

GENERAL NOTES

- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED NOVEMBER 19, 2010.
- THE PROJECT BOUNDARY IS BASED ON BOUNDARY PROVIDED BY ROBERT H. VOGEL ENGINEERING, INC., DATED DECEMBER 3, 2010.
- THE COORDINATES AND ELEVATIONS SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 24FB AND 2413 WERE USED FOR THIS PROJECT.
- THE SUBJECT PROPERTY IS ZONED "R-VH" IN ACCORDANCE WITH THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN, AND IS SUBJECT TO SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE OCT. 07, 2007 PER COUNCIL BILL 47-2007 & 48-2007. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION OR BUILDING/GRADING PERMIT APPLICATIONS.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM(S) OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS. AN ALTERNATIVE COMPLIANCE REQUEST SHALL BE SUBMITTED FOR THE ENVIRONMENTAL DISTURBANCES.
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. WATER AND SEWER SERVICE WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122B OF THE HOWARD COUNTY CODE.
- PUBLIC WATER AVAILABLE THROUGH CONTRACT NO. 134-W.
- PUBLIC SEWER AVAILABLE THROUGH CONTRACT NO. 31-S-1.
- EXISTING UTILITIES LOCATED FROM AS-BUILT DRAWINGS. 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.
- THERE ARE NO "100-YEAR FLOODPLAIN" AREAS LOCATED WITHIN THE DEVELOPMENT AREA.
- THERE ARE 0.15 AC. OF $\geq 20\%$ MDE STEEP SLOPES ON THE PROPERTY.
- NO AREAS $>20,000$ SF CONTIGUOUS ARE LOCATED WITHIN THE DEVELOPMENT AREA.
- THERE ARE HIGHLY ERODIBLE SOILS ON THIS SITE.
- THE PROJECT SITE WAS EVALUATED FOR THE PRESENCE OF ENVIRONMENTAL FEATURES AND A LETTER HAS BEEN PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES, MARCH 5, 2018.
 - PER SECTION 16.1202(b)(1)(i), THIS PROJECT IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS SINCE THE PROPERTY IS LESS THAN 40,000 SF.
 - NO WETLANDS ARE PRESENT WITHIN THE DEVELOPMENT AREA.
 - OPEN SPACE IS NOT REQUIRED FOR A SINGLE, UNSUBDIVIDED LOT.
 - GEOTECHNICAL INVESTIGATIONS SHALL BE COMPLETED AS PART OF THE SITE DEVELOPMENT PLAN SUBMISSION.
 - A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
 - OLD COLUMBIA PIKE IS CLASSIFIED AS A MAJOR COLLECTOR. SITE ACCESS SHALL BE VIA AN EXISTING COMMON USE DRIVEWAY.
 - THIS SITE IS LOCATED WITHIN THE HISTORIC DISTRICT.
 - TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS, CEMETERIES, OR HISTORIC STRUCTURES LOCATED WITHIN THE DEVELOPMENT AREA.
 - THERE ARE NO EXISTING DWELLINGS OR STRUCTURES WITHIN THE DEVELOPMENT AREA.
 - 1 SINGLE FAMILY DETACHED UNIT IS PROPOSED UNDER THIS PLAN.
 - THE PROPOSED BUILDING SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
 - ENVIRONMENTAL SITE DESIGN (ESD) STORMWATER MANAGEMENT FOR THE PROJECT SHALL BE MET THROUGH THE USE OF A MICRO-BIORETENTION FACILITY (M-6).
 - THE PROJECT SITE DRAINS TO THE TIBER BRANCH WATERSHED, IN ACCORDANCE WITH COUNCIL RESOLUTION NO. 123-2019 AND THE HOWARD COUNTY DESIGN MANUAL VOLUME 1 - CHAPTER 5, SECTION 5.2.1, QUANTITY MANAGEMENT FOR THE 24-HOUR 10 AND 100 YEAR STORM EVENTS AS WELL AS THE 3.55 HOUR, 6.6 INCH STORM EVENT IS REQUIRED, THE RESULT BEING MANAGED "WOODS IN GOOD CONDITION".
 - QUANTITY MANAGEMENT SHALL BE ACHIEVED IN AN UNDERGROUND PIPE STORAGE FACILITY.
 - ENVIRONMENTAL WAIVERS REQUIRE AN ADDITIONAL 10% REDUCTION IN THE POST DEVELOPMENT DISCHARGE RATE FOR THE ABOVE STORM EVENTS.
 - THE ESD AND QUANTITY MANAGEMENT FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED.
- APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN (ECP) DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SITE DEVELOPMENT PLAN. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SITE DEVELOPMENT PLAN STAGE AND/OR RED-LINE REVISION PROCESS. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.
- APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN (ECP) BY THE HOWARD COUNTY CONSERVATION DISTRICT DOES NOT GUARANTEE APPROVAL OF THE PROPOSED SEDIMENT CONTROL SCHEME. EROSION AND SEDIMENT CONTROL WILL BE PROVIDED FOR THIS SITE.
- SITE DEVELOPMENT PLAN APPROVAL BY THE DEPARTMENT OF PLANNING AND ZONING IS REQUIRED PRIOR TO BUILDING PERMITS BEING ISSUED FOR THE CONSTRUCTION OF THE RESIDENTIAL DWELLING.
- LANDSCAPING SHALL BE ADDRESSED WITH THE FUTURE SITE DEVELOPMENT PLAN SUBMISSION.
- PER THE PROPOSAL PRESENTED ON THIS CONCEPT PLAN, AN ALTERNATIVE COMPLIANCE REQUEST IS REQUIRED FOR:
 - SECTION 16.116(a)(2)(i) DISTURBANCE TO THE STREAM BUFFERS
 - SECTION 16.116(b)(1) DISTURBANCE TO THE STEEP SLOPES.
- NO DESIGN MANUAL WAIVERS ARE REQUIRED FOR THE STORMWATER MANAGEMENT DESIGN.

ENVIRONMENTAL SITE DESIGN NARRATIVE

- IN ACCORDANCE WITH CHECKLIST ITEM III.K.
- THE PROJECT SITE IS ZONED R-VH, LOCATED IN ELLICOTT CITY, MARYLAND ON THE NORTH SIDE OF OLD COLUMBIA PIKE AND SOUTHWEST OF MERRIMAN STREET. THE TOTAL PROPERTY AREA IS 0.56 AC. WHICH CONSISTS OF 2 "PARCELS" BY DEED. THE AREA OF DEVELOPMENT IS LOCATED ON PARCEL 2, WHICH IS 0.27 AC. INGRESS AND EGRESS TO PARCEL 2 WILL BE PROVIDED THROUGH A USE-IN-COMMON DRIVEWAY WHICH TRAVERSES THE ADJACENT PROPERTY ALONG THE WESTERN BOUNDARY. UTILITIES WILL BE PROVIDED IN AN EASEMENT ACROSS THE REAR AND EASTERN BOUNDARIES OF "PARCEL 1". AN ENVIRONMENTAL REPORT BY ECO-SCIENCE PROFESSIONALS, INC. NOTES "THERE ARE NO WETLANDS OR STREAMS ON THE PROPERTY." HOWEVER THE PROPOSAL WILL IMPACT AREAS OF A 75' STREAM BUFFER AND STEEP SLOPES. THE ENVIRONMENTAL REPORT ALSO NOTED "THE REAR PORTION OF THE SITE CONTAINS AN OLD BARN FOUNDATION" AND IS "OVERGROWN WITH TREES, BRUSH AND VINES." THE REPORT NOTES "THE PROPERTY IS LESS THAN 40,000 SQ FT AND THEREFORE ANY DEVELOPMENT OR SUBDIVISION OF THE LOT WILL BE EXEMPT FROM FOREST CONSERVATION ACT REQUIREMENTS". THERE IS NO 100-YR FLOODPLAIN LOCATED WITHIN THE PROPERTY BOUNDARY. CURRENT HOWARD COUNTY GIS INFORMATION SHOWS THE PROPERTY WITHIN A YELLOW STUDY AREA FOR A RECENT LETTER OF MAP REVISION (LOMR) AND IT IS A LOW RISK FEMA ZONE X FLOODPLAIN AND IS IN FEMA'S FLOODPLAIN LAYER LABELED AS THE STUDY AREA.
 - STREAM BUFFER DISTURBANCE SHALL BE PROTECTED VIA SEDIMENT CONTROLS AS THE MAJORITY OF IMPROVEMENTS ARE LOCATED OUTSIDE NATURAL AREAS. NATURAL AREAS WILL BE PROTECTED TO THE MAXIMUM EXTENT POSSIBLE.
 - THE OFFSITE NATURAL RESOURCES WILL REMAIN UNDISTURBED AND NO DRAMATIC DISTURBANCE TO THE NATURAL DRAINAGE PATTERNS ARE PROPOSED. EVERY EFFORT HAS BEEN MADE TO REDUCE THE ONSITE DISTURBANCES FOR THE PROPOSED HOUSE, DRIVEWAY, GRADING AND STORMWATER MANAGEMENT FACILITIES. NO DISTURBANCE IS PROPOSED TO OFFSITE NATURAL AREAS.
 - CONCEPTUAL REDUCTION IN IMPERVIOUS AREA THROUGH BETTER SITE DESIGN IS ACHIEVED THROUGH ENVIRONMENTAL SITE DESIGN (ESD) FOR THE PROJECT. THE PE FOR THE PROJECT IS REDUCED TO 1" DUE TO THE QUANTITY REQUIREMENTS ASSOCIATED WITH COUNCIL RESOLUTION NO. 123-2019. ESD CONCEPT PROPOSES THE USE OF A MICRO-BIORETENTION FACILITY (M-6). THIS MBR FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED AND WILL DISCHARGE INTO THE REQUIRED QUANTITY MANAGEMENT UNDERGROUND PIPE STORAGE FACILITY. THIS FACILITY WILL DISCHARGE VIA A CLOSED SYSTEM TO THE PROPOSED OUTFALL AT LESS THAN EXISTING CONDITIONS. THE QUANTITY MANAGEMENT FACILITY WILL ALSO BE PRIVATELY OWNED AND MAINTAINED.
 - SEDIMENT CONTROL FOR THIS SPECIFIC SITE PLAN WILL BE PROVIDED THROUGH THE USE OF PERMETER SILT FENCE AND/OR SUPER SILT FENCE CONTROLS. SEDIMENT CONTROL SHALL BE IN ACCORDANCE WITH THE CURRENT REQUIREMENTS AND SHALL BE APPROVED BY THE HOWARD COUNTY CONSERVATION DISTRICT.
 - ENVIRONMENTAL SITE DESIGN (ESD) STORMWATER MANAGEMENT FOR THE PROJECT SHALL BE MET THROUGH THE USE OF A MICRO-BIORETENTION (MBR) FACILITY (M-6).
 - THE PROJECT DRAINS TO THE MBR ESD QUALITY FACILITY PROVIDING PRE-TREATMENT, THEN INTO THE UNDERGROUND PIPE STORAGE FACILITY, PROVIDING QUANTITY MANAGEMENT.
 - THE PROJECT SITE DRAINS TO THE TIBER BRANCH WATERSHED, IN ACCORDANCE WITH COUNCIL RESOLUTION NO. 123-2019 AND THE HOWARD COUNTY DESIGN MANUAL VOLUME 1 - CHAPTER 5, SECTION 5.2.1, QUANTITY MANAGEMENT FOR THE 24-HOUR 10 AND 100 YEAR STORM EVENTS AS WELL AS THE 3.55 HOUR, 6.6 INCH STORM EVENT IS REQUIRED, THE RESULT BEING MANAGED "WOODS IN GOOD CONDITION".
 - SEE GENERAL NOTE 22. ENVIRONMENTAL WAIVERS REQUIRE AN ADDITIONAL 10% REDUCTION IN THE POST DEVELOPMENT DISCHARGE RATE FOR THE ABOVE STORM EVENTS.
 - CONVEYANCE OF ALL REQUIRED STORMS TO THE TREATMENT FACILITIES IS REQUIRED. FUTURE SITE DEVELOPMENT PLAN SHALL DETAIL CAPACITY AND PROVIDE HYDRAULIC COMPUTATIONS.

