

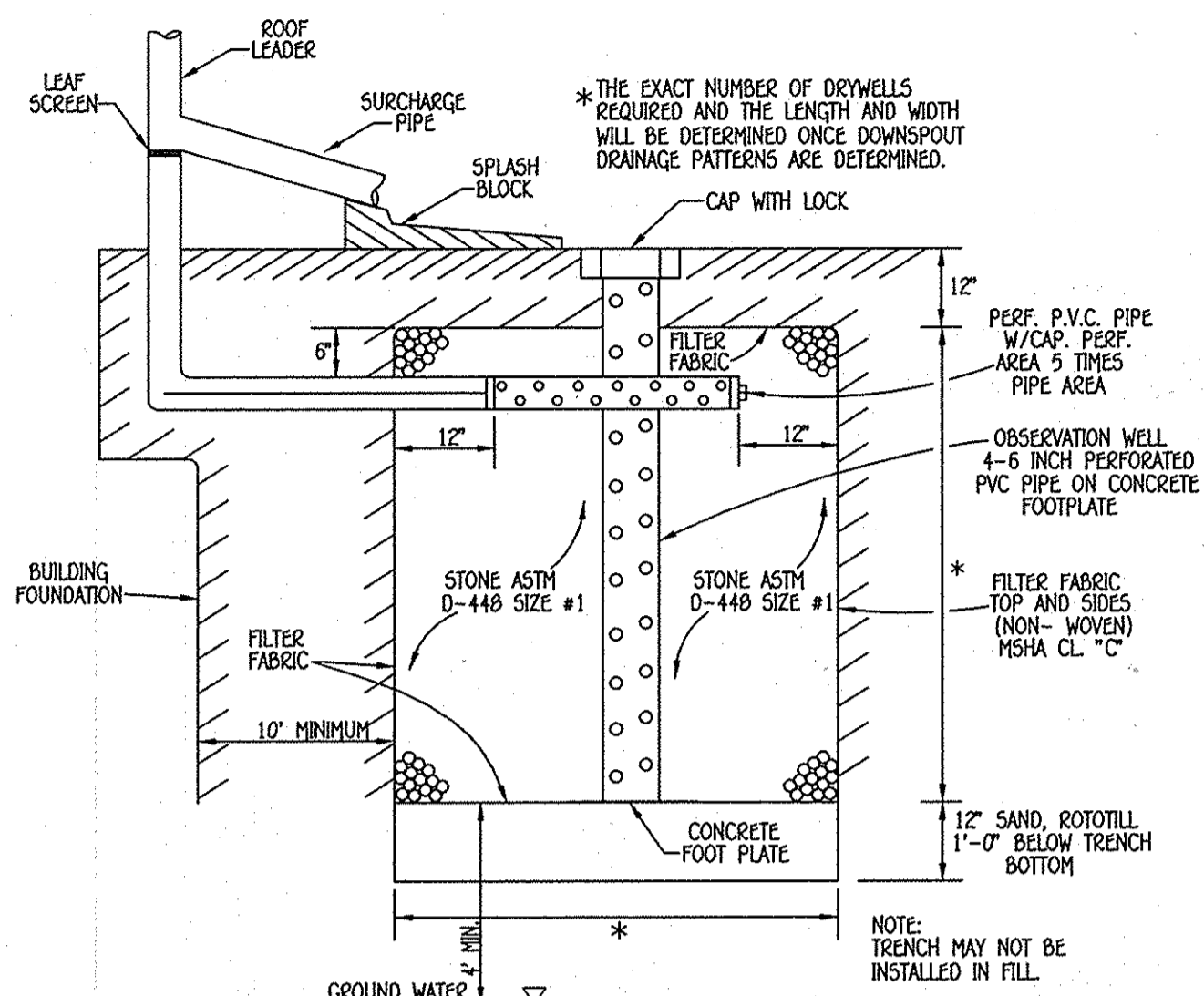
SHEET INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ENVIRONMENTAL CONCEPT PLAN & PRELIMINARY SEDIMENT AND EROSION CONTROL PLAN

