

Chief, Development Engineering Division

A RESUBDIVISION OF "WILHIDE PROPERTY, LOT 1, 2 & 3", PLAT No. 18442 PARCEL NO. 260 LOTS 1 thru 3 HOWARD COUNTY, MARYLAND

STORMWATER MANAGEMENT FACILITY OWNERSHIP AND MAINTENANCE				
FACILITY	OWNERSHIP	MAINTENANCE		
BIORETENTION 1	HOA	HOA		
BIORETENTION 2	HOA	HOA		
BIORETENTION 3	HOA	HOA		
BIORETENTION 4	HOWARD COUNTY	HOA & COUNTY		
MICRO-BIORETENTION 5	HOA	HOA		
MICRO-BIORETENTION 6	HOA	HOA		
REGIONAL FACILITY (IN STREAM)	HOWARD COUNTY	HOWARD COUNTY		

TOTAL SPACES	143 SPACES 157 SPACES	
F PROVIDED:		
N-RESIDENTIAL (ON-STREET/SURFACE):	14 SPACES	
SIDENTIAL		
ON-STREET & SURFACE	16 SPACES	
PARKING APRONS (TANDEM)	110 SPACES	
GARAGES	110 SPACES	
RESIDENTIAL SUBTOTAL	236 SPACES	

