

NOTES:

- EXISTING ZONING: R-SC
- DEED REFERENCE: 18445/00001
- SITE ANALYSIS DATA:
 - TOTAL AREA OF SITE: 0.34 AC.
 - EXISTING IMPERVIOUS AREA: 0.06 AC.
 - EXISTING GREEN AREA: 0.28 AC.
 - EXISTING FORESTED AREA: 0.0 AC.
 - EXISTING SITE USE: SFD
 - EXISTING WETLANDS AND THEIR BUFFERS: 0.0 AC.
 - EXISTING FLOODPLAINS: 0.0 AC.
 - EXISTING STEEP SLOPES 15% AND GREATER: 0.02 AC.
 - EXISTING ERODIBLE SOILS: 0.02 AC.
- AREA OF PLAN SUBMISSION: 0.34 AC.
- LIMIT OF DISTURBANCE: 0.34 AC.
- IMPERVIOUS AREA: 0.06 AC.
- REVEGETATED AREA: 0.28 AC.
- PROPOSED USE: 1 NEW SINGLE FAMILY SEMI-DETACHED UNITS
- PREVIOUS SUBMITTAL: PLAT BOOK 111, FOLIO 597
- THIS LOT WILL UTILIZE A STANDARD SEDIMENT AND EROSION PLAN SINCE THE LIMIT OF DISTURBANCE IS LESS THAN 30,000 SF.
- TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD RUN SURVEY PREPARED BY BENCHMARK ENGINEERING, INC., DATED JUNE 2018, CONTOUR INTERVAL IS 2'.
- THERE ARE NO IDENTIFIABLE ENVIRONMENTAL FEATURES ON SITE.
- STORMWATER MANAGEMENT FOR THIS PROPOSAL IS PROVIDED WITH THE APPROVAL OF THE SITE DEVELOPMENT PLAN.
- TO THE BEST OF OUR KNOWLEDGE AND BELIEF THERE ARE NO CEMETERIES ONSITE.
- 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.
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN AND/OR RED-LINE REVISION PLAN. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SHALL OCCUR AT THE SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN STAGES AND/OR RED-LINE REVISION PROCESS. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.

SWM DESIGN NARRATIVE:

THIS SITE WAS ANALYZED AS WOODS IN GOOD CONDITION AND A TARGET RCN WAS DETERMINED. A TARGET RAINFALL DEPTH TREATMENT (PE) WAS DETERMINED BASED ON THE MEASURED IMPERVIOUS AREAS AND HSG SOIL TYPES. THE TARGET PE FOR THIS SITE IS 1.6 INCHES. THE TARGET PE WAS TREATED USING ENVIRONMENTAL SITE DESIGN PRACTICES AS OUTLINED IN CHAPTER 5 OF THE 2000 MARYLAND STORMWATER DESIGN MANUAL AS AMENDED BY MARYLAND'S STORMWATER MANAGEMENT ACT OF 2007. THE SELECTED METHODS INCLUDE MICRO-BIORETENTION (M-6). ESDV WAS PROVIDED TO THE MAXIMUM EXTENT PRACTICABLE.

TO PROTECT NATURAL RESOURCE AREAS, IT IS IMPORTANT TO DELAY RELEASE OF STORMWATER RUNOFF FROM NEW IMPERVIOUS AREAS TO AVOID INCREASING PEAK RUNOFFS, AND TO ADEQUATELY TREAT THE STORMWATER TO AVOID DAMAGE TO SENSITIVE AREAS. THE DESIGN INCORPORATES ADEQUATE TREATMENT AND STORAGE IN ORDER TO CREATE THE LEAST POSSIBLE STORMWATER RUNOFF. THE RUNOFF WILL BE TREATED ON-SITE USING APPROVED METHODS. OUTFALLS GENERALLY CORRESPOND WITH THE NATURAL DRAINAGE PATTERNS OF THE SITE.

THE SITE IS WITHIN A DEVELOPED SUBURBAN NEIGHBORHOOD CONSISTING PRIMARILY OF SINGLE FAMILY HOMES AND DUPLEXES ON 1/8TH ACRE LOTS. THE SWM PRACTICE CHOSEN IS SELECTED TO MINIMIZE THE DISTURBANCE WHILE PROVIDING ESD FOR THE AREA DRAINING TO IT. BASED ON THE PRESENCE OF ONLY 'D' SOILS, THERE ARE LIMITED METHODS WHICH MAY BE UTILIZED ON THIS SITE.

