

SOILS TABLE

SYMBOL	RATING	NAME	K FACTOR	MAP #
GhB	(B)	GLENELG-URBAN LAND COMPLEX, 8-15% SLOPES	.28	18
MaC	(B)	MANOR LOAM, 8-15% SLPES	.28	18
MoD	(B)	MANOR LOAM, 15-25% SLOPES	.28	18

STORMWATER MANAGEMENT PRACTICES

LOT #	ADDRESS	GREEN ROOF	PERMEABLE PAVEMENTS	REINFORCED TURF	DISCONNECTION OF ROOFTOP RUNOFF	DISCONNECTION OF NON-ROOFTOP RUNOFF	SHADEFLOW TO CONSERVATION AREAS	RAINFLOW HARVESTING	SUBMERGED GRAVEL WETLANDS	LANDSCAPE INFILTRATION	INFILTRATION BERMS	DRY WELLS	MICRO-BIORETENTION	RAIN GARDENS	SWALES	ENHANCED FILTERS
1	9794 OLD ANNAPOLIS RD.	A-1 (Y/N)	A-2 (Y/N)	A-3 (Y/N)	N-1 (NUMBER)	N-2 (Y/N)	N-3 (Y/N)	M-1 (NUMBER)	M-2 (NUMBER)	M-3 (NUMBER)	M-4 (NUMBER)	M-5 (NUMBER)	M-6 (NUMBER)	M-7 (NUMBER)	M-8 (NUMBER)	M-9 (NUMBER)
2	9792 OLD ANNAPOLIS RD.												1			

FOREST CONSERVATION WORKSHEET

NET TRACT AREA:
 A. Total tract area = 1.00
 B. Area within 100 year floodplain = 0.00
 C. Area to remain in agricultural production = 0.00
 D. Net tract area = 1.00

LAND USE CATEGORY:
 (from table 3.2.1, page 40, Manual) Input the number "1" under the appropriate land use zoning, and limit to only one entry.

ARA MDR BDR HDR MPD CA
 0 0 0 0 0 0

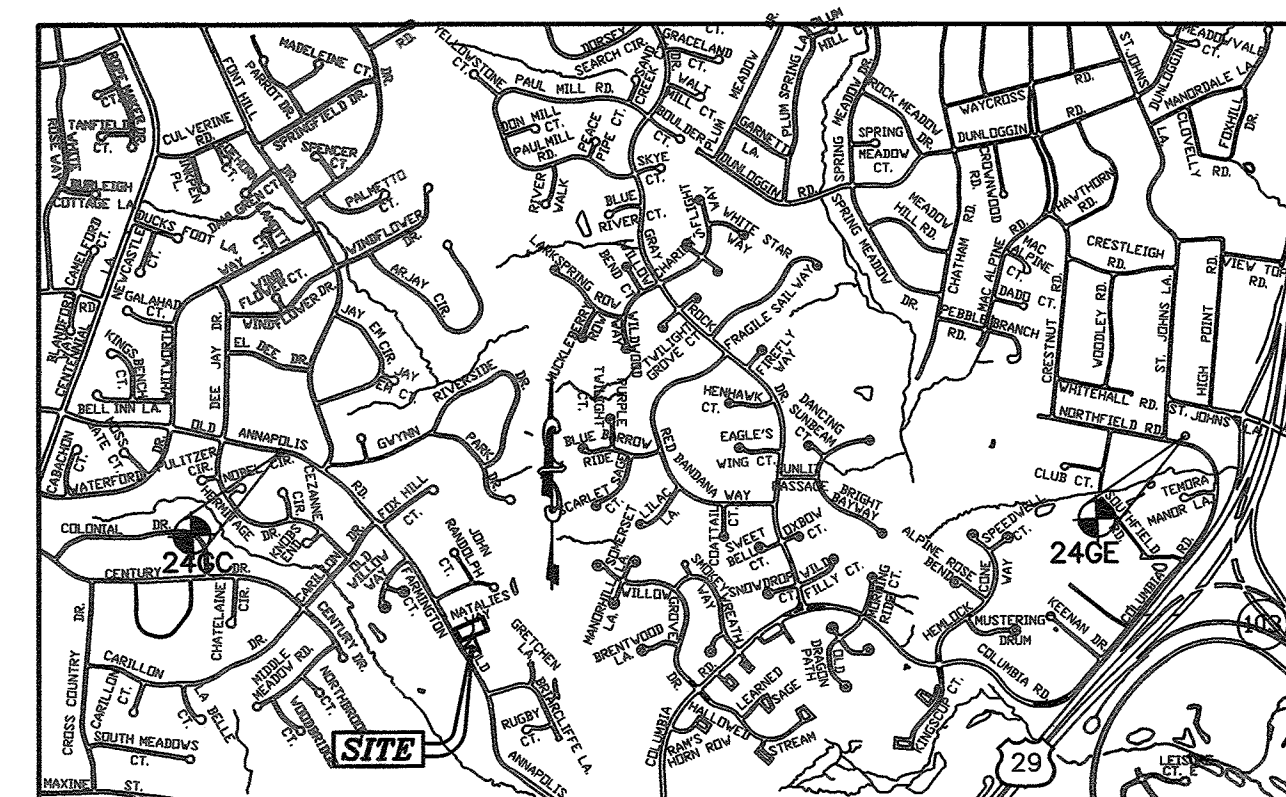
E. Afforestation Threshold = 15% x 0 = 0.15
 F. Conservation Threshold = 20% x 0 = 0.20

