

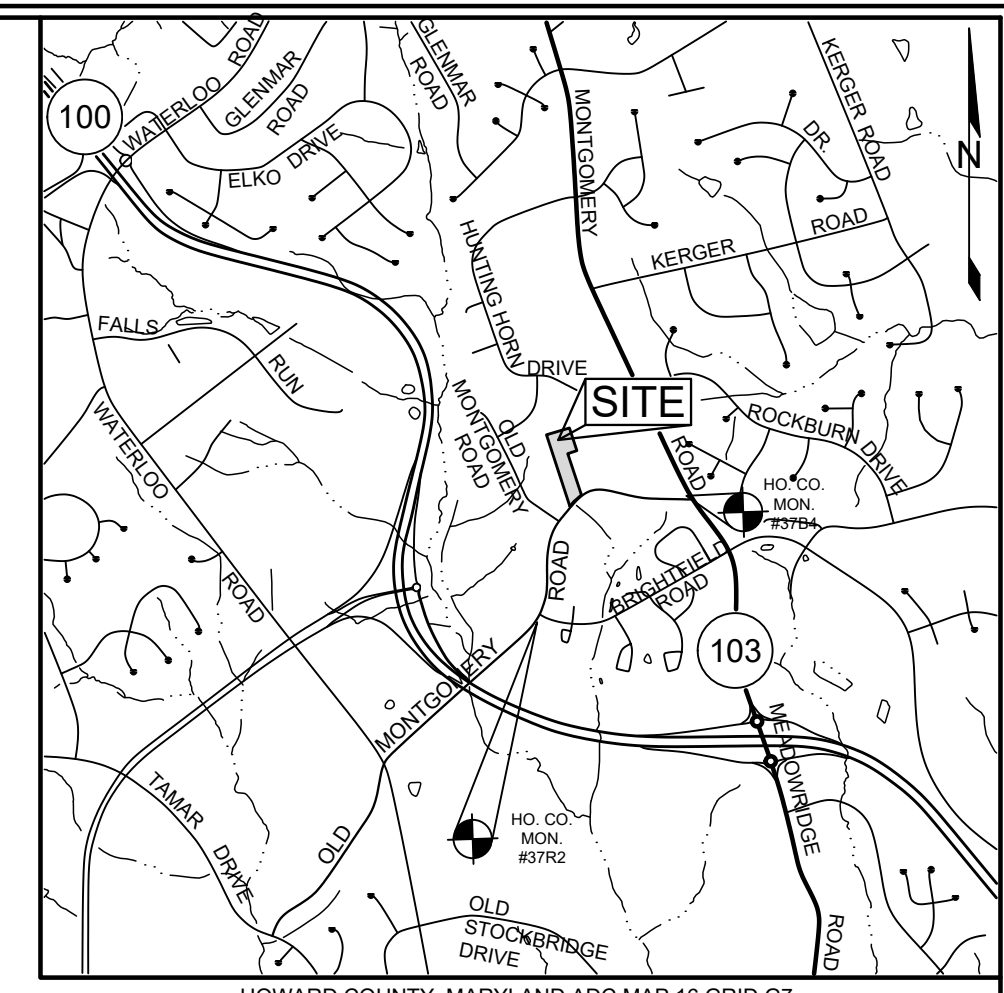
GENERAL NOTES

- 1. SUBJECT PROPERTY ZONED R-20 PER THE 10/06/2013 COMPREHENSIVE ZONING PLAN.
2. PROPERTY ADDRESS: 8030 OLD MONTGOMERY ROAD, ELLICOTT CITY, MARYLAND 21043
3. TOTAL AREA OF PROPERTY: 3.13 AC ±
4. PUBLIC WATER AND PUBLIC SEWER WILL BE USED WITHIN THIS SITE.
5. REFERENCE: LIBER 17538, FOLIO 429
6. PREVIOUS HOWARD COUNTY FILE NUMBERS: WP-21-008, CONTR. 189-W, CONTR. 547-S
7. THE BOUNDARY SHOWN HEREON IS BASED ON A BOUNDARY SURVEY PREPARED BY SEG LAND SURVEYING, LLC IN MARCH OF 2022.
8. THE EXISTING TOPOGRAPHY SHOWN WITHIN THE DEVELOPED AREA IS BASED ON A FIELD RUN TOPOGRAPHIC SURVEY PREPARED BY SEG LAND SURVEYING, LLC IN MARCH OF 2022.
9. THE SOILS SHOWN HAVE BEEN TAKEN FROM THE US DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE, HOWARD COUNTY SOILS GRID 14, SUB-GRID 36.
10. NO FLOODPLAINS, WETLANDS, STREAMS OR BUFFERS ARE PRESENT ON SITE.
11. EXISTING UTILITIES ARE LOCATED BY THE USE OF ANY OR ALL OF THE FOLLOWING: ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND SEWER PLANS AND OTHER AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF THE EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
12. PRELIMINARY GEOTECHNICAL INFORMATION HAS BEEN TAKEN FROM THE US DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, FIELD INVESTIGATIONS AND FIELD INVESTIGATIONS. IF FUTURE INVESTIGATIONS SHOW UNSATISFACTORY SOIL CONDITIONS FOR ANY OF THE STORMWATER MANAGEMENT TREATMENTS SHOWN, EITHER UNDERDRAINS WILL BE PROVIDED OR A DIFFERENT PRACTICE WILL BE SUBSTITUTED.
13. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NUMBERS 37R2 AND 37B4 WERE USED FOR THIS PROJECT.
14. 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 WAIVERS HAVE BEEN APPROVED OR ACTIVITIES HAVE BEEN DETERMINED ESSENTIAL BY THE DEPARTMENT OF PLANNING AND ZONING.
15. A FOREST CONSERVATION PLAN WILL BE PROVIDED IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
16. A SIMPLIFIED FOREST STAND DELINEATION HAS BEEN APPROVED UNDER ECP-19-071. FOREST CONSERVATION WILL BE ADDRESSED AT THE NEXT PLANNING STAGE. LANDSCAPING WILL BE PROVIDED AT THE FINAL PLAN AND SITE DEVELOPMENT PLAN STAGE OF THIS PROJECT. ALL LANDSCAPING WITHIN 40 FEET OF ANY POWER LINES SHALL BE DECIDUOUS, SMALL TO MEDIUM UNDERSTORY TREES.
17. APPROVAL OF THIS SKETCH PLAN DOES NOT CONSTITUTE APPROVAL OF SUBSEQUENT AND ASSOCIATED SUBDIVISION PLANS, SITE DEVELOPMENT PLANS OR RED-LINE REVISIONS. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION OR SITE DEVELOPMENT PLAN STAGES OR RED-LINE REVISION PROCESS. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.
18. OPEN SPACE OBLIGATIONS WILL BE ADDRESSED BY A FEE-IN-LIEU.
19. THE STORMWATER MANAGEMENT SYSTEM SHOWN ON THESE PLANS IS AN APPROXIMATION OF THE SIZE, SHAPE AND LOCATION. IT IS UNDERSTOOD THAT THIS SYSTEM HAS NOT BEEN DESIGNED AND THE ACTUAL DESIGN MAY CHANGE, ALTERING THE NUMBER OF UNITS ALLOCATED FOR THIS DEVELOPMENT.
20. ON JUNE 30, 2022 A REQUEST TO WAIVE SECTION 16.1215(A)(3) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, TO ALLOW FOR THE REMOVAL OF ONE (1) SPECIMEN TREE, AND A REQUEST TO WAIVE SECTION 16.146 TO FORGO THE REQUIREMENT OF PROCESSING A PRELIMINARY PLAN, WAS APPROVED BY THE DIRECTOR OF PLANNING AND ZONING SUBJECT TO THE FOLLOWING CONDITIONS (REFER TO ALTERNATIVE COMPLIANCE PETITION WP-21-008):
- SUBMISSION OF A FINAL PLAN AND SITE DEVELOPMENT PLAN SHALL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING TO BE REVIEWED AND APPROVED BY THE SRC IN COMPLIANCE WITH THE MILESTONES ESTABLISHED BY THE ADEQUATE PUBLIC FACILITIES ORDINANCE.
- THE REMOVAL OF SPECIMEN TREE #1 IS PERMITTED AND REQUIRES THE ONSITE PLANTING OF 2 NATIVE TREES WITH A DBH OF 3". THE TREES SHALL BE SHOWN ON THE FINAL SUBDIVISION LANDSCAPE PLAN SHEET AND MUST BE BONDED AS PART OF THE LANDSCAPE OBLIGATION.
21. ALL LANDSCAPE REQUIREMENTS TO BE IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL AND WILL BE ADDRESSED AT THE NEXT PLAN STAGE.
22. ALL REQUIREMENTS PER THE HOWARD COUNTY COMPLETE STREETS AND BRIDGE DESIGN MANUAL, VOLUME III, WILL BE ADDRESSED AT THE NEXT PLAN STAGE.
23. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.

SKETCH PLAN
CALLA PROPERTY
LOTS 1-6
HOWARD COUNTY, MARYLAND

LEGEND

- EXISTING ADJACENT PARCEL LINES
EXISTING BOUNDARY LINE
PROPOSED BOUNDARY LINE
PROPOSED LOT LINES
BUILDING RESTRICTION LINE
PROPOSED 24" USE-IN-COMMON ACCESS, MAINTENANCE, AND UTILITY EASEMENT
PROPOSED VARIABLE WIDTH PRIVATE DRAINAGE, UTILITY, AND STORMWATER MANAGEMENT EASEMENT
PROPOSED 30" PUBLIC SEWER, WATER, AND UTILITY EASEMENT
AREA TO BE DEDICATED TO HOWARD COUNTY, MD
PROPOSED 10" PRIVATE DRAINAGE & UTILITY EASEMENT
PROPOSED 20" PRIVATE DRAINAGE & UTILITY EASEMENT

