

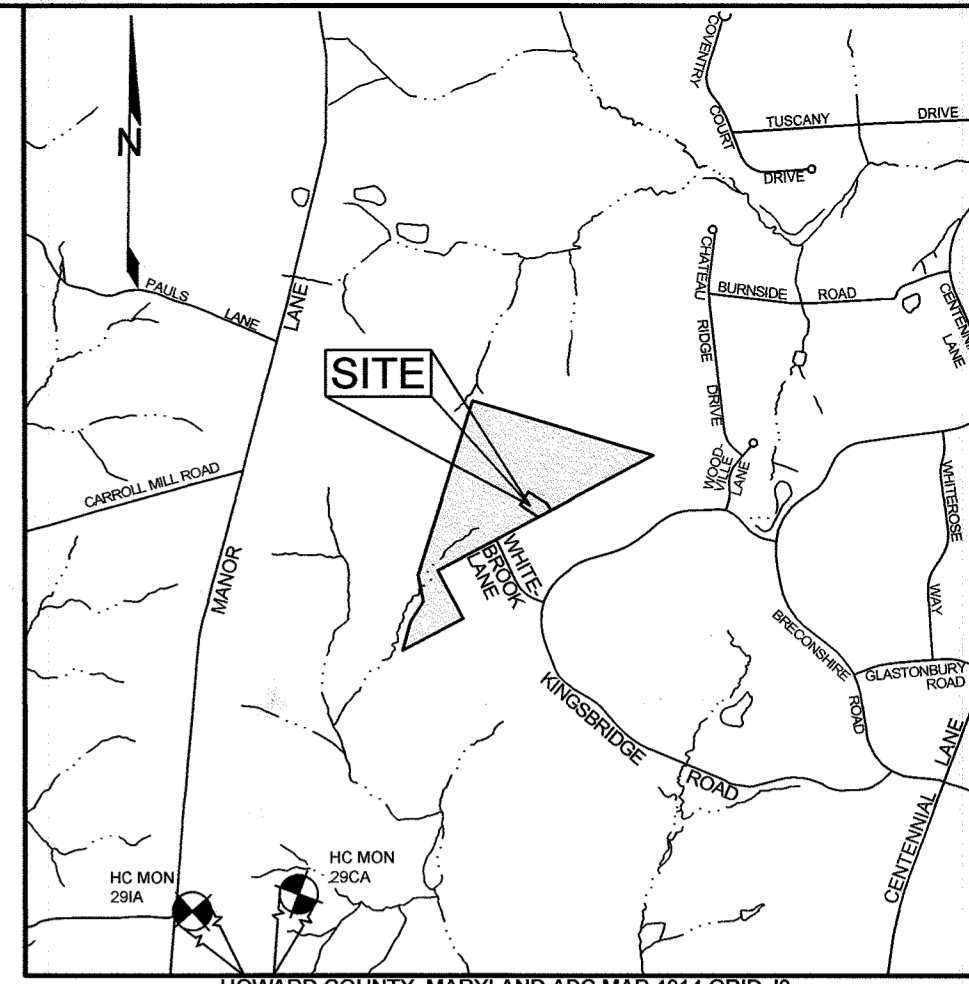
ENVIRONMENTAL AREA	SIZE OR USE
TOTAL PROJECT AREA	50.0900 AC ±
LIMIT OF DISTURBANCE	2.25 ACRES ±
GREEN OPEN AREA (LAWN)	1.41 ACRES ±
IMPERVIOUS AREA	0.37 ACRES ±
PROPOSED SITE USES	RESIDENTIAL
WETLANDS	0 SQ FT ± (1)
WETLAND BUFFERS	0 SQ FT ± (1)
FLOODPLAINS	0 SQ FT ± (1)
FLOODPLAIN BUFFERS	0 SQ FT ± (1)
EXISTING FOREST	0.40 ACRES ±
SLOPES GREATER THAN 15% (1)	0 SQ FT ± (1)
HIGHLY ERODIBLE SOILS	13 ACRES ± (1)

BENCHMARKS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
29CA	574,526.138	1,343,533.820	423.532	5.75' SOUTH OF MANOR LANE EDGE OF PAVEMENT, 11.5' NORTH OF FENCE POST, 0.6 MILES SOUTHWEST OF RT 108
29IC	572,323.559	1,344,112.295	468.785	1.8' SOUTH OF MANOR LANE EDGE OF PAVEMENT, 18.8' WEST OF G&E 814569, 40.5' SOUTHWEST OF G&E 270123.

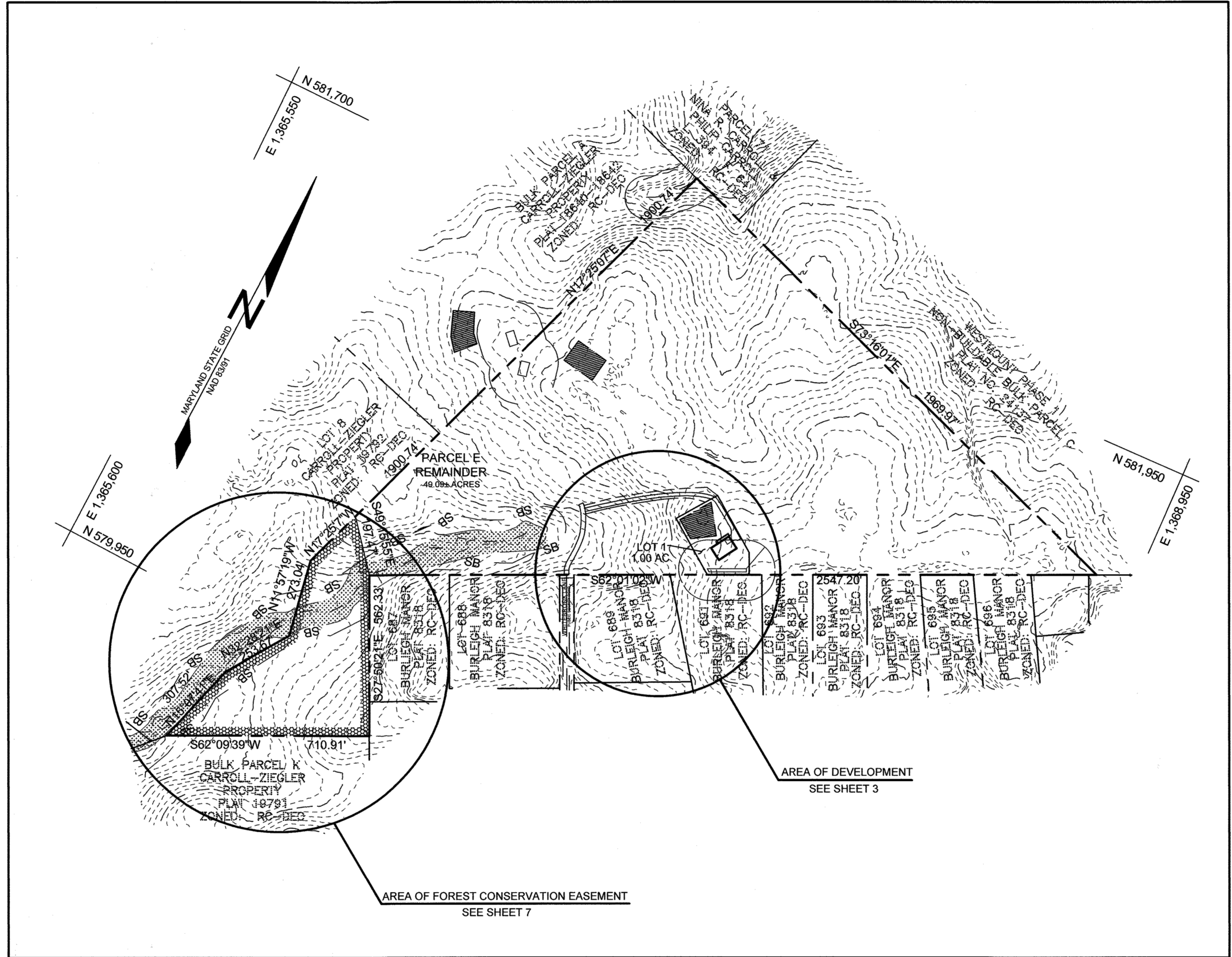
SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GbA	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	A	0.20
GbB	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	A	0.20
GbC	GLENELG-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	A	0.20
GbB	GLENVILLE-BAILE SILT LOAM, 0 TO 8 PERCENT SLOPES	C	0.37

NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

LEGEND	
EXISTING CONTOUR GIS	---
EXISTING CONTOUR FIELD RUN	---
PROPOSED CONTOUR	---
EXISTING SPOT ELEVATION	+
PROPOSED SPOT ELEVATION	+
DIRECTION OF FLOW	→
EXISTING TREELINE	---
PROPOSED TREELINE	---
EXISTING STREAM	---
100' STREAM BUFFER	SB SB
PROP. WELL AREA	▨
EXISTING WETLAND	▨
PERCOLATION TEST HOLE: PASSED	⊕ 602
PERCOLATION TEST HOLE: FAILED	⊕ 602
GAS VALVE	⊕



NOTES:
 1. NO ENVIRONMENTALLY SENSITIVE AREAS ARE LOCATED WITHIN THE AREA OF DEVELOPMENT.



PLAN VIEW
 SCALE: 1"=300'

GENERAL NOTES

- SUBJECT PROPERTY ZONED RC-DEO PER 10/06/2013 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF PROPERTY = 50.0900 AC ±.
- PRIVATE WATER AND PRIVATE SEWER WILL BE USED WITHIN THIS SITE.
- THIS AREA DESIGNATES A PRIVATE SEWER AREA, OF AT LEAST 10,000 SF AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL (COMAR 26.04.03). IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE AREA SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE AREA. RECORDATION OF A MODIFIED SEWERAGE AREA SHALL NOT BE NECESSARY.
- PREVIOUS DPZ FILE REFERENCE: F-08-185, PLAT NO. 19792
- DEED REFERENCE: LIBER 15609, FOLIO 408; LIBER 17874 FOLIO 140
- PROPERTY ADDRESS: LOT 1, XXXX WHITEBROOK LANE, ELLICOTT CITY, MARYLAND 20142
- PARCEL "E" REMAINDER: 3881 WHITEBROOK LANE, ELLICOTT CITY, MARYLAND 20142
- THE LOT SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- ALL EXISTING WELLS, SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREA WITHIN 100 FEET OF THE PROPERTY BOUNDARIES AND ALL EXISTING AND PROPOSED WELLS THAT ARE LOCATED WITHIN 200 FEET DOWN-GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREA HAVE BEEN LOCATED.
- THE BOUNDARY SHOWN HERE ON IS BASED ON RECORD PLAT 19792.
- THE TOPOGRAPHY SHOWN WITHIN THE DEVELOPED AREA IS BASED ON A TOPOGRAPHIC SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC IN JANUARY & OCTOBER 2019
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- TO THE BEST OF OUR KNOWLEDGE THERE ARE NO CEMETERY LOCATIONS ON-SITE.
- THERE ARE NO WETLANDS, STREAMS, OR THEIR ASSOCIATED BUFFERS, STEEP SLOPES 25% OR GREATER, WITHIN THE AREA OF DEVELOPMENT
- LIMIT OF DISTURBANCE: 2.25 ACRES
- APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT SUBDIVISION, FOREST CONSERVATION, OR SITE DEVELOPMENT PLAN. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED COMMENTS THAT MAY ALTER THE SITE DESIGN, HOUSE LOCATION, DRIVEWAY LOCATION, GRADING, TREE CLEARING AND/OR OTHER REQUIREMENTS AS THE DEVELOPMENT PLAN PROCESS THROUGH THE PLAN REVIEW PROCESS IN ACCORDANCE WITH THE SUBDIVISION AND ZONING REGULATIONS.
- LANDSCAPING WILL BE PROVIDED AT THE FINAL PLAN STAGE OF THIS PROJECT.
- FLOODPLAIN SHOWN HEREON IS TAKEN FROM F-08-228
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS, UNLESS ALTERNATIVE COMPLIANCE HAVE BEEN APPROVED OR ACTIVITIES HAVE BEEN DETERMINED ESSENTIAL BY THE DEPARTMENT OF PLANNING AND ZONING.

