

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	EXISTING CONDITIONS PLAN
3	ENVIRONMENTAL CONCEPT, GRADING, SEDIMENT & EROSION CONTROL PLAN
4	STORMWATER MANAGEMENT DRAINAGE AREA MAP

SOILS LEGEND			
SOIL	NAME	CLASS	'K' VALUE
GgB	Glenelg loam, 3 to 8 percent slopes	B	.24
GnB	Glenville-Baile silt loams, 0 to 8 percent slopes	C	.43
MaC	Manor loam, 8 to 15 percent slopes	B	.28
MaD	Manor loam, 15 to 25 percent slopes	B	.28
MkF	Manor-Brinklow complex, 25 to 65 percent slopes, very rocky	B	.32

### STORMWATER MANAGEMENT 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:**  
The property at 13953 Brighton Dam Road is zoned RR-DEO and is located on Tax Map 34, Parcel No. 221, Lot 30 of the Howard County, Maryland Tax Map Database System. The entire property consists of 7.49 acres of which no acres are encumbered with a Preservation Easement Dedicated to Howard County Maryland Agricultural Land Preservation Program. The property will be subdivided into two lots; lot 36 = 1.23 Ac. Preservation Parcel 'A' = 6.25 Ac. The site drains to an existing stream that crosses the center of the property. The soils consist of GgB (B class), GnB (C class), MaC (B class), MaD (B class) and MkF (B class). This site will utilize Bioretention, Micro-Bioretention, and Drywell facilities for stormwater management treating runoff from the proposed driveways and roof of the proposed and existing houses.

**I. NATURAL RESOURCE PROTECTION:**  
To ensure the protection of natural resources located on this site, impacts to buffers will be minimized by locating improvements away from environmentally sensitive areas and specimen trees as possible. These specimen trees will be removed and steep slopes disturbed as a result of development of this site. Impacts will be documented and approved through the alternative compliance process.

**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. Although there is some concentration of the discharge at underdrains and swale outfalls, the general drainage patterns for this site are maintained.

**III. REDUCTION OF IMPERVIOUS AREAS THROUGH BETTER SITE DESIGN, ALTERNATIVE SURFACES AND NONSTRUCTURAL PRACTICES:**  
Only the minimum impervious areas have been proposed to allow adequate access to the proposed lot.

**IV. INTEGRATION OF EROSION AND SEDIMENT CONTROLS INTO STORMWATER STRATEGY:**  
This project utilizes Bioretention and Micro-Bioretention facilities in locations that may be incorporated into concert with sediment trapping. Proposed grass swales can be utilized to direct sediment-laden flow to the traps.

**V. IMPLEMENTATION OF ESD PLANNING TECHNIQUES AND PRACTICES TO THE MAXIMUM EXTENT PRACTICABLE (MEP):**  
The ECP submission will propose several chapter 5 devices to meet and exceed Environmental Site Design to the Maximum Extent Practicable (ESD to the MEP). Proposed ESD devices on proposed Lot 2 address all proposed impervious except for the portions of the driveway near the existing stream crossing. F-6 Bioretention is proposed on to treat an equivalent amount of impervious from the existing impervious on lot 36. N-2 Disconnection of non-rooftop runoff is used for roadway widening frontage improvement. M-6 Micro-Bioretention #1 and F-6 Bioretention #1 are used to treat remainder of site.

**VI. REQUEST FOR DESIGN MANUAL WAIVER:**  
Alternative Compliance will be submitted for impacts to specimen trees and steep slopes. Specimen trees #8 and #17 are to be removed.

### OPERATION & MAINTENANCE SCHEDULE FOR BIORETENTION (F-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.

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

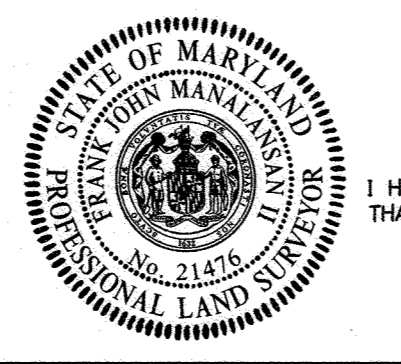
- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE 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.
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- 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 SUMMARY			
AREA ID.	ESDv REQUIRED CU.FT.	ESDv PROVIDED CU.FT.	REMARKS
SITE	2,406	3,275	
TOTAL	2,406	3,275	

GROSS AREA = 7.46 ACRE  
LOD = 2.40 ACRES (SITE)  
RCN = 59 TARGET Pe = 1.2  
REV = 515 cu. ft. OF STORAGE PROVIDED  
REV = 86 cu. ft. OF STORAGE REQUIRED

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING, CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELLSWORTH CITY, MARYLAND 21206  
(410) 461-2895