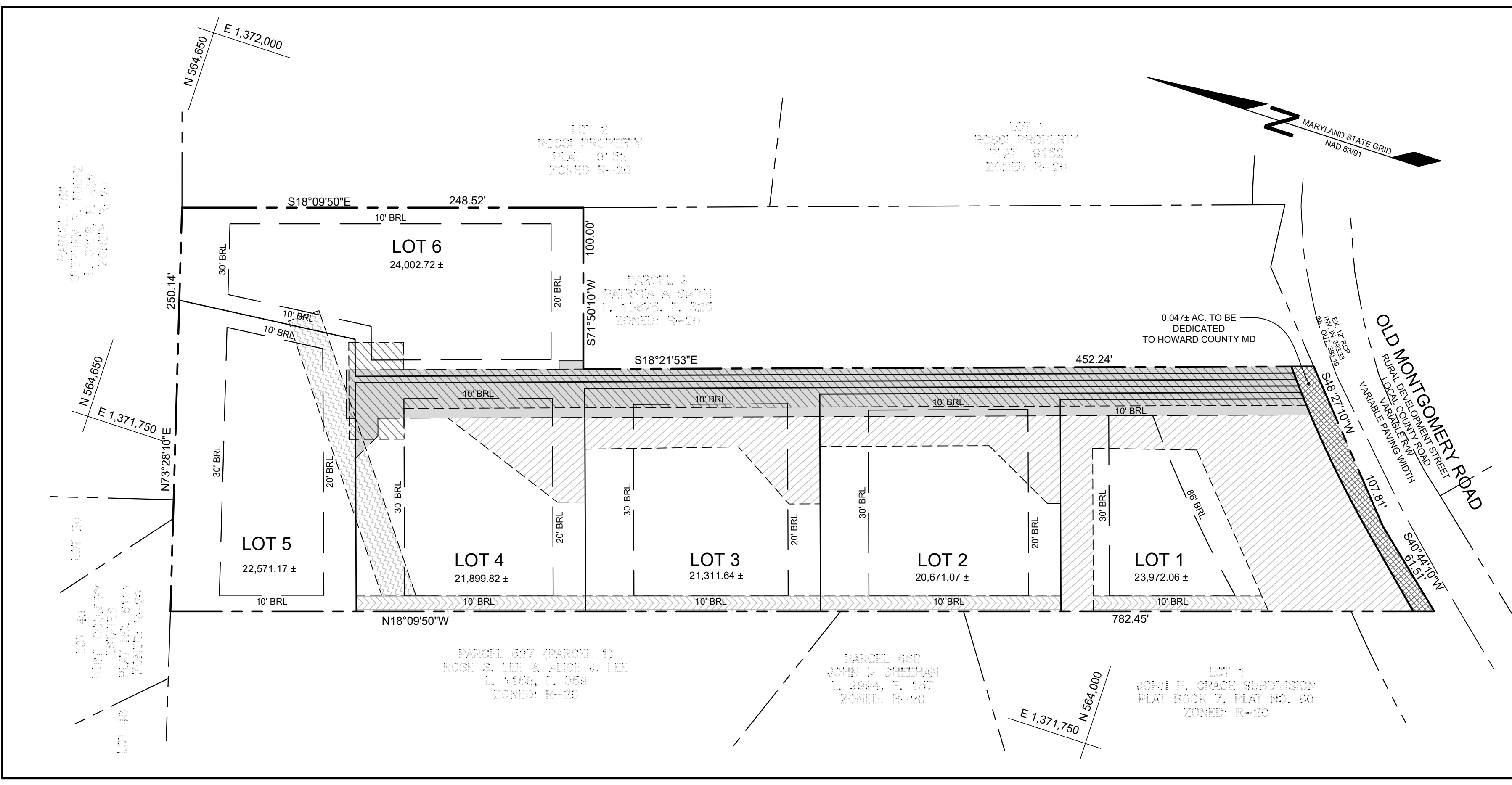


VICINITY MAP
SCALE: 1"=2000'

SITE ANALYSIS DATA SHEET

Table with 2 columns: ENVIRONMENTAL AREA and SIZE OR USE. Includes rows for Total Project Area (3.13 AC ±), Proposed Project Area (3.13 AC ±), Zoning Designation (R-20), etc.

- \*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.



PLAN VIEW
SCALE: 1"=50'

MINIMUM LOT SIZE CHART

Table with 4 columns: LOT NUMBER, MINIMUM LOT SIZE (SF), PIPESTEM AREA (SF), GROSS AREA (SF). Lists requirements for lots 1 through 6.

PREVIOUS PROJECT FILE NUMBERS

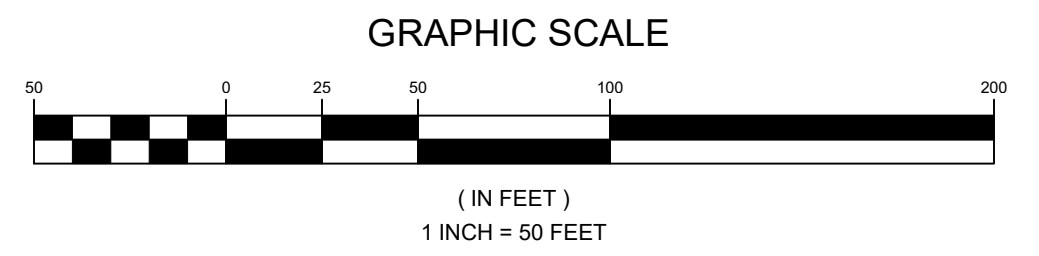
Table with 2 columns: FILE NUMBER and DESCRIPTION. Lists ECP-19-071 and 14-5130-D.

STORMWATER MANAGEMENT NOTES & DESIGN NARRATIVE

BELOW IS A LIST TO DESCRIBE THE STORMWATER MANAGEMENT REQUIREMENTS AND ACHIEVEMENTS FOR THE SITE PER THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II, AS AMENDED BY THE STORMWATER MANAGEMENT ACT OF 2007.
1. ENVIRONMENTALLY SENSITIVE AREAS HAVE BEEN AVOIDED WHERE POSSIBLE. NO STEEP SLOPES, NO FLOODPLAIN, NO STREAMS, NO WETLANDS OR THEIR BUFFERS EXIST ON-SITE. NATURAL RESOURCES ONSITE CONSIST OF 3 SPECIMEN TREES: ST 1, 2, AND 3. ST 1 WILL NEED TO BE REMOVED DUE TO ITS PROXIMITY TO THE PROPOSED HOUSE ON LOT 2. THIS COULD NOT BE AVOIDED. ST 2 AND ST 3 WILL BE RETAINED AND PROTECTED DURING DEVELOPMENT BY THE INSTALLATION OF A TREE PROTECTION FENCING.
2. TO THE GREATEST EXTENT PRACTICABLE THE NATURAL FLOW PATTERNS OF THE SITE HAVE BEEN MAINTAINED BY EXISTING 12" CULVERT TO BE REPLACED. TO MAINTAIN THE SAME VERTICAL CLEARANCE, 2 - 12" CULVERTS WILL BE INSTALLED. COMPUTATIONS SHOWS THAT THE 10 YEAR STORM WILL PASS THROUGH THE CULVERTS WITHOUT OVERTOPPING PROPOSED DRIVE. RUNOFF DISCHARGES INTO THE ROADSIDE CHANNEL IN FRONT OF THE PROPERTY, THEN FLOWS EAST APPROXIMATELY 300 FEET TO A 24" RCP CULVERT THAT CROSSES OLD MONTGOMERY ROAD.
3. IMPERVIOUS AREAS HAVE BEEN REDUCED BY POSITIONING THE BUILDING AS CLOSE TO THE USE-IN-COMMON DRIVEWAY AS THE GRADES ALLOW.
4. A STABILIZED CONSTRUCTION ENTRANCE, SILT FENCES AND SUPER SILT FENCES ARE USED AS SEDIMENT AND EROSION CONTROL MEASURES.
5. THE STORMWATER MANAGEMENT OBLIGATIONS FOR THESE PARCELS WILL BE MET BY THE USE OF STORMBRUXX, AND MICRO-BIORETENTION FACILITIES (M-6).

STORMWATER MANAGEMENT PRACTICES

Table with 6 columns: LOT, ADDRESS, MICRO-BIORETENTION M-6 (NUMBER), DRYWELL M-5 (NUMBER), ROOFTOP DISCONNECT N-1 (Y/N), NON-ROOFTOP DISCONNECT N-2 (Y/N). Lists practices for lots 1 through 6.



OWNER/DEVELOPER

JIN PYO HONG & AUK JA HONG
8030 OLD MONTGOMERY ROAD
ELLICOTT CITY, MARYLAND 21043
C/O JAMES JOO 443-900-4620

BENCHMARKS table with columns: NUMBER, NORTHING, EASTING, ELEVATION, DESCRIPTION. Lists benchmarks 37R2 and 37B4.

SHEET INDEX table with columns: SHEET NO., DESCRIPTION. Lists sheets 1 through 7.

COVER SHEET
CALLA PROPERTY
8030 OLD MONTGOMERY ROAD
ZONED R-20
TAX MAP 37 GRID 2
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
PARCEL 8

SILL ENGINEERING GROUP, LLC
16005 Frederick Road, 2nd Floor
Woodbine, MD 21797
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development
DESIGN BY: JB
DRAWN BY: JB
CHECKED BY: JB
SCALE: AS SHOWN
DATE: JUNE 30, 2022
PROJECT #: 18-075
SHEET #: 1 of 7

TENTATIVELY APPROVED: DEPARTMENT OF PLANNING AND ZONING, HOWARD COUNTY
7/5/2022
PLANNING DIRECTOR DATE

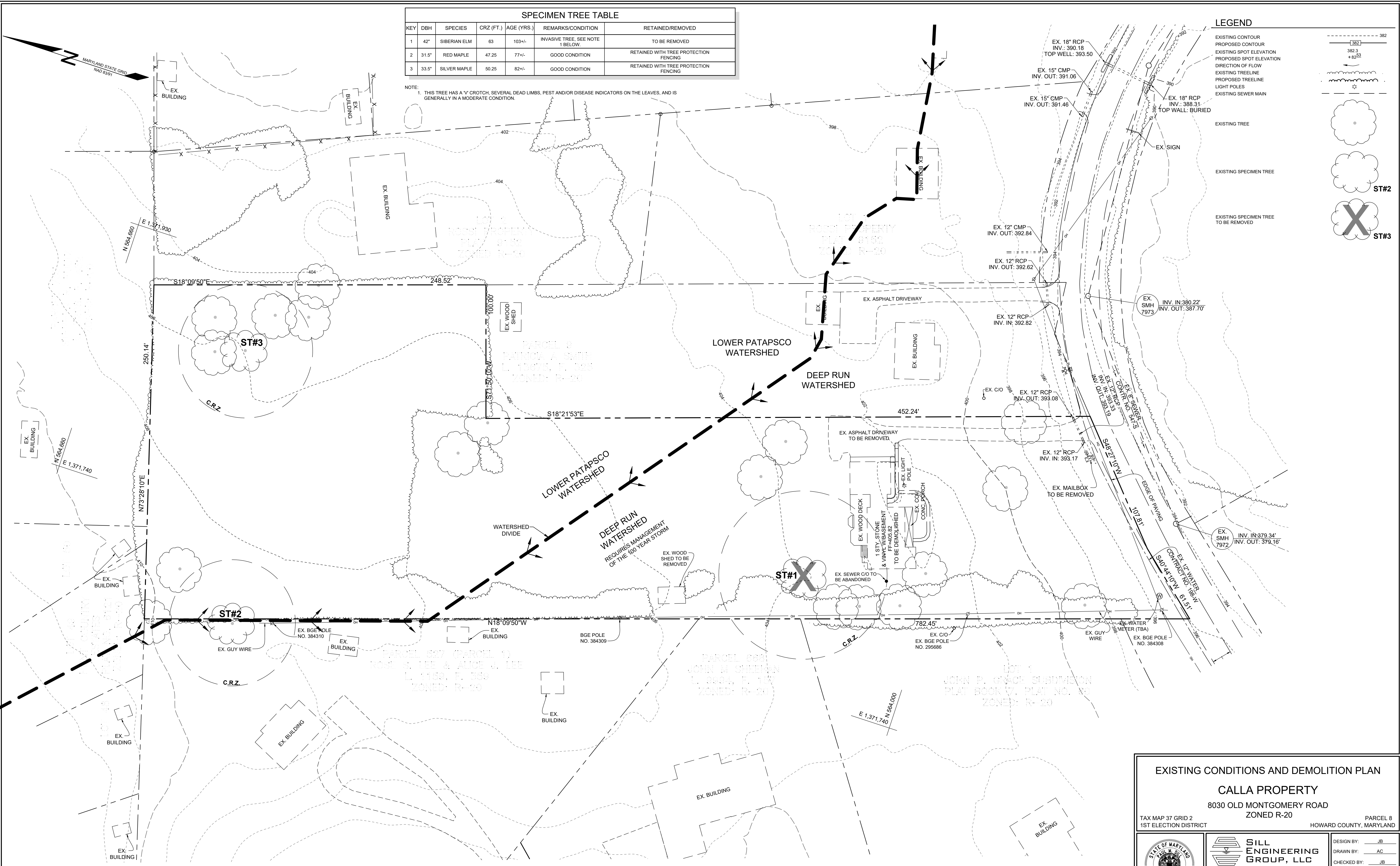
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE JUNE 20, 2023.