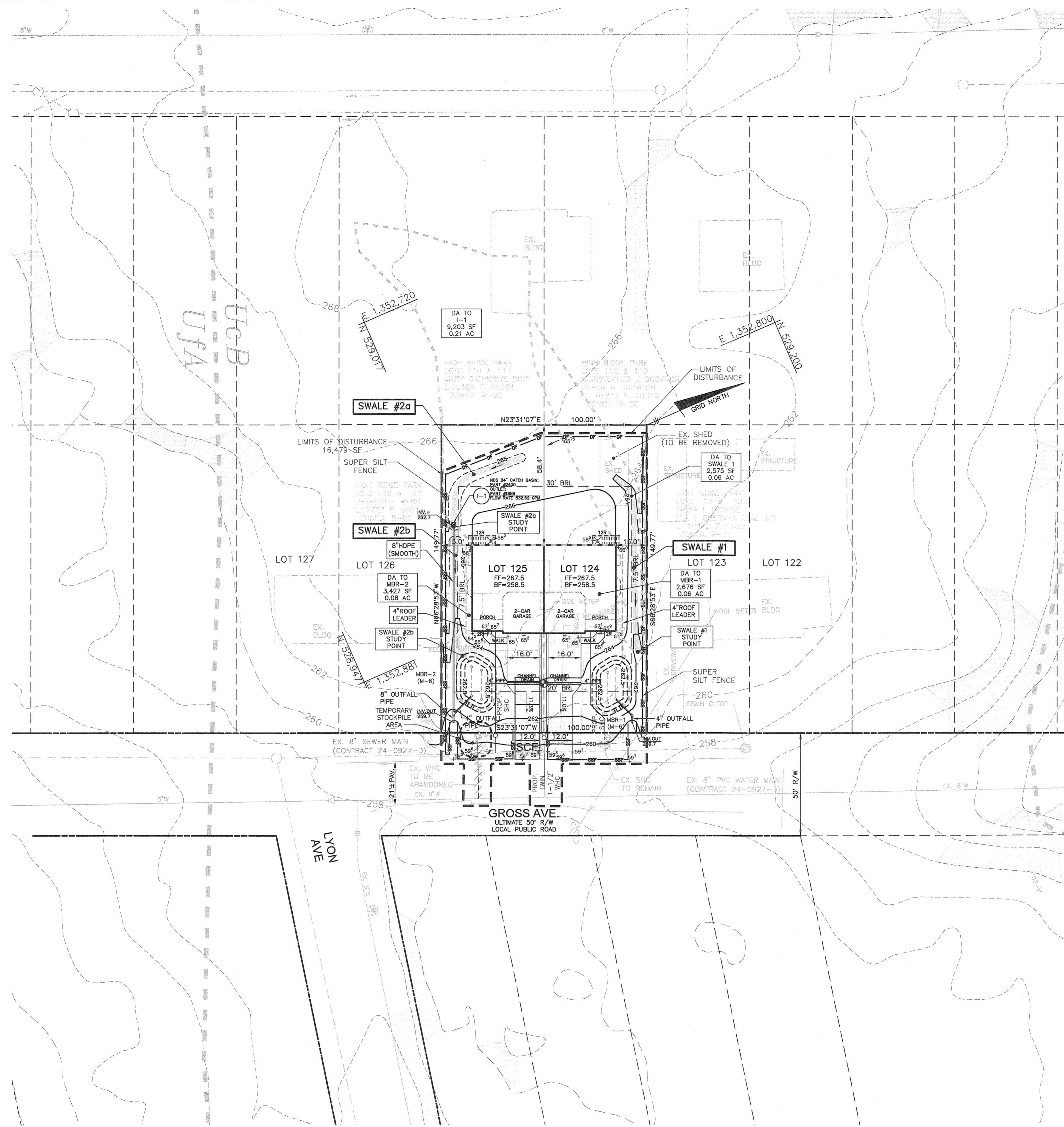
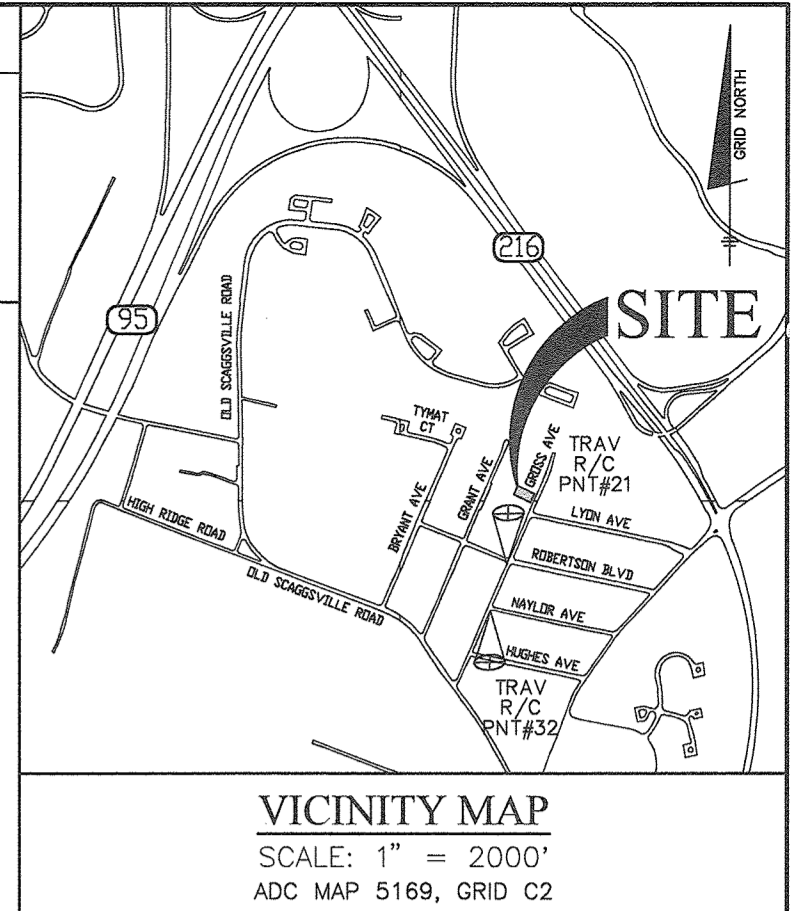
THE TARGET PE FOR THIS SITE IS 1.6 INCHES. BY USING ENVIRONMENTAL SITE DESIGN PRACTICES, FULL TREATMENT OF THE TARGET PE WILL BE PROVIDED BY TWO (2) MICRO BIORETENTION FACILITIES. THESE FACILITIES PROVIDE TREATMENT FOR THE ROOF TOP AND PART OF THE DRIVEWAY AS RESTRICTED BY SITE GRADING AND EXISTING RELIEF. THE FACILITIES WILL BE PRIVATELY OWNED. A PORTION OF THE DRIVEWAY CANNOT BE CONVEYED TO THE ON-SITE FACILITY. THIS AREA IS SIGNIFICANTLY LESS THAN THE EXISTING UNTREATED IMPERVIOUS AREA OF THE SITE, AND TO COMPENSATE, THE MICRO-BIORETENTION FACILITY ON LOT 125 HAS BEEN DESIGNED TO CAPTURE AND TREAT A PORTION OF THE ON-SITE RUNOFF. THE ENTIRE ESDV HAS BEEN PROVIDED WITHIN THE FACILITIES. GROUNDWATER RECHARGE (REV) IS FULLY ADDRESSED BY THE USE OF A STONE CHAMBER BENEATH THE M-6 MICRO-BIORETENTION FACILITIES. THE REAR YARDS OF BOTH LOTS 124 AND 125, AS WELL AS OFFSITE RUNOFF WILL BY-PASS WITH SWALES AND PIPING.