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



### 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 H. HALAMANCIAN II  
8/14/22  
DATE

# ENVIRONMENTAL CONCEPT PLAN

## HAVILAND HILLS

### LOT 36 AND BUILDABLE PRESERVATION PARCEL 'A' (A RESUBDIVISION OF HAVILAND HILLS LOT 30)

13953 BRIGHTON DAM ROAD

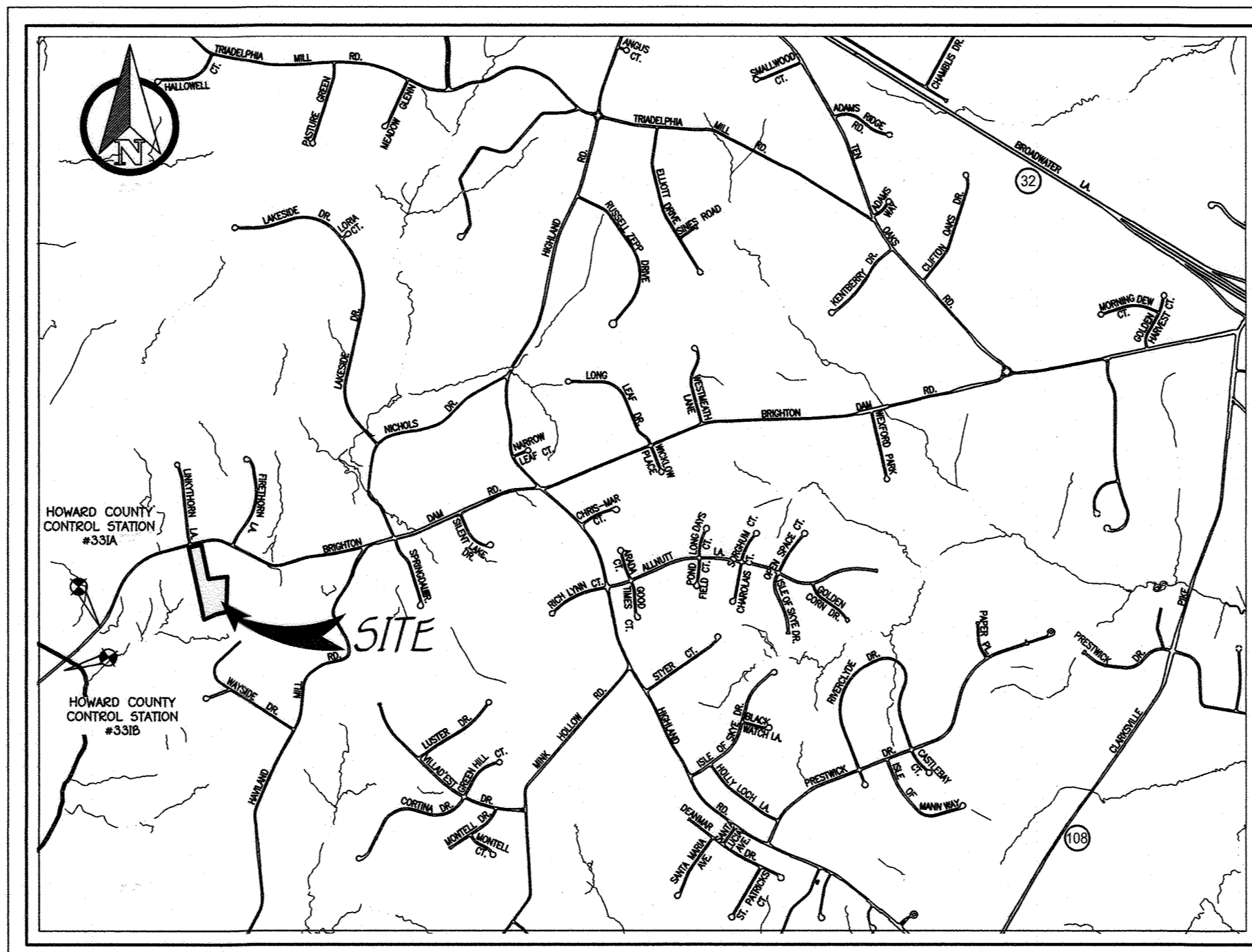
ZONING: RR-DEO (RURAL RESIDENTIAL DISTRICT)

TAX MAP No. 34 GRID No. 13 PARCEL No. 221

FIFTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

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 CABLE LINE
---	EXISTING GAS LINE
---	EXISTING OVERHEAD WIRE
---	PROPOSED PAVING/PATH
---	PROPOSED USE-IN-COMMON EASEMENT
---	FOREST CONSERVATION EASEMENT (REFORESTATION)
---	LIMIT OF DISTURBANCE
---	SUPER SILT FENCE
---	SILT FENCE
---	DIVERSION FENCE
---	TEMPORARY GABION OUTLET STRUCTURE
---	EXISTING TREE LINE
---	PROPOSED TREE LINE
---	SOIL LINES AND TYPES
---	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
---	PROPOSED ROOF LEADER
---	DENOTES EXISTING TREE TO BE REMOVED
---	DENOTES EXISTING TREES TO REMAIN
---	CRITICAL ROOT ZONE
---	STABILIZED CONSTRUCTION ENTRANCE
---	SOIL STABILIZATION MATTING (SSM)
---	EXISTING PAVEMENT TO BE REMOVED



