	SHEET INDEX	
SHEET N	O. DESCRIPTION	
1	TITLE SHEET	
2	ENVIRONMENTAL CONCEPT PLAN	

Baile Silt Loam, 0 to 3 percent slope

Soil Map Number: 13 (Ellicott City, 5W)

GhB Glenela-Urban Land Complex, 0 to 8 percent slope

50ILS LEGEND

ADDRESS CHART					
LOT NUMBER	STREET ADDRESS				
21-A	3018 Southview Road				

ENVIRONMENTAL CONCEPT PLAN HOWARD HEIGHTS

LOT 21A

TAX MAP No. 17 GRID No. 22 PARCEL NO. 211 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

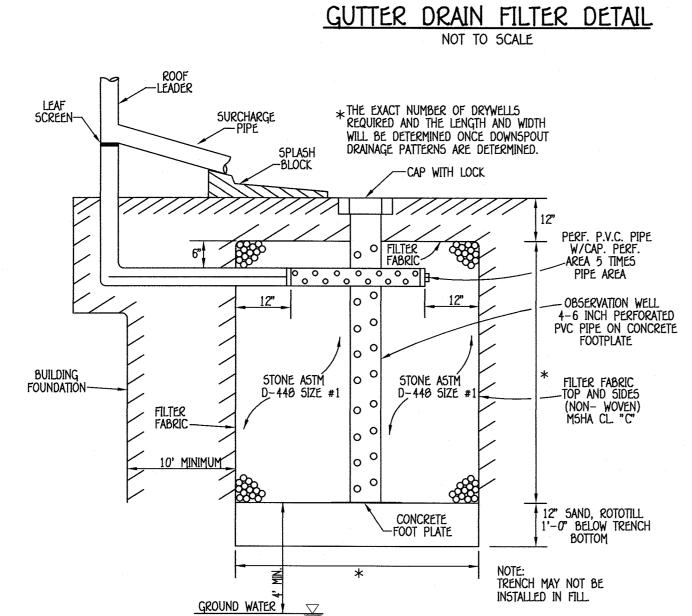
STORMWATER MANAGEMENT SUMMARY REQUIRED PROVIDED REMARKS CU.FT. CU.FT. DRYWELLS (M-5) & MICRO-BIORETENTION (M-6) 986

GROSS AREA = 0.57 AC. (TOTAL) LOD = 0.46 ACRES RCN = 56.1TARGET Pe = 1.79"

50IL

RV = 0.05 + (0.009) (I); I=30.8%

5 = 0.25 (95% 'B' 50ils, 5% 'D' 50ils)Rev = (5) (Rv) (A)/12= (0.25)(0.33)(0.57)/12= 0.0039 ac-ft or 171 cu-ft



DRY WELL DETAIL (M-5)
NOT TO SCALE

CLASS K FACTOR

в .20

ADC STREET MAP: MAP 20 GRID 5-D

VICINITY MAP SCALE: 1" = 2,000°

SCALE: 1" = 2,000

STORMWATER MANAGEMENT NOTES

1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.

2. MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT 5HALL BE 1,000 SQ. FT. OR LESS.

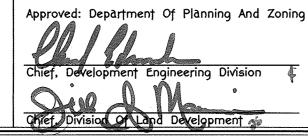
3. DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5%. THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.

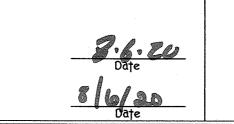
4. FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.