SITE ANALYSIS DATA CHART

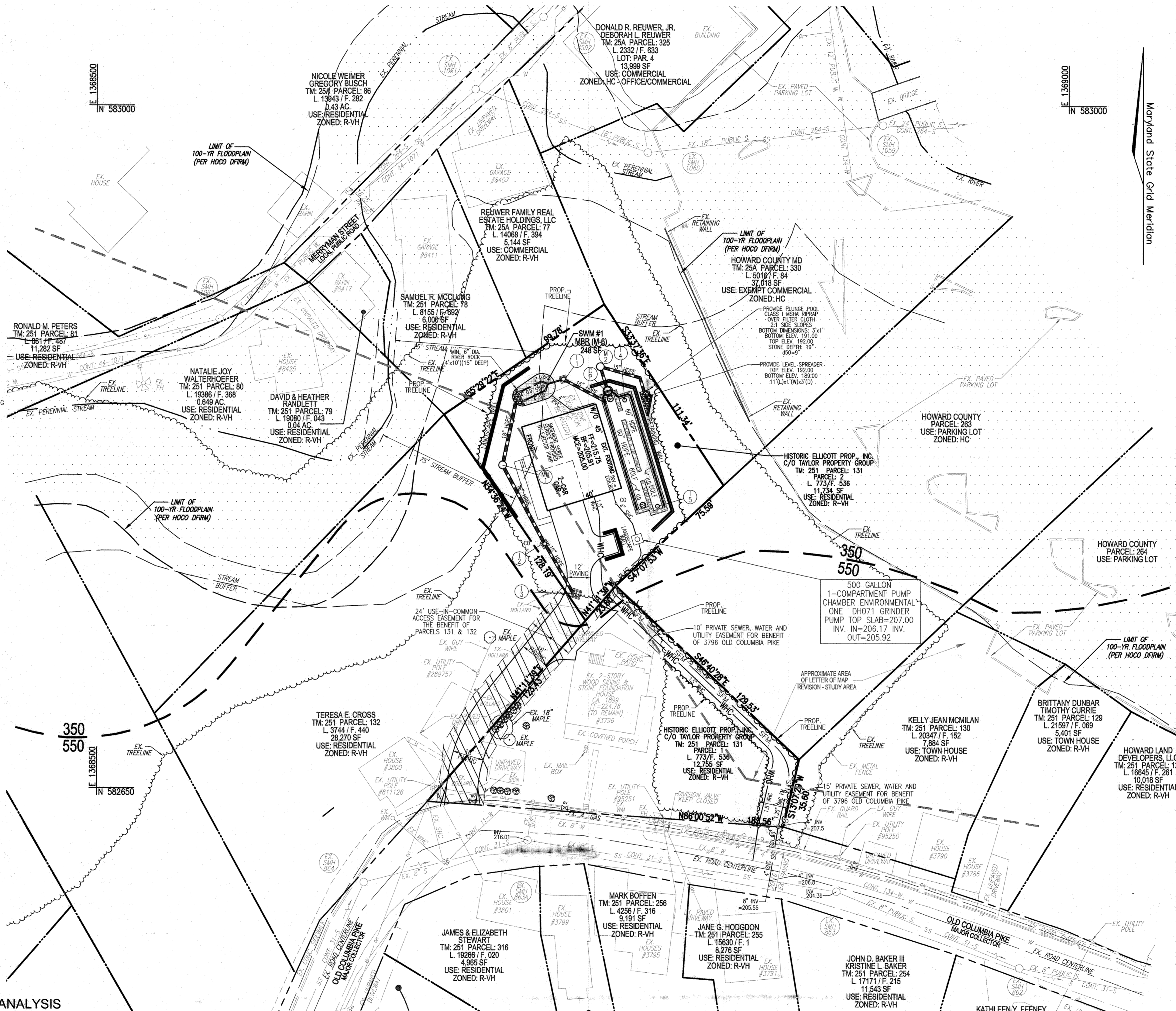
A. TOTAL AREA:	0.56 AC.±	(PARCEL 1: 0.29 AC./ PARCEL 2: 0.27 AC.)
B. AREA OF PLAN SUBMISSION:	0.27 AC.±	(PARCEL 2: 0.27 AC.)
C. AREA OF WETLANDS AND BUFFERS:	0.00 AC.±	
D. AREA OF STREAM BUFFERS (ON-SITE):	0.05 AC.±	
E. AREA OF STREAM BUFFERS (IMPACTED):	0.04 AC.±	
F. AREA OF FLOODPLAIN:	0.00 AC.±	
G. AREA OF FOREST:	0.00 AC.±	
H. AREA OF STEEP SLOPES (15% & GREATER):	0.15 AC.±	
-AREA OF STEEP SLOPES (25% & GREATER):	0.13 AC.±	
-DISTURBED AREA OF STEEP SLOPES (25% & GREATER):	0.09 AC.±	
I. AREA OF ERODIBLE SOILS:	0.27 AC.±	
J. LIMIT OF DISTURBED AREA:	0.29 AC.±	
K. PROPOSED USES FOR SITE AND STRUCTURES:	RESIDENTIAL SINGLE FAMILY DETACHED HOME	
L. GREEN OPEN AREA:	0.21 AC.±	
M. PROPOSED IMPERVIOUS AREA:	0.06 AC.±	
N. PRESENT ZONING DESIGNATION:	R-VH	
O. OPEN SPACE REQUIRED:	N/A	
P. TOTAL NUMBER OF UNITS ALLOWED:	1 SFD	
Q. TOTAL NUMBER OF UNITS PROPOSED:	1 SFD	
R. DPZ FILE REFERENCES:	N/A	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/12/23
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 7/12/23
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