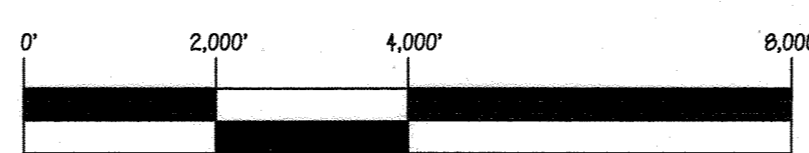
HOWARD COUNTY GEODETIC SURVEY CONTROL NO. 331A  
N 556,569.029 E 1,311,501.834  
ELEVATION: 445.658

HOWARD COUNTY GEODETIC SURVEY CONTROL NO. 331B  
N 555,171.770 E 1,310,115.372  
ELEVATION: 403.18

REFER TO HOWARD CO. ADC MAP 30 C-3

### VICINITY MAP

SCALE: 1" = 2,000'



SCALE: 1" = 2,000'

### SITE ANALYSIS DATA CHART

- TOTAL AREA OF THIS SUBMISSION = 7.46 AC. (324,925 Sq. Ft.)
  - LIMIT OF DISTURBED AREA = 2.40 AC. (104,580 Sq. Ft.) (SWM BASED ON LOD)
  - PRESENT ZONING DESIGNATION = RR-DEO (PER 10/06/2013 RESIDENTIAL ZONING PLAN)
  - PROPOSED USE: RESIDENTIAL SINGLE FAMILY DETACHED
  - PREVIOUS HOWARD COUNTY FILES: N/A
  - TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 0 AC\*\*
  - TOTAL AREA OF SLOPES IN EXCESS OF 15% = 1.67 AC\*
  - TOTAL AREA OF SLOPES IN EXCESS OF 25% = 0.82 AC\*
  - TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.61 AC\*
  - TOTAL AREA OF STREAM (INCLUDING BUFFER) = 2.24 AC\*
  - TOTAL AREA OF EXISTING FOREST = 0.0 AC
  - TOTAL AREA OF LOTS / BUILDABLE PARCELS = 7.45 AC\*
  - TOTAL IMPERVIOUS AREA = 0.47 AC\* (WITHIN LOD, EXCLUDES EXISTING IMPERVIOUS)
  - TOTAL AREA OF ERODIBLE SOILS = 4.01 AC\*
- \*\* NO FLOODPLAIN EXISTS ON SITE AS TOTAL DRAINAGE AREA IS 21.3 AC. UNDER 30 AC.

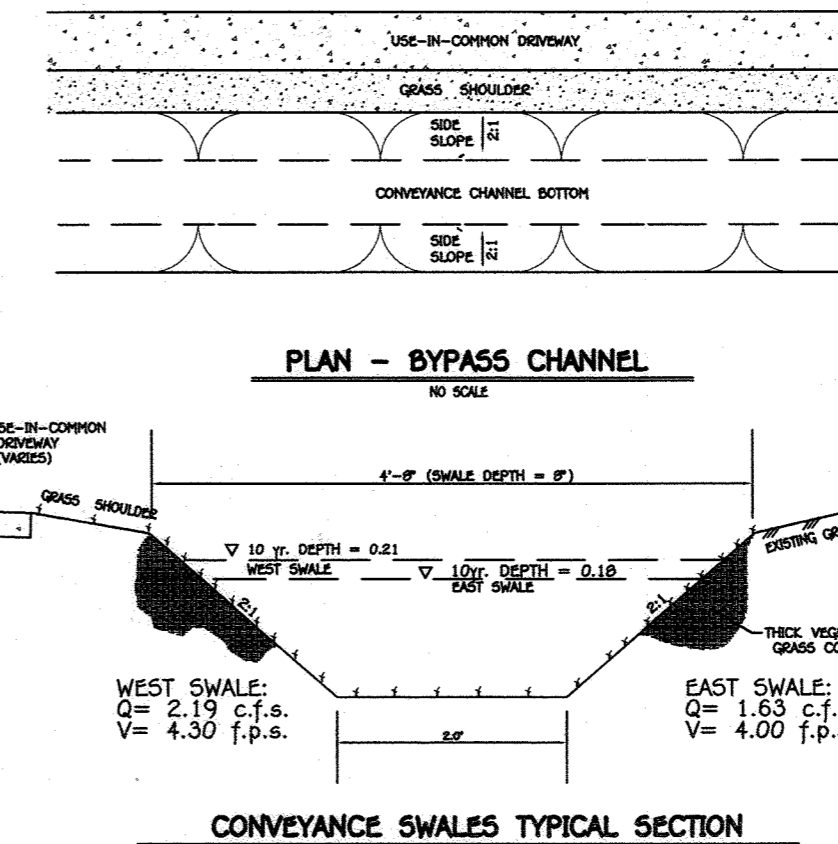
### STORMWATER MANAGEMENT PRACTICES

LOT	ADDRESS	DRYWELLS (F-5) Y/N, NUMBER	MICRO-BIO (M-6) Y/N, NUMBER	BIORETENTION (F-6) Y/N, NUMBER	DISCONNECT ON NON-ROOFTOP RUNOFF (N-2) Y/N, NUMBER
36	13953 BRIGHTON DAM RD.	N	N	N	N
B.P.P. 'A'	13957 BRIGHTON DAM RD.	N	Y, (1)	Y, (2)	Y, (1)

