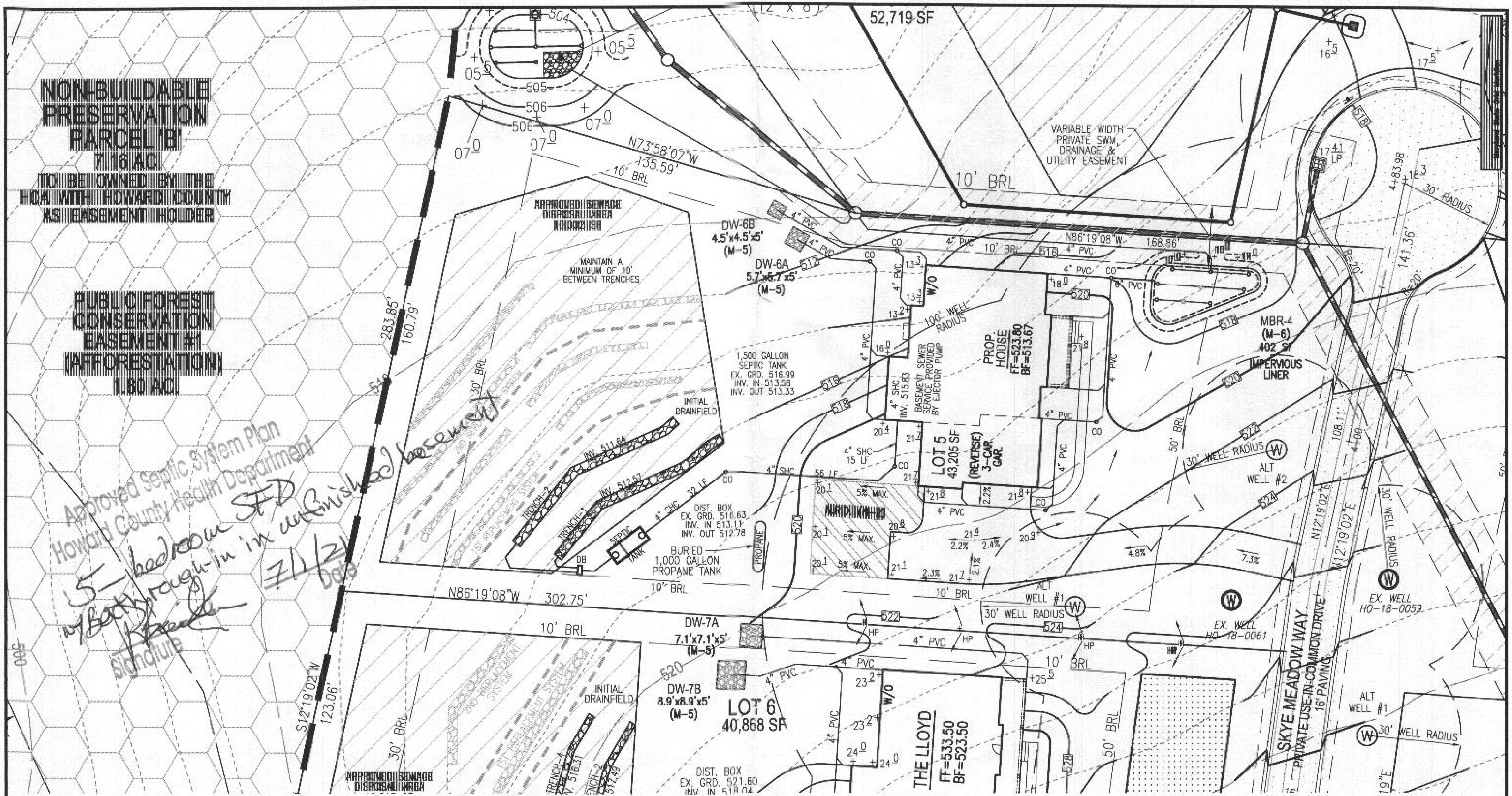

52,719 SF
NON-BUILDABLE PRESERVATION PARCEL 'B' 7.16 AC TO BE OWNED BY THE HOA WITH HOWARD COUNTY AS EASEMENT HOLDER
PUBLIC FOREST CONSERVATION EASEMENT #1 (AFFORESTATION) 1.80 AC
N73°58'07"W 135.59'
10' BRL
VARIABLE WIDTH PRIVATE SWM, DRAINAGE & UTILITY EASEMENT
N86°19'08"W 168.86'
APPROVED SEWAGE DISPOSAL AREA
MAINTAIN A MINIMUM OF 10' BETWEEN TRENCHES
DW-6B 4.5'x4.5'x5' (M-5)
DW-6A 5.7'x5.7'x5' (M-5)
1,500 GALLON SEPTIC TANK EX. GRD. 516.99 INV. IN 513.58 INV. OUT 513.33
BASEMENT SEWER SERVICE PROVIDED BY EJECTOR PUMP
100' WELL RADIUS
PROP. HOUSE FF=523.60 BF=513.67
LOT 5 43,205 SF
(REVERSE) 3-CAR GAR.
MBR-4 (M-6) 402 SF IMPERVIOUS LINER
INITIAL DRAINFIELD
DIST. BOX EX. GRD. 516.63 INV. IN 513.11 INV. OUT 512.78
BURIED 1,000 GALLON PROPANE TANK
PROPANE
SEPTIC TANK
30' BRL
283.85'
160.79'
N86°19'08"W 302.75'
30' WELL RADIUS
ALT WELL #1
ALT WELL #2
EX. WELL HO-18-0061
EX. WELL HO-18-0059
SKYE MEADOW WAY PRIVATE USE-IN-COMMON DRIVE 16' PAVING
N12°19'02"E
50' BRL
DW-7A 7.1'x7.1'x5' (M-5)
DW-7B 8.9'x8.9'x5' (M-5)
LOT 6 40,868 SF
THE LLOYD FF=533.50 BF=523.50
S12°19'02"W 123.06'
DIST. BOX EX. GRD. 521.60
Approved Septic System Plan
Howard County Health Department
5-bedroom SFD w/ Bath rough-in in unfinished basement
7/1/21
Date
Signature

