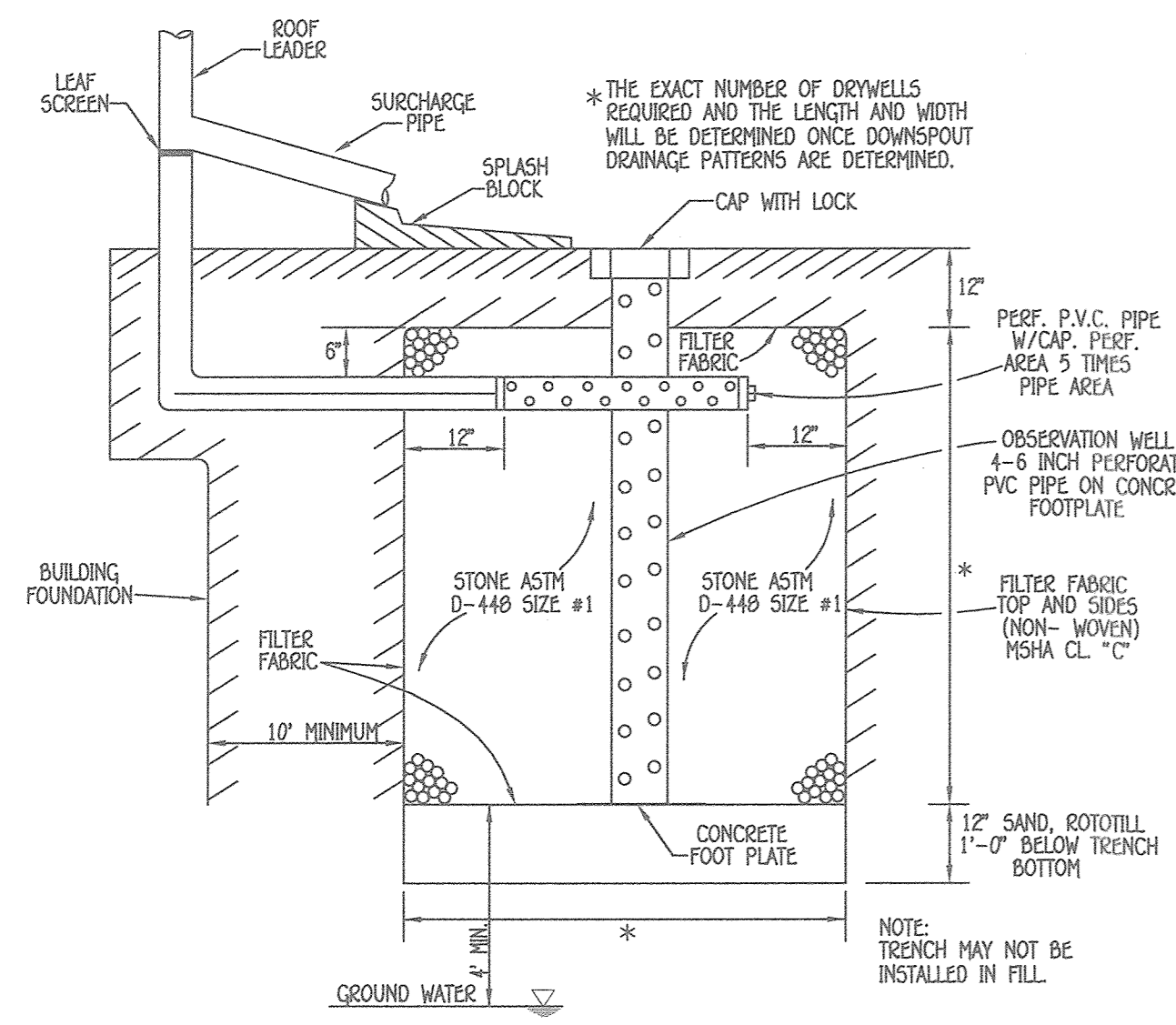


SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ENVIRONMENTAL CONCEPT PLAN

STORMWATER MANAGEMENT SUMMARY			
AREA ID.	ESDV REQUIRED CU.FT.	ESDV PROVIDED CU.FT.	REMARKS
SITE	1,290	1,326	DRY WELLS (M-5) & NON-ROOFTOP DISCONNECTION (N-2)
TOTAL	1,290	1,326	

GROSS AREA = 0.99 ACRES
 LOD = 0.91 ACRES
 RCN = 30
 TARGET Pe = 1.4"



DRY WELL CHART						
DRYWELL NO.	AREA OF ROOF PER DOWN SPOUT	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L	W D
120 (GAR)	506 SQ. FT.	57 C.F.	120 C.F.	100%*	8' x 8' x 5'	
120 (SIDE)	1,089 SQ. FT.	121 C.F.	242 C.F.	100%*	11' x 11' x 5'	
120 (REAR)	280 SQ. FT.	98 C.F.	200 C.F.	100%*	10' x 10' x 5'	
121 (GAR)	506 SQ. FT.	57 C.F.	120 C.F.	100%*	8' x 8' x 5'	
121 (SIDE)	1,089 SQ. FT.	121 C.F.	242 C.F.	100%*	11' x 11' x 5'	
121 (REAR)	280 SQ. FT.	98 C.F.	200 C.F.	100%*	10' x 10' x 5'	

* AREA OF TREATMENT EXCEEDS THAT REQUIRED.