SEDIMENT AND EROSION CONTROLS SHALL COMPLY WITH THE 2011 MARYLAND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND WILL BE DESIGNED ON A SITE DEVELOPMENT PLAN THAT WILL BE REVIEWED AND APPROVED BY HOWARD SOIL CONSERVATION DISTRICT. IT WILL BE THE OBLIGATION OF THE CONTRACTOR TO INSTALL, INSPECT AND MAINTAIN THESE PRACTICES.

NO WAIVERS OR ALTERNATIVE COMPLIANCE ISSUES ARE CURRENTLY ANTICIPATED.

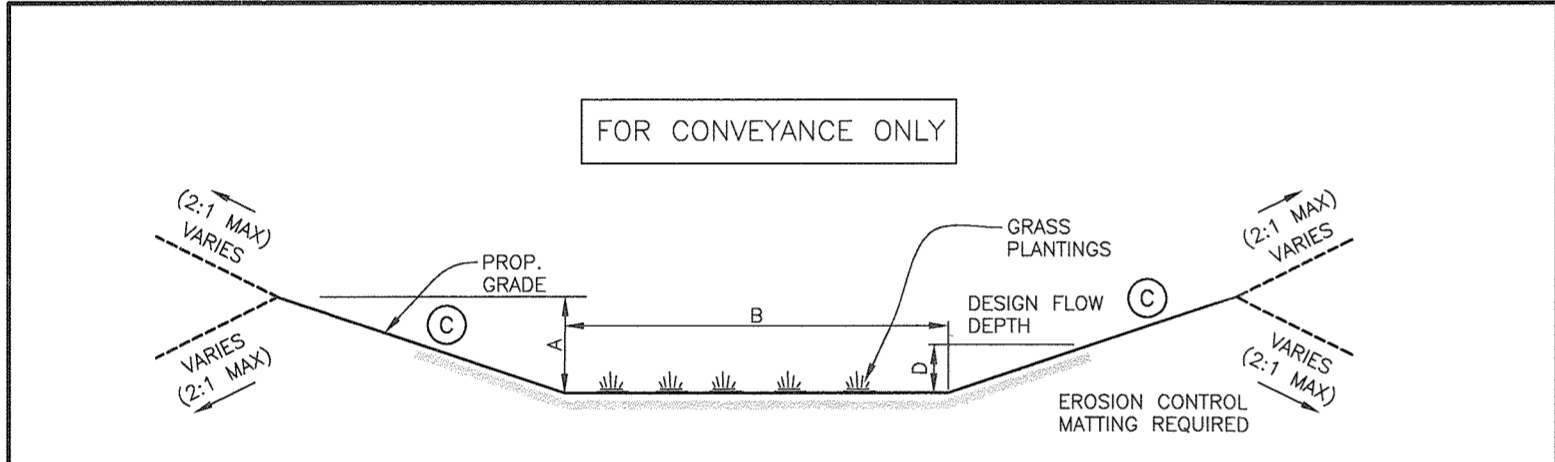
BENCH MARKS (NAD '83)

TRAV. #21 REBAR AND CAP N 528,559.013	ELEV. 252.46 E 1,352,750.822
TRAV. #32 REBAR AND CAP N 528,226.646	ELEV. 264.52 E 1,352,648.934



LEGEND

---	PROPERTY BOUNDARY
- - - -	ADJACENT PROPERTY BOUNDARY
-258-	GIS CONTOUR LINES
M&D	SOIL DELINEATION
G&C	SOIL DELINEATION
[Symbol]	EXISTING STRUCTURES
[Symbol]	PROPOSED STRUCTURE
[Symbol]	STABILIZED CONSTRUCTION ENTRANCE
[Symbol]	DIVERSION FENCE
[Symbol]	SUPER SILT FENCE
[Symbol]	LIMIT OF DISTURBANCE
[Symbol]	SWALE DRAINAGE AREA
[Symbol]	STABILIZATION MATTING
[Symbol]	STEEP SLOPES 15% TO 25%

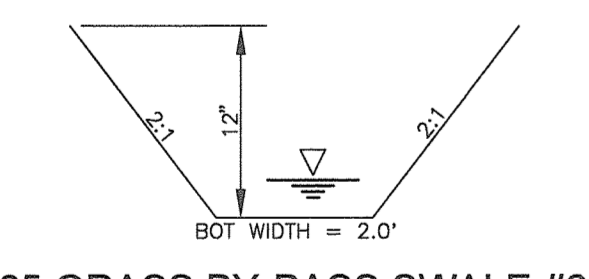


GRASS SWALE TYPICAL SECTION DETAIL
NOT TO SCALE

SWALE #1

A	1.0'
B	2.0'
C	2:1
D	0.06'
SLOPE	0.023'
BOTTOM DIMS	
LENGTH	89'
WIDTH	2.0'

