

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	DEMOLITION PLAN
3	PRELIMINARY EQUIVALENT SKETCH PLAN
4	PRELIMINARY LANDSCAPE, FOREST CONSERVATION, & SOILS PLAN
5	PRELIMINARY GRADING & SEDIMENT CONTROL PLAN
6	PRELIMINARY FOREST CONSERVATION & STORMWATER MANAGEMENT DETAILS & NOTES

SOILS LEGEND			
SOIL	NAME	CLASS	K FACTOR
GbB	Gládestone loam, 3 to 8 percent slopes	B	0.20
GbC	Gládestone loam, 8 to 15 percent slopes	B	0.20
GmC	Glenville silt loam, 8 to 15 percent slopes	C	0.37
GnB	Glenville-Báile silt loams, 0 to 8 percent slopes	C	0.37
MaD	Manor loam, 15 to 25 percent slopes	B	0.24
MgD	Manor-Bánnertown sandy loams, 15 to 25 percent slopes, rocky	B	0.24

NOTES:

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

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 River Hill Overlook project is zoned R-ED and is located on Tax Map 35, Grid B, Parcel No. 66 of the Howard County, Maryland Tax Map Database System. The property consists of eight proposed buildable lots and one open space lot that combine to create a site of approximately 5.01 acres. Proposed lots will be served by public water and sewer. The property is located in the Clarksville area of Howard County in the Middle Patuxent River watershed (02131106). This property is rectangular in shape and has a ridge in the middle of the property with the site sloping to the west to Trotter Road and the remainder of the property sloping to the east toward an unnamed tributary of the Middle Patuxent River. An existing house and accessory structures, located on the western portion of the property, are accessed by an existing driveway that enters directly onto Trotter Road. Three specimen trees exist on-site, two of which are located within Open Space Lot 9 and one (non-native) specimen tree that is located near the property line between Lots 3 and 4, all of which are proposed to be retained. Also, according to a field inspection conducted by Eco-Science Professionals (ESP) in July 2013, which states, "Wetlands were noted along the stream side terraces on the adjacent property. These wetlands are dominated by skunk cabbage, sensitive fern and spicelush. The wetland boundary was not delineated because it is offsite and the buffer from the wetlands will fall within the required stream buffers." The Web Soil Survey shows soils on the site area consist of Gládestone loam (GbB, GbC), Manor loam (MaD), and Manor-Bánnertown sandy loams (MgD) Type "B" soils and Glenville silt loam (GmC) & Glenville-Báile silt loams (GnB) Type "C" soils. The portion of property that slopes to the west drains to an existing ditch along the east side of Trotter Road, which is where a portion of site runoff will be directed. The remainder will drain onto existing grade and then to the stream.

I. Natural Resource Protection:

Environmentally sensitive areas (stream, stream buffers, steep slopes, and floodplain) exist on-site. To ensure the protection of natural resources located on this site, all buffers will be honored by locating improvements away from these areas which will be located within forest conservation and floodplain easements.

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 Non-Structural Practices:

The design of this project utilizes an use-in-common driveway, allowing a reduction in the necessary paving needed to access to the proposed buildings. Non-Structural practices as permitted in Chapter 5, four (4) Micro-Bioretenion Areas (M-6) will be used to address ESD to the MEP requirements. Alternative Surfaces were not incorporated into this design.

IV. Integration of Erosion and Sediment Controls into Stormwater Strategy:

Since small drainage areas are proposed under this plan, silt fence, super silt fence, and erosion control matting will be utilized for erosion & sediment control. There is no direct discharge of runoff to a stream. All site runoff will discharge to existing ground prior to entering the existing stream channel and eventually to the Middle Patuxent River. No drainage easements will be required. It is anticipated that all cut will be utilized on-site for construction at time of SDP.

V. Implementation of ESD Planning Techniques and practices to the Maximum Extent Practicable (MEP):

ESD planning techniques will be utilized to the maximum extent practicable to satisfy the SWM requirements put forth in Chapter 5 of the Maryland Department of the Environment's SWM Design Manual. All non-structural practices are being utilized to treat stormwater runoff. The full required ESD volume is being provided.

VI. Request for a Design Manual Waiver:

No Waivers related to stormwater management are being requested in this project.

Note: All on-site Micro-Bioretenion facilities are to be privately owned and maintained by the individual lot owners.

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. 38306, EXPIRATION DATE: 01/12/2016.

