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# PRELIMINARY EQUIVALENT SKETCH PLAN MEADOWRIDGE VIEW

TENTATIVELY APPROVED:  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

*Valerie J. Griffin*  
PLANNING DIRECTOR

12-9-17  
DATE

## LOTS 1 THRU 8 AND OPEN SPACE LOT 9 THRU 11

ZONED: R-5C

TAX MAP No. 37 GRID No. 09 PARCEL NO. 78

MINIMUM LOTS SIZE CHART			
LOT No.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
2	8636 sq.ft.	373 sq.ft.	8465 sq.ft.
3	8684 sq.ft.	609 sq.ft.	8079 sq.ft.
4	9199 sq.ft.	832 sq.ft.	8327 sq.ft.
5	7254 sq.ft.	1014 sq.ft.	6240 sq.ft.
6	7611 sq.ft.	1367 sq.ft.	6244 sq.ft.
7	8145 sq.ft.	1806 sq.ft.	6339 sq.ft.
8	10,857 sq.ft.	3330 sq.ft.	7519 sq.ft.

ROADWAY INFORMATION CHART			
ROAD NAME	CLASSIFICATION	DESIGN SPEED	EASEMENT WIDTH
HUNTERS HOLLOW RD	PRIVATE USE-IN-COMMON DRIVEWAY	15 M.P.H.	24'

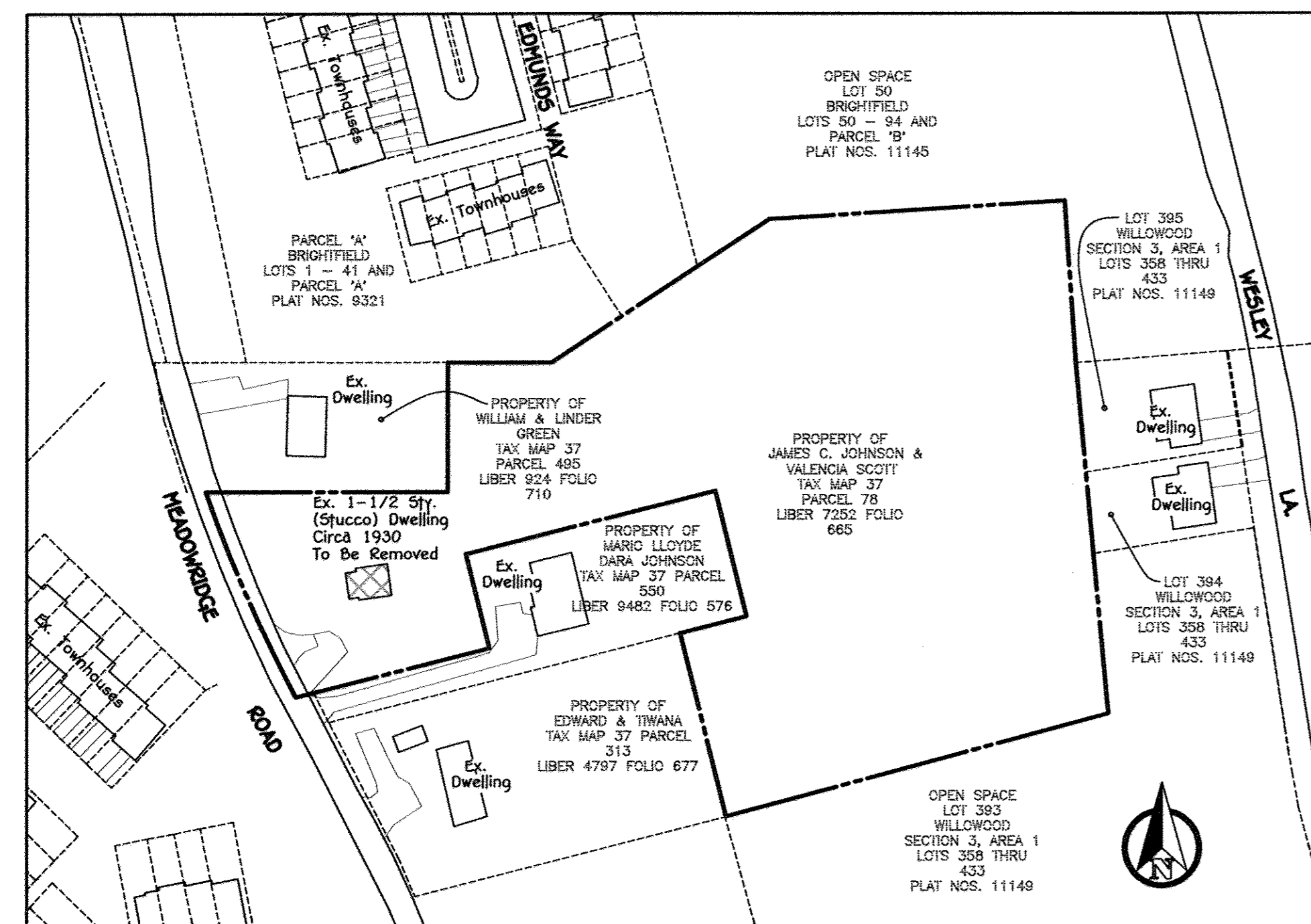
STORMWATER MANAGEMENT SUMMARY			
AREA ID.	ESDy REQUIRED CU.FT.	ESDy PROVIDED CU.FT.	REMARKS
SITE	4,013	5,090	DRYWELLS (M-5) & MICRO-BIORETENTION (M-6)
TOTAL	4,013	5,090	

GROSS AREA = 4.13 ACRES  
LOD = 1.92 ACRES (SITE)  
RCN = 99.8  
TARGET Pe = 1.76'

**RECHARGE VOLUME (REV)**

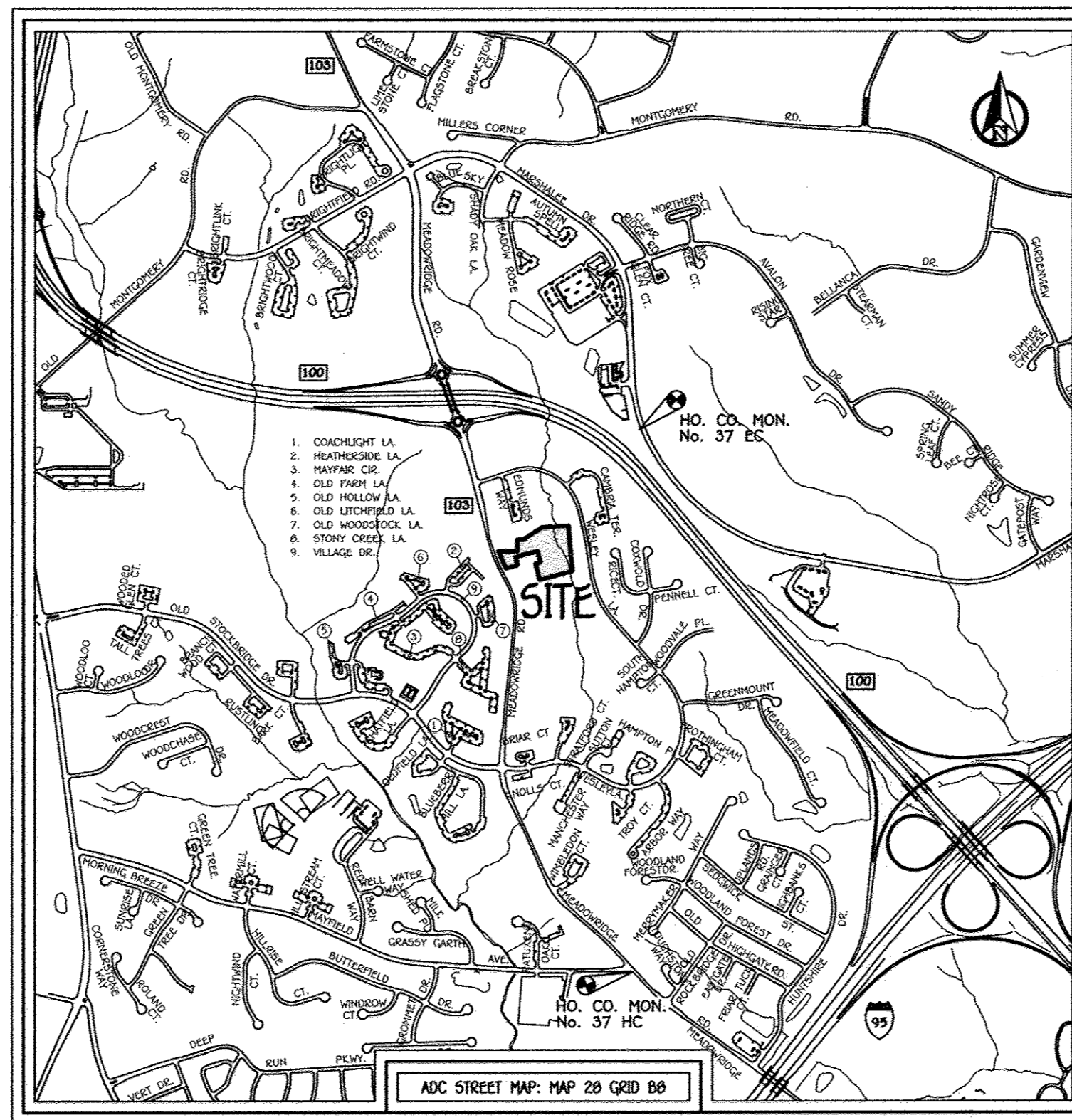
Rev = (5) (Rv) (A) / 12  
= (0.210) (0.329) (1.91) / 12  
= 0.0114 AC-FT OR 497 CU-FT

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



EXISTING CONDITIONS PLAN VIEW

SCALE: 1" = 100'



VICINITY MAP

SCALE: 1" = 1200'

## SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

LOT NO.	STORMWATER MANAGEMENT PRACTICES			
	DRY WELLS (M-5) Y/N, NUMBER	MICRO-BIORETENTION/NON-ROOFTOP DISCONNECTION (M-6) Y/N, NUMBER	ROOFTOP DISCONNECTION (N-2) Y/N	ROOFTOP DISCONNECTION (N-1) Y/N
1	YES, TWO (2)	NO	NO	NO
2	YES, THREE (3)	NO	NO	NO
3	YES, TWO (2)	NO	NO	NO
4	YES, TWO (2)	NO	NO	NO
5	YES, THREE (3)	NO	NO	NO
6	YES, THREE (3)	NO	NO	NO
7	YES, THREE (3)	NO	NO	NO
8	YES, FOUR (4)	NO	NO	NO
COMMON DRIVE	NO	YES, TWO (2)	NO	NO

**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 "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- 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 BUILDING OR GRADING PERMIT APPLICATION.
- COORDINATES BASED ON NAD83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 37 HC AND NO. 37 EC.  
HOWARD COUNTY MONUMENT NO. 37HC N 556,364.071 E 1,375,513.263 ELEV. (NAVD83) = 270.062  
HOWARD COUNTY MONUMENT NO. 37EC N 561,099.806 E 1,375,580.480 ELEV. (NAVD83) = 346.154
- SUBJECT PROPERTY ZONED R-5C PER 10/06/13 COMPREHENSIVE ZONING PLAN.
- BACKGROUND INFORMATION:
  - SUBDIVISION NAME: MEADOWRIDGE VIEW
  - TAX MAP NO. 37
  - PARCELS NO. 78
  - ZONING R-5C
  - ELECTION DISTRICT: SECOND
  - GROSS AREA OF TRACT = 4.13 ACRES  
NET TRACT AREA = 3.29 ACRES
  - NUMBER OF BUILDABLE LOTS: 8
  - NUMBER OF OPEN SPACE LOTS: 3
  - AREA OF BUILDABLE LOTS: 1.62 ACRES
  - AREA OF OPEN SPACE LOTS: 2.32 ACRES
  - AREA OF ROADWAY TO BE DEDICATED: 0.19 ACRES
  - PREVIOUS FILE NUMBERS: ECP-17-046, WP-17-119.
  - AREA OF FLOODPLAIN = 0.84 ACRES
  - AREA OF 25% OR GREATER SLOPES = 0.24 ACRES
- OPEN SPACE REQUIREMENTS:
  - AREA OF OPEN SPACE REQUIRED = 4.13 x 25% = 1.03 ACRES
  - AREA OF OPEN SPACE PROVIDED = 2.32 ACRES (2.23 ACRES CREDITED)
- ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF MSHTO T-180.
- NOISE STUDY WAS PREPARED BY MARS GROUP DATED FEBRUARY, 2017. THE 65DBA NOISE CONTOUR LINE DRAWN ON THIS PLAN IS ADVISORY AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY, 1992, AND CANNOT BE CONSIDERED TO EXACTLY LOCATE THE 65DBA NOISE EXPOSURE. THE 65DBA NOISE LINE WAS ESTABLISHED BY HOWARD COUNTY TO ALERT DEVELOPERS, BUILDERS AND FUTURE RESIDENTS THAT AREAS BEYOND THIS THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LEVELS ESTABLISHED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
- WATER IS PUBLIC (CONTRACT NO. 14-1828-D)  
SEWER IS PUBLIC (CONTRACT NO. 14-1828-D)
- SOILS INFORMATION TAKEN FROM SOIL SURVEY MAP NO. 26, HOWARD COUNTY, MARYLAND.
- EXISTING STRUCTURES LOCATED ON SITE ARE TO BE RAZED AS SHOWN ON PLAN.
- BOUNDARY OUTLINE BASED ON FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS, & CARTER, INC. DATED MARCH, 2017.
- TOPOGRAPHY BASED ON FIELD RUN SURVEY BY FISHER, COLLINS & CARTER, INC. DATED MARCH, 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 A STONE RESERVOIR. WATER QUALITY AND CHANNEL PROTECTION VOLUME WILL BE PROVIDED BY A MICRO BIO-RETENTION FACILITY AND 22 DRY WELLS. OVERBANK FLOOD PROTECTION VOLUME AND EXTREME FLOOD VOLUMES ARE NOT REQUIRED FOR THIS SITE. THE STORMWATER MANAGEMENT FACILITY WILL BE PRIVATELY OWNED & MAINTAINED BY THE H.O.A. (Bio-Retention) OR THE PRIVATE HOMEOWNER (Dry Wells).
- STREAM, WETLANDS, THEIR BUFFERS, STEEP SLOPES, AND FLOODPLAIN EXIST ON-SITE. FLOODPLAIN SHOWN HEREON IS BASED ON HOWARD COUNTY FEMA MAPS.
- THE DISTURBANCE TO THE 25% OR GREATER ON-SITE STEEP SLOPES IS PERMITTED BECAUSE THE SLOPES ARE LESS THAN 20,000 SF IN AREA, IN ACCORDANCE WITH SECTION 16.116(B)(1)(I) OF THE SUBDIVISION REGULATIONS.
- DISTURBANCE INTO THE WETLANDS, STREAM, AND THEIR BUFFERS FOR THE EXTENSION OF THE SEWER MAIN AND EASEMENT IS CONSIDERED ESSENTIAL DISTURBANCE BY DPZ PER SECTION 16.116(C)(1) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP DATED FEBRUARY, 2017.
- THE FOREST CONSERVATION ACT REQUIREMENTS FOR THIS PROJECT WILL BE MET THROUGH THE RETENTION OF 1.14 AC.+ OF FOREST (11.0 AC. CREDITED). NO SURETY WILL BE REQUIRED FOR RETENTION. "NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED."
- SOIL BORING REPORT FOR THIS PROJECT WAS PREPARED BY FISHER, COLLINS, & CARTER, INC. DATED MARCH, 2017 AND APPROVED ON MAY 30, 2017.
- THE FOREST STAND DELINEATION AND WETLAND DELINEATION FOR THIS PROJECT WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED MARCH, 2017 AND APPROVED ON MAY 30, 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.
- TRASH AND RECYCLABLES COLLECTION WILL BE AT ROAD A WITHIN 5' OF THE COUNTY ROADWAY.
- A PRIVATE DRIVEWAY NAME SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATE.
- NO CEMETERIES OR HISTORIC STRUCTURES EXIST WITHIN THIS SUBDIVISION.
- 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 COMPLETED.
  - 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" (MDMUTCD).
  - 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 (1 1/2" GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED, SQUARE TUBE SLEEVE (1 1/2" 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.
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, STREAM OR THEIR REQUIRED BUFFERS.
- DESIGN MANUAL WAIVER TO ALLOW 8 LOTS ON A USE-IN-COMMON DRIVEWAY WAS GRANTED ON OCTOBER 30, 2017 SUBJECT TO PROVIDING CURBS & GUTTER, STORM DRAIN SYSTEM, AND SWM TO FULLY TREAT ESDy, SAFELY CONVEY THE STORMWATER AND PREVENT FLOODING TO EXISTING AND PROPOSED HOUSES.
- ALTERNATIVE COMPLIANCE APPLICATION, WP-17-119, WAS APPROVED ON JUNE 1, 2017 REQUESTING ALTERNATIVE COMPLIANCE TO SECTION 16.1205(A)(7) TO ALLOW THE REMOVAL OF TWO (2) SPECIMEN TREES. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
  - THE REMOVAL OF THE TWO (2) SPECIMEN TREES (RED MAPLES) WILL REQUIRE MITIGATION WITH THE PLANTING OF 2:1 REPLACEMENT TREES (4 TOTAL) WITH A MINIMUM 3" CALIPER NATIVE PLANT SPECIES AS PART OF THIS SUBDIVISION'S LANDSCAPING PLAN. SURETY FOR THE FOUR SHADE TREES WILL BE INCORPORATED INTO THE LANDSCAPE SURETY WITH THE FINAL PLAN.
  - PROVIDE A NOTE ON ALL SUBSEQUENT SUBDIVISION AND SITE DEVELOPMENT PLANS REGARDING THIS ALTERNATIVE COMPLIANCE PETITION APPROVAL. THIS NOTE SHALL INCLUDE THE REGULATION SECTIONS PETITIONED, THE DATE OF THE ALTERNATIVE COMPLIANCE APPROVAL, AND THE CONDITIONS OF APPROVAL.

**PROFESSIONAL CERTIFICATION**

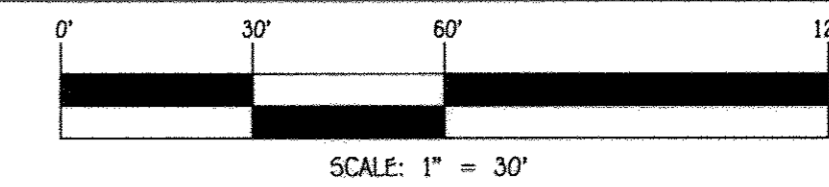
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38386, EXPIRATION DATE: 01/12/2018.

