

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ENVIRONMENTAL CONCEPT PLAN
3	NOTES AND DETAILS

SOILS LEGEND			
SOIL	NAME	CLASS	K-VALUE
GfB	Gladstone-Urban land complex, 0 to 8 percent slopes	B	0.32
GfC	Gladstone-Urban land complex, 8 to 15 percent slopes	A	N/A

SOILS MAP 17, CLARKSVILLE NE QUADRANGLE

ENVIRONMENTAL CONCEPT PLAN

6428 LOCHRIDGE ROAD

LOT 48A

TAX MAP 35, GRID 17, PARCEL 255

FOURTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

ZONING: R-20

GENERAL NOTES

- THE SUBJECT PROPERTY IS ZONED R-20 (PER 10/06/13 COMPREHENSIVE ZONING PLAN.)
- BOUNDARY IS BASED ON A FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS & CARTER ON OR ABOUT JULY, 2020.
- CONTOURS ARE BASED ON A TOPOGRAPHIC FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS AND CARTER, ON OR ABOUT JULY, 2020.
- COORDINATES BASED ON NAD83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL. STATIONS NO. 3511 AND NO. 3512:
 HOWARD COUNTY MONUMENT NO. 3511 N 557,110.395 E 1,344,893.672 ELEV. 400.048
 N 555,100.766 E 1,342,733.053 ELEV. 329.73
- STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL VOLUMES I & II, REVISED 2009. THIS PLAN PROPOSES THE USE OF ONE (1) M-6 MICRO-BIORETENTION FACILITY AND TWO (2) M-5 DRY WELLS.
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT AND IS SUBJECT TO ACQUIRING A PRIVATE OFF-SITE EASEMENT FOR SEWER OR WATER CONNECTIONS.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN.
- LANDSCAPING WILL BE PROVIDED AT THE SITE DEVELOPMENT PLAN STAGE OF THIS PROJECT.
- THIS PROJECT IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202 (B)(2)(i)(8) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WHICH STATES, "EXEMPTIONS REQUIRING DECLARATION OF INTENT, THE TOTAL CUTTING, CLEARING OR GRADING OF FOREST RESOURCES IS LESS THAN 20,000 SQUARE FEET."
- SOIL BORING INFORMATION WILL BE PROVIDED AT THE NEXT PLAN STAGE OF THIS PROJECT.
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE APPROVAL OF SUBSEQUENT OR ASSOCIATED SUBDIVISION OR SITE DEVELOPMENT PLANS OR RED-LINE REVISIONS. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION PLAN, SITE DEVELOPMENT PLAN, OR RED-LINE REVISION PROCESSES. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THE PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.
- THIS ENVIRONMENTAL CONCEPT DESIGN IS SUBJECT TO APPROVAL AN ALTERNATIVE COMPLIANCE APPLICATION TO SECTION SECTION 16.132(a)(3)(i.c.1, 16.134(a)(1)(ii), AND 16.135 OR PUBLIC ROAD FRONTAGE IMPROVEMENTS WILL BE PROVIDED ON THE SITE DEVELOPMENT PLAN STAGE. AT THE SITE DEVELOPMENT PLAN STAGE, THE DESIGN MANUAL WAIVER WILL BE SUBMITTED UNDER SEPARATE COVER TO ADDRESS FRONTAGE IMPROVEMENT REQUIREMENTS.

SWM NARRATIVE

THIS REPORT WILL DEMONSTRATE HOW THE CRITERIA SET FORTH IN THE MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II (EFFECTIVE OCTOBER 2000, REVISED MAY 2009) WILL BE SATISFIED ON THIS PROJECT. THE GOAL OF CREATING HYDROLOGY SIMILAR TO THAT OF WOODS IN GOOD CONDITION WILL BE ACCOMPLISHED THROUGH THE USE OF THE PRACTICES CONTAINED WITHIN CHAPTER 5 OF SMD MANUAL.

