer of pea gravel (1/2" to 3/2" stone) shall be located between the filter media and underdrain to prevent migration of fines
- into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1,000 square feet of surface area).

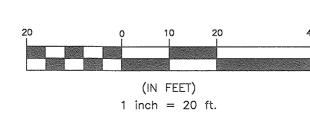
7. Miscellaneous:

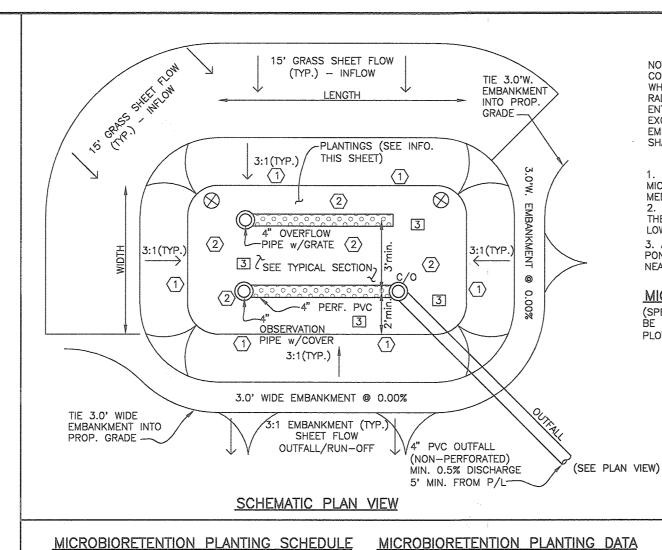
These practices may not be constructed until all contributing drainage area has been stabilized

	High Ridge Park, Lots 124 and 125					DATE: 04/02/19							
	Facility 9	Summary											
Pe (LOTS):	1.60	inches											
				В	IORETENTIO	ON FACILIT	TES (M-6)						
Facility	Drainage Area	Impervious	I (%)	Rv	ESDv Req'd (cf)	Req'd Ponded Storage (75%)	Ponded Volume Provided (c1)	Req'd Stone Storage (cf)	Stone Storage Provided (cf)	Total ESDv	Pe Prov.	Rev (cf)	Notes
MBR-1 (M-6)	2,575	1,928	75%	0.724	249	186	260	62	86	346	2.2	41	
MBR-2 (M-6)	3,427	1,928	56%	0.556	254	191	260	64	74	334	2.1	74	
TOTALS		3,856			503		520		160	680		115	
VIDING 100% C	OF THE ESDV	BE CAPTURED V IN THE ON-SIT	E FACILITIE	S.					DMPLISHED	BY			



NOTE: THE CONTRACTOR SHALL TEST PIT IN AREAS OF EXISTING





PLANTINGS WITHIN THE PONDING AREA OF THE MICRO-BIORETENTION FACILITY ARE TO BE OF A

PLANTINGS ALONG THE PERIMETER (BERM) AREA OF

THE MICRO-BIORETENTION FACILITY ARE TO BE OF A LOW TO MEDIUM WATER TOLERANCE.

HIGH RIDGE PARK

MARY CATHERINE DOVE

L.12463 F. 00264

100.00'

LOT 124

7,487 SF

FF=267.5

BF=258.5

MCE=253.7

BGE METE

GARAGE

ZONED: R-SC

LOTS 111

AVOID PLANTINGS WITH EXCESSIVE ROOT MASS IN POND AREA OF THE MICRO-BIORETENTION FACILITY

MEDIUM TO HIGH WATER TOLERANCE.

NEAR O.B. PIPE AND UNDERDRAIN.

