

SHEET INDEX	
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2	PRELIMINARY EQUIVALENT SKETCH PLAN & PRELIMINARY LANDSCAPE PLAN
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4	STORMWATER MANAGEMENT DETAILS
5	DRAINAGE AREA MAP
6	STOPPING SIGHT DISTANCE PLAN AND PROFILE (SHARED DRIVEWAY)

PRELIMINARY EQUIVALENT SKETCH PLAN ROCKBURN MEADOWS

LOTS 1 THRU 7

ZONED: R-20

TAX MAP No. 37 GRID No. 05 PARCEL NO. 211 & 641

LOT No.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
3	20,511 Sq.ft.	444 Sq.ft.	20,067 Sq.ft.
4	21,035 Sq.ft.	664 Sq.ft.	20,371 Sq.ft.
5	21,271 Sq.ft.	1,144 Sq.ft.	20,127 Sq.ft.
6	21,795 Sq.ft.	1,715 Sq.ft.	20,080 Sq.ft.
7	28,569 Sq.ft.	2,371 Sq.ft.	26,198 Sq.ft.

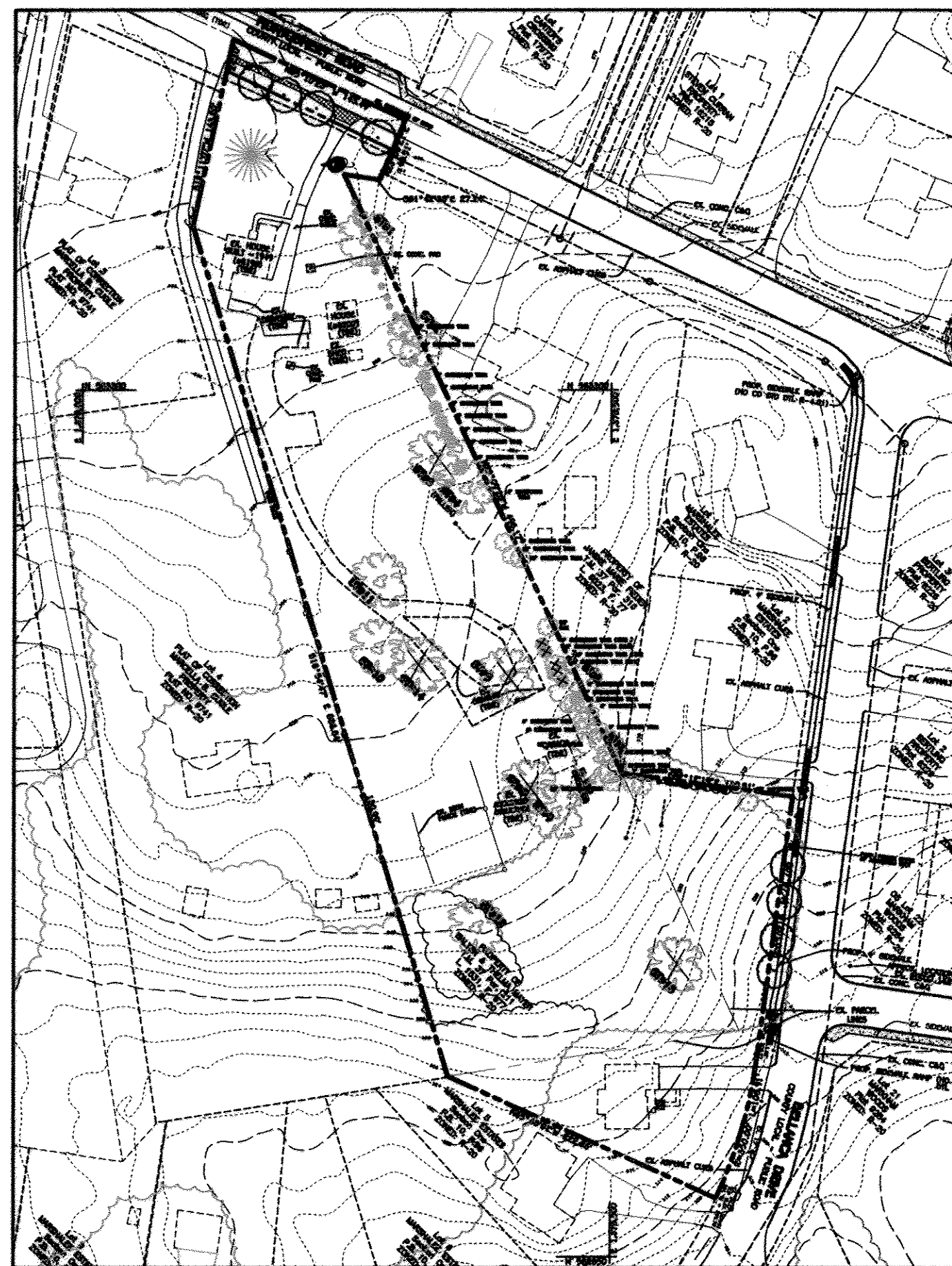
AREA ID.	ESDV REQUIRED CU.FT.	ESDV PROVIDED CU.FT.	REMARKS
SITE	3,482	3,949	DRYWELLS (M-5), MICRO-BIORETENTION (M-6) & RAIN GARDENS (M-7)
TOTAL	3,482	3,949	

GROSS AREA = 3.06 ACRE (SITE - LOTS 2 THRU 7)
 LOD = 2.00 ACRES
 RCN = 70
 TARGET Pe = 1.3"

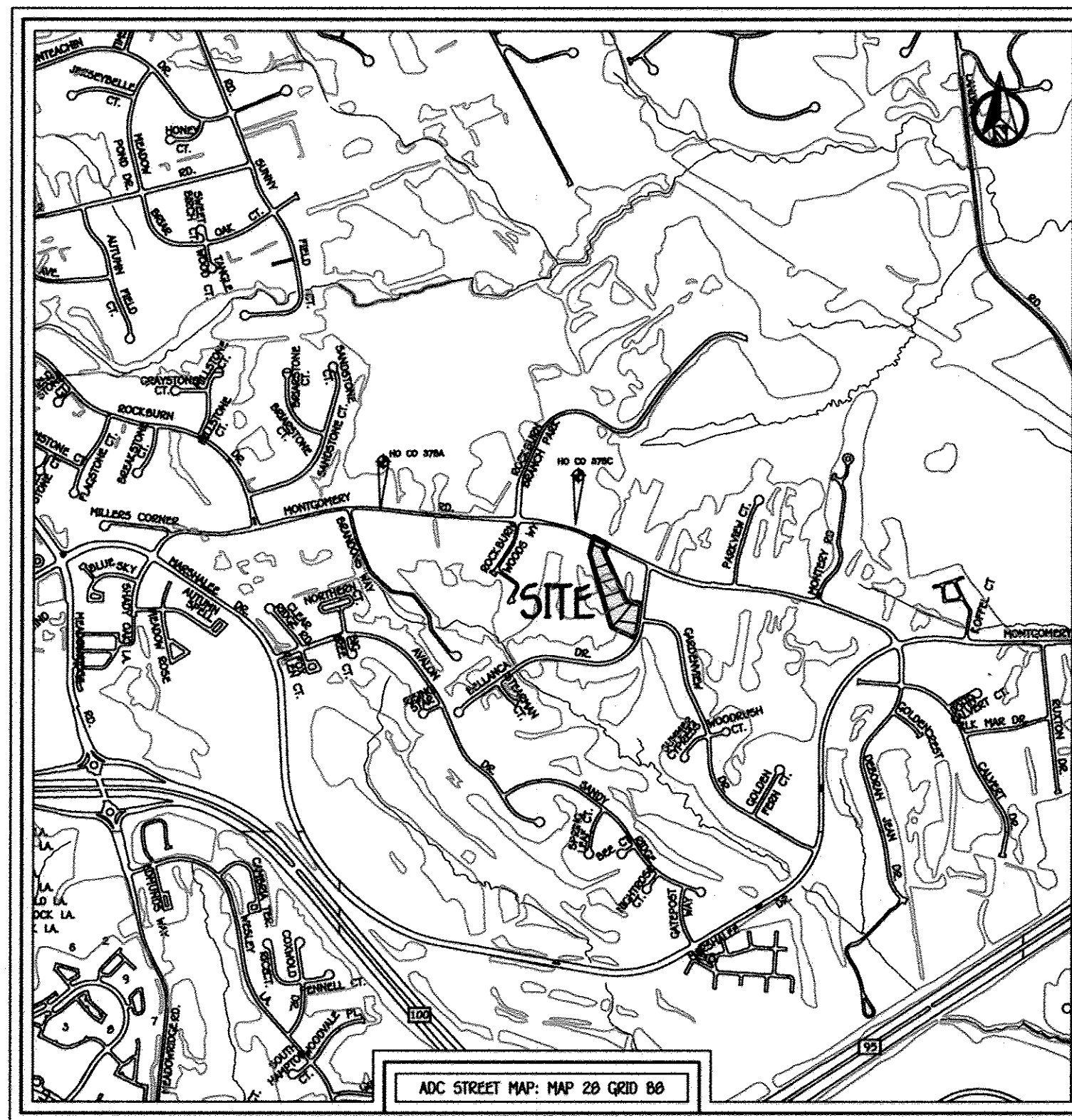
RECHARGE VOLUME (REV)

Rev = (5) (Rv) (A) / 12
 = (0.16) (0.24) (3.06) / 12
 = 0.0099 AC-FT OR 427 CU-FT

AS PERMITTED IN CHAPTER 2 OF THE 2000 MARYLAND STORMWATER DESIGN MANUAL, RECHARGE VOLUME HAS BEEN INCLUDED WITHIN THE ESDV.