GENERAL SITE CONDITIONS:

THE PATEL PROPERTY IS ZONED R-20 AND IS LOCATED ON TAX MAP 35, PARCEL NOS. 255 OF THE HOWARD COUNTY, MARYLAND TAX MAP DATABASE SYSTEM. THE PROPERTY CONSISTS OF 1.00 ACRE AND LOCATED IN MIDDLE PATUXENT RIVER WATERSHED (021311060995) WHERE NO FOREST BANK IS CURRENTLY AVAILABLE. THE SITE DRAINS TO THE NORTHEAST WHERE AN INLET IS LOCATED AT THE END OF HILLBROOK DRIVE. SOILS ON THE OVERALL SITE CONSIST OF GfC AND GfB. THE ENTIRETY OF THE QUALITY SWM FOR THIS PROJECT HAS BEEN PROVIDED BY THE A PROPOSED M-6 MICRO BIO-RETENTION FACILITY.

I. NATURAL RESOURCE PROTECTION:

THE LOT IS WOODED WITH 3 SPECIMEN TREES LOCATED ALONG THE REAR OF THE LOT OUTSIDE OF THE PROJECTS LIMIT OF DISTURBANCE. FOREST CONSERVATION OBLIGATIONS WILL BE ADDRESSED BY SUBMISSION OF A DECLARATION OF INTENT.

II. MAINTENANCE OF NATURAL FLOW PATTERNS:

IT IS THE INTENT OF THE PROPOSED DESIGN TO DISCHARGE RUNOFF SIMILAR TO THE CHARACTERISTICS AND DIRECTION OF THIS SITE PRIOR TO ANY OF THE PROPOSED IMPROVEMENTS.

III. REDUCTION OF IMPERVIOUS AREAS THROUGH BETTER SITE DESIGN, ALTERNATIVE SURFACES AND NONSTRUCTURAL PRACTICES

ONLY THE MINIMUM AMOUNT OF PAVING IS BEING PROPOSED AT THIS TIME. ALL IMPERVIOUS AREA WILL RECEIVE FULL ESDV.

IV. INTEGRATION OF EROSION AND SEDIMENT CONTROLS INTO STORMWATER STRATEGY:

DUE TO THE MINOR NATURE OF THIS PROJECT NO LARGE SCALE SEDIMENT CONTROL PRACTICES HAVE BEEN PROPOSED. HOWEVER, IT IS ANTICIPATED TO UTILIZE THE INTERIM CONDITION BIO-RETENTION DESIGN THAT WILL PROVIDE MINOR SEDIMENT TRAPPING.