*Stephanic Intre* 6/27/14  
Signature of Professional Engineer DATE

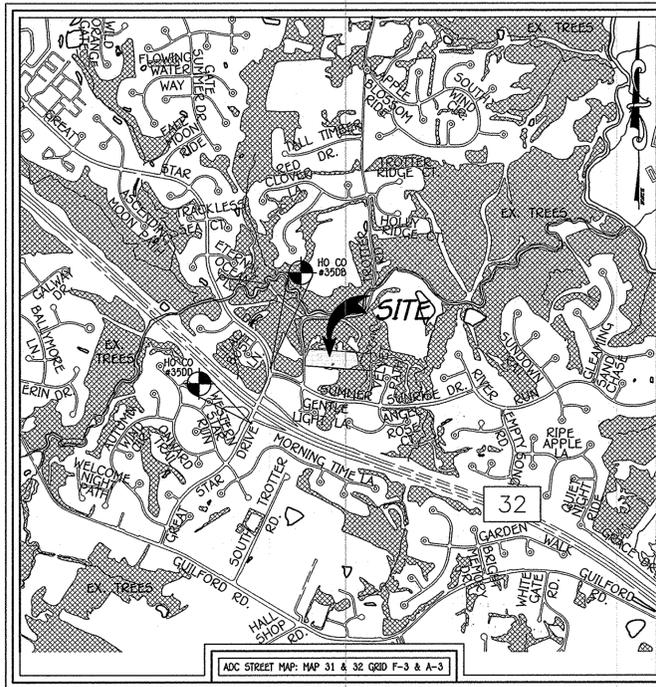


TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

*David A. Gough* 7/5/14  
PLANNING DIRECTOR DATE

**FISHER, COLLINS & CARTEE, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE  
ELLCOTT CITY, MARYLAND 21042  
(410) 461-2099

PRELIMINARY EQUIVALENT SKETCH PLAN  
RIVER HILL OVERLOOK,  
LOTS 1 THRU 8 AND  
OPEN SPACE LOT 9 THRU 12  
TAX MAP No. 35 GRID No. 8 PARCEL NO. 66  
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND



VICINITY MAP

SCALE: 1" = 1200'

BENCHMARK INFORMATION

B.M.#1 - HOWARD COUNTY CONTROL STATION #3500 - HORIZONTAL - (NAD '83)  
(ALONG GREAT STAR DRIVE WHERE THE EASTBOUND RAMP TO MD RT 32 TURNS OFF TO THE EAST, 52' NORTHEAST OF A BELL MANHOLE ALONG GREAT STAR DRIVE, 36.4' NORTH OF THE CORNER OF A CHAIN LINK FENCE, 10.5' NORTHWEST OF AN ELECTRIC BOX, AND 55' WEST OF A LIGHT POLE ALONG THE EASTBOUND RAMP TO MD RT 32 FROM GREAT STAR DRIVE.)  
N 956,936.5472  
E 1,333,709.9992  
ELEVATION = 424.21 - VERTICAL - (NAVD '86)

B.M.#2 - HOWARD COUNTY CONTROL STATION #3508 - HORIZONTAL - (NAD '83)  
(LOCATED 7.3' EAST OF THE FACE OF CURB ALONG GREAT STAR DRIVE, 46.9' NORTH OF A LIGHT POLE NORTHEAST OF THE INTERSECTION OF GREAT STAR DRIVE AND SUMMER SUNRISE DRIVE, 21' NORTHWEST OF AN OAK TREE, AND 18' SOUTHWEST OF AN OAK TREE.)  
N 557,696.1674  
E 1,333,974.9506  
ELEVATION = 400.94 - VERTICAL - (NAVD '86)

GENERAL NOTES

- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- THE SUBJECT PROPERTY IS ZONED R-ED (PER DATE 10/06/2013 COMPREHENSIVE ZONING PLAN).
- BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY DATED OCTOBER, 2013. THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY FISHER, COLLINS & CARTEE, INC. DATED SEPTEMBER 2013 AND SUPPLEMENTED BY HOWARD COUNTY GIS TOPOGRAPHY.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 3500 AND 3508 WERE USED FOR THIS PROJECT.
- PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
- WATER AND SEWER IS PUBLIC. CONTRACT NO. 24-4831-D. EXISTING WELL AND SEPTIC SYSTEMS TO BE ABANDONED IN ACCORDANCE WITH HEALTH DEPARTMENT REQUIREMENTS.
- EXISTING UTILITIES ARE BASED ON FIELD LOCATION OF MISS UTILITY MARKINGS AS A PART OF THE TOPOGRAPHY SURVEY.
- THE NON-CRITICAL FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY FISHER, COLLINS AND CARTEE, INC. DATED OCTOBER 2013, AND APPROVED ON DECEMBER 12, 2013.
- THERE ARE NO WETLANDS ON THIS SITE PER INVESTIGATION BY ECO-SCIENCE PROFESSIONALS, INC. DATED JULY, 2013. WETLAND BUFFERS SHOWN ARE BASED ON WETLAND LIMITS PER PLAN OF CRICKET CREEK SUBDIVISION, F-05-043, PLAT #17719.
- FOREST STAND DELINEATION PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED JULY, 2013.
- STEEP SLOPES, STREAM AND ITS BUFFERS, AND 100 YEAR FLOODPLAIN EXIST ON-SITE.
- STREAM BUFFER AND FOREST STAND DELINEATION HAVE BEEN SHOWN.
- 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.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP, AND WAS APPROVED ON DECEMBER 12, 2013.
- NO NOISE STUDY IS REQUIRED FOR THIS PROJECT.
- NO GEOTECHNICAL REPORT IS REQUIRED FOR THIS PROJECT EXCAVATIONS TO VERIFY DEPTH TO ROCK AND WATER WERE CONDUCTED ON SEPTEMBER 23, 2013.
- DESIGN MANUAL WAIVER TO ALLOW 8 LOTS ON A COMMON DRIVEWAY, SUBMITTED CONCURRENT WITH SUBMISSION OF THIS PRELIMINARY EQUIVALENT SKETCH PLAN, WAS APPROVED JANUARY 7, 2014.
- STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE H.C.E. STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. NON-STRUCTURAL PRACTICES (FOUR (4) MICRO BIO-RETENTION FACILITIES (M-6) AND ONE (1) DRYWELL (M-5)) IN ACCORDANCE WITH CHAPTER 5 ARE BEING UTILIZED.
- LANDSCAPING WILL BE PROVIDED AT THE FINAL PLAN STAGE OF THIS PROJECT. LANDSCAPING SHOWN IS CONCEPTUAL.
- FOREST CONSERVATION OBLIGATIONS WILL BE MET BY ON-SITE RETENTION OF EXISTING FOREST AT THE FINAL PLAN STAGE OF THIS PROJECT.
- ENCROACHMENT INTO THE 100' STREAM BUFFER FOR THE EXTENSION OF THE SEWER MAIN AND EASEMENT IS CONSIDERED ESSENTIAL. DISTURBANCE BY DPZ PER SECTION 16.116(c)(1) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- TRASH AND RECYCLABLES COLLECTION WILL BE AT TROTTER ROAD WITHIN 5' OF THE COUNTY ROADWAY.
- A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATE.
- SUBDIVISION IS REQUIRED TO PROVIDE M.I.H.U. (MODERATE INCOME HOUSING UNIT). IT IS ANTICIPATED AT THIS TIME THAT A FEE-IN-LIEU WILL BE PAID. M.I.H.U. AGREEMENT WILL BE SUBMITTED AT FINAL PLAN STAGE OUTLINING HOW THE M.I.H.U. REQUIREMENT WILL BE MET.  
A. M.I.H.U. REQUIRED = 0.8 M.I.H.U.  
(8 LOTS X 10% M.I.H.U./LOT)
- PREVIOUS DPZ FILE NOS: ECP-14-010.

