

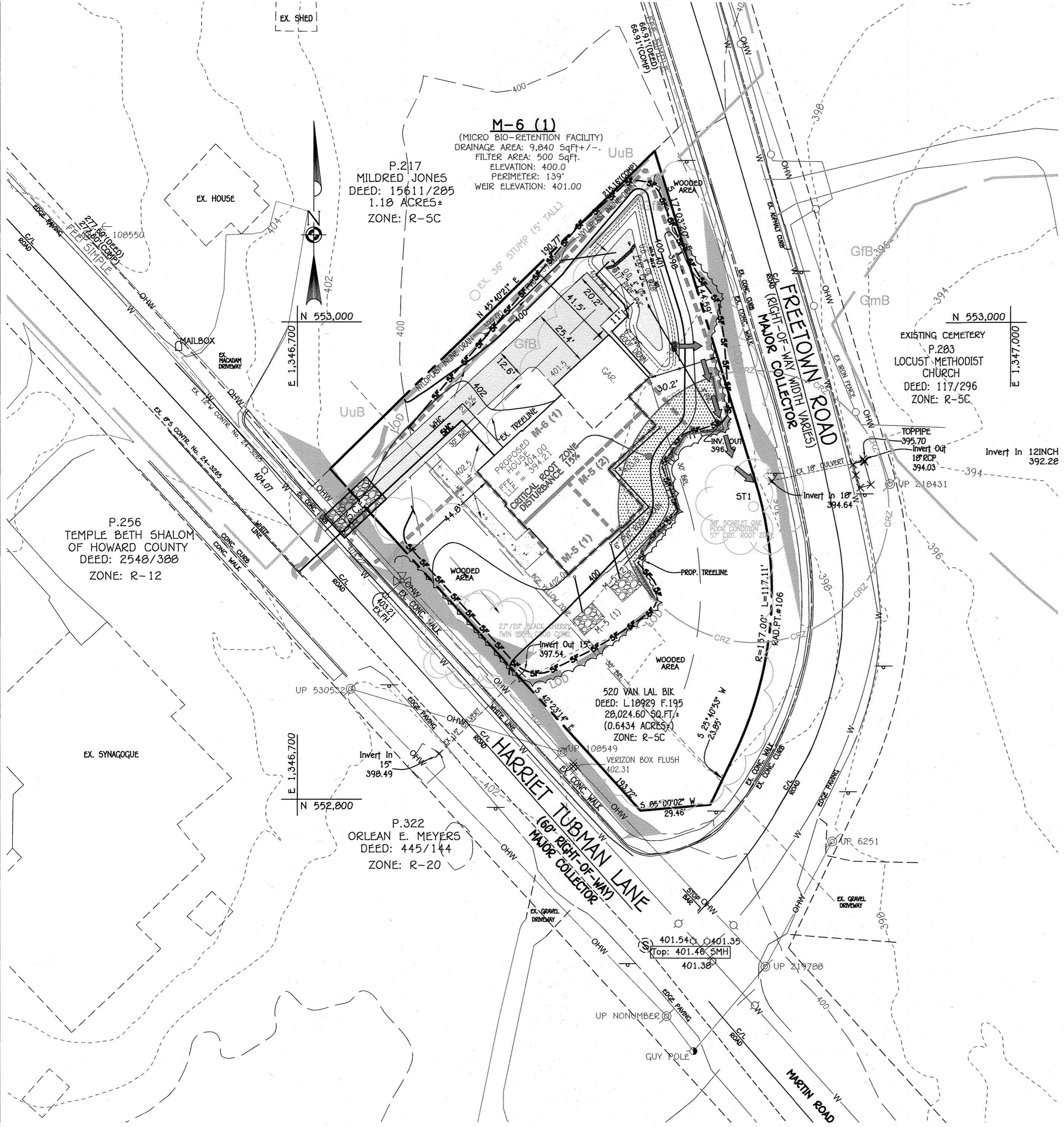




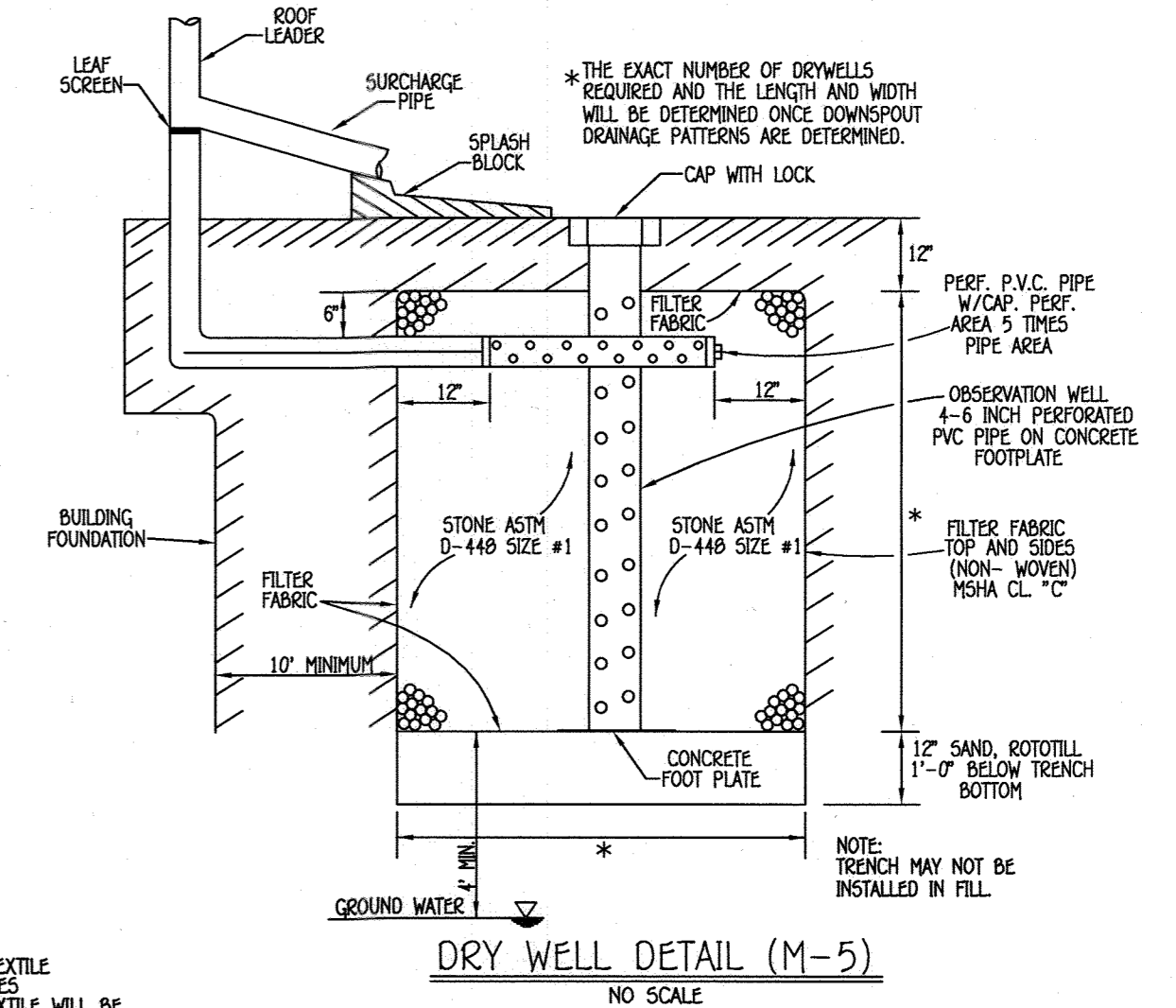
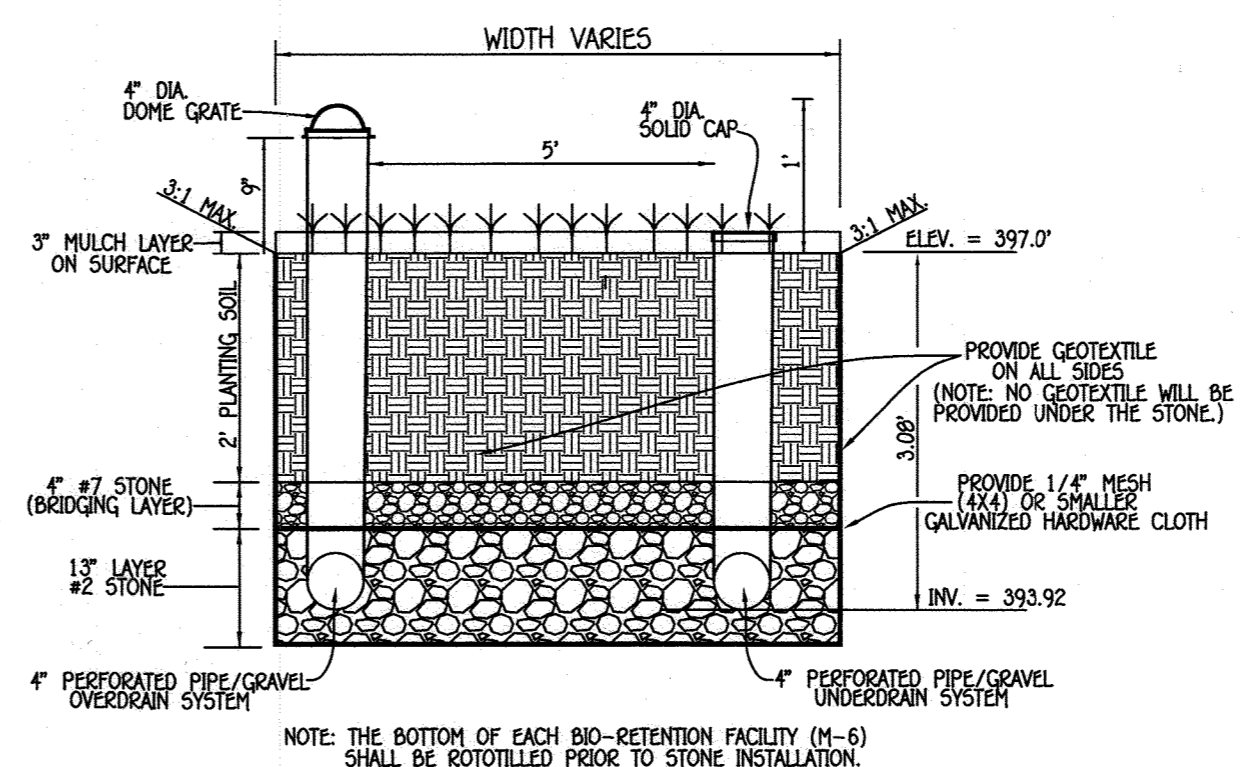