HIGH RIDGE PARK

LOTS 110

MARY CATHERINE DOVE

L.12463 F. 00264

DA TO

9,203 SF

ZONED: R-SC

NDS 24" CATCH BASIN:

-1 PART #1888 FLOW RATE 532.62 G

7.488 SF

FF=267.5

BF = 258.5

MCE = 253.1

GARAGE

12.0' 0 12.0'

STORMWATER MANAGEMENT PLAN

SCALE: 1" = 20'

-PAVEMENT

OVERLAY-

ULTIMATE 50' R/W

LOCAL PUBLIC ROAD

(ESTIMATED PLANTINGS TABULATED, THIS SHEET. SPECIFIC NUMBER OF PLANTINGS SHALL BE DETERMINED WITH FINAL DESIGN AT PLOT PLAN PHASE)

RUDBECKIA SUBTOMENTOSA – SWEET CONEFLOWER

CALLUNA VULGARIS (HEATHER) (2 PER FACILITY)

(2) LOBELIA CARDINALIS CARDINAL FLOWER

HIGH RIDGE PARK

LOTS 109

BALL CELESIE M

L.03636 F. 00416

HIGH RIDGE PARK

LOTS 126 LIESELOTTE WEBB L17722 F. 00214

ZONED: R-SC

126

LOT

8"HDPE

(SMOOTH)

DA TO

MBR-2

3,427 SF

0.08 AC

4"ROOF

LEADER

LINER

PIPE

EX. WHC

(TO BE

EX. 8"W

ABANDONED

TO THE MAIN)-

EX. 6" SEWER MAIN

ZONED: R-SC

1 IRIS VERSICOLOR (IRIS)

THIS LINING SHOULD INCLUD ENTIRE SIDES AND BOTTOM OF THE EXCAVATION AND EXTEND TO TOP OF EMBANKMENT. LINING ON SIDE SLOPES SHALL BE BELOW TOP SOIL MICROBIORETENTION PLANTING DATA 1. PLANTINGS WITHIN THE PONDING AREA OF THE MICRO-BIORETENTION FACILITY ARE TO BE OF A MEDIUM TO HIGH WATER TOLERANCE

2. PLANTINGS ALONG THE PERIMETER (BERM) AREA OF THE MICRO-BIORETENTION FACILITY ARE TO BE OF A LOW TO MEDIUM WATER TOLERANCE

NOTE: FACILITIES MUST BE

CONSTRUCTED WITH IMPERMEABLE LINER WHEN INSTALLED WITHIN THE 100' WELL

3. AVOID PLANTINGS WITH EXCESSIVE ROOT MASS IN POND AREA OF THE MICRO-BIORETENTION FACILITY NEAR O.B. PIPE AND UNDERDRAIN.

MICROBIORETENTION PLANTING SCHEDULE (SPECIFIC NUMBER OF PLANTINGS SHALL BE DETERMINED WITH FINAL DESIGN AT PLOT PLAN PHASE)

- (1) VINCA MINOR (COMMON PERIWINKLE) 2 AJUGA REPTANS (CREEPING BUNGLEWEED)
 - IRIS VERSICOLOR (IRIS) CALLUNA VULGARIS (HEATHER) (3 PER FACILITY)

MICRO-BIORETENTION DETAILS (TYPICAL

HIGH RIDGE PARK

CHRISTOPHER J SCOVITCH

01213 F. 00310

DA TO

2,575 SF

0.06 AC

SWALE

HIGH RIDGE PÁRK

LOTS 123

EVÁ V SHERMÁN ETAL J/T

DA TO

MBR-1

2,676 SF

0.06 AC

4"ROOF

LEADER

IMPÉRVIOUS

-4"OUTFALL

LINER

TO REMAIN

TANYA L GÉORGE

10472 F.00652 ZONÉD: R-SC

.-258---

EX. 8" CI WATER MAIN

(CONTRACT 1-W)