ENVIRONMENTAL CONCEPT PLAN

HOLIDAY HILLS

LOTS 121 THRU 124

TAX MAP No. 41 GRID No. 6 PARCEL NO. 174
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND



BENCHMARK INFORMATION	
B.M.#1 - HOWARD COUNTY CONTROL STATION #41CD - HORIZONTAL - (NAD '83) (LOCATED ON THE NORTH SIDE OF HUNTING LANE WEST OF NEWBERRY DRIVE) N 550,548.6950 E 1,344,308.3850 ELEVATION = 347.74 - VERTICAL - (NAVD '88)	
B.M.#2 - HOWARD COUNTY CONTROL STATION #41CE - HORIZONTAL - (NAD '83) (LOCATED ON THE SOUTH SIDE OF HUNTING LANE) N 550,1340.9790 E 1,345,892.2830 ELEVATION = 371.34 - VERTICAL - (NAVD '88)	

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.

LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING 2' CONTOURS		PROPOSED CONTOUR
	EXISTING 10' CONTOURS		SPOT ELEVATION
	SOILS LINES AND TYPE		LIMITS OF DISTURBANCE
	EXISTING TREELINE		DRAINAGE AREA DIVIDE
	INDIVIDUAL TREES & SHRUBS		SILT FENCE
	EXISTING FENCE LINE		PERMANENT SOIL STABILIZATION MATTING
	EXISTING & PROPOSED PAVING		STABILIZED CONSTRUCTION ENTRANCE

GENERAL NOTES

- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (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.
- BOUNDARY SHOWN HEREON IS BASED ON FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. DATED AUGUST, 2016. TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. IN SEPTEMBER, 2016 AND SUPPLEMENTED WITH HOWARD COUNTY GIS TOPOGRAPHY AT 2' CONTOUR INTERVAL INTERPOLATED FOR 2' CONTOUR INTERVAL.
- 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. 41CD AND 41CE WERE USED FOR THIS PROJECT.
- PREVIOUS DRZ FILE NUMBERS: N/A.
- 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.
- THIS PROPERTY IS LOCATED INSIDE THE METROPOLITAN DISTRICT. LOTS TO BE SERVED PUBLIC WATER AND PRIVATE SEWER, CONTRACT #34-4350.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- THE SUBJECT PROPERTY IS ZONED R-20 (PER DATE 10/06/2013 COMPREHENSIVE ZONING PLAN).
- NO 100 YEAR FLOODPLAIN, WETLANDS, STREAMS) AND/OR THEIR BUFFERS, NOR STEEP SLOPES EXIST ON-SITE.
- NO FOREST STANDS EXIST ON-SITE. SEE ENVIRONMENTAL FINDINGS LETTERS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED AUGUST, 2015 & AUGUST, 2016.
- LANDSCAPING WILL BE PROVIDED AT THE FINAL PLAN STAGE OF THIS PROJECT.
- FOREST CONSERVATION REQUIREMENTS FOR THIS PROPOSED RESUBDIVISION WILL BE PROVIDED AT THE FINAL PLAN STAGE OF THIS PROJECT TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION ACT. A FEE-IN-LIEU OF REFORESTATION IS ANTICIPATED.
- 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, SEWER 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.
- APPROVAL OF THIS ECP BY THE HOWARD COUNTY CONSERVATION DISTRICT DOES NOT PROVIDE APPROVAL OF THE SHOWN SEDIMENT CONTROLS.
- A STRUCTURE EXISTS ON THE PROPERTY, KNOWN AS 10614 HUNTING LANE, WHICH IS TO REMAIN.
- SOILS SHOWN HEREON ARE BASED ON THE NRCS WEBSOIL SURVEY AND HOWARD COUNTY SOIL MAP #23.

DESIGN NARRATIVE

Introduction:
 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.

General Site Conditions:
 10614 & 10622 Hunting Lane is zoned R-20 and is located on Tax Map 41, Parcel No.174 of the Howard County, Maryland Tax Map Database System. The property was previously recorded as Lot 10 under platbook 5, folio 70 in February 1957. The lots have existing houses on an open lot (not forested) with some individual trees. Since this subdivision was created prior to Forest Conservation regulations, it is anticipated that a fee-in-lieu will be requested. The proposed houses will be served by public water and sewer as will the existing houses which is current on private well and septic. The runoff from the lots is mostly from southeast to northwest to the rear corner of one of the new lot. Drywells and non-rooftop disconnection will be utilized to treat the majority rooftop and driveway runoff. Per the 2004 Web Soil Survey, soils on-site consist of "qGp", GbGstone - Urban land complex, type A soil.