PLOT PLAN

ROVER MILL ESTATES

LOT 5

3007 SKYE MEADOW WAY

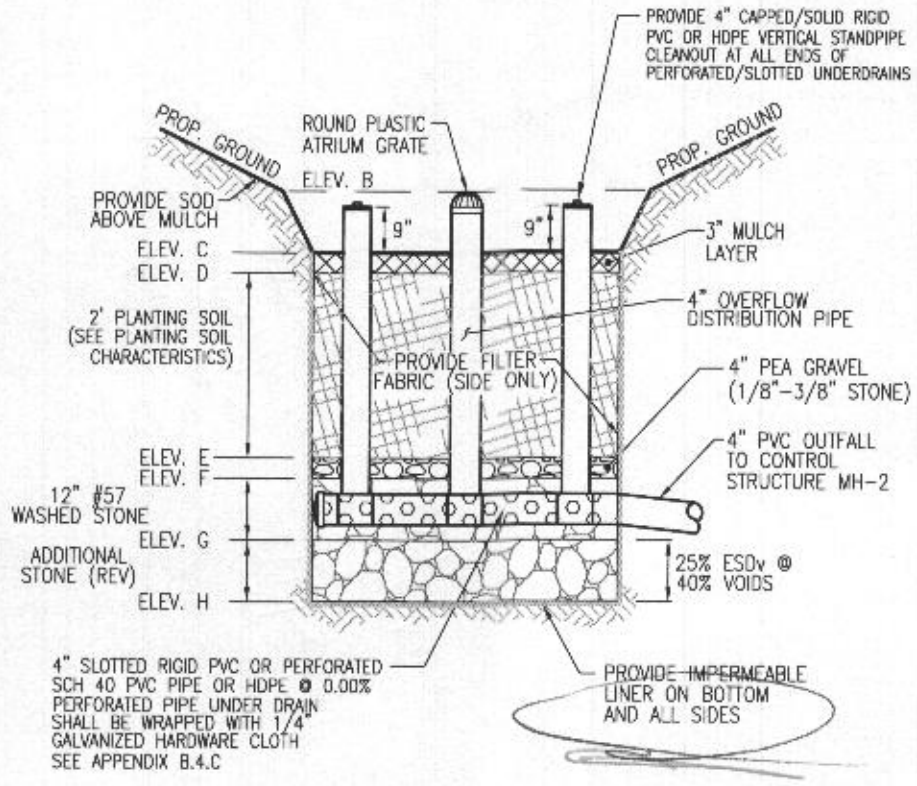
REF: F-19-056

SCALE	1"=30'
DRAWN BY	JMR
CHECKED BY	RHV
DATE	05/21/21
W. O. #	15-36
SHEET#	2 OF 5

PARCEL: 169
TAX MAP: 15 GRID: 14
3RD ELECTION DISTRICT

ZONED: RR-DEO
L. 19082 / F. 490
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



MBR-4

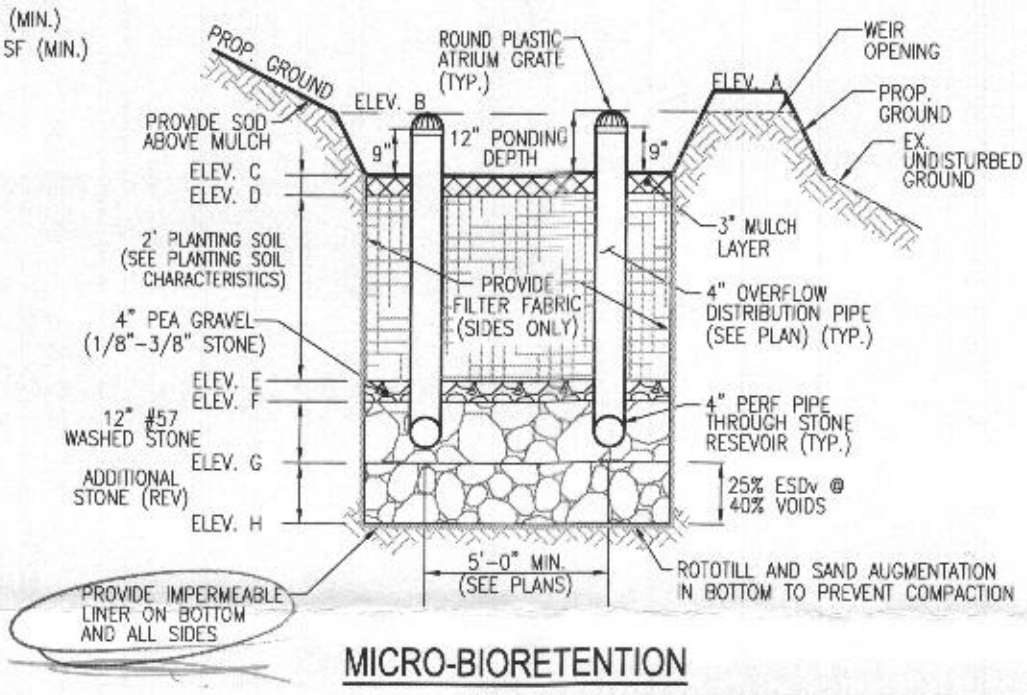
D.A.=12,591 SF IMP=3,439 I=27

Rv=0.05+(0.009)(27)=.29

ESDv=(12,591)(1.64)(0.29)/12=499 CF (MIN.)

AREA ABOVE MULCH=(499 CF)(0.75)=375 SF (MIN.)

AREA PROVIDED 402 SF



MICRO-BIORETENTION

(MBR-4)

W/ WEIR AND UNDERDRAIN OUTFALL

NOT TO SCALE

MICRO-BIORETENTION FACILITY ELEVATIONS (M-6)												
LOT #	FACILITY	A	B	C	D	E	F	G	H	WEIR ELEV.	UNDERDRAIN INVERT	FACILITY SIZE
LOT 5	MBR-4*	517.00	516.70	515.70	515.45	513.45	513.12	512.12	511.29	516.70	512.45	402 SF