SITE ANALYSIS DATA CHART

- TOTAL AREA OF THIS SUBMISSION = 5.01 AC.\*
- LIMIT OF DISTURBED AREA = 2.97 AC.\*
- PRESENT ZONING DESIGNATION = R-ED  
(PER 10/06/2013 COMPREHENSIVE ZONING PLAN)
- PROPOSED USE: RESIDENTIAL
- BUILDING COVERAGE OF SITE: N/A
- PREVIOUS HOWARD COUNTY FILES: ECP-14-010.
- TOTAL AREA OF FLOODPLAIN LOCATED ON SITE 0.34 AC\*
- TOTAL AREA OF SLOPES IN EXCESS OF 25% = 0.36 AC\*
- NET TRACT AREA = 4.31 ACRES (TOTAL AREA LESS FLOODPLAIN AND STEEP SLOPES)
- TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0 AC.\*
- TOTAL AREA OF FOREST = 0.81 AC\* (EXCLUDES FLOODPLAIN), 0.81 ACRES PLACED IN FOREST CONSERVATION EASEMENT
- TOTAL GREEN OPEN AREA = 3.21 AC\* (2.505 ACRES IN OPEN SPACE LOT 9)
- TOTAL IMPERVIOUS AREA = 0.74 AC\*
- DENSITY TABULATION  
5.01 ACRES = 0.34 ACRES = 0.36 ACRES = 4.31 ACRES (NET AREA)  
4.31 ACRES X 2 LOTS/ACRE = 8 LOTS MAXIMUM.  
MINIMUM OPEN SPACE REQUIRED = 5.01 ACRES X 0.50 = 2.505 ACRES  
OPEN SPACE PROVIDED = 2.505 ACRES
- ROAD DEDICATION: 0.02 AC\* (791 SQ.FT.)
- AREA OF PROPOSED BUILDABLE LOTS = 2.46 ACRES\* (107,123 SQ.FT.)

