

GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- SUBJECT PROPERTY ZONED R-20 PER THE 10-6-2013 COMPREHENSIVE ZONING PLAN.
- THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE NATIONAL MARIANNA STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NO. 3160 AND 3181 WERE USED FOR THIS PROJECT.
- PREVIOUS HOWARD COUNTY FILE NUMBERS: S-90-009, P-93-001, F-94-099, SDF-95-075, ECP-24-005, WP-24-076
- TRACT BOUNDARY IS BASED ON FIELD RUN BOUNDARY SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. ON OR ABOUT MAY, 2023.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH TWO FOOT CONTOUR INTERVALS PREPARED BY BENCHMARK ENGINEERING, INC. DATED MAY, 2023. EXISTING UTILITIES SHOWN ARE BASED ON FIELD LOCATIONS BY BENCHMARK ENGINEERING, INC., HOWARD COUNTY GIS, F-94-099 AND F-04-152.
- WETLAND AND FOREST STAND DELINEATION WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED AUGUST 16, 2023 AND APPROVED ON DECEMBER 15, 2023.
- THE 100-YEAR FLOODPLAIN STUDY WAS PREPARED BY BENCHMARK ENGINEERING, INC. IN DECEMBER, 2023. A FLOODPLAIN STUDY WAS APPROVED AS PART OF THE REVIEW OF F-93-001. THESE FLOOD LIMITS ARE RECORDED ON THE ABBEYFIELD ESTATES PLAT AND ARE SHOWN AND LABELED PER PLAT NUMBER 11674.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERIES LOCATED ON THIS SITE.
- THERE ARE NO HISTORIC SITES/STRUCTURES LOCATED ON THIS SITE. THERE IS AN EXISTING STRUCTURE TO REMAIN ON LOT 42. THIS IS DATED circa 1950. THE PLANNING SUPERVISOR FROM THE DEPARTMENT OF PLANNING AND ZONING, RESOURCE CONSERVATION DIVISION, DOES NOT REQUIRE A HISTORIC COMMISSION REVIEW OF THIS PROPERTY IN CORRESPONDENCE DATED 2/29/24. NO NEW BUILDINGS, EXTENSIONS, OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATIONS REQUIREMENTS.
- THIS SITE IS LOCATED WITHIN THE METROPOLITAN DISTRICT AND THE PLANNED SERVICE AREA. EXISTING PUBLIC WATER AND PUBLIC SEWER CONNECTIONS ARE TO CONTRACT 14-3371-D.
- A NOISE STUDY IS PROVIDED BY MARS GROUP, INC., DATED JANUARY, 2024 FOR THIS PROJECT. THE 65DBA NOISE CONTOUR IS SHOWN ON THE EXISTING CONDITIONS PLAN. THE 65DBA NOISE CONTOUR DOES NOT IMPACT THE SITE.
- A TRAFFIC STUDY IS NOT REQUIRED FOR THIS SUBDIVISION. THE PROJECT DOES NOT GENERATE MORE THAN 5 PEAK HOUR TRIPS PER HOUR MULTIMODAL CHECKLIST COMPLETED BY MARS GROUP, DATED JANUARY 28, 2024.
- THIS SUBDIVISION COMPLIES WITH THE REQUIREMENTS OF SECTION 16.200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION AS IT WAS PREVIOUSLY PROVIDED BY F-94-099, AS SHOWN ON PLAT NUMBER 11674, AND IS NOT TO BE REVISED BY THIS PLAN. THE DEED OF FOREST CONSERVATION WAS RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND, AT LIBER 4941, FOLIO 0467, DATED NOVEMBER 1, 1999. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- THIS SUBDIVISION IS NOT LOCATED ON A SCENIC ROAD.
- COMMUNITY MEETING WAS HELD ON JUNE 26, 2023 AT THE HOWARD COUNTY PUBLIC LIBRARY, ELKRIE BRANCH.
- STORMWATER MANAGEMENT ENVIRONMENTAL SITE DESIGN (ESD) HAS BEEN PROVIDED TO THE MAXIMUM EXTENT PRACTICAL (MEP). THE SEPARATION OF COVENANTS SHALL BE RECORDED FOR ON-LOT DEVICES. NO STORMWATER PRACTICES REQUIRE SHARED MAINTENANCE. THE PRACTICES INDICATED IN THIS PLAN MAINTAIN MICRO-BIOTRETION FACILITIES (M-6) AND ONE INDIVIDUALLY MAINTAINED GRASS SWALE. SEE STORMWATER MANAGEMENT DETAIL SHEET FOR OPERATION AND MAINTENANCE SCHEDULES. STORMWATER MANAGEMENT PLANS AND PRACTICES SHOWN ON THIS PLAN MAY BE REVISED ON THE SITE DEVELOPMENT PLAN.
- LANDSCAPING IS PROVIDED WITH A CERTIFIED LANDSCAPE PLAN IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE. FINANCIAL POSTING OF SURETY FOR REQUIRED LANDSCAPING IN ACCORDANCE WITH SECTION 16.124 OF THE LANDSCAPE MANUAL WILL BE REQUIRED. A BUREAU OF ENGINEERING AND CONSTRUCTION INSPECTION REPORT (L) AT (410)-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND THE ROAD RIGHT-OF-WAY ONLY AND NOT ONTO THE FLAG OR PIPESTEM LOT DRIVEWAY.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
  - WIDTH - 12' AND (16' SERVING MORE THAN ONE RESIDENCE).
  - SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND GRAD COATING.
  - GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE & MAX. 45' TURNING RADIUS.
  - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (425 LOAD)
  - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER

SITE DATA TABULATION

- GENERAL SITE DATA
  - PRESENT ZONING: R-20
  - LOCATION: TAX MAP 31 - GRID 21 - PARCEL 206
  - APPLICABLE DPZ FILE REFERENCES: S-90-009, P-93-001, F-94-099, SDF-95-075, ECP-24-005, WP-24-076
  - DEED REFERENCE: BOOK 21943, PAGE 0298
  - PROPOSED USE OF SITE: 3 SFD LOTS; 1 OPEN SPACE LOT
  - PROPOSED WATER AND SEWER: PUBLIC WATER AND PUBLIC SEWER, CONTRACT 14-3371-D
- AREA TABULATION
  - TOTAL AREA OF OVERALL SITE: 1.67 Ac.±
  - AREA OF 100-YR FLOODPLAIN (M-6): 0.02 Ac.±
  - AREA OF STEEP SLOPES (25% OR GREATER): 0.02 Ac.±
  - AREA OF STEEP SLOPES LESS THAN 10 VERT. FEET PLUS AREAS OF STEEP SLOPES WITHIN FLOODPLAIN: 1.67 Ac.±
  - NET AREA OF SITE: 1.67 Ac.±
  - AREA OF THIS PLAN SUBMISSION: 1.67 Ac.±
  - LIMIT OF DISTURBANCE (APPROX): 0.98 Ac.±
  - AREA OF PROPOSED BUILDABLE LOTS: 1.42 Ac.±
  - AREA OF OPEN SPACE LOT: 0.25 Ac.±
  - AREA OF NON-CREDIT OPEN SPACE: 0.15 Ac.±
  - AREA OF CREDIT OPEN SPACE: 0.00 Ac.±
  - AREA OF PROPOSED PUBLIC ROAD: 0.00 Ac.±
  - AREA OF PROPOSED PUBLIC R/W DEDICATION: 0.00 Ac.±
- DENSITY TABULATION
  - NET AREA OF OVERALL SITE: 1.67 Ac.±
  - MINIMUM LOT SIZE: 20,000 SF
  - TOTAL NUMBER OF BUILDABLE LOTS: 3
  - TOTAL NUMBER OF OPEN SPACE LOTS: 1
- UNIT LOT TABULATION
  - OPEN SPACE REQUIRED BY F-94-099: 2.50 Ac.±
  - OPEN SPACE PROVIDED BY PLAT 11674: 3.48 Ac.±
  - RECREATIONAL O.S. REQUIRED BY F-94-099: 7,591 SF
  - RECREATIONAL O.S. PROVIDED BY PLAT 11674: 7,591 SF
  - RECREATIONAL OPEN SPACE REQUIRED BY THIS PLAN: 400 SF
  - RECREATIONAL OPEN SPACE PREVIOUSLY PROVIDED BY PLAT 11674: 400 SF

APPROVED: DEPARTMENT OF PLANNING AND ZONING

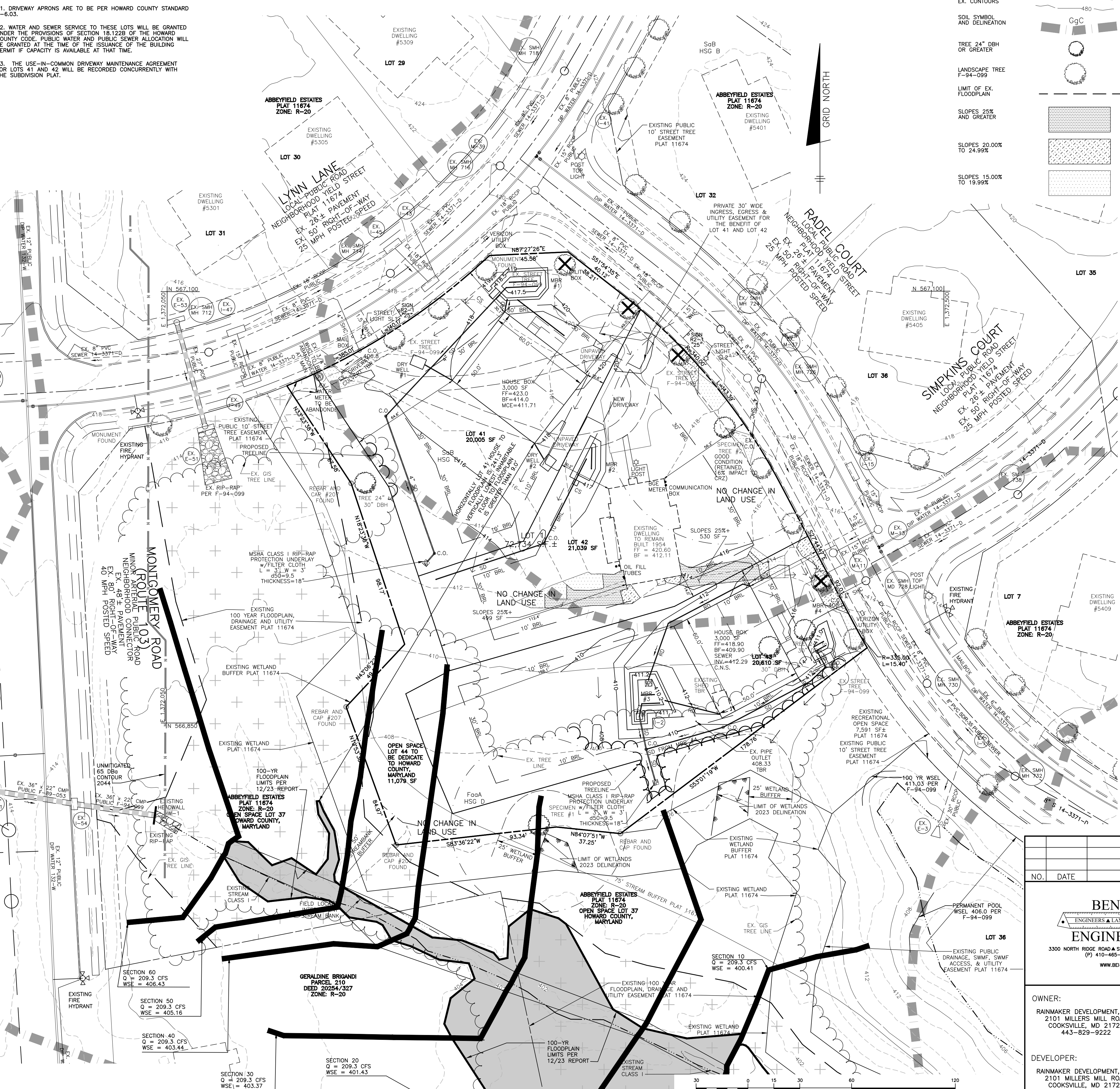
Designed by: *Child Emmons* 7/18/2024

Checked by: *Child Emmons* 7/18/2024

Chief, Development Engineering Division

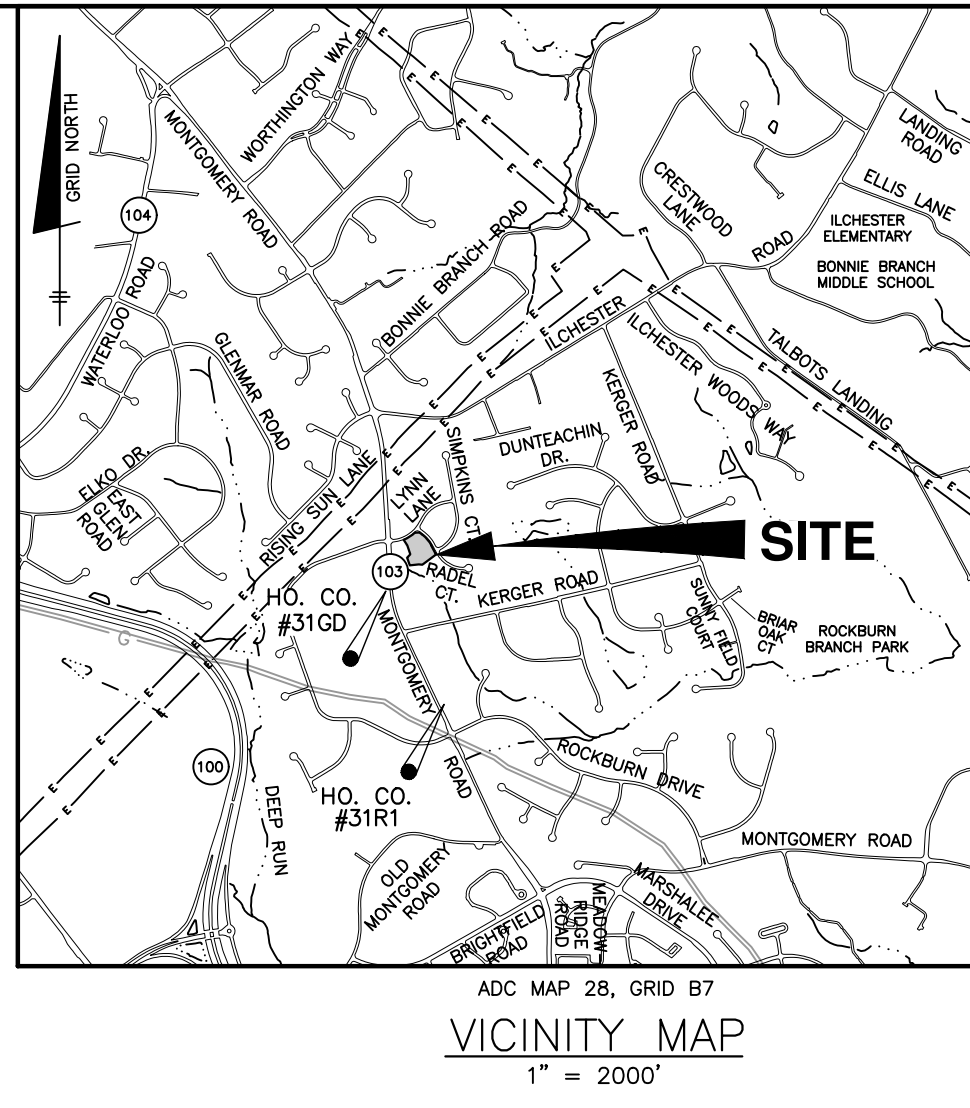
CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED (QUICK PUNCH) SQUARE TUBE POST (14 GA) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED SQUARE TUBE SLEEVE (10 GA) - 3" LONG. THE ANCHOR SHALL NOT EXCEED MORE THAN TWO (2) QUICK PUNCH HOLES ABOVE GROUND LEVEL.

\*\* HIGHLY ERODIBLE, K>0.35, AND STEEPER THAN 5% OR 15% AND GREATER SLOPES TAKEN FROM THE NRCS WEB SOIL SURVEY MAY 2022, MAP 10.