*PROVIDE IMPERVIOUS LINER WITH THIS FACILITY

geotextile fabric (if required)	ASTM-D-4833 (puncture strength - 125 lb.) ASTM-D-4632 (Tensile Strength - 300 lb.)	**0.08"** thick equivalent opening size of #80 sieve	Must maintain 125 gpm per sq. ft. flow rate. Note: a 4" pea gravel layer may be substituted for geotextiles meant to "separate" sand filter layers.
impermeable liner (if required)	ASTM-D-4833 (thickness) ASTM-D-412 (tensile strength 1,100 lb., elongation 200%) ASTM-D-624 (Tear resistance - 150 lb./in) ASTM-D-471 (water adsorption: +8 to -2% mass)	30 mil thickness	Liner to be ultraviolet resistant. A geotextile fabric should be used to protect the liner from puncture.

IMPERMEABLE LINER SPECIFICATIONS

MICROBIORETENTION NOTES:

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

OPERATION AND MAINTENANCE SCHEDULE FOR (M-6) MICROBIORETENTION AREAS

1. 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.
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.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

SCALE	1"=30'
DRAWN BY	JMR
CHECKED BY	RHV
DATE	05/21/21
W. O. #	15-36
SHEET#	3 OF 5

PLOT PLAN

ROVER MILL ESTATES

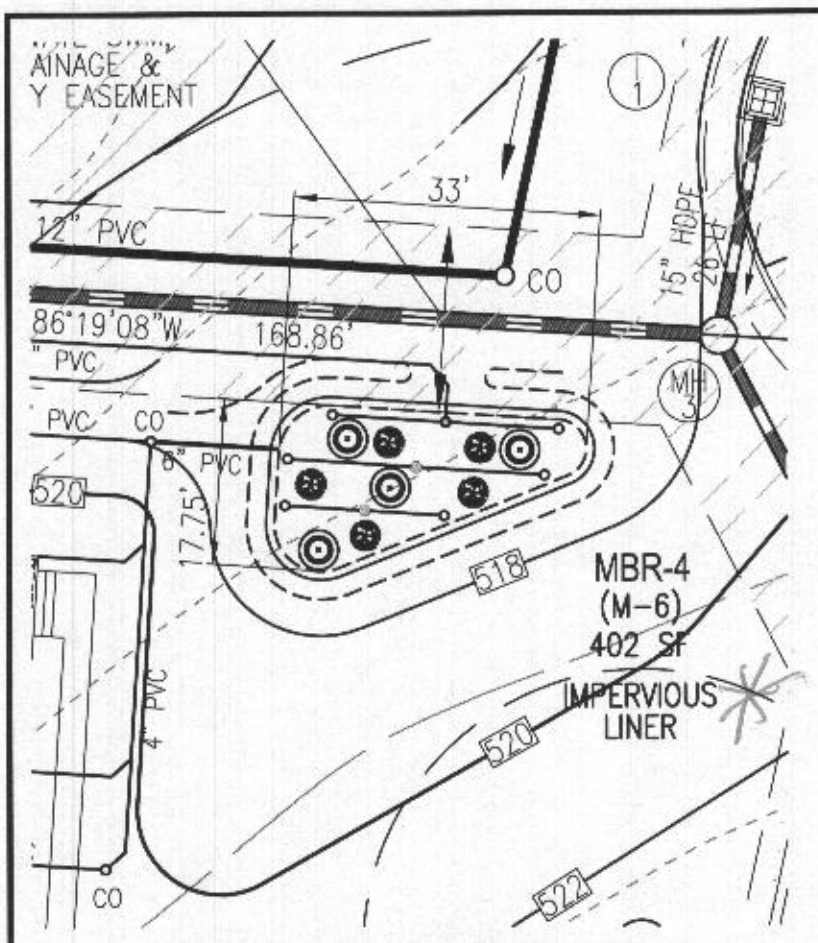
LOT 5

3007 SKYE MEADOW WAY

PARCEL: 169
TAX MAP: 15 GRID: 14
3RD ELECTION DISTRICT

REF: F-19-056

ZONED: RR-DEO
L. 19082 / F. 490
HOWARD COUNTY, MARYLAND



MBR-4 PLANTING DETAIL (402 SF)

SCALE: 1"=20'

"MICRO-BIORETENTION" PLANTING SCHEDULE NOTES:

1. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HOWARD COUNTY PLANTING SPECIFICATIONS.
2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
3. FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
4. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
5. MICROBIORETENTION AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (.0229 STEMS PER SQUARE FOOT). ABOVE PLANTING RATIOS ARE TO BE APPLIED TO THE AREAS PROVIDED IN THE ESDv SUMMARY.
6. FILTER AREA SHALL BE 50% COVERED BY PLANTINGS AT FULL GROWTH

1. TABLE A.4 IS TAKEN FROM THE "2000 MARYLAND STORMWATER MANUAL, VOLUME II – APPENDIX A.
2. CONTRACTOR SHALL BE FAMILIAR WITH APPENDIX B.4.C "CONSTRUCTION SPECIFICATIONS", AND TABLE B.4.1 "MATERIAL SPECIFICATIONS". IN ADDITION, THE "2000 MARYLAND STORMWATER DESIGN MANUAL, VOULME II – APPENDIX A, OFFERS ADDITIONAL HELPFUL INFORMATION.
3. NO TREES SHALL BE PLANTED WITHIN A MICRO-BIORETENTION FACILITY. USE ONLY SHRUB OR HERBACEOUS SPECIES.
4. ABOVE TABLE A.4 IS FOR INFORMATIONAL PURPOSES ONLY. LANDSCAPE CONTRACTOR SHALL INSTALL PLANTINGS SPECIFIED IN THE PLANTING SCHEDULES SHOWN HEREON. CHOOSE FROM THE ABOVE TABLE, OR USE APPROVED EQUAL SPECIES WHICH ARE TOLERANT TO FLUCTUATING WATER LEVELS. IF SUBSTITUTIONS ARE CHOSEN, APPROVAL FROM THE ENGINEER IS REQUIRED.
5. PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THIS FINAL PLAN.

MICRO-BIORETENTION PLANTING SCHEDULE (MBR-6)				
	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
◎	4	LINDERA BENZOIN SPICEBUSH	3 GALLON	CONT
●	5	ILEX GLABRA INKBERRY	3 GALLON	CONT

1. SF x 0.0229 STEMS PER SQUARE FOOT = PLANTS REQUIRED
2. PLANTINGS REQUIRED: 9
3. (50 SF) CARDINAL FLOWER = 1 PLANTING UNIT

Table A.4 Commonly Used Species for Bioretention Areas

Trees	Shrubs	Herbaceous Species
Acer rubrum Red Maple	*Aesculus parviflora* Bottlebrush Buckeye	*Andropogon virginicus* Broomsedge
Betula nigra River Birch	*Cephalanthus occidentalis* Buttonbush	*Eupatorium perpurea* Joe Pye Weed
Juniperus virginiana Eastern Red Cedar	*Hamemelis virginiana* Witch Hazel	*Scirpus pungens* Three Square Bulrush
Chionanthus virginicus Fringe-tree	*Vaccinium corymbosum* Highbush Blueberry	*Iris versicolor* Blue Flag
Nyssa sylvatica Black Gum	*Ilex glabra* Inkberry	*Lobelia cardinalis* Cardinal Flower
Diospyros virginiana Persimmon	*Ilex verticillata* Winterberry	*Panicum virgatum* Switchgrass
Platanus occidentalis Sycamore	*Viburnum dentatum* Arrowwood	*Dichanthelium scoparium* Broom Panic Grass
Quercus palustris Pin Oak	*Lindera benzoin* Spicebush	*Rudbeckia laciniata* Tall Coneflower
Quercus phellos Willow Oak	*Myrica pennsylvanica* Bayberry	*Scirpus cyperinus* Woolgrass
Salix nigra Black willow		*Vernonia noveboracensis* New York Ironweed

Note 1: For more options on plant selection for bioretention, consult Bioretention Manual (ETAB, 1993) or the Design of Stormwater Filtering Systems (Claytor and Schueler, 1997).