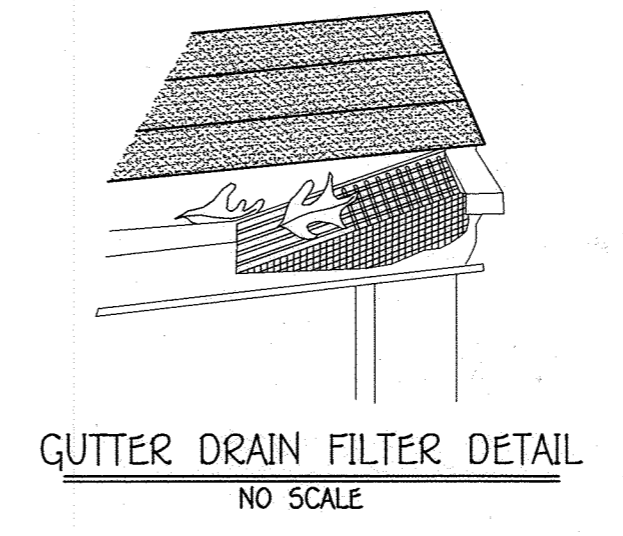
SOILS LEGEND			
SOIL	NAME	CLASS	K-VALUE
GfB	Gladstone-Urban Land complex, 0 to 8 percent slopes	A	0.28
UuB	Urban land-Udorthents complex, 0 to 8 percent slopes	D	N/A