LEGEND

- LIMIT OF SUBMISSION
- EX. TRELINE
- EX. CONTOURS
- SOIL SYMBOL AND DELINEATION
- TREE 34" DBH OR GREATER
- LANDSCAPE TREE F-94-099
- LIMIT OF EX. FLOODPLAIN
- SLOPES 25% AND GREATER
- SLOPES 20.00% TO 24.99%
- SLOPES 15.00% TO 19.99%



SWM PRACTICE CHART

LOT	ADDRESS	MICRO-BIOTRETENTION FACILITIES (M-6) QUANTITY	DRY WELLS (M-5) QUANTITY
41	RADEL COURT	1	2
42	RADEL COURT	1	0
43	RADEL COURT	2	0

SHEET INDEX

SHEET	COVER SHEET AND SITE LAYOUT PLAN	TITLE
1	COVER SHEET AND SITE LAYOUT PLAN	
2	EXISTING CONDITIONS PLAN AND SOIL MAP	
3	GRADING AND BORING PLAN & BORING LOGS	
4	SEDIMENT AND EROSION CONTROL PLAN AND DRAINAGE AREA MAP	
5-6	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS	
7	STORMWATER MANAGEMENT PLAN AND DRAINAGE AREA MAP	
8-9	STORMWATER MANAGEMENT NOTES AND DETAILS	
10	LANDSCAPE PLAN, NOTES AND DETAILS	

MODERATE INCOME HOUSING UNITS (MIHU) ALLOCATION EXEMPTION TRACKING

TOTAL NUMBER OF LOTS/UNITS PROPOSED	NUMBER OF MIHU REQUIRED	NUMBER OF MIHU PROVIDED ON-SITE (EXEMPT FROM APFO ALLOCATIONS)	NUMBER OF APFO ALLOCATIONS REQUIRED (REMAINING LOTS/UNITS)	LOTS (INDICATE LOT/UNIT NUMBERS)
3	0.3	0	3	41-43

PLEASE NOTE THAT ALL LOT RESIDENTIAL UNITS IN THIS SUBDIVISION ARE SUBJECT TO THE MIHU FEE-IN-LIEU REQUIREMENT THAT IS TO BE CALCULATED AND PAID TO THE DEPARTMENT OF INSPECTORS AND PERMITS AT THE TIME OF BUILDING PERMIT ISSUANCE BY THE PERMIT APPLICANT.

**BENCHMARK ENGINEERING, INC.**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
3300 NORTH ROBEY ROAD & SUITE 140 • ELICOTT CITY, MARYLAND 21043  
(P) 410-465-9105 (F) 410-465-6644  
WWW.BEI-ENGINEERING.COM

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. 45577, Expiration Date: 06-08-2026.

**John M. Carney**  
Professional Engineer

07/18/2024

**OWNER:**  
RAINMAKER DEVELOPMENT, INC.  
2101 MILLERS MILL ROAD  
COOKSVILLE, MD 21723  
443-829-9222

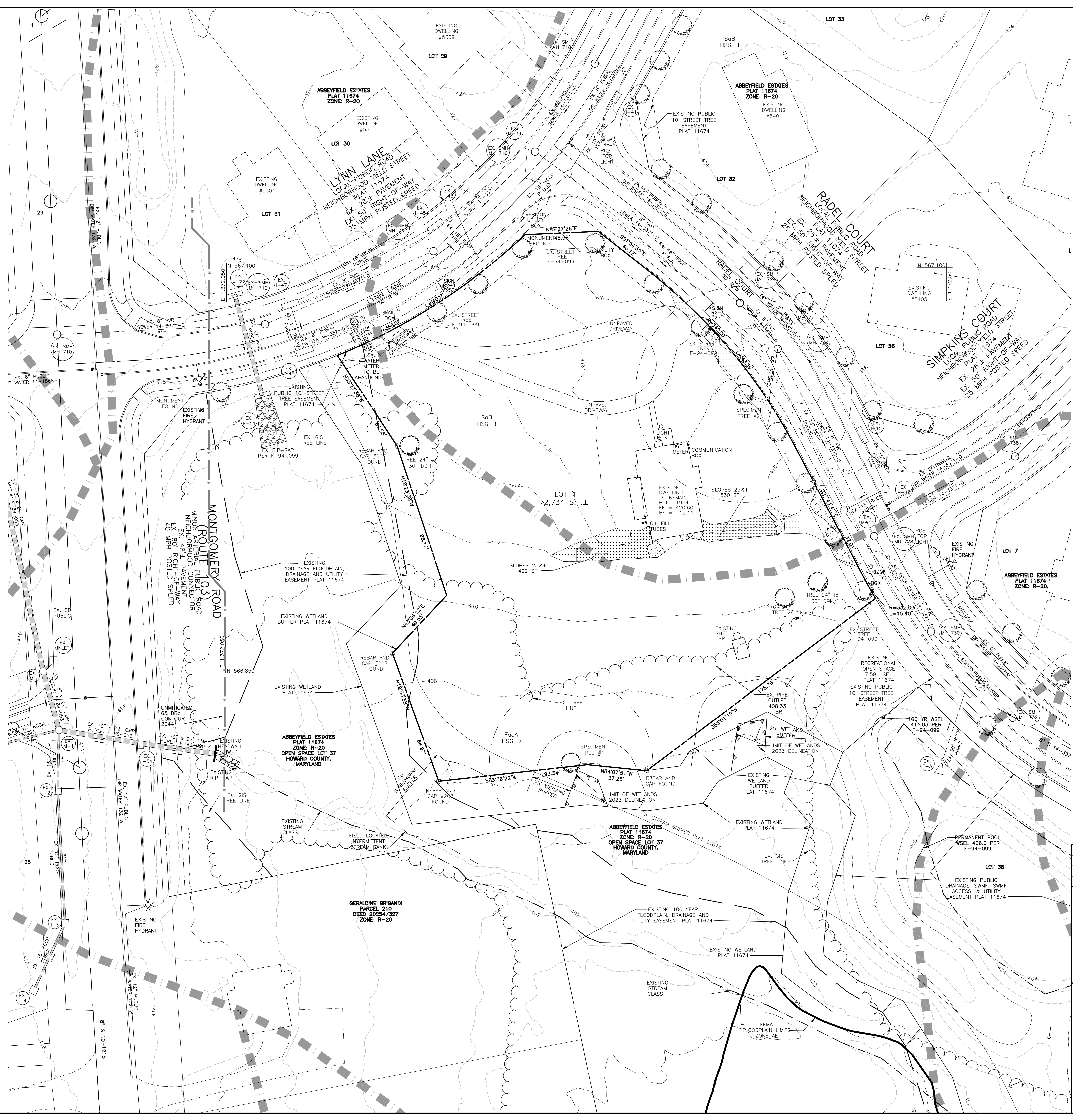
**DEVELOPER:**  
RAINMAKER DEVELOPMENT, INC.  
2101 MILLERS MILL ROAD  
COOKSVILLE, MD 21723  
443-829-9222

**ABBNEYFIELD ESTATES**  
A RESUBDIVISION OF ABBNEYFIELD ESTATES, LOT 1, PLAT 11674, CREATING LOTS 41-43 AND OPEN SPACE LOT 44 R-20 SINGLE FAMILY DETACHED

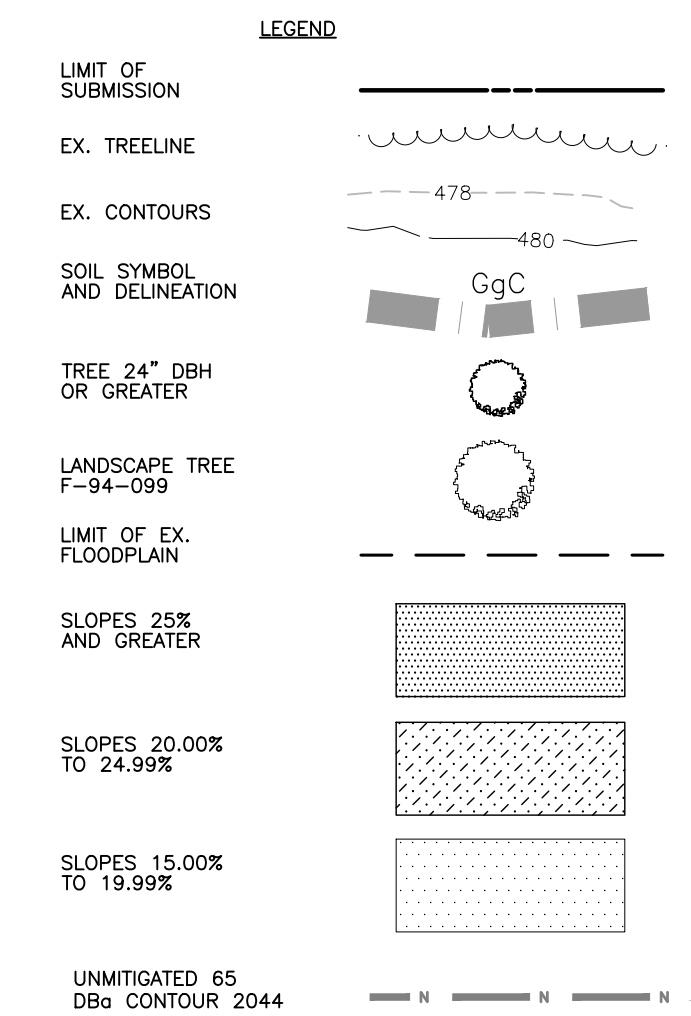
TAX MAP: 31, GRID: 21, PARCEL: 206  
ZONED: R-20  
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**COVER SHEET AND SITE LAYOUT PLAN**

DATE: JUNE, 2024  
SCALE: AS SHOWN  
BEI PROJECT NO. 3147  
SHEET 1 OF 10

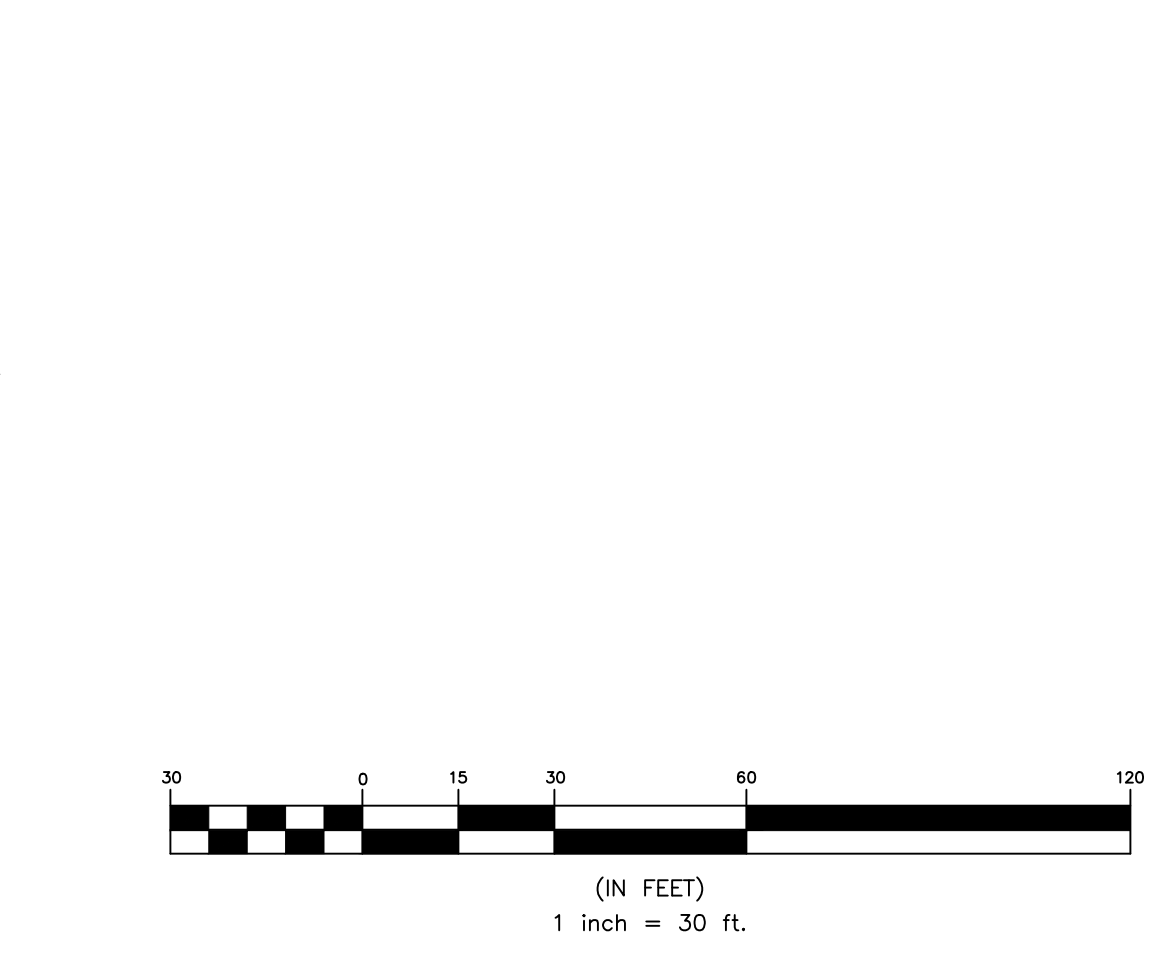


\*\* HIGHLY ERODIBLE, K>0.35, AND STEEPER THAN 5% OR 15% AND GREATER SLOPES TAKEN FROM THE NRCS WEB SOIL SURVEY MAY 2022, MAP 10.



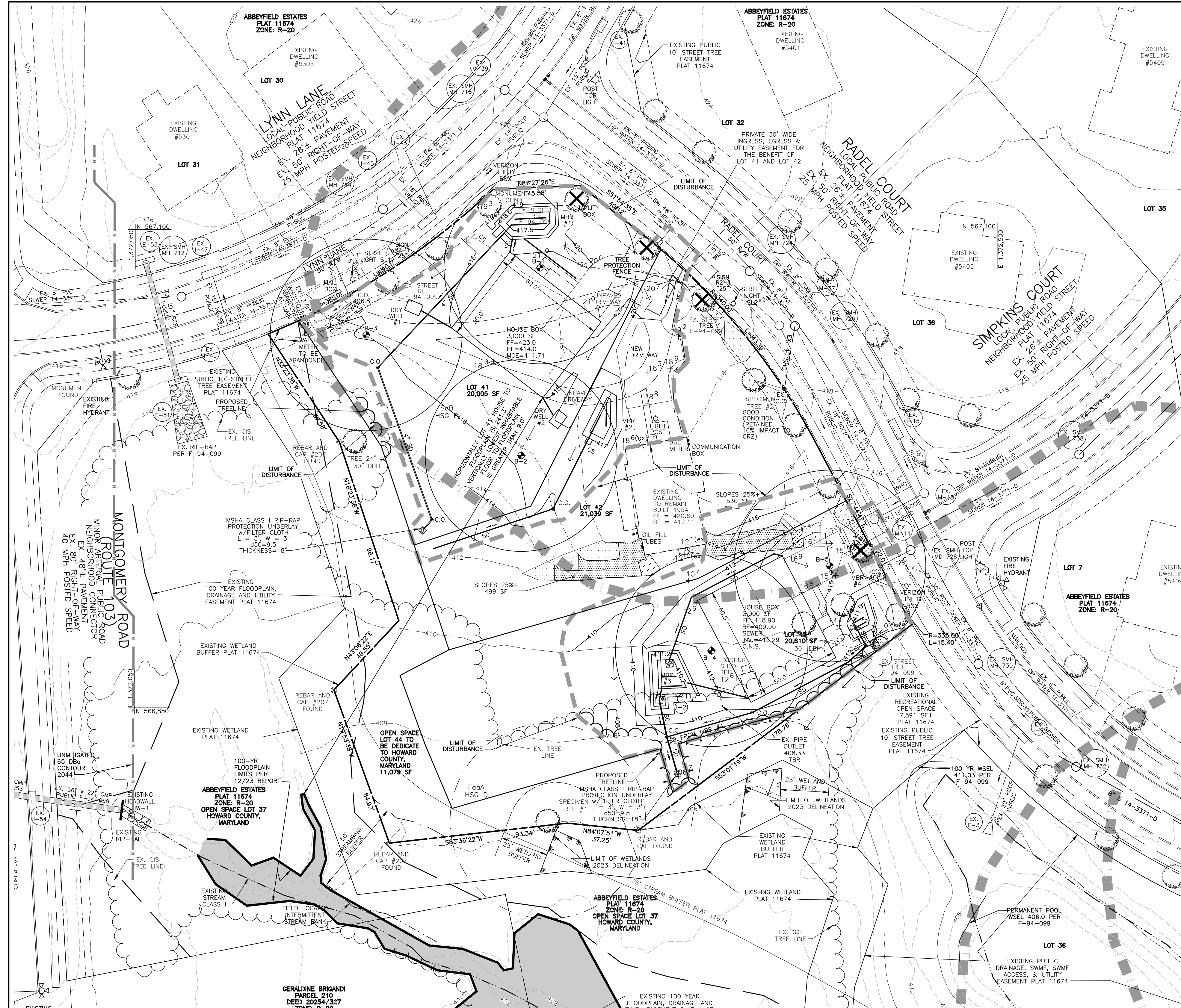
**Specimen Tree Chart**

Key (#)	Species	Size (in. dbh)	CRZ 1:1.5 (feet radius)	Condition (good unless otherwise noted)	State Champion (in. dbh)
1	Red Maple	34	51		86.9
2	Red Maple	45	67.5	Odd branching pattern a bh, measure below branch collar	86.9



APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DocuSigned by:  
 7/18/2024  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE  
 CHAD Edmondson  
 7/18/2024  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE

NO. DATE REVISION	
<b>BENCHMARK</b> ENGINEERS & LAND SURVEYORS & PLANNERS <b>ENGINEERING, INC.</b> 3300 NORTH ROOF ROAD & SUITE 1404 BALCOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6444 WWW.BEI-CIVILENGINEERING.COM	
STATE OF MARYLAND JOHN M. CARNEY PROFESSIONAL ENGINEER 07/18/2024 John M. Carney	
OWNER:	<b>ABBNEYFIELD ESTATES</b> A RESUBDIVISION OF ABBNEYFIELD ESTATES, LOT 1, PLAT 11674, CREATING LOTS 41-43 AND OPEN SPACE LOT 44 R-20 SINGLE FAMILY DETACHED TAX MAP: 31, GRID: 21, PARCEL: 206 ZONED: R-20 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DEVELOPER:	<b>EXISTING CONDITIONS PLAN AND SOILS MAP</b>
DATE:	JUNE, 2024
DESIGN:	JC
DRAFT:	JC
SCALE:	AS SHOWN
BEI PROJECT NO.:	3147
SHEET:	2 OF 10

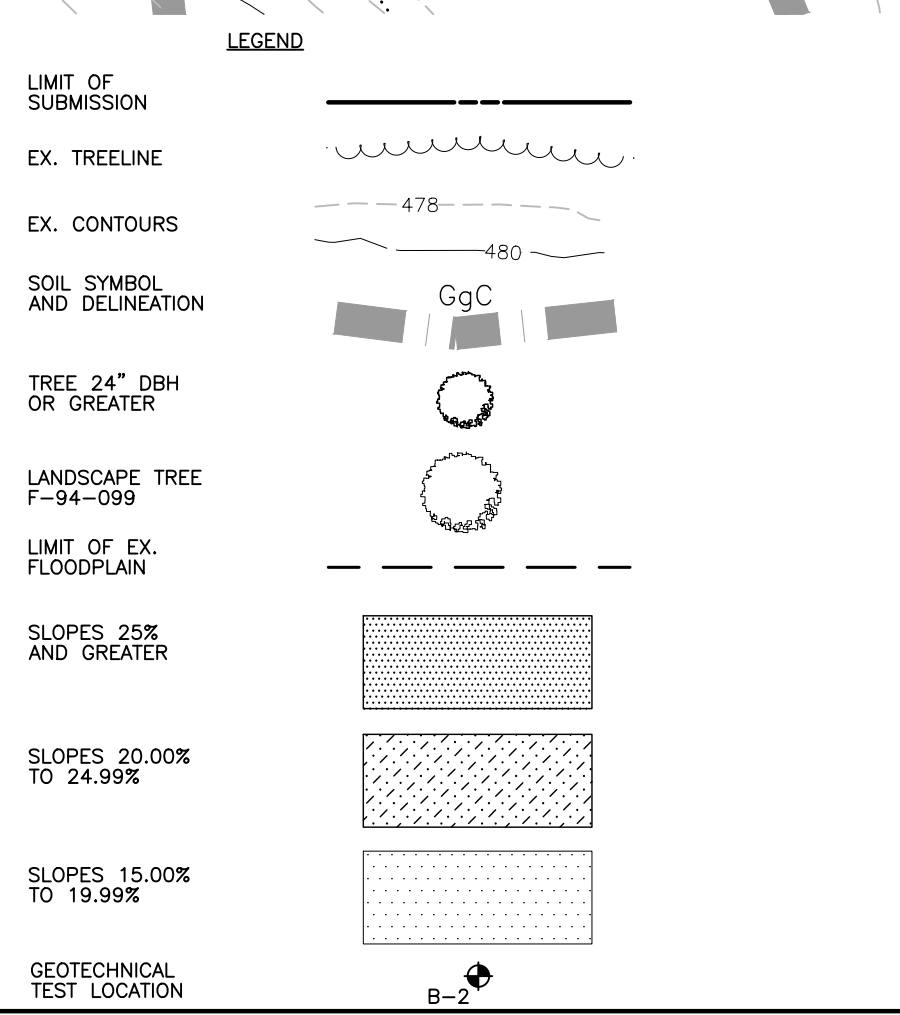


SOILS CHART WEBSOIL SURVEY 2.0 4/20/2023

SYMBOL	HYDRO	HYDROLOGIC GROUP	NAME	K VALUE	White Soil
F*	YES	D	FALLINGTON SANDY LOAM, 0 TO 2 PERCENT	0.24	0.32
Ssb	D	B	SASSAFRAS LOAM, 2 TO 5 PERCENT SLOPE	0.24	0.32

\*\* HIGHLY ERODIBLE, K>0.35, AND STEEPER THAN 5% OR 15% AND GREATER SLOPES TAKEN FROM THE NRCS WEB SOIL SURVEY MAY 2022, MAP 10.

PLAN SCALE: 1" = 30'



DRIVEWAY APRONS ARE TO BE PER HOWARD COUNTY STANDARD R-6.03.

IF LIMIT OF DISTURBANCE IS WITHIN 15' OF FOREST RETENTION EASEMENT THE CONTRACTOR IS TO ROOT PRUNE THE AREA PRIOR TO SEDIMENT CONTROL INSTALLATION

THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF ANY WORK

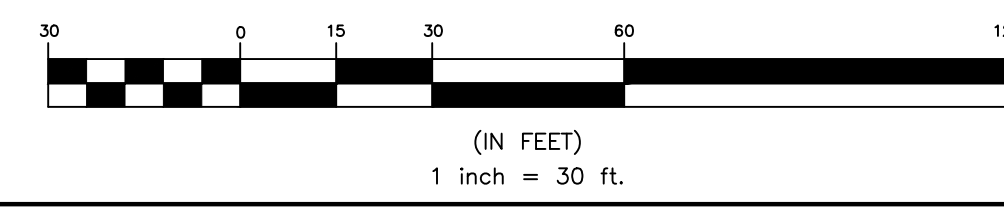
THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

7/18/2024

7/18/2024

7/18/2024



HILLIS - CARMER ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION Page 1 of 1

Project Name: 5300 Lynn Lane, Ellicott City, MD

ELEV.	SOIL DESCRIPTION	DEPTH (FEET)	SCALE	BL	BL	NO.	NO.	NO.	NO.	NOTES
10.0	Topsoil	0-1.0	D	1-2-2	1	12	3	12	12	Topsoil
1.5	Clayey silty fine sand	1.0-2.5	D	2-3-4	2	19	16	16	16	encountered while drilling
0.5	fine sand	2.5-5.5	D	5-5-7	3	16	16	16	16	encountered while drilling
10.0	Bob 10'	10.0	D	15-18-30	4	18	18	18	18	encountered while drilling

Standard Penetration Test (SPT) Blow Count: 12, 19, 16, 18

HILLIS - CARMER ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION Page 1 of 1

Project Name: 5300 Lynn Lane, Ellicott City, MD

ELEV.	SOIL DESCRIPTION	DEPTH (FEET)	SCALE	BL	BL	NO.	NO.	NO.	NO.	NOTES
10.0	Topsoil	0-1.0	D	1-2-2	1	8	8	8	8	Topsoil
1.5	Clayey silty fine sand	1.0-2.5	D	2-2-2	2	10	10	10	10	encountered while drilling
6.5	red stiff fine sand	2.5-6.5	D	1-1-1	3	12	12	12	12	encountered while drilling
10.0	Bob 10'	10.0	D	4-7-11	4	16	16	16	16	encountered while drilling

Standard Penetration Test (SPT) Blow Count: 8, 10, 12, 16

HILLIS - CARMER ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION Page 1 of 1

Project Name: 5300 Lynn Lane, Ellicott City, MD

ELEV.	SOIL DESCRIPTION	DEPTH (FEET)	SCALE	BL	BL	NO.	NO.	NO.	NO.	NOTES
10.0	Topsoil	0-1.0	D	3-4-4	1	14	14	14	14	Topsoil
1.5	Clayey silty fine sand	1.0-2.5	D	5-6-11	2	16	16	16	16	encountered while drilling
8.5	well very dense sand	2.5-8.5	D	14-36-36	4	12	12	12	12	encountered while drilling
10.0	Bob 10'	10.0	D	14-36-36	4	12	12	12	12	encountered while drilling

Standard Penetration Test (SPT) Blow Count: 14, 16, 12, 12

HILLIS - CARMER ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION Page 1 of 1

Project Name: 5300 Lynn Lane, Ellicott City, MD

ELEV.	SOIL DESCRIPTION	DEPTH (FEET)	SCALE	BL	BL	NO.	NO.	NO.	NO.	NOTES
10.0	Topsoil	0-1.0	D	3-2-2	1	12	12	12	12	Topsoil
2.5	red silt	1.0-2.5	D	2-3-4	2	16	16	16	16	encountered while drilling
6.5	fine sand	2.5-6.5	D	3-4-7	3	16	16	16	16	encountered while drilling
10.0	Bob 10'	10.0	D	7-36-36	4	14	14	14	14	encountered while drilling

Standard Penetration Test (SPT) Blow Count: 12, 16, 16, 14

HILLIS - CARMER ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION Page 1 of 1

Project Name: 5300 Lynn Lane, Ellicott City, MD

ELEV.	SOIL DESCRIPTION	DEPTH (FEET)	SCALE	BL	BL	NO.	NO.	NO.	NO.	NOTES
10.0	Topsoil	0-1.0	D	1-2-4	1	14	14	14	14	Topsoil
1.5	red silt	1.0-2.5	D	5-5-6	2	16	16	16	16	encountered while drilling
5.0	white fine sand	2.5-5.0	D	15-17-17	3	14	14	14	14	encountered while drilling
8.5	dark wet very dense	5.0-8.5	D	36-36-36	4	10	10	10	10	encountered while drilling
10.0	Bob 10'	10.0	D	36-36-36	4	10	10	10	10	encountered while drilling

Standard Penetration Test (SPT) Blow Count: 14, 16, 14, 10, 10

STREET LIGHT SCHEDULE

SYMBOL	LOCATION	DESCRIPTION
☆	SL1, LYNN LANE N. 567074.04 E. 1372163.72 OFFSET 19.0' RIGHT	LED-100 COLONIAL TOWNNEP POST TOP FIXTURES (3,000 K) MOUNTED ON A 14 FT BLACK FIBERGLASS POLE
☆	SL2, RADEL COURT N. 567061.34 E. 1372362.14 OFFSET 19.0' RIGHT	LED-100 COLONIAL TOWNNEP POST TOP FIXTURES (3,000 K) MOUNTED ON A 14 FT BLACK FIBERGLASS POLE

NO. DATE REVISION

BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC.

3300 NORTH ROAD ROAD & SUITE 140 ELICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644

7/18/2024

John M. Carney

OWNER: RAINMAKER DEVELOPMENT, INC. 2101 MILLERS MILL ROAD COOKSVILLE, MD 21723 443-829-9222

DEVELOPER: RAINMAKER DEVELOPMENT, INC. 2101 MILLERS MILL ROAD COOKSVILLE, MD 21723 443-829-9222

PROJECT: A RESUBDIVISION OF ABBEYFIELD ESTATES, LOT 1, PLAT 11674, CREATING LOTS 41-43 AND OPEN SPACE LOT 44 R-20 SINGLE FAMILY DETACHED

DATE: JUNE, 2024

SCALE: AS SHOWN

DESIGN: JC DRAFT: JC

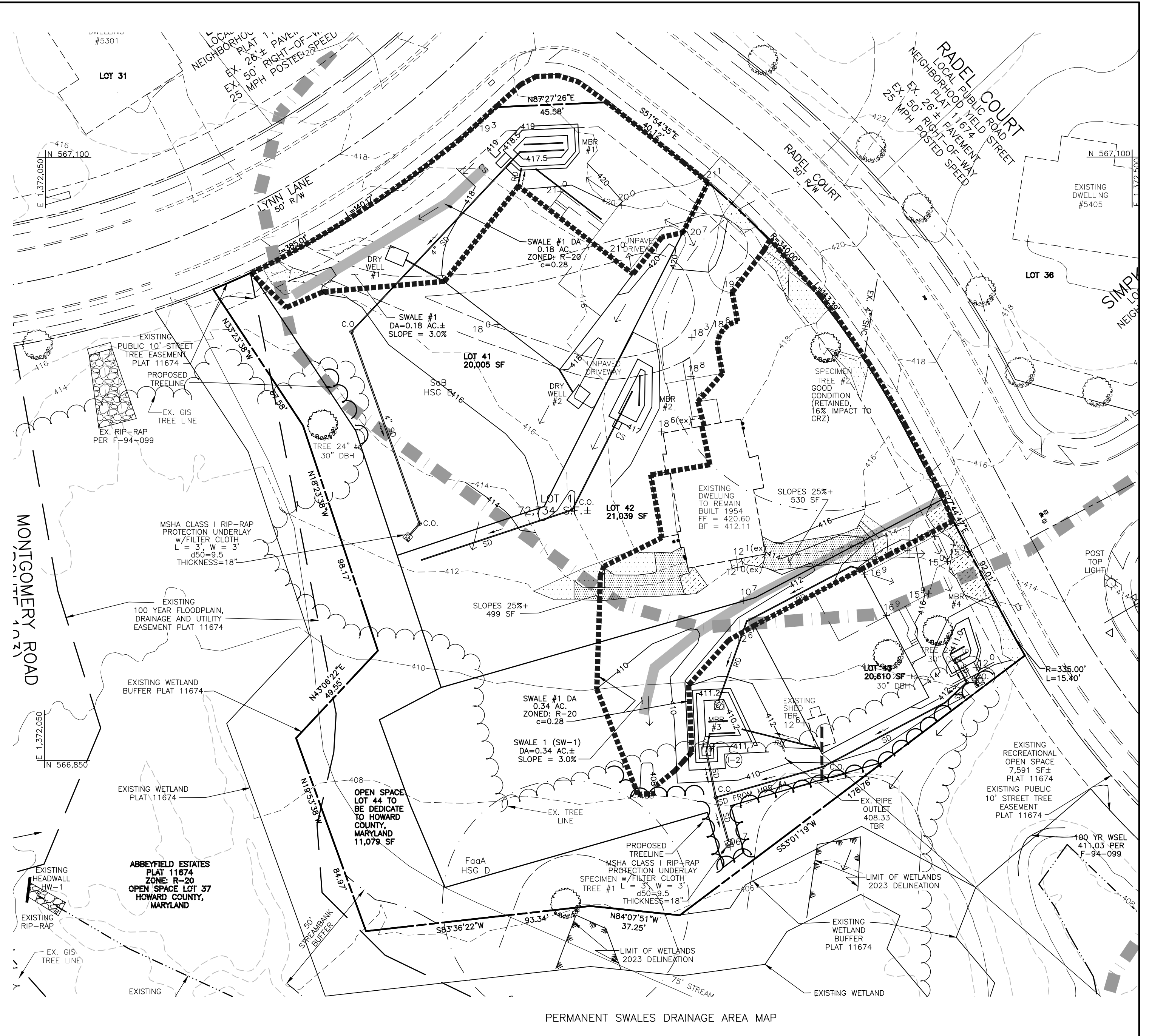
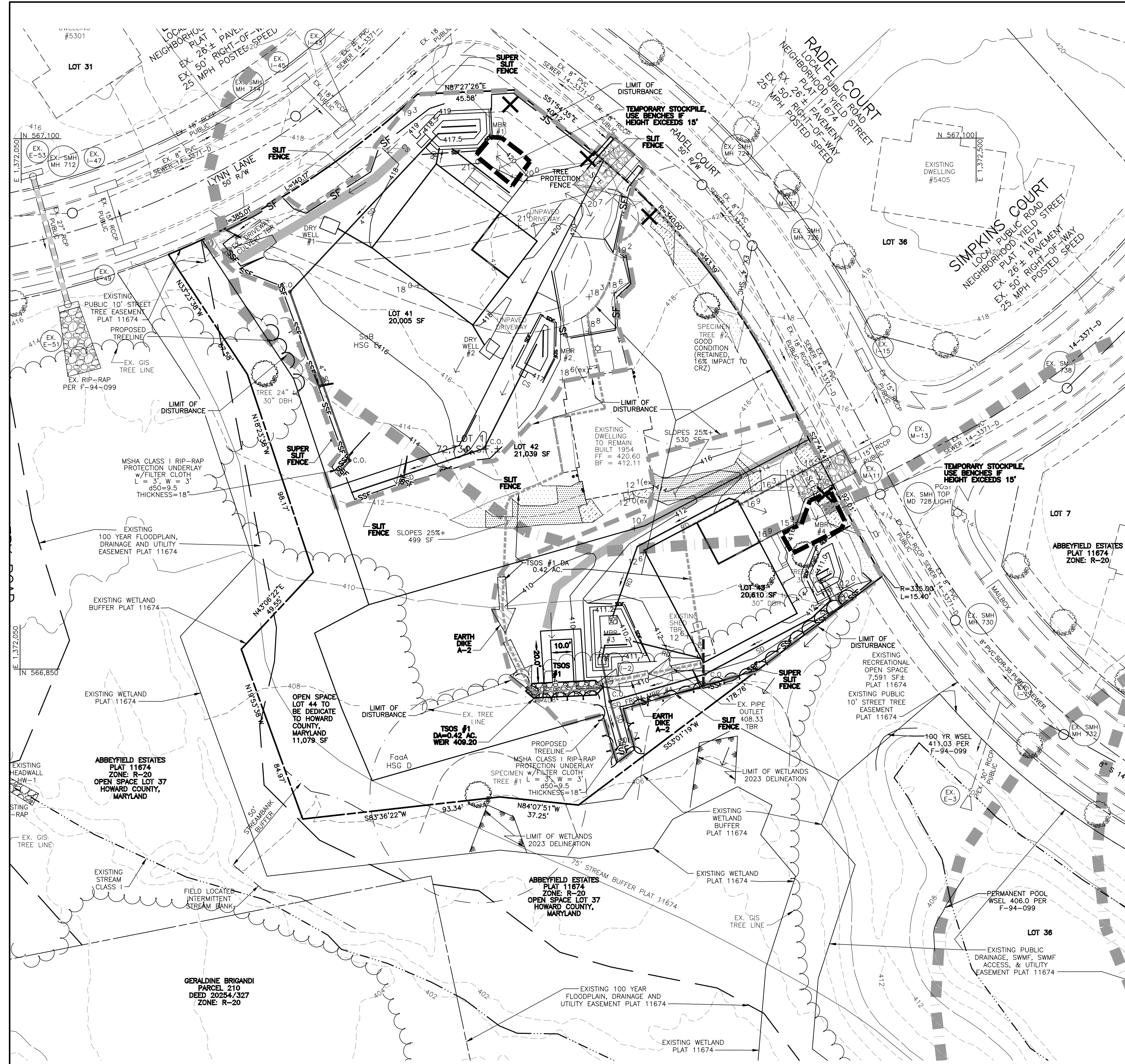
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 06-08-2026.