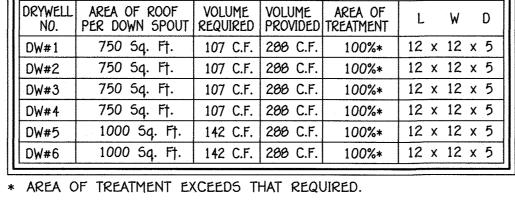
Table B.4. Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration

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/ā	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AA5HTO M-43	No. 57 or No. Aggregate (3/8" to 3/4")	
Underdrain piping	F 750, Type P5 20 or AASHTO M-270	4" to 6" rigid schedule 40 PVC or 5DR35	Slotted or perforated pipe; 3/8" pert. © 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; 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 20 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n.ā	on-site testing of poured-in-place concrete required: 20 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved 5tate or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the 5tate of Maryland - design to include meeting ACI Code 350.R/89; vertical loading LH-10 or H-201; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AA5HTO-M-6 or A5TM-C-33	0.02" †o 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.

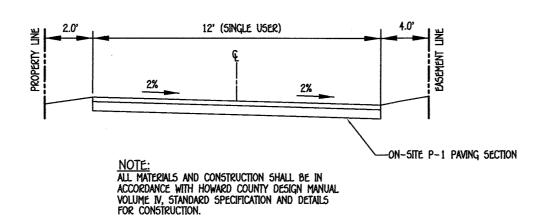
FISHER. COLLINS & CARTER. INC. VIL ENGINEERING CONSULTANTS & LAND SURVEYORS QUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042







DRY WELL CHART

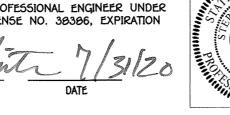


TYPICAL PRIVATE DRIVE CROSS SLOPE SECTION

SLOPE THE DRIVEWAY SO THAT WATER DOES NOT FLOW DIRECTLY ONTO THE ADJACENT SOUTHERN PARCEL.

PROFESSIONAL CERTIFICATION 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: 01/12/2022.

Signature Of Professional Engineer



OPERATION AND MAINTENANCE SCHEDULE FOR OWNED AND MAINTAINED UNDERGROUND SWM FACILITY

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED

DRY WELLS (M-5)

A. THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY

B. THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A

D. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO (72) HOUR

E. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE

F. 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

C. THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.

PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.

TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.

WITH OPERATION AND MAINTENANCE CRITERIA.

FREQUENT SCHEDULE IS REQUIRED.

 THE UNDERGROUND 5.W.M. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY. 2. MAINTENANCE OF THE 66-INCH PIPES SHALL BE PERFORMED BY FLUSHING THE SYSTEM THROUGH THE CLEAN-OUTS PROVIDED AND BY VACUUMING AT MANHOLE ACCESS. THE DISCHARGE / ORIFICE OF THE

ROUTINE MAINTENANCE RESPONSIBILITIES:

UNDERGROUND S.W.M. FACILITY SHALL BE TEMPORARILY BLOCKED DURING SAID MAINTENANCE OPERATION. 3. DISPOSAL OF MATERIAL SHALL BE IN ACCORDANCE WITH SIMILAR B.M.P. THAT RANGE FROM DISPOSAL IN A SANITARY LANDFILL TO INCINERATION IN A LICENSED FACILITY. PETROLEUM WASTE PRODUCTS SHOULD BE REMOVED BY A LICENSED WASTE MANAGEMENT COMPANY.

NON-ROUTINE MAINTENANCE

- STRUCTURAL COMPONENTS OF THE UNDERGROUND FACILITY SUCH AS THE MANHOLES, PIPES AND/OR ORIFICE SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS. INSPECTION REPORTS SHALL BE KEPT UNTIL THE NEXT SUBSEQUENT
- 2. PROBLEMS IDENTIFIED DURING INSPECTION WILL BE PROMPTLY CORRECTED. MAJOR PROBLEMS SHALL ALSO BE BROUGHT TO THE ATTENTION OF THE HOWARD COUNTY DEPT. OF PUBLIC WORKS TO INSURE THAT PUBLIC SAFETY IS MAINTAINED. BLOCKED DURING SAID MAINTENANCE OPERATION.

OWNER / DEVELOPER

HoCo HOLDING , LLC 4652 SHEPPARD LANE ELLICOTT CITY, MARYLAND 21042 410-409-0333

GENERAL NOTES

- 1. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION
- 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.