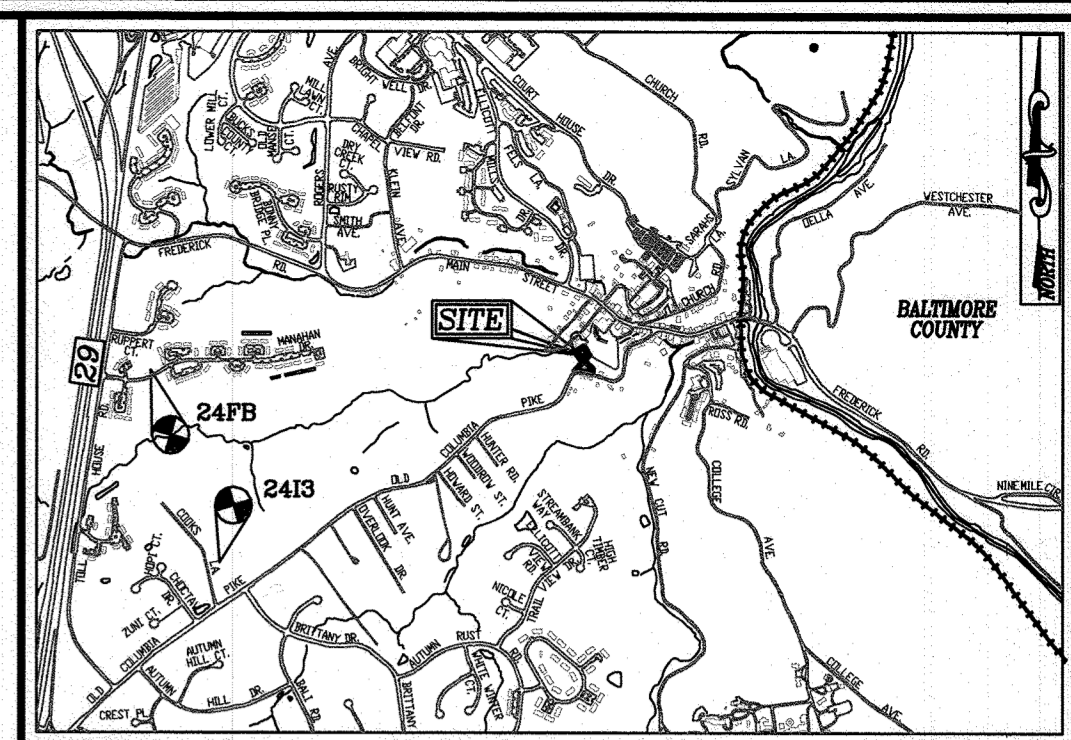
ENVIRONMENTAL CONCEPT PLAN
3796 OLD COLUMBIA PIKE
ELLICOTT CITY, MD 21043



LAYOUT PLAN
 SCALE: 1"=30'

BENCHMARKS

- HOWARD COUNTY BENCHMARK 24FB (CONC. MON.)
 N 582652.10 E 1364255.93 ELEV. 462.55
 *LOCATED AT MANAHAN DR. & TRANSMISSION LINE (TOP OF BANK)
- HOWARD COUNTY BENCHMARK 2413 (CONC. MON.)
 N 580648.90 E 1364974.47 ELEV. 463.77
 *LOCATED ON THE TRANSMISSION LINE
 +/- 500' WEST OF OLD COLUMBIA PIKE



VICINITY MAP

SCALE: 1"=2000'
 ADC MAP COORDINATE: 28 A1

SHEET INDEX

DESCRIPTION	SHEET NO.
COVER SHEET AND LAYOUT PLAN	1 OF 4
SOILS MAP, GRADING, EROSION AND SEDIMENT CONTROL PLAN, NOTES AND DETAILS	2 OF 4
ESD SWM DRAINAGE AREA MAP, NOTES AND DETAILS	3 OF 4
CR-123-2019 QUANTITY SWM DRAINAGE AREA MAP AND DETAILS	4 OF 4

LEGEND

- RIGHT-OF-WAY LINE
- BOUNDARY LINE
- ADJ. BOUNDARY LINES
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB AND GUTTER
- EXISTING FENCE
- EXISTING SANITARY SEWER
- EXISTING OVERHEAD LINES
- EXISTING WATER
- EXISTING QUORRAL
- EXISTING TREELINE
- EXISTING STREAM BUFFER
- EXISTING STREAM
- EXISTING UTILITY POLE
- EXISTING SANITARY MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING 100 YEAR FLOODPLAIN
- EXISTING WETLAND BUFFER
- PROPOSED TREELINE
- MICRO-BIORETENTION FACILITY (M-6)
- PROPOSED USE-IN-COMMON ACCESS EASEMENT FOR THE BENEFIT OF PARCELS 131 & 132
- APPROXIMATE AREA OF LETTER OF MAP REVISION - STUDY AREA

OWNER/DEVELOPER

HISTORIC ELLICOTT PROP., INC.
 C/O TAYLOR PROPERTY GROUP
 8 PARK CENTER COURT, SUITE 200
 OWINGS MILLS, MD 21117
 410-465-3500

NO.	REVISION	DATE

ENVIRONMENTAL CONCEPT PLAN

COVER SHEET AND LAYOUT PLAN

3796 OLD COLUMBIA PIKE
ELLICOTT CITY, MD 21043

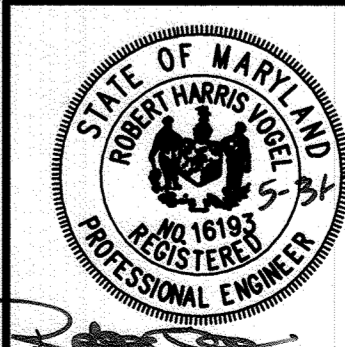
TAX MAP: 251 GRID: 13
 2ND ELECTION DISTRICT

PARCEL: 131
 ZONED: R-VH
 HOWARD COUNTY MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

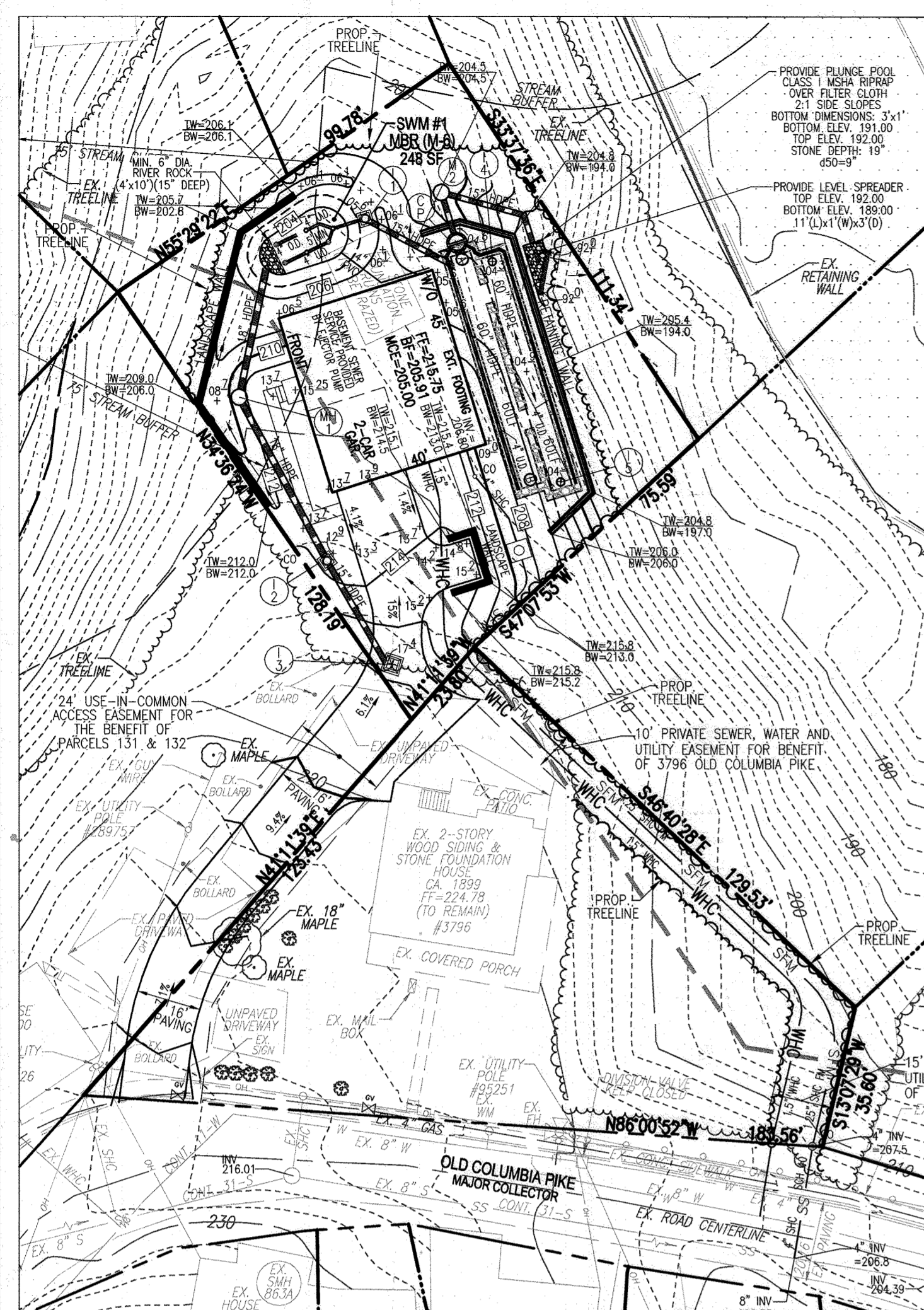
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8961 www.timmons.com