7/18/2024

John M. Carney

BEI PROJECT NO. 3147

SHEET 3 OF 10



swale	A	B	C	Q2	V2	d2	Q10	V10	d10
	ft	ft		cfs	fps	ft	cfs	fps	ft
SW-1	1.00	2.00	3:1	0.45	1.76	0.11	0.67	1.98	0.15
SWMGS-1	1.00	4.00	3:1	0.13	0.79	0.04	0.19	0.92	0.05
				n=0.030			n=0.030		

IF LIMIT OF DISTURBANCE IS WITHIN 15' OF FOREST RETENTION EASEMENT THE CONTRACTOR IS TO ROOT PRUNE THE AREA PRIOR TO SEDIMENT CONTROL INSTALLATION

SYMBOL	HYDRIC	HYDROLOGIC GROUP	NAME	k-VALUE	Whole Soil
F-1	YES	D	FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT	0.24	0.32
S-1B	NO	B	SASSAFRAS LOAM, 2 TO 5 PERCENT SLOPE	0.20	0.32

Temporary Stone/Gabion Outlet Structure							
Designation	Drainage Area	Practice	Volume Required	Ground Elev.	Embankment Elev.	Bottom Elev.	Pond Bottom
#1	18186 SF	0.42 Acres	751	408.20	409.70	409.20	406.95
							10.00
							20.00
							845
							Yes

**DEVELOPER'S CERTIFICATE**  
 I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I SHALL ENGAGE A MARYLAND REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION, AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDC.

**Scott Arterburn** 07/18/2024  
 DEVELOPER SIGNATURE - SCOTT ARTERBURN FOR RAINMAKER DEVELOPMENT, INC. DATE

**ENGINEER'S CERTIFICATE**  
 I/WE HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, AND THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

**John M. Carney** 07/18/2024  
 ENGINEER - JOHN M. CARNEY, P.E., MD REGISTRATION No. 45577 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Designed by: **Alexander Bratovic** 7/18/2024  
 4442404626@hscd.com DATE  
 HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PARCEL AND ZONING  
 Designed by: 7/18/2024  
 1607847820@hscd.com DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT

Designed by: 7/18/2024  
 4442404626@hscd.com DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

**LEGEND**

- LIMIT OF SUBMISSION
- EX. TREELINE
- EX. CONTOURS
- SOIL SYMBOL AND DELINEATION
- TREE 24" DBH OR GREATER
- LANDSCAPE TREE F-94-099
- LIMIT OF EX. FLOODPLAIN
- SLOPES 25% AND GREATER
- SLOPES 20.00% TO 24.99%
- SLOPES 15.00% TO 19.99%

(IN FEET)  
 1 inch = 30 ft.

- LIMIT OF DISTURBANCE
- EARTH DIKE
- SUPER SILT FENCE
- SILT FENCE
- STABILIZATION MATTING
- TEMPORARY STONE OR GABION OUTLET SEDIMENT TRAP
- STABILIZED CONSTRUCTION ENTRANCE WITH BERM
- TREE PROTECTION FENCE
- PERMANENT DRAINAGE AREA
- TEMPORARY DRAINAGE AREA
- DIVERSION FENCE

NO.	DATE	REVISION

**BENCHMARK ENGINEERS, INC.**  
 3300 NORTH RIDGE ROAD & SUITE 140A ELICOTT CITY, MARYLAND 21043  
 (P) 410-465-6105 (F) 410-465-6444  
 WWW.BEI-CIVILENGINEERING.COM

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. 45577, Expiration Date: 06-08-2026.

**John M. Carney** 07/18/2024

**OWNER:**  
 RAINMAKER DEVELOPMENT, INC.  
 2101 MILLERS MILL ROAD  
 COOKSVILLE, MD 21723  
 443-829-9222

**DEVELOPER:**  
 RAINMAKER DEVELOPMENT, INC.  
 2101 MILLERS MILL ROAD  
 COOKSVILLE, MD 21723  
 443-829-9222

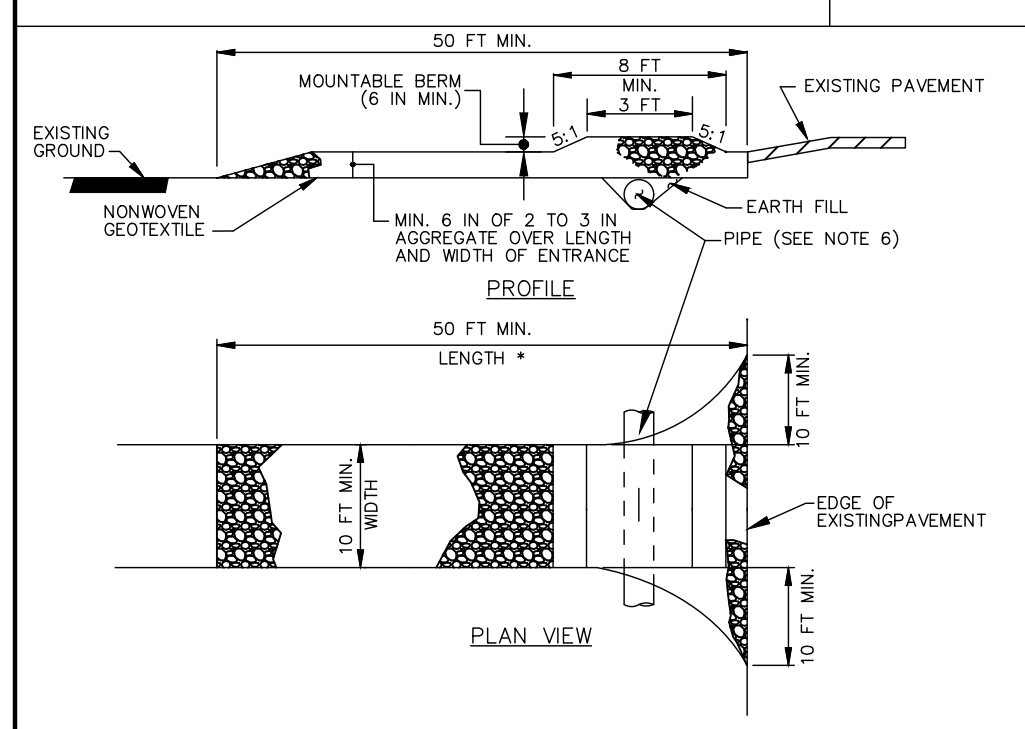
**ABBIEFIELD ESTATES**  
 A RESUBDIVISION OF ABBIEFIELD ESTATES, LOT 1, PLAT 11674, CREATING LOTS 41-43 AND OPEN SPACE LOT 44 R-20 SINGLE FAMILY DETACHED

TAX MAP: 31, GRID: 21, PARCEL: 206  
 ZONED: R-20  
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**SEDIMENT AND EROSION CONTROL PLAN AND DRAINAGE AREA MAP**

DATE: JUNE, 2024 BEI PROJECT NO. 3147  
 SCALE: AS SHOWN SHEET 4 OF 10

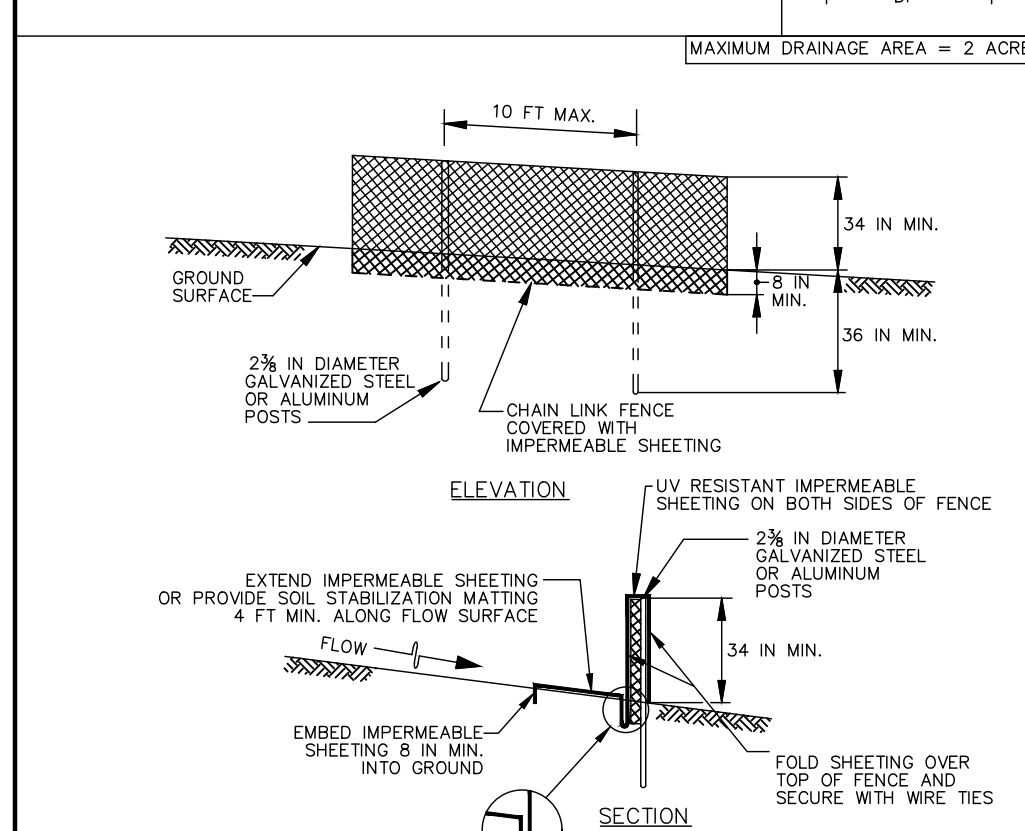
DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE



- CONSTRUCTION SPECIFICATIONS
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE...

Table with columns for U.S. DEPARTMENT OF AGRICULTURE, MARYLAND DEPARTMENT OF ENVIRONMENT, and project details like year 2011.

DETAIL C-9 DIVERSION FENCE



- CONSTRUCTION SPECIFICATIONS
1. USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2 1/2 INCH MAXIMUM OPENING)...

Table with columns for U.S. DEPARTMENT OF AGRICULTURE, MARYLAND DEPARTMENT OF ENVIRONMENT, and project details like year 2011.

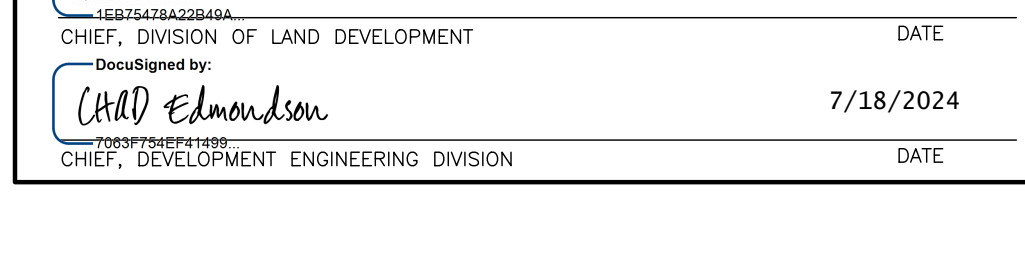
DETAIL E-3 SUPER SILT FENCE



- CONSTRUCTION SPECIFICATIONS
1. INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART...

Table with columns for U.S. DEPARTMENT OF AGRICULTURE, MARYLAND DEPARTMENT OF ENVIRONMENT, and project details like year 2011.

DETAIL E-1 SILT FENCE



- CONSTRUCTION SPECIFICATIONS
1. USE WOOD POSTS 1 1/2 X 1 1/2 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD...

Table with columns for U.S. DEPARTMENT OF AGRICULTURE, MARYLAND DEPARTMENT OF ENVIRONMENT, and project details like year 2011.

DETAIL B-4-6-C PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION



- CONSTRUCTION SPECIFICATIONS
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS...

Table with columns for U.S. DEPARTMENT OF AGRICULTURE, MARYLAND DEPARTMENT OF ENVIRONMENT, and project details like year 2011.

DETAIL C-1 EARTH DIKE



- CONSTRUCTION SPECIFICATIONS
1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL...

Table with columns for U.S. DEPARTMENT OF AGRICULTURE, MARYLAND DEPARTMENT OF ENVIRONMENT, and project details like year 2011.

DETAIL E-7 TEMPORARY STONE OUTLET STRUCTURE



- CONSTRUCTION SPECIFICATIONS
1. PROVIDE STORAGE VOLUME AS SPECIFIED ON APPROVED PLANS.
2. USE NONWOVEN GEOTEXTILE ON INTERFACE BETWEEN GROUND AND STONE...

Table with columns for U.S. DEPARTMENT OF AGRICULTURE, MARYLAND DEPARTMENT OF ENVIRONMENT, and project details like year 2011.

DETAIL E-7 TEMPORARY STONE OUTLET STRUCTURE



- CONSTRUCTION SPECIFICATIONS
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS...

Table with columns for U.S. DEPARTMENT OF AGRICULTURE, MARYLAND DEPARTMENT OF ENVIRONMENT, and project details like year 2011.

GRASS SWALE TYPICAL SECTION DETAIL



Table with columns for swale type, area, and discharge capacity (cfs).

Table with columns for swale type, area, and discharge capacity (cfs).

Tc = 10 minutes
110 = 6.6
12 = 4.5

FOR CONVEYANCE ANALYSIS ONLY
EROSION CONTROL MATTING REQUIRED

DEVELOPER'S CERTIFICATE

I/WE HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS...

Alexander Brathier 7/18/2024
Scott Arterburn 07/18/2024

APPROVED: DEPARTMENT OF PLANNING AND ZONING
John M. Carney 07/18/2024

SILT FENCE MAY BE REPLACED BY SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

IF LIMIT OF DISTURBANCE IS WITHIN 15' OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT...

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. 45577. Expiration Date: 06-08-2026.

BENCHMARK ENGINEERS & PLANNERS
ENGINEERING, INC.
3300 NORTH ROBEY ROAD A SUITE 140A ELICOTT CITY, MARYLAND 21043

OWNER: RAINMAKER DEVELOPMENT, INC.
DEVELOPER: RAINMAKER DEVELOPMENT, INC.

ABBIEFIELD ESTATES
A RESUBDIVISION OF ABBIEFIELD ESTATES, LOT 1, PLAT 11674, CREATING LOTS 41-43 AND OPEN SPACE LOT 44

DATE: JUNE, 2024
SCALE: AS SHOWN

BEI PROJECT NO. 3147
SHEET 5 OF 10

B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION
Definition: Using vegetation to cover exposed soil from erosion.
Purpose: To promote the establishment of vegetation on exposed soil.
Conditions Where Practice Applies: On all disturbed areas not stabilized by other methods.

1. Adequate vegetative stabilization requires 95 percent groundcover.
2. If an area has less than 40 percent groundcover, reestablish following the original B.4 recommendations for time, 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 for the area.

B-4.1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION
Definition: Establishment of vegetative cover on cut and fill slopes.
Purpose: To provide a suitable soil medium for vegetative growth.
Conditions Where Practice Applies: Any cut or fill slope greater than 15 feet in height.

1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height.
2. Prepare seedbed and apply seed and mulch on all cut slopes as will be used to convey runoff around the excavation.
3. Construct and stabilize all temporary swales or dikes that will be used to convey runoff around the excavation.

B-4.2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS
Definition: The process of preparing the soil 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.

1. Soil Preparation
a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment.
2. Topsoiling
a. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation.