*Stephen J. Tate* 12/6/17  
Signature of Professional Engineer DATE



## MEADOWRIDGE VIEW LOTS 1 THRU 8 AND OPEN SPACE LOTS 9 THRU 11

ZONED R-5C  
TAX MAP No. 37 GRID No. 09 PARCEL No. 78  
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: NOVEMBER, 2017  
SHEET 1 OF 7



*Valley View*  
PLANNING DESIGN  
12-7-17 DATE

**FOREST PROTECTION GENERAL NOTES**

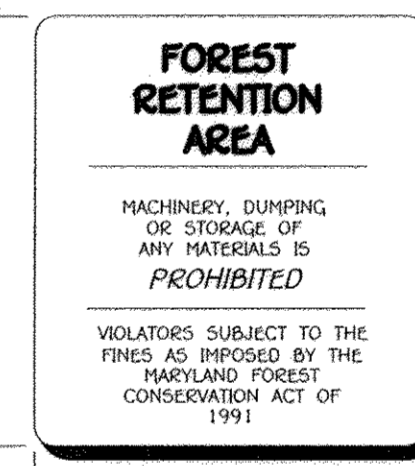
1. ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC MESH FENCING, AS NECESSARY, AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
2. THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES, UNLESS ROOT PRUNING IS PROPOSED.
3. ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
4. ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS.
5. INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SMOOTHING, FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
6. THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS.
7. REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
8. THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS.
9. ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.

**PRE-CONSTRUCTION MEETING**

1. AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER, AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS MEETING WILL BE:
  - A. TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIMEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS;
  - B. INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
  - C. MAKE ALL NECESSARY ADJUSTMENTS;
  - D. ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

**CONSTRUCTION MONITORING**

1. THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING OR DROUGHT CONDITIONS.
2. ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIATED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.
3. THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.



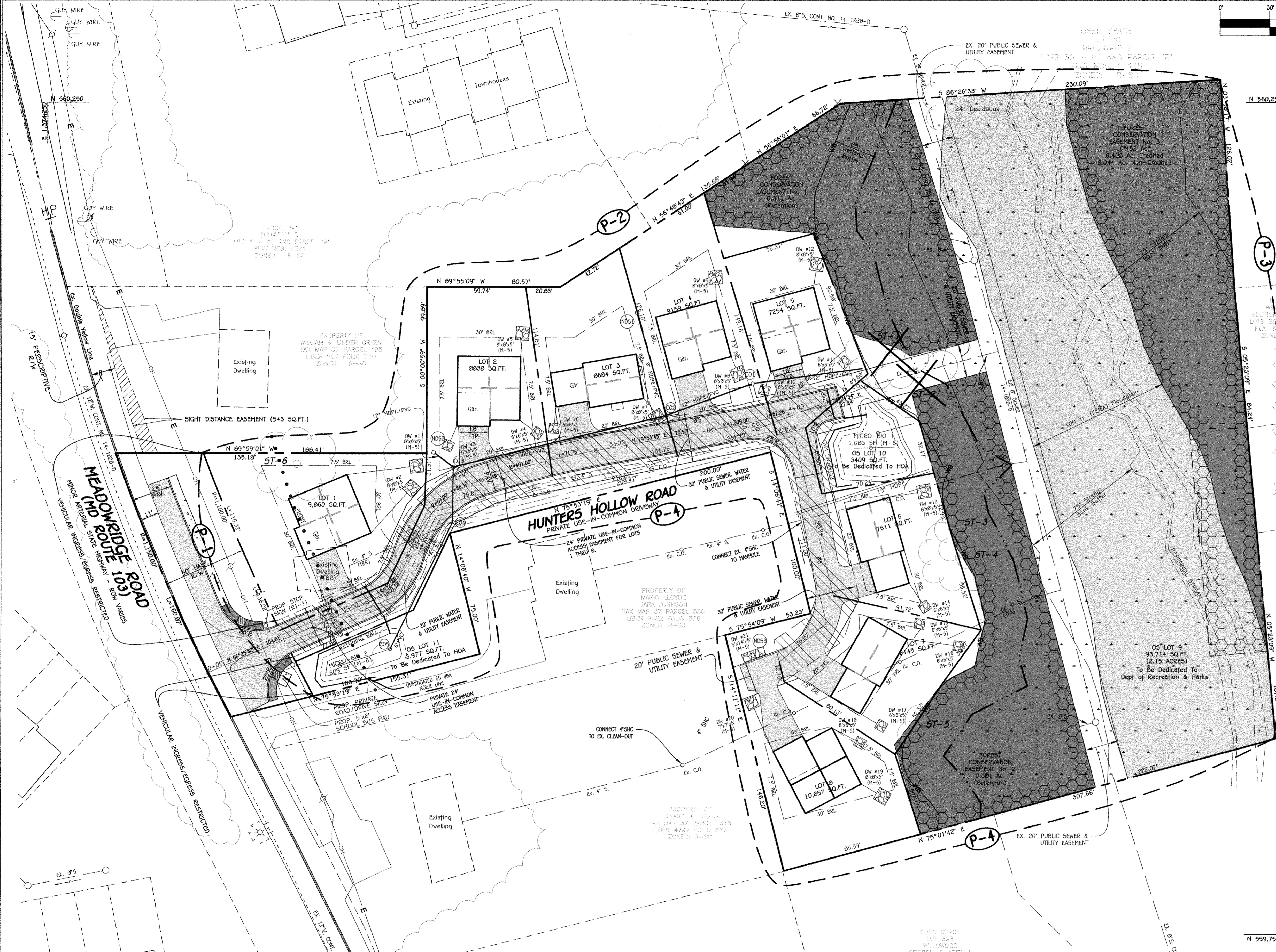
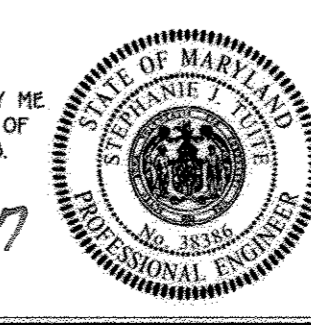
SCHEDULE A PERIMETER LANDSCAPE EDGE				
PERIMETER	CATEGORY			
	P1	P2	P3	P4
FRONT TO ROADWAY	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	A	A	A	A
LINEAR FEET OF PERIMETER	136.02'	748.11'	397.62'	985.99'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	-	YES, 378'	YES, 100%	YES, 349'
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET)	-	-	-	-
NUMBER OF PLANTS REQUIRED	-	6	0	11
SHADE TREES	-	-	-	-
EVERGREEN TREES	-	-	-	-
SHRUBS	-	-	-	-

**PRELIMINARY EQUIVALENT SKETCH PLAN,  
PRELIMINARY LANDSCAPE PLAN, &  
PRELIMINARY FOREST CONSERVATION PLAN**  
**MEADOWRIDGE VIEW**  
LOTS 1 THRU 8 AND  
OPEN SPACE LOTS 9 THRU 11  
ZONED R-SC  
TAX MAP No. 37 GRID No. 09 PARCEL No. 78  
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: NOVEMBER, 2017  
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. 38396, EXPIRATION DATE: 01/12/2018.

*Stephen J. Int.* 12/6/17  
Signature of Professional Engineer DATE



**LEGEND**

SYMBOL	DESCRIPTION
[Square with dot]	PROPOSED DWELLING (M-5)
[Square with 'E']	SPOFF ELEVATION
[Arrow]	FLOW ARROW
[Circle with 'P']	EXISTING POWER POLE
[Circle with 'S']	SPECIMEN TREE
[Circle with 'S']	SPECIMEN TREE TO BE REMOVED
[Circle with 'T']	EXISTING TREES
[Circle with 'W']	WETLANDS
[Circle with 'F']	FEMA FLOODPLAIN

**Specimen Tree Chart**

Key	Species	Size (in DBH)	CRZ (feet radius)	Comments (good unless otherwise noted)
1*	Red maple	52.5	78.75	poor condition, broken trunk
2*	Red maple	33	49.5	good condition
3	Red maple	40	60	fair condition, twin stems, weak attachment
4	Red maple	33	49.5	poor condition, major trunk rot
5	Sweet Gum	30	45	good condition, twin stems
6	Red maple	40	60	good condition

\* TO BE REMOVED PER WP-17-119

**NOTES**

1. THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1202 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY THE ON-SITE RETENTION OF 1.14 ACRES OF FOREST. NO SURETY WILL BE REQUIRED A FOREST CONSERVATION AGREEMENT WILL BE REQUIRED FOR THE FOREST CONSERVATION RETENTION AREA AT FINAL PLAN STAGE.
2. FOREST CONSERVATION REQUIREMENTS AS SET FORTH IN SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL, NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENTS, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
3. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A LANDSCAPE SURETY FOR REQUIRED SHADE TREES WILL BE REQUIRED AT FINAL PLAN STAGE.