ADDRESS CHART	
LOT/PARCEL NO.	ADDRESS
LOT 1	XXXX WHITEBROOK LANE
PARCEL "E"	3881 WHITEBROOK LANE

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	ENVIRONMENTAL CONCEPT PLAN
2	FOREST STAND DELINEATION PLAN
3	CONCEPTUAL GRADING PLAN
4	CONCEPTUAL SEDIMENT AND EROSION CONTROL PLAN
5	CONCEPTUAL STORMWATER MANAGEMENT & CULVERT DRAINAGE AREA MAP
6	CONCEPTUAL STORMWATER MANAGEMENT PLAN NOTES & DETAILS
7	PRELIMINARY FOREST CONSERVATION PLAN

STORMWATER MANAGEMENT NOTES & DESIGN NARRATIVE

BELOW IS A LIST TO DESCRIBE THE STORMWATER MANAGEMENT REQUIREMENTS AND ACHIEVEMENTS FOR THE SITE PER THE 2009 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II, AS AMENDED BY THE STORMWATER MANAGEMENT ACT OF 2007.

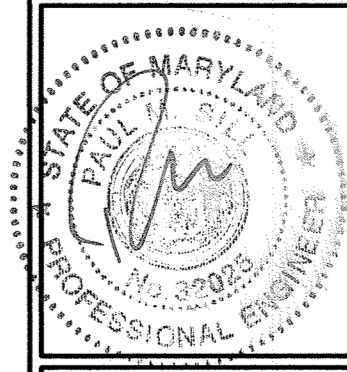
- ENVIRONMENTALLY SENSITIVE AREAS HAVE BEEN AVOIDED. NO STREAMS, WETLANDS, FLOODPLAINS OR THEIR BUFFERS EXIST WITHIN THE LIMIT OF DISTURBANCE.
- TO THE GREATEST EXTENT PRACTICABLE THE NATURAL FLOW PATTERNS OF THE SITE HAVE BEEN MAINTAINED.
- IMPERVIOUS AREAS HAVE BEEN REDUCED BY POSITIONING THE PROPOSED HOUSE AS CLOSE TO THE USE IN COMMON DRIVEWAY AS THE APPROVED PERCOLATION CERTIFICATION PLAN ALLOWS.
- A STABILIZED CONSTRUCTION ENTRANCE, SILT FENCES AND SUPER SILT FENCES ARE USED AS SEDIMENT AND EROSION CONTROL MEASURES.
- THE STORMWATER MANAGEMENT OBLIGATIONS FOR THIS LOT WILL BE MET BY THE USE OF MICRO-BIORETENTION FACILITIES (M-6), ROOFTOP & NON-ROOFTOP DISCONNECTS (N-1 & N-2)
- NO WAIVER PETITIONS OR DESIGN MANUAL WAIVERS HAVE BEEN APPLIED FOR.

STORMWATER MANAGEMENT SUMMARY TABLE								
LOT	Pe		ESdv		RECHARGE		SWM PRACTICES	
	REQUIRED	PROVIDED	REQUIRED	PROVIDED	REQUIRED	PROVIDED	MICRO BIO (M-6)	DISCONNECTS(N-1 & N-2)
1	1.2"	1.2"	1,891 CF	1,925 CF	749 CF	1,741.5 CF	1	7

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 6-14-21

[Signature]
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 4/23/21

OWNER/DEVELOPER
 NATALIE ZIEGLER
 3800 MANOR LANE
 ELLICOTT CITY, MARYLAND 21042
 NZIEGLER@AOL.COM
 410-215-3456



SILL ENGINEERING GROUP, LLC
 16005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

DESIGN BY: PS
 DRAWN BY: SZS
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: FEBRUARY 26, 2021
 PROJECT #: 18-037
 SHEET #: 1 of 7

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. 32025, EXPIRATION DATE JUNE 20, 2021.

FOREST STAND ANALYSIS TABLE

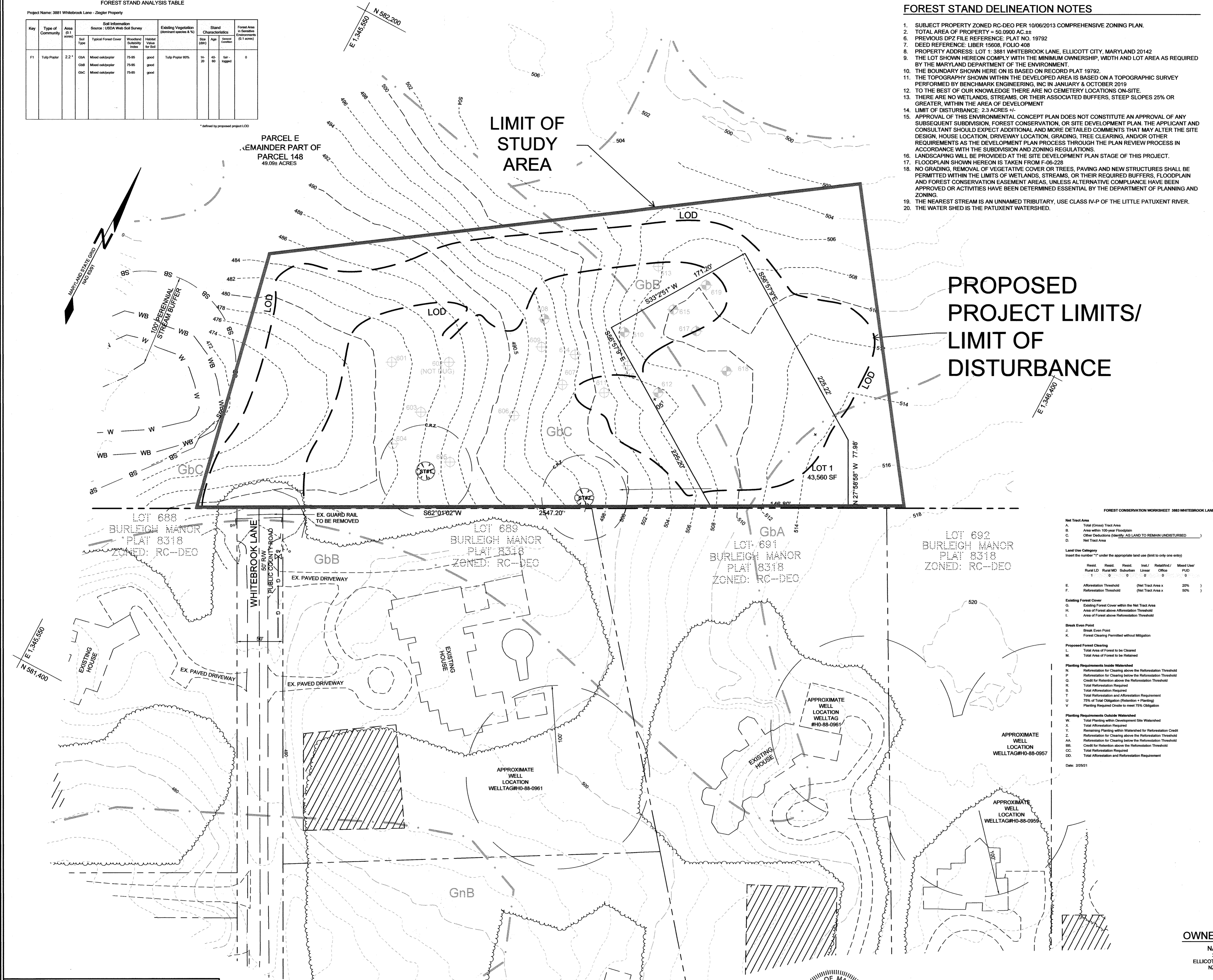
Key	Type of Community	Area (A) (Acres)	Soil Information Source: USDA Web Soil Survey	Typical Forest Cover	Wetland Substrate	Wetland Value for Soil	Wetland Value for Site	Existing Vegetation (Percent cover & %)	Stand Characteristics	Forest Area in Stand (A) (Acres)
F1	Tulip Poplar	2.21	GA4 G4B G4C	Mixed oak/poplar Mixed oak/poplar Mixed oak/poplar	75-95 75-95 75-95	good good good	good good good	Tulip Poplar 80%	15-20 40-60 40-60	15-20 40-60 40-60

* defined by proposed project LOD

- FOREST STAND DELINEATION NOTES**
- SUBJECT PROPERTY ZONED RC-DEO PER 10/06/2013 COMPREHENSIVE ZONING PLAN.
 - TOTAL AREA OF PROPERTY = 50.0900 AC ±.
 - PREVIOUS DPZ FILE REFERENCE: PLAT NO. 19792
 - DEED REFERENCE: LIBER 15608, FOLIO 408
 - PROPERTY ADDRESS: LOT 1, 3881 WHITEBROOK LANE, ELLICOTT CITY, MARYLAND 21042
 - THE LOT SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
 - THE BOUNDARY SHOWN HERE ON IS BASED ON RECORD PLAT 19792.
 - THE TOPOGRAPHY SHOWN WITHIN THE DEVELOPED AREA IS BASED ON A TOPOGRAPHIC SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC IN JANUARY & OCTOBER 2019.
 - TO THE BEST OF OUR KNOWLEDGE THERE ARE NO CEMETERY LOCATIONS ON-SITE.
 - THERE ARE NO WETLANDS, STREAMS, OR THEIR ASSOCIATED BUFFERS, STEEP SLOPES 25% OR GREATER, WITHIN THE AREA OF DEVELOPMENT
 - LIMIT OF DISTURBANCE: 2.3 ACRES ±.
 - APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT SUBDIVISION, FOREST CONSERVATION, OR SITE DEVELOPMENT PLAN. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED COMMENTS THAT MAY ALTER THE SITE DESIGN, HOUSE LOCATION, DRIVEWAY LOCATION, GRADING, TREE CLEARING, AND/OR OTHER REQUIREMENTS AS THE DEVELOPMENT PLAN PROCESS THROUGH THE PLAN REVIEW PROCESS IN ACCORDANCE WITH THE SUBDIVISION AND ZONING REGULATIONS.
 - LANDSCAPING WILL BE PROVIDED AT THE SITE DEVELOPMENT PLAN STAGE OF THIS PROJECT.
 - FLOODPLAIN SHOWN HEREON IS TAKEN FROM F-96-228
 - NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS, UNLESS ALTERNATIVE COMPLIANCE HAVE BEEN APPROVED OR ACTIVITIES HAVE BEEN DETERMINED ESSENTIAL BY THE DEPARTMENT OF PLANNING AND ZONING.
 - THE NEAREST STREAM IS AN UNNAMED TRIBUTARY, USE CLASS IV-P OF THE LITTLE PATUXENT RIVER.
 - THE WATER SHED IS THE PATUXENT WATERSHED.

LEGEND

EXISTING CONTOUR GIS	---	382	PERCOLATION TEST: PASSED	
EXISTING CONTOUR FIELD RUN	---	382	PERCOLATION TEST: FAILED	
PROPOSED CONTOUR	---	382		
EXISTING SPOT ELEVATION	+	382.5		
PROPOSED SPOT ELEVATION	+	382.5		
DIRECTION OF FLOW	---			
EXISTING TREELINE	---		EXISTING SPECIMEN TREE TO REMAIN	
WETLAND BUFFER	---	WB		
STREAM BUFFER	---	SB		
STREAM BUFFER	---	W		



FOREST STAND DELINEATION NARRATIVE

This project proposed the creation of a one acre lot from the 50.09 acre lot known as Parcel E of parcel 148 as shown on tax map 23.