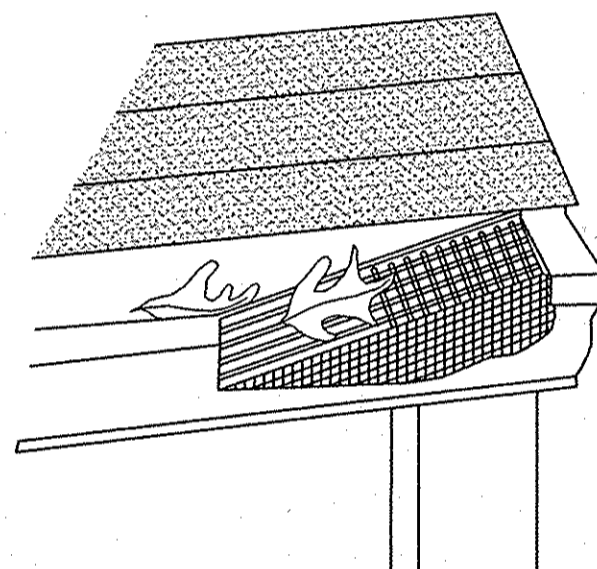
ENVIRONMENTAL CONCEPT PLAN HAPPY HILLS FARM

LOT 4

TAX MAP No. 4 GRID No. 22 PARCEL Nos. 2
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND



DRY WELL DETAIL (M-5)
NOT TO SCALE



GUTTER DRAIN FILTER DETAIL
NOT TO SCALE

STORMWATER MANAGEMENT NOTES

1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE 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 SHALL 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 WILL BE SHOWN ON THE SUPPORT PLAN.

DRY WELL CHART

DRYWELL NO.	AREA OF ROOF PER DOWN SPOUT	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L	W	D
2 (1)	700 SQ. FT.	56 C.F.	74 C.F.	100%*	7'	7'	5'
2 (2)	700 SQ. FT.	56 C.F.	74 C.F.	100%*	7'	7'	5'
2 (3)	700 SQ. FT.	56 C.F.	74 C.F.	100%*	7'	7'	5'
2 (4)	700 SQ. FT.	56 C.F.	74 C.F.	100%*	7'	7'	5'

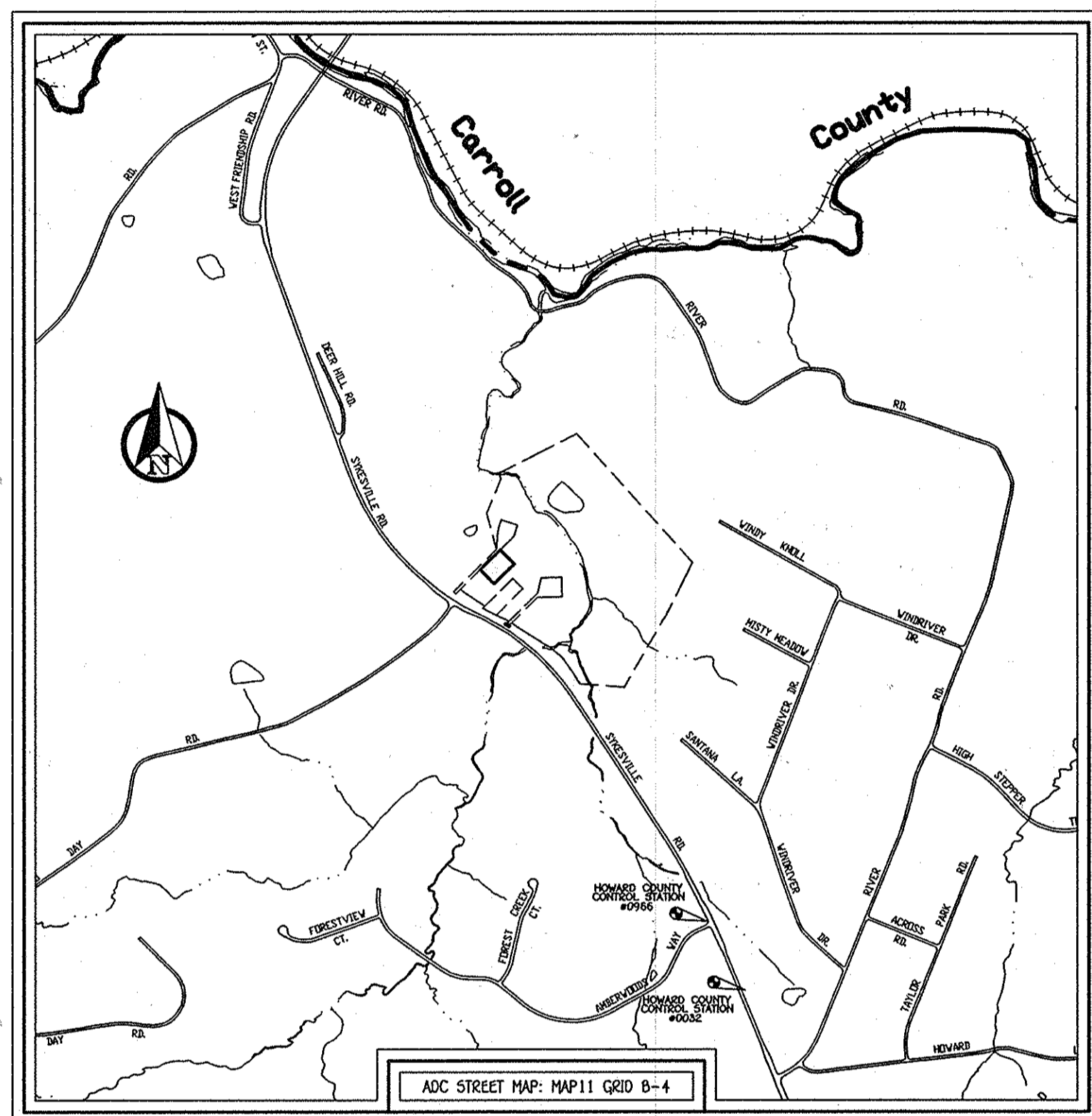
* AREA OF TREATMENT EXCEEDS THAT REQUIRED.