SPECIMEN TREE TABLE						
KEY	DBH	SPECIES	CRZ (FT.)	AGE (YRS.)	REMARKS/CONDITION	RETAINED/REMOVED
1	42"	SIBERIAN ELM	63	103+/-	INVASIVE TREE, SEE NOTE 1 BELOW.	TO BE REMOVED
2	31.5"	RED MAPLE	47.25	77+/-	GOOD CONDITION	RETAINED WITH TREE PROTECTION FENCING
3	33.5"	SILVER MAPLE	50.25	82+/-	GOOD CONDITION	RETAINED WITH TREE PROTECTION FENCING

NOTE: 1. THIS TREE HAS A 'V' CROTCH, SEVERAL DEAD LIMBS, PEST AND/OR DISEASE INDICATORS ON THE LEAVES, AND IS GENERALLY IN A MODERATE CONDITION.

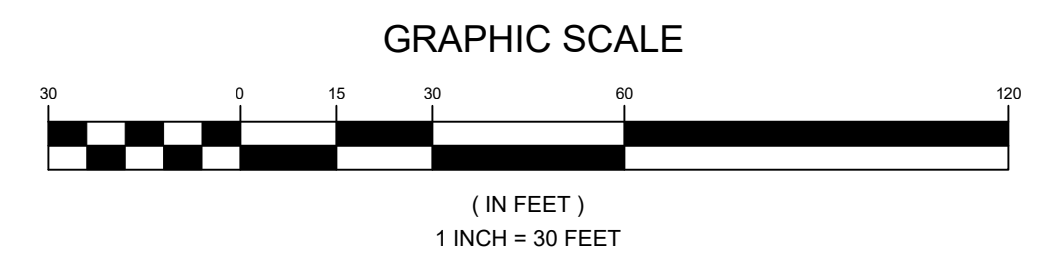
### LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- LIGHT POLES
- EXISTING SEWER MAIN
- EXISTING TREE
- EXISTING SPECIMEN TREE
- EXISTING SPECIMEN TREE TO BE REMOVED



TENTATIVELY APPROVED: DEPARTMENT OF PLANNING AND ZONING, HOWARD COUNTY  
 7/5/2022  
 PLANNING DIRECTOR

PLAN VIEW  
 SCALE: 1"=30'



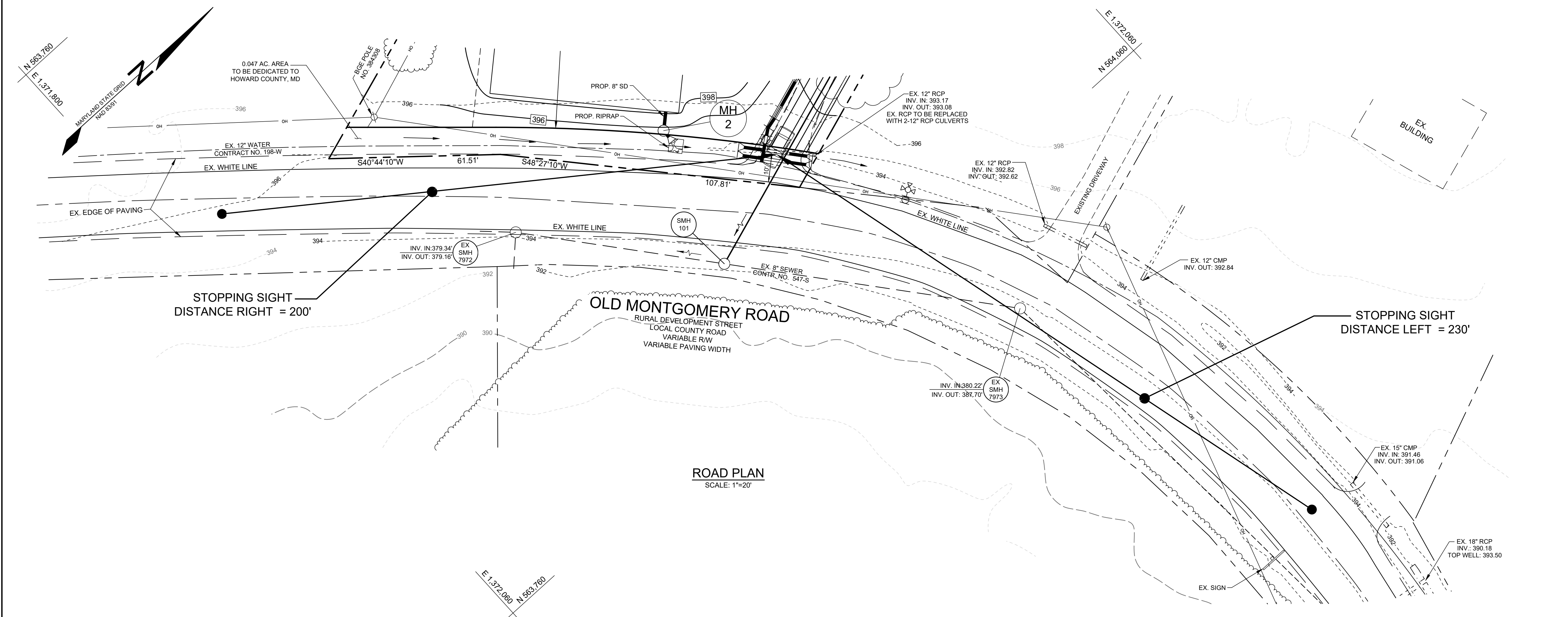
OWNER/DEVELOPER  
 JIN PYO HONG & AUK JA HONG  
 8030 OLD MONTGOMERY ROAD  
 ELLICOTT CITY, MARYLAND 21043  
 C/O JAMES JOO 443-900-4620

EXISTING CONDITIONS AND DEMOLITION PLAN  
**CALLA PROPERTY**  
 8030 OLD MONTGOMERY ROAD  
 ZONED R-20  
 TAX MAP 37 GRID 2 1ST ELECTION DISTRICT  
 PARCEL 8 HOWARD COUNTY, MARYLAND

**SILL ENGINEERING GROUP, LLC**  
 16005 Frederick Road, 2nd Floor  
 Woodbine, MD 21797  
 Phone: 410.325.5076  
 Fax: 410.696.2022  
 Email: info@sillengineering.com  
 Civil Engineering for Land Development

DESIGN BY: JB  
 DRAWN BY: AC  
 CHECKED BY: JB  
 SCALE: AS SHOWN  
 DATE: JUNE 30, 2022  
 PROJECT #: 18-075  
 SHEET #: 2 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, 2023



- GENERAL NOTES**
1. THE SUBJECT PROPERTY IS ZONED R-20 PER THE 10/06/2013 COMPREHENSIVE ZONING PLAN.
  2. THE BOUNDARY SHOWN HEREON IS BASED ON A BOUNDARY SURVEY PREPARED BY SEG LAND SURVEYING, LLC IN MARCH OF 2022.
  3. THE EXISTING TOPOGRAPHY SHOWN WITHIN THE DEVELOPED AREA IS BASED ON A FIELD RUN TOPOGRAPHIC SURVEY PREPARED BY SEG LAND SURVEYING, LLC IN MARCH OF 2022.
  4. SINCE OLD MONTGOMERY ROAD IS CLASSIFIED AS A LOCAL ROAD, INTERSECTION SIGHT DISTANCE IS NOT REQUIRED PER THE HOWARD COUNTY DESIGN MANUAL VOLUME III SECTION 2.1.E.3.
- SIGHT DISTANCE DATA**
1. THIS DESIGN IS IN ACCORDANCE WITH SECTION 2.5.B.9 OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME III DATED DECEMBER 2017.
  2. A SPEED STUDY PERFORMED BY MARS GROUP INC. IN MARCH OF 2022, SHOWS THAT THE 85TH PERCENTILE SOUTHBOUND SPEED IS 32.72 AND THE 85TH PERCENTILE NORTHBOUND SPEED IS 30.00 ALONG OLD MONTGOMERY ROAD.
  3. OLD MONTGOMERY ROAD IS CLASSIFIED AS A LOCAL COUNTY ROAD.
  4. STOPPING SIGHT DISTANCE LEFT = 230.00'
  5. STOPPING SIGHT DISTANCE RIGHT = 200.00'

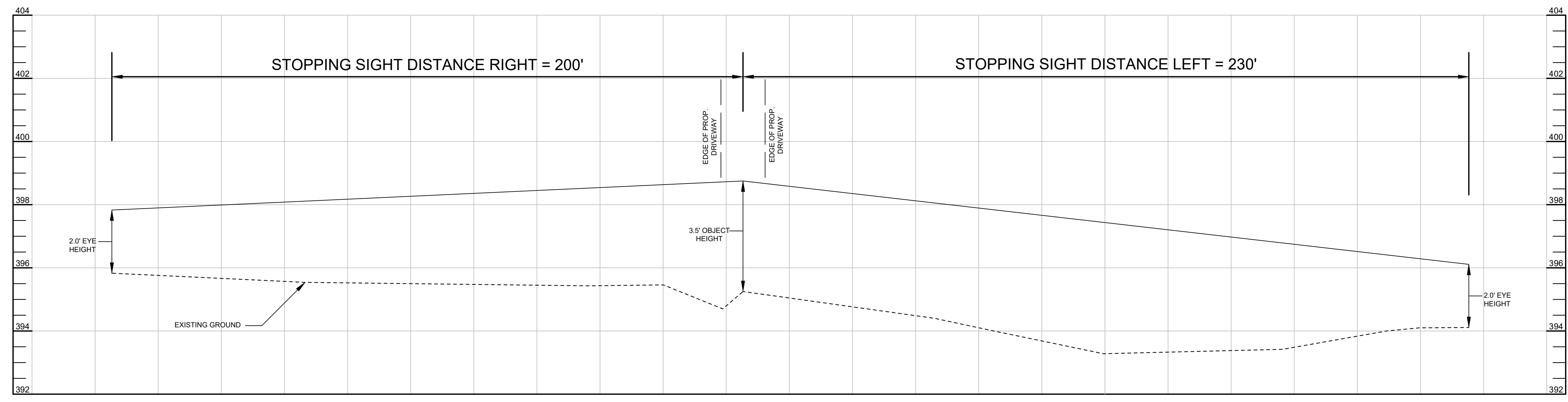
**STOPPING SIGHT DISTANCE ANALYSIS**  
**CALLA PROPERTY**  
 8030 OLD MONTGOMERY ROAD  
 ZONED R-20

TAX MAP 37 GRID 2  
 1ST ELECTION DISTRICT

PARCEL 8  
 HOWARD COUNTY, MARYLAND

	<b>SILL ENGINEERING GROUP, LLC</b>	DESIGN BY: PS
	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	DRAWN BY: TB
		CHECKED BY: PS
		SCALE: AS SHOWN
		DATE: JUNE 30, 2022
		PROJECT #: 18-075
		SHEET #: 3 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, 2023.