EXISTING CONDITIONS PLAN VIEW
SCALE: 1" = 100'



VICINITY MAP
SCALE: 1" = 1200'

FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

LOT NO.	DRYWELLS (M-5) Y/N, NUMBER	MICRO-BIORETENTION (M-6) Y/N, NUMBER	RAIN GARDEN (M-7) Y/N, NUMBER
1	-	-	-
2	-	NO	NO
3	YES, TWO (2)	NO	NO
4	NO	NO	YES, ONE (1)
5	NO	NO	YES, ONE (1)
6	NO	YES, ONE (1)	NO
7	YES, TWO (2)	NO	NO
COMMON DRIVE	NO	YES, TWO (2)	NO

ROAD NAME	CLASSIFICATION	DESIGN SPEED	EASEMENT WIDTH
DRIVEWAY	PRIVATE USE-IN-COMMON DRIVEWAY	15 M.P.H.	24'

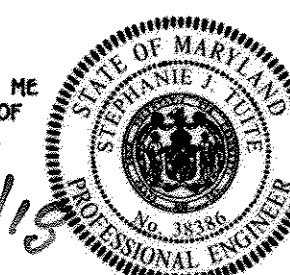
OWNER
 TRACEY R FUHR
 5914 BELLANCA DRIVE
 ELK RIDGE, MD, 21075

WALTER A MAYER
 THELMA T MAYER
 6198 MONTGOMERY RD
 ELK RIDGE, MD, 21075

DEVELOPER
 HG LAND HOLDINGS, LLC
 6139 WHITE MARBLE COURT
 CLARKSVILLE, MD 21029
 410-409-0333

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. 38506, EXPIRATION DATE: 01/12/2018.

Signature
 Signature of Professional Engineer
 DATE: 1/2/18



TENTATIVELY APPROVED:
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

Signature
 PLANNING DIRECTOR
 DATE: 1-22-18

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT 410-313-1800 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MESS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- THIS SUBDIVISION PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE 2013 ZONING REGULATIONS. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS OR PARCELS MUST COMPLY WITH SETBACKS AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF A SITE DEVELOPMENT PLAN.
- COORDINATES BASED ON NAD'83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 37 BA AND NO. 37 BC.
 HOWARD COUNTY MONUMENT NO. 37BC N 563,785.615 E 1,376,343.290 ELEV. (NAVOD80) = 393.965
 HOWARD COUNTY MONUMENT NO. 37BA N 563,666.307 E 1,378,054.921 ELEV. (NAVOD80) = 373.107
- SUBJECT PROPERTY ZONED R-20 PER 10/06/13 COMPREHENSIVE ZONING PLAN.
- BACKGROUND INFORMATION:
 - SUBDIVISION NAME: ROCKBURN MEADOWS
 - TAX MAP NO. 37
 - PARCELS NO. 211 & 641
 - ZONING R-20
 - ELECTION DISTRICT: FIRST
 - GROSS AREA OF TRACT = 3.60 ACRES (SWM BASED ON 3.06 AC.)
 - NUMBER OF BUILDABLE LOTS: 7
 - NUMBER OF OPEN SPACE LOTS: 0
 - AREA OF BUILDABLE LOTS: 3.52 ACRES
 - AREA OF OPEN SPACE LOTS: 0
 - AREA OF ROADWAY TO BE DEDICATED: 0.08 ACRES
 - PREVIOUS FILE NUMBERS: ECP-15-019, SDP-15-025, PB10 PG 96, ECP-17-067.
 - AREA OF FLOODPLAIN = 0
 - AREA OF 15% OR GREATER SLOPES = 0.46 ACRES (0 AC 25% OR GREATER)
 - DEED REFERENCES: LIBER 1531 FOLIO 677 (6198 MONTGOMERY ROAD) & LIBER 15594, FOLIO 326 (5814 BELLANCA DRIVE).
- OPEN SPACE REQUIREMENTS:
 - AREA OF OPEN SPACE REQUIRED = 3.60 x 6% = 0.22 ACRES
 - AREA OF OPEN SPACE PROVIDED = 0 AC (NOTE: A FEE-IN-LIEU OF OPEN SPACE WILL BE PAID WITH THE FINAL PLAN)
- ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF ASHTO T-100.
- NOISE STUDY IS NOT REQUIRED.
- WATER AND SEWER ARE PUBLIC. CONNECTIONS WILL BE MADE TO 44-4411, 657-5, AND 10-1602.
- SOILS INFORMATION TAKEN FROM SOIL SURVEY MAP NO. 26, HOWARD COUNTY, MARYLAND.
- EXISTING WELL & SEPTIC SYSTEMS TO BE ABANDONED AND DOCUMENTATION SENT TO THE HEALTH DEPARTMENT PRIOR TO SIGNATURE APPROVAL ON THE PLAN.
- EXISTING STRUCTURES LOCATED ON PARCEL 211 ARE TO BE RAZED AS SHOWN ON PLAN AND NEWLY CONSTRUCTED HOUSE AT 5814 BELLANCA DRIVE IS TO REMAIN.
- BOUNDARY OUTLINE BASED ON FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS, & CARTER, INC. DATED MAY, 2017.
- TOPOGRAPHY BASED ON FIELD RUN SURVEY BY FISHER, COLLINS & CARTER, INC. DATED MAY, 2017 AND SUPPLEMENTED WITH HOWARD COUNTY TOPOGRAPHY.
- STORMWATER MANAGEMENT WILL BE PROVIDED IN ACCORDANCE WITH THE NEW MDE, CHAPTER 5 REGULATIONS AND THE NEW HOWARD COUNTY SWM MANUAL, ADOPTED ON OR AROUND MAY 4, 2010. RECHARGE VOLUME WILL BE PROVIDED THROUGH THE USE OF STONE BENCH MICRO-BIORETENTION AND RAIN GARDENS. WATER QUALITY AND CHANNEL PROTECTION VOLUME WILL BE PROVIDED BY RAIN GARDENS, MICRO-BIORETENTION FACILITIES, AND DRY WELLS. OVERBANK FLOOD PROTECTION VOLUME AND EXTREME FLOOD VOLUMES ARE NOT REQUIRED FOR THIS SITE. THE STORMWATER MANAGEMENT FACILITIES WILL BE PRIVATELY OWNED & MAINTAINED BY THE PRIVATE HOMEOWNERS.
- NO FLOODPLAIN, WETLANDS, STREAM, STREAM BUFFERS, OR 25% SLOPES OR GREATER EXIST ON-SITE.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY HARS GROUP DATED MAY, 2017.
- THE FOREST CONSERVATION ACT REQUIREMENTS FOR THIS PROJECT WILL BE MET THROUGH USE OF A FOREST BANK TO MEET THE 1.54 AC. REQUIREMENT.
- SOIL BORING REPORT FOR THIS PROJECT WAS PREPARED BY FISHER, COLLINS, & CARTER, INC. DATED MATH, 2017.
- THE FOREST STAND DELINEATION AND WETLAND DELINEATION FOR THIS PROJECT WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED JUNE, 2017.
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
- FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND THE ROAD R/W LINE AND NOT THE PIPESTEM LOT DRIVEWAY.
- NO CEMETERIES EXIST WITHIN THIS SUBDIVISION.
- AN HISTORIC STRUCTURE, STRUCTURE OVER 50 YEARS OLD, EXISTS ON-SITE AND IS PROPOSED TO BE DEMOLISHED. SUBDIVISION HAS BEEN TO HISTORIC PRESERVATION COMMISSION ON JUNE 1, 2017 FOR ADVISORY COMMENT WHERE THE HPC STATED THEY WANTED THE HOUSE TO REMAIN.
- PERIMETER LANDSCAPE REQUIREMENTS IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL HAVE BEEN SHOWN. FINANCIAL SURETY WILL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT WITH THE FINAL PLANS.
- TRAFFIC CONTROL DEVICES:
 - THE R1-1 ("STOP") SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETE.
 - THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
 - ALL TRAFFIC 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 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS:
 - WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE)
 - SURFACE - SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING.
 - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM OF 45 TURNING RADIUS.
 - STRUCTURES (CULVERTS/BRIDGES) CAPABLE OF SUPPORTING 25 GROSS TONS (H 25 LOADING).
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
 - STRUCTURE CLEARANCES - MINIMUM 12 FEET.
 - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- FOR THE USE IN COMMON DRIVEWAY FOR LOTS 1 - 7, A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPER'S/OWNER'S EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATE.
- ALTERNATIVE COMPLIANCE APPLICATION, WF-18-029, WAS GRANTED APPROVAL OF THE ALTERNATIVE COMPLIANCE ON OCTOBER 18, 2017 TO SECTION 16.127(C)(4)(1), SECTION 16.127(C)(4)(B) AND SECTION 16.120E(A)(7). APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
 - LOTS 2-7 WILL BE REQUIRED TO UTILIZE A USE-IN-COMMON DRIVEWAY (LOT 2 IS DENIED A SEPARATE DRIVEWAY ENTRANCE ONTO BELLANCA DRIVE). THE EXISTING DRIVEWAY FOR LOT 1 WILL BE PERMITTED TO REMAIN.
 - THE FRONT SETBACK FOR LOT 2 SHALL BE ESTABLISHED AS 50' MINIMUM FROM THE BELLANCA DRIVE RIGHT-OF-WAY IN ACCORDANCE WITH THE "R-20" ZONING REGULATIONS. THE FRONT SETBACK FOR LOT 7 SHALL BE ESTABLISHED IN ACCORDANCE WITH SECTION 16.127(C)(4)(1).
 - THE APPROVAL OF THIS ALTERNATIVE COMPLIANCE REQUEST APPLIES ONLY TO THE FIVE (5) SPECIMEN TREES AS SHOWN TO BE REMOVED ON THE PLAN EXHIBIT. THE REMOVAL OF ANY OTHER SPECIMEN TREE ON THE SUBJECT PROPERTY IS NOT PERMITTED UNDER THIS REQUEST UNLESS IT CAN BE SUFFICIENTLY DEMONSTRATED BY THE APPLICANT TO BE JUSTIFIED.
 - THE DEVELOPER SHALL PLANT TEN (10) 2" MINIMUM CALIBER NATIVE SHADE TREES IN ADDITION TO THE REQUIRED PERIMETER LANDSCAPING TO MITIGATE THE REMOVAL OF THE FIVE SPECIMEN TREES, INCLUDE THE ADDITIONAL TREES ON SP-17-012 AND ALL SUBSEQUENT PLANS. THESE TREES WILL BE BONDED ALONG WITH THE REQUIRED PERIMETER LANDSCAPING AS PART OF THE FINAL SUBDIVISION PLAN.
- THE PLANNING DIRECTOR DENIED THE ALTERNATIVE COMPLIANCE TO SECTION 16.132(A)(2)(I), SECTION 16.134(A)(1) AND SECTION 16.136. BASED ON THE FOLLOWING:
 - THE DEVELOPER WILL BE REQUIRED TO CONSTRUCT ROAD IMPROVEMENTS ALONG THE MONTGOMERY ROAD AND BELLANCA DRIVE FRONTS IN ACCORDANCE WITH SECTION 16.132 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, THE DESIGN MANUAL AND THE ATTACHED DEVELOPMENT ENGINEERING DIVISION COMMENTS DATED SEPTEMBER 19, 2017.
 - THE DEVELOPER WILL BE REQUIRED TO CONSTRUCT SIDEWALK ON BELLANCA DRIVE ALONG THE FRONTAGE OF PROPOSED LOT 2 NORTHWARD TO THE INTERSECTION AT MONTGOMERY ROAD. RAMPS SHALL BE CONSTRUCTED TO PROVIDE ACCESS TO EXISTING SIDEWALK LOCATED ON MONTGOMERY ROAD AND GARDENVIEW DRIVE. THE CONTINUATION OF THE SIDEWALK IS NECESSARY TO PROVIDE SAFE PEDESTRIAN TRAVEL AND TO COMPLETE A SIDEWALK SYSTEM LEADING TO THE ROCKBURN ELEMENTARY SCHOOL LOCATED DIRECTLY ACROSS MONTGOMERY ROAD FROM THIS SUBDIVISION. REFER TO THE ATTACHED COMMENTS FROM THE DEVELOPMENT ENGINEERING DIVISION AND OFFICE OF TRANSPORTATION.
 - THE DEVELOPER WILL BE REQUIRED TO PROVIDE STREET TREES IN ACCORDANCE WITH SECTION 16.136 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. STREET LIGHTING WILL BE EVALUATED FOR COMPLIANCE WITH SECTION 16.135 AS PART OF THE FINAL SUBDIVISION PLAN.