 2. THE CONTRACTOR SHALL NOTIFY (MISS UTILITY) AT 1-800-257-7777 AT LEAST 49 HOURS PRIOR TO ANY EXCAVATION WORK BEING
- BOUNDARY SHOWN HEREON IS BASED ON FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. DATED JUNE, 2010. TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SUVERY PERFORMED BY FISHER, COLLINS & CARTER, INC. IN MAY 2010 AND SUPPLEMENTED WITH HOWARD COUNTY GIS TOPOGRAPHY AT 5' CONTOUR INTERVAL INTERPOLATED FOR
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 17HA AND 17ID WERE USED FOR THIS PROJECT
- 5. PREVIOUS DPZ FILE NUMBERS: PLAT BOOK 5, PAGE 19; D-1158 . Storm water management is in accordance with the m.d.e. Storm water design manual, volumes I & II, revised 2009. NON-STRUCTURAL PRACTICES IN ACCORDANCE WITH CHAPTER 5 ARE BEING UTILIZED. 7. THIS PROPERTY IS LOCATED INSIDE THE METROPOLITAN DISTRICT. LOTS TO BE SERVED PUBLIC WATER AND PRIVATE SEWER, CONTRACT
- 8. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
 9. THE SUBJECT PROPERTY IS ZONED R-20 PER DATE 10/06/2013 COMPREHENSIVE ZONING PLAN.
 10. NO STEEP SLOPES EXIST ON-SITE, HOWEVER THE SITE CONTAINS 100 YEAR FLOODPLAIN, WETLANDS, STREAM(5) AND/OR THEIR
- BUFFERS. SEE ENVIRONMENTAL FINDINGS LETTER PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED JUNE 14, 2018
 11. LANDSCAPING WILL BE PROVIDED AT THE SITE DEVELOPMENT PLAN STAGE OF THIS PROJECT.
 12. THIS PROJECT IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS BECAUSE THE AREA OF THE PARCEL IS LESS THAN 40 SQUARE FEET PER SECTION 16.1202(b)(1)(vi) OF THE COUNTY CODE.
- 13. A SOIL BORING WILL BE REQUIRED FOR THIS PROJECT SINCE DRYWELLS AND A MICRO-BIORETENTION POND IS BEING UTILIZED.

 14. APPROVAL OF THIS ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT SUBDIVISION, FOREST CONSERVATION, OR SITE DEVELOPMENT PLANS. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED COMMENTS THAT MAY ALTER THE SITE DESIGN. HOUSE LOCATION, DRIVEWAY LOCATION, GRADING, TREE CLEARING, AND/OR OTHER REQUIREMENTS AS THE DEVELOPMENT PLAN PROGRESSES THROUGH THE PLAN REVIEW PROCESS IN ACCORDANCE WITH THE SUBDIVISION AND ZONING
- REGULATIONS AND THE FOREST CONSERVATION REQUIREMENTS. 15. APPROVAL OF THIS ECP BY THE HOWARD SOIL CONSERVATION DISTRICT DOES NOT PROVIDE APPROVAL OF THE SHOWN SEDIMENT
- 17. SOILS SHOWN HEREON ARE BASED ON THE NRCS WEBSOIL SURVEY AND HOWARD COUNTY SOIL MAP #13. 18. NO HISTORICAL FEATURES OR CEMETERIES ARE ON SITE.
- 19. ON JULY 10, 2019, THE DIVISION OF PUBLIC SERVICE AND ZONING DEPARTMENT, DETERMINED THAT THE PROPERTY (LOT 21-A) IS A

DESIGN 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 said manual. The achievement of this goal will remove the requirement of providing Channel Protection Volume.