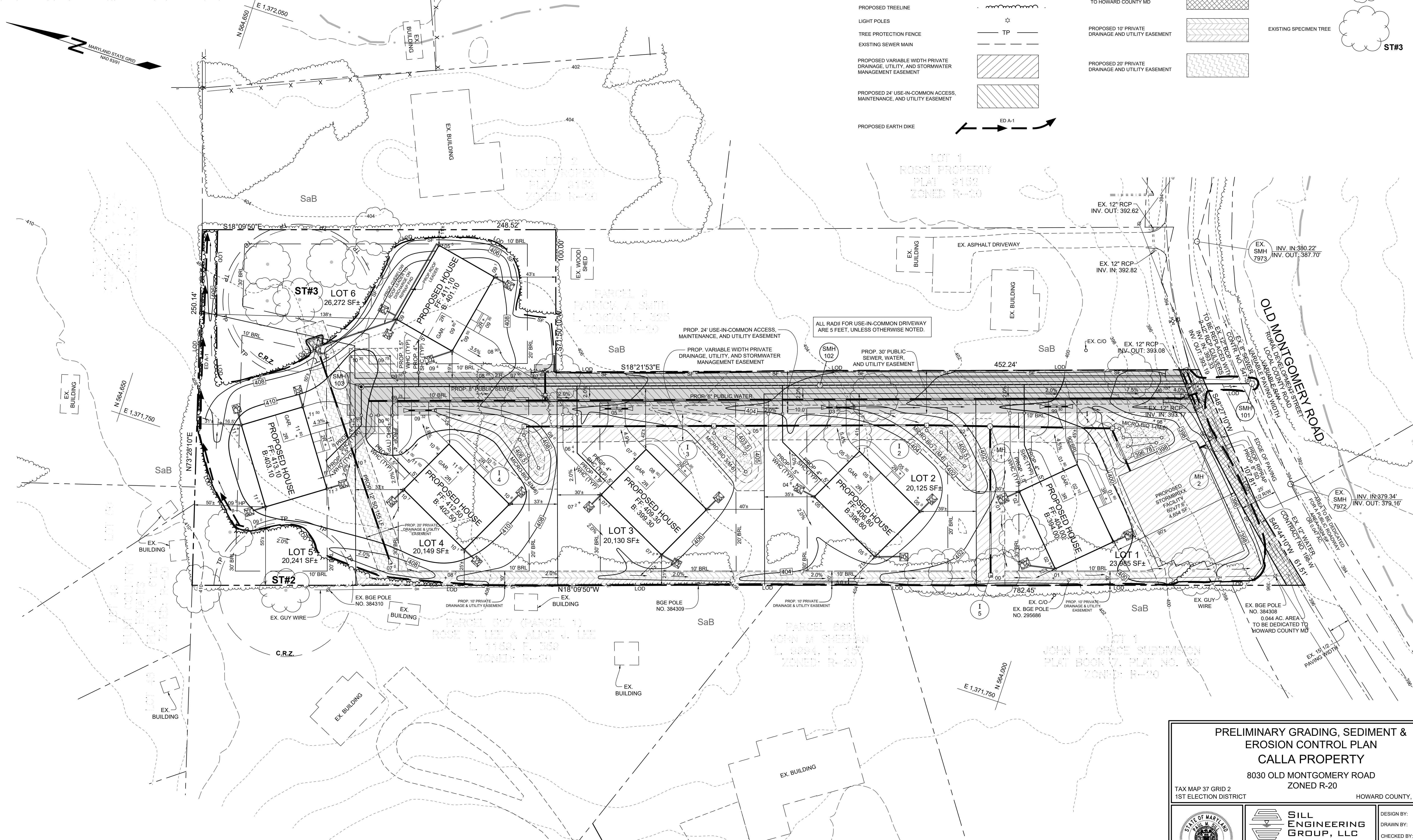
**ROAD PROFILE**  
 SCALE: HORIZONTAL: 1"=20'  
 VERTICAL: 1"=2'

TENTATIVELY APPROVED: DEPARTMENT OF PLANNING AND ZONING,  
 HOWARD COUNTY  
 Any Stroman  
 PLANNING DIRECTOR  
 DATE: 7/5/2022

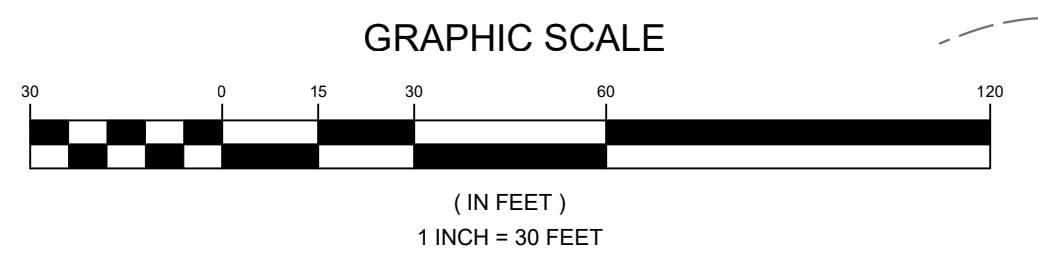
SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
SaB	SASSAFRAS LOAM, 2 TO 5 PERCENT SLOPES	B	0.32

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	
PROPOSED CONTOUR	
EXISTING SPOT ELEVATION	
PROPOSED SPOT ELEVATION	
DIRECTION OF FLOW	
EXISTING TREELINE	
PROPOSED TREELINE	
LIGHT POLES	
TREE PROTECTION FENCE	
EXISTING SEWER MAIN	
PROPOSED VARIABLE WIDTH PRIVATE DRAINAGE, UTILITY, AND STORMWATER MANAGEMENT EASEMENT	
PROPOSED 24' USE-IN-COMMON ACCESS, MAINTENANCE, AND UTILITY EASEMENT	
PROPOSED 30' PUBLIC SEWER, WATER, AND UTILITY EASEMENT	
AREA TO BE DEDICATED TO HOWARD COUNTY MD	
PROPOSED 10' PRIVATE DRAINAGE AND UTILITY EASEMENT	
PROPOSED 20' PRIVATE DRAINAGE AND UTILITY EASEMENT	
EXISTING TREE	
EXISTING SPECIMEN TREE	



APPROVED: DEPARTMENT OF PLANNING AND ZONING, HOWARD COUNTY  
 7/5/2022  
 PLANNING DIRECTOR DATE



PLAN VIEW  
 SCALE: 1"=30'

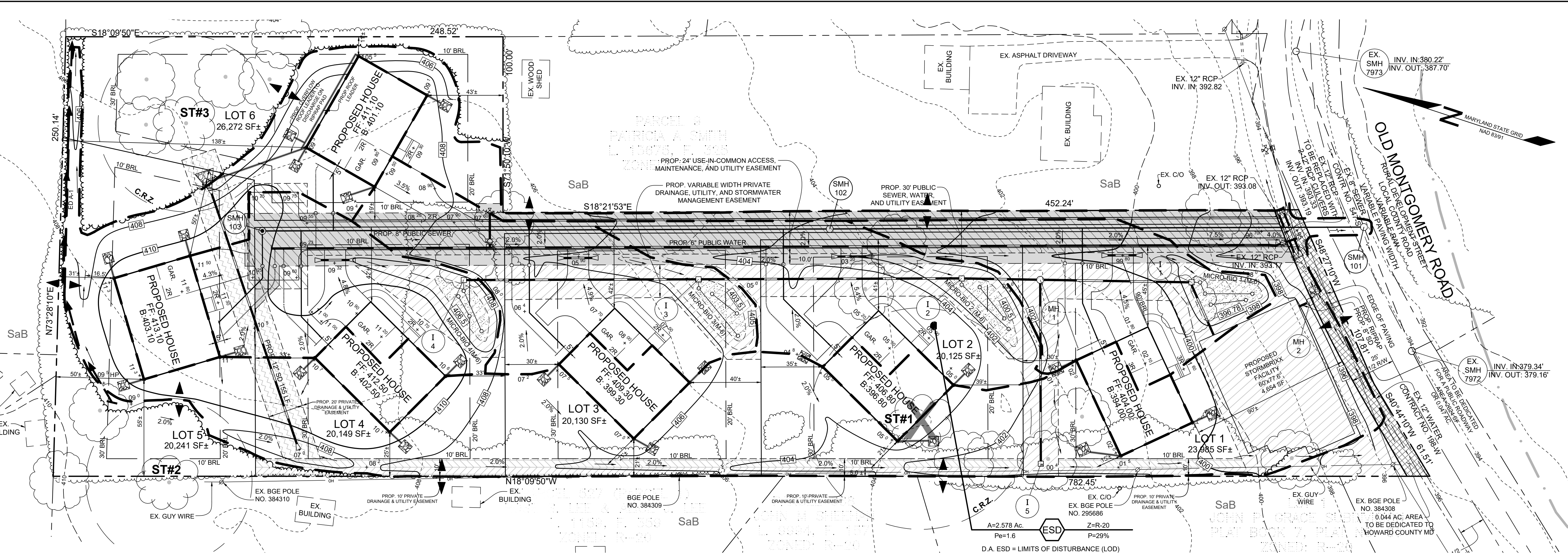
OWNER/DEVELOPER  
 JIN PYO HONG & AUK JA HONG  
 8030 OLD MONTGOMERY ROAD  
 ELLICOTT CITY, MARYLAND 21043  
 C/O JAMES JOO 443-900-4620