### STORMWATER MANAGEMENT SUMMARY

AREA ID.	ESDv REQUIRED CU.FT.	ESDv PROVIDED CU.FT.	REMARKS
DRIVEWAY & ROOF (5,920 Sq.Ft.)	623	1,077	1 MICRO-BIORETENTION FACILITY (M-6) #1
DRIVEWAY (8,604 Sq.Ft.)	906	938	1 BIORETENTION FACILITY (F-6) #1
EX. HOUSE, DRIVEWAY & ROOF (3,343 Sq.Ft.)	1,052	1,194	1 BIORETENTION FACILITY (F-6) #2
ROADWAY WIDENING (1,045 Sq.Ft.)	N/A	66	1 DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2) #1
TOTAL SITE	2,406	3,275	

\*\*OFFSETS DRIVEWAY IMPERVIOUS NOT TREATED



### GENERAL NOTES

- THE SUBJECT PROPERTY IS ZONED RR-DEO (PER 10/06/13 COMPREHENSIVE ZONING PLAN).
- THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- 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 SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. DATED JULY, 2021.
- 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. 331A AND 331B WERE USED FOR THIS PROJECT.
- PREVIOUS DPZ FILE NUMBERS: PLAT BOOK 08 PAGE 98.
- 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 ALONG WITH BIORETENTION UNDER CHAPTER 5.
- THIS PROPERTY IS LOCATED OUTSIDE THE METROPOLITAN DISTRICT. LOTS TO BE SERVED BY PRIVATE WELL & SEPTIC SYSTEMS.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- NO GRADING, REMOVAL OF VEGETATIVE COVERS OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN ON THIS SITE. GRADING AND REMOVAL OF NON-SPECIMEN TREES WILL OCCUR WITHIN THE STREAM BUFFER. AN ALTERNATIVE COMPLIANCE WILL BE SUBMITTED FOR THIS IMPACT.
- THE SITE IS NOT LOCATED WITHIN A HISTORIC DISTRICT.
- THERE IS NO 100-YEAR FLOODPLAIN LOCATED ON THIS PROPERTY. AS THE SITE IS UNDER 30 AC. (SEE SHEET 6).
- WETLAND AND FOREST STAND DELINEATION PREPARED BY ECO-SCIENCE INC. IN OCTOBER, 2021.
- THIS PROJECT IS NOT EXEMPT FROM FOREST CONSERVATION BASED ON SECTION 15 (2021)(1)(VI) OF HOWARD COUNTY CODE. AN ALTERNATIVE COMPLIANCE WILL BE SUBMITTED FOR REMOVAL OF 3 SPECIMEN TREES.
- THIS PROJECT IS NOT LOCATED ALONG A SCENIC ROAD.
- SOILS SHOWN HEREON ARE BASED ON THE NRCSS WEB SOIL SURVEY AND HOWARD COUNTY MAP.
- LANDSCAPING WILL BE PROVIDED AT THE FINAL PLAN STAGE OF THIS PROJECT.
- SOIL BORINGS WILL BE PROVIDED WITH THE FINAL PLAN STAGE OF THIS PROJECT.
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SUBDIVISION PLAN/PLAT AND/OR RES-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/OR RES-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.
- APPROVAL OF THIS ECP BY THE HOWARD SCD DOES NOT PROVIDE APPROVAL OF THE SHOWN FOREST CONTROL.
- HOWARD SCD STANDARD SEDIMENT CONTROL PLAN CANNOT BE USED TO OBTAIN PERMITS FOR THIS PROJECT.
- ALTERNATIVE COMPLIANCE REQUESTS WILL BE SUBMITTED FOR STREAM BUFFER IMPACTS, STEEP SLOPES OBSTRUCTION, SPECIMEN TREE REMOVAL AND IMPACT, AND FOREST CONSERVATION EASEMENT ON <10 ACRES LOT.

### HAVILAND HILLS

LOT 36 AND BUILDABLE PRESERVATION PARCEL 'A'  
(A RESUBDIVISION OF HAVILAND HILLS LOT 30)  
ZONING: RR-DEO  
5TH ELECTION DISTRICT  
TAX MAP 34, GRID 13, PARCEL 0221  
13953 BRIGHTON DAM ROAD  
CLARKSVILLE, MARYLAND 21029  
SCALE: 1" = 50'  
DATE: AUGUST, 2022  
SHEET 1 OF 4