The proposed one acre lot to be created will be situated along the southern edge of the property, east of the termination point of Whitebrook Lane. A driveway will be constructed across the remainder of Parcel E to access this lot. The overall study area encompassed approximately 5 acres of land that includes the proposed lot, the proposed driveway location, and adjacent lands to identify and assess any resource constraints that would impact the implementation of the project.

The project area includes 2.2 acres to be included in the proposed limit of disturbance. The project area has no formal improvements but does have access/logging trails and paths. The area was apparently logged in the past and the canopy that remains is fairly open and dominated by tulip poplar. Canopy closure is estimated to be approximately 40% with poplar making up nearly 80 percent of the total cover. Black oak, red maple, black gum and American beech were noted in the canopy and understorey. The canopy trees are typically 14-20 inches dbh, with understorey trees being 4-12 inches. Two specimen trees, both poplar, were identified within the project area.

Shrub growth in the stand includes multiflora rose and Japanese barberry. Stump spouts also provide low woody growth in the area. Japanese still grass, wavy basket grass and Japanese honeysuckle are notable in the herb layer.

No streams, wetlands or buffers are present within the proposed use area but a headwater wetland/stream system is present to the west of the proposed access driveway. The driveway has been situated to avoid these resources and their buffers. The headwater wetlands are have a canopy made up of red maple with false, nettle, wood rose and jewelweed being very common in the herbaceous layer. The wetlands and stream are within the watershed of an unnamed Use IV-P tributary to the Little Patuxent River (02-13-09).

No steep slopes are present on the property.

No historic elements or cemeteries are present on the property. The property is part of the Doughoregan Manor property which is listed on the National Register of Historic Places, National ID 71000376.

No rare, threatened or endangered species are present on the property.

Specimen trees are present on the site but no state champions or trees 75% of the state champion occur within the study area.

FOREST CONSERVATION ACT COMPLIANCE

The proposed project will require impacts to more than 20,000 sq.ft. of forest and therefore is not eligible for any exemptions. The net tract area of the project has been defined by the proposed limits of disturbance/project area. In accordance with the Forest Conservation Worksheet the 2.8 acre reforestation obligation will be addressed by creating a 5.8 acre "offsite" retention easement on the balance of Parcel E of parcel 148. This retention area is within the same watershed as the project area.

FOREST CONSERVATION WORKSHEET 3883 WHITEBROOK LANE

Net Tract Area	A. Total Gross Tract Area	A = 50.09
	B. Area within 100' Wetland Buffer	B = 47.8
	C. Other Deductions (density, AD LAND TO REMAIN UNDISTURBED)	C = 47.8
	D. Net Tract Area	D = 2.2
Land Use Category	Insert the number "1" under the appropriate land use (limit to only one entry)	
	Resid	Resid
	Rural LD	Rural MD
	Suburban	Linear
	Office	Moored User
	PUD	PUD
	1	0
E. Afforestation Threshold (Net Tract Area x 20%)	E = 0.4	
F. Reforestation Threshold (Net Tract Area x 50%)	F = 1.1	
Existing Forest Cover	G. Existing Forest Cover within the Net Tract Area	G = 2.3
	H. Area of Forest above Afforestation Threshold	H = 1.9
	I. Area of Forest above Reforestation Threshold	I = 1.2
Break Even Point	J. Break Even Point	J = 1.5
K. Forest Clearing Permitted without Mitigation	K = 0.8	
Proposed Forest Clearing	L. Total Area of Forest to be Cleared	L = 2.3
M. Total Area of Forest to be Retained	M = 0.0	
Planting Requirements Inside Watershed	N. Reforestation for Clearing above the Reforestation Threshold	N = 0.8
	O. Reforestation for Clearing below the Reforestation Threshold	O = 0.0
	P. Credit for Retention above the Reforestation Threshold	P = 0.0
	Q. Total Reforestation Required	Q = 0.8
	R. Total Afforestation Required	R = 0.0
	S. Total Reforestation and Afforestation Requirement	S = 0.8
	T. 75% of Total Obligation (Retention + Planting)	T = 0.6
	U. Planting Required Outside to meet 75% Obligation	U = 2.1
	V. Planting Required Outside to meet 75% Obligation	V = 2.1
Planting Requirements Outside Watershed	W. Total Planting within Development Site Watershed	W = 0.0
	X. Total Afforestation Required	X = 0.0
	Y. Remaining Planting within Watershed for Reforestation Credit	Y = 0.0
	Z. Reforestation for Clearing above the Reforestation Threshold	Z = 1.2
	AA. Reforestation for Clearing below the Reforestation Threshold	AA = 3.3
	BB. Credit for Retention above the Reforestation Threshold	BB = 0.0
	CC. Total Reforestation Required	CC = 4.5
	DD. Total Afforestation and Reforestation Requirement	DD = 4.5

Date: 2/29/21

SPECIMEN TREE TABLE

KEY	SIZE	CRZ	TYPE	CONDITION	REMARKS
ST-1	33.5"	50.25'	TULIP POPLAR	GOOD	TO BE RETAINED
ST-2	31"	46.5'	TULIP POPLAR	GOOD	TO BE RETAINED

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE: 6/14/21

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE: 7/27/21

Eco-Science Professionals, Inc.

CONSULTING ECOLOGISTS

16005 Frederick Road, 2nd Floor
Woodbine, Maryland 21797
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@ecoscienceinc.com
Civil Engineering for Land Development

PLAN PREPARED BY:

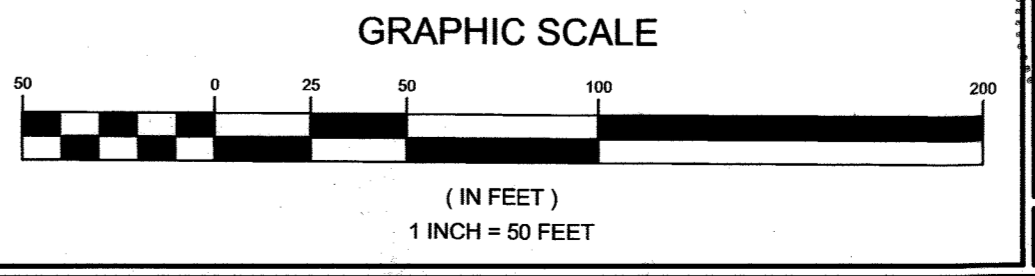
JOHN CANOLES
MD DNR FCA QUALIFIED PROFESSIONAL

PLAN VIEW

SCALE: 1"=50'



JOANNE CAREY, RLA 4148
MD DNR QUALIFIED PROFESSIONAL



OWNER/DEVELOPER

NATALIE ZIEGLER
3800 MANOR LANE
ELLICOTT CITY, MARYLAND 21042
NZIEGLER@AOL.COM
410-215-3456

FOREST STAND DELINEATION PLAN

ZIEGLER PROPERTY

XXXX WHITEBROOK LANE

TAX MAP 23 GRID 23
3RD ELECTION DISTRICT

P/O 148 PARCEL E
HOWARD COUNTY, MARYLAND

DESIGN BY: PS
DRAWN BY: SZS
CHECKED BY: PS
SCALE: AS SHOWN
DATE: FEBRUARY 26, 2021
PROJECT #: 18-037
SHEET #: 2 of 7

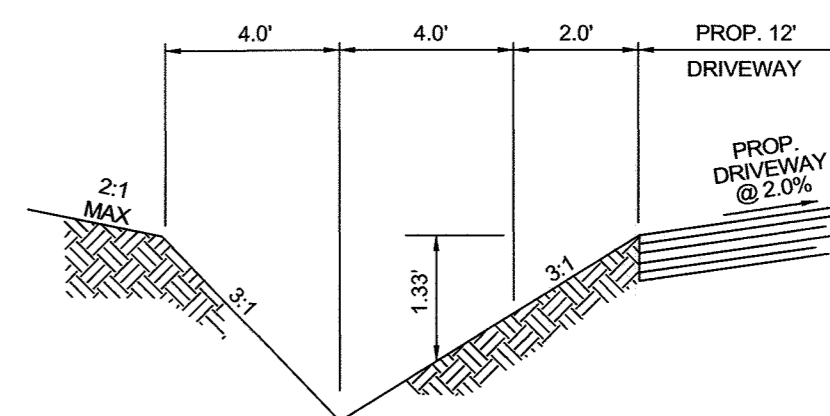
SILL ENGINEERING GROUP, LLC

16005 Frederick Road, 2nd Floor
Woodbine, Maryland 21797
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

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. 32025, EXPIRATION DATE: JUNE 30, 2021.

LEGEND

EXISTING CONTOUR GIS	---	382	PERCOLATION TEST: PASSED	
EXISTING CONTOUR FIELD RUN	---	382	PERCOLATION TEST: FAILED	
PROPOSED CONTOUR	---	382	EXISTING SPECIMEN TREE TO REMAIN	
EXISTING SPOT ELEVATION	+	82.53	PROPOSED VARIABLE WIDTH PRIVATE SWM, ACCESS AND UTILITY EASEMENT FOR LOT 1 & P/O PARCEL E OF PARCEL 148	
PROPOSED SPOT ELEVATION	+	82.53	PROPOSED VARIABLE WIDTH PRIVATE SWM, ACCESS AND UTILITY EASEMENT FOR LOT 1	
DIRECTION OF FLOW	→		PROPOSED FOREST CONSERVATION EASEMENT	
EXISTING TREELINE	~		MODERATE SLOPES 15-24.99%	
PROPOSED TREELINE	~			
WETLAND BUFFER	WB			
STREAM BUFFER	SB			
STREAM BUFFER	W			
PROPOSED WELL BOX				



TYPICAL DRIVEWAY GRASS SWALE
NOT TO SCALE



JOANNE CAREY, RLA 4148
MD DNR QUALIFIED PROFESSIONAL

OWNER/DEVELOPER
NATALIE ZIEGLER
3800 MANOR LANE
ELLCOTT CITY, MARYLAND 21042
NZIEGLER@AOL.COM
410-215-3456

CONCEPTUAL GRADING PLAN
ZIEGLER PROPERTY
XXXX WHITEBROOK LANE
TAX MAP 23 GRID 23
3RD ELECTION DISTRICT
P/O PARCEL E
HOWARD COUNTY, MARYLAND

		DESIGN BY: PS
		DRAWN BY: SZS
		CHECKED BY: PS
		SCALE: AS SHOWN
16005 Frederick Road, 2nd Floor Woodhine, Maryland 21797 Phone: 443.325.5076 Fax: 410.696.2022 Email: info@sillengineering.com Civil Engineering for Land Development		DATE: FEBRUARY 26, 2021 PROJECT #: 18-037 SHEET #: 3 of 7

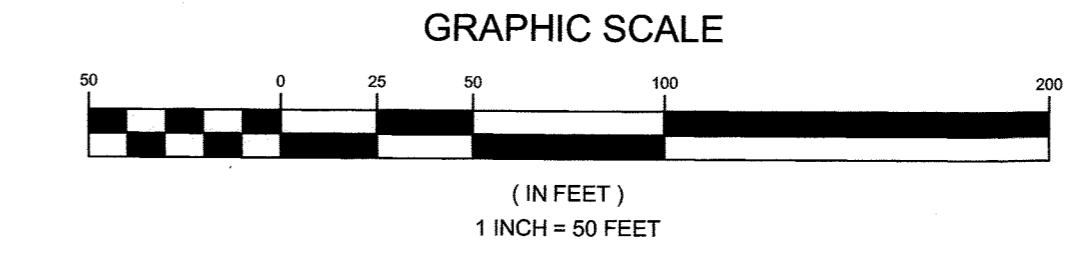
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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 6/14/21