B-4.3 STANDARDS AND SPECIFICATION FOR PERMANENT STABILIZATION
Definition: To stabilize disturbed soils with permanent vegetation.
Purpose: To use long-lived perennial grasses and legumes to establish permanent ground cover on any project.
Conditions Where Practice Applies: Exposed soils where ground cover is needed for 6 months or more.

1. Application
a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
b. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.3.
2. Mulching
a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably light in color.

B-4.4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION
Definition: To stabilize disturbed soils with vegetation for up to 18 months.
Purpose: To use fast growing vegetation that provides cover on disturbed soils.
Conditions Where Practice Applies: Exposed soils where ground cover is needed for a period of 6 months or less.

1. Application
a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
b. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.3.
2. Mulching
a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably light in color.

1. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other.
2. Water the sod immediately following rolling and tamping until the underside of the new sod and soil surface below the soil are thoroughly wet.

B-4.5 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA
Definition: A mound or pile of soil protected by appropriately designed erosion and sediment control measures.
Purpose: To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a site slope ratio no steeper than 2:1.

B-4.6 STANDARDS AND SPECIFICATIONS FOR DUST CONTROL
Definition: Controlling the suspension of dust particles from construction activities.
Purpose: To prevent blowing and movement of dust from exposed soil surfaces to reduce on-site dust, sedimentation, and changes to drainage patterns.

Table B.1: Temporary Seeding for Site Stabilization. Table with columns: Plant Species, Seeding Rate (lb/ac, lb/1000 ft2), Seeding Depth (inches), Recommended Seeding Dates by Plant Hardiness Zone (5b and 6a, 6b, 7a and 7b).

Notes: Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as noted. Adjustments are usually not needed for the cool-season grasses.

Table B.3: Recommended Planting Dates for Permanent Cover in Maryland. Table with columns: Type of Plant Material, 5b and 6a, 6b, 7a and 7b.

Table B.3 Notes: 1. The planting dates listed are averages for each zone. These dates may require adjustment to reflect local conditions, especially near the boundaries of the zones. 2. When seeding toward the end of the listed planting dates, when conditions are expected to be less than optimal, select an appropriate nurse crop from Table B and plant with the permanent seeding mix.

1. Inspect area during the growing season. Two sets of materials must be purchased and kept in a dormant condition until planting. Nurse-crop grasses are the exception—they may be replanted at any time during the season.
2. Additional planting dates for the lower Coastal Plain, dependent on annual rainfall and temperature trends.

SEQUENCE OF CONSTRUCTION - (SEE SITE DEVELOPMENT PLAN FOR ADDITIONAL INFORMATION)
1.) DAY 1 OBTAIN GRADING PERMIT AND HOLD A PRE-CONSTRUCTION MEETING. STEP DURATION 1 DAY.
2.) DAY 2 THE CONTRACTOR(S) IS TO IDENTIFY AND MARK ANY HAZARDOUS CONDITIONS THAT MAY EXIST ON-SITE, SUCH AS OVERHEAD POWERLINES, OLD WELLS, GAS LINES, ETC. STEP DURATION 1 DAY.

15. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on a grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID.
16. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

Table B.1: Temporary Seeding for Site Stabilization. Table with columns: Plant Species, Seeding Rate (lb/ac, lb/1000 ft2), Seeding Depth (inches), Recommended Seeding Dates by Plant Hardiness Zone (5b and 6a, 6b, 7a and 7b).

Notes: Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as noted. Adjustments are usually not needed for the cool-season grasses.

Permanent Seeding Summary. Table with columns: No., Species, Application Rate (lb/ac), Seeding Dates, Seeding Depth, Fertilizer Rate (N, P2O5, K2O), Lime Rate.

TIER II HIGH QUALITY WATERSHED HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-3133-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hours notice to CID must be given at the following stages:
a. Prior to the start of earth disturbance.
b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
3. Accelerated stabilization (same day stabilization) is necessary due to this site being in a Tier II watershed. At a minimum, the following initial soil disturbance or re-disturbance or permanent or temporary stabilization is required within three (3) calendar days on the surface of all perimeter contours, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days on all other disturbed areas on the project site except for those areas under active grading.

6. Site Analysis:
Total Area of Site: 1.67 Acres
Area Disturbed: 0.98 Acres
Area to be roofed or paved: 0.24 Acres
Area to be vegetatively stabilized: 0.74 Acres
Total cut: 1,000 cu Yds
Total fill: 1,000 cu Yds
Off-site waste/borrow area location: GRADING PERMIT

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 contained shall be inspected by the contractor every four days, and the next day after each rain event. A written report by the contractor, must be available upon request, is part of every inspection and should include:
a. Inspection date
b. Inspection type (routine, pre-storm event, during rain event)
c. Name and title of inspector
d. Weather information (current conditions as well as time and amount of last recorded precipitation)

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 a grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID.
12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved wastewater structure.
13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.

14. All fill fence and super sill fence shall be placed on the contour, and be imbricated at 25' minimum intervals, with lower ends diked up by 2' in elevation.
15. Stream channels must not be disturbed during the following restricted time periods (inclusive):
• Use I and IP March 1 - June 15
• Use III and IIP October 1 - April 30
• Use IV March 1 - May 31

BENCHMARK ENGINEERS & PLANNERS, INC. 3300 NORTH ROOF ROAD & SUITE 140 BLOOMINGVILLE, MARYLAND 21043 (P) 410-465-0105 (F) 410-465-0444

Abbeyfield Estates. A RESUBDIVISION OF ABBEYFIELD ESTATES, LOT 11, PLAT 11674, CREATING LOTS 41-43 AND OPEN SPACE LOT 44. R-20 SINGLE FAMILY DETACHED. TAX MAP: 31, GRID: 21, PARCEL: 206. ZONED: R-20. FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND. DATE: JUNE, 2024. BEI PROJECT NO. 3147. DESIGN: JC. DRAFT: JC. SCALE: AS SHOWN. SHEET 6 OF 10.

DEVELOPER'S CERTIFICATE. I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENTATION OF THE CONSTRUCTION PROJECT. I SHALL ENGAGE A MARYLAND REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POOR CONSTRUCTION AND PROVIDE THE HOWARD COUNTY CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD COUNTY CONSERVATION DISTRICT, AND/OR MDE.

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PROJECT: <b>Abbeyfield Estates</b>	DATE: 05/01/24
<b>Facility Summary</b>	
Pe (LOTS): 1.43 inches	

MICRO-BIORETENTION FACILITIES (M-6)													
Facility	Drainage Area	Impervious	I (%)	Rv	ESDv Req'd (cf)	Req'd Poned Storage (75%)	Poned Volume Provided (cf)	Req'd Stone Storage (cf)	Stone Storage Provided (cf)	Total ESDv	Pe Prov.	Rev (cf)	Notes
MBR-1 (M-6)	5,521	2,446	44%	0.45	296	222	278.5	74	77	448	2.17	76.9	
MBR-2 (M-6)	3,562	1,618	45%	0.46	195	146	223	49	47	344	2.53	46.7	
MBR-3 (M-6)	3,986	2,250	56%	0.56	266	199	269.5	66	68	427	2.31	68.0	
MBR-4 (M-6)	3,067	1,559	51%	0.51	186	139	140.8	46	47	235	1.81	47.0	
<b>TOTALS</b>		<b>7,873</b>			<b>943</b>		<b>912</b>		<b>239</b>	<b>1454</b>		<b>239</b>	

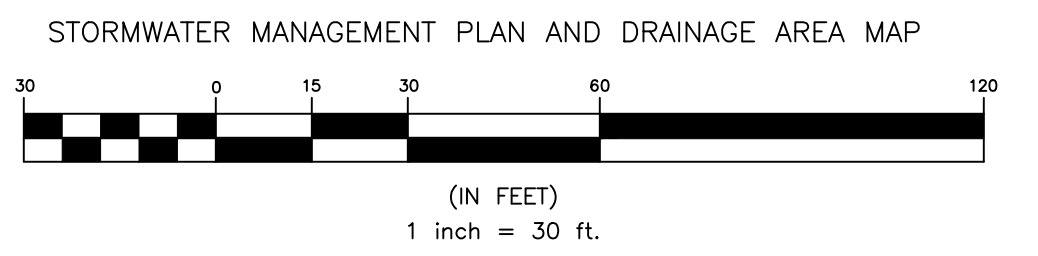
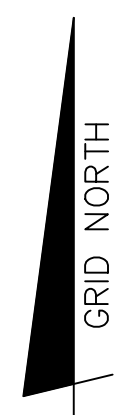
DRY WELL FACILITY (M-5)										
Facility	Drainage Area	Impervious	Volumetric Runoff	ESDv Req. (CF)	Length (ft)	Width (ft)	Depth (ft)	Volume (cf)	Rev Provided (cf)	Full ESDv Provided
DW #1	750	750	0.95	85.15	6.00	8.00	5.00	96.00	96.00	yes
DW #2	750	750	0.95	85.15	6.00	8.00	5.00	96.00	96.00	yes
<b>TOTALS</b>		<b>750</b>		<b>170</b>				<b>192</b>		

Uncaptured new impervious 1,351

The total ESDv provided by this design is: 1625 CF      267 CF EXCESS

The total Rev provided by this design is: 431 CF      286 CF EXCESS

\*The ESDv summary table portrays storage in excess of that required for Environmental Site Design requirements.



**LEGEND**

- LIMIT OF SUBMISSION
- EX. TREELINE
- EX. CONTOURS
- SOIL SYMBOL AND DELINEATION
- LIMIT OF EX. FLOODPLAIN
- SLOPES 25% AND GREATER
- SLOPES 20.00% TO 24.99%
- SLOPES 15.00% TO 19.99%
- STORMWATER MANAGEMENT DRAINAGE DIVIDE
- STORMWATER MANAGEMENT EFFECTIVE AREA
- GEOTECHNICAL TEST LOCATION

SOILS CHART WEBSOIL SURVEY 2.0 4/20/2023

SYMBOL	HYDRIC	HYDROLOGIC GROUP	NAME	K-VALUE (Whole Soil)
EC	YES	D	FALGINGTON SANDY LOAM, 0 TO 2 PERCENT	0.24
SaB	NO	B	SASSAFRAS LOAM, 2 TO 5 PERCENT SLOPE	0.30

\*\* HIGHLY ERODIBLE, K>0.35, AND STEEPER THAN 5% OR 15% AND GREATER SLOPES TAKEN FROM THE NRCS WEB SOIL SURVEY MAY 2022, MAP 10.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

DocuSigned by:  
 18078478A208404  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE 7/18/2024

DocuSigned by:  
 Chad Edmondson  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE 7/18/2024

NO.	DATE	REVISION
 <b>BENCHMARK ENGINEERS, INC.</b> 3300 NORTH ROBEY ROAD & SUITE 140A ELICOTT CITY, MARYLAND 21043 (P) 410-465-9105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM		
OWNER: RAINMAKER DEVELOPMENT, INC. 2101 MILLERS MILL ROAD COOKSVILLE, MD 21723 443-829-9222		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. 45577, Expiration Date: 06-08-2026. 07/18/2024 John M. Carney PROFESSIONAL ENGINEER
DEVELOPER: RAINMAKER DEVELOPMENT, INC. 2101 MILLERS MILL ROAD COOKSVILLE, MD 21723 443-829-9222		A RESUBDIVISION OF ABBEYFIELD ESTATES, LOT 1, PLAT 11674, CREATING LOTS 41-43 AND OPEN SPACE LOT 44 R-20 SINGLE FAMILY DETACHED TAX MAP: 31, GRID: 21, PARCEL: 206 ZONED: R-20 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND <b>STORMWATER MANAGEMENT PLAN AND DRAINAGE AREA MAP</b>
DATE: JUNE, 2024	BEI PROJECT NO. 3147	
DESIGN: JC	DRAFT: JC	SCALE: AS SHOWN SHEET 7 OF 10

CONSTRUCTION SPECIFICATIONS

B.4.C Specifications for Micro-Bioretentation, 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.

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%).

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 textual 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 hoses 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 tires.

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

4. Plant Material: Recommended plant material for micro-bioretentation practices can be found in Appendix A, Section A.2.3.

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.

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 1000 square feet.

- 6. Underdrains: Underdrains should meet the following criteria:
- Pipe- Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTM F 758, Type PS 28, or AASHTO-M-43) 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. Pipes shall be wrapped with a 2" (No. 4 or 4x4) galvanized hardware cloth.

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 1000 square feet of surface area).

7. Miscellaneous: These practices may not be constructed until all contributing drainage area has been stabilized.

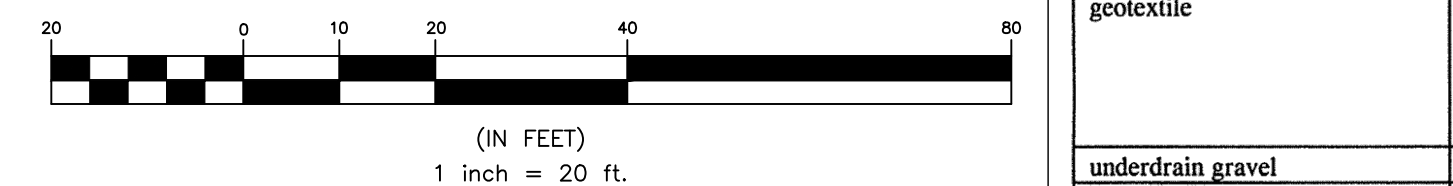
EXCAVATED PONDS

GENERAL - EXCAVATED PONDS THAT CREATE A FAILURE POTENTIAL THROUGH A CONSTRUCTED OR CREATED EMBANKMENT WILL BE DESIGNED AS EMBANKMENT PONDS EXCAVATED PONDS THAT INCLUDE A PIPE OR WEIR OUTLET CONTROL SYSTEM FOR URBAN STORMWATER MANAGEMENT SHALL BE DESIGNED USING THE PRINCIPAL AND EMERGENCY SPILLWAY HYDROLOGIC CRITERIA FOR EMBANKMENT PONDS, TABLE 1.