EXISTING FOREST COVER:
 G. Existing forest cover (excluding floodplain) = 0.00
 H. Area of forest above afforestation threshold = 0.00
 I. Area of forest above conservation threshold = 0.00

BREAK EVEN POINT:
 J. Forest retention above threshold with no mitigation = 0.00
 K. Clearing permitted without mitigation = 0.00

PROPOSED FOREST CLEARING:
 L. Total area of forest to be cleared = 0.00
 M. Total area of forest to be retained = 0.00

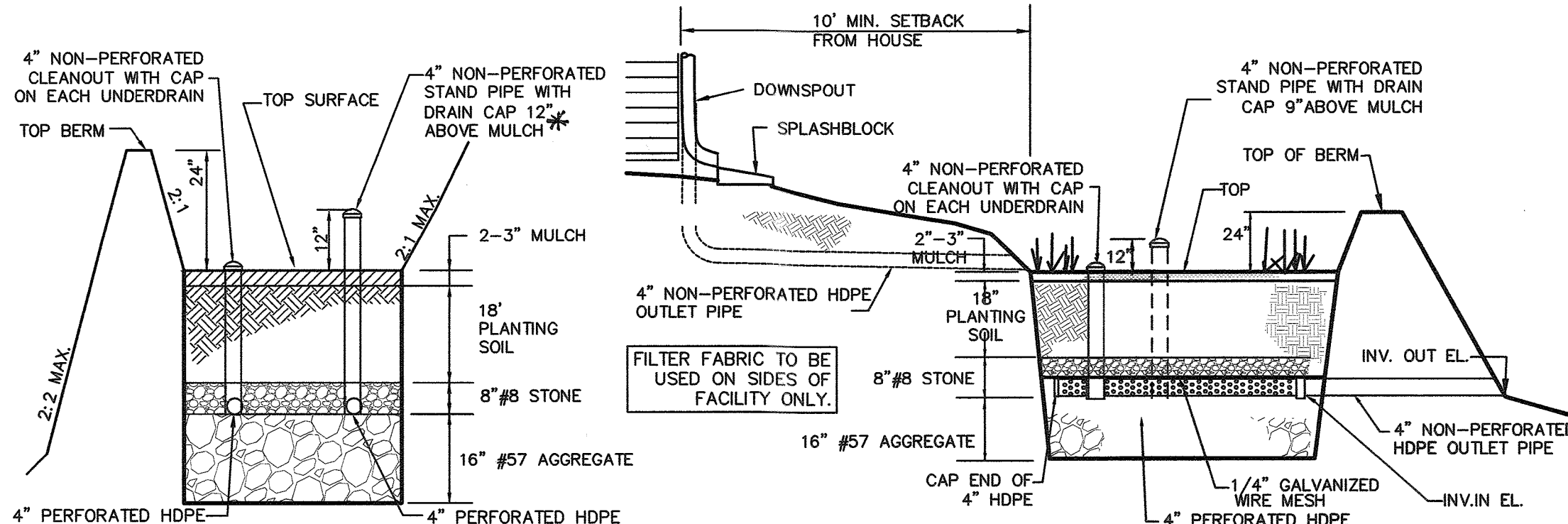
PLANTING REQUIREMENTS:
 N. Reforestation for clearing above conservation threshold = 0.00
 O. Reforestation for clearing below conservation threshold = 0.00
 P. Credit for retention above conservation threshold = 0.00
 R. Total reforestation required = 0.00
 S. Total afforestation required = 0.15
 T. Total reforestation and afforestation required = 0.15



VICINITY MAP
 SCALE: 1"=200'

GENERAL NOTES:

- SUBJECT PROPERTY ZONED "R-20" PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARD AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- PROJECT BACKGROUND:
 LOCATION: TAX MAP : 24 PARCEL: 477 GRID: 21
 ZONING: ELECTION DISTRICT: SECOND
 PROPOSED USE FOR SITE: RESIDENTIAL
 TYPE OF PROPOSED UNIT: SFD
 DPZ FILE NOS: F-89-152, ECP-14-002, WP-14-116
 DEED: L17213, F.236
- AREA TABULATION
 A. TOTAL TRACT AREA: 1.00 AC.±
 B. NUMBER OF PROPOSED BUILDABLE LOTS: 2
 C. NUMBER OF OPEN SPACE LOTS: 0
 D. AREA OF PUBLIC RIGHT-OF-WAY: 0.00 AC.±
 E. AREA OF BUILDABLE LOTS: 1.00 AC.±
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH TWO FOOT CONTOUR INTERVALS PREPARED BY MILDBERG, BOENDER & ASSOC., INC. DATED SEPTEMBER 2013.
- HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM AS PROJECTED FROM HOWARD COUNTY CONTROL STATION NO. 24GC AND 24GE
 STA. 24GC N 578,868.8940, E 1,362,120.6784 EL 438.814
 STA. 24GE N 578,706.5244, E 1,352,699.6688 EL 445.695
- THE PROPOSED SUBDIVISION WILL CONSIST OF SINGLE FAMILY DETACHED DWELLINGS.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 A) WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE).
 B) SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2").
 C) GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE AND MIN. OF 45 FOOT TURNING RADIUS.
 D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
 E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD PLAIN WITH NO MORE THAN 1 FOOT OF DEPTH OVER DRIVEWAY SURFACE.
 F) STRUCTURE CLEARANCES - MINIMUM 12 INCHES
 G) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT FOR THIS SUBDIVISION HAVE BEEN FULFILLED BY PAYMENT OF FEE-IN-LIEU OF THE AMOUNT OF \$4,900.50.
- LANDSCAPING FOR LOT 2 IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED SHADE TREES (5 SHADE TREES) IN THE AMOUNT OF \$1,500.00 WILL BE DEFERRED UNTIL THE SDP.
- 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 CONDITIONS, AND WHEN NECESSARY REPAIRS TO THE LANDSCAPE SHALL BE MADE TO ENSURE COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HERETHWITH LISTED AND APPROVED FOR THIS SITE SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTION 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 WILL RESULT IN PENALTY 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.
- ALL EXISTING STRUCTURES ON LOT 1 ARE TO REMAIN UNLESS OTHERWISE NOTED.
- FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM LOT AND ROAD RIGHT-OF-WAY LINE AND NOT INTO THE PIPESTEM LOT DRIVEWAY.
- STORMWATER MANAGEMENT IS PROVIDED VIA MICRO BIO-RETENTION FACILITY (M-6) AND NON-ROOFTOP DISCONNECTION (N-2) IN ACCORDANCE WITH THE 2000 MDC STORMWATER DESIGN MANUAL ALL EDP PRACTICES TO BE PRIVATELY OWNED AND MAINTAINED.
- HORIZONTAL GEOMETRY OF THE MICRO-BIORETENTION FACILITIES MAY BE MODIFIED WHILE MAINTAINING SURFACE AREA.
- A SITE DEVELOPMENT PLAN APPROVAL BY THE DEPARTMENT OF PLANNING AND ZONING IS REQUIRED IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY CODE.