V. IMPLEMENTATION OF ESD PLANNING TECHNIQUES AND PRACTICES TO THE MAXIMUM EXTENT PRACTICABLE (MEP)

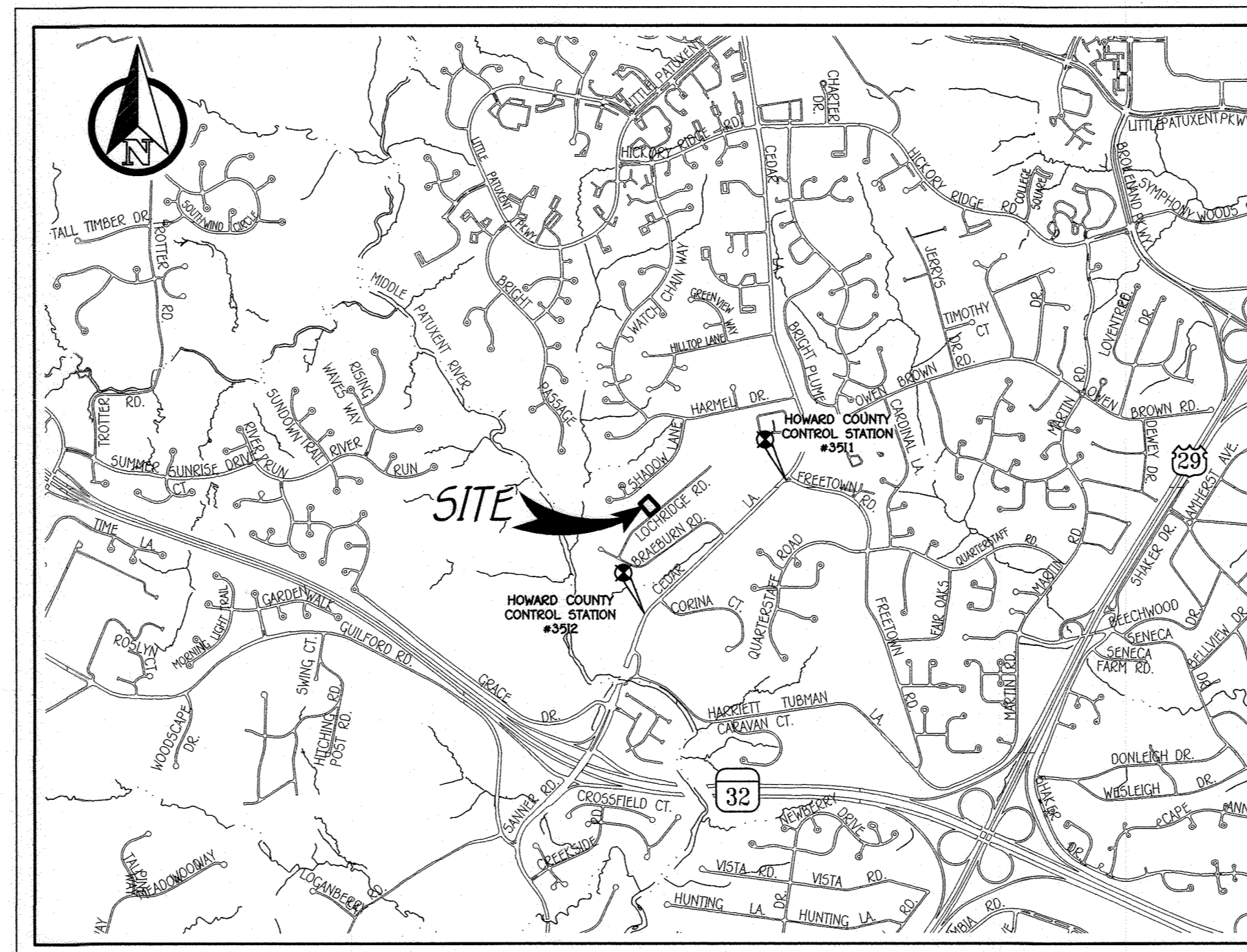
THE FULL REQUIRED ESD VOLUME IS BEING PROVIDED FOR PROPOSED IMPROVEMENTS TO THE MAXIMUM EXTENT PRACTICABLE.

VI. REQUEST FOR DESIGN MANUAL WAIVER:

THIS ENVIRONMENTAL CONCEPT DESIGN IS SUBJECT TO APPROVAL AN ALTERNATIVE COMPLIANCE APPLICATION TO SECTIONS 16.132(a)(3)(i.c.1, 16.134(a)(1)(ii), AND 16.135 OR PUBLIC ROAD FRONTAGE IMPROVEMENTS AND SUPPORTING STORMWATER MANAGEMENT WILL BE PROVIDED ON THE SITE DEVELOPMENT PLAN STAGE.

SITE ANALYSIS DATA CHART

- TOTAL AREA OF THIS SUBMISSION = 1 AC. (43,610.85 Sq.Ft.)
- LIMIT OF DISTURBED AREA = 19,337 Sq.Ft. (0.44 Ac.)
- PRESENT ZONING DESIGNATION = R-20
- PROPOSED USE: ONE SINGLE FAMILY DETACHED HOUSE
- NET TRACT AREA = 1 AC.
(TOTAL SITE AREA - FLOODPLAIN - STEEP SLOPES AREA)
(1 AC - 0.0 AC + 0.0 AC) = 1 AC*
- DENSITY ALLOWED:
2 UNITS/ACRE X 1 = 2 UNITS
- BUILDING COVERAGE OF SITE: 2,922 Sq. Ft.
- PREVIOUS HOWARD COUNTY FILES: PB.10-012; PB.15-006
- TOTAL AREA OF FLOODPLAIN LOCATED ON SITE 0.0 AC.
- TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.00 AC* (0 AC. 25% OR GREATER)
- TOTAL AREA OF WETLANDS (INCLUDING BUFFER) LOCATED ON SITE = 0 AC.*
- TOTAL FOREST 1 AC.* (43,610.85 Sq.Ft.)
- TOTAL GREEN OPEN AREA = 39,398 Sq.Ft. (0.90 Ac.)
- TOTAL IMPERVIOUS AREA = 4,253 Sq. Ft. (0.10 Ac.) ON-SITE
201 Sq. Ft. (0.005 Ac.) WITHIN RIGHT-OF-WAY
- AREA OF ERODIBLE SOILS = 0 AC.