HOWARD COUNTY SOILS MAP 23; CLARKSVILLE SE QUADRANGLE

SPECIMEN TREE CHART						
KEY	SPECIES	SIZE (IN DBH)	CRZ (FEET RADII)	COMMENTS	STATUS	CRZ DISTURBANCE
ST1	SCARLET OAK	36	57	POOR CONDITION	TO BE RETAINED	16.5%



LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
•	SPOT ELEVATION
---	EXISTING STORM DRAIN
---	PROPOSED STORM DRAIN PIPE
---	EXISTING WATER LINE
---	EXISTING SEWER LINE
---	PROPOSED SEWER
---	PROPOSED WATER
---	EXISTING CABLE LINE
---	EXISTING OVERHEAD WIRE
---	PROPOSED PAVING/PATH
---	PROPOSED SIDEWALKS
---	EXISTING SIGN
---	LIMIT OF DISTURBANCE
---	SILT FENCE
---	TREE PROTECTION FENCE
---	STABILIZED CONSTRUCTION ENTRANCE
---	EXISTING TREE LINE
---	PROPOSED TREE LINE
---	DRYWELL (M-5)-TYPICAL
---	SOIL LINES AND TYPES
---	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
---	PROPOSED ROOF LEADER
---	SWM DRAINAGE DIVIDE
---	EXISTING TREES TO REMAIN
---	CRITICAL ROOT ZONE
---	DENOTES 15%-24.9% SLOPES



**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.

**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.

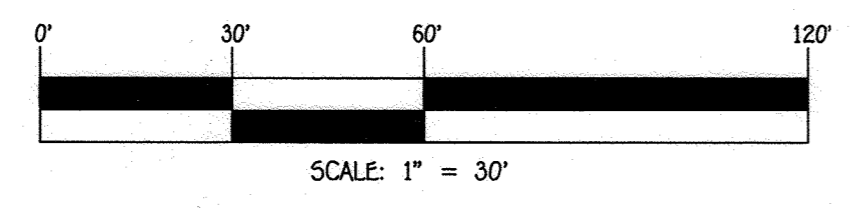
STORMWATER MANAGEMENT PRACTICE CHART								
AREA ID	DRAINAGE AREA SF	IMPERVIOUS SF	ESDV REQUIRED CU.FT.	ESDV PROVIDED CU.FT.	BIO-RETENTION M-6 (Y/N)	BIO-RETENTION F-6 (Y/N)	DRY WELL M-5 (Y/N)	NON-ROOFTOP DISCONNECTION CREDIT (Y/N)
(M-5) 1	743	743	106	140	N	N	Y	N
(M-5) 2	697	697	100	140	N	N	Y	N
(M-6) 1	9,840	5,164	771	945	Y	N	N	N

Table B.4. Materials Specifications for Micro-Bioretentation, Rain Gardens & Landscape Infiltration

Material	Specification	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%		USDA soil types loamy sand or sandy loam; clay content <5%
Organic Content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum
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 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	No. 57 or No. Aggregate (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 2B or AASHTO M-27B	4" to 6" rigid schedule 40 PVC or 50835	Slotted or perforated pipe; 3/8" per. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipe; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4 inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f = 3500 psi at 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.

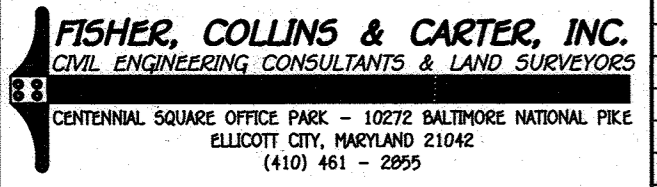
STORMWATER MANAGEMENT SUMMARY			
AREA ID	ESDV REQUIRED CU.FT.	ESDV PROVIDED CU.FT.	REMARKS
ROOF (1,440 Sq.Ft.)	206	280	2 DRYWELLS (M-5)
DRIVEWAY & ROOF (5,164 Sq.Ft.)	578 (STORAGE)	709 (STORAGE)	1 MICRO-BIORETENTION FACILITY (M-6)
TOTAL SITE	784	989	

Approved: Department Of Planning And Zoning  
 Chief, Development Engineering Division  
 Chief, Division Of Land Development



NO.	REVISION	DATE

**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 07/14/2023.  
 Signature of Professional Land Surveyor: [Signature] DATE: 10/20/21



OWNER/ BUILDER					
VAN LAL BIK & ISABEL BIAKHNEPAPAR BIK 12207 SNOWDEN WOODS ROAD LAUREL, MD 20708 (443-745-5505)					
PROJECT	SECTION / AREA	PARCEL NO.			
VAN LAL BIK PROPERTY	-	520			
DEED #	GRID #	ZONE	TAX MAP #	ELEC. DIST.	CENSUS TR.
18929/195	06	R-SC	41	FIFTH	605602

**ENVIRONMENTAL CONCEPT PLAN**  
**VAN BIK PROPERTY,**  
 8077 HARRIET TUBMAN LANE  
 ZONED R-SC  
 TAX MAP No. 41 GRID No. 06 PARCEL No. 520  
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: NOVEMBER, 2021  
 SHEET 2 OF 2