- THE OPEN SPACE REQUIREMENT FOR THIS SUBDIVISION IS MET BY A PAYMENT OF FEE-IN-LIEU IN THE AMOUNT OF \$1,500.
- THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT, NO BURIAL GROUNDS OR CEMETERIES EXIST ON SITE. SITE IS NOT ADJACENT TO A DESIGNATED SCENIC ROAD.
- NO WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN, STEEP SLOPES GREATER THAN 25%, OR FOREST CONSERVATION EASEMENT EXISTS ON SITE AS CERTIFIED BY MILDBERG, BOENDER & ASSOCIATES IN A WETLAND CERTIFICATION LETTER DATED SEPTEMBER 2013.
- DRIVEWAY ENTRANCE IS PER HOWARD COUNTY STANDARD DETAIL R-6.06.
- THIS SUBDIVISION IS IN THE METROPOLITAN DISTRICT. WATER AND SEWER ARE PUBLIC (CONTRACT# 801-W&S AND 24-3226-D).
- THIS DEVELOPMENT IS DESIGNED TO BE IN ACCORDANCE WITH SECTION 16.127 RESIDENTIAL INFILL DEVELOPMENT OF SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE DEVELOPERS OF THIS PROJECT SHALL CREATE COMPATIBILITY WITH THE EXISTING NEIGHBORHOOD THROUGH THE USE OF ENHANCED PERIMETER LANDSCAPING, BERMS, FENCES, SIMILAR HOUSE TYPES AND THE DIRECTIONAL ORIENTATION OF THE PROPOSED HOUSES.
- NO FOREST STAND EXISTS ON SITE AS CERTIFIED BY MILDBERG, BOENDER ASSOC., INC. IN SEPTEMBER, 2013.
- THERE IS NO FLOODPLAIN ON THIS SITE.
- NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
- IN ACCORDANCE WITH SECTION 108.0E OF THE 10/06/13 COMPREHENSIVE ZONING REGULATIONS, THIS SUBDIVISION IS SUBJECT TO MODERATE INCOME HOUSING UNITS. THE DEVELOPER WILL EXECUTE A MIHU AGREEMENT AND COVENANTS WITH THE HOWARD COUNTY HOUSING DEPARTMENT BEFORE THE FINAL PLAN RECEIVES APPROVAL. THE MIHU OBLIGATION FOR THIS DEVELOPMENT WILL BE PROVIDED BY A PAYMENT OF FEE-IN-LIEU TO THE HOWARD COUNTY HOUSING DEPARTMENT FOR EACH UNIT OR PORTION OF THE UNITS REQUIRED BY THE DEVELOPMENT. THE MIHU AGREEMENT AND COVENANTS WILL BE RECORDED TOGETHER AT THE SAME TIME WITH THE FINAL PLAN AT THE LAND RECORDS OFFICE.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO EXCAVATION WORK BEING DONE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/CONSTRUCTION INSPECTIONS AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- EXISTING UTILITIES ARE BASED ON A FIELD RUN SURVEY CONDUCTED BY MILDBERG, BOENDER & ASSOCIATES ON OR ABOUT SEPTEMBER 2013.
- NO NOISE STUDY IS REQUIRED FOR THIS PROJECT.
- THIS PLAN IS SUBJECT TO WP-11-116, SEEKING AN ALTERNATIVE COMPLIANCE TO SECTIONS 16.1200(g)(7) WHICH STATES THAT STATE CHAMPION TREES, TREES 75% OF THE DIAMETER OF STATE CHAMPION TREES AND TREES 30" IN DIAMETER OR LARGER SHALL BE LEFT IN AN UNDISTURBED CONDITION DURING CONSTRUCTION. THIS ALTERNATIVE COMPLIANCE WAS APPROVED ON MAY 19, 2014, SUBJECT TO THE FOLLOWING CONDITIONS:
 1. ADD REFERENCES TO THIS WAIVE PETITION TO THE GENERAL NOTES.
 2. SHOW THE 1 SPECIMEN TREE BEING REMOVED AND LABELED WP-14-116 ON THE SUPPLEMENTAL PLAN. THE SPECIMEN TREE REMOVAL WILL BE MITIGATED BY THE PLANTING OF 1 PERIMETER LANDSCAPE TREE OF 3" TO 4" CALIPER IN ADDITION TO THE REQUIRED LANDSCAPING.