PRELIMINARY GRADING, SEDIMENT & EROSION CONTROL PLAN  
 CALLA PROPERTY  
 8030 OLD MONTGOMERY ROAD  
 ZONED R-20  
 TAX MAP 37 GRID 2  
 1ST ELECTION DISTRICT  
 PARCEL 8  
 HOWARD COUNTY, MARYLAND

**SILL ENGINEERING GROUP, LLC**  
 16005 Frederick Road, 2nd Floor  
 Woodbine, MD 21797  
 Phone: 443.323.5076  
 Fax: 410.696.2022  
 Email: info@sillengineering.com  
 Civil Engineering for Land Development

DESIGN BY: JB  
 DRAWN BY: AC  
 CHECKED BY: JB  
 SCALE: AS SHOWN  
 DATE: JUNE 30, 2022  
 PROJECT #: 18-075  
 SHEET #: 4 of 7

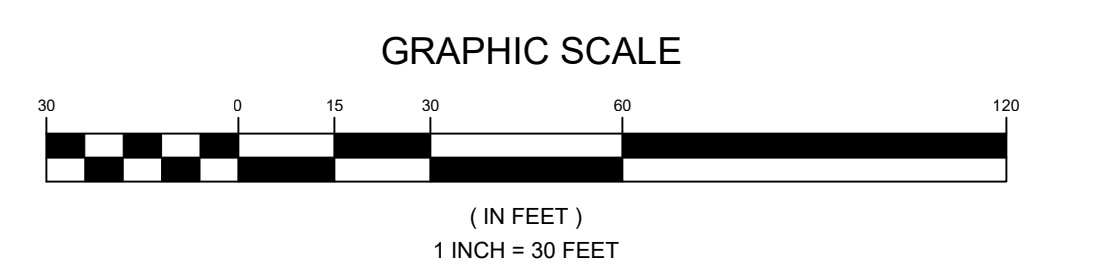
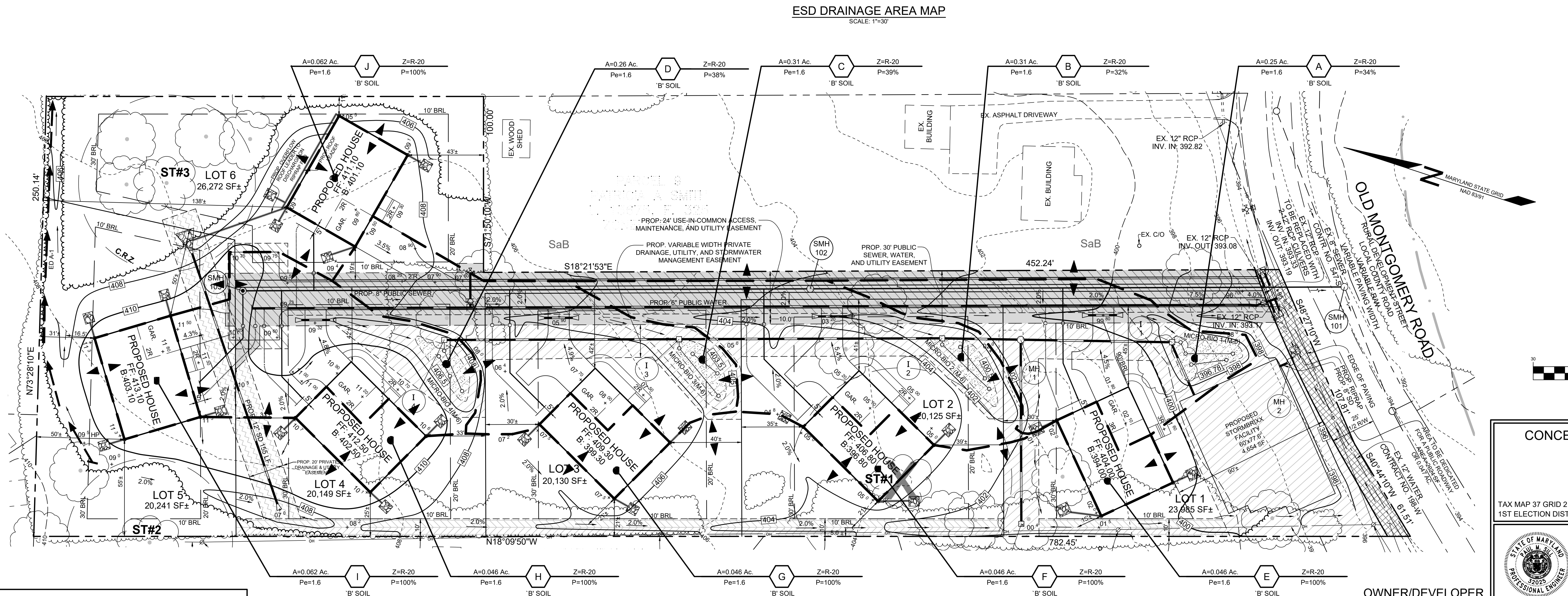
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE JUNE 20, 2023



**LEGEND**

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- SOIL BOUNDARY
- PROPOSED ROOF LEADER (4" PVC TYP. WITH DOWNSPOUT)
- PROPOSED BIORETENTION FACILITY (M-6)
- PROPOSED DRAINAGE AREA
- PROPOSED DRYWELL
- PROPOSED 24" USE-IN-COMMON ACCESS, MAINTENANCE, AND UTILITY EASEMENT
- PROPOSED VARIABLE WIDTH PRIVATE DRAINAGE, UTILITY, AND STORMWATER MANAGEMENT EASEMENT
- PROPOSED 30" PUBLIC SEWER, WATER, AND UTILITY EASEMENT
- AREA TO BE DEDICATED TO HOWARD COUNTY, MD
- PROPOSED 10" PRIVATE DRAINAGE & UTILITY EASEMENT
- PROPOSED 20" PRIVATE DRAINAGE & UTILITY EASEMENT
- PROPOSED EARTH DIKE

NOTE: ALL SOILS ONSITE ARE HYDROLOGIC SOIL GROUP SaB



APPROVED: DEPARTMENT OF PLANNING AND ZONING, HOWARD COUNTY  
7/5/2022  
PLANNING DIRECTOR

**OWNER/DEVELOPER**  
JIN PYO HONG & AUK JA HONG  
8030 OLD MONTGOMERY ROAD  
ELLCOTT CITY, MARYLAND 21043  
C/O JAMES JOO 443-900-6220

**CONCEPTUAL STORMWATER MANAGEMENT DRAINAGE AREA MAP**  
**CALLA PROPERTY**  
8030 OLD MONTGOMERY ROAD  
ZONED R-20

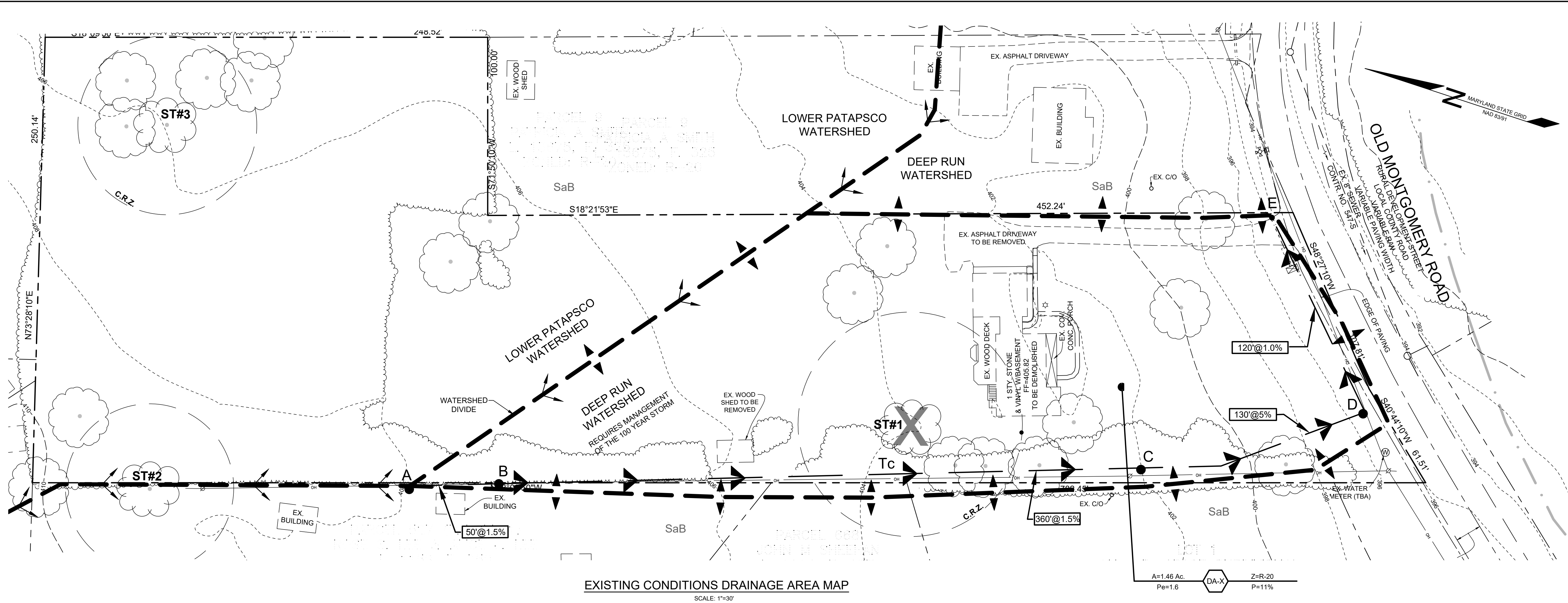
TAX MAP 37 GRID 2  
1ST ELECTION DISTRICT

PARCEL 8  
HOWARD COUNTY, MARYLAND

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

DESIGN BY: JB  
DRAWN BY: AC  
CHECKED BY: JB  
SCALE: AS SHOWN  
DATE: JUNE 30, 2022  
PROJECT #: 18-075  
SHEET #: 5 of 7