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 HEAVY STORM EVENT.
- B. 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.
- C. THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- D. 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.
- E. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- 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 FREQUENT SCHEDULE IS REQUIRED.

STORMWATER MANAGEMENT SUMMARY			
AREA ID.	ESDV REQUIRED CU.FT.	ESDV PROVIDED CU.FT.	REMARKS
SITE	521	525	DISCONNECTION OF NON-ROOFTOP RUNOFF (M-2)
TOTAL	521	525	

GROSS AREA = 1 ACRES
SITE AREA / LOD = 1.0/0.77 ACRES
CCCN = 55
TARGET Pe = 1.0'



VICINITY MAP
SCALE: 1" = 1200'

BENCHMARK INFORMATION

B.M.# 13CA - HOWARD COUNTY CONTROL STATION #09CC - HORIZONTAL - (NAD '83)
N 610,023.373
E 1,325,018.169
ELEVATION = 511.320 - (NAVD '88)

B.M.# 071A - HOWARD COUNTY CONTROL STATION #0032 - HORIZONTAL - (NAD '83)
N 609,424.178
E 1,325,347.940
ELEVATION = 540.970 - (NAVD '88)

SITE ANALYSIS DATA CHART

- A. TOTAL AREA OF THIS SUBMISSION = 1.00 AC. (LOT 4)
- B. LIMIT OF DISTURBED AREA = 0.71 AC. *
- C. PRESENT ZONING DESIGNATION = RC-DEO (PER 10/06/2013 COMPREHENSIVE ZONING PLAN)
- D. PROPOSED USE: RESIDENTIAL
- E. PREVIOUS HOWARD COUNTY FILES: F-87-157, F-88-014, F-03-082 & F-10-043
- F. TOTAL AREA OF FLOODPLAIN LOCATED ON LOT 4 = 0.00 AC.
- G. TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.00 AC.
- H. TOTAL AREA OF WETLANDS (INCLUDING BUFFER, LOCATED OUTSIDE OF THE FLOODPLAIN) = 0.00 AC. (0.00 AC. LOCATED WITHIN FLOODPLAIN)
- I. TOTAL AREA OF STREAM (INCLUDING BUFFER, LOCATED OUTSIDE OF THE FLOODPLAIN) = 0.00 AC.
- J. TOTAL AREA OF EXISTING FOREST = 0.00 AC. (EXCLUDES FLOODPLAIN)
- K. TOTAL IMPERVIOUS AREA = 0.11 AC.