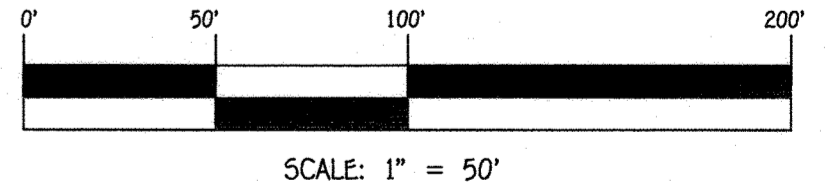
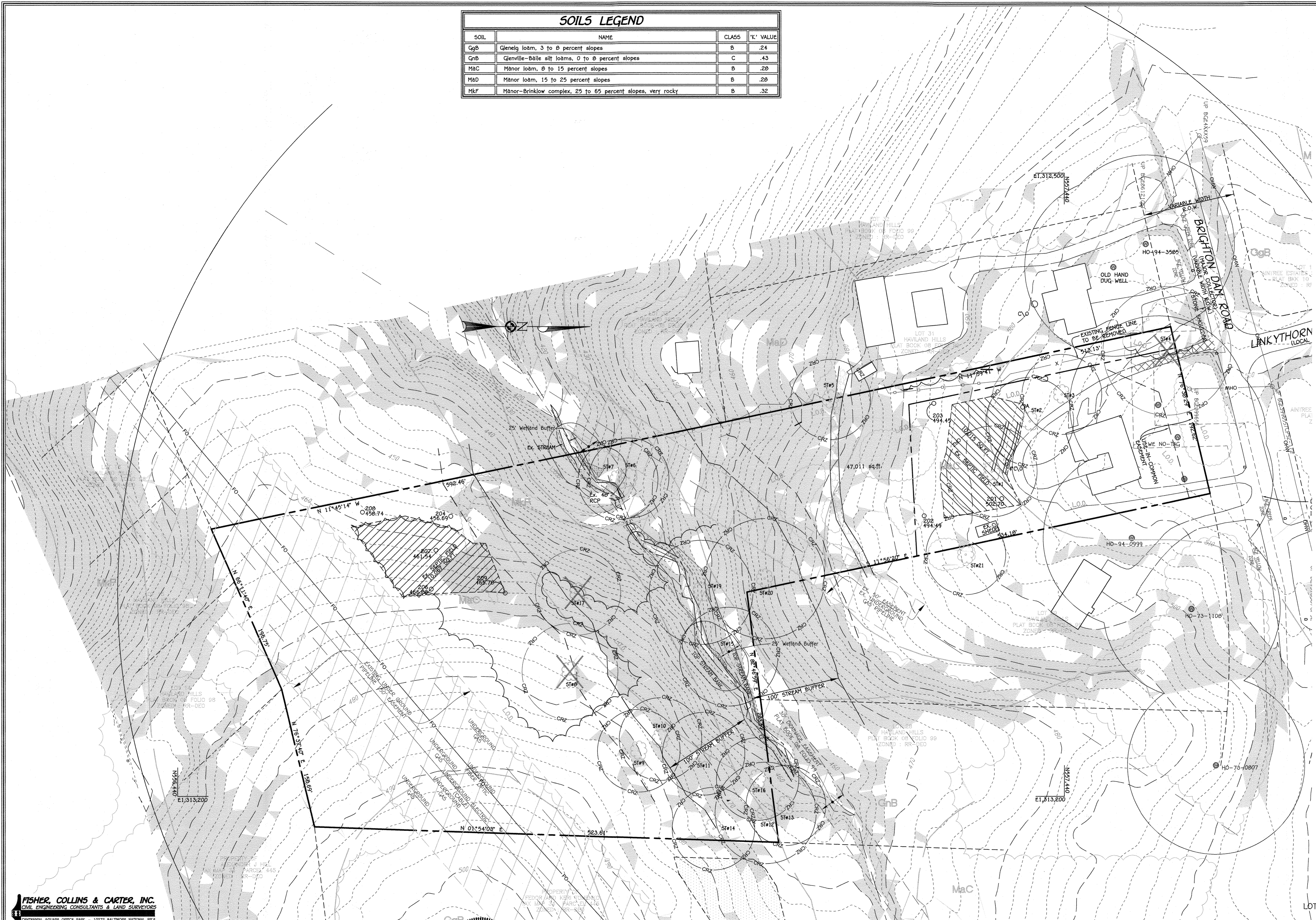
### OWNER

COTTONWOOD GROUP LLC  
GLEN OSTERHOUT  
C/O BRIAN BILLEY  
13979 BRIGHTON DAM RD  
CLARKSVILLE, MD. 21029  
TEL. NO. 301-370-9674



SOILS LEGEND			
SOIL	NAME	CLASS	'K' VALUE
GgB	Glenelg loam, 3 to 8 percent slopes	B	.24
GnB	Glenville-Balle silt loams, 0 to 8 percent slopes	C	.43
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LEGEND	
SYMBOL	DESCRIPTION
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---	EXISTING CABLE LINE
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---	PROPOSED PAVING/PATH
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---	DENOTES EXISTING TREE TO BE REMOVED
---	DENOTES EXISTING TREES TO REMAIN
---	CRITICAL ROOT ZONE
---	STABILIZED CONSTRUCTION ENTRANCE
---	SOIL STABILIZATION MATTING (SSM)
---	EXISTING PAVEMENT TO BE REMOVED
---	DENOTES 15%-24.9% SLOPES
---	DENOTES 25% OR GREATER SLOPES



**EXISTING CONDITION PLAN  
HAVILAND HILLS**  
 LOT 36 AND BUILDABLE PRESERVATION PARCEL 'A'  
 (A RESUBDIVISION OF HAVILAND HILLS LOT 30)  
 ZONING: RR-DEO  
 5TH ELECTION DISTRICT  
 TAX MAP 34, GRID 13, PARCEL 0221  
 13953 BRIGHTON DAM ROAD  
 CLARKSVILLE, MARYLAND 21029  
 SCALE: 1" = 50'  
 DATE: AUGUST, 2022  
 SHEET 2 OF 4