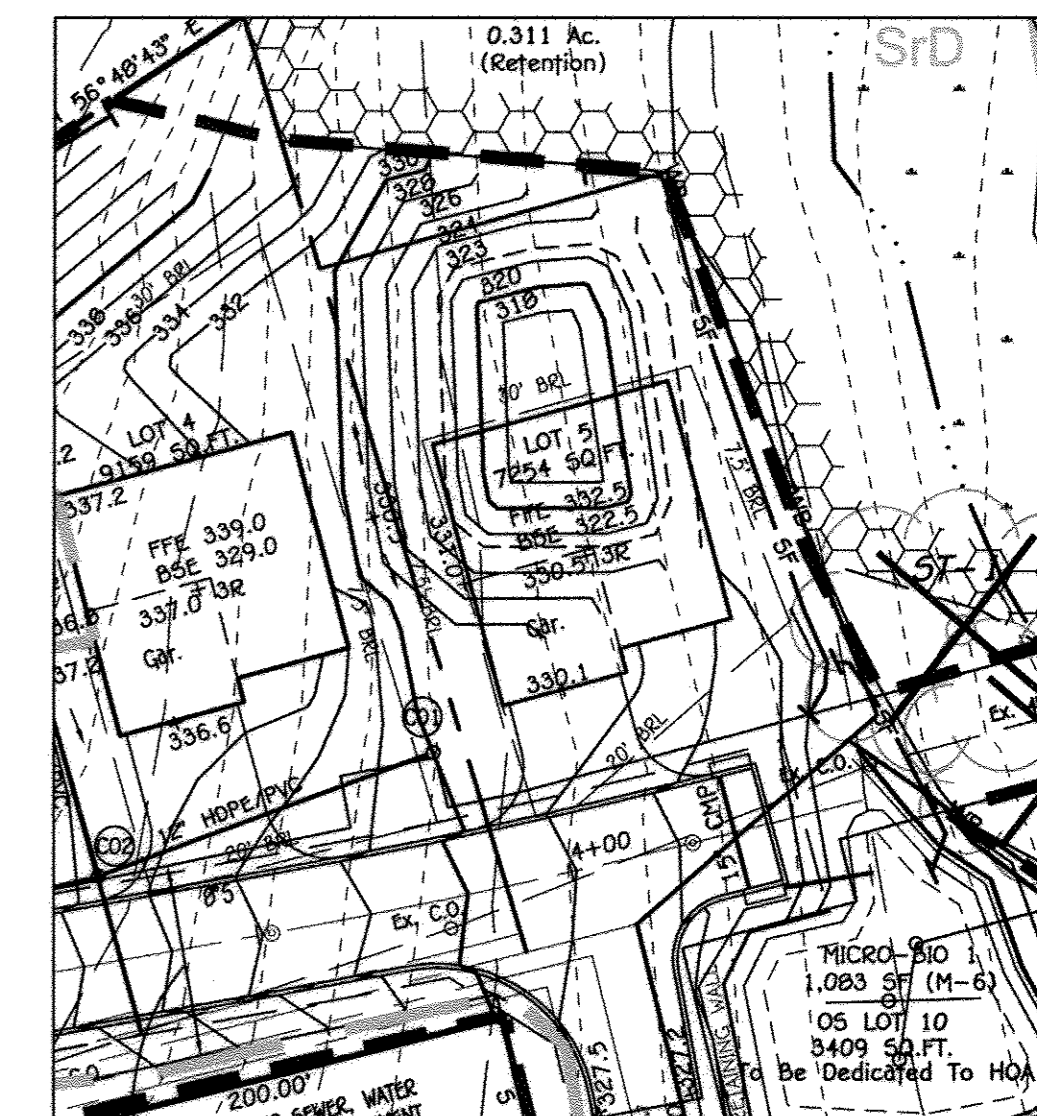
**OWNERS**  
JAMES C. JOHNSON & VALENCIA SCOTT  
6077 MEADOWRIDGE RD  
ELK RIDGE, MD 21075

**DEVELOPER**  
BURKARD HOMES  
5030 DORSEY HALL DRIVE, SUITE 102  
ELLCOTT CITY, MD 21042  
240-375-1012

*N. William J. Miller*  
PLANNING DIRECTOR 12-7-17  
DATE

**LEGEND**

SYMBOL	DESCRIPTION
---	EXISTING 2' CONTOURS
---	EXISTING 10' CONTOURS
---	SOILS LINES AND TYPE
---	EXISTING TREELINE
---	PROPOSED TREELINE
---	PROPOSED CONTOUR
---	PROPOSED DEWELL (M-5)
+362.5	SPOT ELEVATION
---	FLOW ARROW
---	EXISTING POWER POLE
ST-1	SPECIMEN TREE
---	EXISTING TREES
---	SLOPES 15% TO 25%
---	SLOPES 25% OR GREATER
---	LIMITS OF DISTURBANCE
---	SILT FENCE
---	SUPER SILT FENCE
---	STABILIZES CONSTRUCTION ENTRANCE
---	DRAINAGE AREA DIVIDE
---	WETLANDS
---	FEMA FLOODPLAIN



**SEDIMENT TRAP DETAIL**  
SCALE: 1"=30'

**SOILS LEGEND**

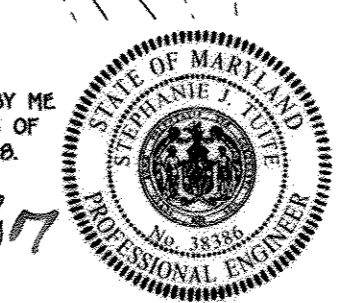
SOIL	NAME	CLASS	K FACTOR
Fa	Fallsington sandy loam, 0 to 2 percent slopes	D	0.20
RsC	Russett fine sandy loam, 5 to 10 percent slopes	C	0.24
SrD	Sassafras and Croom soils, 10 to 15 percent slopes	B	0.37
UcB	Urban land-Chillum-Beltville complex, 0 to 5 percent slopes	D	0.37

**SCHEMATIC GRADING, SEDIMENT & EROSION CONTROL PLAN**  
**MEADOWRIDGE VIEW**  
LOTS 1 THRU 8 AND  
OPEN SPACE LOTS 9 THRU 11  
ZONED R-SC  
TAX MAP No. 37 GRID No. 09 PARCEL No. 78  
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: NOVEMBER, 2017  
SHEET 3 OF 7

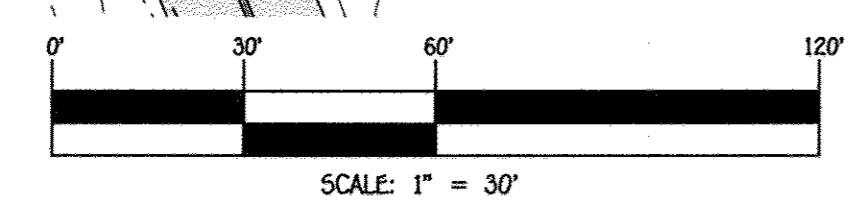
**PROFESSIONAL CERTIFICATION**

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. 36396, EXPIRATION DATE: 01/12/2018.

*Stephen J. Jeter* 12/6/17  
Signature of Professional Engineer DATE



**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21114  
(410) 461-2895



**OWNERS**  
JAMES C. JOHNSON & VALENCIA SCOTT  
6077 MEADOWRIDGE RD  
ELLCOTT CITY, MD 21075

**DEVELOPER**  
BURKARD HOMES  
5030 DORSEY HALL DRIVE, SUITE 102  
ELLCOTT CITY, MD 21042  
240-375-1012

### 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.
- > Temporary 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 (USA), 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 (EQE), 1996; Engineering Technology Inc. and Biohabitats, Inc. (ETAB), 1993). Soils should fall within the SM, ML, SC classifications of the Unified Soil Classification System (USCS). A permeability of at least 1.0 feet per day (0.5"/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, Nutseed, 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 traversed 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%

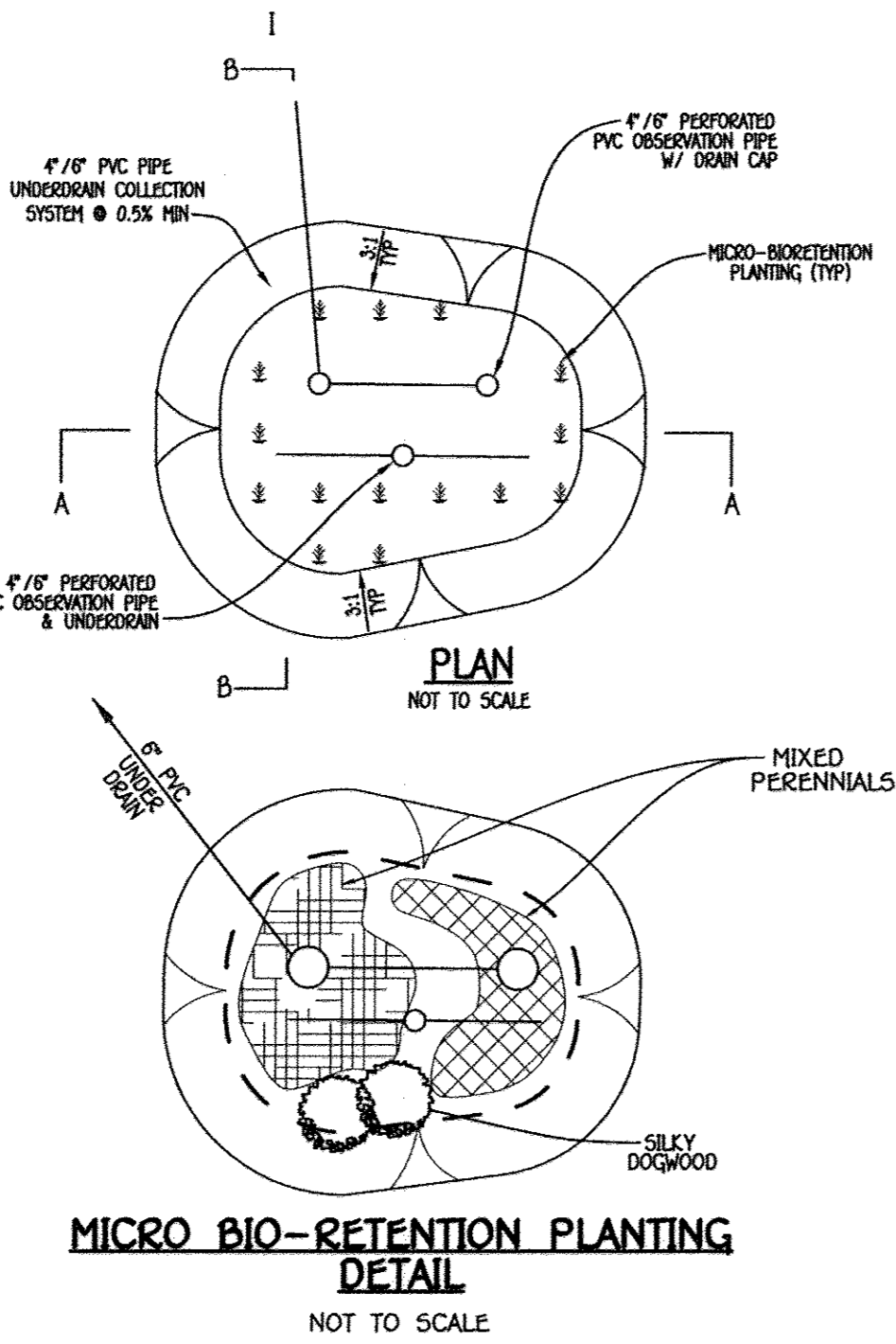
#### Mulch Layer

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 microclimate 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.