MH 656

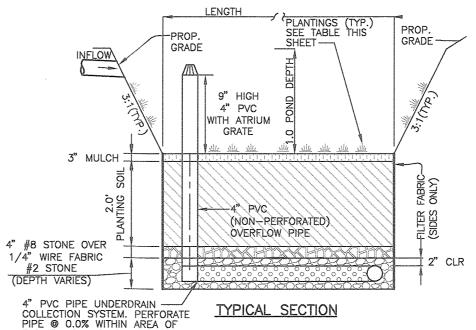
LOT 122

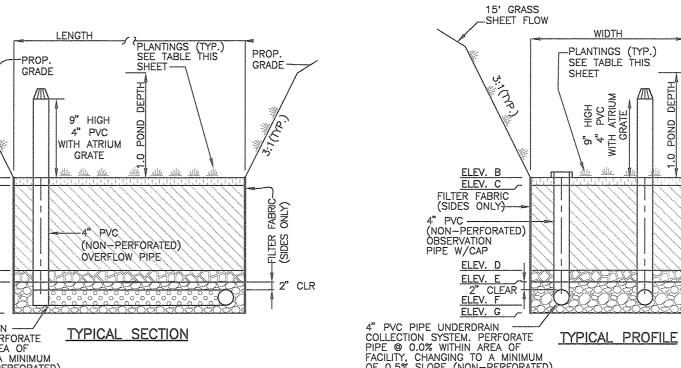
EILEEN N SCOVITCH

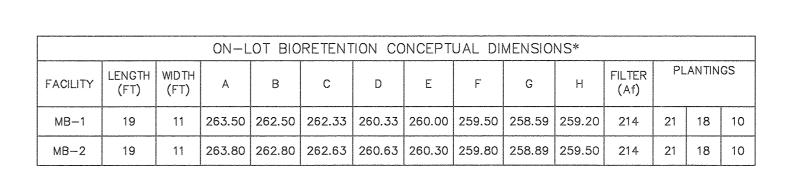
ZONED: R-SC

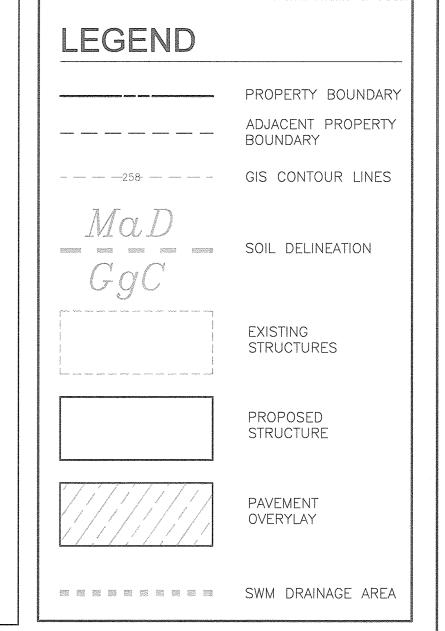
LOTS 112

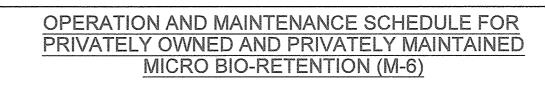
NOT TO SCALE









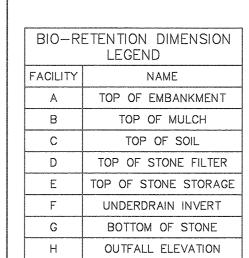


1. The Owner shall maintain the plant material, mulch layer and soil layer annually. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance 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.

2. The Owner shall perform a plant inspection 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.

3. 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 the new layer is applied.

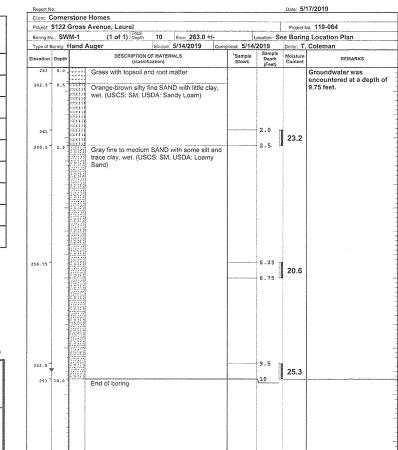
4. The Owner shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy storm.