TITLE SHEET
 ROCKBURN MEADOWS
 LOTS 1 THRU 7
 ZONED R-20

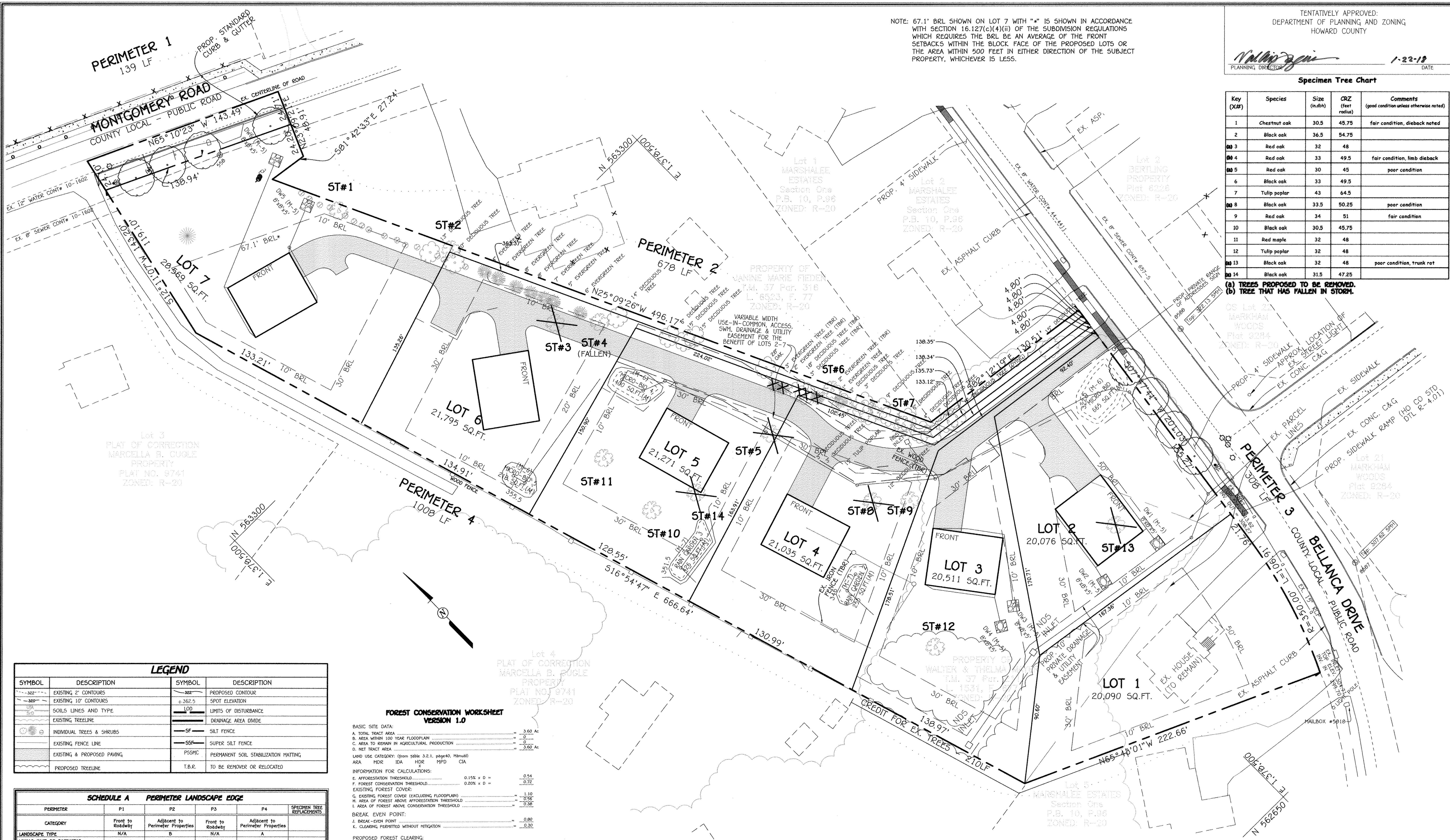
TAX MAP No. 37 GRID No. 05 PARCEL No. 211 & 641
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: DECEMBER, 2017
 SHEET 1 OF 6 **SP-17-012**

Specimen Tree Chart

Key (X#)	Species	Size (in.dbh)	CRZ (feet radius)	Comments (good condition unless otherwise noted)
1	Chestnut oak	30.5	45.75	fair condition, dieback noted
2	Black oak	36.5	54.75	
3	Red oak	32	48	
4	Red oak	33	49.5	fair condition, limb dieback
5	Red oak	30	45	poor condition
6	Black oak	33	49.5	
7	Tulip poplar	43	64.5	
8	Black oak	33.5	50.25	poor condition
9	Red oak	34	51	fair condition
10	Black oak	30.5	45.75	
11	Red maple	32	48	
12	Tulip poplar	32	48	
13	Black oak	32	48	poor condition, trunk rot
14	Black oak	31.5	47.25	

(a) TREES PROPOSED TO BE REMOVED.
(b) TREE THAT HAS FALLEN IN STORM.

NOTE: 67.1' BRL SHOWN ON LOT 7 WITH "*" IS SHOWN IN ACCORDANCE WITH SECTION 16.127(c)(4)(ii) OF THE SUBDIVISION REGULATIONS WHICH REQUIRES THE BRL BE AN AVERAGE OF THE FRONT SETBACKS WITHIN THE BLOCK FACE OF THE PROPOSED LOTS OR THE AREA WITHIN 500 FEET IN EITHER DIRECTION OF THE SUBJECT PROPERTY, WHICHEVER IS LESS.



LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
-322-	EXISTING 2" CONTOURS	-322-	PROPOSED CONTOUR
-302-	EXISTING 10' CONTOURS	+362.5	SPOT ELEVATION
---	SOILS LINES AND TYPE	LOD	LIMITS OF DISTURBANCE
---	EXISTING TREELINE	---	DRAINAGE AREA DIVIDE
○	INDIVIDUAL TREES & SHRUBS	SF	SILT FENCE
---	EXISTING FENCE LINE	SSF	SUPER SILT FENCE
---	EXISTING & PROPOSED PAVING	PSSMC	PERMANENT SOIL STABILIZATION MATTING
---	PROPOSED TREELINE	T.B.R.	TO BE REMOVED OR RELOCATED

**FOREST CONSERVATION WORKSHEET
VERSION 1.0**

BASIC SITE DATA:

A. TOTAL TRACT AREA	3.60	Ac
B. AREA WITHIN 100 YEAR FLOODPLAIN	0.00	Ac
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION	0.00	Ac
D. NET TRACT AREA	3.60	Ac

LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)

AREA	MOR	IDA	HQZ	MPD	CIA
------	-----	-----	-----	-----	-----

INFORMATION FOR CALCULATIONS:

E. AFFORESTATION THRESHOLD	0.15% x D =	0.54
F. FOREST CONSERVATION THRESHOLD	0.20% x D =	0.72

EXISTING FOREST COVER:

G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)	1.10
H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD	0.95
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD	0.38

BREAK-EVEN POINT:

J. BREAK-EVEN POINT	0.80
K. CLEARING PERMITTED WITHOUT MITIGATION	0.30

PROPOSED FOREST CLEARING:

L. TOTAL AREA OF FOREST TO BE CLEARED	1.10
M. TOTAL AREA OF FOREST TO BE RETAINED	0.80

PLANTING REQUIREMENTS:

N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD	1.44
O. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD	0.00
P. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD	1.54
R. TOTAL REFORESTATION REQUIRED	0.00
S. TOTAL AFFORESTATION REQUIRED	1.54
T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED	1.54

SCHEDULE A PERIMETER LANDSCAPE EDGE

PERIMETER	P1	P2	P3	P4	SPECIMEN TREE REPLACEMENTS
CATEGORY	Front to Roadway	Adjacent to Perimeter Properties	Front to Roadway	Adjacent to Perimeter Properties	
LANDSCAPE TYPE	N/A	N/A	N/A	N/A	
LINEAR FEET OF PERIMETER	139 LF	678 LF	308 LF	1008 LF	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	-	YES, 3 EX. TREES	-	YES, 210 LF	
CREDIT FOR WALL, FENCE OR BERR (YES, NO, LINEAR FEET) (DESCRIBE IF NEEDED)	-	-	-	-	
NUMBER OF PLANTS REQUIRED					
SHADE TREES	-	11	0	13	10
EVERGREEN TREES	-	17	-	-	-
SHRUBS	-	-	-	-	-

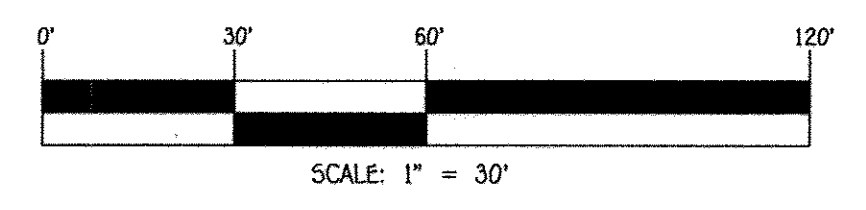
OWNER
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DEVELOPER
MG LAND HOLDINGS, LLC
6139 WHITE MARBLE COURT
CLARKSVILLE, MD 21029
410-409-0333

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. 38386, EXPIRATION DATE: 01/12/2019.
Stephen J. Junt 12/18
Signature Of Professional Engineer DATE



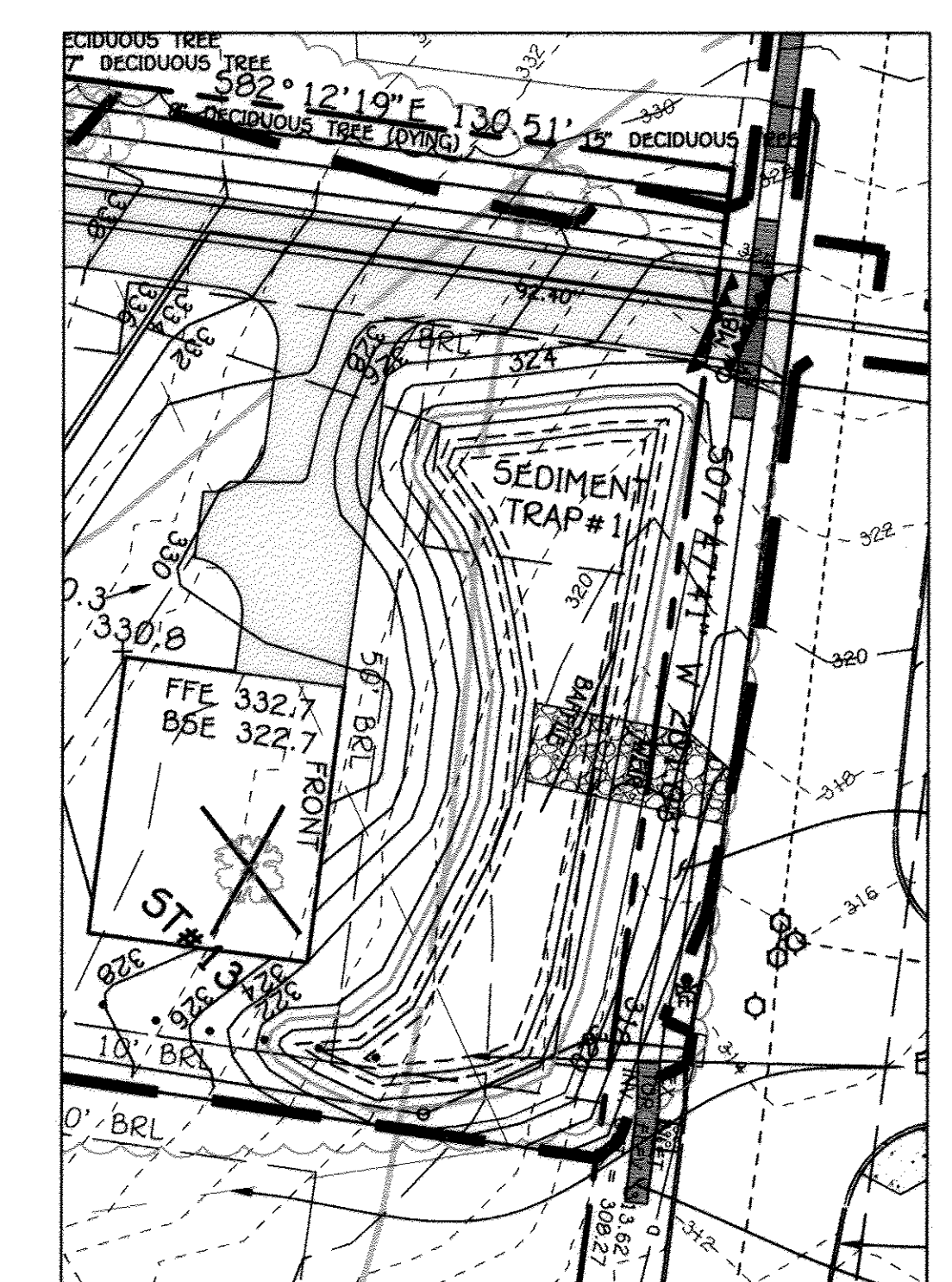
**PRELIMINARY EQUIVALENT SKETCH PLAN & PRELIMINARY LANDSCAPE PLAN
ROCKBURN MEADOWS**
LOTS 1 THRU 7
ZONED R-20
TAX MAP No. 37 GRID No. 05 PARCEL No. 211 & 641
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER, 2017
SHEET 2 OF 6 **SP-17-012**



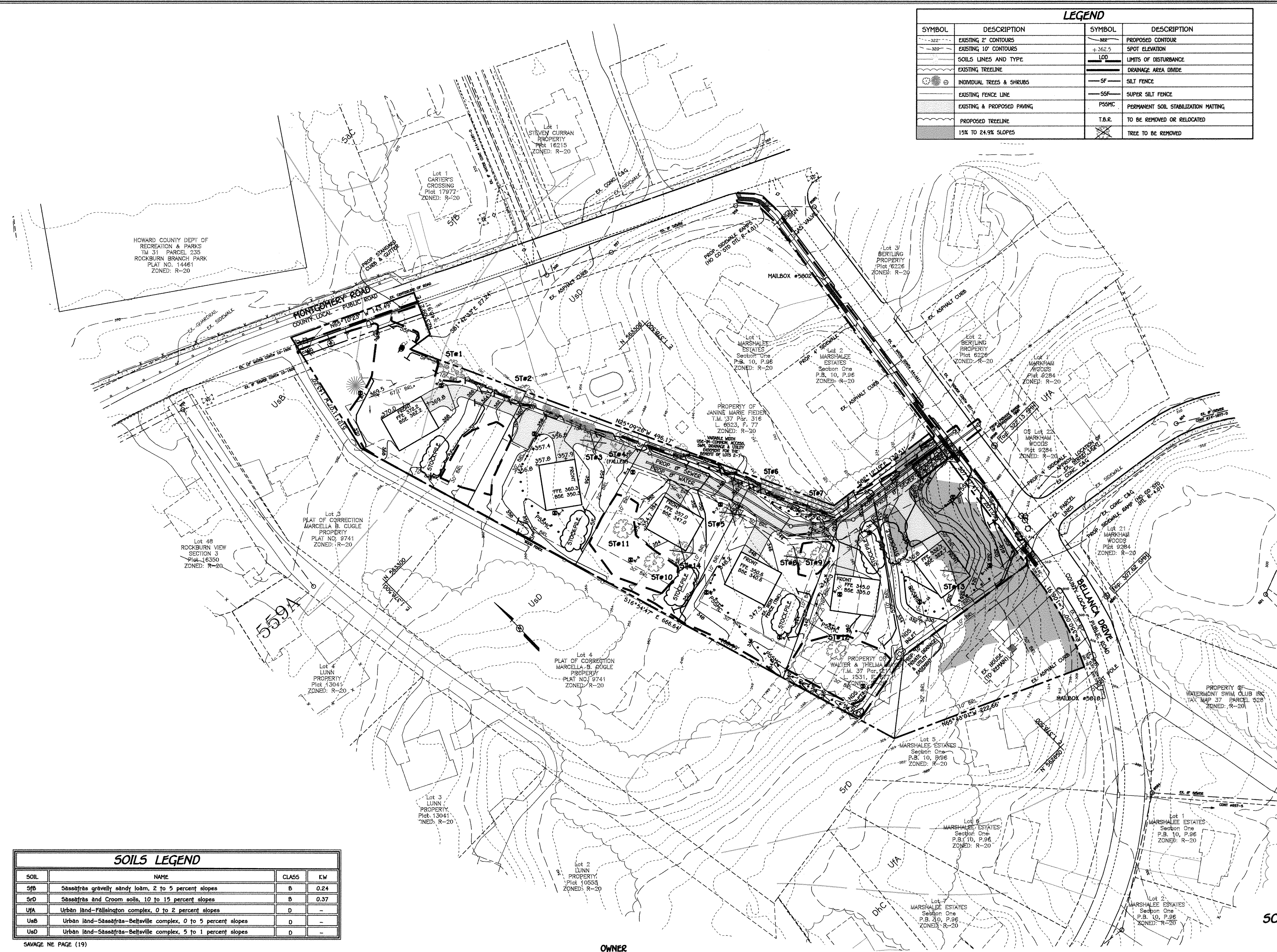
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N. Williams
PLANNING DIRECTOR 1-22-17
DATE

LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING 2' CONTOURS		PROPOSED CONTOUR
	EXISTING 10' CONTOURS		SPOT ELEVATION
	SOILS LINES AND TYPE		LIMITS OF DISTURBANCE
	EXISTING TREELINE		DRAINAGE AREA DIVIDE
	INDIVIDUAL TREES & SHRUBS		SILT FENCE
	EXISTING FENCE LINE		SUPER SILT FENCE
	EXISTING & PROPOSED PAVING		PERMANENT SOIL STABILIZATION MATTING
	PROPOSED TREELINE		T.B.R. TO BE REMOVED OR RELOCATED
	15% TO 24.9% SLOPES		TREE TO BE REMOVED

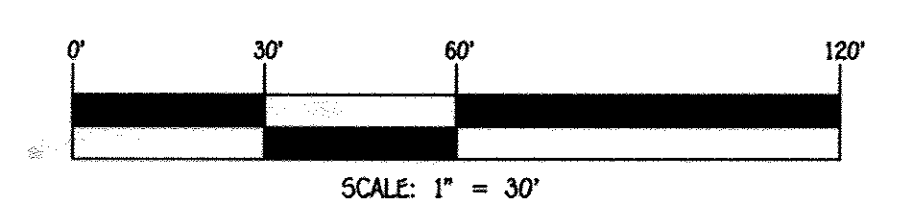


SEDIMENT TRAP DETAIL
SCALE: 1"=30'



SOILS LEGEND			
SOIL	NAME	CLASS	KW
SfB	Sassafras gravelly sandy loam, 2 to 5 percent slopes	B	0.24
SrD	Sassafras and Croom soils, 10 to 15 percent slopes	B	0.37
UJA	Urban land-Fallsington complex, 0 to 2 percent slopes	D	-
UaB	Urban land-Sassafras-Belleville complex, 0 to 5 percent slopes	D	-
UaD	Urban land-Sassafras-Belleville complex, 5 to 1 percent slopes	D	-

SAVAGE NE PAGE (19)



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CORNER SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21042
(410) 461-2895

OWNER
TRACY R. FUHR
5014 BELLANCA DRIVE
ELKRIDGE, MD, 21075

DEVELOPER
MG LAND HOLDINGS, LLC
6139 WHITE MARBLE COURT
CLARKSVILLE, MD 21029
410-409-0330

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Signature 1/22/17
Signature Of Professional Engineer DATE



SCHEMATIC GRADING, SEDIMENT & EROSION CONTROL PLAN
ROCKBURN MEADOWS
LOTS 1 THRU 7
ZONED R-20
TAX MAP No. 37 GRID No. 05 PARCEL No. 211 & 641
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER, 2017
SHEET 3 OF 6 **5P-17-012**

Infiltration and Filter System Construction Specifications

Infiltration and filter systems either take advantage of existing permeable soils or create a permeable medium such as sand for WC, and Re V. In some instances where permeability is great, these facilities may be used for Qp as well. The most common systems include infiltration trenches, infiltration basins, sand filters, and organic filters.

When properly planted, vegetation will thrive and enhance the functioning of these systems. For example, pre-treatment buffers will trap sediments that often are bound with phosphorus and metals. Vegetation planted in the facility will aid in nutrient uptake and water storage. Additionally, plant roots will provide arteries for stormwater to permeate soil for groundwater recharge. Finally, successful plantings provide aesthetic value and wildlife habitat making these facilities more desirable to the public.

Design Constraints:

- > Planting buffer strips of at least 20 feet will cause sediments to settle out before reaching the facility, thereby reducing the possibility of clogging.
- > Determine areas that will be saturated with water and water table depth so that appropriate plants may be selected (hydrology will be similar to bioretention facilities, see figure A.5 and Table A.4 for planting material guidance).
- > Plants known to send down deep taproots should be avoided in systems where filter fabric is used as part of facility design.
- > Test soil conditions to determine if soil amendments are necessary.
- > Plants shall be located so that access is possible for structure maintenance.
- > Stabilize heavy flow areas with erosion control mats or sod.
- > Temporarily divert flows from seeded areas until vegetation is established.
- > See Table A.5 for additional design considerations.

Bio-retention

Soil Bed Characteristics

The characteristics of the soil for the bioretention facility are perhaps as important as the facility location, size, and treatment volume. The soil must be permeable enough to allow runoff to filter through the media, while having characteristics suitable to promote and sustain a robust vegetative cover crop. In addition, much of the nutrient pollutant uptake (nitrogen and phosphorus) is accomplished through absorption and microbial activity within the soil profile. Therefore, soils must balance their chemical and physical properties to support biotic communities above and below ground.

The planting soil should be a sandy loam, loamy sand, loam (USDA), or a loam/sand mix (should contain a minimum 35 to 60% sand, by volume). The clay content for these soils should be less than 25% by volume (Environmental Quality Resources (EQR), 1996; Engineering Technology Inc. and Biohabitats, Inc. (ETAB), 1993). Soils should fall within the SM, ML, SC classifications of the United Soil Classification System (USCS). A permeability of at least 1.0 feet per day (0.5 in/hr) is required (a conservative value of 0.5 feet per day is used for design). The soil should be free of stones, stumps, roots, or other woody material over 1" in diameter. Brush or seeds from noxious weeds (e.g., Johnson Grass, Mugwort, Nutsedge, and Canada Thistle or other noxious weeds as specified under COMAR 15.08.01.05.) should not be present in the soils. Placement of the planting soil should be in 12 to 18 lifts that are loosely compacted (tamped lightly with a backhoe bucket or troweled by dozer tracks). The specific characteristics are presented in Table A.3.

Table A.3 Planting Soil Characteristics

Parameter	Value
pH range	5.2 to 7.00
Organic matter	1.5 to 4.0% (by weight)
Magnesium	35 lbs. per acre, minimum
Phosphorus (phosphate - P2O5)	75 lbs. per acre, minimum
Potassium (potash - K2O)	85 lbs. per acre, minimum
Soluble salts	500 ppm
Clay	0 to 5%
Silt	30 to 55%
Sand	35 to 60%