GENERAL NOTES

1. 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.
2. THE CONTRACTOR SHALL NOTIFY (MISS UTILITY) AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
3. BOUNDARY SHOWN HEREON IS BASED ON FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. DATED DECEMBER 2013. TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. IN MARCH 2014 AND SUPPLEMENTED WITH HOWARD COUNTY GIS TOPOGRAPHY AT 5' CONTOUR INTERVAL INTERPOLATED FOR 2' CONTOUR INTERVAL.
4. 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. 218A AND 0042 WERE USED FOR THIS PROJECT.
5. PREVIOUS OPZ FILE NUMBERS: F-87-157, F-88-014, F-03-082 & F-10-043
6. STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE H.O.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 OUTSIDE THE METROPOLITAN DISTRICT. LOTS TO BE SERVED PRIVATE WATER AND PRIVATE SEWERAGE.
8. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
9. THE SUBJECT PROPERTY IS ZONED RC-DEO (PER DATE 10/06/2013 COMPREHENSIVE ZONING PLAN).
10. THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT SHALL NOT BE NECESSARY.
11. NO CEMETERIES OR HISTORIC STRUCTURES, EXIST ON-SITE.
12. STEEP SLOPES, 100 YEAR FLOODPLAIN, STREAM(S), STREAM BUFFERS, WETLAND(S), AND FOREST STAND DELINEATION HAVE BEEN SHOWN.
13. SOILS SHOWN HEREON ARE BASED ON NRCS WEBSOIL SURVEY. SITE IS LOCATED ON HOWARD COUNTY SOILS MAP #9.
14. NO CLEARING, GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF STREAM BUFFERS AND FOREST CONSERVATION EASEMENT AREAS.
15. LANDSCAPING WILL BE PROVIDED AT THE FINAL PLAN STAGE OF THIS PROJECT. TREES SHOWN ARE EXISTING.
16. THIS SUBMISSION IS EXEMPT FROM THE FOREST CONSERVATION REQUIREMENT PER SECTION 16.1202(B)(1)(vii) OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL. SINCE THIS IS A MINOR SUBDIVISION CREATING ONE ADDITIONAL LOT AND HAS NO FURTHER SUBDIVISION POTENTIAL.
17. ONE SOIL BORING WILL BE REQUIRED FOR THIS PROJECT. PERCOLATION TESTS WERE CONDUCTED IN CLOSE PROXIMITY TO TWO OF THE PROPOSED MICRO-BIORETENTION LOCATIONS. THE MICRO-BIORETENTION PROPOSED NEAR DIVALL ROAD WILL REQUIRE A BORING.
18. APPROVAL OF THIS ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN AND/OR RED-LINE REVISION PLAN. 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/PLAT AND/OR SITE DEVELOPMENT PLAN STAGES AND RED-LINE REVISION PROCESS. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.

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:
This Property is Zoned RR-DEO and is located on Tax Map 4, Parcel No.2 of the Howard County, Maryland Tax Map Database System. The property consists of 1.0 acre off conveyance of which no acres are encumbered with a Preservation Easement. There are no woods on this Lot. Soils on site consist of Gg9 Glenelg Loom and McC Manor Chanmyath both being Type "B1" soils within the Limit of Disturbance. The area of disturbance will be 33,750 sq. ft. +/-.

Natural Resource Protection:
This design will not disturb any specimen tree located on the farm. There is no environmentally sensitive features such as existing forest or wetlands on this Lot. No special environmental considerations are required.

Maintenance of Natural Flow Patterns:
This design seeks to keep the original drainage divides with only minor adjustments.

Reduction of Impervious Areas through better site design, alternative surfaces and Nonstructural Practices
This site reduces the overall need for impervious surfaces by taking advantage of several existing use-in-common driveways. All proposed impervious areas will receive the full ESDv for the required Pe.

Integration of Erosion and Sediment Controls into Stormwater Strategy:
This site proposes to use silt fence for sediment control measures.

Implementation of FSD Planning Techniques and practices to the Maximum Extent Practicable (MEP)
The full ESDv is being provided for all areas requiring treatment. This will be accomplished by the use of Dry Wells and N-2 Non-Rooftop Disconnection Credit.

Request for a Design Manual Waiver:
No design manual waivers are anticipated at this time.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10275 BALDORRE NATIONAL PARK
ELLSWORTH CITY, MARYLAND 21041
(410) 461 - 2855



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. 20748, EXPIRATION DATE: 02/28/2017.