TYP. MICRO-BIORETENTION (M-6) DETAIL
 NOT TO SCALE

PLANT LIST

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
7	○	ILEX GLABRA	INK BERRY	2' - 3' HT.
21	○	LOBELIA SIPHILITICA	GREAT BLUE LOBELIA	1 GAL. CONTAINER
14	○	ONOCLEA SENSIBILIS	SENSITIVE FERN	1 GAL. CONTAINER
11	○	ASTER NOVAE-ANGIAE	NEW ENGLAND ASTER	1 GAL. CONTAINER

TOTAL (80-1) 46 PERENNIALS, 7 SHRUB
 NOTE: APPROVED ALTERNATIVE PLANTS MAY BE USED.

B.4.C. SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDENS, LANDSCAPE INFILTRATION & INFILTRATION BERMS

- MATERIAL SPECIFICATIONS**
 THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
- FILTERING MEDIA OR PLANTING SOIL**
 THE SOIL SHALL BE 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 PROVIDE AN OBSTACLE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERBERIS GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOODS WHICH ARE SPECIFICALLY LISTED IN COMAR 15.08.01.05.
 THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
 - 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 SAND (SOS-603) OR SANDY LOAM (SOS-306), COMPOST (402), AND COMPOST (402).
 - 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 ADJUST 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 TEST OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS NEEDED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.
- 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 WARMER EQUIPMENT OR LIGHT EQUIPMENT WITH TIRE TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TREADS, OR OTHER EQUIPMENT WITH HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE. COMPACTION CAN BE AVOIDED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHisel PLow, RIPPED, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO RESTRUCTURE THE SOIL PROFILE THROUGHOUT THE 12 INCH COMPACTION ZONE. SUBSTITUTION METHODS MUST BE APPROVED BY THE ENGINEER. ROTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
 ROTILL 2-3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONOED WATER BEFORE PREPARING (ROTILLING) BASE.
 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 EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.
- PLANT MATERIAL**
 RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.
- PLANT INSTALLATION**
 COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE BERMS AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2"-3". SHREDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. FINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDED MULCH MUST BE WAGED (6-12 MONTHS) FOR ACCEPTANCE.
 ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOTS SHOULD BE PLANTED 3/8" OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST 1/2" 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 PLOTS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.
 THE DESIGN 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 DEFERS OR AT A MINIMUM, IMPEDS THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTILL USA FERTILIZER AT A RATE OF 5 POUNDS PER 1000 SQUARE FEET.
- UNDERDRAIN**
 UNDERDRAIN SHOULD MEET THE FOLLOWING CRITERIA:
 - PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM 758, TYPE PS 28 OR AASHTO M-278) IN A GRAVEL LAYER. THE PERFORATED MATERIAL IS SLOTTED, 4" DIAMETER PIPE (E.G. PVC OR HDPE).
 - PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE AT LEAST 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4#4) 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 YEAR, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT POINT AND MONITOR PERFORMANCE.
 - A 4" LAYER OF BED GRAVEL (1/2" TO 3/8" 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 1,000 SQUARE FEET OF SURFACE AREA).
- MISCELLANEOUS**
 THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

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

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

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

- 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.
- 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.
- 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.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

SCHEDULE A: PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO PERIMETER PROPERTIES	TOTAL
LANDSCAPE TYPE	A (PERIMETER 1)*	A (PERIMETER 2)**
LINEAR FEET OF PERIMETER	128.29 LF	298.96 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	N/A	N/A
NUMBER OF PLANTS REQUIRED		
SHADE TREES	2	5
EVERGREEN TREES	0	0
SHRUBS	0	0
NUMBER OF PLANTS PROVIDED		
SHADE TREES	2	3
EVERGREEN TREES	0	0
OTHER TREES (2:1 SUBSTITUTION)	0	5
SHRUBS (10:1 SUBSTITUTION)	0	0

* CREDIT TAKEN FOR ONE EXISTING TREE 28" OAK.
 ** CREDIT TAKEN FOR ONE EXISTING TREE 22" MAPLE.

OWNER
 AARON DUNWOODY
 9794 OLD ANNAPOLIS ROAD
 ELLICOTT CITY, MARYLAND 21042
 703-989-7725

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 10/26/18

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 09/03/20
 [Signature]
 R. JACOB HIKMAT P.E.
 DATE: 10/23/18

GEOTECHNICAL CONSULTANTS, INC.
 101, Box 2071
 Columbia, MD 21045-2071
 Phone: (410) 381-5330
 Fax: (410) 381-1054
 e-mail: mconr54@yodoco.com

February 9th, 2014
 Middleberg, Boender & Associates, Inc.
 6800 Decatur Road, Suite 150
 Ellicott City, Maryland 21075
 Attn: Ms. Maya M. Middleberg
 Vice President
 Re: Limited Subsurface Exploration
 Proposed Development
 Dunwoody Property
 9790 Old Annapolis Road
 Howard County, Maryland
 GEAT Project No. G-233

Dear Ms. Middleberg:
 On February 14th, 2014, GEAT Consultants, Inc. utilized a hand auger to bore one (1) well boring at the location shown on the attached Hand Auger Location Map. The purpose of the hand auger was to evaluate the presence/absence of bedrock and groundwater at the location shown, within 5 ft below existing site grades. The location, number, and depth of the boring were determined by others and the boring was staked-out in the field by others.
 Our field observations are summarized in Table 1 below:

Boring No.	Depth to Groundwater (ft)	Depth to Hard auger Refused (ft)	Termination Depth (ft)
B-1	N/A	N/A	6'

 Note: All depths are below existing site grade.

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 7350-B Grace Drive, Columbia, Maryland 21044
 (410) 997-0298 Bldg. (410) 997-0298 Fax

Project: 13-022
 Date: OCT 2018
 Illustration: MAM
 Scale: 1"=30'
 Approval: RAH

2ND. ELECTION DIST. HOWARD COUNTY, MD. TAX MAP 24, GRID 21, PARCEL 477. LOT 1 SUPPLEMENTAL PLAN AND SOIL MAP.

1 OF 1