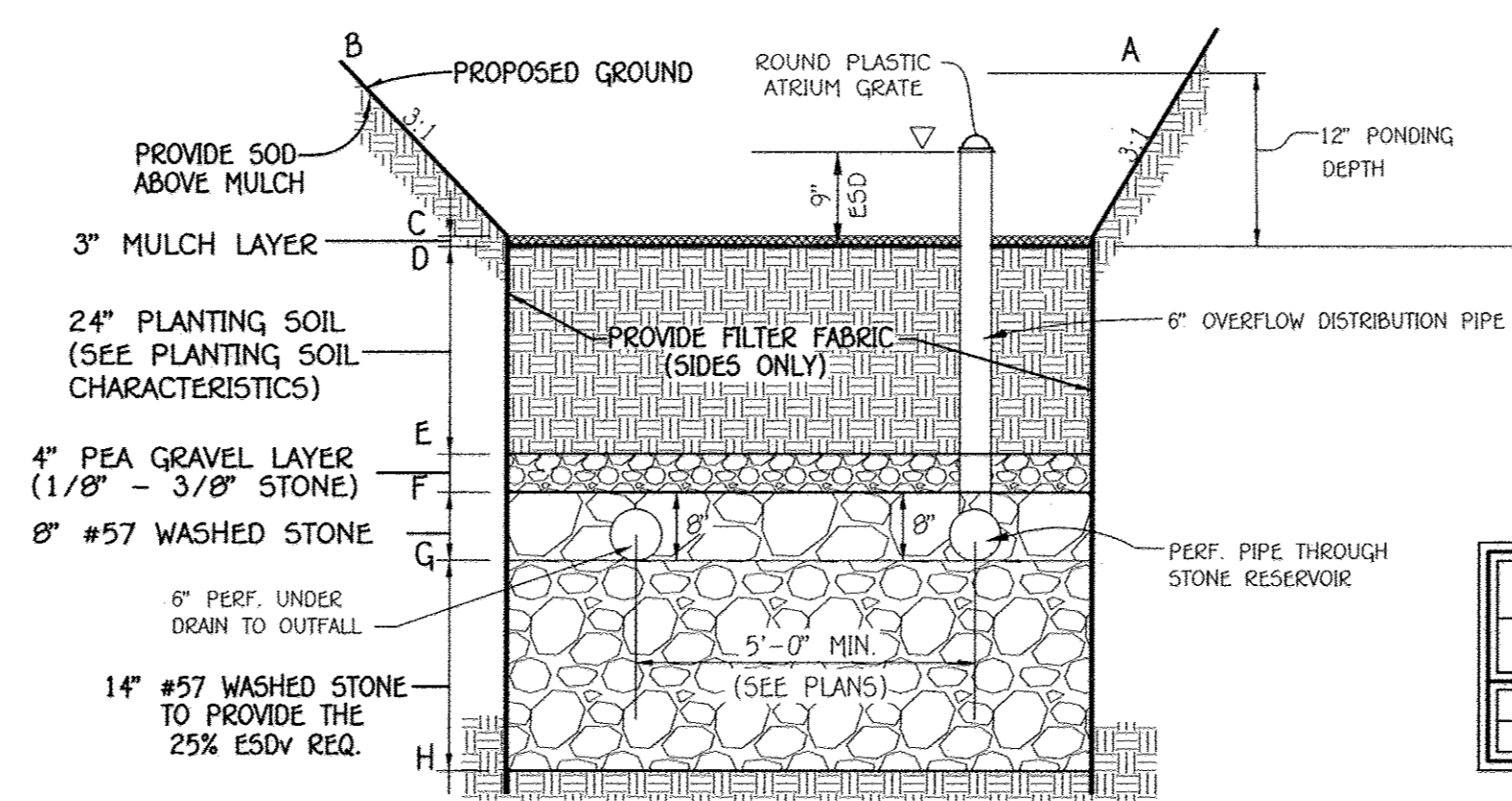
The mulch layer should be standard landscape style, single or double shredded hardwood mulch or chips. The mulch layer should be well aged (stockpiled or stored for at least 12 months), uniform in color, and free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to a maximum depth of three inches. Grass clippings should not be used as a 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 understorey 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 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 dryer 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 random, and natural plant layout, while maintaining optimal conditions for plant establishment and growth. For a more extensive bioretention plan, consult ETAB, 1993 or Clayton and Schueler, 1997.



MICRO-BIORETENTION PLANTING DETAIL NOT TO SCALE



MICRO-BIORETENTION SECTION WITH 6" OVERFLOW DISTRIBUTION PIPE

### OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (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 1, Table A.4.1 and 2.
- The owner shall perform a plant in the spring and in the fall 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 species and vines.
- 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.

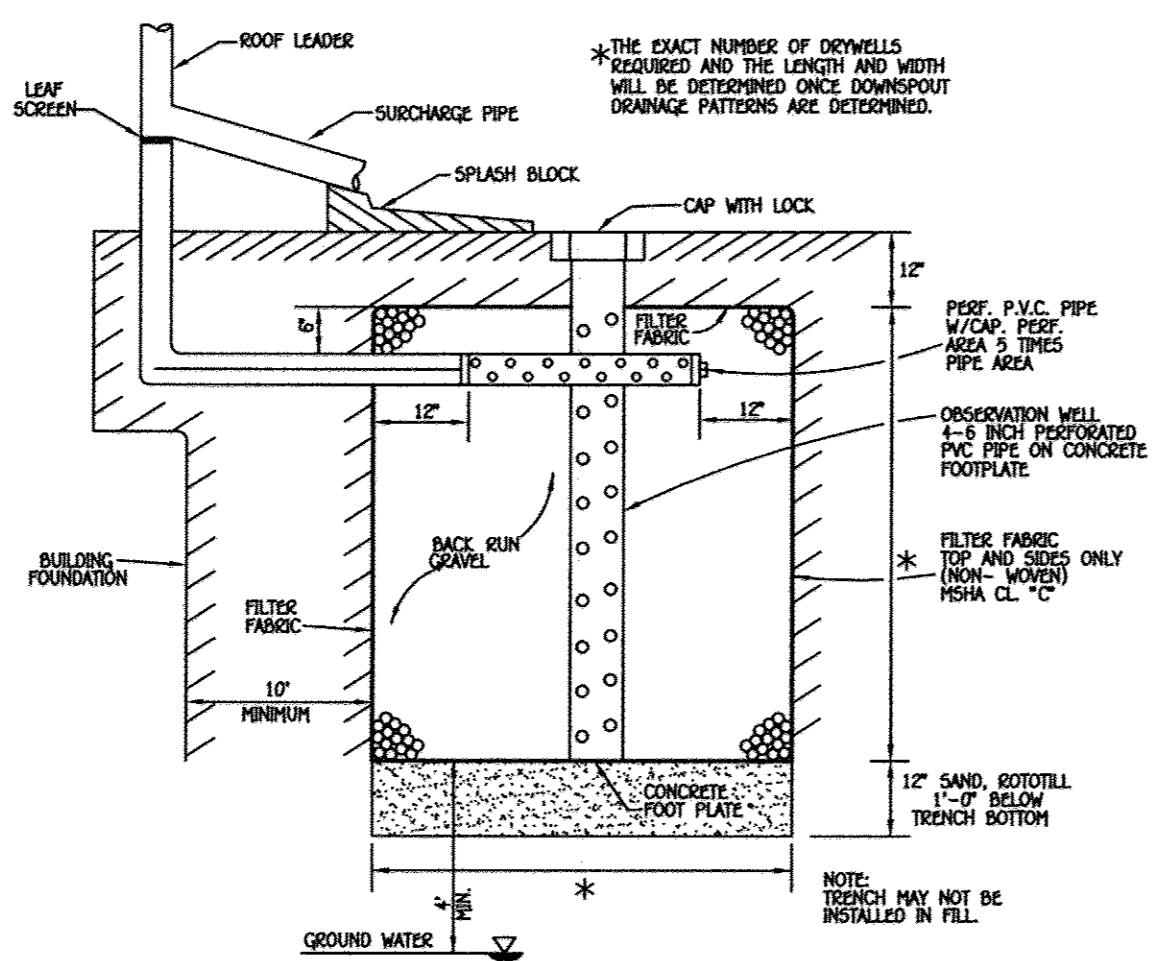
MICRO-BIORETENTION FILTER	MICRO-BIORETENTIONS								
	A	B	C	D	E	F	G	H	I
#1	320.59	320.50	319.50	319.29	317.29	316.92	316.29	315.08	316.00
#2	363.00	363.00	362.00	361.79	359.79	359.42	358.79	357.58	355.15

MICRO-BIORETENTION PLANT MATERIAL			
MICRO-BIO 1 QUANTITY	MICRO-BIO 2 QUANTITY	NAME	MAXIMUM SPACING (FT.)
130	65	MIXED PERENNIALS	1.5 TO 3.0 FT.
2	2	SILKY DOGWOOD	PLANT AWAY FROM INFLOW LOCATION