DESIGN BY: EDS
 DRAWN BY: EDS / JMR
 CHECKED BY: RHW
 DATE: MAY 2023
 SCALE: AS SHOWN
 W.O. NO.: 10-25

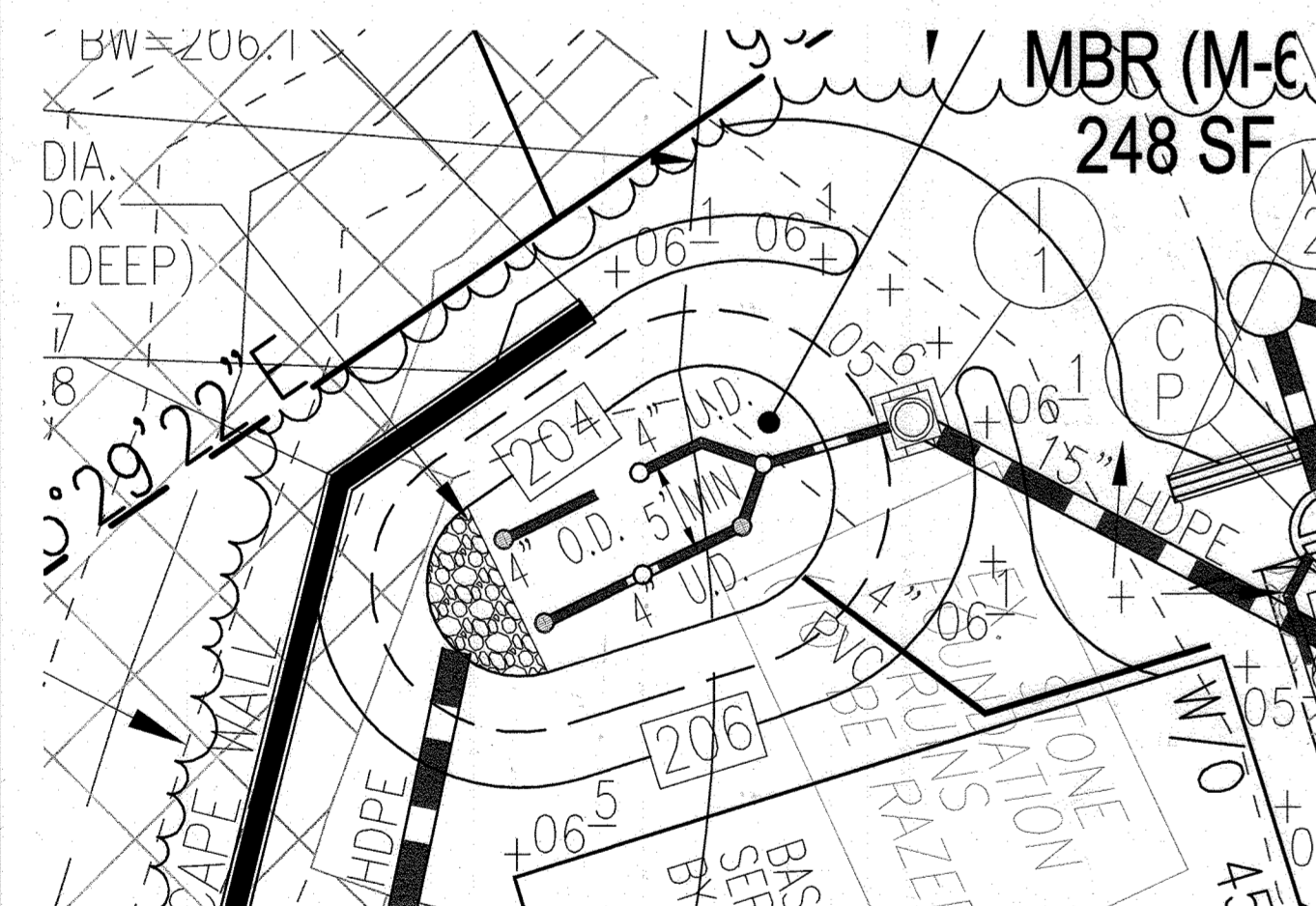
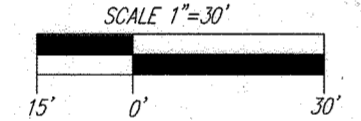
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A duly licensed PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 16193 EXPIRATION DATE: 09-27-2024

1 SHEET OF 4



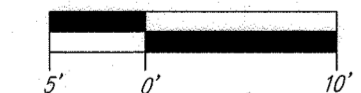
SITE GRADING DETAIL

SCALE: 1"=30'



MBR DETAIL

SCALE: 1"=10'



NOTE:
EITHER PERMANENT OR TEMPORARY STABILIZATION IS TO BE APPLIED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR REGARDLESS OF DAYS/DATES IN THE STANDARD SEDIMENT CONTROL NOTES AND/OR SEEDING SPECIFICATIONS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 7.22.23

[Signature]
CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 7/26/23

NOTE:
- SILT FENCE IS TO BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- SILT FENCE SHALL BE CURLED UPHILL NO MORE THAN 35 FEET APART
- DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

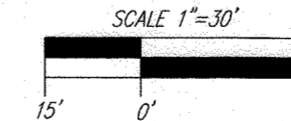
HSCD NOTE:

- APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN (ECP) BY THE HOWARD SOIL CONSERVATION DISTRICT DOES NOT GRANT APPROVAL OF THE PROPOSED SEDIMENT CONTROL SCHEME.
- THE FINAL PLAN SHALL INCLUDE A SEQUENCE OF CONSTRUCTION WHICH SHALL DETAIL SEDIMENT & EROSION CONTROLS AND PHASING
 - THE PROJECT SHALL ADDRESS ANY TEMPORARY STORMWATER MANAGEMENT REQUIREMENTS.
 - THE FINAL PLAN SUBMISSION SHALL PROVIDE A DRAINAGE AREA MAP SPECIFIC TO CHOSEN SEDIMENT CONTROLS.
 - THE FINAL PLAN SUBMISSION SHALL PROVIDE COMPUTATIONS TO VERIFY VELOCITIES ALONG DIKES, SWALES AND AT DIKES OUTLET LOCATIONS



GRADING PLAN

SCALE: 1"=30'



MAPPED SOILS TYPES - ELLICOTT CITY, SE MAP #14

SYMBOL	NAME / DESCRIPTION	GROUP	K-FACTOR	HYDRIC	HYDRIC INCLUSIONS	PRIME FARMLAND	<15% SLOPE W/ EROSION POTENTIAL
Co	CODORUS AND MANOR SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	.37	NO	NO	YES	YES
GoB	GLENNVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES, ROCKY	C	.43	NO	NO	YES	YES
MgD	MANOR-BANNERTOWN SANDY LOAMS, 15 TO 25 PERCENT SLOPES, ROCKY	B	.15	NO	NO	NO	YES
MgF	MANOR-BANNERTOWN SANDY LOAMS, 25 TO 65 PERCENT SLOPES, ROCKY	B	.20	NO	NO	NO	YES

NOTE:
-SOILS INFORMATION FROM USDA WEB SOIL SURVEY WEBSITE
-HOWARD COUNTY SOILS MAP NUMBER 14 - ELLICOTT CITY SE
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
* FARMLAND OF STATEWIDE IMPORTANCE

LEGEND

- RIGHT-OF-WAY LINE
- BOUNDARY LINE
- ADJ. BOUNDARY LINES
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB AND OUTER
- EXISTING FENCE
- EXISTING SANITARY SEWER
- EXISTING OVERHEAD LINES
- EXISTING WATER
- EXISTING SUBMERSED
- EXISTING TREELINE
- EXISTING STREAM BUFFER
- EXISTING STREAM
- EXISTING UTILITY POLE
- EXISTING SANITARY MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING 100 YEAR FLOODPLAIN
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- SOILS
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SPOT ELEVATION
- EXISTING MDE STEEP SLOPES (20% SLOPES OR GREATER)
- EXISTING DPZ MODERATE SLOPES (15%-24.99% SLOPES)
- EXISTING DPZ STEEP SLOPES (25% SLOPES OR GREATER)
- PROPOSED TREELINE
- MICRO-BIORETENTION FACILITY (M-B)
- PROPOSED USE-IN-COMMON ACCESS EASEMENT FOR THE BENEFIT OF PARCELS 131 & 132
- SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED DESIGN CONTROL MATING

OWNER/DEVELOPER
HISTORIC ELLICOTT PROP., INC.
C/O TAYLOR PROPERTY GROUP
8 PARK CENTER COURT, SUITE 200
OWINGS MILLS, MD 21117
410-465-3500

NO.	REVISION	DATE

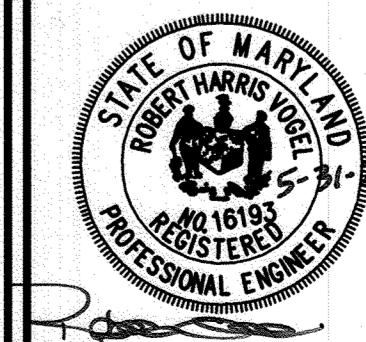
ENVIRONMENTAL CONCEPT PLAN
SOILS MAP, GRADING, EROSION AND SEDIMENT CONTROL PLAN, NOTES AND DETAILS
3796 OLD COLUMBIA PIKE
ELLICOTT CITY, MD 21043

TAX MAP: 251 GRID: 13 PARCEL: 131
2ND ELECTION DISTRICT ZONED: R-VH HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com



PROFESSIONAL CERTIFICATE
DESIGN BY: EDS
CHECKED BY: EDS / JMR
DATE: MAY 2023
SCALE: AS SHOWN
W.O. NO.: 10-25
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. 16193 EXPIRATION DATE: 09-27-2024

APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, 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. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDERANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMPOST 15.0000.01.
THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
* SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION).
* ORGANIC CONTENT - MINIMUM 10% BY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (50%), COARSE SAND (50%), AND COMPOST (40%).
* CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
* PH RANGE - SHOULD BE BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE OR DECREASE PH.
THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL 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 HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADERS, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.
COMPACTION CAN BE ALLEVATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO RESTRUCTURE THE SOIL PROFILE THROUGHOUT THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROLLERS SHOULD NOT BE USED TO RELIEVE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
ROTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP AWAY PONDED WATER BEFORE PREPARING (ROTILLING) BASE.
WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTILL 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 16". 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-BIORETENTION 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 INNER AND OTHER LOW AREAS. MULCH SHOULD BE PLACED 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. SHREDDED MULCH MUST BE WELL AERATED (6 TO 12 MONTHS) BEFORE ACCEPTANCE.
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 STRONGLY DURING THE EARLY PLANTING PERIOD. 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 PLUSS 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, DEFOLIANTS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.
- 6. UNDERDRAINS**
UNDERDRAINS SHALL 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-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OF HOPE).
* PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH 1/4" (NO. 4) GALVANIZED HARDWARE CLOTH.
* GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
* THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
* A 12" MIN. NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
* A 4" LAYER OF #57 GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".
THIS 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.