Mulch Layer

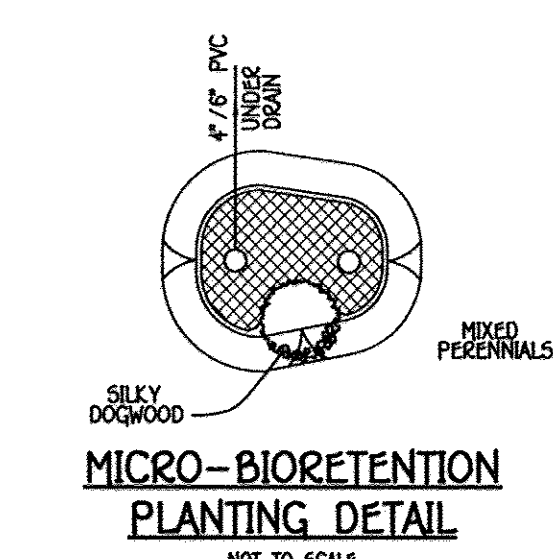
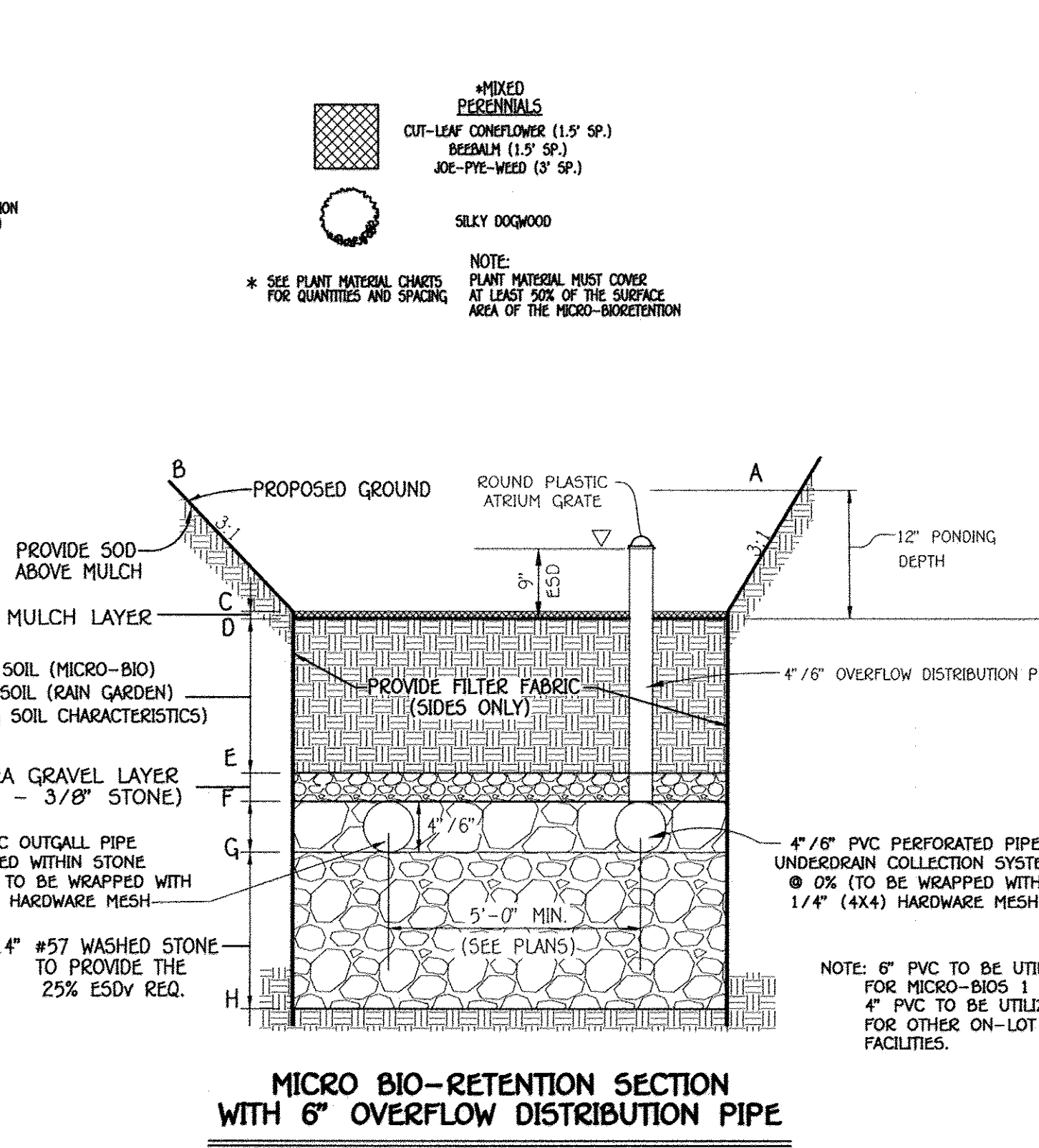
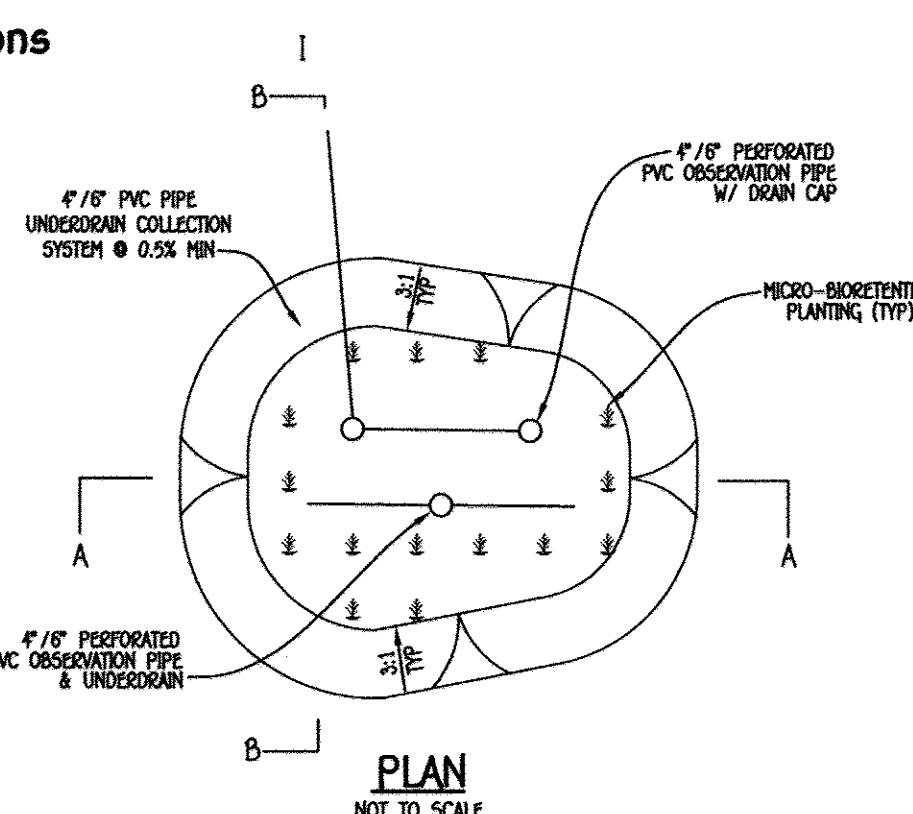
The mulch layer plays an important role in the performance of the bioretention system. The mulch layer helps maintain soil moisture and avoids surface sealing, which reduces permeability. Mulch helps prevent erosion, and provides a microenvironment suitable for soil biota at the mulch/soil interface. It also serves as a pretreatment layer, trapping the finer sediments, which remain suspended after the primary pretreatment.

The mulch layer should be standard landscape style, single or double shredded hardwood mulch or chips. The mulch layer should be well aged (stockpiled or stored for at least 12 months), uniform in color, and free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to a maximum depth of three inches. Grass clippings should not be used as mulch material.

Planting Guidance

Plant material selection should be based on the goal of simulating a terrestrial forested community of native species. Bioretention simulates an upland-species ecosystem. The community should be dominated by trees, but have a distinct community of understory trees, shrubs and herbaceous materials. By creating a diverse, dense plant cover, a bioretention facility will be able to treat stormwater runoff and withstand urban stresses from insects, disease, drought, temperature, wind, and exposure.

The proper selection and installation of plant materials is key to a successful system. There are essentially three zones within a bioretention facility (Figure A.5). The lowest elevation supports plant species adapted to standing and fluctuating water levels. The middle elevation supports plants that like drier soil conditions, but can still tolerate occasional inundation by water. The outer edge is the highest elevation and generally supports plants adapted to drier conditions. A sample of appropriate plant materials for bioretention facilities are included in Table A.4. The layout of plant material should be flexible, but should follow the general principals described in Table A.5. The objective is to have a system, which resembles a natural, and natural plant layout, while maintaining optimal conditions for plant establishment and growth. For a more extensive bioretention plan, consult ETAB, 1993 or Claytor and Schuster, 1997.



MICRO-BIORETENTIONS & RAIN GARDENS PLANT MATERIAL					
MICRO-BIO 1 QUANTITY	RAIN GARDEN 2 QUANTITY	RAIN GARDEN 3 QUANTITY	MICRO-BIO 4 QUANTITY	MICRO-BIO 5 QUANTITY	NAME
55	30	45	45	25	MIXED PERENNIALS
2	1	1	1	1	SILKY DOGWOOD

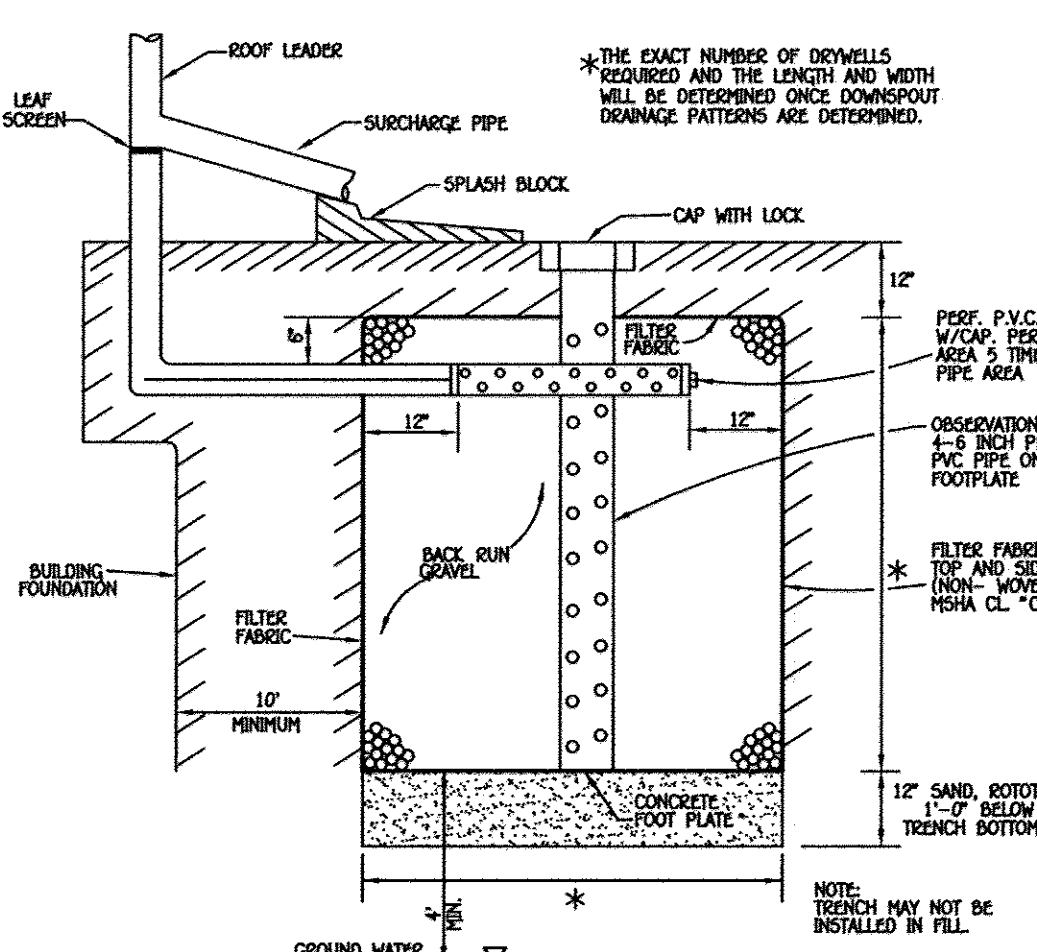
MICRO-BIORETENTIONS & RAIN GARDENS										
MICRO-BIO/RAIN GARDEN FILTER	A	B	C	D	E	F	G	H	I	J
#1	323.50	323.50	322.50	322.25	320.25	320.00	319.50	318.00	318.33	
#2	346.00	346.00	345.50	345.25	344.25	344.00	343.67	343.40	342.50	
#3	351.00	351.00	350.00	350.75	349.75	349.50	349.17	349.00	348.50	
#4	351.00	351.00	350.00	349.75	347.75	347.50	347.00	346.50	345.83	
#5	355.50	355.50	354.50	354.25	352.25	352.00	351.67	351.50	350.50	

OPERATION & MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (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.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND 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.