SCH 40 PVC PERFORATED UNDERDRAIN PIPE DETAIL FOR HORIZONTAL DRAIN PIPE NO SCALE

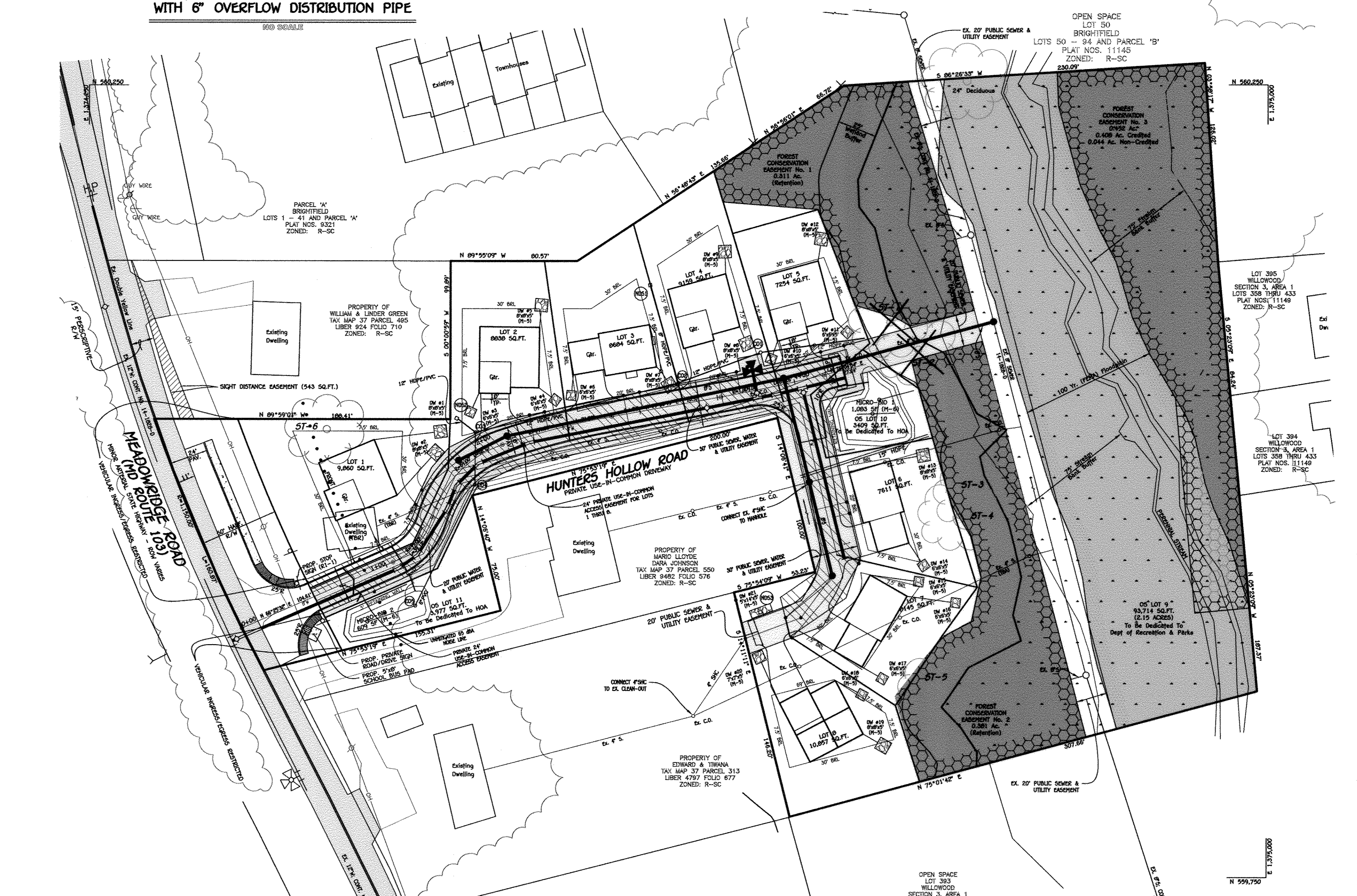
DRY WELL CHART						
LOT No.	DRYWELL No.	AREA OF ROOF PER DRYWELL	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L W D
LOT 1	1	707 SQ. FT.	99 C.F.	128 C.F.	100%*	8' x 8' x 5'
LOT 1	2	820 SQ. FT.	114 C.F.	128 C.F.	100%*	8' x 8' x 5'
LOT 2	3	457 SQ. FT.	64 C.F.	72 C.F.	100%*	6' x 6' x 5'
LOT 2	4	344 SQ. FT.	48 C.F.	72 C.F.	100%*	6' x 6' x 5'
LOT 2	5	726 SQ. FT.	101 C.F.	128 C.F.	100%*	8' x 8' x 5'
LOT 3	6	410 SQ. FT.	57 C.F.	72 C.F.	100%*	6' x 6' x 5'
LOT 3	7	892 SQ. FT.	99 C.F.	128 C.F.	100%*	8' x 8' x 5'
LOT 4	8	735 SQ. FT.	103 C.F.	128 C.F.	100%*	8' x 8' x 5'
LOT 4	9	659 SQ. FT.	92 C.F.	128 C.F.	100%*	8' x 8' x 5'
LOT 5	10	457 SQ. FT.	64 C.F.	72 C.F.	100%*	6' x 6' x 5'
LOT 5	11	344 SQ. FT.	48 C.F.	72 C.F.	100%*	6' x 6' x 5'
LOT 5	12	726 SQ. FT.	101 C.F.	128 C.F.	100%*	8' x 8' x 5'
LOT 6	13	410 SQ. FT.	57 C.F.	72 C.F.	100%*	6' x 6' x 5'
LOT 6	14	891 SQ. FT.	124 C.F.	128 C.F.	100%*	8' x 8' x 5'
LOT 7	15	446 SQ. FT.	63 C.F.	72 C.F.	100%*	6' x 6' x 5'
LOT 7	16	446 SQ. FT.	63 C.F.	72 C.F.	100%*	6' x 6' x 5'
LOT 7	17	410 SQ. FT.	57 C.F.	72 C.F.	100%*	6' x 6' x 5'
LOT 8	18	344 SQ. FT.	48 C.F.	72 C.F.	100%*	6' x 6' x 5'
LOT 8	19	825 SQ. FT.	115 C.F.	128 C.F.	100%*	8' x 8' x 5'
LOT 8	20	458 SQ. FT.	64 C.F.	98 C.F.	100%*	7' x 7' x 5'
LOT 8	21**	948 SQ. FT.	132 C.F.	140 C.F.	100%*	5' x 14' x 5'

- \* AREA OF TREATMENT EXCEEDS THAT REQUIRED.
- \*\* TREATING DRIVEWAY.



### OPERATION AND MAINTENANCE SCHEDULE FOR DRYWELLS (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 INSURE 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 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.



LAYOUT OF PROPOSED WATER AND SEWER SCALE: 1" = 40'

**OWNERS**  
JAMES C. JOHNSON & VALENCIA SCOTT  
6077 MEADOWRIDGE RD  
ELK RIDGE, MD 21075

**DEVELOPER**  
BURKARD HOMES  
5030 DORSEY HALL DRIVE, SUITE 102  
ELLCOTT CITY, MD 21042  
240-375-1012

**PROFESSIONAL CERTIFICATION**  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A QUALY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38386, EXPIRATION DATE: 01/12/2018.  
Signature of Professional Engineer DATE 12/6/17



### STORMWATER MANAGEMENT DETAILS MEADOWRIDGE VIEW LOTS 1 THRU 8 AND OPEN SPACE LOTS 9 THRU 11 ZONED R-5C

TAX MAP No. 37 GRID No. 09 PARCEL No. 78  
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: A5 SHOWN DATE: NOVEMBER, 2017  
SHEET 4 OF 7

### STORMWATER MANAGEMENT NOTES

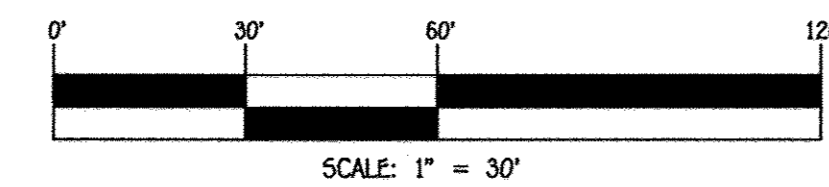
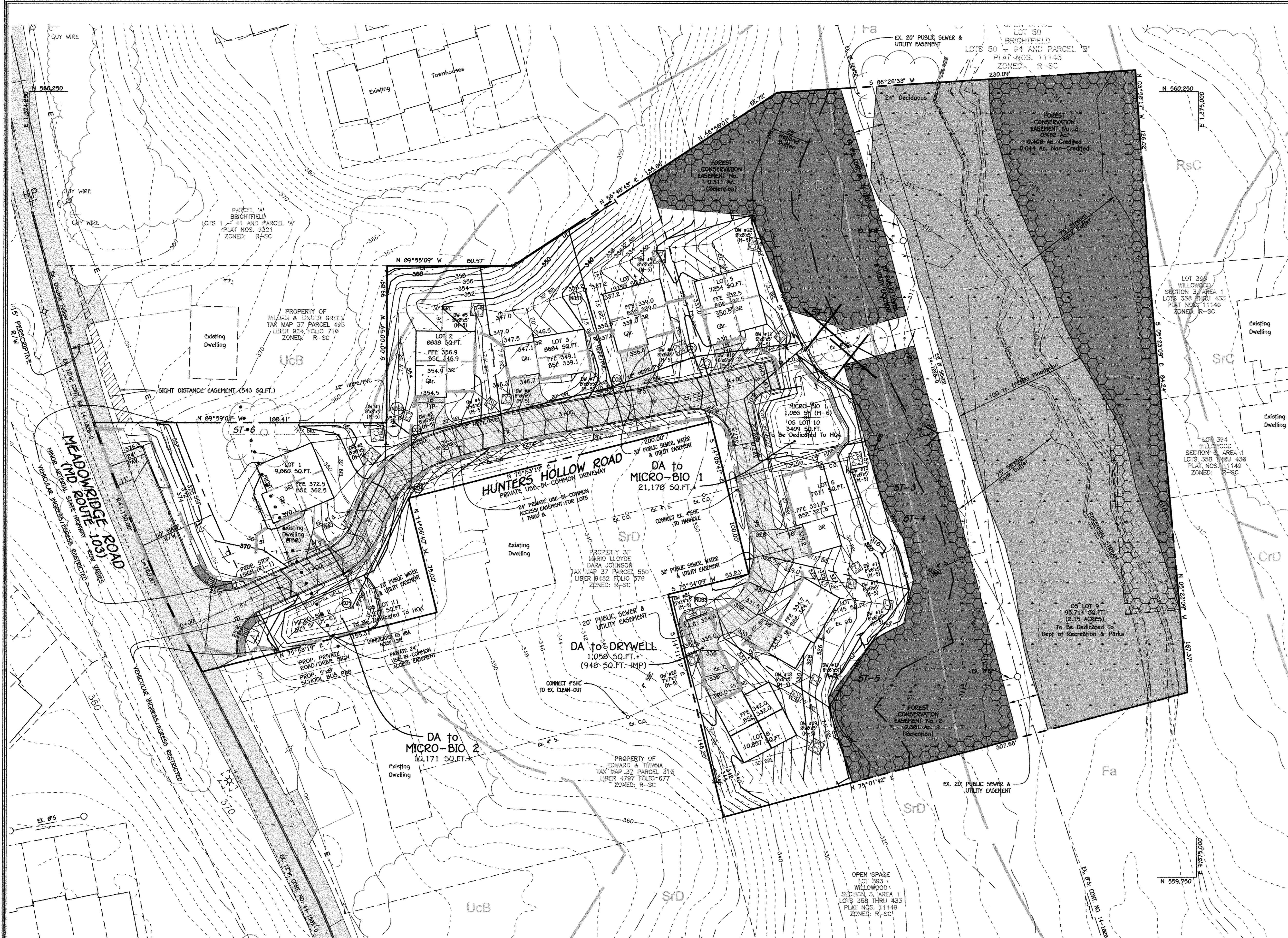
- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH WITH CHAPTER 25, ENVIRONMENTAL SITE DESIGN OF THE 2007 HANDBOOK FOR STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
- HANDBOOK CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000 SQ. FT. OR LESS.
- DRYWELLS SHALL BE PROVIDED AT 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.