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

Material	Specifications	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil (2" 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)	n/a	aged 6 months, minimum; no pine or wood chips
Mulch	shredded hardwood	n/a	
Pea gravel diaphragm	pea gravel, ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 3"	
Geotextile	AASHTO M-43	n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 37 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 underdrain pipes. Perforated pipe shall be wrapped with 1/4-inch galvanized hardware cloth.
Poured in place concrete (if required)	MSHA Mix No. 3; $f_c = 3500$ psi @ 28 days, normal weight, air-entrained, reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.8/89; vertical loading (H-10 or H-20); allowable horizontal 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.

OPERATION AND MAINTENANCE SCHEDULE FOR (M-S) MICROBIORETENTION AREAS

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. 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, VOL. II, TABLE A.4.1 AND 2.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

MICROBIORETENTION NOTES:

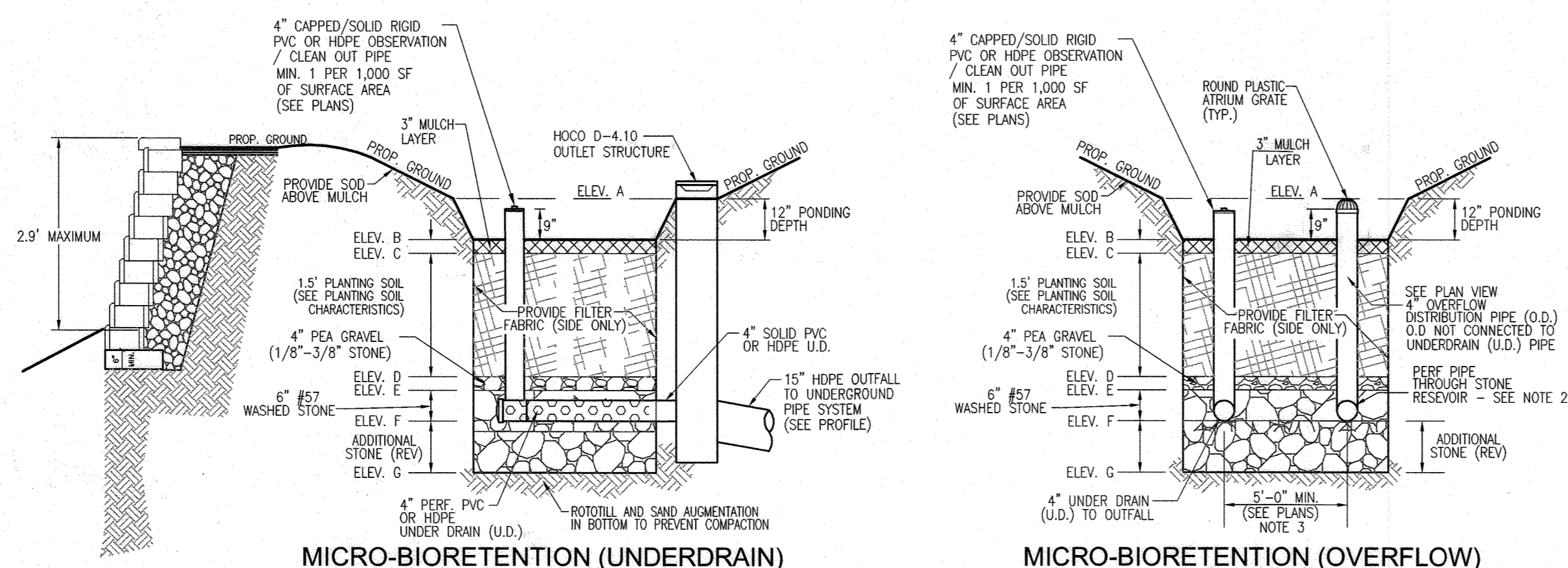
- ONLY THE SIDES OF MICRO-BIORETENTION ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE MICRO-BIORETENTION WILL CAUSE THE MBR TO FAIL, AND THEREFORE SHALL NOT BE INSTALLED.
- WRAP THE PERFORATED MBR UNDERDRAIN PIPE WITH 1/4" MESH (4x4) OR SMALLER GALVANIZED HARDWARE CLOTH.
- PROVIDE 5" MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFORATED OVERDRAIN PIPE THROUGH STONE RESERVOIR OR SPACE PIPE EQUALLY ACROSS BOTTOM FOR SMALL BIOS. (SEE PLANS).

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division
 Chief, Division of Land Development

7-12-23
 DATE

7/6/23
 DATE



ESDv PLAN

SCALE: 1"=30'

SCALE 1"=30'

SCALE 1"=30'

SCALE 1"=30'

SCALE 1"=30'

SCALE 1"=30'

SCALE 1"=30'

SCALE 1"=30'

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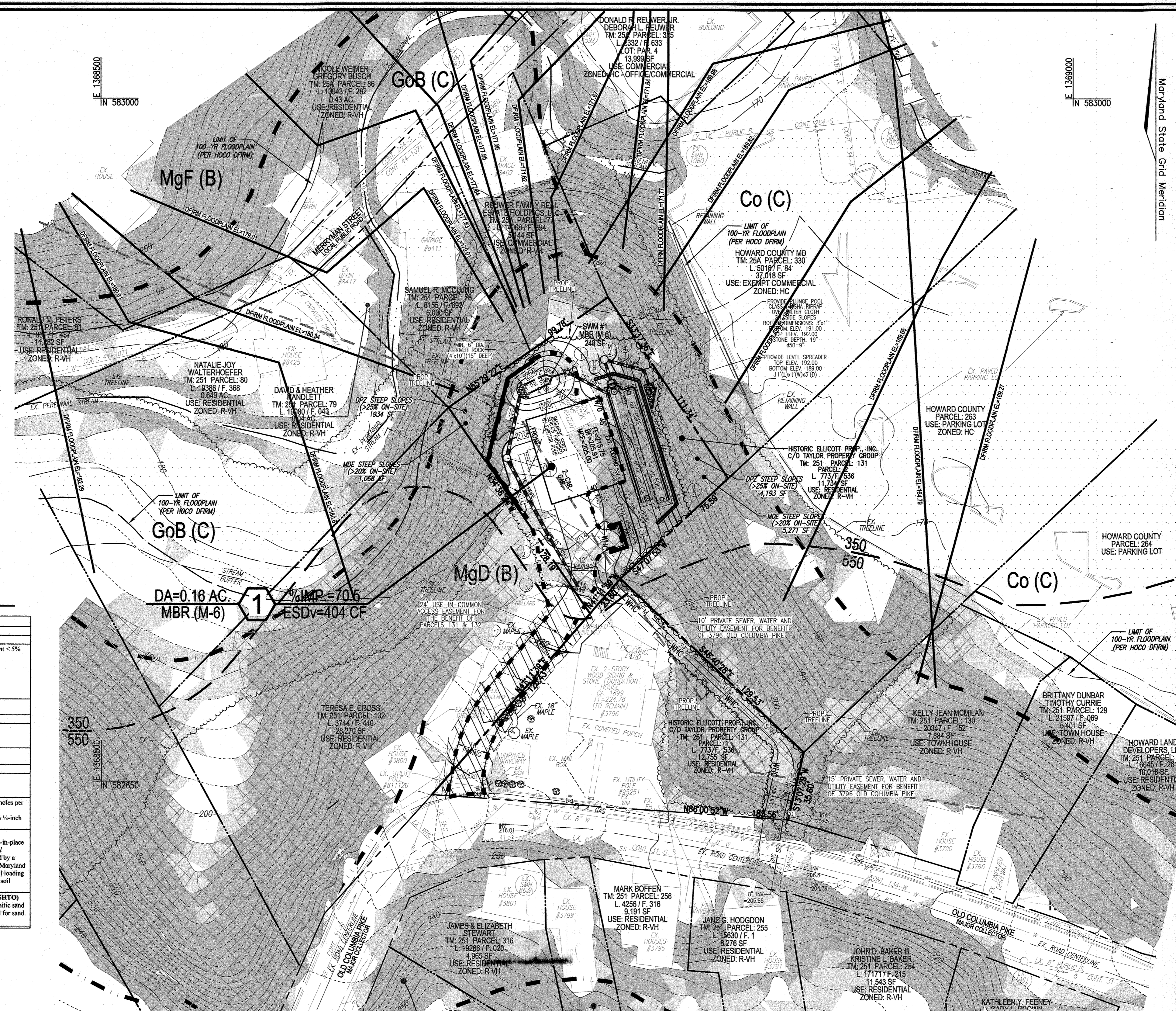
SCALE 1"=30'