APPROVED  
Planning Board  
Howard County  
DATE 6/26/14

OWNERS

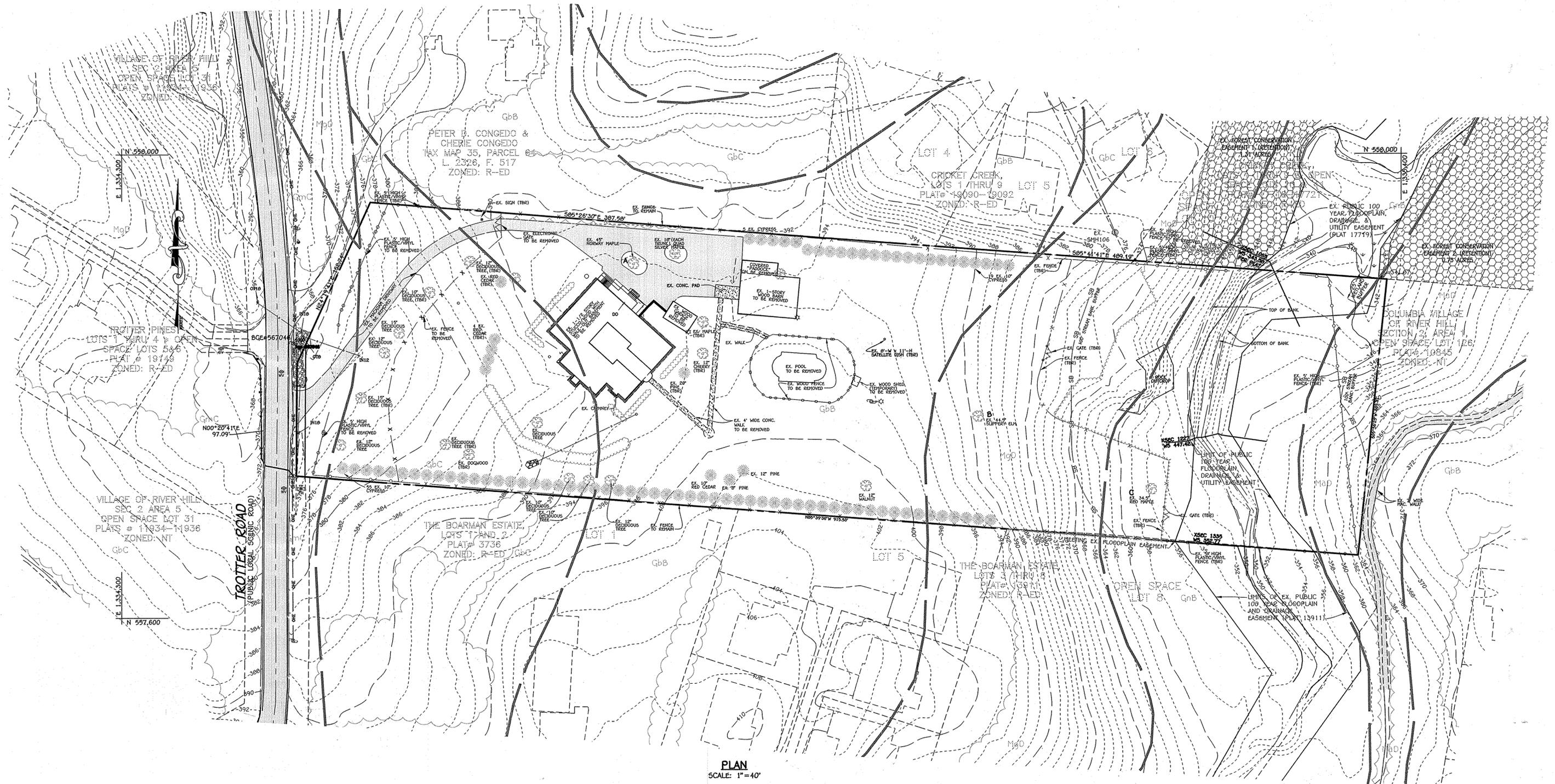
JACQUELINE RANA REVOCABLE TRUST  
6301 TROTTER ROAD  
CLARKSVILLE, MARYLAND 21029  
410-535-5380  
ATTN: CHRISTOPHER B. EMERY, TRUSTEE &  
YASMIN NATASHA GAJEWSKI, TRUSTEE

DEVELOPER / CONTRACT PURCHASER

RIVER HILL OVERLOOK, LLC  
5034 DORSEY HALL DRIVE  
ELLCOTT CITY, MARYLAND 21042  
410-743-0922  
ATTN: DOUG DIERINGER & RICHARD DEMMITT

TITLE SHEET  
RIVER HILL OVERLOOK,  
LOTS 1 THRU 8 AND OPEN SPACE LOTS 9 THRU-12  
ZONED R-ED  
TAX MAP No. 35 GRID No. 14 PARCEL No. 66  
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JUNE, 2014  
SHEET 1 OF 6

LEGEND	
SYMBOL	DESCRIPTION
	EXISTING FENCE LINE
	EX. LIST OF TREES AND FOREST
	EXISTING TREES
	TO BE REMOVED
	EXISTING STREAM BANKS



PLAN  
SCALE: 1"=40'

**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. 38886, EXPIRATION DATE: 01/12/2016.

*Stephanie L. Tate* 6/24/14  
Signature of Professional Engineer DATE



TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

*Wanda D. Cagle* 7/3/14  
PLANNING DIRECTOR DATE

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21042  
(410) 461-3292

**OWNERS**

JACQUELINE RANA REVOCABLE TRUST  
6301 TROTTER ROAD  
CLARKSVILLE, MARYLAND 21029  
410-533-5380  
ATTN: CHRISTOPHER B. EMERY, TRUSTEE &  
YASMIN NATASHA GAJEWSKI, TRUSTEE

**DEVELOPER / CONTRACT PURCHASER**

RIVER HILL OVERLOOK, LLC  
5034 DORSEY HALL DRIVE  
ELLCOTT CITY, MARYLAND 21042  
410-740-0522  
ATTN: DOUG DIERINGER & RICHARD DEMMITT

**PRELIMINARY EQUIVALENT SKETCH PLAN**  
**RIVER HILL OVERLOOK,**  
LOTS 1 THRU 8 AND OPEN SPACE LOTS 9 THRU 12  
ZONED R-ED

TAX MAP No. 35 GRID No. 14 PARCEL No. 66  
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JUNE, 2014  
SHEET 2 OF 6



SPECIMEN TREE TABLE				
KEY	SPECIES, SIZE (DBH)	CRZ (FT)	CONDITION	COMMENT
A	NORWAY MAPLE, 45"	67.5	GOOD CONDITION	NOT NATIVE, TO REMAIN
B	SUPPERY ELM, 44.5"	66.75	GOOD CONDITION	TO REMAIN
C	RED MAPLE, 34.5"	51.75	GOOD CONDITION	TO REMAIN