3010-A Southview Road is zoned R-20 and is located on Tax Map 17, however the parcel is inaccurately shown as one parcel with lot 21 (Parcel 211), of the Howard County, Maryland Tax Map Database System. The property is directly behind Lot 21 of a subdivision entitled "Howard Heights, Section 2" as Recorded in Plat Book 5, Page 19, dated December, 1955. The site is currently a vacant lot that is maintained generally as a lawn for the benefit of the adjacent lot, the lawn area includes numerous landscape and shade trees. This subdivision is exempt from the requirements of Section 16.1200 of the Howard County Code for Forest Conservation, it involves the clearing of less than 40,000 square feet in accordance with Section 16.1202(b)(i)(vi) of the Howard County Code. The proposed house will be served by public water and public sewer. The runoff from the lot is mostly from east to west, with said runoff going towards a stream in the rear of the property. Micro-Bioretention and Drywells will be utilized to treat the rooftop, and the new driveway. Per the 2004 Web Soil Survey, soils on-site consist of "BaA" Baile Silt Loam, type D soil and "GhB" Glenelg-Urban Land Complex, type B Soil.

- Environmentally sensitive features such as a stream and its buffer, wetlands and their buffers, and floodplain do exist on-site. Alternative Compliance has been requested for the construction of stormwater management within the stream buffer. Stream, wetlands, wetland buffer, and floodplain will have super silt fence provided to protect them during construction.
- II. Maintenance of Natural Flow Patterns: Natural flow patterns will be maintained. Existing and proposed runoff flows mostly toward the east and southeast portion of
- III. <u>Reduction of impervious areas through better site design. alternative surfaces and Nonstructural Practices</u>
 A single driveway will be utilized to provide access to the proposed house.
- IV. Integration of Erosion and Sediment Controls into Stormwater Strategy: Silt Fence and Super Silt Fence will be utilized to provide erosion and sediment control.
- V. Implementation of ESD Planning Techniques and practices to the Maximum Extent Practicable (MEP)
- The full required ESD volume is being provided along with 100-year and the 3.55-hour 6.6 inch event management.
- VI. Request for a Design Manual Waiver: No waivers related to stormwater management are required. Alternative Compliance is being requested for construction of the stormwater management within the stream buffer.

SITE ANALYSIS DATA CHART

- TOTAL AREA OF THIS SUBMISSION = 0.57 AC.± (LOT 21-A) LIMIT OF DISTURBED AREA = 20,081 S.F. OR 0.46 AC. PRESENT ZONING DESIGNATION = R-20
- (PER 10/06/2013 COMPREHENSIVE ZONING PLAN) PROPOSED USE: RESIDENTIAL
- PREVIOUS HOWARD COUNTY FILES: P.B. 5, P.19; D-1158 TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 0.04 AC. ± TOTAL AREA OF STEEP SLOPES:
- MODERATED STEEP SLOPES: 15%-24.9% = 0.00 AC± STEEP SLOPES: 25% OR GREATER = 0.00 AC± TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.11 AC.±
- TOTAL AREA OF STREAM (INCLUDING BUFFER) = 0.27 AC. ± TOTAL AREA OF EXISTING FOREST = 0.33 AC+
- TOTAL AREA OF FOREST TO BE RETAINED = 0.17 AC± (NOT IN EASEMENT) TOTAL AREA OF LOTS / BUILDABLE PARCELS = 0.57 AC+ TOTAL GREEN OPEN AREA = 0.43 AC±
- TOTAL IMPERVIOUS AREA = 0.14 AC+ TOTAL AREA OF ERODIBLE SOILS = 0.00 AC. ±
- TOTAL AREA OF ROAD DEDICATION = 0.00 AC.+

TITLE SHEET HOWARD HEIGHTS - LOT 21A

3018-A SOUTHVIEW ROAD ZONED: R-20

TAX MAP NO.: 17 GRID NO.: 22 PARCEL NO.: 211 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: JULY, 2020 SHEET 1 OF 2

ECP-20-018