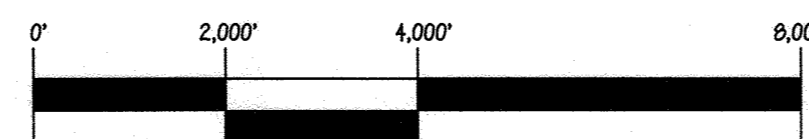
HOWARD COUNTY
GEODETIC SURVEY CONTROL NO. 3511
N 557,110.395 E 1,344,893.672
ELEVATION: 400.048

HOWARD COUNTY
GEODETIC SURVEY CONTROL NO. 3512
N 555,100.766 E 1,342,733.053
ELEVATION: 329.73

REFER TO HOWARD CO. ADC MAP 32 03

VICINITY MAP

SCALE: 1" = 2,000'



SCALE: 1" = 2,000'

STORMWATER MANAGEMENT SUMMARY							
AREA ID.	ESDv REQUIRED CU.FT.	ESDv PROVIDED CU.FT.	Pe REQUIRED	Pe PROVIDED	Rev REQUIRED CU.FT.	Rev PROVIDED CU.FT.	REMARKS
DRIVEWAY & ROOF (3,832 Sq.Ft.)	383 (STORAGE)	687 (STORAGE)	1.6'	2.0'	129	214	1 MICRO BIO-RETENTION FACILITY (M-6)

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Approved: Department Of Planning And Zoning

Chief, Development Engineering Division: 2/9/22 Date
Chief, Division Of Land Development: 12/28/21 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: 7/14/23.

Frank Manalang II
FRANK MANALANG II

12/16/21
Date

OWNER/DEVELOPER

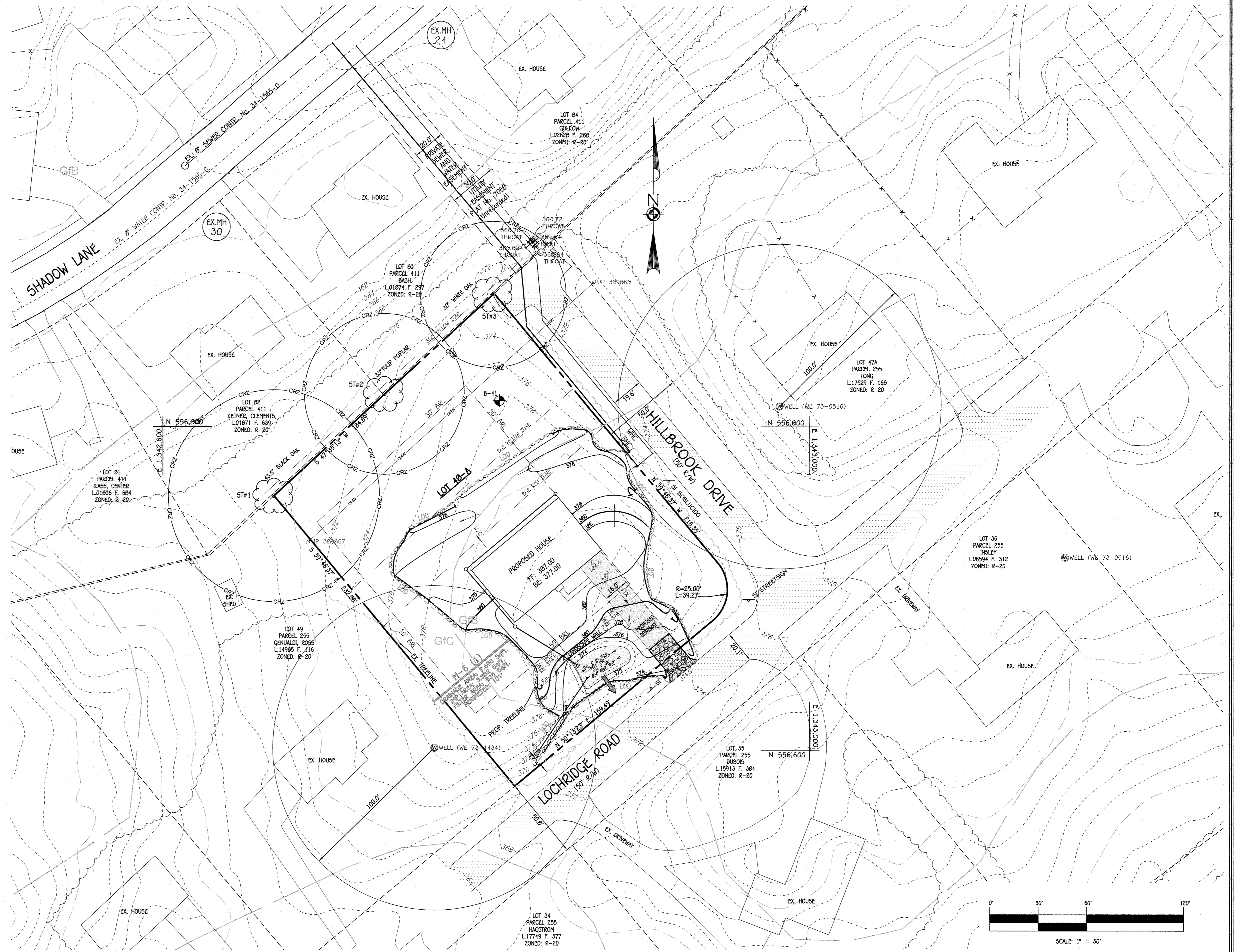
PRAGNESH PATEL
8144 RIDGELY LOOP
SEVERN, MARYLAND 21144
443-799-6296