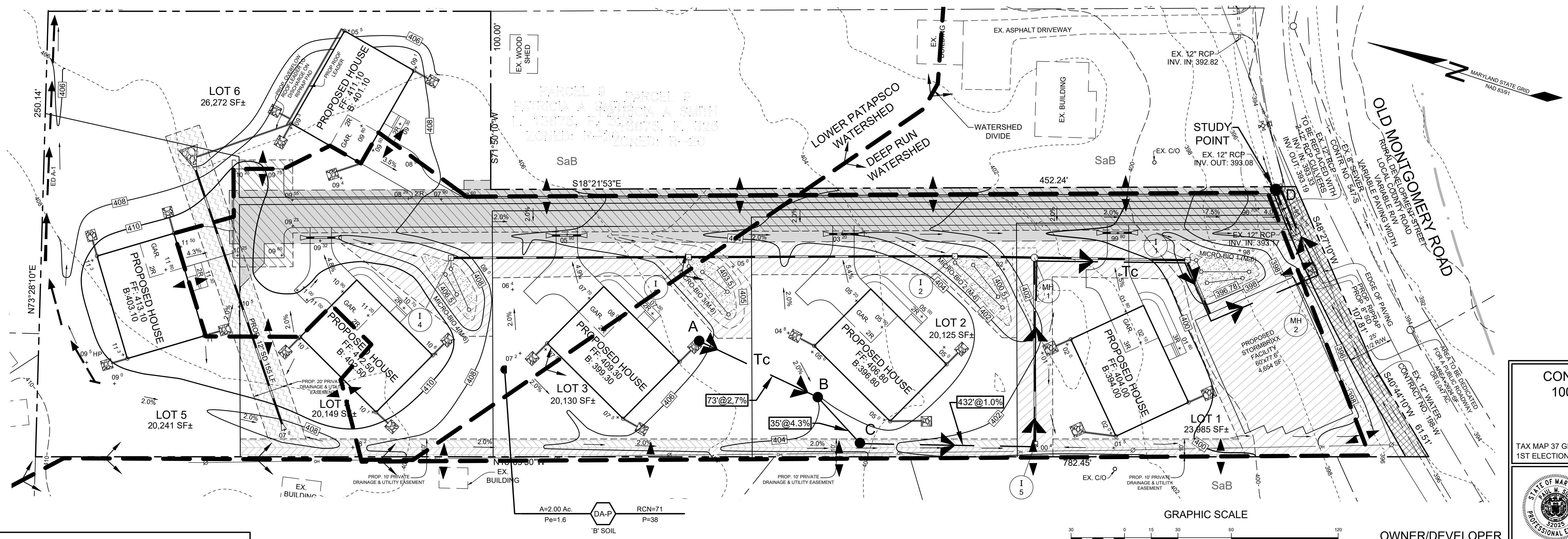
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 30205, EXPIRATION DATE: JUNE 20, 2023.



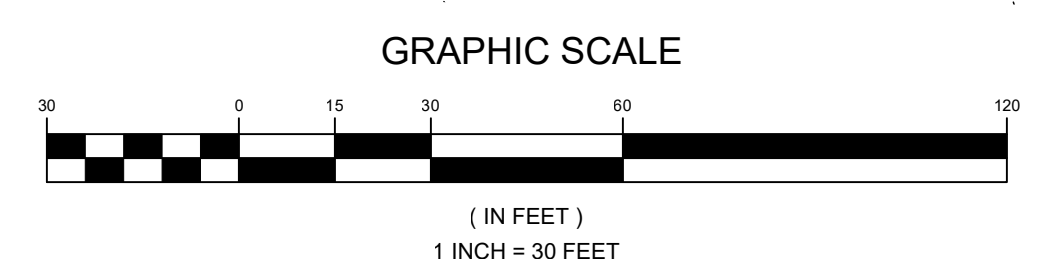
EXISTING CONDITIONS DRAINAGE AREA MAP  
SCALE: 1"=30'

LEGEND	
EXISTING CONTOUR	
PROPOSED SPOT ELEVATION	
DIRECTION OF FLOW	
EXISTING TREELINE	
PROPOSED TREELINE	
SOIL BOUNDARY	
PROPOSED ROOF LEADER (4" PVC TYP. WITH DOWNSPOUT)	
PROPOSED BIORETENTION FACILITY (M-6)	
PROPOSED DRAINAGE AREA	
WATERSHED DIVIDE	
TIME OF CONCENTRATION LINE	
PROPOSED DRYWELL	
PROPOSED 24" USE-IN-COMMON ACCESS, MAINTENANCE, AND UTILITY EASEMENT	
PROPOSED VARIABLE WIDTH PRIVATE DRAINAGE, UTILITY, AND STORMWATER MANAGEMENT EASEMENT	
PROPOSED 30" PUBLIC SEWER, WATER, AND UTILITY EASEMENT	
AREA TO BE DEDICATED TO HOWARD COUNTY, MD	
PROPOSED 10' PRIVATE DRAINAGE & UTILITY EASEMENT	
PROPOSED 20' PRIVATE DRAINAGE & UTILITY EASEMENT	
PROPOSED EARTH DIKE	

NOTE: ALL SOILS ONSITE ARE HYDROLOGIC SOIL GROUP SaB



DEVELOPED CONDITIONS DRAINAGE AREA MAP  
SCALE: 1"=30'