 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 4/27/24

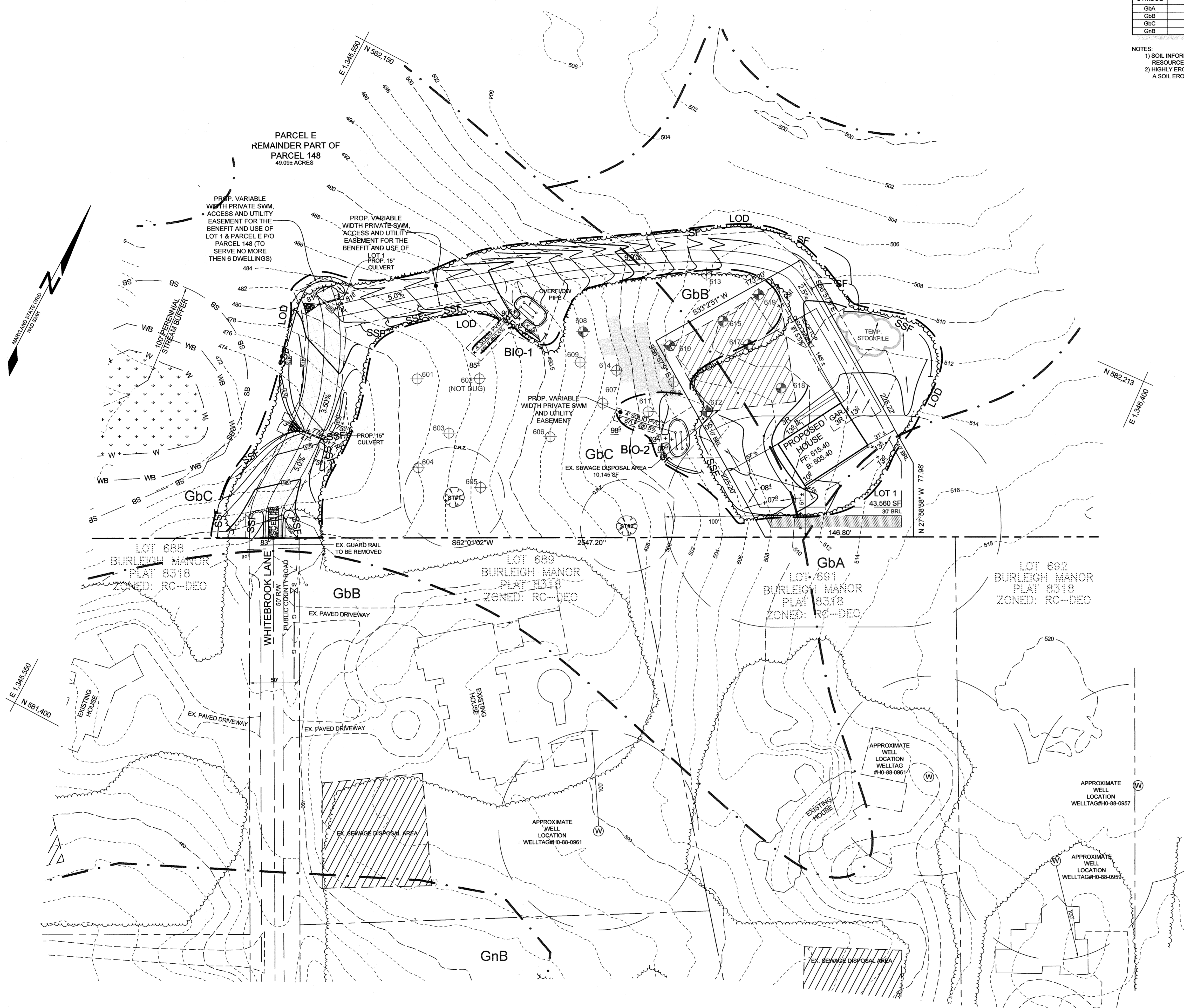
PLAN VIEW
SCALE: 1"=50'



SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GbA	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	A	0.28
GbB	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	A	0.28
GbC	GLENELG-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	A	0.28
GbH	GLENVILLE-BAILE SILT LOAM, 0 TO 8 PERCENT SLOPES	C	0.43

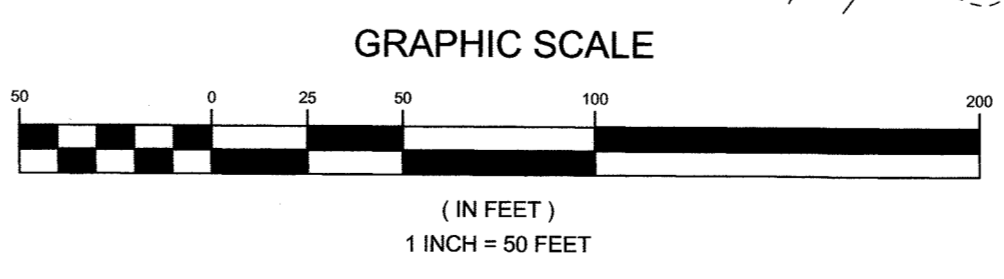
NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE; NATURAL RESOURCES CONSERVATION SERVICE; WEB SOIL SURVEY
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

LEGEND	
EXISTING CONTOUR GIS	--- 382
EXISTING CONTOUR FIELD RUN	--- 382
PROPOSED CONTOUR	--- 382
EXISTING SPOT ELEVATION	382.3
PROPOSED SPOT ELEVATION	382.3
DIRECTION OF FLOW	→
EXISTING TREELINE	~ ~ ~
PROPOSED TREELINE	~ ~ ~
STABILIZED CONSTRUCTION ENTRANCE	--- SF --- SF ---
SILT FENCE	--- SF --- SF ---
SUPER SILT FENCE	--- SSF --- SSF ---
LIMIT OF DISTURBANCE	--- LOD ---
SOIL BOUNDARY	--- ---
RIP-RAP INFLOW PROTECTION	--- RRP ---
PROPOSED DRAINAGE DIVIDE	--- ---
EXISTING GAS	--- G --- G ---
MODERATE SLOPES 15-24.99%	--- ---



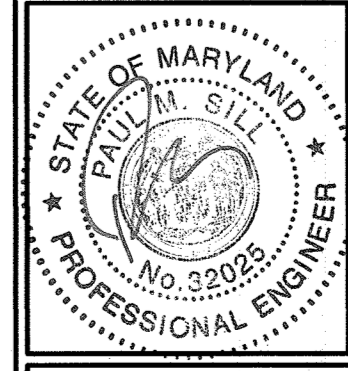
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 6/14/21
 DATE: 4/27/24

PLAN VIEW
 SCALE: 1"=50'



OWNER/DEVELOPER
 NATALIE ZIEGLER
 3800 MANOR LANE
 ELLICOTT CITY, MARYLAND 21042
 NZIEGLER@AOL.COM
 410-215-3456

CONCEPTUAL SEDIMENT AND EROSION CONTROL PLAN
 ZIEGLER PROPERTY
 XXXX WHITEBROOK LANE
 TAX MAP 23 GRID 23
 3RD ELECTION DISTRICT
 PIO 148 PARCEL E
 HOWARD COUNTY, MARYLAND



SILL ENGINEERING GROUP, LLC
 16005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

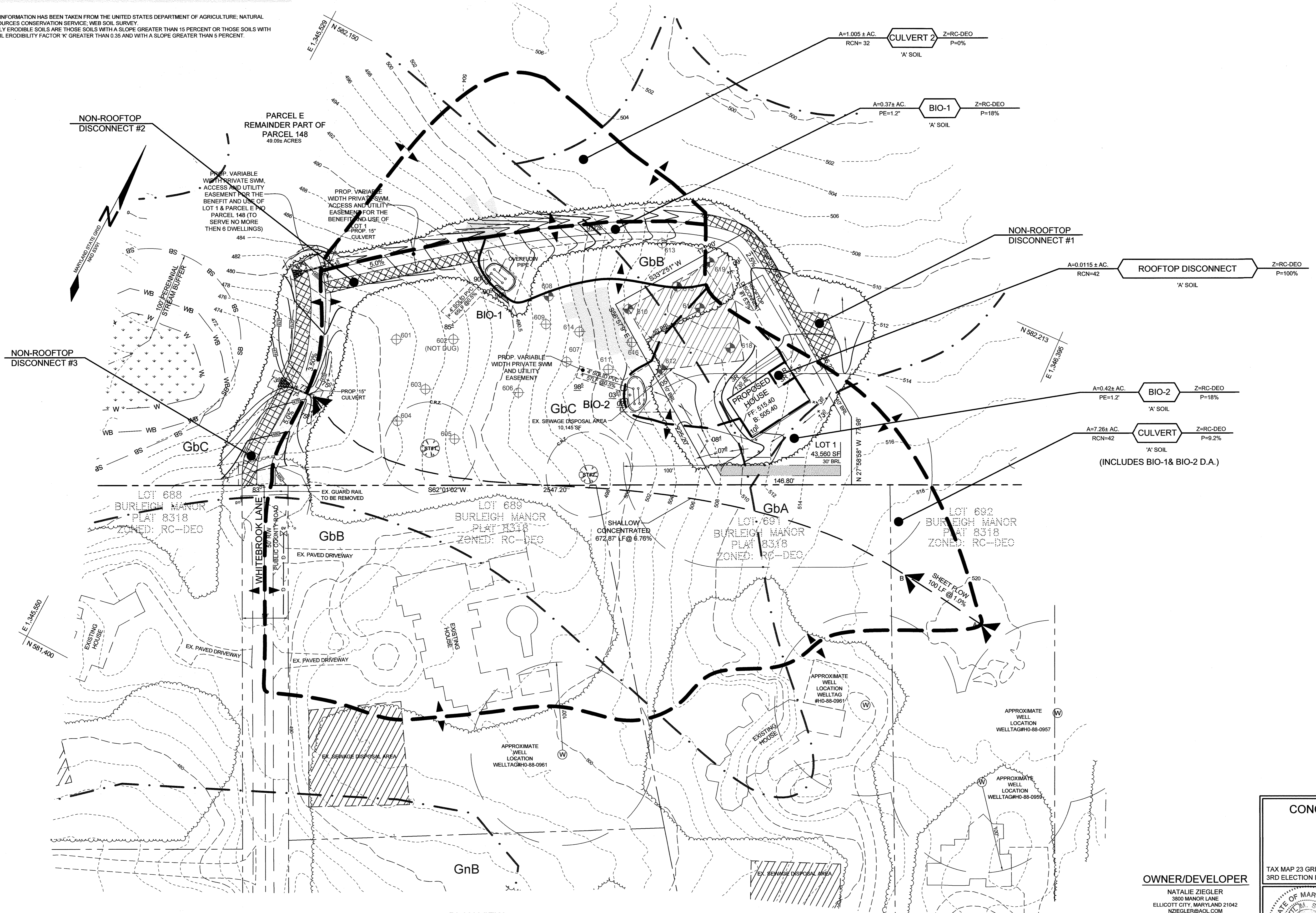
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 DRAWN BY: SZS
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: FEBRUARY 26, 2021
 PROJECT #: 18-037
 SHEET #: 4 of 7

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. 32025, EXPIRATION DATE JUNE 23, 2021.