DRY WELL CHART						
LOT No.	DRYWELL No.	AREA OF ROOF PER DRYWELL	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L W D
LOT 2 (F)	1	1000 SQ.FT.	101 C.F.	120 C.F.	100%*	8' x 8' x 5'
LOT 2 (R)	2	1000 SQ.FT.	101 C.F.	120 C.F.	100%*	8' x 8' x 5'
LOT 3 (F)	3	1000 SQ.FT.	101 C.F.	120 C.F.	100%*	8' x 8' x 5'
LOT 3 (R)	4	1000 SQ.FT.	101 C.F.	120 C.F.	100%*	8' x 8' x 5'
LOT 7 (L)	5	1000 SQ.FT.	101 C.F.	120 C.F.	100%*	8' x 8' x 5'
101 C.F.	6	1000 SQ.FT.	101 C.F.	120 C.F.	100%*	8' x 8' x 5'

* AREA OF TREATMENT EXCEEDS THAT REQUIRED.



OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

- THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
- THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO (72) HOUR 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.

OWNER
TRACEY R FUHR
5814 BELLANCA DRIVE
ELK RIDGE MD, 21075

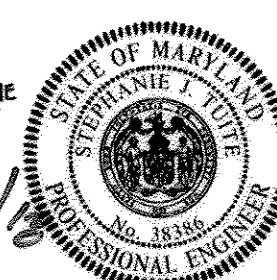
DEVELOPER
WALTER A MAYER
THELMA T MAYER
6198 MONTGOMERY RD
ELK RIDGE MD, 21075

MG LAND HOLDINGS, LLC
6159 WHITE MARBLE COURT
CLARKSVILLE, MD 21029
410-409-0333

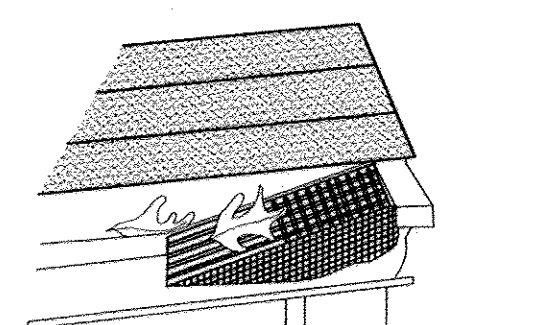
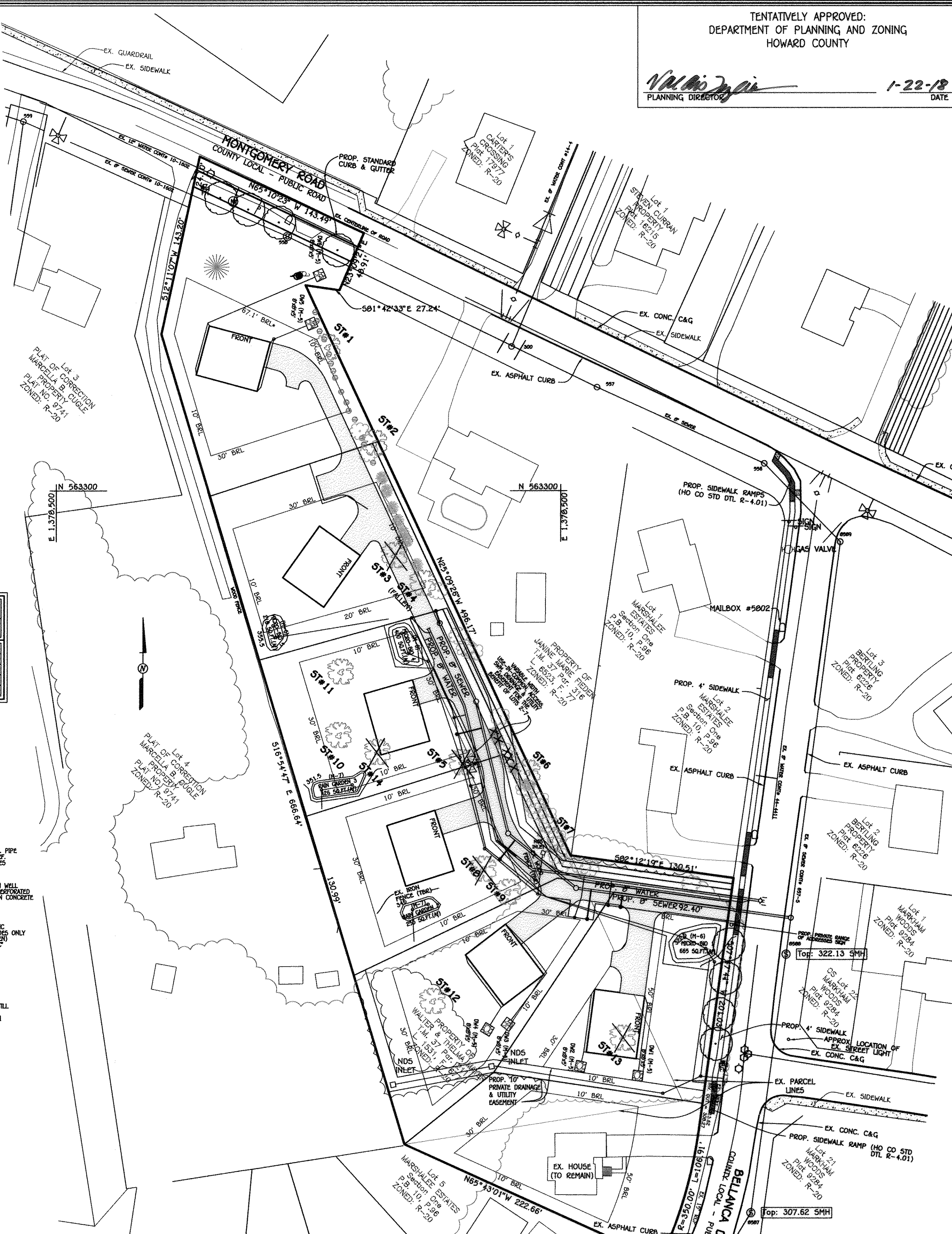
PROFESSIONAL CERTIFICATION

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. 30386, EXPIRATION DATE: 01/12/2018.

Signature of Professional Engineer
DATE: 1/2/18



TENTATIVELY APPROVED:
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY
1-22-18
DATE



STORMWATER MANAGEMENT NOTES

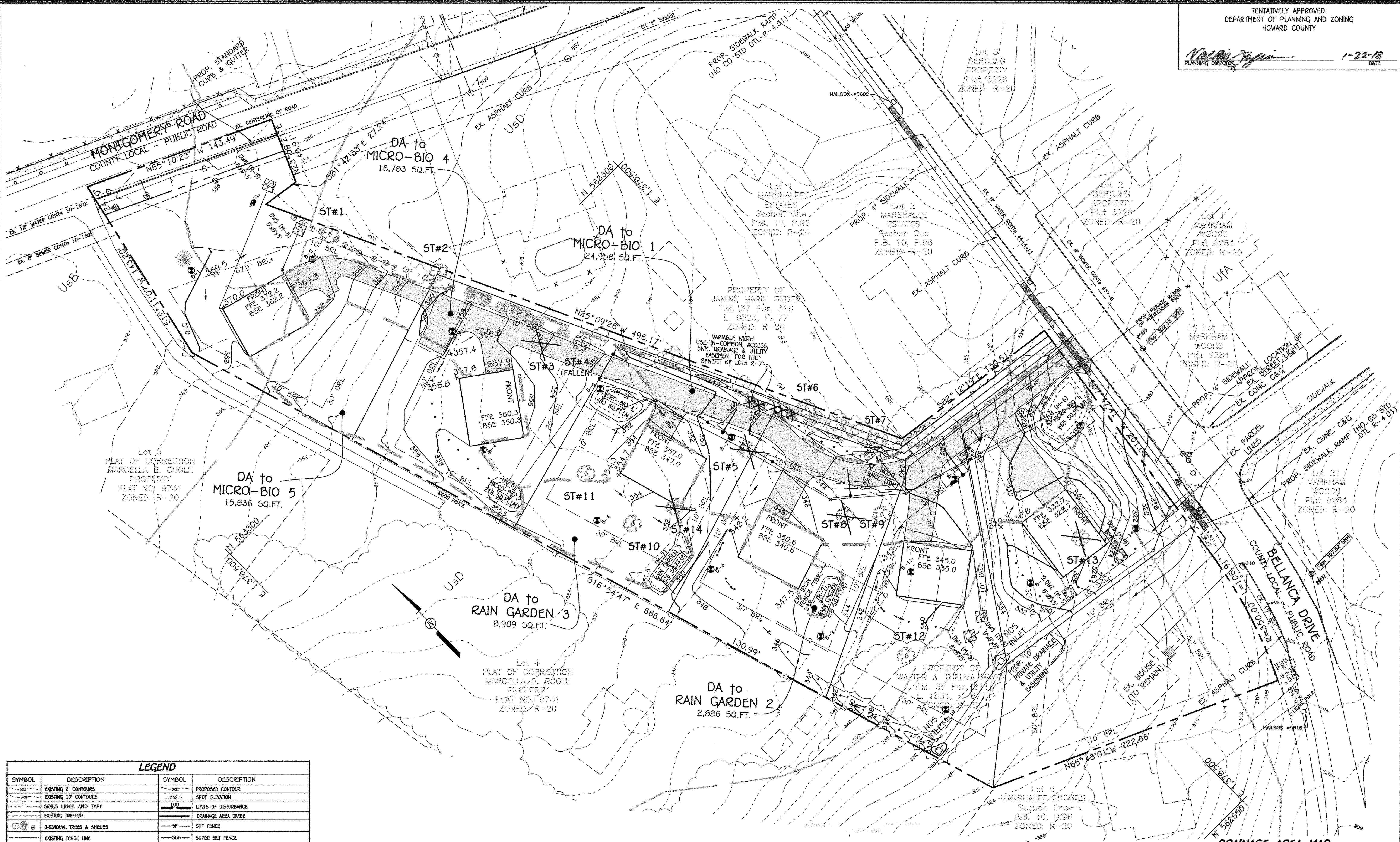
- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH WITH CHAPTER 15, ENVIRONMENTAL SITE DESIGN OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
- MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000 SQ. FT. OR LESS.
- DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5%. THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.
- FINAL GRADING IS SHOWN ON THE SITE DEVELOPMENT PLAN.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CONDITIONAL SOLE AGENT: 16272 BELMONT NATIONAL PIKE
ELKROFT CITY, MARYLAND 21042
(410) 461-2895