**CONCEPTUAL STORMWATER MANAGEMENT  
100 YEAR ROUTING DRAINAGE AREA MAP  
CALLA PROPERTY**

8030 OLD MONTGOMERY ROAD  
ZONED R-20

TAX MAP 37 GRID 2  
1ST ELECTION DISTRICT

PARCEL 8  
HOWARD COUNTY, MARYLAND

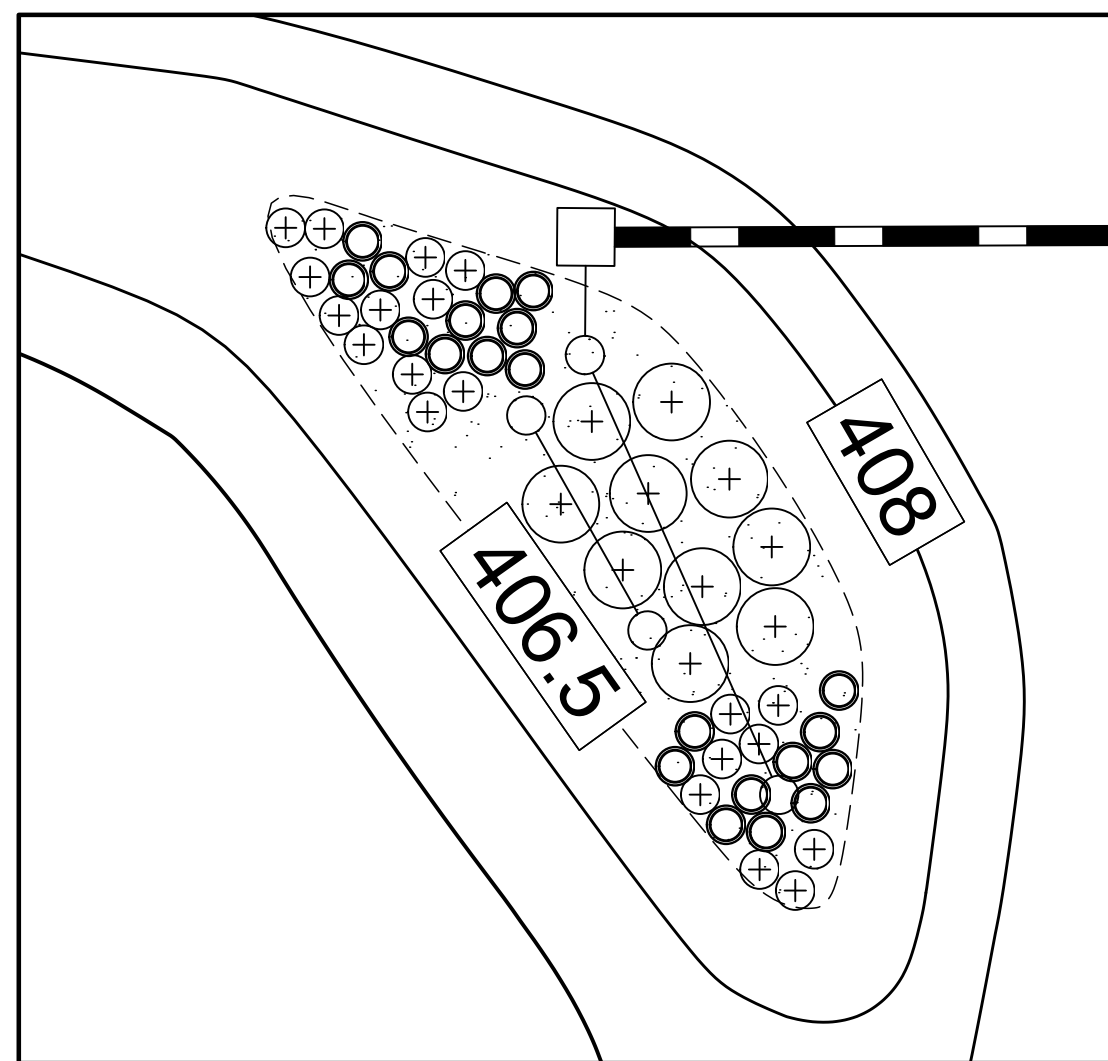
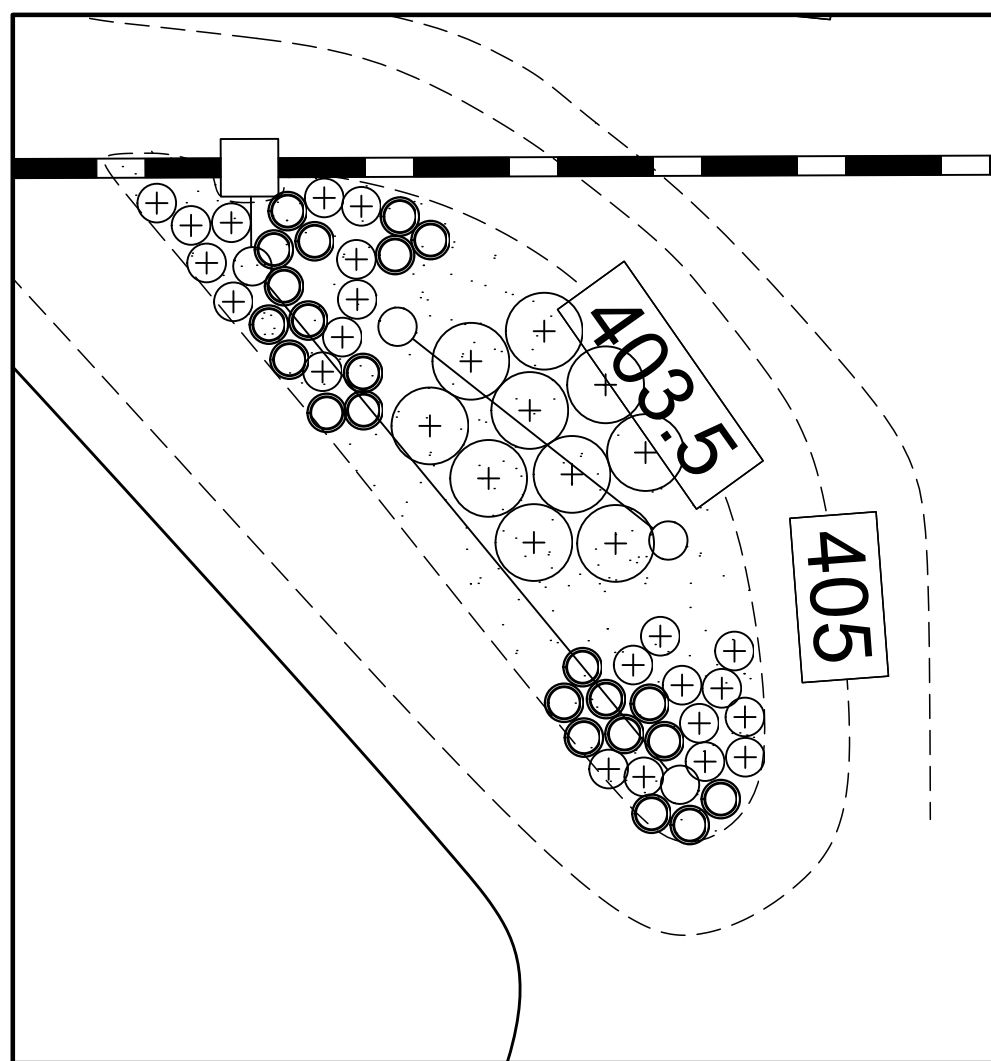
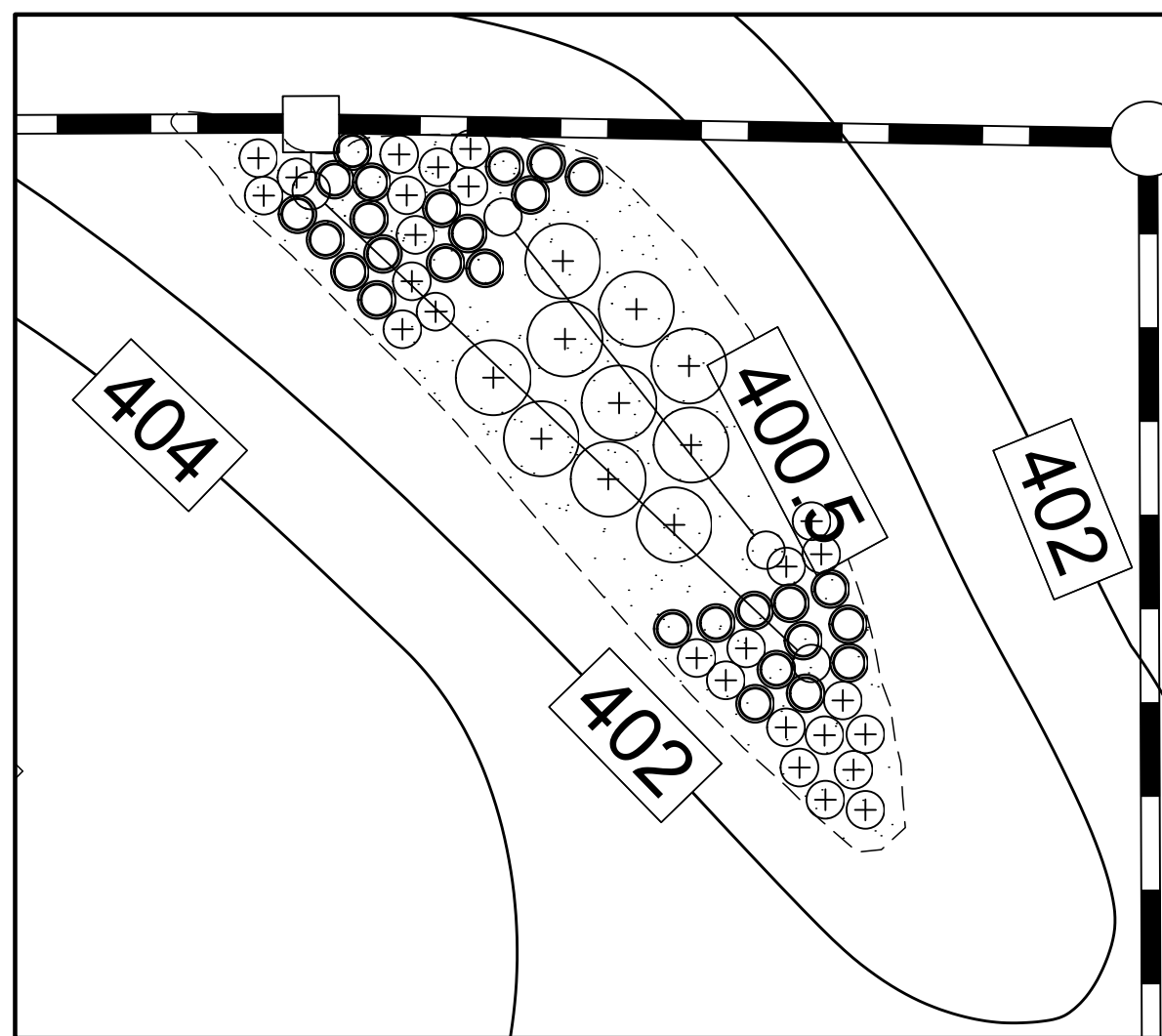
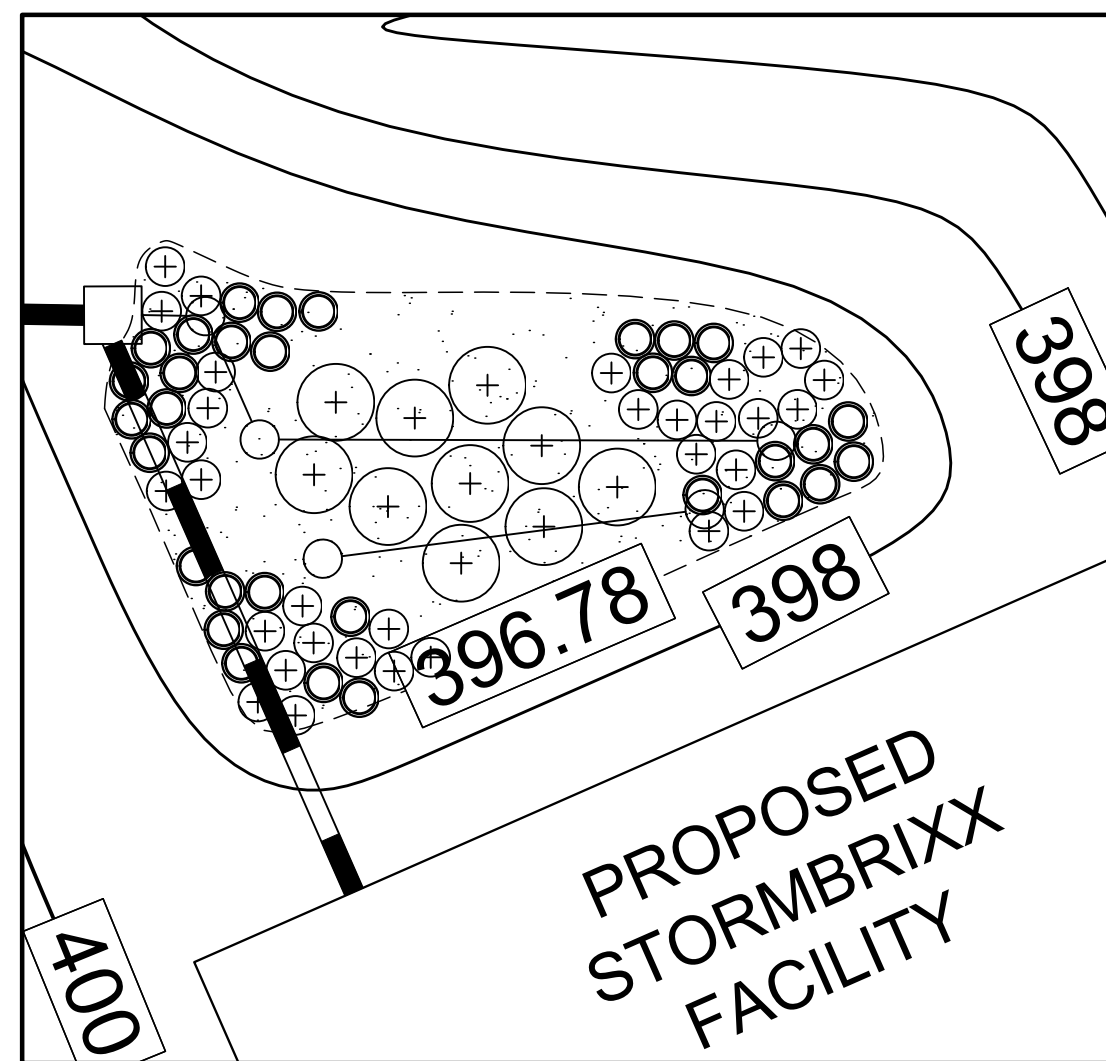
**JIN PYO HONG & AUK JA HONG**  
8030 OLD MONTGOMERY ROAD  
ELlicott CITY, MARYLAND 21043  
C/O JAMES JOO 443-900-4620

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

DESIGN BY: JB  
DRAWN BY: AC  
CHECKED BY: JB  
SCALE: AS SHOWN  
DATE: JUNE 30, 2022  
PROJECT #: 18-075  
SHEET #: 6 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. 20205, EXPIRATION DATE: JUNE 20, 2023.

APPROVED: DEPARTMENT OF PLANNING AND ZONING,  
HOWARD COUNTY  
7/5/2022  
PLANNING DIRECTOR DATE



DESCRIPTION	BIO 1	BIO 2	BIO 3	BIO 4
'A' PONDING DEPTH	1.0'	1.0'	1.0'	1.0'
'B' TOP OF MULCH	396.76	400.50	403.5	406.5
'C' WSEL	397.76	401.50	404.5	407.5
'D' EMBANKMENT WIDTH	4.0'	4.0'	4.0'	4.0'
'E' SPILLWAY WIDTH	N/A	N/A	N/A	N/A
'F' SPILLWAY LENGTH	N/A	N/A	N/A	N/A
'G' FACILITY LENGTH	36.1'	48.0'	45.0'	46.0'
'H' FACILITY WIDTH (AVERAGE)	17.3'	15.5'	15.5'	14.0'
'I' PERF. UNDERDRAIN PIPE DIMENSION	24"	35"	35"	24"
'J' UNDERDRAIN PIPE INVERT	393.7	397.4	400.4	N/A
'K' SOLID UNDERDRAIN DIMENSION	31"	N/A	N/A	N/A
'L' OUTFALL INVERT	393.7	397.4	400.4	403.4
'M' PERF. OVERFLOW PIPE DIMENSION	15"	23"	18"	23"
'N' OVERFLOW PIPE INVERT	393.7	397.4	400.4	403.4
'O' GRAVEL STORAGE	0.5'	0.5'	0.4'	0.4'
'P' BOTTOM ELEVATION OF FACILITY	393.51	397.25	400.25	403.25
'Q' GRADE % OF OUTFALL PIPE	0%	0%	0%	0%

LANDSCAPING PLAN MICRO-BIORETENTION FACILITY 1  
SCALE: 1"=10'

LANDSCAPING PLAN MICRO-BIORETENTION FACILITY 2  
SCALE: 1"=10'

LANDSCAPING PLAN MICRO-BIORETENTION FACILITY 3  
SCALE: 1"=10'

LANDSCAPING PLAN MICRO-BIORETENTION FACILITY 4  
SCALE: 1"=10'