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GbA	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	A	0.28
GbB	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	A	0.28
GbC	GLENELG-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	A	0.28
GnB	GLENVILLE-BAILE SILT LOAM, 0 TO 8 PERCENT SLOPES	C	0.43

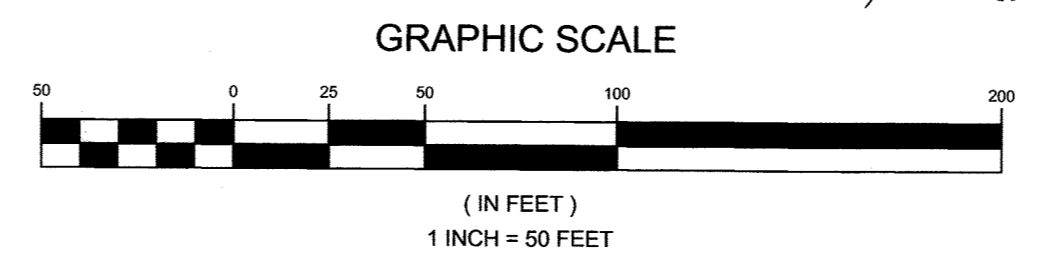
NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

LEGEND	
EXISTING CONTOUR GIS	--- 382
EXISTING CONTOUR FIELD RUN	--- 382
PROPOSED CONTOUR	--- 382
EXISTING SPOT ELEVATION	382.3
PROPOSED SPOT ELEVATION	+82.3
DIRECTION OF FLOW	→
EXISTING TREELINE	~
PROPOSED TREELINE	~
PROPOSED DRAINAGE DIVIDE	---
SOIL BOUNDARY	---
ROOFTOP DISCONNECTS	←
NON-ROOFTOP DISCONNECTS	←
RECEIVING AREA	⊗
TIME OF CONCENTRATION	←
MODERATE SLOPES 15-24.99%	---



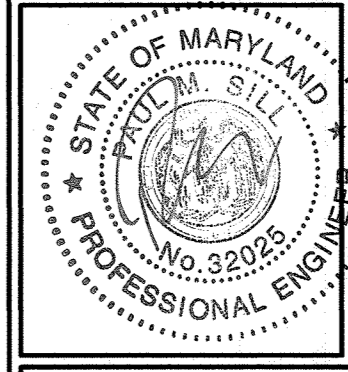
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 2/16/21
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 4/27/21

PLAN VIEW
 SCALE: 1"=50'



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CONCEPTUAL STORMWATER MANAGEMENT & CULVERT DRAINAGE AREA MAP
 ZIEGLER PROPERTY
 XXXX WHITEBROOK LANE
 TAX MAP 23 GRID 23
 3RD ELECTION DISTRICT
 P/O 148 PARCEL E
 HOWARD COUNTY, MARYLAND



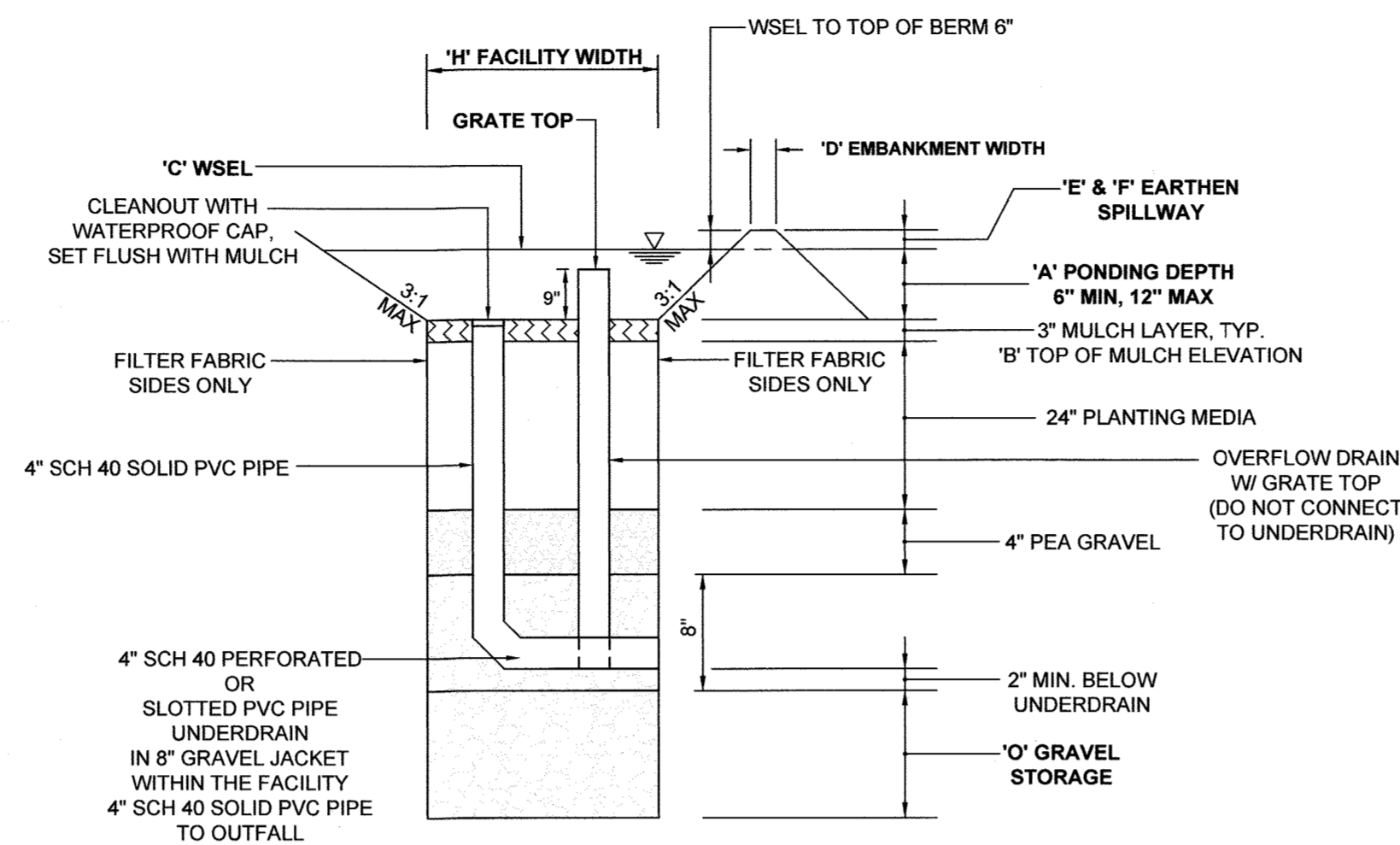
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 Phone: 443.325.5076
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 Email: info@sillengineering.com
 Civil Engineering for Land Development

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 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: FEBRUARY 26, 2021
 PROJECT #: 18-037
 SHEET #: 5 of 7

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. 32025, EXPIRATION DATE JUNE 20, 2021

MATERIALS SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN & LANDSCAPE INFILTRATION

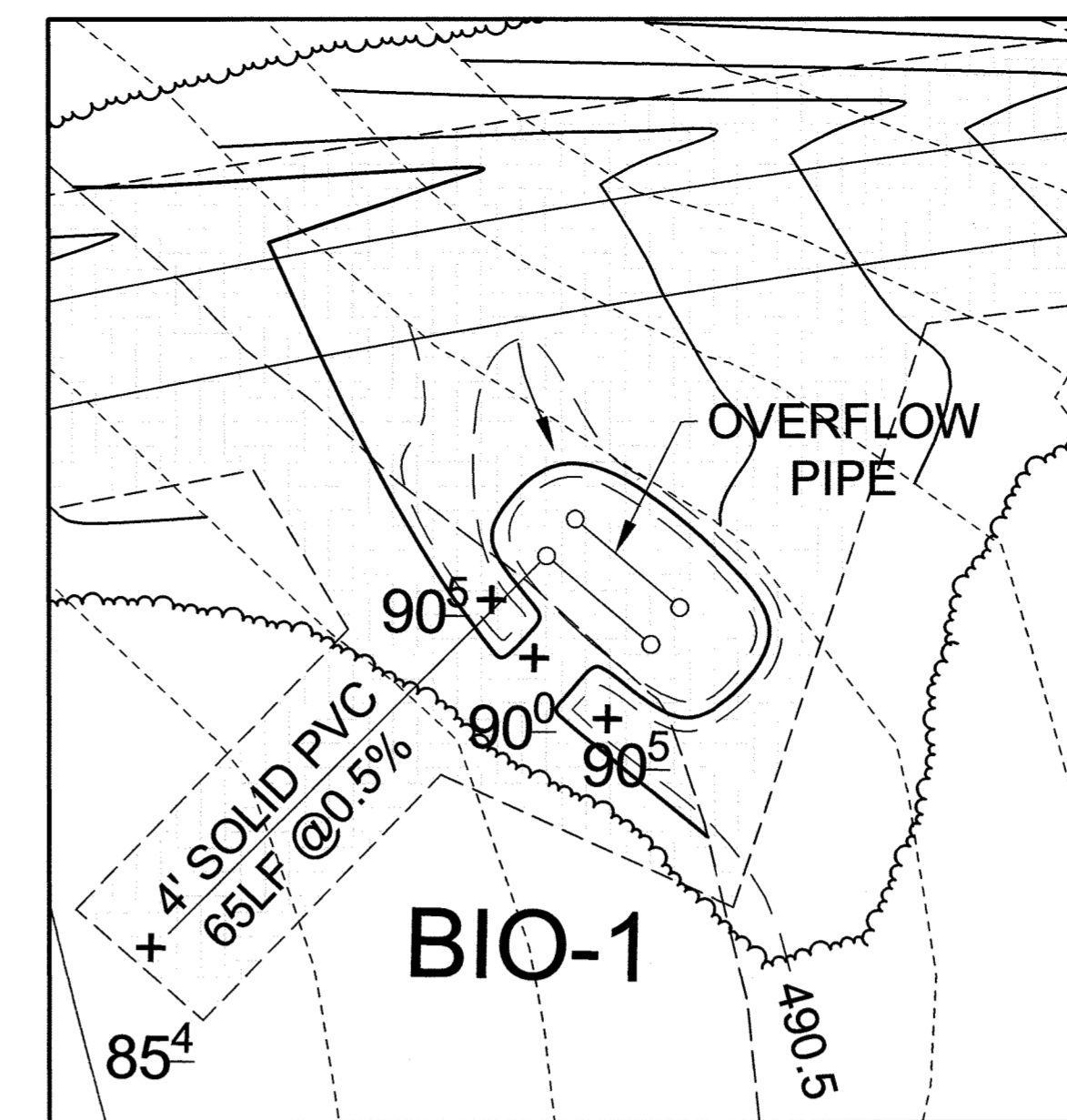
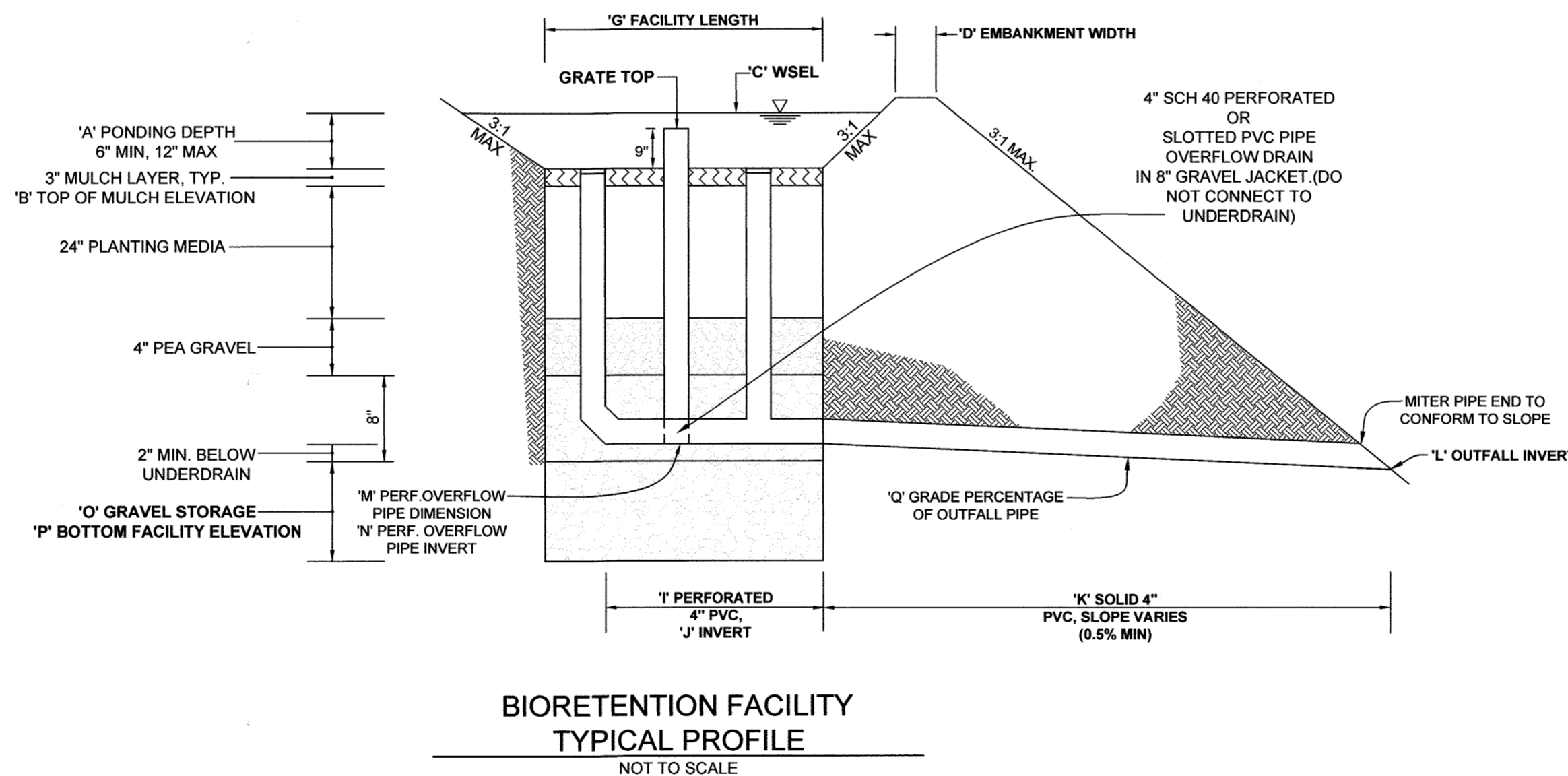
PLANTINGS	SPECIFICATION	SIZE	NOTES
PLANTING SOIL [2-4" TO 4" DEEP]	SEE PLANT LIST THIS SHEET	N/A	PLANTINGS ARE SITE-SPECIFIC. SEE PLANT LIST THIS SHEET
ORGANIC CONTENT	MIN. 10% BY DRY WEIGHT (ASTM-D-2974)		USDA SOIL TYPES LOAMY SAND OR SANDY LOAM, CLAY CONTENT < 5%
PEA GRAVEL DIAPHRAGM	PEA GRAVEL; ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	AGED 6 MONTHS, MINIMUM. NO PINE OR WOOD CHIPS
CURTAIN DRAIN (IF REQUIRED)	ORNAMENTAL STONE; WASHED COBBLES	STONE: 2" TO 5"	
GEOTEXTILE		N/A	PE TYPE 1 NONWOVEN
UNDERDRAIN GRAVEL	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" TO 3/4")	
UNDERDRAIN PIPING	F 758, TYPE PS 28 OR AASHTO M-278	4" TO 6" RIGID SCHEDULE 40 PVC OR SDR35	SLOTTED OR PERFORATED PIPE, 3/8" PERF. @ 6" ON CENTER. 4 HOLES PER ROW. MINIMUM OF 3" OF GRAVEL OVER PIPES. NOT NECESSARY UNDERNEATH PIPES. PERFORATED PIPE SHALL BE WRAPPED WITH 1/4" GALVANIZED HARDWARE CLOTH.
POURED IN PLACE CONCRETE (IF REQUIRED)	MSHA MX NO. 3; F _c = 3500 PSI @ 28 DAYS, NORMAL WEIGHT, AIR-ENTRAINED; REINFORCING TO MEET ASTM-615-60	N/A	ON-SITE TESTING OF POURED-IN-PLACE CONCRETE REQUIRED: 28 DAY STRENGTH AND SLUMP TEST; ALL CONCRETE DESIGN (CAST-IN-PLACE OR PRE-CAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND. DESIGN TO INCLUDE MEETING ACI CODE 350/R89; VERTICAL LOADING (H-10 OR H-20); ALLOWABLE HORIZONTAL LOADING (BASED ON SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING.
	AASHTO-M-6 OR ASTM-C-33	0.02" TO 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRAYSTONE (AASHTO) #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.