SCHEDULE A - PERIMETER LANDSCAPE EDGE							
PERIMETER	1	2	3	4	5	TRASH PAD	TOTAL
CATEGORY	ADJACENT TO ROADWAY	ADJACENT TO PERIMETER PROPERTIES					
LANDSCAPE TYPE	N/A	A	A	A	A		
LINEAR FEET OF PERIMETER	114 L.F.	134 L.F.	867 L.F.	239 L.F.	907 L.F.		
NUMBER OF PLANTS REQUIRED SHADE TREES	0	2 (134/60' = 2.2 OR 2)	5 (867/60' = 14.5 OR 15)	2 (239/60' = 2)	5 (907/60' = 15.1 OR 15)		14
CREDIT FOR EXISTING VEGETATION SHADE TREES	0	0	(208 LF OF EX. TREES)	239 LF OF EX. TREES	0		(447 LF EX. TREES)
NUMBER OF PLANTS PROVIDED SHADE TREES	0	0	24	0	55		2
NUMBER OF PLANTS PROVIDED SMALL/MEDIUM DECIDUOUS TREES (2:1 SUBSTITUTION)	3	3	6	0	0		12
NUMBER OF PLANTS PROVIDED SHRUBS						0	7

STORMWATER MANAGEMENT SUMMARY CHART

AREA = 5.01 ACRES (LOTS 1 thru 8)  
 RCN = 58.1  
 TARGET P<sub>c</sub> = 1.0"

SWM SUMMARY CHART	
AREA ID	SWM TREATMENT PROVIDED
LOT 1	MICRO-BIORETENTION 1 (M-6)
LOT 2	MICRO-BIORETENTION 1 & 2 (M-6)
LOT 3	MICRO-BIORETENTION 1 & 2 (M-6)
LOT 4	MICRO-BIORETENTION 3 (M-6) & DRWELL (M-5)
LOT 5	MICRO-BIORETENTION 3 (M-6)
LOT 6	MICRO-BIORETENTION 3 & 4 (M-6)
LOT 7	MICRO-BIORETENTION 2 & 4 (M-6)
LOT 8	MICRO-BIORETENTION 2 (M-6)

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
- - - -	PROPOSED CONTOUR 2' INTERVAL
---	SELF POWER
---	SUPER SET FENCE
---	LOD
---	LIMIT OF INSTABILITY
---	EXISTING FENCE LINE
---	EX. LIMIT OF TREES AND FOREST
---	PROPOSED LANDSCAPING
---	EXISTING TREES
---	15% TO 25% SLOPES
---	25% OR GREATER SLOPES
---	M&C
---	SOIL LINES AND TYPES
---	PROPOSED FOREST CONSERVATION EASEMENT
---	EXISTING STREAM BANKS
---	FOREST CONSERVATION SQUIGGL



PLAN  
 SCALE: 1"=40'

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. 38386, EXPIRATION DATE: 01/12/2016.  
 Signature: Stephanie Tuite 6/29/14  
 Date: 6/29/14



TENTATIVELY APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY  
 Signature: Mark J. Luyten  
 Date: 7/3/14

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-2099

QUALIFIED PROFESSIONAL, STEPHANIE TUITE, R.L.A., P.E.

OWNERS  
 JACQUELINE RANA REVOCABLE TRUST  
 6301 TROTTER ROAD  
 CLARKSVILLE, MARYLAND 21029  
 410-533-5380  
 ATTN: CHRISTOPHER B. EMERY, TRUSTEE & YASMIN NATASHA GAJEWSKI, TRUSTEE