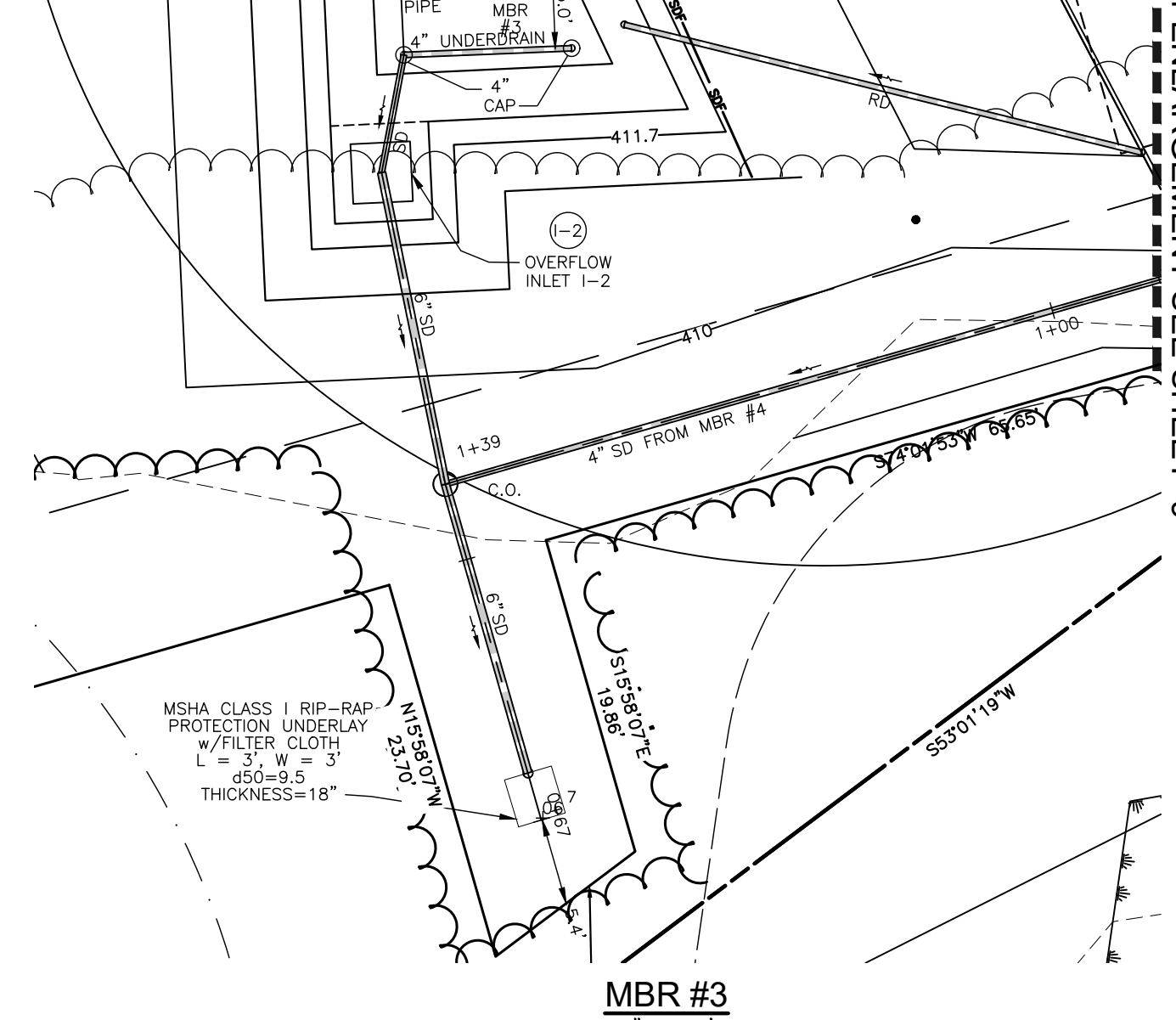
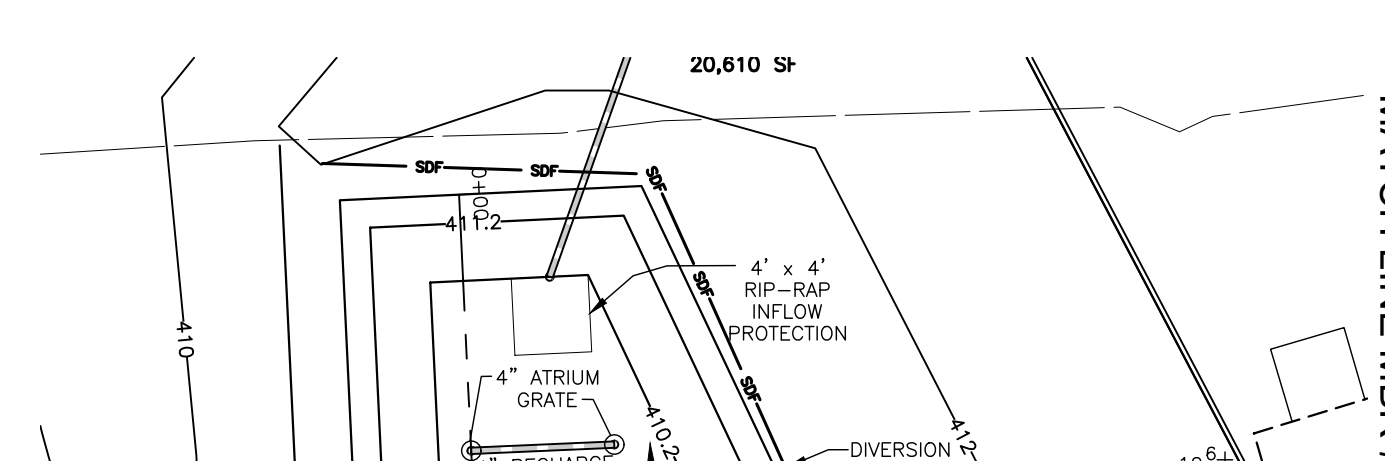
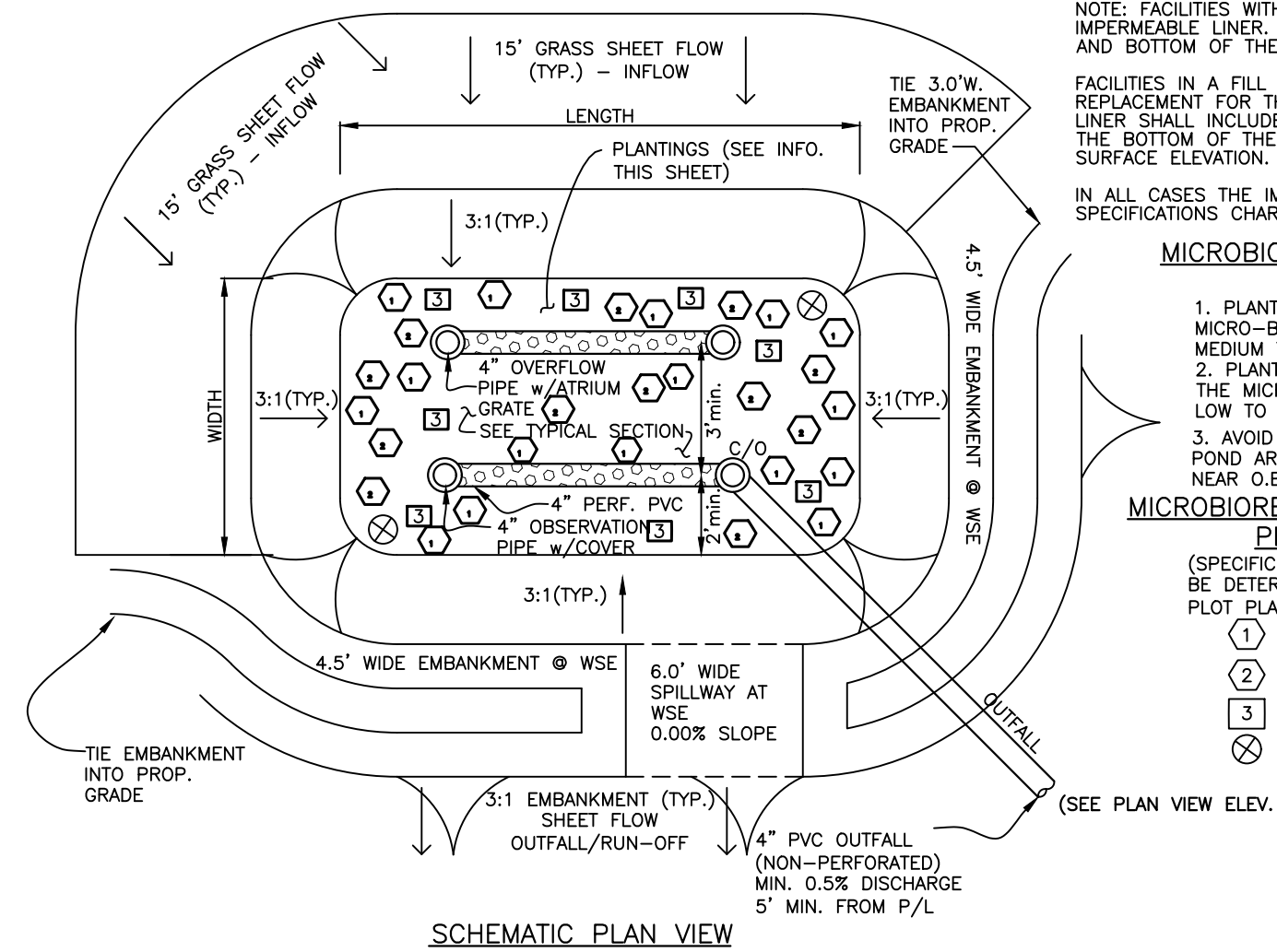
FOR SEQUENCE OF OPERATIONS PLEASE SEE SEDIMENT CONTROL NOTES AND DETAILS.

FINAL STORMWATER MANAGEMENT WILL BE DESIGNED UNDER THE BUILDING PERMIT PLAN AND UPDATED BY REDLINE REVISION.

Table B.3.2 Materials Specifications for Bioretention. Columns: Material, Specification, Size, Notes. Rows include Plantings, mulch, pea gravel diaphragm and curtain drain, geotextile, underdrain gravel, underdrain piping, poured in place concrete (if required), sand.



APPROVED: DEPARTMENT OF PLANNING AND ZONING. Chief, Division of Land Development: 7/18/2024. Chief, Development Engineering Division: 7/18/2024.



MICRO-BIORETENTION FACILITY #3 SCALE: 1" = 20' HORIZONTAL 1" = 2' VERTICAL

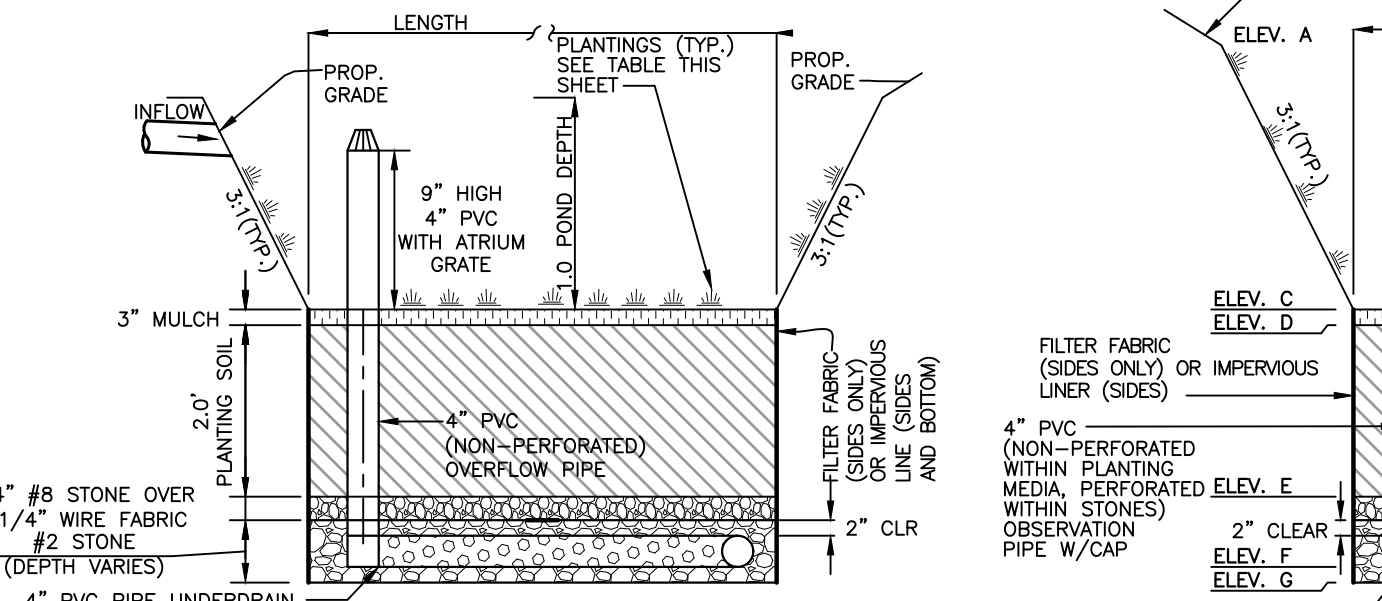
NOTE: FACILITIES WITHIN 100' OF A WELL MUST BE CONSTRUCTED WITH IMPERMEABLE LINER. IN THIS CASE THE LINER SHALL INCLUDE ENTIRE SIDES AND BOTTOM OF THE EXCAVATION, EXTENDED TO TOP OF EMBANKMENT DETAIL.

MICROBIORETENTION AND BIORETENTION PLANTING DATA. 1. PLANTINGS WITHIN THE PONDING AREA OF THE MICRO-BIORETENTION FACILITY ARE TO BE OF A MEDIUM TO HIGH WATER TOLERANCE.

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

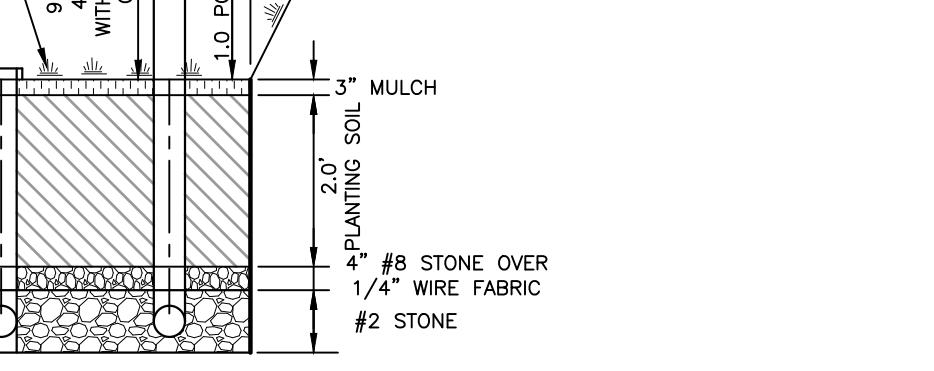
Table with 2 columns: Planting Schedule, Specific Number of Plantings. Lists species like Vinca minor, Ajuga reptans, Iris versicolor, Calluna vulgaris.

Table with columns: FACILITY, ELEVATIONS (SEE TYPICAL BIORETENTION DETAIL), LENGTH (ft), WIDTH (ft), AREA (sq ft), PLANTINGS REQ'D, LINER. Lists facilities MBR-1 through MBR-4.

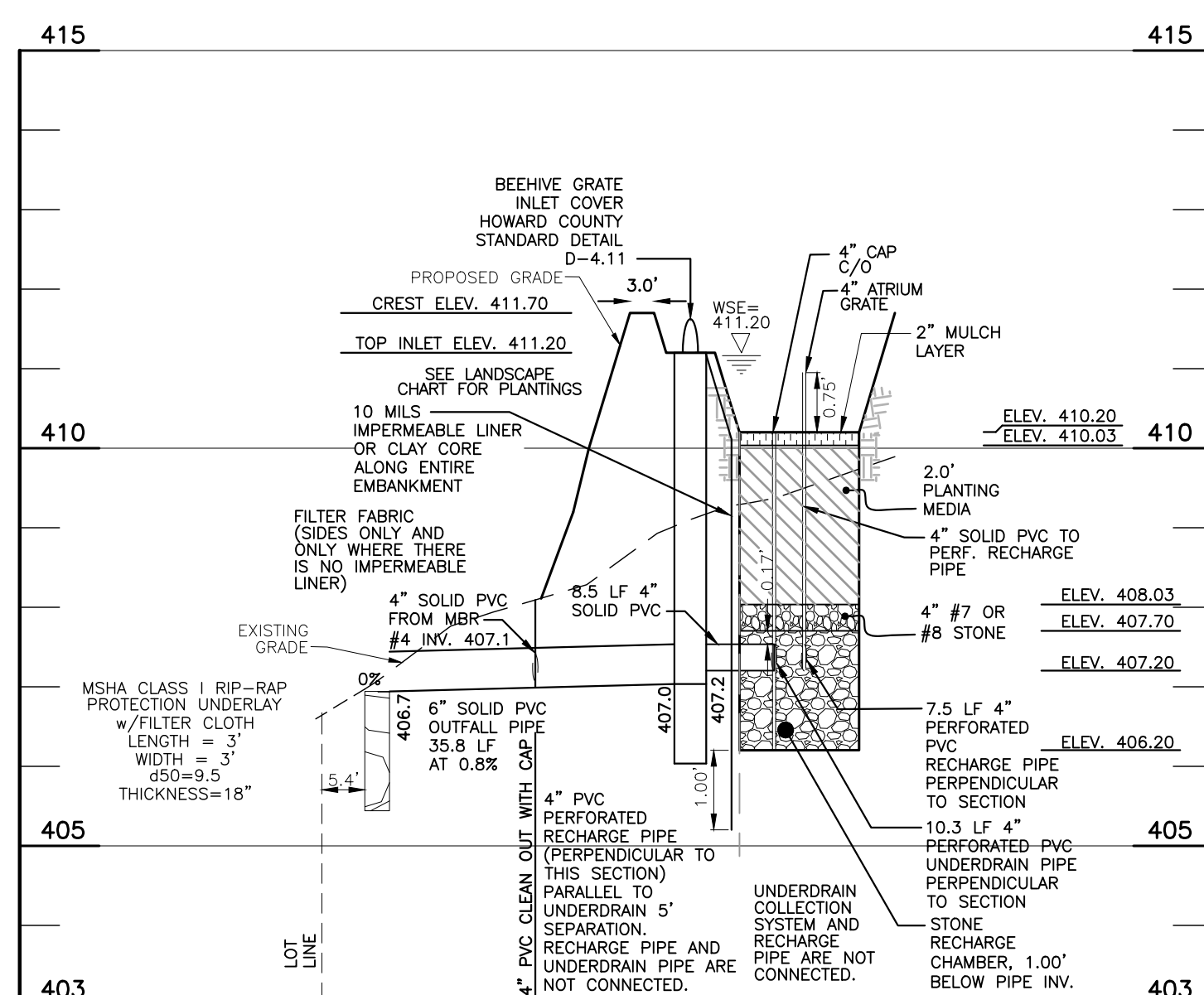


TYPICAL SECTION MICRO-BIORETENTION DETAILS (TYPICAL) NOT TO SCALE

BIO-RETENTION DIMENSION LEGEND. Table with columns: FACILITY, NAME. Lists A through H for different levels like top of embankment, top of mulch, etc.



MATERIALS & SPECIFICATIONS FOR MICRO-BIORETENTION. Table with columns: MATERIAL, SPECIFICATION, SIZE, NOTES. Lists items like plantings, soil, mulch, geotextile, underdrain gravel, piping, impervious liner.



MICRO-BIORETENTION FACILITY #3 SCALE: 1" = 20' HORIZONTAL 1" = 2' VERTICAL

Appendix B.4. Construction Specifications for Environmental Site Design Practices

Table B.4.1 Materials Specifications for Micro-Bioretentation, Rain Gardens & Landscape Infiltration-

Table with columns: Material, Specification, Size, Notes. Lists materials like planting soil, organic content, mulch, pea gravel diaphragm, curtain drain, geotextile, underdrain piping, concrete, sand.