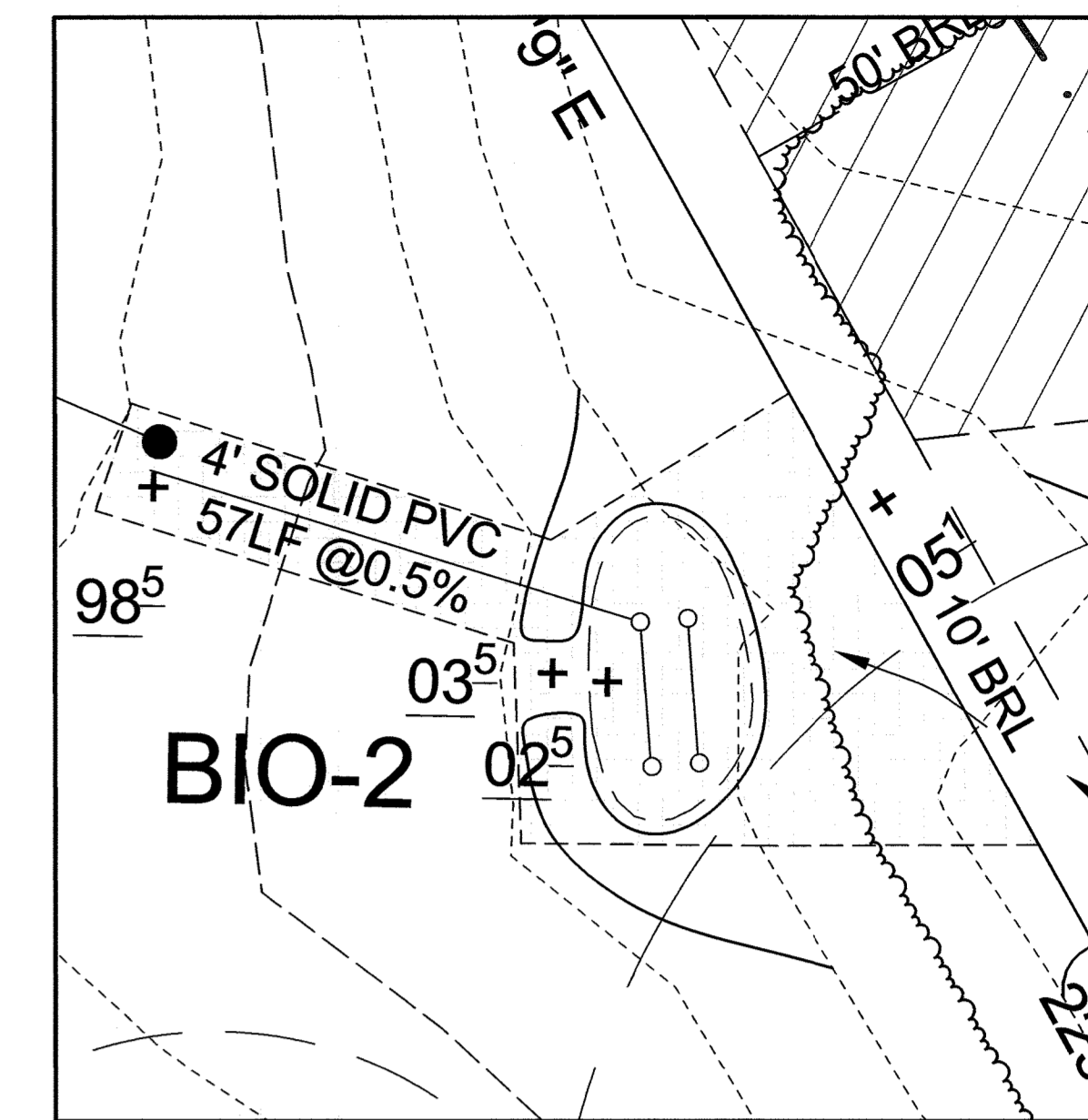
NOTES:
- FOR ADDITIONAL INFORMATION, SEE THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II.
- SEE CHART, THIS SHEET, FOR ELEVATIONS AND DISTANCES

BIORETENTION ELEVATIONS AND DIMENSIONS

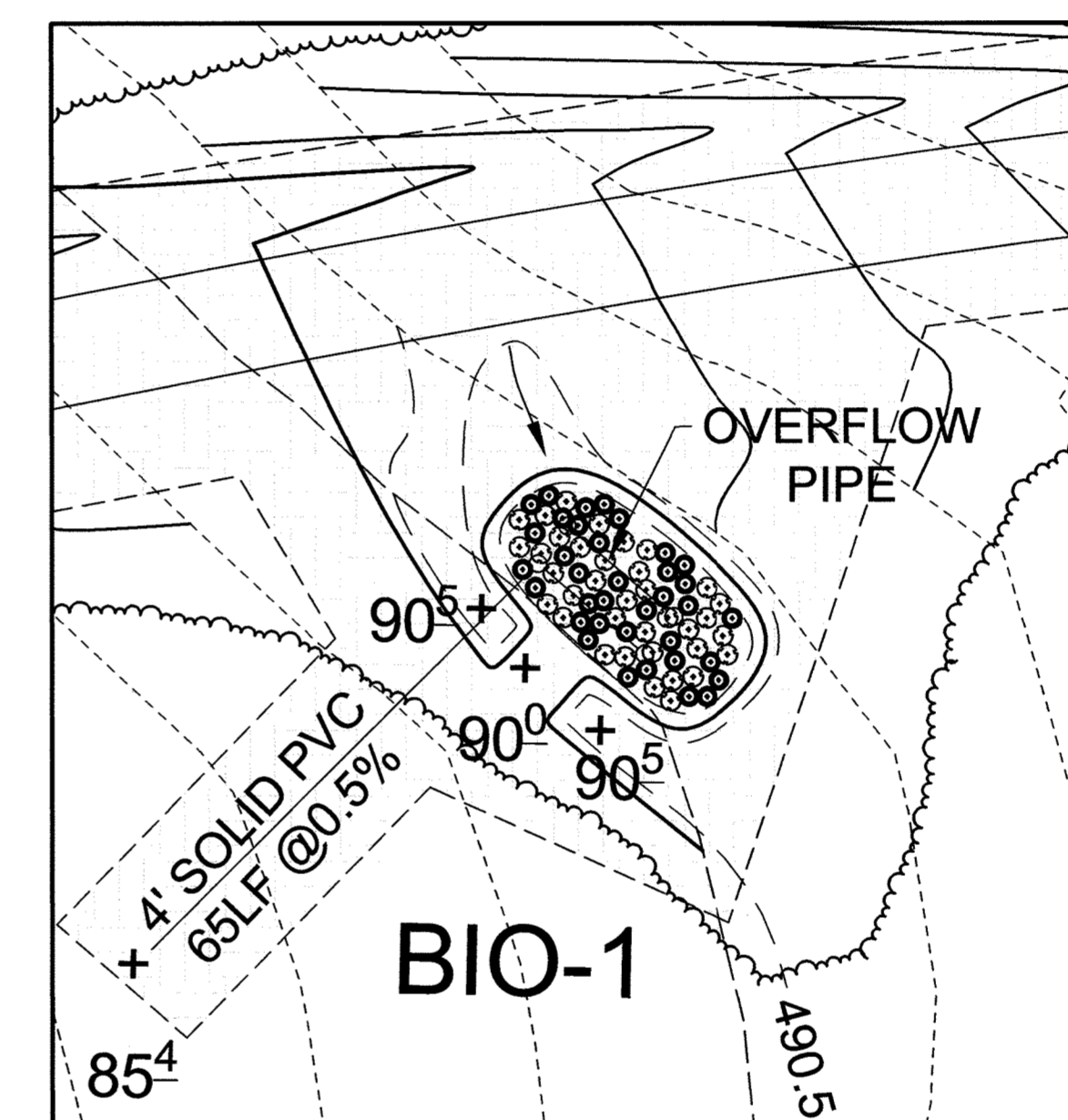
DESCRIPTION	BIO 1	BIO 2
'A' PONDING DEPTH	1.0'	1.0'
'B' TOP OF MULCH	489.50	502.50
'C' WSEL	490.0	504
'D' EMBANKMENT WIDTH	4'	4'
'E' SPILLWAY WIDTH	8'	14'
'F' SPILLWAY LENGTH	7'	7'
'G' FACILITY LENGTH	31'	35'
'H' FACILITY WIDTH	16'	18.50'
'T' PERF. UNDERDRAIN PIPE DIMENSION	27"	14"
'U' UNDERDRAIN PIPE INVERT	385.75	498.10
'K' SOLID UNDERDRAIN DIMENSION	65.0'	57'
'L' OUTFALL INVERT	385.4	498.50
'M' PERF. OVERFLOW PIPE DIMENSION	14"	14.5"
'N' OVERFLOW PIPE INVERT	485.75	498.10
'O' GRAVEL STORAGE DEPTH	2.5'	2.5'
'P' BOTTOM ELEVATION OF FACILITY	483.0	496.0
'Q' GRADE % OF OUTFALL PIPE	0.5%	0.5%