DEVELOPER / CONTRACT PURCHASER  
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 ELLICOTT CITY, MARYLAND 21042  
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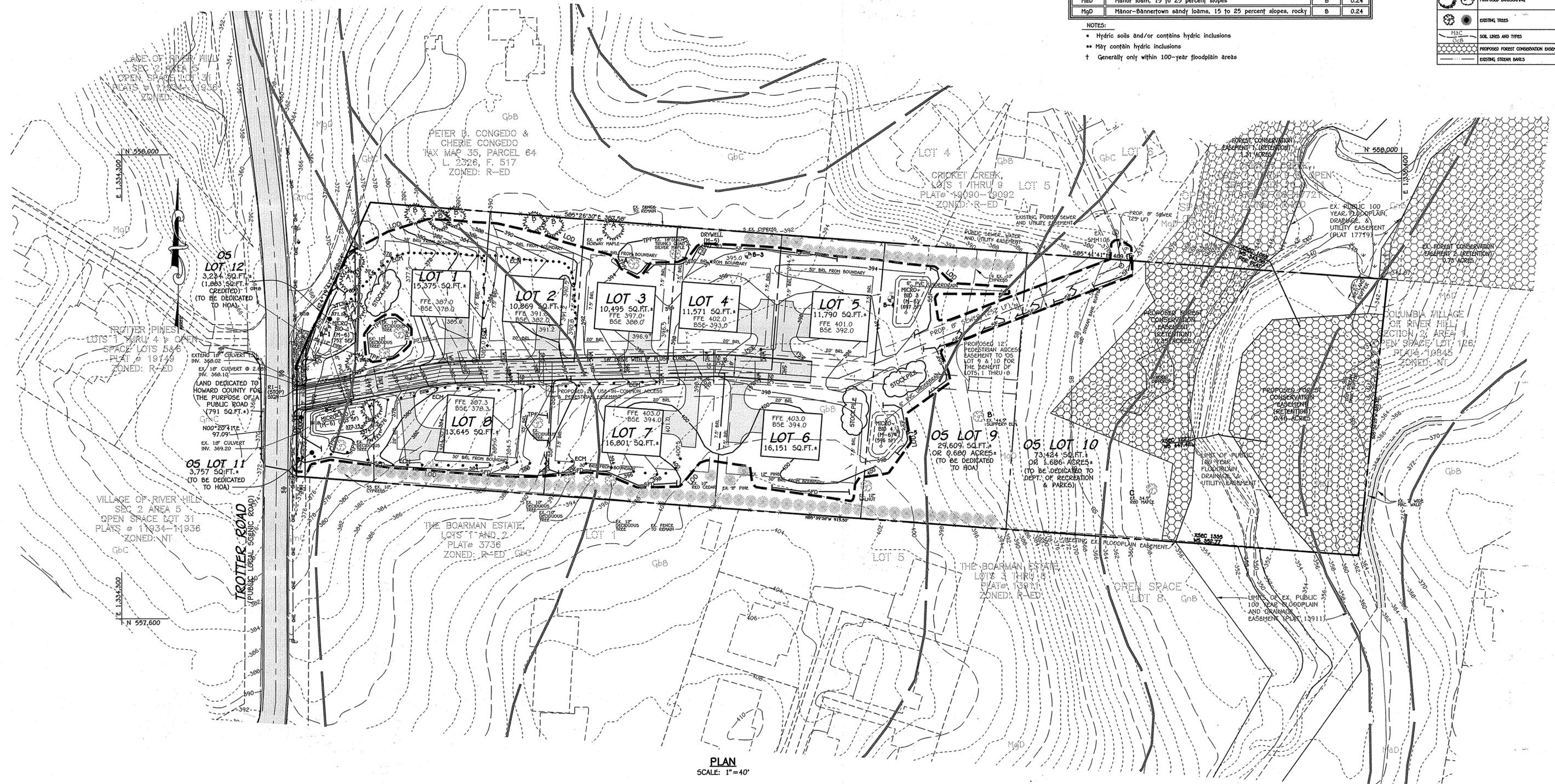
PRELIMINARY LANDSCAPE, FOREST CONSERVATION, & SOILS PLAN  
 RIVER HILL OVERLOOK,  
 LOTS 1 THRU 8 AND OPEN SPACE LOTS 9 THRU 12  
 ZONED R-ED  
 TAX MAP No. 35 GRID No. 14 PARCEL No. 66  
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: JUNE, 2014  
 SHEET 4 OF 6

NOTE: MICRO-BIORETENTION FACILITIES TO BE PRIVATELY OWNED AND MAINTAINED BY THE HOA.

SOILS LEGEND			
SOIL	NAME	CLASS	K FACTOR
Gbb	Gladstone loam, 3 to 8 percent slopes	B	0.20
Gbc	Gladstone loam, 8 to 15 percent slopes	B	0.20
Gmc	Glenville silt loam, 8 to 15 percent slopes	C	0.37
Gnb	Glenville-Balle silt loams, 0 to 8 percent slopes	C	0.37
Mad	Manor loam, 15 to 25 percent slopes	B	0.24
Mgd	Manor-Bannertown sandy loams, 15 to 25 percent slopes, rocky	B	0.24

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
- - - -	PROPOSED CONTOUR 2' INTERVAL
---	SILT FENCE
---	SUPER SILT FENCE
---	LOO
---	LIMIT OF DISTURBANCE
---	EXISTING FENCE LINE
---	EX. LIMIT OF TREES AND FOREST
---	PROPOSED LANDSCAPING
---	EXISTING TREES
---	SOIL LINES AND TYPES
---	PROPOSED FOREST CONSERVATION EASEMENT
---	EXISTING STREAM BANKS

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



PLAN  
SCALE: 1"=40'

**PROFESSIONAL CERTIFICATION**

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*Asytrami Suite* 6/27/14  
 Signature of Professional Engineer DATE



TENTATIVELY APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY

*David A. Lytle* 2/3/14  
 PLANNING DIRECTOR DATE

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALDPOPE NATIONAL PkE  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-2999

**OWNERS**  
 JACQUELINE RANA REVOCABLE TRUST  
 6301 TROTTER ROAD  
 CLARKSVILLE, MARYLAND 21029  
 410-933-5380  
 ATTN: CHRISTOPHER B EMERY, TRUSTEE &  
 YASHMIN NATASHA GAJEWSKI, TRUSTEE

**DEVELOPER / CONTRACT PURCHASER**  
 RIVER HILL OVERLOOK, LLC  
 5034 DORSEY HALL DRIVE  
 ELLICOTT CITY, MARYLAND 21042  
 410-740-0922  
 ATTN: DOUG DIERINGER & RICHARD DEMMITT

**PRELIMINARY GRADING & SEDIMENT CONTROL PLAN**  
**RIVER HILL OVERLOOK,**  
 LOTS 1 THRU 8 AND OPEN SPACE LOTS 9 THRU 12  
 ZONED R-ED  
 TAX MAP No. 35 GRID No. 14 PARCEL No. 66  
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: JUNE, 2014  
 SHEET 5 OF 6

**NOTES**

1. THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY THE ON-SITE RETENTION OF 0.81 ACRES OF FOREST. NO SURETY WILL BE REQUIRED.
2. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A LANDSCAPE SURETY FOR REQUIRED SHADE TREES WILL BE REQUIRED AT FINAL PLAN STAGE.