48 STONE OVER

1/4" WIRE FABRIC

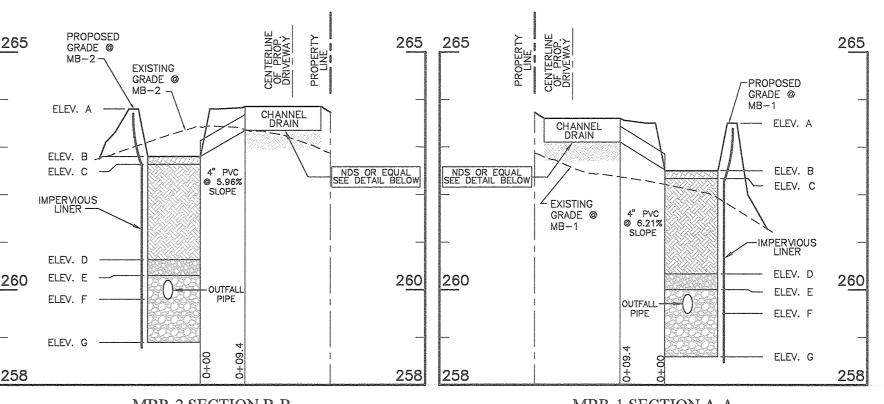
#2 STONE



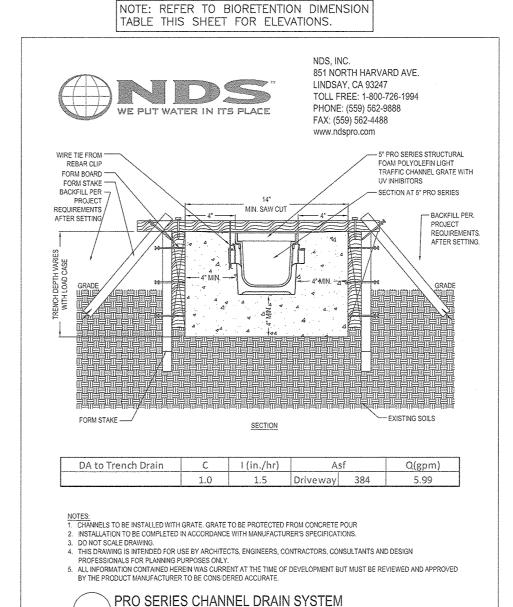
"Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" incressents. The sum of the last two incressents of penetration is torned the standard penetration resistance, N

GEOLAB, INC

BORING LOG



MBR-2 SECTION B-B



5° PRO SERIES INSTALLATION DETAIL - LOAD CLASS 'A' & 'B' - 4" ENCASEMENT - FORM BOARD SUSPENSION

REVISION DATE 3-5-2015

SOILS LEGEND MAPPING UNIT MAP SYMBOL | SOIL TYPE | UcB D Urban land—Chillum—Beltsville complex, 0 to 5 percent slopes 0.37 USDA - NRCS WEBSITE -SOIL SURVEY MAP No. 25- NO HYDRIC SOILS



DESIGN: LDD DRAFT: LDD

SCALE:

REVISION rofessional Certification. I hereby certify that these docume were prepared or approved by me, and that I am a duly license professional engineer under the laws of the State of Maryland

HIGH RIDGE PARK, LOTS 124 AND 125 LOT 124 & 125 PLAT BOOK 111 FOLIO 597 SINGLE FAMILY SEMI-DETACHED DUPLEX UNITS TAX MAP: 50 GRID: 02 PARCEL: 413 ZONED: R-SC ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND STORMWATER MANAGEMENT PLAN

> JUNE, 2019 BEI PROJECT NO. 2913 AS SHOWN 2 of 3

SDP-19-046

B-4 STANDARDS AND SPECIFICATIONS VEGETATIVE STABILIZATION Using vegetation as cover to protect exposed soil from erosion To promote the establishment of vegetation on exposed so Conditions Where Practice Applies On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; emporary stabilization; and permanent stabili Effects on Water Quality and Quantity thereby reducing sediment loads and runoff to downstream areas. subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to

Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall. Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and

receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment Adequate Vegetative Establishment

Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the planting season. . Adequate vegetative stabilization requires 95 percent groundcover.

2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding. 3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.

4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6. **B-4-1 STANDARDS AND SPECIFICATIONS**

INCREMENTAL STABILIZATION Establishment of vegetative cover on cut and fill slope: To provide timely vegetative cover on cut and fill slopes as work progresses onditions Where Practice Applie

Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

A. Incremental Stabilization - Cut Slopes 1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses 2. Construction sequence example (Refer to Figure B.1): Construct and stabilize all temporary swales or dikes that will be used to convey runof

around the excavation. b. Perform Phase 1 excavation, prepare seedbed, and stabilize. c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as

d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary. Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization

3. Incremental Stabilization - Fill Slopes 1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses 2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.

surface runoff and convey it down the slope in a non-erosive manner. 4. Construction sequence example (Refer to Figure B.2): a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans

3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept

b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner. c. Place Phase 1 fill, prepare seedbed, and stabilize d. Place Phase 2 fill, prepare seedbed, and stabilize.

e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization

B-4-4 STANDARDS AND SPECIFICATIONS TEMPORARY STABLIZATION

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

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

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. alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season

B-4-8 STANDARDS AND SPECIFICATIONS STOCKPILE AREA

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, edimentation, and changes to drainage patterns. Conditions Where Practice Applies

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

 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

ENGINEER'S CERTIFICATE

HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT." lleinlin ENGINEER: ALICE A. MILLER #28376 DEVELOPER'S CERTIFICATE /WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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 FROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS APPROVED: DEPARTMENT OF PLANNING AND ZONING J. Maenhard for KS 7-22-19 CHIEF, DIVISION OF LAND DEVELOPMENT CHIEF, DEVELOPMENT ENGINEERING DIVISION 7-22-19

B-4-2 STANDARDS AND SPECIFICATIONS SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

The process of preparing the soils to sustain adequate vegetative stabilization Purpose To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies Where vegetative stabilization is to be established Criteria

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.

suitable means. 2. Permanent Stabilization a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are: i. Soil pH between 6.0 and 7.0.

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

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 love-grass 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 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 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 neavy 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. 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

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 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. 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 1½ 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. . 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 rrected in order to prevent the formation of depressions or water pockets. c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation

C. Soil Amendments (Fertilizer and Lime Specifications) 1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses. 2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the

appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer. 3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve 4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of

soil by disking or other suitable means. 5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of

H-5 STANDARDS AND SPECIFICATIONS DUST CONTROL

Controlling the suspension of dust particles from construction activities To prevent blowing and movement of dust from exposed soil surfaces to reduce on and off-site damage including

Areas subject to dust blowing and movement where on and off-site damage is likely without treatment. 1. Mulches: See Section B-4-2 Soil Preparation, Topsoiling, and Soil Amendments, Section B-4-3 Seeding and

Mulching, and Section B-4-4 Temporary Stabilization. Mulch must be anchored to prevent blowing. 2. Vegetative Cover: See Section B-4-4 Temporary Stabilization. Tillage: Till to roughen surface and bring clods to the surface. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment that may produce the desired effect. 4. Irrigation: Sprinkle site with water until the surface is moist. Repeat as needed. The site must not be irrigated to the point that runoff occurs.

5. Barriers: Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing. 6. Chemical Treatment: Use of chemical treatment requires approval by the appropriate plan review authority.

USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2% INCH MAXIMUM OPENING

FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.

FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES

INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE

USF 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO

SECURE 10 MIL OR THICKER UV RESISTANT. IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24

8 INCHES INTO GROUND, SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW

KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

2011

SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING

WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING

B-4-3 STANDARDS AND SPECIFICATIONS

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 Criteria

a.All seed must meet the requirements 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 nure

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 cool 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.

Application 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 a weighted roller to provide good seed to soil contact.

b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil. i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after 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 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; P2O5 (phosphorous), 200 pounds per acre; K2O (potassium), 200 pounds per acre. ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding. ii. Mix seed and fertilizer on site and seed immediately and without interruption iv. When hydroseeding do not incorporate seed into the soil.

1. Mulch Materials (in order of preference) a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired. b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose

processed into a uniform fibrous physical state. . WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry ii.WCFM, including dye, must contain no germination or growth inhibiting factors iii.WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings. v.WCFM material must not contain elements or compounds at concentration levels that

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

Application a. Apply mulch to all seeded areas immediately after seeding. b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre. c. Wood cellulose fiber used as mulch must be applied at 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

DAY 2:

a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard: i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large

areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour. ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water. iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the

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

STEP DURATION 1 DAY.

SEQUENCE OF CONSTRUCTION - INDIVIDUAL HOUSE

DAY 3-4: CLEAR AND GRUB AS NECESSARY FOR THE INSTALLATION OF

OBTAIN GRADING PERMIT AND HOLD A PRE-CONSTRUCTION MEETING. DAY 11:

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

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 UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER

PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE

REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 259 OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.

USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.