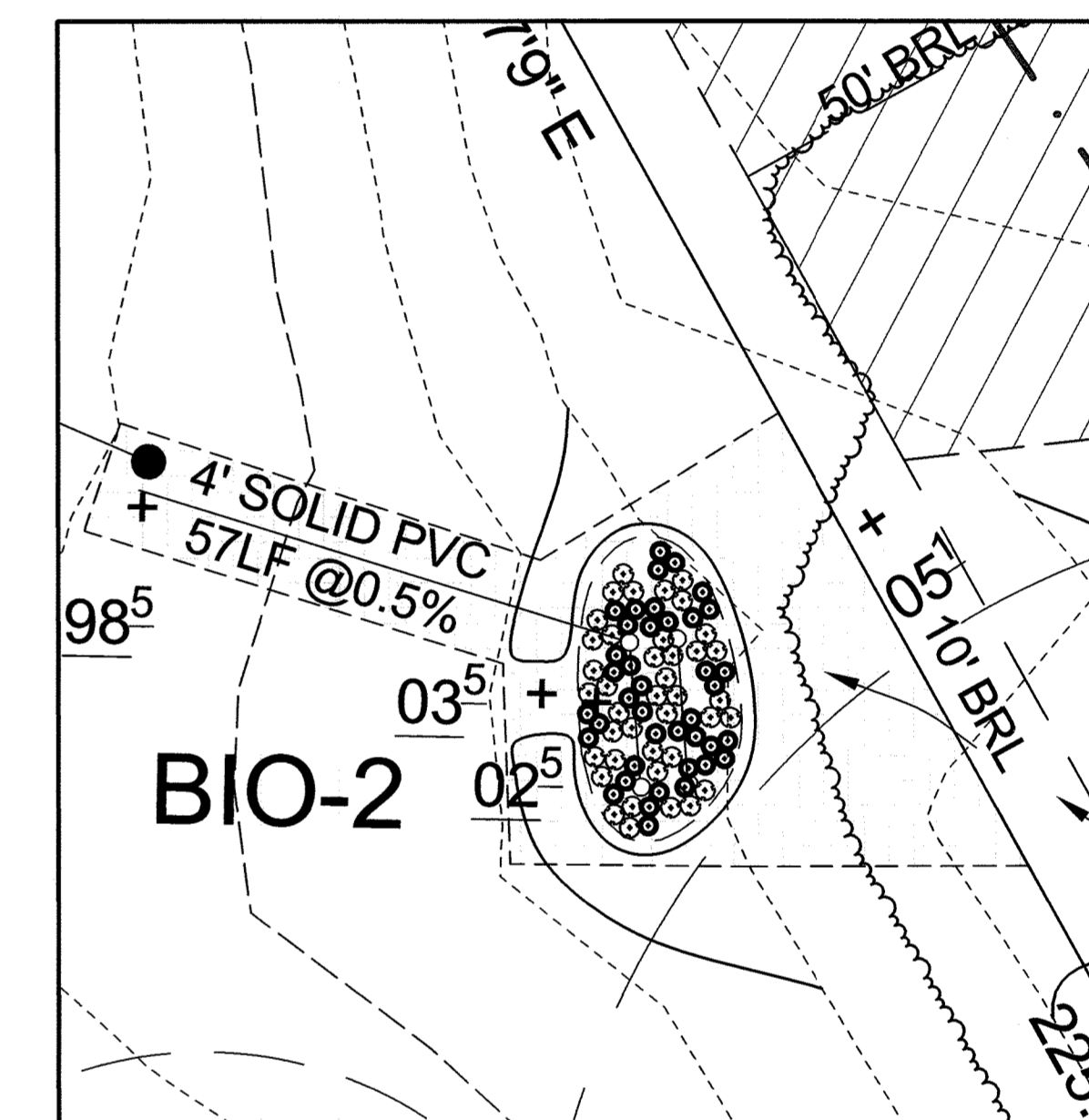
PLAN VIEW BIO #1
SCALE: 1"=20'



PLAN VIEW BIO #2
SCALE: 1"=20'



LANDSCAPE PLAN VIEW BIO #1
SCALE: 1"=20'



LANDSCAPE PLAN VIEW BIO #2
SCALE: 1"=20'

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED MICRO-BIORETENTION FACILITIES (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 4.4.1 AND 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 OR 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.

OPERATION AND MAINTENANCE SCHEDULE FOR ROOFTOP (N-1) AND NON-ROOFTOP (N-2) DISCONNECTS

MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR THE OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION (E.G. BY PLANTING TREES OR SHRUBS ALONG THE PERIMETER).

BIORETENTION PLANT LIST							
LEGEND	BOTANICAL NAME	COMMON NAME	SHRUBS		REMARKS	QTY. BIO-1	QTY. BIO-2
			SPACING	SIZE			
⊙	ECHINEA	CONEFLOWER	AS SHOWN* (MIN. 2' O.C.)	1 GALLON	--	36	40
⊙	RUDBECKIA	BLACK-EYED SUSAN	AS SHOWN* (MIN. 2' O.C.)	1 GALLON	--	36	40

NOTE: PLANT MATERIAL MUST COVER 80% OF THE MULCH AREA AT MATURE GROWTH. IF NUMBER SHOWN IS DIFFERENT THEN THE QUANTITY SHOWN IN THE PLANT LIST. THE PLANT LIST SUPERSEDES.
*INTERPERSE PLANTINGS THROUGHOUT BIORETENTION FILTER AREA

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] DATE: 6/14/21
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] DATE: 4/12/24
 CHIEF, DIVISION OF LAND DEVELOPMENT