SCALE 1"=30'

SCALE 1"=30'

SYMBOL	NAME / DESCRIPTION	GROUP	K-FACTOR	HYDRIC	HYDRIC INCLUSIONS	PRIME FARMLAND	<15% SLOPE W/ EROSION POTENTIAL
Co	CODORUS AND HARBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	37	NO	YES	NO	NO
GoB	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES, ROCKY	C	43	NO	NO	YES	YES
MgD	MANDOR-BANNERTOWN SANDY LOAMS, 15 TO 25 PERCENT SLOPES, ROCKY	B	15	NO	NO	NO	YES
MgF	MANDOR-BANNERTOWN SANDY LOAMS, 25 TO 65 PERCENT SLOPES, ROCKY	B	20	NO	NO	NO	YES

NOTE: * SOILS INFORMATION FROM USDA WEB SOIL SURVEY WEBSITE
 - HOWARD COUNTY SOILS MAP NUMBER 14 - ELLICOTT CITY SE
 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 3 PERCENT
 * FARMLAND OF STATEWIDE IMPORTANCE



LEGEND

- RIGHT-OF-WAY LINE
- BOUNDARY LINE
- ADJ. BOUNDARY LINES
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB AND GUTTER
- EXISTING FENCE
- EXISTING SANITARY SEWER
- EXISTING OVERHEAD LINES
- EXISTING GUARDRAIL
- EXISTING TREELINE
- EXISTING STREAM BUFFER
- EXISTING STREAM
- EXISTING UTILITY POLE
- EXISTING SANITARY MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING 100 YEAR FLOODPLAIN
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- PROPOSED SPOT ELEVATION
- SOILS
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- EXISTING MDE STEEP SLOPES (20% SLOPES OR GREATER)
- EXISTING DPZ MODERATE SLOPES (15%-19.9% SLOPES)
- EXISTING DPZ STEEP SLOPES (20% SLOPES OR GREATER)
- PROPOSED TREELINE
- MICRO-BIORETENTION FACILITY (M-6)
- PROPOSED USE-IN-COMMON ADDRESS EASEMENT FOR THE BENEFIT OF PARCELS 131 & 132

OWNER/DEVELOPER
 HISTORIC ELLICOTT PROP., INC.
 C/O TAYLOR PROPERTY GROUP
 8 PARK CENTER COURT, SUITE 200
 OWINGS MILLS, MD 21117
 410-465-3500

NO.	REVISION	DATE

ENVIRONMENTAL CONCEPT PLAN

ESDv SWM DRAINAGE AREA MAP
 NOTES AND DETAILS

3796 OLD COLUMBIA PIKE
 ELLICOTT CITY, MD 21043

TAX MAP: 251 GRID: 13
 2ND ELECTION DISTRICT

PARCEL: 131
 ZONED: R-VH
 HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

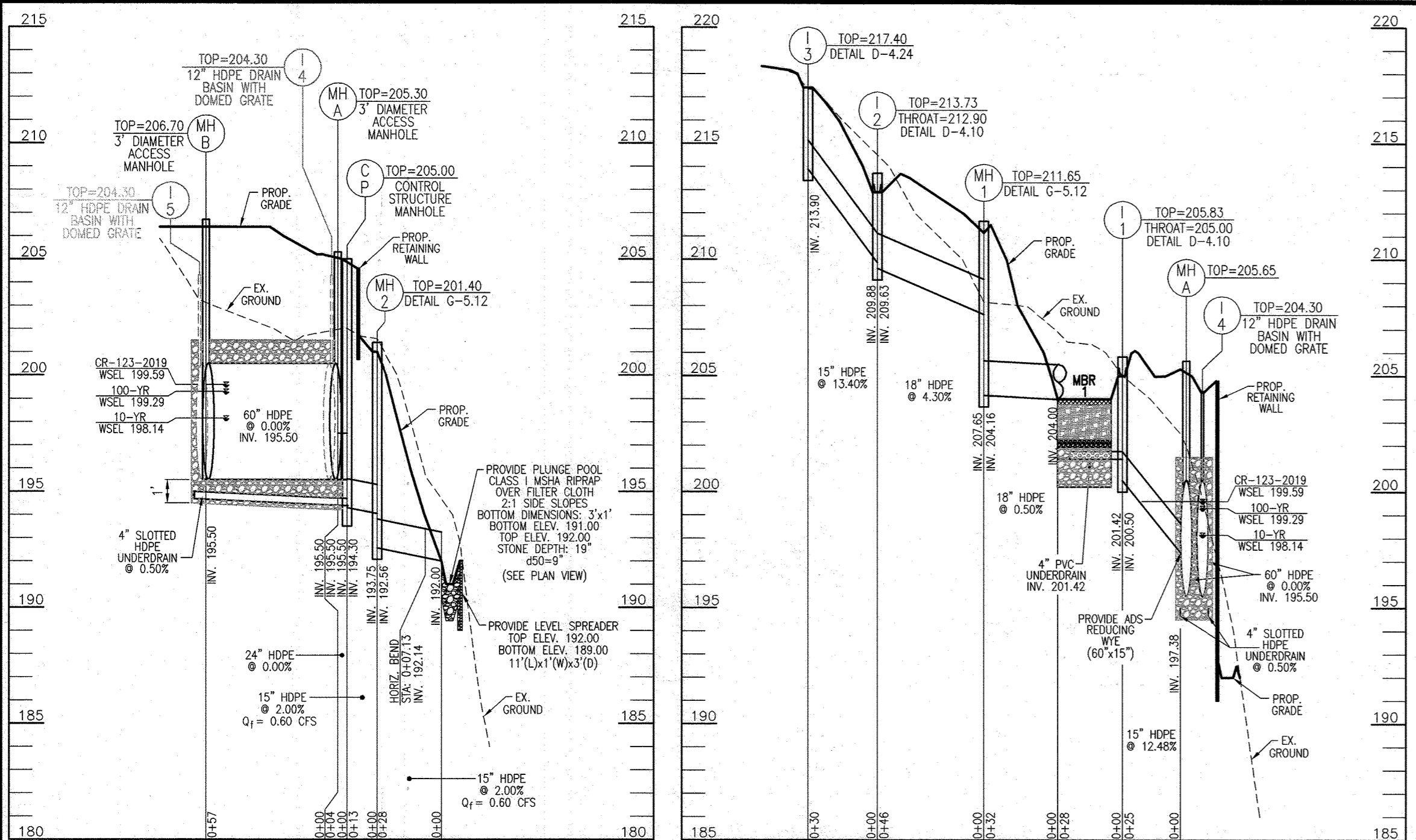
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

STATE OF MARYLAND
 REGISTERED PROFESSIONAL ENGINEER
 ROBERT H. VOGEL, PE No. 16193

DESIGN BY: EDS
 DRAWN BY: EDS / JMR
 CHECKED BY: RHV
 DATE: MAY 2023
 SCALE: AS SHOWN
 W.O. NO.: 10-25

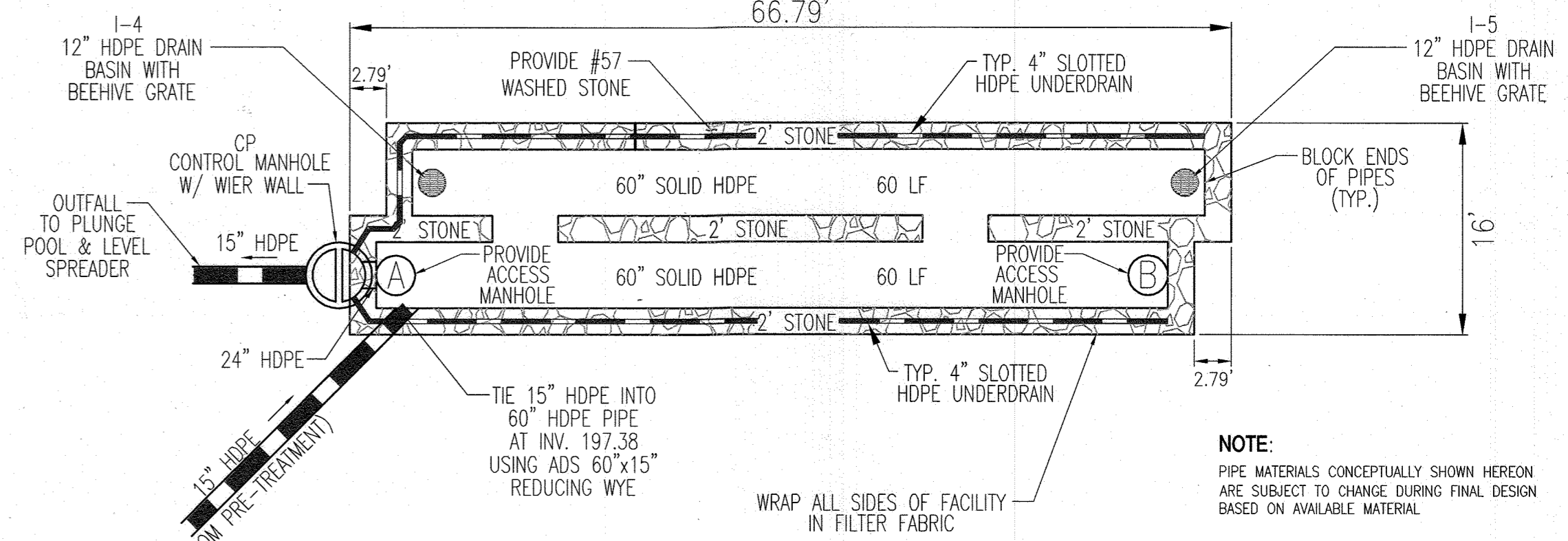
PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE 09-27-2024.