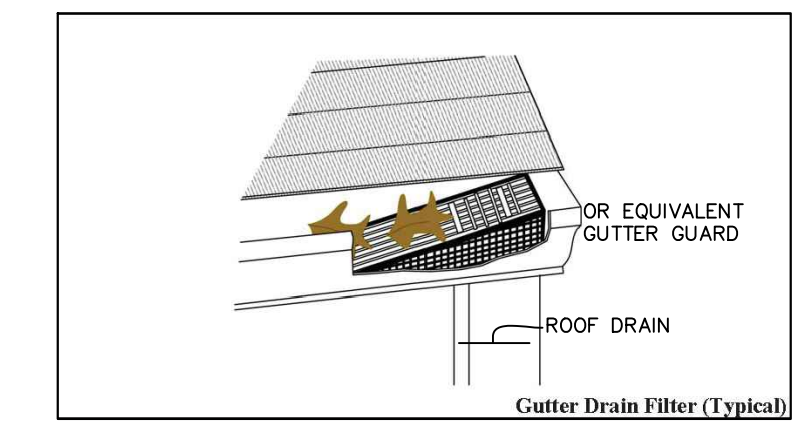
OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6), BIURETENTION (F-6) AND GRASS SWALE (M-8)

- A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND SPRINGWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.

Table with columns: Drywell Designation, Length (ft), Width (ft), Depth (ft), Grade, Top of Stone, Bottom of Stone. Lists DW#1 and DW#2.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED (M-9) DRY WELLS

- 1. The monitoring wells and structures shall be inspected on a quarterly basis and after every large storm event.
2. Water levels and sediment build up in the monitoring wells shall be recorded over a period of several days during the first rain drainage.



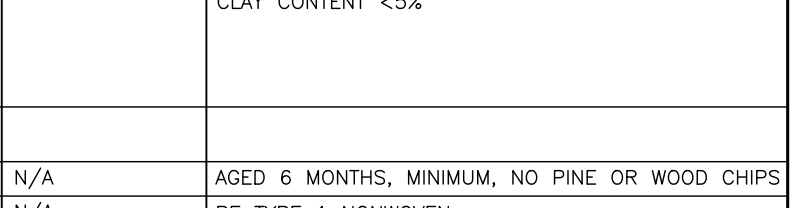
ROOF DRAIN DRYWELL Private

DETAIL D-9.01



TYPICAL SECTION NOT TO SCALE

LAYOUT OPTION 1 and LAYOUT OPTION 2



NOT TO SCALE SEE PLAN FOR ALL DIMENSIONS

NOTES

- 1. MANUFACTURED SAND IS NOT ACCEPTABLE IN DRYWELLS.
2. ALL PIPES SHOULD BE 304 SS PVC 4" MIN. DRYWELLS MUST BE A MINIMUM OF 12" FROM BUILDING FOUNDATION.
3. 20" FROM SEPTIC FIELD.
4. SHOULD BE LOCATED TO MINIMIZE ANY EROSION DURING.

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. 45577, Expiration Date: 06-08-2026.

John M. Carney

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. 45577, Expiration Date: 06-08-2026.

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John M. Carney

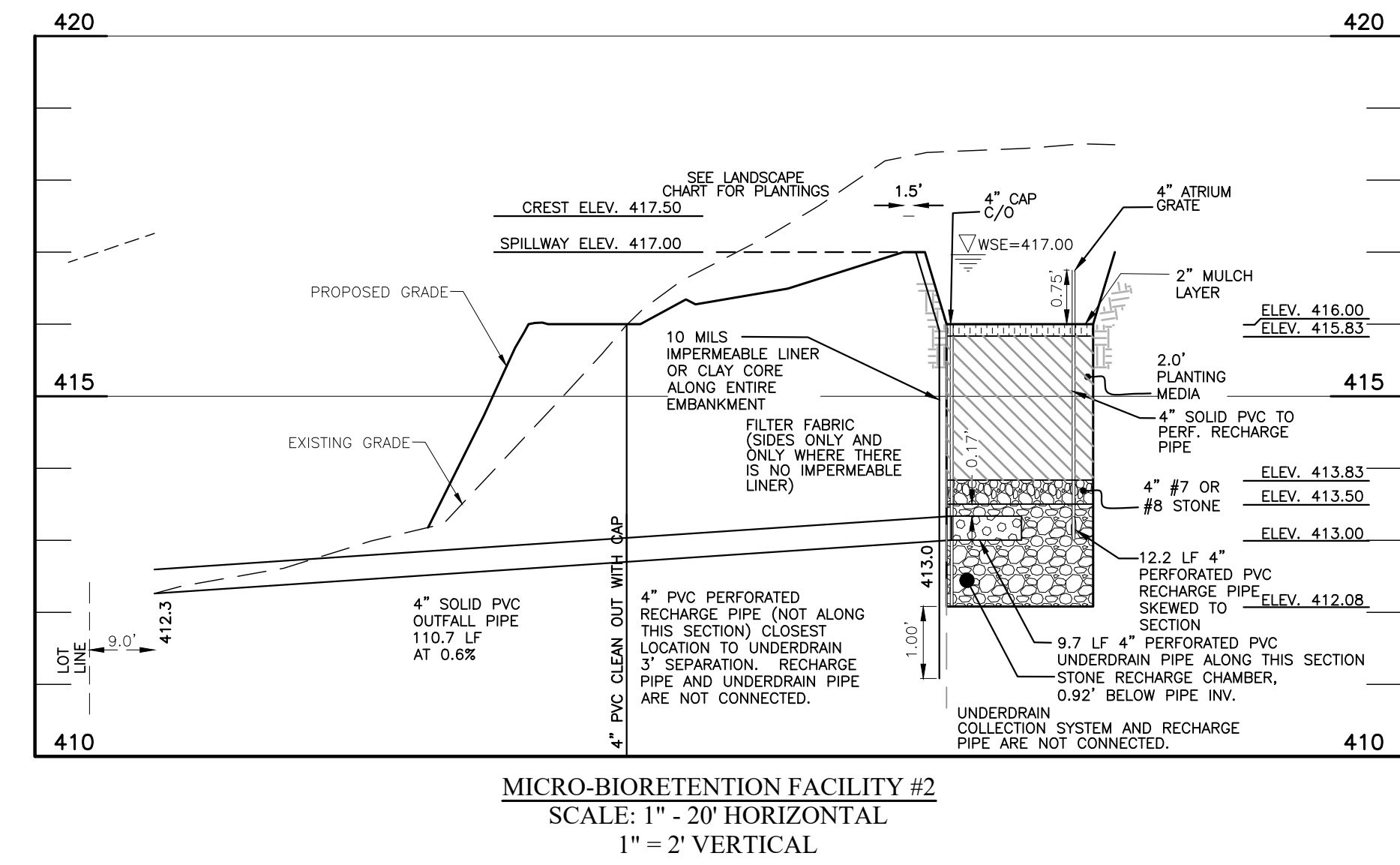
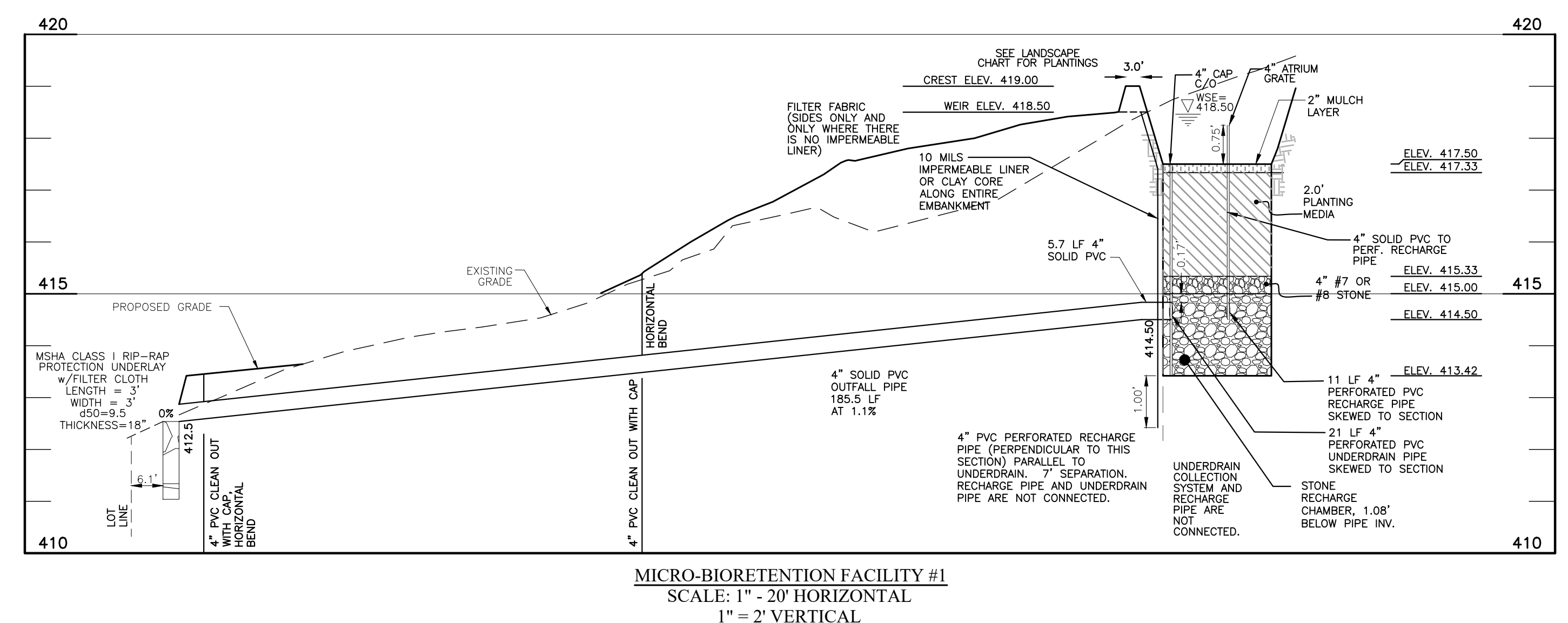
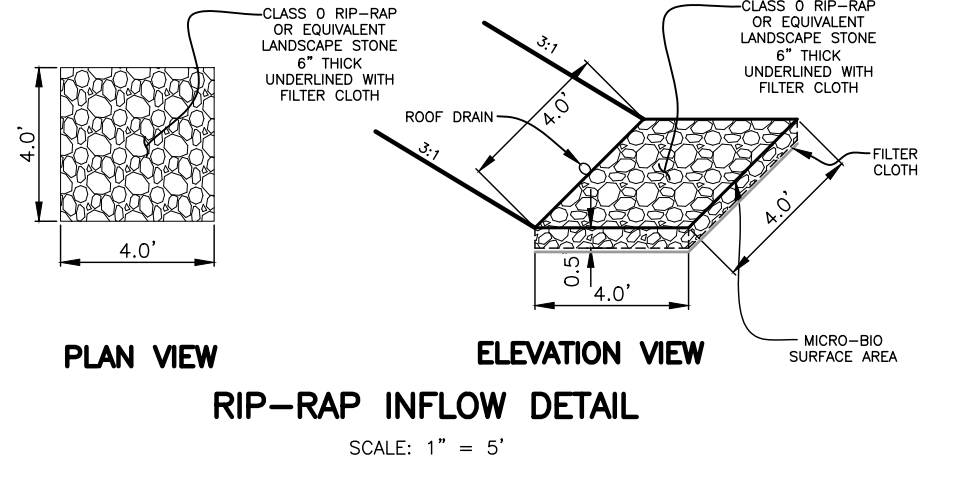
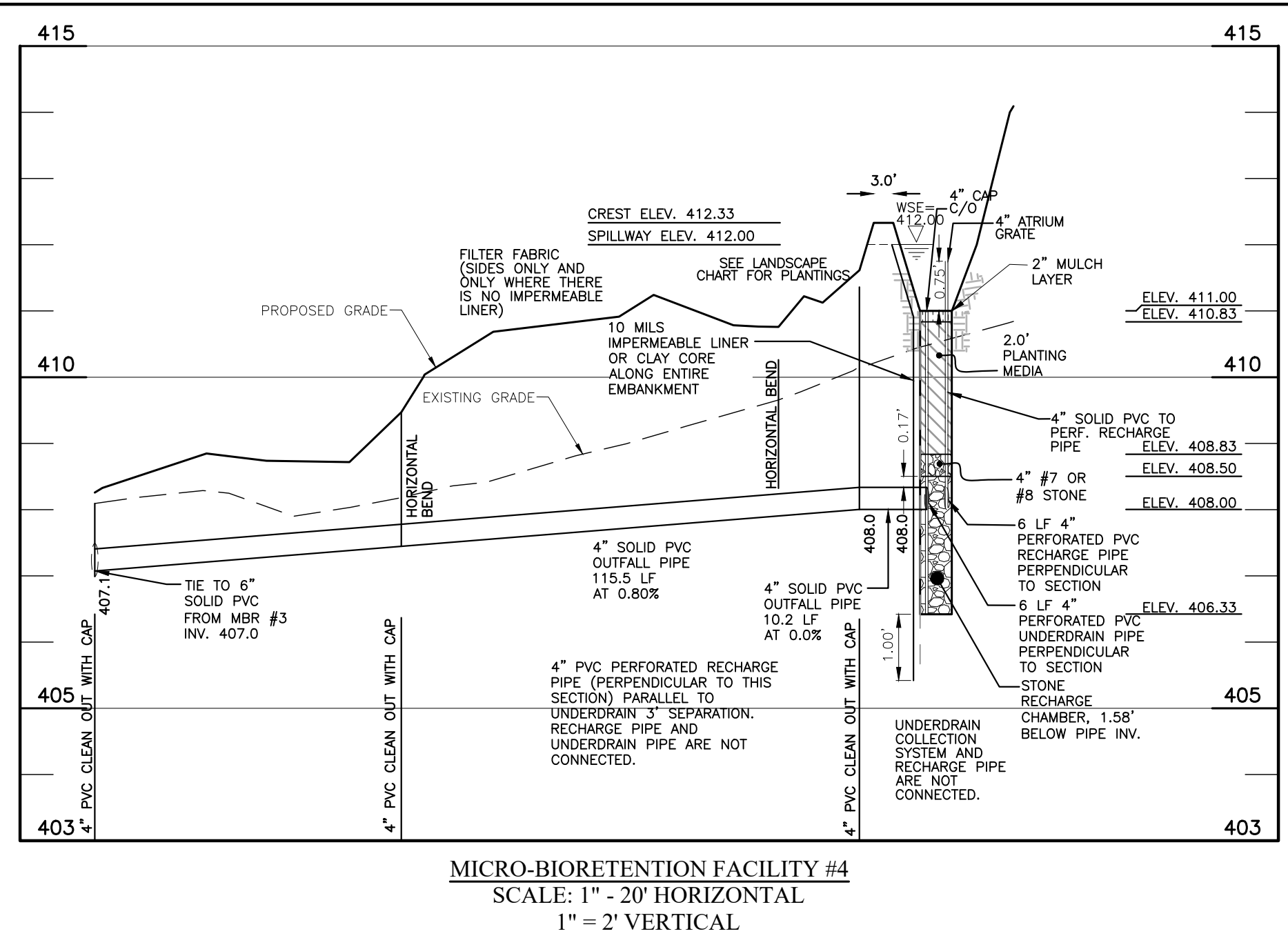
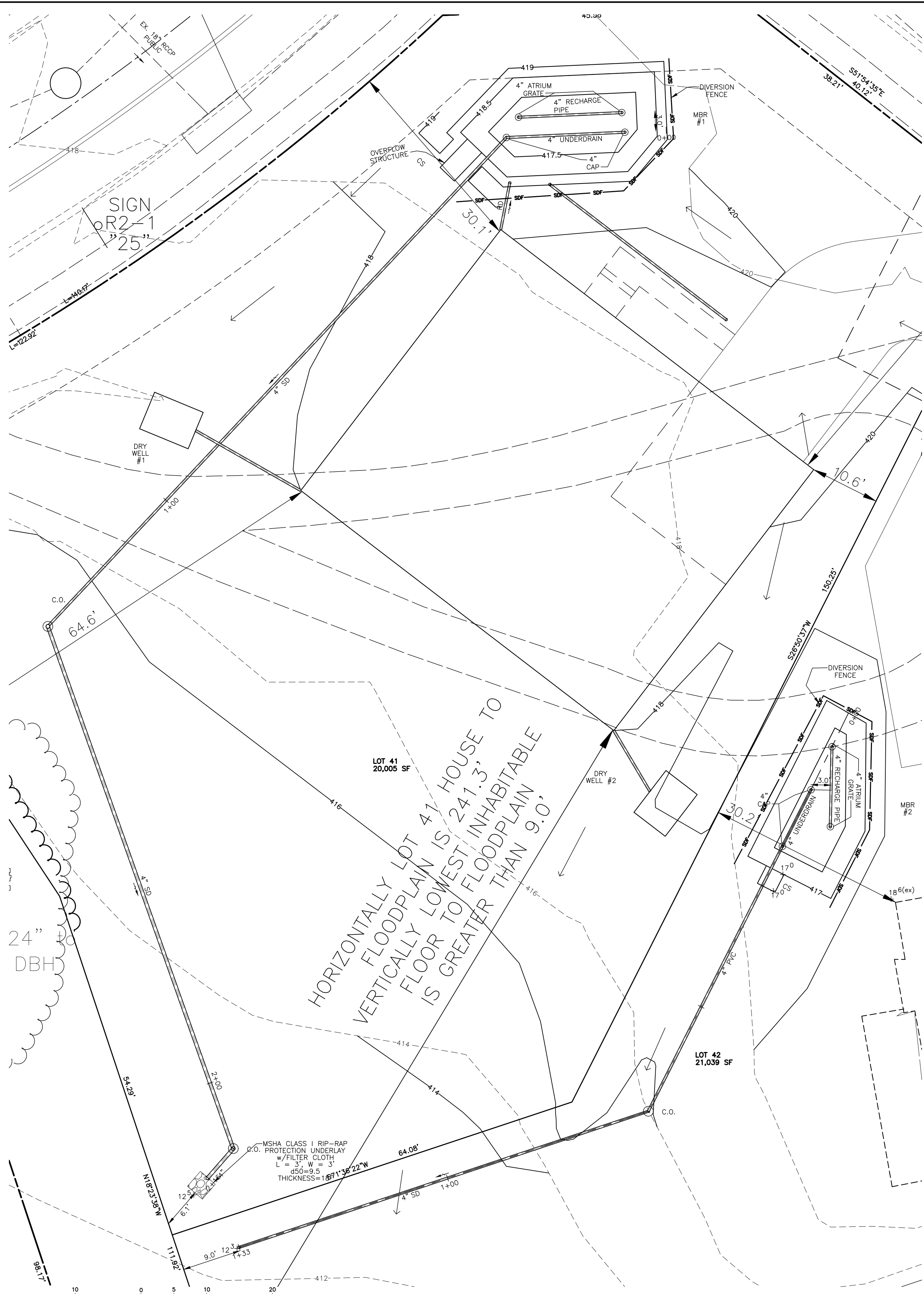
Professional Certification, I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 06-08-2026.