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 CLARKSVILLE, MARYLAND 21042  
 (410) 461-2895

Approved: Department Of Planning And Zoning  
 Chief, Development Engineering Division *[Signature]* 8/7/22 Date  
 Chief, Division Of Land Development *[Signature]* 8/13/22 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 J. Mansani II* 8/13/22 Date  
 FRANK J. MANSANI II

**OWNER**  
 COTTONWOOD GROUP LLC  
 GLEN OSTERHOUT  
 C/O BRIAN BILEY  
 13979 BRIGHTON DAM RD  
 CLARKSVILLE, MD. 21029  
 TEL. NO. 301-370-9674



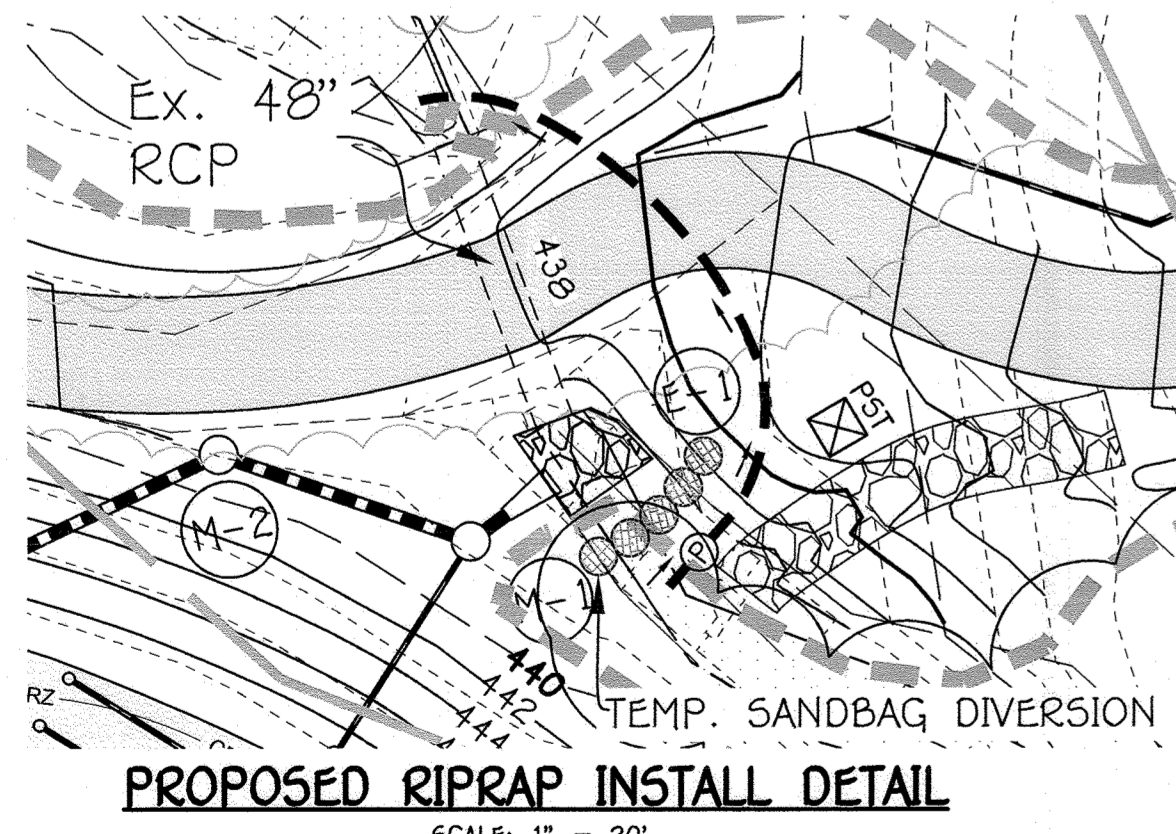
<b>Net Tract Area</b>			
A. Total (Gross) Tract Area	A = 7.40		
B. Area within 100-year Floodplain	B = 0.00		
C. Other Deductions (Identify)	C = 0.00		
D. Net Tract Area	D = 7.40		
<b>Land Use Category</b>			
Insert the number "1" under the appropriate land use (limit to only one entry)			
Resid.	Resid.	Resid.	Inst./Retail/nd / Mixed Use/
Rural LD	Rural MD	Suburban	Linear Office PUD
0	1	0	0
<b>Planting Requirements Inside Watershed</b>			
E. Afforestation Threshold (Net Tract Area x 20%)	E = 1.50		
F. Reforestation Threshold (Net Tract Area x 25%)	F = 1.90		
<b>Existing Forest Cover</b>			
G. Existing Forest Cover within the Net Tract Area	G = 3.12		
H. Area of Forest above Afforestation Threshold	H = 1.60		
I. Area of Forest above Reforestation Threshold	I = 1.20		
<b>Break Even Point</b>			
J. Break Even Point	J = 2.30		
K. Forest Clearing Permitted without Mitigation	K = 0.82		
<b>Proposed Forest Clearing</b>			
L. Total Area of Forest to be Cleared	L = 3.12		
M. Total Area of Forest to be Retained	M = 0.00		
<b>Planting Requirements Outside Watershed</b>			
N. Total Planting within Development Site Watershed	N = 0.80		
X. Total Afforestation Required	X = 0.00		
Y. Remaining Planting within Watershed for Reforestation Credit	Y = 0.00		
Z. Reforestation for Clearing above the Reforestation Threshold	Z = 1.20		
AA. Reforestation for Clearing below the Reforestation Threshold	AA = 3.70		
BB. Credit for Retention above the Reforestation Threshold	BB = 0.00		
CC. Total Reforestation Required	CC = 6.90		
DD. Total Afforestation and Reforestation Requirement	DD = 6.90		