OWNER/DEVELOPER

NATALIE ZIEGLER
3800 MANOR LANE
ELLCOTT CITY, MARYLAND 21042
NZIEGLER@OL.COM
410-215-3456

CONCEPTUAL STORMWATER MANAGEMENT PLAN NOTES & DETAILS ZIEGLER PROPERTY
XXXX WHITEBROOK LANE

TAX MAP 23 GRID 23 3RD ELECTION DISTRICT P/O 148 PARCEL E HOWARD COUNTY, MARYLAND

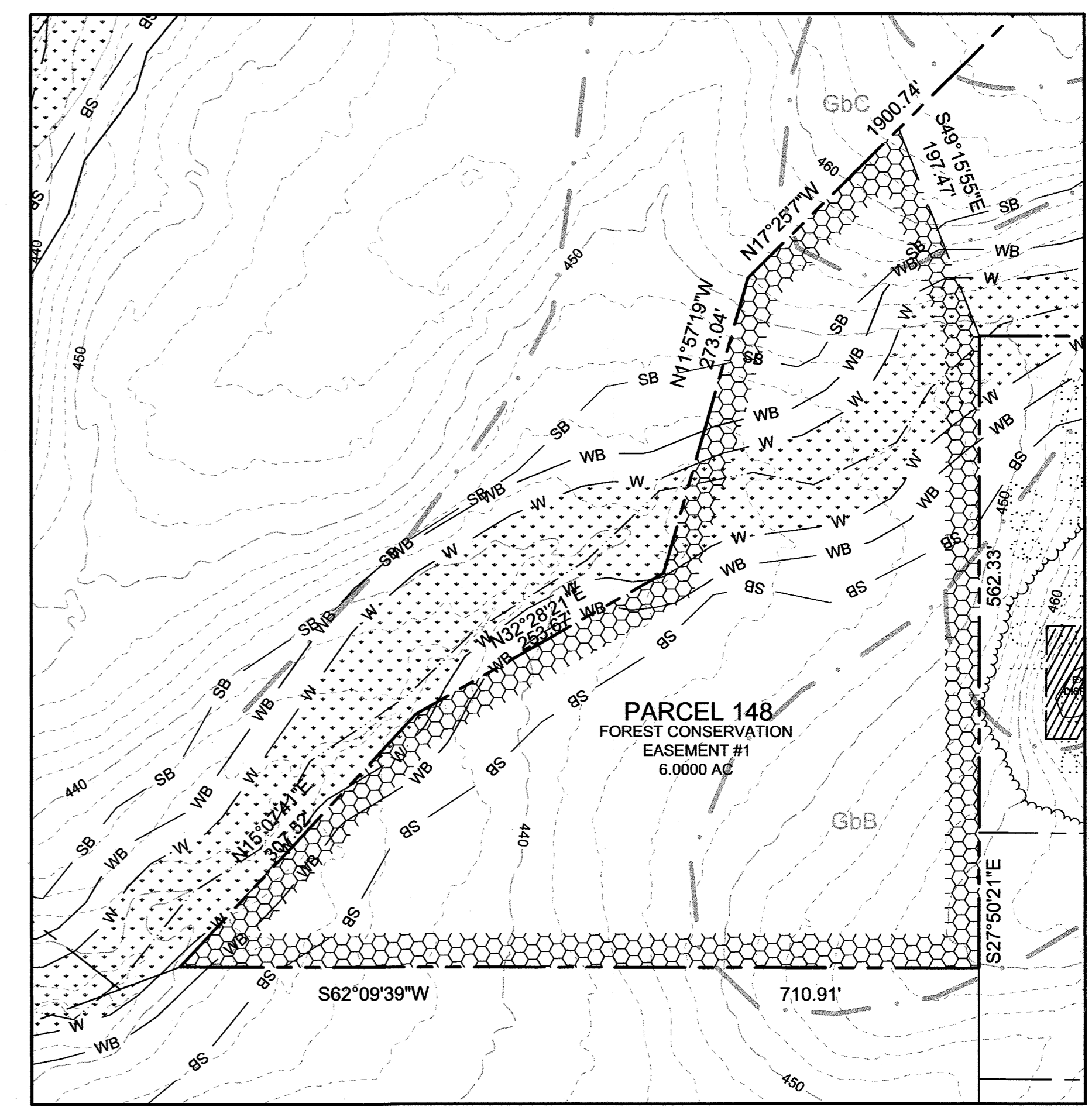
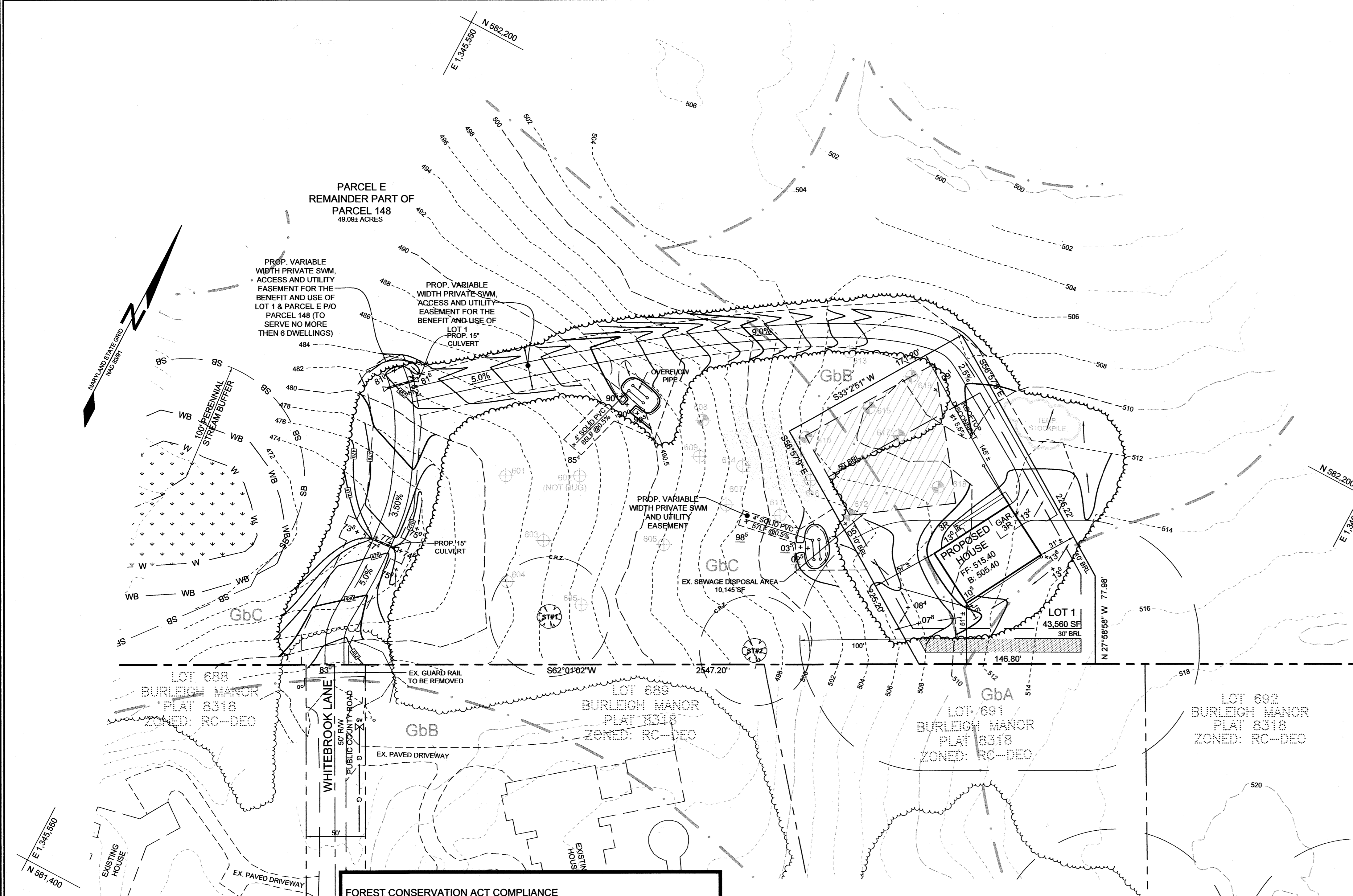
DESIGN BY: PS
 DRAWN BY: S2S
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: FEBRUARY 26, 2021
 PROJECT #: 18-037
 SHEET #: 6 of 7

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 Civil Engineering for Land Development

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LEGEND

- EXISTING CONTOUR GIS
- EXISTING CONTOUR FIELD RUN
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- WETLAND BUFFER
- STREAM BUFFER
- STREAM BUFFER
- STREAM BUFFER
- PROPOSED WELL BOX
- PERCOLATION TEST: PASSED
- PERCOLATION TEST: FAILED
- EXISTING SPECIMEN TREE TO REMAIN
- PROP. VARIABLE WIDTH PRIVATE SWM, ACCESS AND UTILITY EASEMENT
- MODERATE SLOPES 15-24.99%



FOREST CONSERVATION EASEMENT DETAIL
SCALE: 1"=100'

FOREST CONSERVATION ACT COMPLIANCE

The proposed project will require impacts to more than 20,000 sq.ft. of forest and therefore is not eligible for any exemptions from the Forest Conservation Act.

The net tract area of the project has been defined by the proposed limits of disturbance/project area. In accordance with the Forest Conservation Worksheet the project will generate a 2.80 acre reforestation obligation.

This obligation will be addressed by creating a minimum 5.6 acre "offsite" retention easement on the balance of Parcel E of parcel 148. This retention area is within the same watershed as the project area. The proposed retention easement and a Simplified Forest Stand Delineation documenting the forest resources to be protected within the easement is provided hereon.

Simplified Forest Stand Delineation for Offsite Retention Easement

The offsite retention area is made up of a tulip poplar dominated forest community. The canopy within the retention area is approximately 80-85 percent closed and is dominated by mature tulip poplar. The canopy trees average 16-24" dbh with larger individuals noted. Specimen trees are present within the retention area but they were not specifically identified since no disturbed is proposed within or adjacent to the retention area.

Tulip poplar is the primary species in the canopy. The understorey of the stand is more diverse with black gum, pignut hickory, red maple and black cherry. The understorey trees are 6-14 inch dbh and understorey closure is roughly 50 percent.

The shrub layer in the stand is sparse with closure of less than 25%. Blackhaw viburnum and spicebush were noted in the stand but there presence is limited. Multiflora rose and wineberry are the most commonly occurring species. Japanese barberry was also noted.

The herbaceous community is well established but is heavily influenced by invasive species. Japanese still grass and wavy basket grass are very common and create a mixed carpet across 90 percent of the forest floor. Garlic mustard is also very notable. Native herbs include Jack-in-the-pulpit, New York fern, Christmas fern and jewelweed.

The stand contains limited downed woody debris and appears to have limited active use. Logging of the adjacent forest areas does not appear to have extended into this portion of the forest. Hunting does appear to be performed in the stand.

The stand provides good forest habitat for a variety of species. The stand is part of a riparian forest community that is part of a larger forest community. The overall stand has been disturbed and is impacted by edge effect but may provide some forest interior function.

The proposed retention easement will include stream/stream buffer and adjacent forest. Several specimen trees were also noted within the proposed retention easement. This forest would be considered a high priority for retention.

FOREST CONSERVATION WORKSHEET 3883 WHITEBROOK LANE

Net Tract Area	A = 50.0
Total (Gross) Tract Area	B = 50.0
Area within 100-year Floodplain	C = 47.8
Other Deductions (Identify: AG LAND TO REMAIN UNDISTURBED)	D = 2.2
Net Tract Area	

Land Use Category	Resid.	Rural LD	Rural MD	Suburban	Linear	Office	Mixed Use/ PUD
	1	0	0	0	0	0	0

E. Afforestation Threshold (Net Tract Area x 20%)	F = 0.4
F. Reforestation Threshold (Net Tract Area x 50%)	F = 1.1

Existing Forest Cover	G = 2.3
Area of Forest within the Net Tract Area	H = 1.0
Area of Forest above Reforestation Threshold	I = 1.2

Break Even Point	J = 1.5
K. Forest Clearing Permitted without Mitigation	K = 0.8

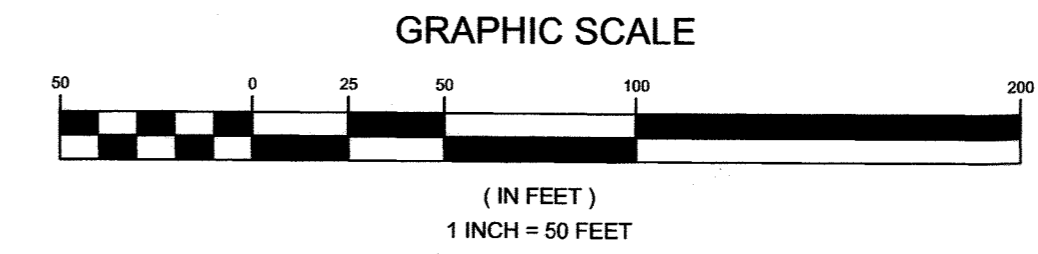
Proposed Forest Clearing	L = 2.3
M. Total Area of Forest to be Retained	M = 0.0

Planting Requirements Inside Watershed	N = 0.6
Reforestation for Clearing above the Reforestation Threshold	P = 2.2
Q. Credit for Retention above the Reforestation Threshold	Q = 0.0
R. Total Reforestation Required	R = 2.8
S. Total Afforestation Required	S = 0.0
T. Total Afforestation and Afforestation Requirement	T = 2.8
U. 75% of Total Obligation (Retention + Planting)	U = 2.1
V. Planting Required Onsite to meet 75% Obligation	V = 2.1

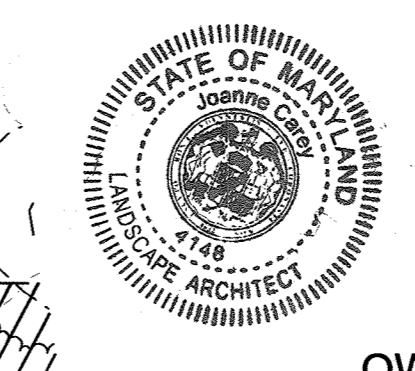
Planting Requirements Outside Watershed	W = 0.0
X. Total Afforestation Required	X = 0.0
Y. Remaining Planting within Watershed for Reforestation Credit	Y = 0.0
Z. Reforestation for Clearing above the Reforestation Threshold	Z = 1.2
AA. Total Afforestation Required	AA = 3.3
BB. Credit for Retention above the Reforestation Threshold	BB = 0.0
CC. Total Reforestation Required	CC = 4.5
DD. Total Afforestation and Reforestation Requirement	DD = 4.5

Date: 2/25/21

PLAN VIEW
SCALE: 1"=50'



Eco-Science Professionals, Inc. Consulting Ecologists
710, Box 5984, Glen Arden, Maryland 20817 Telephone: (301) 633-3488 Fax: (301) 633-2481
MD 2000 Qualified Professional Wetland Wetland Delineation Certificate # 17000000000000000000
Joanne Carey, P.E., P.L.A. 4148
MD DNR QUALIFIED PROFESSIONAL



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PRELIMINARY FOREST CONSERVATION PLAN

ZIEGLER PROPERTY
XXXX WHITEBROOK LANE

TAX MAP 23 GRID 23 3RD ELECTION DISTRICT P/O 148 PARCEL E HOWARD COUNTY, MARYLAND

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Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: S2S
CHECKED BY: PS
SCALE: AS SHOWN
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SHEET #: 7 of 7

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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 4/23/21