John M. Carney

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John M. Carney





NO.	DATE	REVISION

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**  
3300 NORTH ROBEY ROAD & SUITE 140A ELICOTT CITY, MARYLAND 21043  
(P) 410-465-6105 (F) 410-465-6444  
WWW.BEI-CIVILENGINEERING.COM

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. 45577, Expiration Date: 06-08-2026.

**John M. Carney**  
07/18/2024

OWNER:  
RAINMAKER DEVELOPMENT, INC.  
2101 MILLERS MILL ROAD  
COOKSVILLE, MD 21723  
443-829-9222

**ABBEYFIELD ESTATES**  
A RESUBDIVISION OF ABBEYFIELD ESTATES, LOT 1, PLAT 11674, CREATING LOTS 41-43 AND OPEN SPACE LOT 44 R-20 SINGLE FAMILY DETACHED

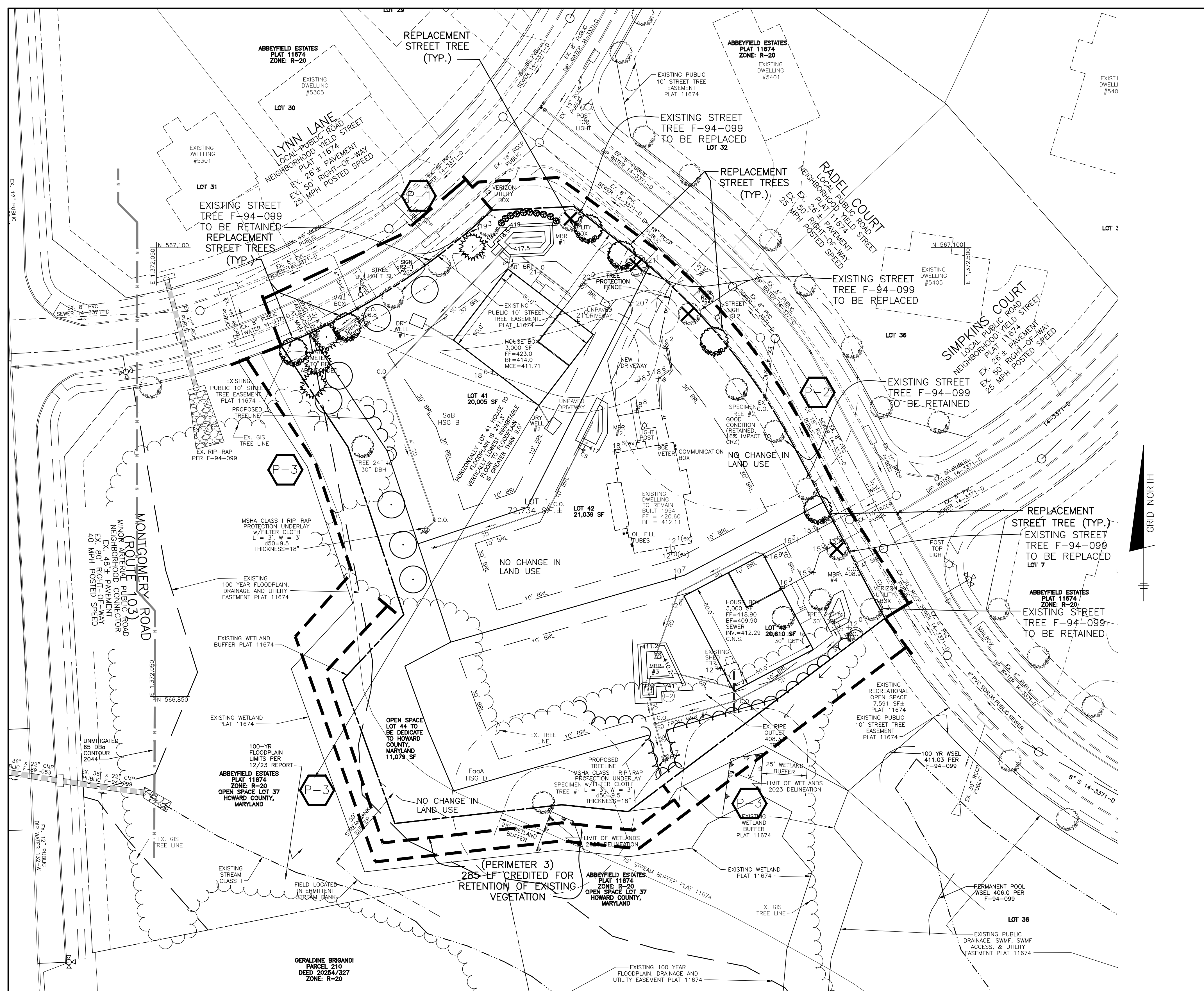
TAX MAP: 31, GRID: 21, PARCEL: 206  
ZONED: R-20  
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DEVELOPER:  
RAINMAKER DEVELOPMENT, INC.  
2101 MILLERS MILL ROAD  
COOKSVILLE, MD 21723  
443-829-9222

**STORMWATER MANAGEMENT NOTES AND DETAILS**

DESIGN: JC DRAFT: JC

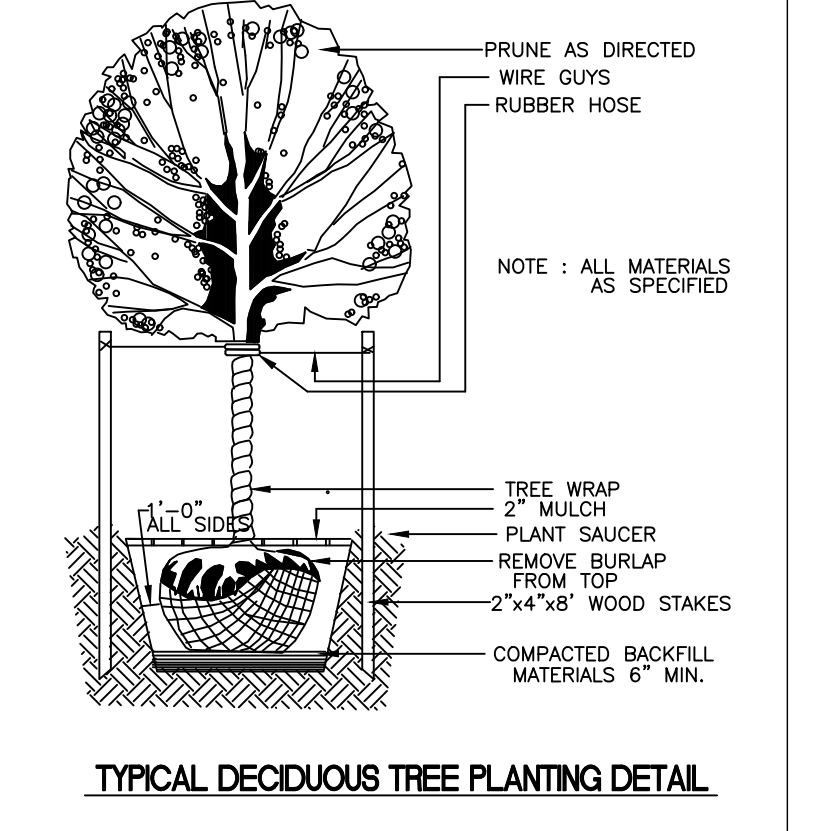
DATE: JUNE, 2024 BEI PROJECT NO. 3147  
SCALE: AS SHOWN SHEET 9 OF 10



Schedule A Perimeter Landscape Edge				
Category	1	2	3	Totals
Linear Feet of Road Frontage or Perimeter	140	336	610	
Credit for Existing Vegetation (Yes, No, Linear Feet)	0	0	285	
Exemption for Existing Dwelling (Yes, No, Linear Feet)	0	0	0	
Linear Feet of Planting	140	336	325	
Number of Plants Required				
Shade Trees	3	0	5	8
Evergreen Trees	4	0	0	4
Other Trees (2:1 substitute)	0	0	0	0
Shrubs	0	0	0	0
Number of Plant Provided				
Shade Trees	2	0	5	7
Evergreen Trees	4	0	0	4
Other Trees (2:1 substitute)	0	0	0	0
Shrubs	0	10*	0	10

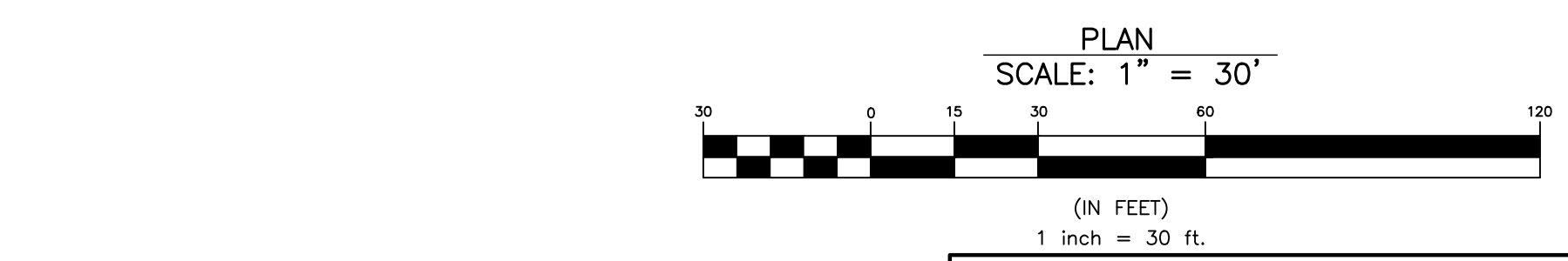
\* ONE SHADE TREE IS MOVED FROM PERIMETER 1 TO PERIMETER 2, AND IS SUBSTITUTED FOR WITH 10 SHRUBS. THE 10 SHRUBS ARE PLACED IN AN ARC AT THE RIGHT-OF-WAY TRUNCATION TO MIMIC THE EXISTING SHRUBS AT THE OPPOSITE SIDE OF THE INTERSECTION AND SCREEN THE STORMWATER FACILITY.

- LANDSCAPE NOTES:**
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL.
  - STREET TREE LOCATIONS:**
    - WHEN THE DISTANCE BETWEEN THE CURB AND SIDEWALK IS 6 FEET OR GREATER, THE TREES SHALL BE LOCATED WITHIN THE RIGHT-OF-WAY AND SHALL BE CENTERED BETWEEN THE CURB AND SIDEWALK.
    - WHEN THE DISTANCE BETWEEN THE CURB AND SIDEWALK IS LESS THAN 6 FEET, TREES MAY BE PLANTED 3 FEET FROM THE SIDEWALK IN THE DIRECTION AWAY FROM THE ROAD. A 10-FOOT WIDE TREE MAINTENANCE EASEMENT SHALL BE REQUIRED IF THE RIGHT-OF-WAY IS LIMITED.
    - TREES SHALL BE PLANTED 6 FEET BEHIND CURB WHEN THERE ARE NO SIDEWALKS.
    - TREES TO BE PLANTED MINIMUM 30 FEET FROM SIGNS AND INTERSECTIONS WHEN PLANTED BETWEEN SIDEWALK AND CURB. TREES MAY NOT BE PLANTED WITHIN 5 FEET OF A STORM DRAIN INLET, OPEN SPACE ACCESS STRIP, OR 10 FEET OF A DRIVEWAY.
  - AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWIT LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATIONS.
  - THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
  - FINANCIAL SURETY IN THE AMOUNT OF \$3,000 FOR THE REQUIRED PERIMETER LANDSCAPING (7 PERIMETER SHADE TREES, 4 EVERGREEN TREES AND 10 SHRUBS) SHALL BE POSTED AS PART OF THE GRADING PERMIT.
  - ANY LANDSCAPE TREES PLANTED WITHIN THE 10' STREET TREE EASEMENT ARE THE RESPONSIBILITY OF THE PROPERTY OWNERS TO MAINTAIN.



**DEVELOPER'S/BUILDER'S CERTIFICATE**  
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

**Scott Arterburn** 07/18/2024  
 RAINMAKER DEVELOPMENT, INC. DATE



STREET TREE SCHEDULE			
	LYNN LANE PUBLIC ROAD	RADEL COURT PUBLIC ROAD	TOTAL
LINEAR FEET OF RIGHT-OF-WAY	186	291	
LINEAR FEET OF CREDIT	120*	120*	
LINEAR FEET OF REQUIRED PLANTING	66*	171*	
TREE SIZE	LARGE 1:40 LF	LARGE 1:40 LF	
TREES REQUIRED	2	4	6

\*SOME STREET TREES PROVIDED UNDER F-94-099 ARE TO REMAIN. CREDIT IS TAKE FOR THESE 6 TREES (3 ON LYNN LANE AND 3 ON RADEL COURT) AT 40' PER TREE.

PERIMETER LANDSCAPE PLANTING LIST				
SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
	6	Acer rubrum October Glory/ OCTOBER GLORY RED MAPLE	2.5" cal. (min.)	STREET TREES
	7	Prunus sargentii/ SARGENT CHERRY	2.5" cal. (min.)	PERIMETER SHADE TREES
	4	Juniperus virginiana cultivars/RED CEDAR	6' - 8' HGT. (min.)	PERIMETER EVERGREEN TREES
	10	Azalea Hino Crimson/Hino Crimson Azalea	24" - 36" SPREAD	PERIMETER SHRUB

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

7/18/2024 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 7/18/2024 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

NO. DATE REVISION		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. 45577, Expiration Date: 06-08-2026.	
<p><b>BENCHMARK</b>                  ENGINEERS &amp; LAND SURVEYORS &amp; PLANNERS  <b>ENGINEERING, INC.</b>                  3300 NORTH ROAD ROAD &amp; SUITE 1404 ELICOTT CITY, MARYLAND 21043                  (P) 410-465-6105 (F) 410-465-6544                  www.bei-civilengineering.com</p>		<p>07/18/2024                  John M. Carney</p>	
<p>OWNER:                  RAINMAKER DEVELOPMENT, INC.                  2101 MILLERS MILL ROAD                  COOKSVILLE, MD 21723                  443-829-9222</p>		<p><b>ABBEYFIELD ESTATES</b>                  A RESUBDIVISION OF ABBEYFIELD ESTATES, LOT 1, PLAT 11674,                  CREATING LOTS 41-43 AND OPEN SPACE LOT 44                  R-20 SINGLE FAMILY DETACHED                  TAX MAP: 31, GRID: 21, PARCEL: 206                  ZONED: R-20                  FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND</p>	
<p>DEVELOPER:                  RAINMAKER DEVELOPMENT, INC.                  2101 MILLERS MILL ROAD                  COOKSVILLE, MD 21723                  443-829-9222</p>		<p><b>LANDSCAPE PLAN, NOTES AND DETAILS</b></p>	
DESIGN: JC	DRAFT: JC	DATE: JUNE, 2024	BEI PROJECT NO. 3147
		SCALE: AS SHOWN	SHEET 10 OF 10