**FOREST PROTECTION GENERAL NOTES**

1. ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC MESH FENCING, AS NECESSARY, AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
2. THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES, UNLESS ROOT PRUNING IS PROPOSED.
3. ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
4. ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS.
5. INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SHOOTING, FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
6. THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS.
7. REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
8. THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS.
9. ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.

**PRE-CONSTRUCTION MEETING**

1. AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER, AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS MEETING WILL BE:
  - A. TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIMEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS;
  - B. INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
  - C. MAKE ALL NECESSARY ADJUSTMENTS;
  - D. ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

**CONSTRUCTION MONITORING**

1. THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING OR DROUGHT CONDITIONS.
2. ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIATED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.
3. THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

**MULTIFLORA ROSE CONTROL NOTE:**

**PRIOR TO PLANTING ALL MULTIFLORA ROSE WITHIN PLANTING AREAS SHALL BE REMOVED.** Removal of the Multiflora Rose May Be Performed With Mowing And Herbicide Treatments. Physical Removal of All Top Growth Followed by a Periodic Herbicide Treatment of Stump Sprouts is Recommended. Native Tree And Shrub Species Occurring Within the Rose Thickets Should Be Retained Wherever Possible. Herbicide Treatments Shall Occur On Two (2) Month Intervals During The First Growing Season And Once In The Spring And Once In The Fall For Subsequent Years. Herbicide Used Shall Be Made Specifically To Address Woody Plant Material And Shall Be Applied As Per Manufacturers Specifications. Care Should Be Taken Not To Spray Planted Trees Or Naturally Occurring Native Tree And Shrub Seedlings. It Is Recommended That Initiation Of Rose Removal Begin At Least Six Months Prior To Planting So That New Growth Of Roses Is Able To Be More Successfully Managed.

**FOREST CONSERVATION WORKSHEET  
VERSION 1.0**

BASIC SITE DATA:		
A. TOTAL TRACT AREA	5.01 Ac	
B. AREA WITHIN 100 YEAR FLOODPLAIN	0.31	
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION	0	
C. NET TRACT AREA	4.67 Ac	
LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)		
AGA	MDR	IDA
HDR	MPD	CIA
INFORMATION FOR CALCULATIONS:		
D. AFFORESTATION THRESHOLD	0.15% x D =	0.70
E. FOREST CONSERVATION THRESHOLD	0.20% x D =	0.93
F. EXISTING FOREST COVER		0
F. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)		0.81
G. AREA OF FOREST ABOVE CONSERVATION THRESHOLD		0
BREAK-EVEN POINT:		
H. BREAK-EVEN POINT		0.81
I. CLEARING PERMITTED WITHOUT MITIGATION		0
PROPOSED FOREST CLEARING:		
J. TOTAL AREA OF FOREST TO BE CLEARED		0
K. TOTAL AREA OF FOREST TO BE RETAINED		0.81
PLANTING REQUIREMENTS:		
L. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD		0
M. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD		0
N. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD		0
O. TOTAL REFORESTATION REQUIRED		0
P. TOTAL AFFORESTATION REQUIRED		0
Q. TOTAL REFORESTATION AND AFFORESTATION REQUIRED		0
R. EXCESS FOREST CREDIT		0

**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. 38386, EXPIRATION DATE: 01/12/2016.

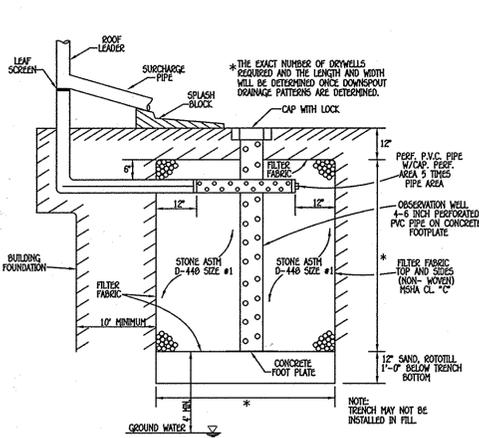
*Stephanie Tuite* 6/27/14  
Signature of Professional Engineer DATE



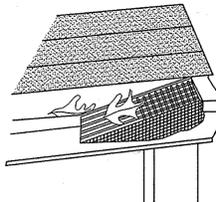
TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

*David A. Coughlin* 7/1/14  
PLANNING DIRECTOR DATE

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21042  
(410) 461-2099



**DRY WELL DETAIL (M-5)**  
NOT TO SCALE



**GUTTER DRAIN FILTER DETAIL**  
NOT TO SCALE

**STORMWATER MANAGEMENT NOTES**

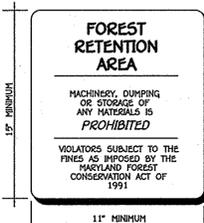
1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
2. MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000 SQ. FT. OR LESS.
3. DRYWELLS SHALL BE PROVIDED AT LOCATIONS 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 IS SHOWN ON THIS SITE DEVELOPMENT PLAN.

**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 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.

DRYWELL NO.	AREA OF ROOF PER DOWN SPOUT	VOLUME REQUIRED	VOLUME PROVIDED/TREATMENT	AREA OF TREATMENT	L	D	W
1	497 SQ. FT.	40 C.F.	45 C.F.	100%	5.5'	5.5'	5'

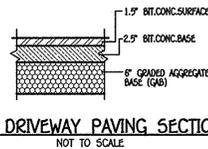
\* AREA OF TREATMENT EXCEEDS THAT REQUIRED.