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PARCEL: 169
TAX MAP: 15 GRID: 14
3RD ELECTION DISTRICT

PLOT PLAN
ROVER MILL ESTATES
LOT 5
3007 SKYE MEADOW WAY

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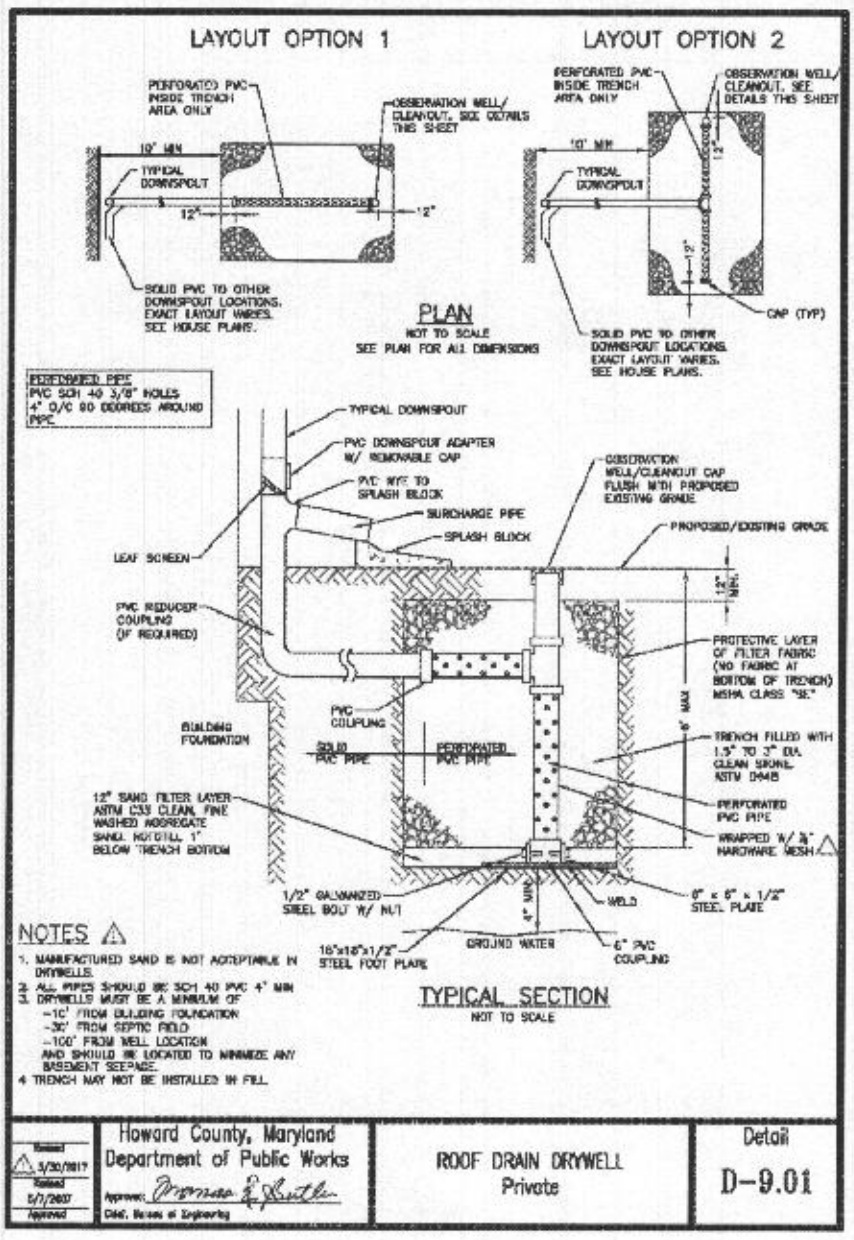