THE CONTRACTOR(S) ARE TO IDENTIFY AND MARK ANY HAZARDOUS

POWERLINES, OLD WELLS, GAS LINES, ETC. STEP DURATION 1 DAY.

ENTRANCE, SUPER SILT FENCES, DIVERSION FENCE. STEP DURATION

CONTROLS. GRADE SITE AND STABILIZE IN ACCORDANCE WITH

CONDITIONS THAT MAY EXIST ONSITE, SUCH AS OVERHEAD

PERIMETER CONTROLS. INSTALL STABILIZED CONSTRUCTION

DAY 4-10: CLEAR AND GRUB REMAINDER OF SITE WITHIN INSTALLED PERIMETER

PERMANENT SEEDING NOTES. STEP DURATION 6 DAYS.

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 Guild, Section 342 - Critical Area Planting. c. For sites having disturbed areas 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 ½ 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.

B-4-5 STANDARDS AND SPECIFICATIONS

PERMANENT STABILIZATION

Purpose

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies

Criteria

a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant

Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on

Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent

To stabilize disturbed soils with permanent vegetation

A. Seed Mixtures

1. General Use

Exposed soils where ground cover is needed for 6 months or more

mixture by weight.

its installation.

Sod Installation

2. Turfgrass Mixtures a. Areas where turforass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance. 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 PermanentSeeding 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 30 percent of the total

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 % to 3 pounds per 1000 squarefeet Notes: 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.

c. Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b) uthern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness 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 3

inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty. e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is not especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites. B. Sod: to provide guick cover on disturbed areas (2:1 grade or flatter)

 General Specifications a. Class of turfgrass must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector. b. Sod must be machine cut at a uniform soil thickness of 3/4 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 acceptable. c. Standard size sections of sod must be strong enough to support their own weight and retain

their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section. d. Sod must not be harvested or transplanted when moisture content (excessively dry or 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

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 soil surface.

I. 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.

b. After the first week, sod watering is required as necessary to maintain adequate moisture c. Do not mow until the sod is firmly rooted. No more than 1/3 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.

DURATION 49 DAYS.

STEP DURATION 3 DAYS.

INSTALL EROSION CONTROL MATTING IN THE DITCHES AND SWALES.