3 SHEET OF 4



STORM DRAIN PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

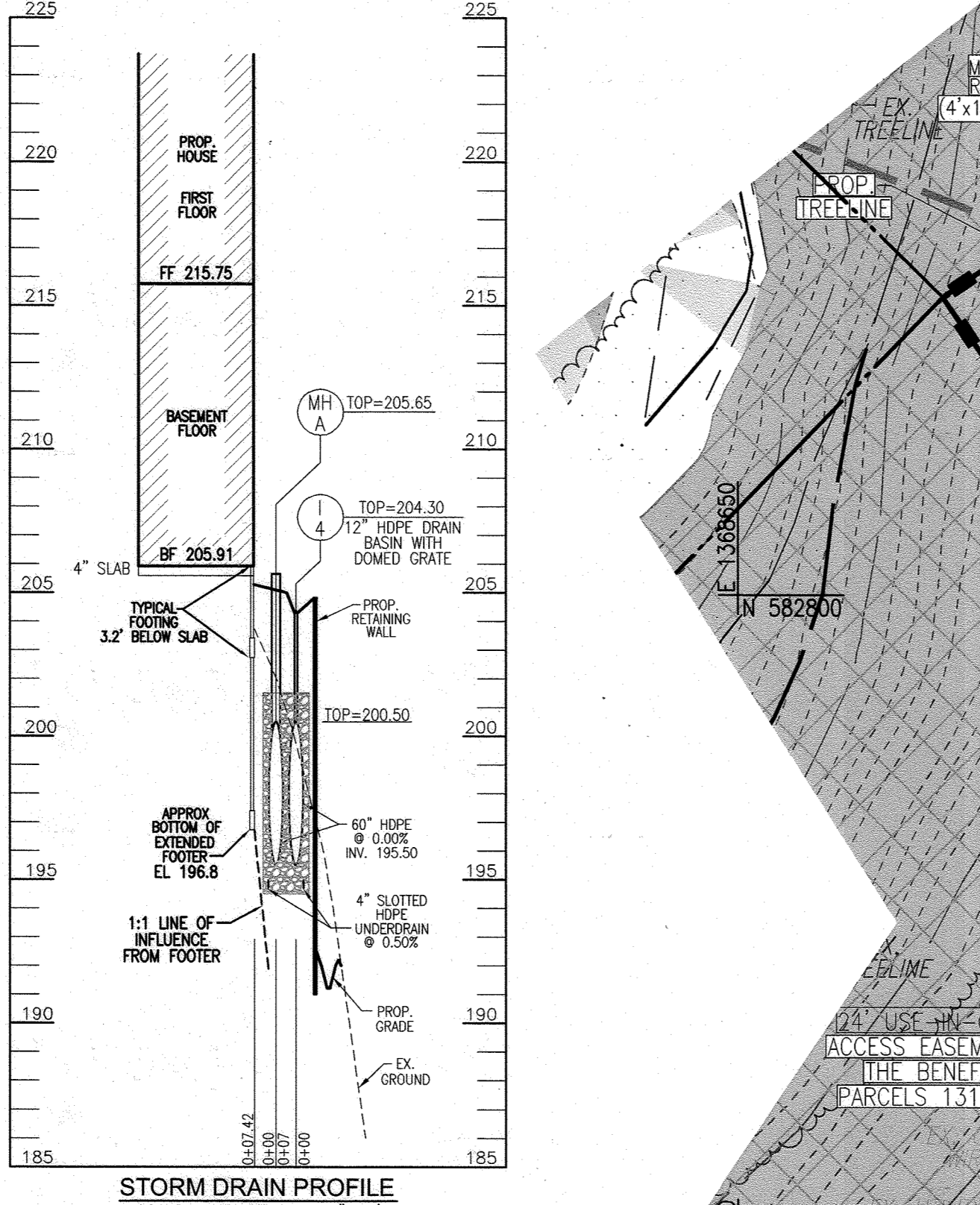
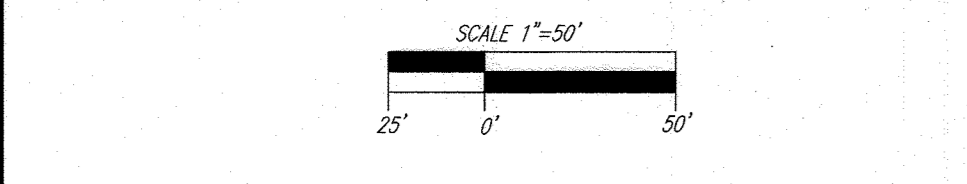
NOTE:
-DISTURBANCE BELOW THE PROPOSED RETAINING WALL AND CONCEPTUAL PLUNGE POOL SHALL BE VEGETATED AND/OR REMAIN IN THEIR NATURAL UNDISTURBED STATE.
-CONSTRUCTION DISTURBANCES SHALL BE PROTECTED BY NORMAL PERIMETER SEDIMENT CONTROL PRACTICES AND IMMEDIATELY STABILIZED.
-THE FUTURE SEQUENCE OF CONSTRUCTION, APPROVED BY HOWARD SOIL CONSERVATION DISTRICT (HSCD), WILL DETAIL THE PROJECT CONSTRUCTION.
-CONCEPTUALLY, HSCD APPROVED THE USE OF SUPER SILT FENCE AT THE LIMIT OF DISTURBANCE, DOWNHILL FROM THE PROPOSED RETAINING WALL. STANDARD PRACTICE IS FOR THE WALL(S) TO BE CONSTRUCTED FROM THE UPHILL SIDE OF THE WALL.
-THE WALL DESIGNER SHALL BE MADE AWARE OF THE PLUNGE POOL DESIGN, AS REQUIRED BY HOWARD COUNTY, THE WALL DESIGN, TO BE SUBMITTED WITH A FUTURE PLAN SUBMISSION, SHALL PROVIDE A WORKABLE DESIGN, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER.



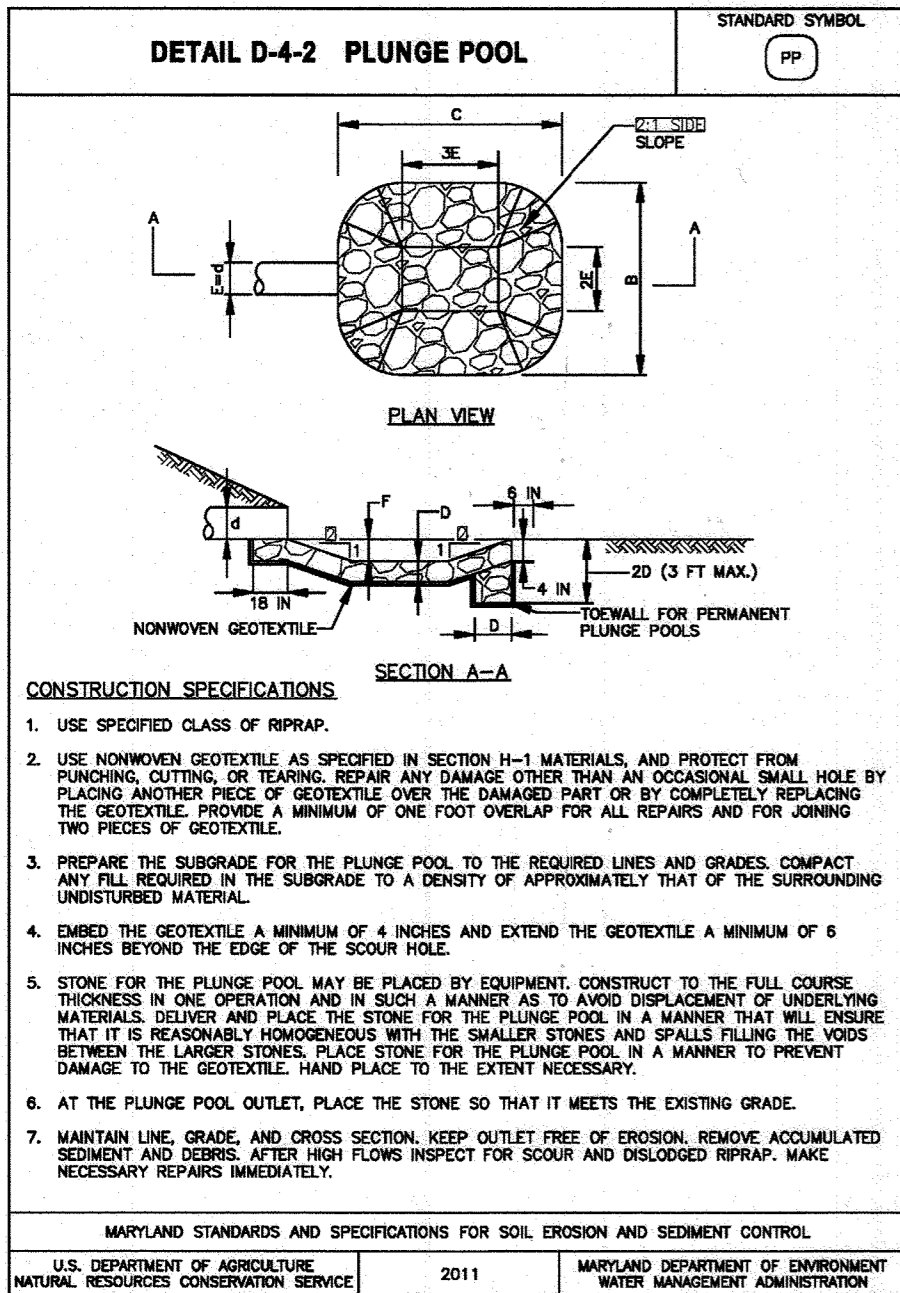
UNDERGROUND PIPE SYSTEM
SCALE: 1"=10'