LEGEND	
SYMBOL	DESCRIPTION
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---	SF SILT FENCE
---	DF DIVERSION FENCE
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---	CRITICAL ROOT ZONE
---	STABILIZED CONSTRUCTION ENTRANCE
---	SOIL STABILIZATION MATTING (SSM)
---	EXISTING PAVEMENT TO BE REMOVED
---	HIGHER STORMS FLOW PATH
---	BUMP AROUND PRACTICE PUMPS AND PIPES
---	PORTABLE SEDIMENT TANK



**PLAN NOTES:**

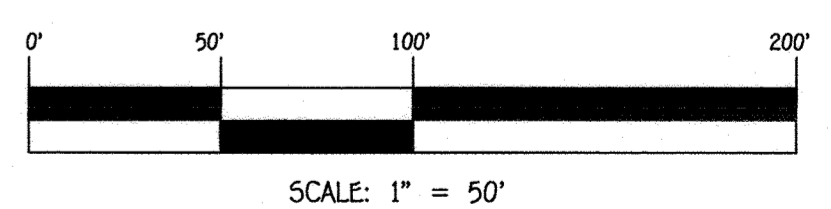
- 1) PUMP AROUND PRACTICE SHALL BE USED FOR TEMP STREAM DIVERSION. SEE PROPOSED RIP RAP INSTALL DETAIL ON THIS SHEET.
- 2) THE RIP RAP CHANNEL SHALL BE CONSTRUCTED VIA SAME DAY STABILIZATION BETWEEN STREAM AND TEMPORARY STORMDRAIN INLET.



Key (ST#)	Species	Size (in.dbh)	CRZ (feet radius)	Comments	% OF CRZ DISTURBED
1	Yellow-poplar	34	51	No apparent problems	TO REMAIN 0.8%
2	Yellow-poplar	30	49	Girdling roots	TO REMAIN 7%
3	Yellow-poplar	30	45	Root damage, epicormic branching, swollen trunk base, bulge in root collar, dead branches	TO REMAIN 28%
4	Scarlet oak	48	72	Codominant leader, including bark, early stages of oak wilt	TO BE REMOVED 40%
5*	Yellow-poplar	30	45	Oversized limb, weak union, crown dieback, unbalanced	TO REMAIN 28%
6	Yellow-poplar	30	45	Root damage, loose bark, floss, tree growing into the trunk	TO REMAIN 27%
7	Yellow-poplar	30	45	Loose bark, floss, leaning, crown dieback, wound cavity	TO REMAIN 18%
8	Southern red oak	36	54	Hybrid, wound near oversized limb, fungus, dead scaffold branches, early stages of oak wilt	TO BE REMOVED 100%
9	Yellow-poplar	31	46.5	No apparent problems	TO REMAIN 0%
10	Yellow-poplar	31	46.5	No apparent problems	TO REMAIN 1%

Key #	Species	Size (in.dbh)	CRZ (feet radius)	Comments	% OF CRZ DISTURBED
11	Yellow-poplar	31	46.5	Shares a root system with a 20' tree, weak union, dead scaffold branches, smaller dead branches	TO REMAIN 0%
12	Yellow-poplar	38	57	Two cavities, hollow trunk	TO REMAIN 0%
13*	Yellow-poplar	30	45	Narrow Crown	TO REMAIN 0%
14	Yellow-poplar	31	46.5	No apparent problems	TO REMAIN 0%
15	Yellow-poplar	37	55.5	Specimen tree comprises two of three leaders, weak union, dead smaller branches, thin crown	TO REMAIN 0%
16	Yellow-poplar	31	46.5	No apparent problems	TO REMAIN 0%
17	Black oak	32	48	Co-dominant leader, weak attachment	TO BE REMOVED 68%
18	Tree re-measured and determined to be under 30'				
19	Yellow-poplar	39	58.5	Specimen tree comprises two of three leaders, weak union, dead branches, oversized limb	TO REMAIN 4%
20	Yellow-poplar	45	68	Specimen tree comprises three of four leaders, insect damage, included bark, epicormic branching	TO REMAIN 0%
21*	Yellow-poplar	43	64.5	Co-dominant leader, weak attachment	TO REMAIN 12%