Signature of Professional Engineer: *Michael J. Vitucci*
DATE: 10/3/15

OWNER / DEVELOPER

LARRY BRUCE LITT
PATRICIA HUMIE LITT
825 ROUTE 32
SYKESVILLE, MD, 21784
443-677-3717

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development: *K. J. Schaefer* 10-02-15
Chief, Development Engineering Division: *[Signature]* 10-30-15

TITLE SHEET

HAPPY HILLS FARM
LOT 4

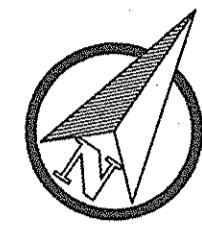
ZONED RR-DEO

TAX MAP No. 4 GRID No. 22 PARCEL No. 2

THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: OCTOBER 2, 2015

SHEET 1 OF 2



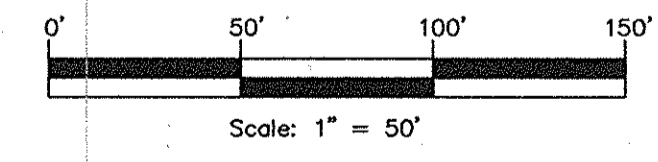
Maryland Route 32
(Sykesville Road)
(An Intermediate Arterial Highway)
S.C.C. Plat No. 5914Z

SOILS LEGEND			
SOIL	NAME	CLASS	Kw
GgB	Glenelg loam, 3 to 8 percent slopes	B	0.20
GmB	Glenville silt loam, 3 to 8 percent slopes	C	0.37
MaC	Manor loam, 8 to 15 percent slopes	B	0.32
MaD	Manor loam, 15 to 25 percent slopes	B	0.24
McD	Manor loam, 15 to 25 percent slopes	B	0.32

Soils Map Sheet No. 4

- NOTES:
- * Hydric soils and/or contains hydric inclusions
 - ** May contain hydric inclusions
 - † Generally only within 100-year floodplain areas

LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
-492-	EXISTING 2' CONTOURS	-482-	PROPOSED CONTOUR
-490-	EXISTING 10' CONTOURS	+362.5	SPOT ELEVATION
GgB	SOILS LINES AND TYPE	LOD	LIMITS OF DISTURBANCE
M.C.C.		---	EXISTING UNIMPAVED 65 DBA HOSE CONTOUR LINE (PLAT NO. 16004)
	EXISTING PRIVATE EASEMENT FOR INGRESS & EGRESS FOR LOT 3, LOT 2, HAPPY HILLS FARM & RESIDUE PARCEL (PLAT NO. 16004)	---	EXISTING & PROPOSED PAVING
	25% AND GREATER STEEP SLOPES	5033	BORING (PERC) TEST HOLE (PASSED)
	EXISTING STORMWATER MANAGEMENT CREDIT EASEMENT (PLAT NO. 16004)	5033	BORING (PERC) TEST HOLE (FAILED)
	EXISTING 20' PRIVATE EASEMENT FOR INGRESS & EGRESS FOR LOT 3 (PLAT NO. 16004)	---	EXISTING PRIVATE 10' EASEMENT FOR SEPTIC RESERVE (PLAT NO. 16004)
	EXISTING PRIVATE EASEMENT FOR SEPTIC RESERVE (PLAT NO. 16004)	SSF	SUPER SILT FENCE
	EXISTING 25' PRIVATE USE-IN-COMMON EASEMENT FOR INGRESS AND EGRESS TO SERVE THE FARM RESIDUE AND LOT 2, HAPPY HILLS FARM (PLAT NO. 7440)	---	STABILIZES CONSTRUCTION ENTRANCE
	25' PRIVATE USE-IN-COMMON EASEMENT FOR INGRESS AND EGRESS TO LOT 2 AND LOT 4, HAPPY HILLS FARM SUBDIVISION	---	EXISTING WELL
		---	PROPOSED WELLS



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Michael V. Vitucci 10/29/15
Signature of Professional Engineer DATE

OWNER / DEVELOPER
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SYKESVILLE, MD. 21784
443-677-3717

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

V. DeLuca 10/29/15
Chief, Division of Land Development Date

Paul Chisholm 10.30.15
Chief, Development Engineering Division JY Date

PROJECT	HAPPY HILLS FARM	SECTION	-	PARCEL NO.	2
DEED	141176/297	BLOCK NO.	22	ZONE	RR-DEO
TAX/ZONE	3	ELEC. DIST.	THIRD	CENSUS TR.	603003

ENVIRONMENTAL CONCEPT PLAN & PRELIMINARY SEDIMENT AND EROSION CONTROL PLAN

HAPPY HILLS FARM
LOT 4

ZONED RR-DEO

TAX MAP No. 4 GRID No. 22 PARCEL No. 2

THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: OCTOBER 2, 2015
SHEET 2 OF 2