- Natural Resource Protection:**
 Environmentally sensitive features such as wetlands, streams, their buffers, steep slopes, and floodplain do not exist on-site.
- Maintenance of Natural Flow Patterns:**
 Nature flow patterns will be maintained. Existing and proposed runoff flows mostly toward the northwest portion of the site (proposed Lot 121) with the front yards of the existing houses flowing to southwestern most portion of the lots.
- Reduction of Impervious Areas through better site design, alternative surfaces and Nonstructural Practices**
 A single driveway is proposed to provide access to the two new proposed houses. The design will make use of non-rooftop disconnection to treat majority of runoff from the new common driveway.
- Integration of Erosion and Sediment Controls into Stormwater Strategy:**
 Silt Fence will be utilized to provide the majority of erosion and sediment control.
- Implementation of ESD Planning Techniques and practices to the Maximum Feasible Practicable (MFP)**
 The full required ESD volume is being provided.
- Request for a Design Manual Waiver:**
 No waivers are required.

SITE ANALYSIS DATA CHART

- TOTAL AREA OF THIS SUBMISSION = 2.00 AC. (0.99 AC. NEW LOTS FOR WHICH SWM IS BASED)
- LIMIT OF DISTURBED AREA = 39,480 SQ.FT. OR 0.91 AC.
- PRESENT ZONING DESIGNATION = R-20 (PER 10/06/2013 COMPREHENSIVE ZONING PLAN)
- PROPOSED USE: RESIDENTIAL
- PREVIOUS HOWARD COUNTY FILES: N/A
- TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 0.00 AC.
- TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.00 AC.
- TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.00 AC.
- TOTAL AREA OF STREAM (INCLUDING BUFFER) = 0.00 AC.
- TOTAL AREA OF EXISTING FOREST = 0.00 AC.
- TOTAL AREA OF FOREST TO BE RETAINED = 0.00 AC.
- TOTAL AREA OF LOTS / BUILDABLE PARCELS = 2.00 AC. (0.99 AC., NEW LOTS FOR WHICH SWM IS BASED)
- TOTAL GREEN OPEN AREA = 0.76 AC. (NEW LOTS ONLY)
- TOTAL IMPERVIOUS AREA = 0.23 AC. (NEW LOTS ONLY)
- TOTAL AREA OF ERODIBLE SOILS = 0.00 AC.
- TOTAL AREA OF ROAD DEDICATION = 0.00 AC.

Table B.4. Materials Specifications for Micro-Bioretenention, 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 50-85% coarse 35-60% 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 2871)		
Mulch	shredded hardwood		aged 6 months, minimum
Peak gravel diaphragm	pea gravel: ASTM-D-440	No. 8 or No. 9 (1/8" to 3/8")	
Curtain drain	ornamental stone: washed cobble	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	No. 57 or No. Aggregate (3/4" to 3/4")	
Underdrain piping	F 798, Type PS 20 or AASHTO M-279	4" to 6" rigid schedule 40 PVC or 50303	Slotted or perforated pipe; 3/8" perft. @ 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 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 "site 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 308.3R; vertical loading (H-10 or H-20); allowable horizontal loading (based on soil pressure); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Gabbro (ASTM) #10 are not acceptable. No calcium carbonate or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING, CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21046
 (410) 461 - 2895

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. 36366, EXPIRATION DATE: 01/12/2018.
 Signature of Professional Land Surveyor: *Stephen Lutz* DATE: 11/5/19

OWNERS
 JARED AND HOLLY SCOTT
 10618 HUNTING LANE
 COLUMBIA, MARYLAND 21044-4207
 C/O JOHN MINUTOLI (410)409-0333

DEVELOPER
 MG RENOVATIONS, LLC
 ATTN: JOHN MINUTOLI
 6139 WHITE MARBLE COURT
 CLARKSVILLE, MARYLAND 21029
 (410)409-0333

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
<i>Karl Schuch</i> Chief, Division of Land Development	11-7-19 Date
<i>David Edinger</i> Chief, Development Engineering Division	11-14-19 Date
PROJECT: HOLIDAY HILLS, LOTS 119 THRU 122	SECTION: -
PARCEL NO.: 174	
PLAT: PB 5 / F 78	BLOCK NO.: 06
ZONE: R-20	TAX/ZONE: 41
ELEC. DIST.: FIFTH	CENSUS TR.: 605102

TITLE SHEET
 HOLIDAY HILLS,
 LOTS 121 THRU 124,
 10618 HUNTING LANE &
 10622 HUNTING LANE
 ZONED R-20
 TAX MAP No. 41 GRID No. 06 PARCEL No. 174
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: OCTOBER, 2016
 SHEET 1 OF 2 ECP-17-017