NOTE: THE PROTECTIVE SIGNAGE SHALL BE IN PLACE FOR PERPETUITY.

**FOREST CONSERVATION SIGN DETAIL**  
NOT TO SCALE

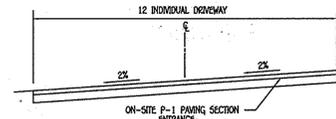
QUALIFIED PROFESSIONAL, STEPHANIE TUITE, R.L.A., P.E.



**P-1 DRIVEWAY PAVING SECTION**  
NOT TO SCALE

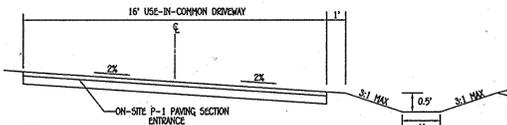
**OPERATION & MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)**

- A. 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 MULCH AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- B. 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 WIGGS.
- C. 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.
- D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.



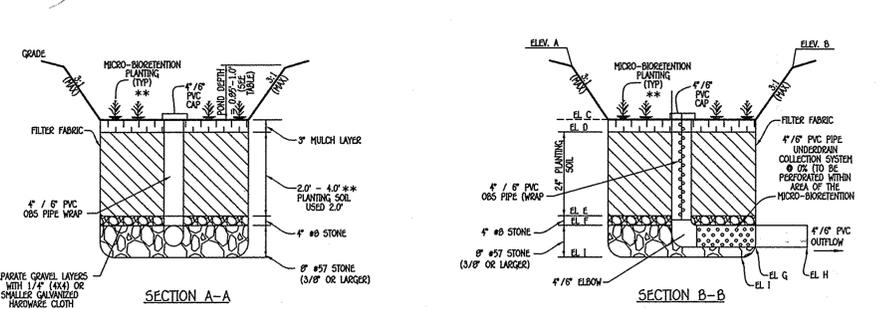
NOTE:  
1. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.

**12' INDIVIDUAL DRIVEWAY SECTION**  
NOT TO SCALE

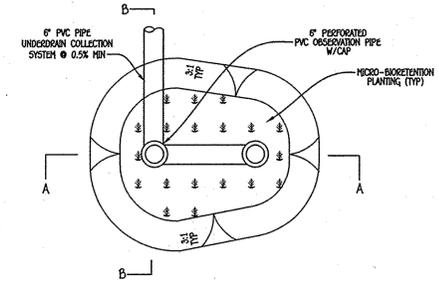


NOTE:  
1. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.  
2. SWALES ARE FOR CONVEYANCE OF RUNOFF AND NOT UTILIZED FOR TREATMENT CREDIT.

**16' USE-IN-COMMON DRIVEWAY & SWALE CROSS SLOPE SECTION**  
NOT TO SCALE

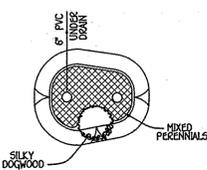


**MICRO-BIORETENTION DETAIL (M-6)**  
NOT TO SCALE

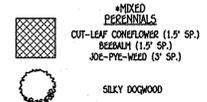


**PLAN**  
NOT TO SCALE

	A	B	C	D	E	F	G	H	I
1 (OS LOT 12)	371.90	371.90	371.10	370.89	368.89	368.52	368.02	367.95	367.89
2 (OS LOT 11)	374.00	374.00	373.15	372.90	370.90	370.57	370.07	369.95	369.90
3 (OS LOT 9)	392.00	392.00	391.00	390.75	388.75	388.42	387.92	387.52	387.75
4 (OS LOT 9)	397.90	397.90	396.90	396.65	394.65	394.32	393.82	393.41	393.65



**MICRO-BIORETENTION PLANTING DETAIL**  
NOT TO SCALE



NOTE: PLANT MATERIAL MUST COVER AT LEAST 50% OF THE SURFACE AREA OF THE MICRO-BIORETENTION

QUANTITY	NAME	MAXIMUM SPACING (FT.)
12	MIXED PERENNIALS	1.5 TO 3.0 FT.
1	SILKY DOGWOOD	PLANT AWAY FROM INFLOW LOCATION

**PRELIMINARY FOREST CONSERVATION & STORMWATER MANAGEMENT DETAILS & NOTES**

**RIVER HILL OVERLOOK,**  
LOTS 1 THRU 8 AND OPEN SPACE LOTS 9 THRU 12  
ZONED R-ED

TAX MAP No. 35 GRID No. 14 PARCEL No. 66  
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JUNE, 2014  
SHEET 6 OF 6

**OWNERS**

JACQUELINE RANA REVOCABLE TRUST  
6301 TROTTER ROAD  
CLARKSVILLE, MARYLAND 21029  
410-533-5380  
ATTN: CHRISTOPHER B. EMERY, TRUSTEE & YASMIN NATASHA GAJEWSKI, TRUSTEE

**DEVELOPER / CONTRACT PURCHASER**

RIVER HILL OVERLOOK, LLC  
5034 DORSEY HALL DRIVE  
ELLICOTT CITY, MARYLAND 21042  
410-740-0522  
ATTN: DOUG DIERINGER & RICHARD DEMMITT