TITLE SHEET
PATEL PROPERTY
6428 LOCHRIDGE ROAD

ZONING: R-20
TAX MAP 35, GRID 17, LOT 48A, PARCEL 255
FOURTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE AS SHOWN DECEMBER, 2021
SHEET 1 OF 3

ECP-21-049

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 WELL
○	PROPOSED WELL
▨	PROPOSED SEPTIC FIELD
---	EXISTING OVERHEAD WIRE
---	BGE PLANTING ZONE LINES
---	EXISTING PAVING
---	LIMIT OF DISTURBANCE
---	SUPER SILT FENCE
---	SILT FENCE
---	EXISTING TREE LINE
---	PROPOSED TREE LINE
---	DRYWELL (M-5)-TYPICAL
---	SOIL LINES AND TYPES
○	SOIL BORING LOCATION
---	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
---	PROPOSED ROOF LEADER
---	STABILIZED CONSTRUCTION ENTRANCE
○	EXISTING TREES TO REMAIN
○	CRITICAL ROOT ZONE



Specimen Tree Chart

Key (X#)	Species	Size (in.dbh)	CRZ (feet radius)	Condition (good unless otherwise noted)	% DISTURBED
1	White oak	30	45	offsite, fair condition, some dieback	0%
2	Tulip poplar	33	49.5	offsite	0%
3	Black oak	43.5	65.25	Poor condition, notable trunk rot	0%

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Approved: Department Of Planning And Zoning
 Chief, Development Engineering Division *[Signature]* 2-9-22 Date
 Chief, Division Of Land Development *[Signature]* 12/16/21 Date



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[Signature] 12/16/21 Date
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ENVIRONMENTAL CONCEPT PLAN
PATEL PROPERTY
 6428 LOCHRIDGE ROAD
 ZONING: R-20
 TAX MAP 35, GRID 17, LOT 48A, PARCEL 255
 FOURTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE AS SHOWN DECEMBER, 2021
 SHEET 2 OF 3