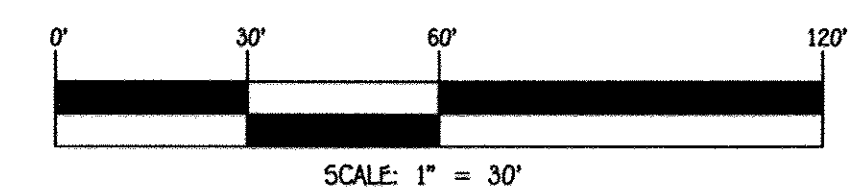
STORMWATER MANAGEMENT DETAILS ROCKBURN MEADOWS LOTS 1 THRU 7 ZONED R-20

TAX MAP NO. 37 GRID NO. 05 PARCEL NO. 211 & 641
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER, 2017
SHEET 4 OF 6

SP-17-012



LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING 2' CONTOURS		PROPOSED CONTOUR
	EXISTING 10' CONTOURS		SPOT ELEVATION
	SOILS LINES AND TYPE		LIMITS OF DISTURBANCE
	EXISTING TREELINE		DRAINAGE AREA DIVIDE
	INDIVIDUAL TREES & SHRUBS		SILT FENCE
	EXISTING FENCE LINE		SUPER SILT FENCE
	EXISTING & PROPOSED PAVING		PERMANENT SOIL STABILIZATION MATTING
	PROPOSED TREELINE		TO BE REMOVED OR RELOCATED



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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. 30386, EXPIRATION DATE: 01/12/2018.

Nathan Jahn 1/22/18
Signature of Professional Engineer DATE



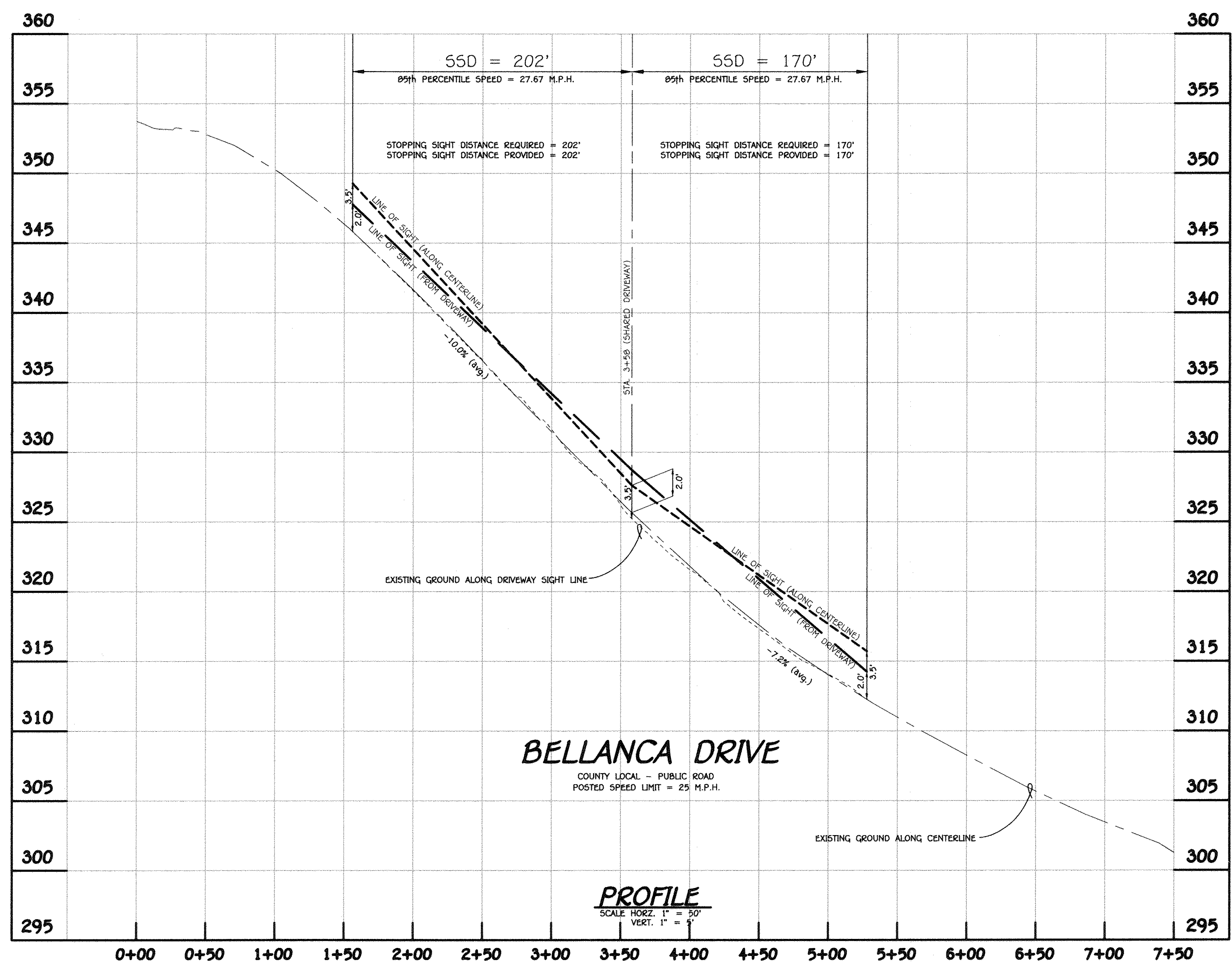
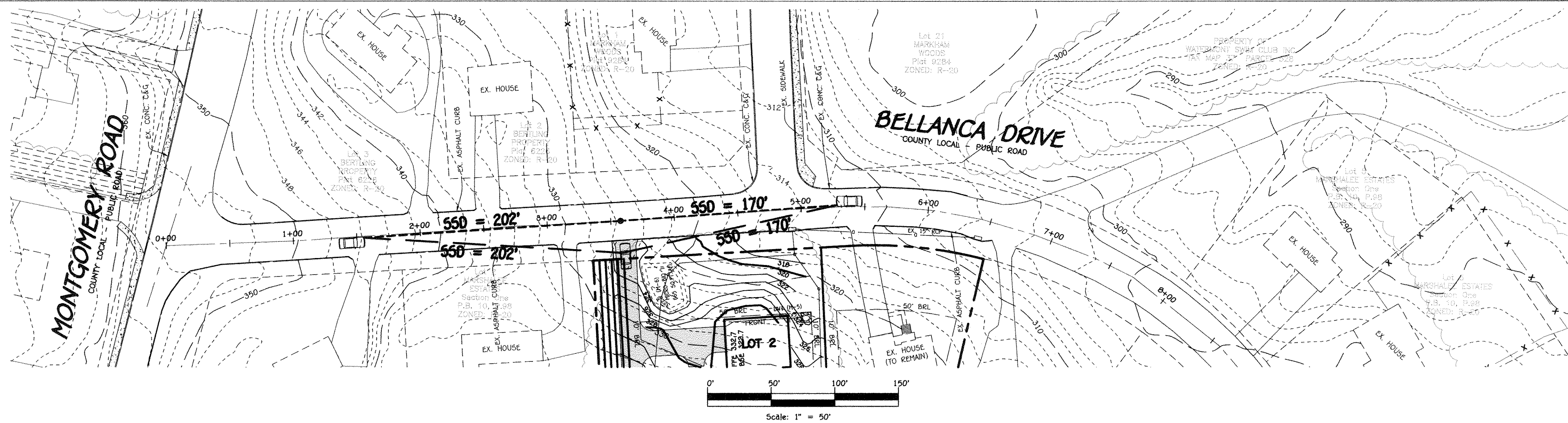
**DRAINAGE AREA MAP
ROCKBURN MEADOWS**

LOTS 1 THRU 7
ZONED R-20
TAX MAP No. 37 GRID No. 05 PARCEL No. 211 & 641
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER, 2017
SHEET 5 OF 6

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FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
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ELKLOTT CITY, MARYLAND 21042
(410) 461-2995

Valerie Zappin
PLANNING DIRECTOR
1-22-18
DATE



**STOPPING SIGHT DISTANCE PLAN AND PROFILE
(SHARED DRIVEWAY)
ROCKBURN MEADOWS
LOTS 1 THRU 7**

ZONED R-20
TAX MAP No. 37 GRID No. 05 PARCEL No. 211 & 641
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER, 2017
SHEET 6 OF 6

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PROFESSIONAL CERTIFICATION
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AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF
THE STATE OF MARYLAND, LICENSE NO. 36386, EXPIRATION DATE: 01/12/2018.
Christopher J. Jantz 1/2/18
Signature of Professional Engineer DATE



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