ACCORDANCE WITH PERMANENT SEEDING NOTES. STEP DURATION 3

PERMANENTLY STABILIZE AS REQUESTED. STEP DURATION 2 DAYS.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

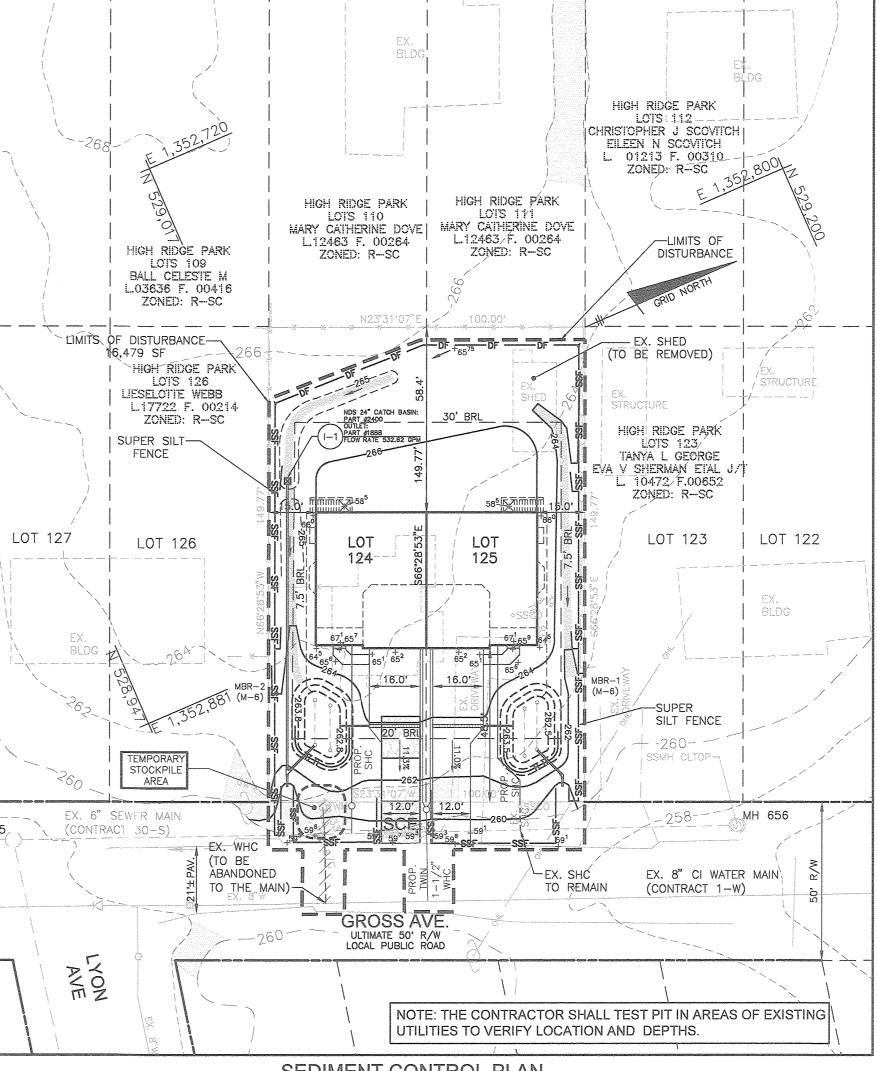
DAY 12-60: CONSTRUCT HOUSE, INSTALL DRIVEWAY AND UTILITIES. STEP

DAY 67-68: UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL

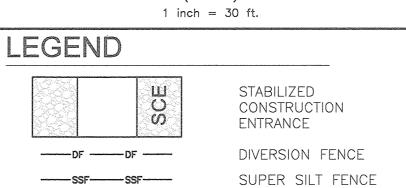
DAY 61-63: FINE GRADE AND STABILIZE ANY REMAINING DISTURBED AREAS IN

DAY 64-66: INSTALL STORMWATER MANAGEMENT MEASURES AND ROOF LEADERS.

INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES.



SEDIMENT CONTROL PLAN 15

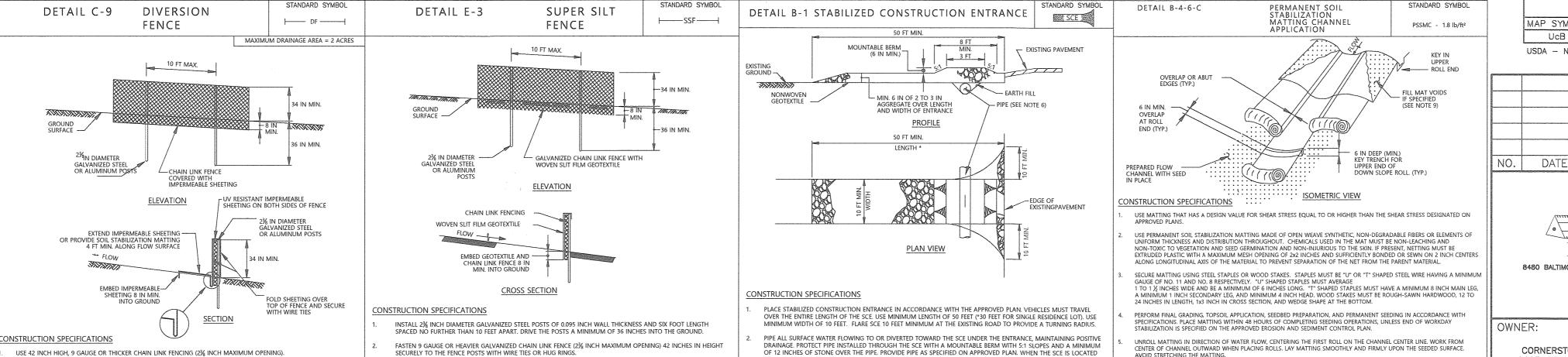


LIMIT OF DISTURBANCE SWALE DRAINAGE AREA

STABILIZATION MATTING

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

THE CONTRACTOR IS RESPONSIBLE FOR



DRAINAGE PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. at a high spot and has no drainage to convey, a pipe is not necessary. A mountable berm is required WHEN SCE IS NOT LOCATED AT A HIGH SPOT. verlap or abut edges of matting rolls per manufacturer recommendations. Overlap roll ends by 6 inches (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS. key in the top of slope end of mat 6 inches (minimum) by digging a trench, placing the matting roll end in th 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. rench, stapling the mat in place, replacing the excavated material, and tamping to secure the mat end in the STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS. AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT. 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. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE

before proceeding with any other earth disturbance or grading, c. Prior to the start of another phase of construction or opening of another grading d. Prior to the removal or modification of sediment control practices. 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 <u>2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL</u>, and revisions thereto. 3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes,

swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1);

and seven (7) calendar days as to all other disturbed areas on the project site except for

o. Upon completion of the installation of perimeter erosion and sediment controls, but

HOWARD SOIL CONSERVATION DISTRICT (HSCD)
STANDARD SEDIMENT CONTROL NOTES

1. A pre-construction meeting must occur with the Howard County Department of Public

protected areas are marked clearly in the field. A minimum of 48 hours notice to CID must

Works, Construction Inspection Division (CID), 410-3133-1855 after the future LOD and

be given at the following stages:

matting (Sec. B-4-6).

a. Prior to the start of earth disturbance,

those areas under active grading. 4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 feet must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization

5. All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CID.

6. Site Analysis: ___0.40__ Acres Total Area of Site: Area Disturbed: _____0.06___ Acres Area to be roofed or paved: _______ Acres *CUT/FILL NUMBERS Area to be vegetatively stabilized: 629 * Cu Yds ARE FUR SEDIMET. CONTROL PURPOSES Total cut: 400 * Cu Yds ONLY. CONTRACTOR TO VERIFY Off-site waste/borrow area location:

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

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

Inspection type (routine, pre-storm event, during rain event) Name and title of inspector

• Weather information (current conditions as well as time and an=mount of last recorded • Brief description of project's status (e.g. percent complete) and/or current activities Evidence of sediment discharges

eldentification of plan deficiencies oldentification of sediment controls that require maintenance Identification of missing or improperly installed sediment controls • Compliance status regarding the sequence of construction and stabilization requirements Photographs

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

9. Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back filled and stabilized by the end of each work day, 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 be 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) a

time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the CID, no more than 30 acres cumulatively may 12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be

treated in a sediment basin or other approved washout structure.

13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.

14. All silt fence and super silt fence shall be placed on-the-contour, and be imbricated at 25' minimum intervals, with lower ends curied uphill by 2' in elevation.

15. Stream channels must not be disturbed during the following restricted time periods ●Use I and IP March 1 - June 15

•Use III and IIIP October 1 - April 30

16. A copy of this plan, the <u>2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL</u>, and associated permits shall be on-site and available when

PUMPING ALL STANDING WATER THROUGH A FILTERING DEVICE TO A CLEAR WATER OUTFALL WITHIN 24 HOURS OR LESS FOLLOWING ANY RAINFALL EVENT.

SOILS LEGEND MAPPING UNIT Urban land—Chillum—Beltsville complex, 0 to 5 percent slopes USDA - NRCS WEBSITE -SOIL SURVEY MAP No. 25- NO HYDRIC SOILS

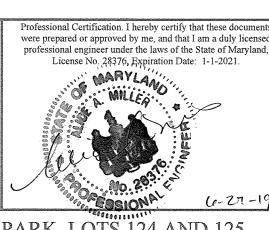
REVISION BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC 8480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644

DATE:

SCALE:

DESIGN: LDD DRAFT: LDD

WWW.BEI-CIVILENGINEERING.COM



HIGH RIDGE PARK, LOTS 124 AND 125 CORNERSTONE HOMES, LLC LOT 124 & 125 9693 GERWIG LANE, SUITE L PLAT BOOK 111 FOLIO 597 COLUMBIA, MD 21046 SINGLE FAMILY SEMI-DETACHED DUPLEX UNITS 410-792-2565 TAX MAP: 50 GRID: 02 PARCEL: 413 ZONED: R-SC ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

AS SHOWN

NOTES AND DETAILS

SEDIMENT & EROSION CONTROL JUNE, 2019 BEI PROJECT NO. 2913

SHEET

SDP-19-046

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