SHRUBS										
LEGEND	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	REMARKS	QTY. BIO 1	QTY. BIO 2	QTY. BIO 3	QTY. BIO 4	TOTAL
+	ILEX VERTICILLATA	WINTERBERRY	AS SHOWN* (MIN. 4' O.C.)	24"-36" HT.	1 MALE PLANT IN THE CENTER OF EVERY 10 PLANTS	10	10	10	10	40
HERBACEOUS SPECIES										
LEGEND	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	REMARKS	QTY. BIO 1	QTY. BIO 2	QTY. BIO 3	QTY. BIO 4	TOTAL
○	RUDEBECKIA	BLACK EYED SUSAN	AS SHOWN* (MIN. 2' O.C.)	1 GAL.		32	28	23	21	104
+	ECHINCEA	CONEFLOWER	AS SHOWN* (MIN. 2' O.C.)	1 GAL.		32	26	22	20	100

NOTE: PLANT MATERIAL MUST COVER 50% OF THE MULCH AREA AT MATURE GROWTH.  
\*INTERPERSE PLANTINGS THROUGHOUT BIORETENTION FILTER AREA

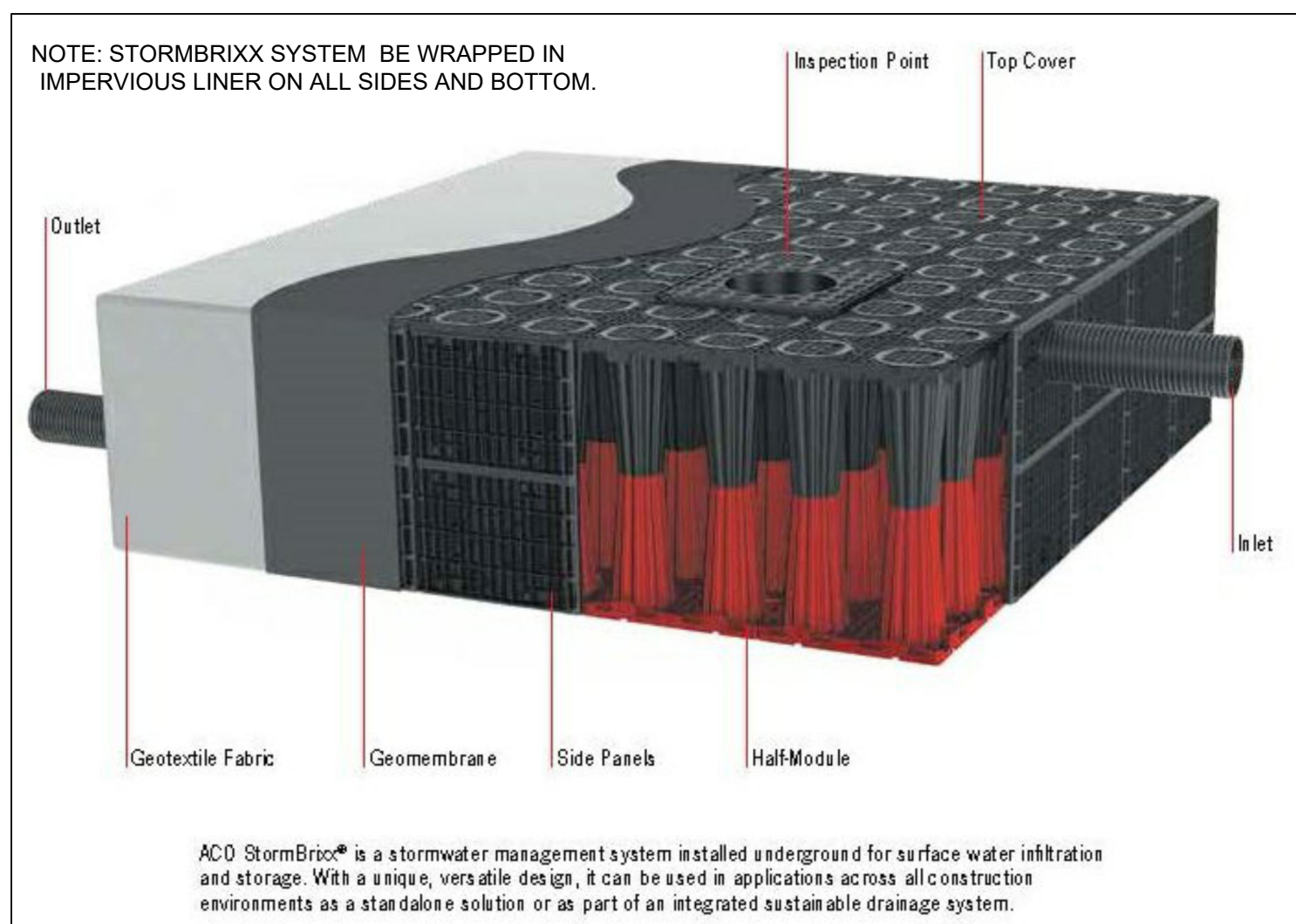
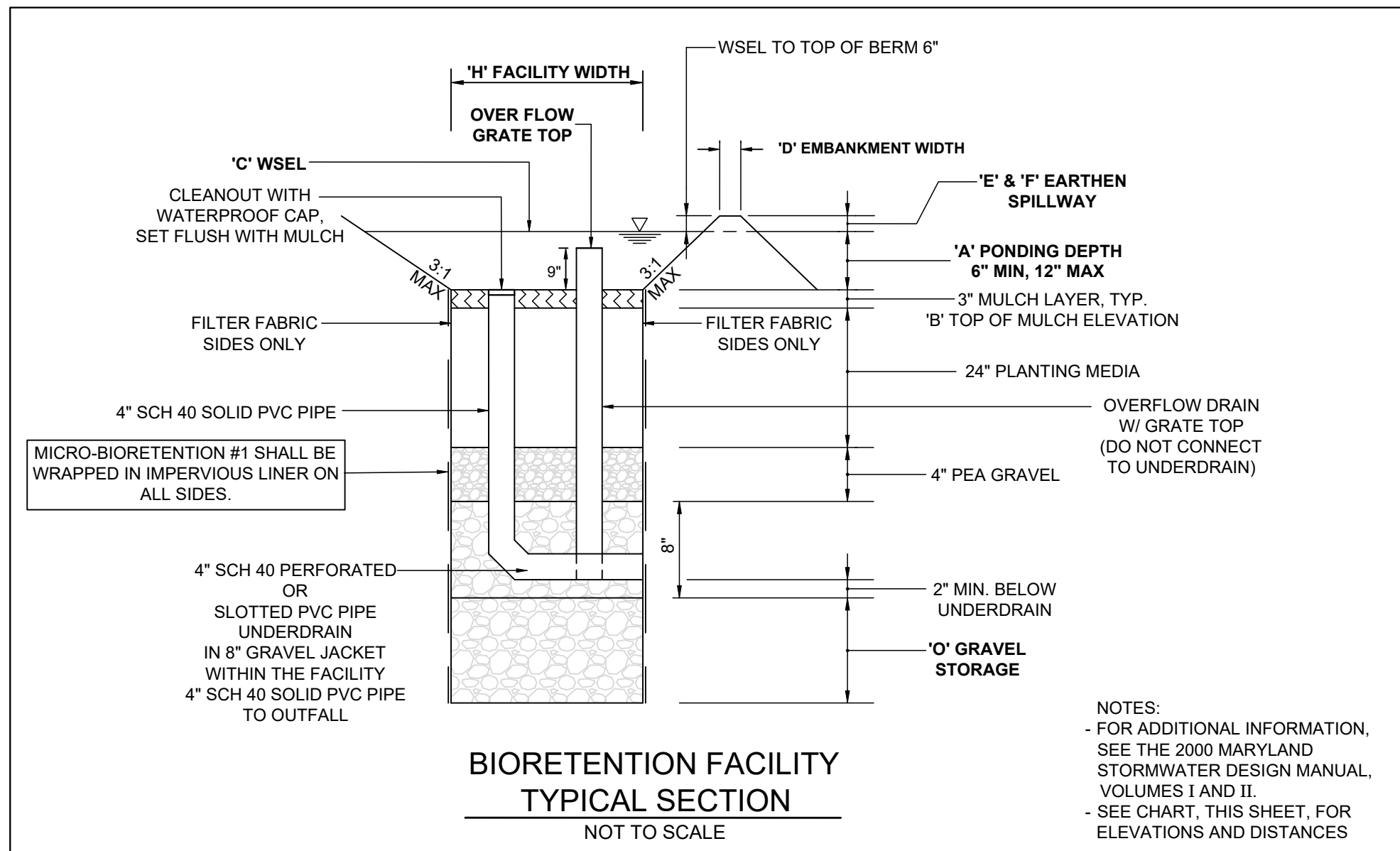
BIO 1 - BIORETENTION AREA = 650 S.F.      BIO 3 - BIORETENTION AREA = 533 S.F.  
BIO 2 - BIORETENTION AREA = 585 S.F.      BIO 4 - BIORETENTION AREA = 507 S.F.

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

MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE PLANT LIST THIS SHEET	N/A	PLANTINGS ARE SITE-SPECIFIC. SEE PLANT LIST THIS SHEET
PLANTING SOIL (2'-4" TO 4" DEEP)	LOAMY SAND (60% - 65%) & COMPOST (35%-40%) OR SANDY LOAM (30%), COARSE SAND (30%) & COMPOST (40%)	N/A	USDA SOIL TYPES LOAMY SAND OR SANDY LOAM; CLAY CONTENT < 5%
ORGANIC CONTENT	MIN. 10% BY DRY WEIGHT (ASTM-D-2974)		
MULCH	SHREDDED HARDWOOD		AGED 6 MONTHS, MINIMUM; NO PINE OR WOOD CHIPS
PEA GRAVEL DIAPHRAGM	PEA GRAVEL: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
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; Fc= 3500 PSI @ 28 DAYS, NORMAL WEIGHT, AIR-ENTRAINED; REINFORCING TO MEET ASTM-A615-60	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 350.1R89; VERTICAL LOADING (BASED ON SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING.
SAND	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.

LOT	VOLUME REQUIRED	VOLUME PROVIDED	NO. WELLS	SIZE WELLS
1	261 CF	273 CF	DW 1-3	7.0' X 6.50' X 5' DEEP
2	261 CF	273 CF	DW 1-3	7.0' X 6.50' X 5' DEEP
3	261 CF	273 CF	DW 1-3	7.0' X 6.50' X 5' DEEP
4	261 CF	273 CF	DW 1-3	7.0' X 6.50' X 5' DEEP
5	348 CF	364 CF	DW 1-4	7.0' X 6.50' X 5' DEEP
6	348 CF	364 CF	DW 1-4	7.0' X 6.50' X 5' DEEP

NOTE: THE IMPERVIOUS SURFACE OF THE HOUSE WILL BE TREATED BY EACH DRY WELL.



STORMBRIXX STORMWATER MANAGEMENT SYSTEM  
NOT TO SCALE

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 A.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 PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

- THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
- WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
- A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOURS TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