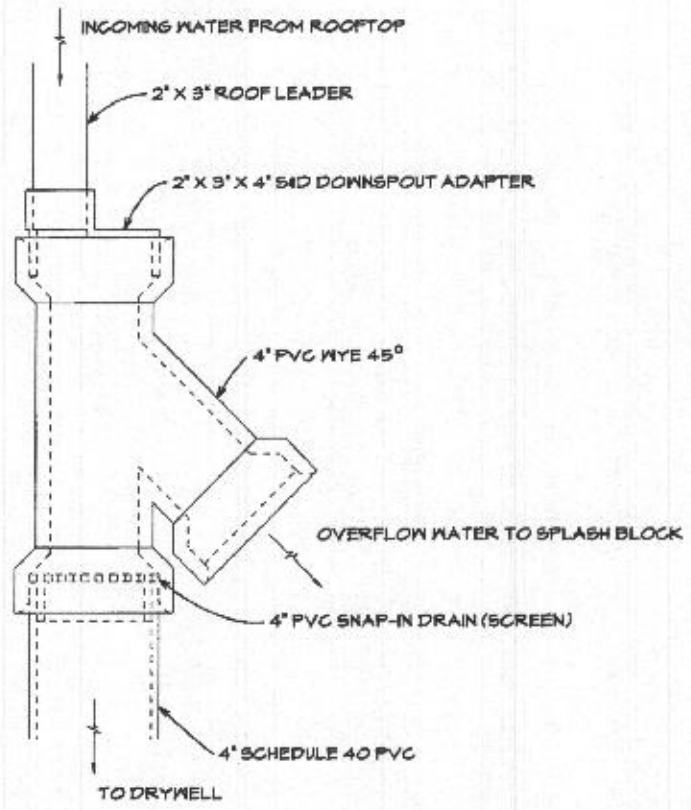
NOTES ⚠

1. MANUFACTURED SAND IS NOT ACCEPTABLE IN DRYWELLS.
2. ALL PIPES SHOULD BE SCH 40 PVC 4" MIN
3. DRYWELLS MUST BE A MINIMUM OF
   - 10' FROM BUILDING FOUNDATION
   - 30' FROM SEPTIC FIELD
   - 100' FROM WELL LOCATION

   AND SHOULD BE LOCATED TO MINIMIZE ANY BASEMENT SEEPAGE.
4. TRENCH MAY NOT BE INSTALLED IN FILL.

Revised ⚠ 3/30/2017 Revised 5/7/2007 Approved	Howard County, Maryland Department of Public Works Approved: Director of Engineering	ROOF DRAIN DRYWELL Private	Detail D-9.01

FIGURE 3
STANDARD DRYWELL DOWNSPOUT FITTINGS



NOTES:

1. THE SNAP IN SCREEN IS REQUIRED TO PREVENT CLOGGING OF THE DRYWELL WITH DEBRIS.
2. SEE FIGURE 3a "LIST OF POTENTIAL SUPPLIERS TO ACCOMPANY FIGURE 3 STANDARD DRYWELL DOWNSPOUT FITTINGS" FOR INFORMATION ON SOME LOCAL RETAILERS THAT SUPPLY COMPONENTS FOR THIS SYSTEM.

Martin B. Covington III, PE
ORIGINALLY EFFECTIVE APRIL, 2006
REVISED MARCH 19, 2008
DISTRIBUTED AT C.C. SURVEYORS MTG.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER INFILTRATION TRENCHES (I-1) AND DRY WELLS (M-5)

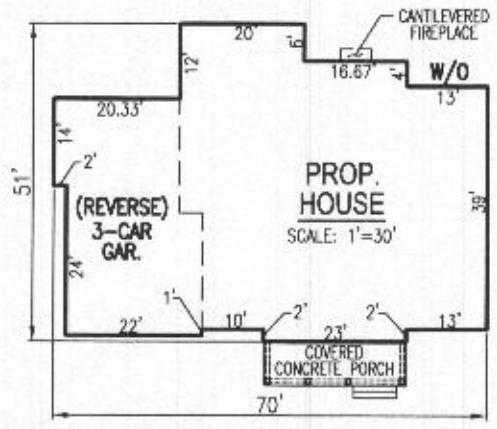
1. THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS, AND AFTER EVERY LARGE STORM EVENT.
2. THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
3. THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
4. 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.
5. THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
6. 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.

DRYWELL #6A
ESDv = (0.95)(1.0)(808)/12 = 64 CF
64/0.4 = 160 CF (REQ.)
5.7'x5.7'x5' = 162 CF (PROV.)

DRYWELL #6B
ESDv = (0.95)(1.0)(492)/12 = 39 CF
39/0.4 = 98 CF (REQ.)
4.5'x4.5'x5' = 101 CF (PROV.)

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF ROOFTOP RUNOFF (N-1) AND DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2)

1. MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.



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