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CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21042  
(410) 461-2855



LEGEND	
SYMBOL	DESCRIPTION
	EXISTING 2' CONTOURS
	EXISTING 10' CONTOURS
	SOILS LINES AND TYPE
	EXISTING TREELINE
	PROPOSED TREELINE
	PROPOSED CONTOUR
	PROPOSED DRYWELL (M-5)
	SPOT ELEVATION
	FLOW ARROW
	EXISTING POWER POLE
	ST-1 SPECIMEN TREE
	EXISTING TREES
	SLOPES 15% TO 25%
	SLOPES 25% OR GREATER

SOILS LEGEND		
SOIL	NAME	CLASS
Fa	Fallsington sandy loam, 0 to 2 percent slopes	D
Rsc	Russett fine sandy loam, 5 to 10 percent slopes	C
SrD	Sassafras and Croom soils, 10 to 15 percent slopes	B
UcB	Urban land-Chillum-Beltsville complex, 0 to 5 percent slopes	D



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CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21042  
(410) 461-2999

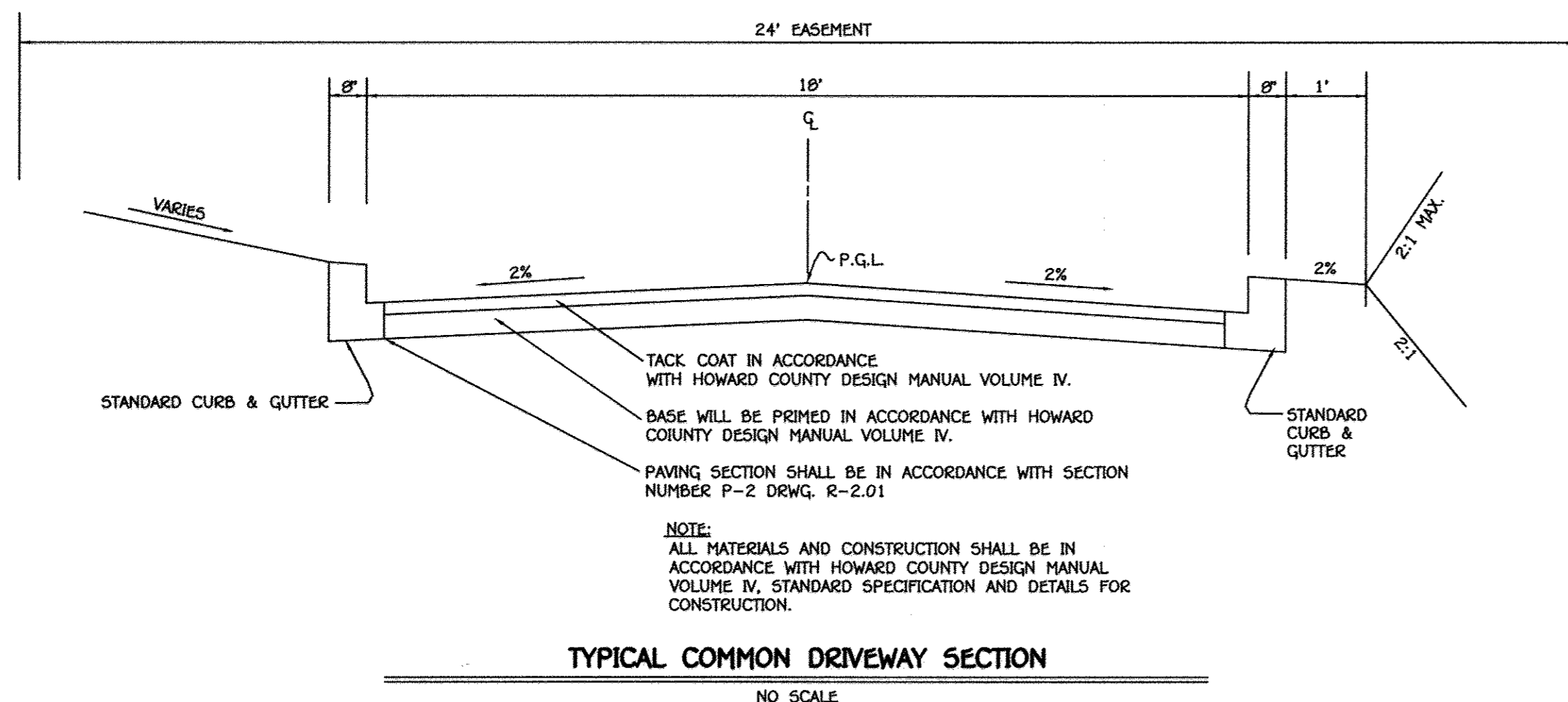
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*Stephen J. Jurek* 12/6/17  
Signature of Professional Engineer DATE