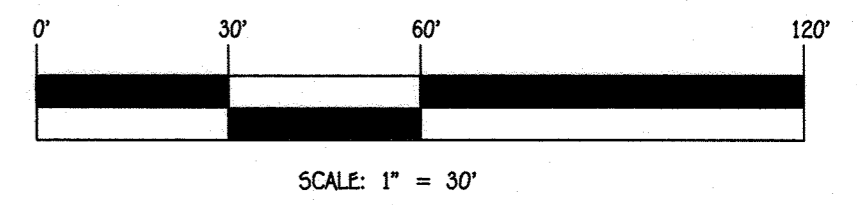
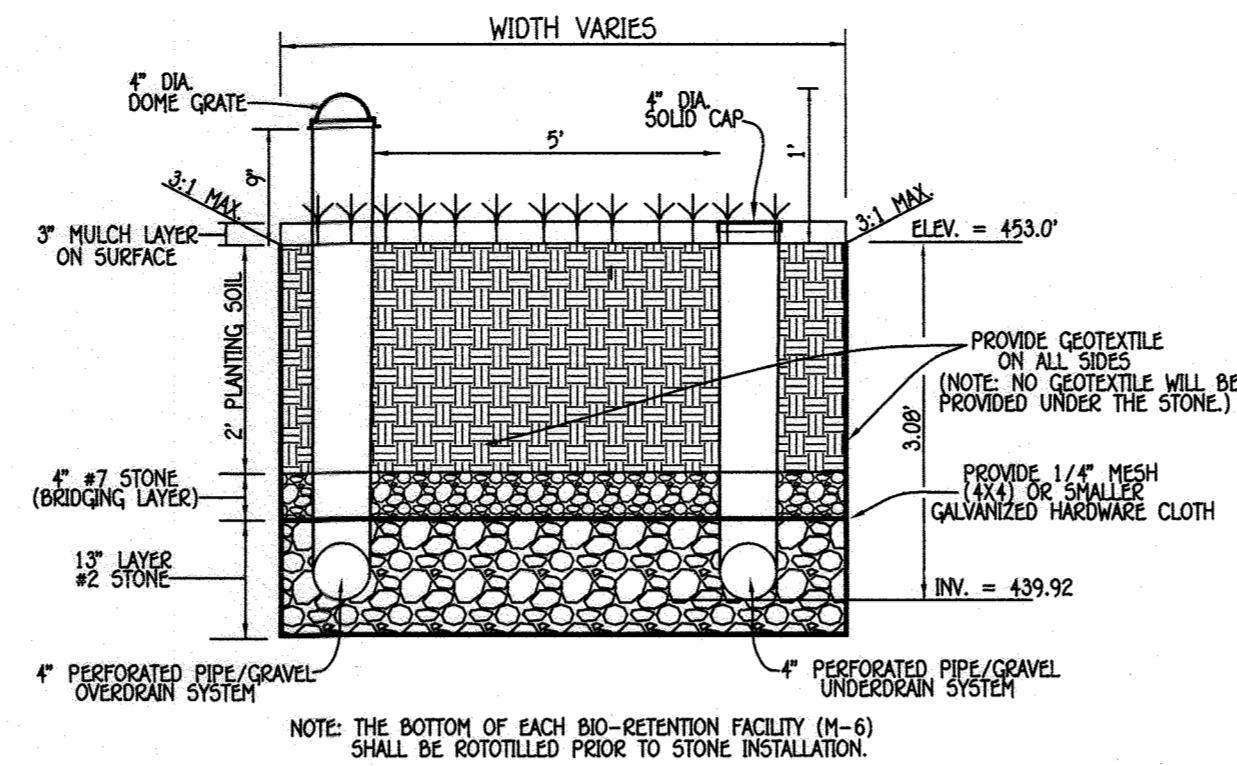


Table B.4. Materials Specifications for Micro-Bioretenion, Rain Gardens & Landscape Infiltration

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")	
Curbside drain	ornamental stone: washed cobble	stone: 2" to 5"	
Geotextile		n/a	PT Type 1 nonwoven
Gravel (underdrains and infiltration berms)	ASHTO M-43	No. 57 or No. Appropriate (3/8" to 3/4")	
Underdrain piping	F 750, Type PS 28 or ASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipe; not necessary underdrain pipes. Perforated pipe shall be wrapped with 1/4 inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3, f = 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 308.2R; vertical loading 1H-10 or H-20; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	ASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Oolite and Gytelone (ASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