LEGEND

RIGHT-OF-WAY LINE	---
BOUNDARY LINE	---
ADJ. BOUNDARY LINES	---
EXISTING EDGE OF PAVEMENT	---
EXISTING CURB AND GUTTER	---
EXISTING FENCE	---
EXISTING SANITARY SEWER	---
EXISTING OVERHEAD LINES	---
EXISTING WATER	---
EXISTING GUARDRAIL	---
EXISTING TREELINE	---
EXISTING STREAM BUFFER	---
EXISTING STREAM	---
EXISTING UTILITY POLE	---
EXISTING SANITARY MANHOLE	---
EXISTING FIRE HYDRANT	---
EXISTING 10' CONTOUR	---
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PROPOSED 10' CONTOUR	---
PROPOSED 2' CONTOUR	---
PROPOSED SPOT ELEVATION	---
EXISTING MOSE STEEP SLOPES (20% SLOPES OR GREATER)	---
EXISTING DPZ MODERATE SLOPES (10%-24.99% SLOPES)	---
EXISTING DPZ STEEP SLOPES (25% SLOPES OR GREATER)	---
PROPOSED TREELINE	---
MICRO-BIORETENTION FACILITY (M-6)	---
PROPOSED USE-IN-COMMON ACCESS BASEMENT FOR THE BENEFIT OF PARCELS 131 & 132	---



STORM DRAIN PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

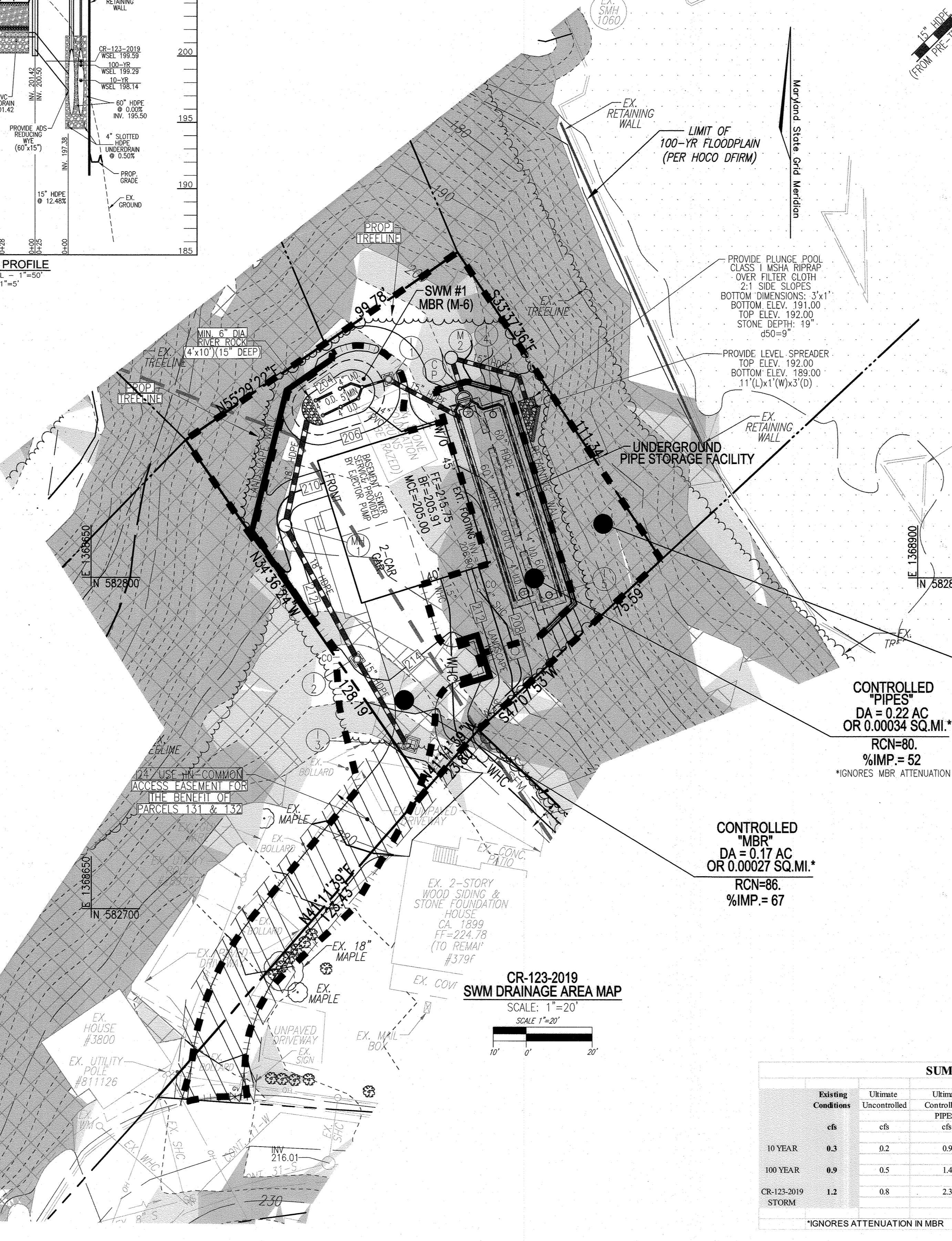


DETAIL D-4-2 PLUNGE POOL

CONSTRUCTION SPECIFICATIONS

- USE SPECIFIED CLASS OF RIPRAP.
- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE.
- PREPARE THE SUBGRADE FOR THE PLUNGE POOL TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
- COVER THE GEOTEXTILE A MINIMUM OF 4 INCHES AND EXTEND THE GEOTEXTILE A MINIMUM OF 6 INCHES BEYOND THE EDGE OF THE SCOUR HOLE.
- STONE FOR THE PLUNGE POOL MAY BE PLACED BY EQUIPMENT CONSTRUCT TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. COVER AND PLACE THE STONE FOR THE PLUNGE POOL IN A MANNER THAT WILL ASSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE STONE FOR THE PLUNGE POOL IN A MANNER TO PREVENT DAMAGE TO THE GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
- AT THE PLUNGE POOL OUTLET, PLACE THE STONE SO THAT IT MEETS THE EXISTING GRADE.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF OBSTACLES. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLOADED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION D-25



UNCONTROLLED "PIPES"
DA = 0.22 AC
OR 0.00034 SQ.MI.*
RCN=80.
%IMP.= 52
*IGNORES MBR ATTENUATION

UNCONTROLLED "MBR"
DA = 0.17 AC
OR 0.00027 SQ.MI.*
RCN=86.
%IMP.= 67

UNCONTROLLED
DA = 0.106 AC
OR 0.00017 SQ.MI.
RCN=65
%IMP.=0

CR-123-2019 SWM DRAINAGE AREA MAP
SCALE: 1"=20'

SUMMARY SHEET

Existing Conditions	Ultimate Uncontrolled	Ultimate Controlled to PIPES*	CR-123-2019 Release	CR-123-2019 WSEL	Ultimate Conditions w SWM
cfs	cfs	cfs	cfs		cfs
10 YEAR	0.3	0.2	0.046	198.14	0.3
100 YEAR	0.9	0.5	1.4	199.29	0.7
CR-123-2019 STORM	1.2	0.8	2.3	199.59	1.1

*IGNORES ATTENUATION IN MBR

OWNER/DEVELOPER
HISTORIC ELLICOTT PROP., INC.
C/O TAYLOR PROPERTY GROUP
8 PARK CENTER COURT, SUITE 200
OWINGS MILLS, MD 21117
410-465-3500

ENVIRONMENTAL CONCEPT PLAN
CR-123-2019 QUANTITY SWM DRAINAGE AREA MAP AND DETAILS
3796 OLD COLUMBIA PIKE
ELLICOTT CITY, MD 21043

VOGEL ENGINEERING
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
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DESIGN BY: EDS
DRAWN BY: EDS / JMR
CHECKED BY: RHV
DATE: MAY 2023
SCALE: AS SHOWN
W.O. NO.: 10-25

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2024

4 SHEET OF 4

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 7/23/23

Chief
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 7/6/23