STORM Q (RUNOFF) VELOCITY
2 YR 0.18 CFS 1.71 FPS
10 YR 0.30 CFS 2.36 FPS

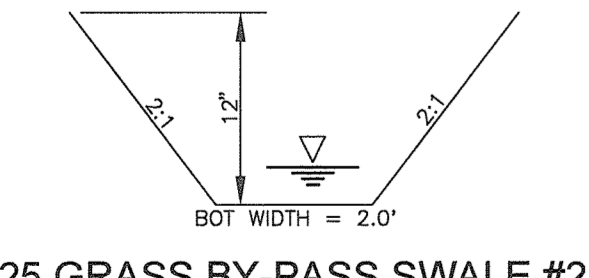


LOT 125 GRASS BY-PASS SWALE #2a
NOT TO SCALE

SWALE #2a

A	1.0'
B	2.0'
C	2:1
D	0.13'
SLOPE	0.02'
BOTTOM DIMS	
LENGTH	55'
WIDTH	2.0'

STORM Q (RUNOFF) VELOCITY
2 YR 0.66 CFS 3.00 FPS
10 YR 1.10 CFS 3.47 FPS

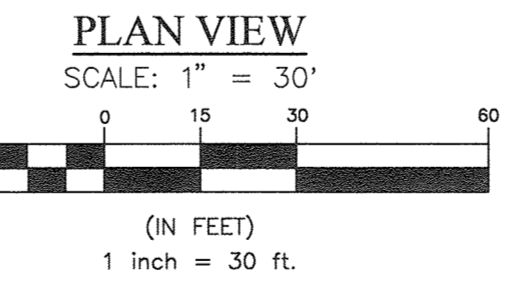


LOT 125 GRASS BY-PASS SWALE #2b
NOT TO SCALE

SWALE #2b

A	1.0'
B	2.0'
C	2:1
D	0.03'
SLOPE	0.02'
BOTTOM DIMS	
LENGTH	69'
WIDTH	2.0'

STORM Q (RUNOFF) VELOCITY
2 YR 0.06 CFS 0.97 FPS
10 YR 0.10 CFS 1.62 FPS



ADDRESS CHART

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

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Kat Schwab
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 5-9-19

Paul Clark
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 5-20-19

SOILS LEGEND

MAP SYMBOL	SOIL TYPE	MAPPING UNIT	Kw FACTOR
UcB**	D	Urban land-Chillum-Beltsville complex, 0 to 5 percent slopes	0.37

** HIGHLY ERODIBLE, K<0.35 AND STEEPER THAN 5%, OR 15% AND GREATER SLOPES. TAKEN FROM THE NRCS WEB SOIL SURVEY HOWARD COUNTY, MARYLAND, SEPTEMBER 2017.

PROJECT: High Ridge Park, Lots 124 and 125 Facility Summary DATE: 04/02/19

Pe (LOTS): 1.60 inches

Facility	Drainage Area	Impervious	I (%)	Rv	ESDv (cf)	Req'd Pondered Storage (cf)	Pondered Volume Provided (cf)	Req'd Stone Storage (75%) (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	377	520	126	160	680		115	

NOTE: 877 SF OF DRIVEWAY CANNOT BE CAPTURED WITH THE ON-SITE FACILITIES. COMPENSATION FOR THIS AREA IS ACCOMPLISHED BY PROVIDING 100% OF THE ESDV IN THE ON-SITE FACILITIES.

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 28376, Expiration Date: 1-1-2021.

BENCHMARK ENGINEERS & PLANNERS
ENGINEERS & LAND SURVEYORS & PLANNERS
8480 BALTIMORE NATIONAL PKE & SUITE 315 ELLICOTT CITY, MARYLAND 21045
(7) 410-465-6105 (F) 410-465-6644
WWW.BE-CVLENGINEERING.COM

OWNER/DEVELOPER: CORNERSTONE HOMES, LLC
968 S GERWIG LANE, SUITE L COLUMBIA, MD 21046
410-792-2565

HIGH RIDGE PARK, LOTS 124 AND 125
LOTS 124 & 125
PLAT BOOK 111 FOLIO 597
SINGLE FAMILY SEMI-DETACHED UNITS
9120-9122 GROSS AVE., LAUREL, MD 21075
TAX MAP: 50 GRID: 02 PARCEL: 413
ZONED: R-SC
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

**STORMWATER MANAGEMENT PLAN
SEDIMENT & EROSION CONTROL PLAN**

DATE: MARCH, 2019 BEI PROJECT NO. 2913
SCALE: AS SHOWN SHEET 1 OF 1
DESIGN: LDD DRAFT: LDD