\*Tree located offsite, size and condition estimated



**ENVIRONMENTAL CONCEPT, GRADING, SEDIMENT & EROSION CONTROL PLAN**  
**HAVILAND HILLS**  
 LOT 36 AND BUILDABLE PRESERVATION PARCEL 'A'  
 (A RESUBDIVISION OF HAVILAND HILLS LOT 30)  
 ZONING: RR-DEO  
 5TH ELECTION DISTRICT  
 TAX MAP 34, GRID 13, PARCEL 0221  
 13953 BRIGHTON DAM ROAD  
 CLARKSVILLE, MARYLAND 21029  
 SCALE: 1" = 50'  
 DATE: AUGUST, 2022  
 SHEET 3 OF 4

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING, CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK 10272 BALTIMORE NATIONAL PIKE  
 ELLSWORTH CITY, MARYLAND 21042  
 (410) 461-2895

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



**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.

SOIL	NAME	CLASS	'K' VALUE
GgB	Glennelg loam, 3 to 8 percent slopes	B	.24
GnB	Glennville-Baile silt loams, 0 to 8 percent slopes	C	.43
MaC	Manor loam, 0 to 15 percent slopes	B	.28
MaD	Manor loam, 15 to 25 percent slopes	B	.28
MkF	Manor-Brinklow complex, 25 to 65 percent slopes, very rocky	B	.32

**OWNER**  
 COTTONWOOD GROUP LLC  
 GLEN OSTERHOUT  
 C/O BRIAN BILLEY  
 13979 BRIGHTON DAM RD  
 CLARKSVILLE, MD 21029  
 TEL. NO. 301-370-9674



SOILS LEGEND			
SOIL	NAME	CLASS	T <sub>c</sub> VALUE
GgB	Glenelg loam, 3 to 8 percent slopes	B	.24
GnB	Glenville-Baile silt loams, 0 to 8 percent slopes	C	.43
MaC	Manor loam, 0 to 15 percent slopes	B	.28
MaD	Manor loam, 15 to 25 percent slopes	B	.28
MkF	Manor-Brinklow complex, 25 to 65 percent slopes, very rocky	B	.32

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
X 448.5	SPOT ELEVATION
---	EXISTING STORM DRAIN
---	PROPOSED STORM DRAIN PIPE
---	EXISTING CABLE LINE
---	EXISTING GAS LINE
---	EXISTING OVERHEAD WIRE
---	PROPOSED PAVING/PATH
---	PROPOSED USE-IN-COMMON EASEMENT
---	FOREST CONSERVATION EASEMENT (REFORESTATION)
---	LIMIT OF DISTURBANCE
---	SUPER SILT FENCE
---	SILT FENCE
---	DIVERSION FENCE
---	TEMPORARY GABION OUTLET STRUCTURE
---	EXISTING TREE LINE
---	PROPOSED TREE LINE
---	SOIL LINES AND TYPES
---	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
---	PROPOSED ROOF LEADER
---	DENOTES EXISTING TREE TO BE REMOVED
---	DENOTES EXISTING TREES TO REMAIN
---	CRITICAL ROOT ZONE
---	STABILIZED CONSTRUCTION ENTRANCE
---	SOIL STABILIZATION MATING (SSM)
---	EXISTING PAVEMENT TO BE REMOVED
---	DENOTES 15%-24.9% SLOPES
---	DENOTES 25% OR GREATER SLOPES
---	PROPOSED DRAINAGE DIVIDE



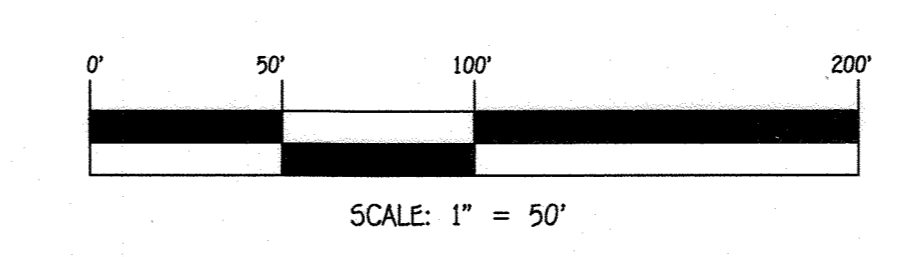
AREA = 1.04 Ac+ RCN = 58.0	<b>A</b>	T <sub>c</sub> Path = 0.21 CONVEYANCE SWALE AND F-6 (2) BIORETENTION
AREA = 0.71 Ac+ RCN = 72.0	<b>B</b>	T <sub>c</sub> Path = 0.43 CONVEYANCE SWALE AND F-6 (1) BIORETENTION
AREA = 0.41 Ac+ RCN = N/A	<b>C</b>	T <sub>c</sub> Path = 0.10 M-6 (1) MICRO-BIORETENTION

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 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELLSWORTH CITY, MARYLAND 21042  
 (410) 461-2895

Approved: Department Of Planning And Zoning  
 Chief, Development Engineering Division *[Signature]* 8/1/22 Date  
 Chief, Division Of Land Development *[Signature]* 8/19/22 Date



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 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.  
*[Signature]* 8/14/22 Date  
 FRANK VANLANSSAN II



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**STORMWATER MANAGEMENT  
 DRAINAGE AREA MAP  
 HAVILAND HILLS**  
 LOT 36 AND BUILDABLE PRESERVATION PARCEL 'A'  
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ECP-22-053