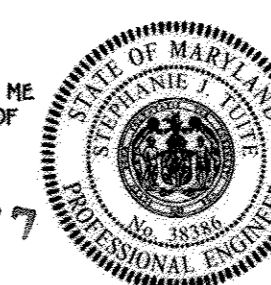
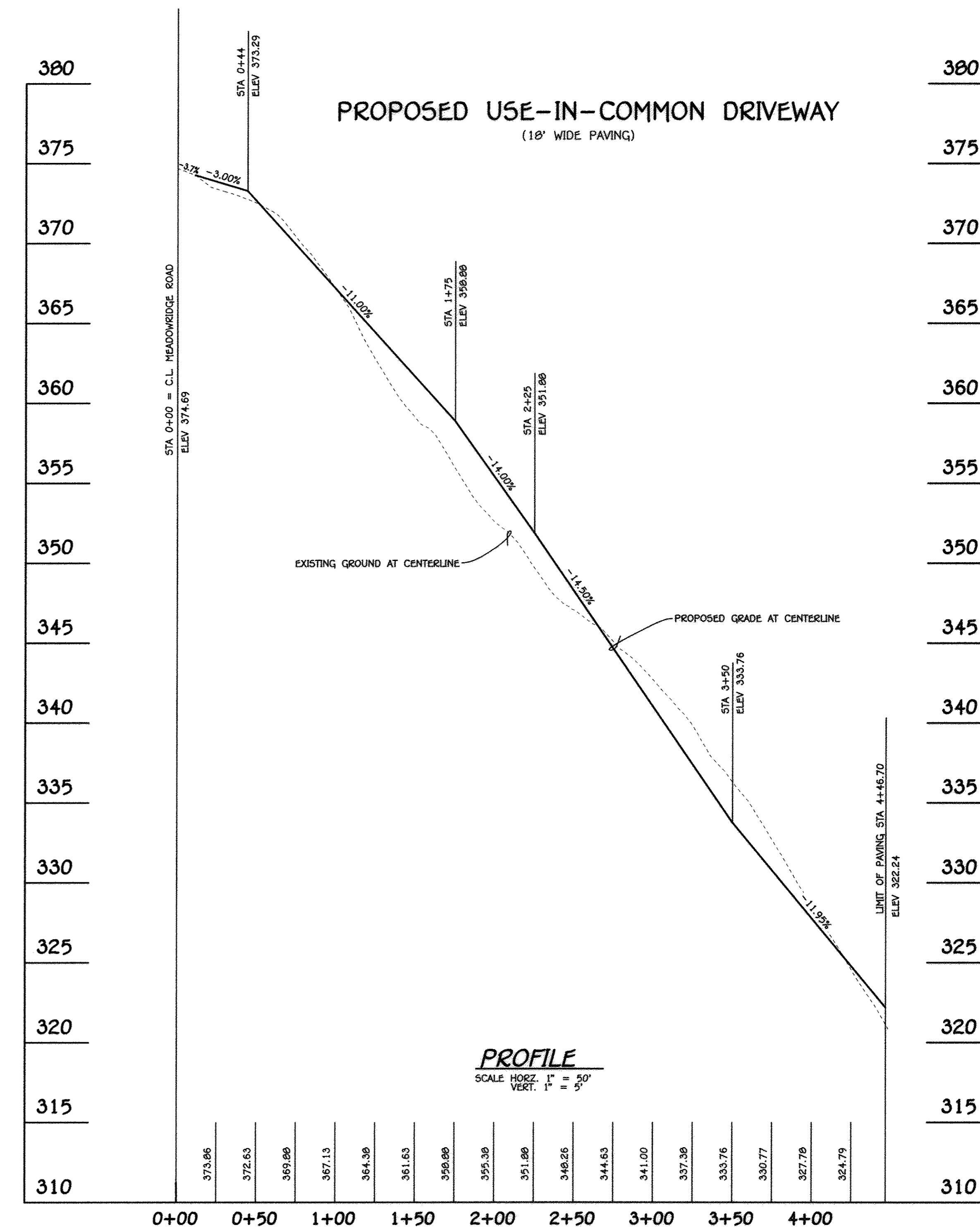
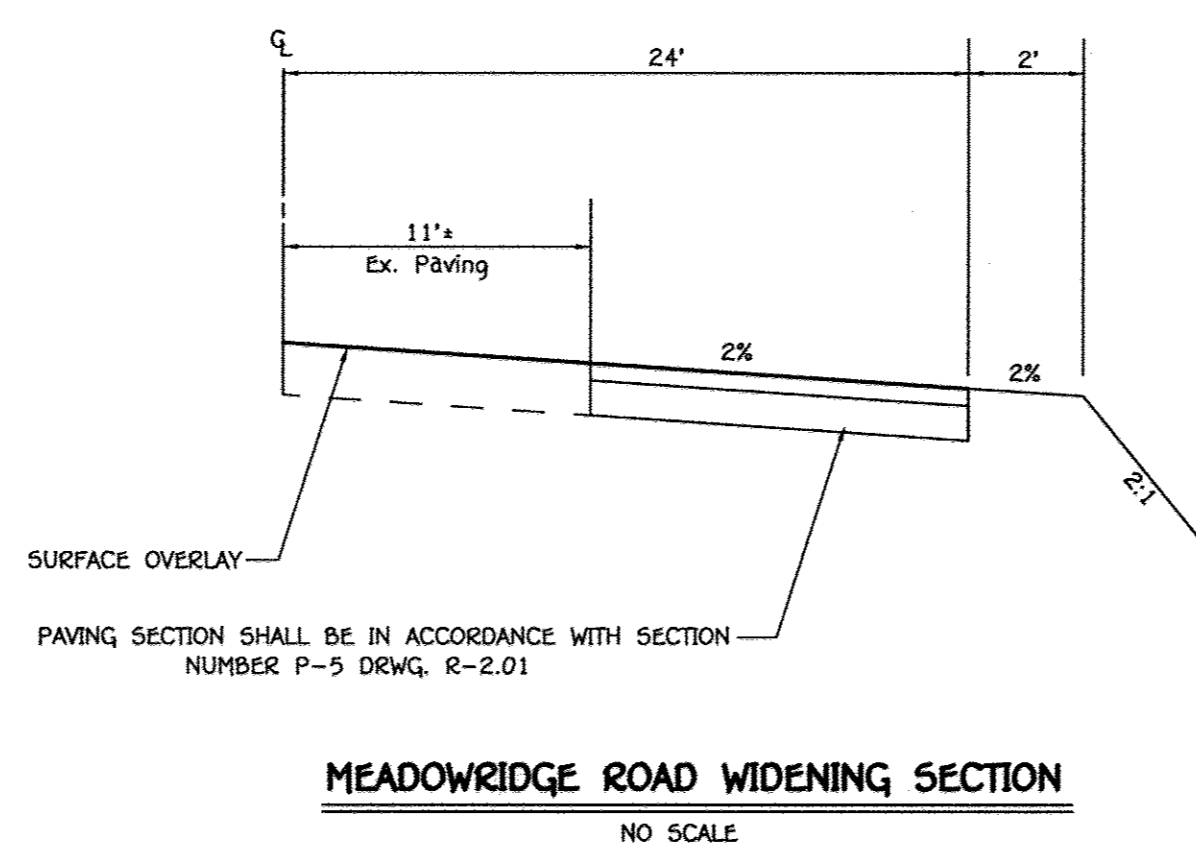
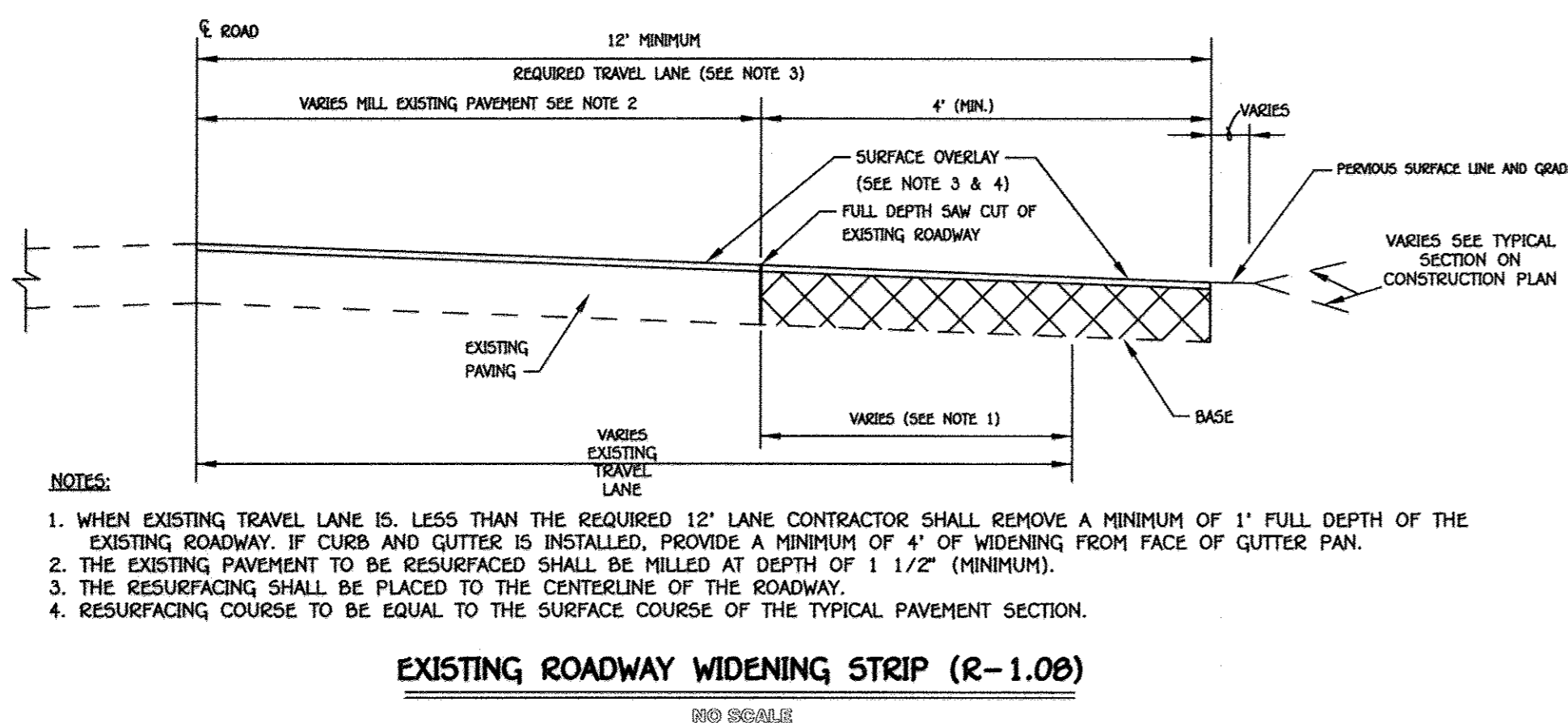


**DRAINAGE AREA MAP**  
**MEADOWRIDGE VIEW**  
LOTS 1 THRU 8 AND  
OPEN SPACE LOTS 9 THRU 11  
ZONED R-SC  
TAX MAP No. 37 GRID No. 09 PARCEL No. 78  
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: NOVEMBER, 2017  
SHEET 5 OF 7



ROADWAY INFORMATION CHART						
ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	STATION LIMITS	EASEMENT	PAVING SECTION
DRIVEWAY	PRIVATE DRIVEWAY	15 M.P.H.	RC-DEO	0+00 TO 4+46.70	24'	P-2

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)						
		3 TO <5	5 TO <7	≥7	3 TO <5	5 TO <7	≥7	
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SACS: RESIDENTIAL	PAVEMENT MATERIAL (INCHES)		MIN HMA WITH GAB		HMA WITH CONSTANT GAB		
		HMA SUPERPAVE FINAL SURFACE 9.5 MM. PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM. PG 64-22, LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE 19.0 MM. PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	3.5	2.0	2.0
		GRADED AGGREGATE BASE (GAB)	8.0	4.0	3.0	4.0	4.0	4.0
P-5	MINOR ARTERIAL	PAVEMENT MATERIAL (INCHES)		MIN HMA WITH GAB		HMA WITH CONSTANT GAB		
		HMA SUPERPAVE FINAL SURFACE 12.5 MM. PG 70-22, LEVEL 3 (HIGH ESAL)	2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE INTERMEDIATE SURFACE 12.5 MM. PG 64-22, LEVEL 3 (HIGH ESAL)	2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE BASE 19.0 MM. PG 64-22, LEVEL 3 (HIGH ESAL)	6.0	6.0	6.0	7.0	5.0	4.0
		GRADED AGGREGATE BASE (GAB)	11.0	5.0	4.0	8.0	8.0	8.0



*Valentino J. Jajic*  
PLANNING DIRECTOR  
12-7-17  
DATE