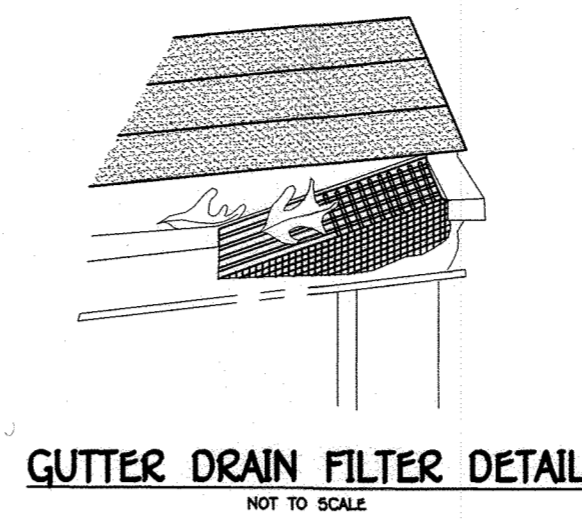


TYPICAL SECTION
MICRO-BIORETENTION FACILITY (M-6)
NO NOT SCALE

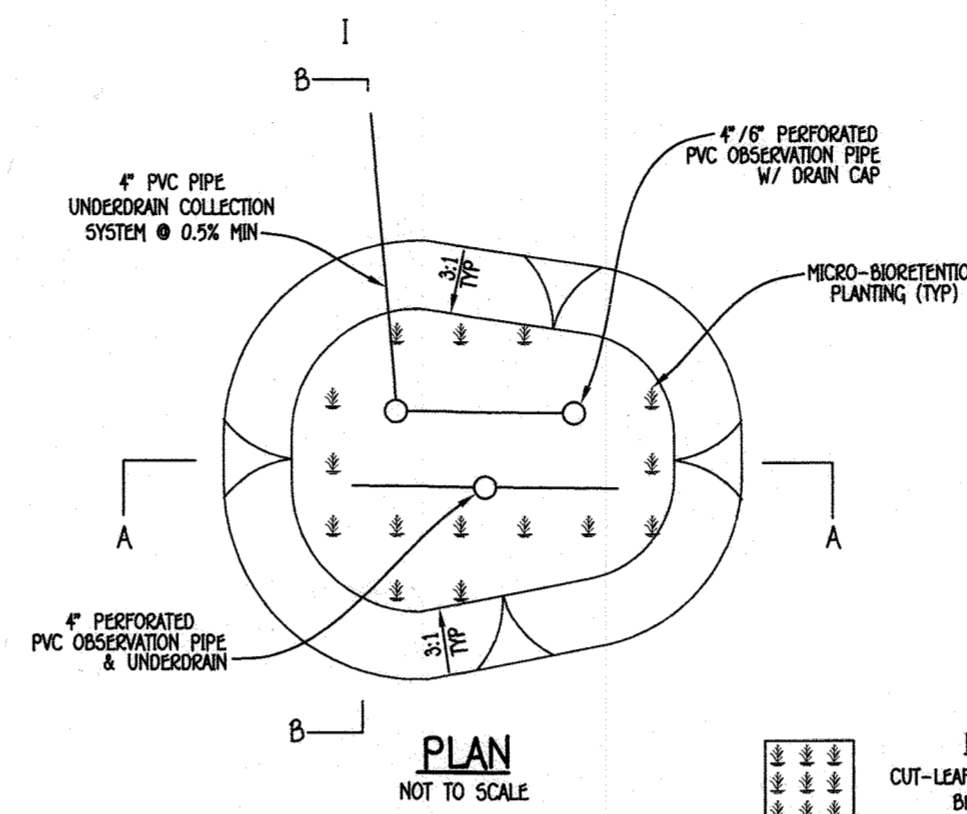
OPERATION & MAINTENANCE SCHEDULE
FOR MICRO-BIORETENTION (M-6)

- 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.

MICRO-BIORETENTIONS PLANT MATERIAL		
MICRO-BIO I QUANTITY	NAME	MAXIMUM SPACING (FT.)
55	MIXED NATIVE PERENNIALS	1.5 TO 3.0 FT.
1	SILKY DOGWOOD	PLANT AWAY FROM INFLOW LOCATION



GUTTER DRAIN FILTER DETAIL
NOT TO SCALE



PLAN
NOT TO SCALE

- * MIXED PERENNIALS
 - * CUT-LEAF CONIFLOWERS (1.5' SP.)
 - * BEEBALM (1.5' SP.)
 - * JOE-PYE-WEED (1.5' SP.)
 - * SILKY DOGWOOD
- NOTE:
PLANT MATERIAL MUST COVER AT LEAST 50% OF THE SURFACE AREA OF THE MICRO-BIORETENTION
- * SEE PLANT MATERIAL CHARTS FOR QUANTITIES AND SPACING

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