PROFESSIONAL CERTIFICATION

AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF

GENERAL NOTES

- 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- 2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT 410-313-1000 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF WORK.
- 3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- 4. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCO).
- THIS SUBDIVISION PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIMISION AND LAND DEVELOPMENT REGULATIONS AND THE 2004 ZONING REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL NO. 75-2003 AND THE COMP LITE ZONING REGULATION AMENDMENTS EFFECTIVE 7/20/06, DEVELOPMENT OR CONSTRUCTION ON THESE LOTS OR PARCELS MUST COMPLY WITH SETBACKS AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF A BUILDING OR GRADING PERMIT APPLICATION.
- 5. COORDINATES BASED ON NAD'83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NOS. HOWARD COUNTY CONTROL STATION #2413 - HORIZONTAL - (NAD '63) HOWARD COUNTY CONTROL STATION #24FB - HORIZONTAL - NAD '63) N 580.648.901 N 562 652 119 E 1.354.974.507 £ 1.364.255.979
- ELEVATION = 403.703 VERTICAL (NAVD '86) ELEVATION = 422.492 - VERTICAL - (NAVD '88)
- 7. SUBJECT PROPERTY ZONED CEF-R PER ZB1106M APPROVAL OCTOBER 13, 2016.
- 8. BACKGROUND INFORMATION:
- a. SUBDIVISION NAME: DORSEY'S RIDGE (RESUBDIVISION OF WILHIDE PROPERTY) b. TAX MAP NO.: 24
- c. PARCELS NOS .: 260
- d. ZONING: CEF-R e. ELECTION DISTRICT: SECOND f. GROSS AREA OF TRACT = 10.904 AC.+ g. NUMBER OF OPEN SPACE LOTS: 3
- NUMBER OF BUILDABLE LOTS: 56
- 9. EXISTING WATER IS PUBLIC (CONTRACT NO. 14-1955-D). EXISTING SEWER IS PUBLIC (CONTRACT NO. 10-0950).
- 10. BOUNDARY OUTLINE BASED ON A FIELD RUN SURVEY PERFORMED BY PATTON HARRIS RUST & ASSOCIATES, PC DATED ON OR ABOUT OCTOBER 2002 AND RECORDED AS PLAT
- 11. THE EXISTING TOPOGRAPHY INFORMATION SHOWN IS BASED ON HOWARD COUNTY AERIAL CONTOURS AND SUPPLEMENTED WITH A FIELD RUN SURVEY OF WETLANDS AND STREAM BANKS PERFORMED ON OR ABOUT JANUARY, 2017 BY FISHER, COLLINS & CARTER, INC. THERE ARE STEEP SLOPES LOCATED ON THIS PROPERTY AS DEFINED BY THE HOWARD COUNTY SUBDIMISION AND LAND DEVELOPMENT REGULATIONS, SECTION 16.116.b.
- STORMWATER MANAGEMENT WILL BE PROVIDED IN ACCORDANCE WITH THE 2010 MDE, CHAPTER 5 REGULATIONS AND THE LATEST HOWARD COUNTY DESIGN MANUAL VOL. CHAPTER 5 ADOPTED ON OR AROUND MAY 4, 2010. GROUNDWATER RECHARGE VOLUME WILL BE PROVIDED THROUGH THE USE OF A STONE RESERVOIRS LOCATED BENEATH THE VARIOUS 550 FACILITIES. THE REQUIRED 550 VOLUMES WILL BE PROVIDED BY PERMEABLE PAVEMENT, DRYWELLS, AND BIORETENTION FACILITIES. OVERBANK FLOOD PROTECTION VOLUME AND EXTREME FLOOD VOLUMES FOR THIS STE WILL BE PROVIDED BY A REGIONAL FACILITY BEING CREATED WITHIN THE STREAM VALLEY. DISTURBANCE TO CREATE THE DAM AND ASSOCIATED PIPING IS CONSIDERED ESSENTIAL DISTURBANCE IN ACCORDANCE WITH CB80-2016 & SECTION 16.116(c)1 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS. THREE (3) OF THE FOUR (4) BIORETENTION FACILITIES WILL BE PRIVATELY OWNED BY THE H.O.A. AND WITH ONE BIORETENTION LOCATED IN THE COOKS LANE RIGHT OF WAY BEING COUNTY OWNED BUT JOINTLY MAINTAINED BY H.O.A. AND HOWARD COUNTY. THE DRYWELLS AND PERMEABLE PAVEMENT WILL BE PRIVATELY OWNED AND MAINTAINED BY THE INDIVIDUAL PROPERTY OWNERS. THE REGIONAL FACILITY WILL BE PUBLICLY OWNED AND MAINTAINED BY HOWARD COUNTY.
- 13. SEVERAL SPECIMEN TREES ARE KNOWN TO BE LOCATED ON THE PROPERTY AND HAVE BEEN SHOWN ON THESE PLANS.
- 14. FLOODPLAIN LIMITS SHOWN BASED ON CROSS SECTIONS TAKEN FROM THE CURRENT FEMA FLOODPLAIN MAP DATED NOVEMBER, 2013.
- 15. THE FOREST STAND DELINEATION AND WETLAND DELINEATION FOR THIS PROJECT WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED JANUARY, 2017.
- 16. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
- 17. NO CEMETERIES OR HISTORIC STRUCTURES EXIST WITHIN THIS SUBDIVISION.
- 18. COOKS LANE AND THE SECTION OF OLD COLUMBIA FIKE WHERE COOKS LANE INTERSECTS ARE NOT DESIGNATED AS SCENIC ROADS.
- 19. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, STREAMS, THEIR REQUIRED BUFFERS, UNLESS THE ACTIVITIES ARE CONSIDERED NECESSARY OR ALTERNATIVE COMPLIANCE IS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING.
- 20. SOILS SHOWN HEREON BASED ON NRCS WEBSOIL SURVEY AND HOWARD COUNTY SOIL SURVEY MAP #13.
- 21. THIS SUBDIVISION IS SUBJECT ZB 1106M APPROVAL TO REZONE PROPERTY FROM R-ED TO CEF-R UNDER DECISION & ORDER APPROVAL DATED OCTOBER 13, 2016. AS PART OF CEF REZONING PROCESS, SUBDIVISION WAS APPROVED BY PLANNING BOARD ON APRIL 14, 2016.
- 22. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE
- 23. LANDSCAPING WILL BE PROVIDED AT THE NEXT PLAN STAGE OF THIS PROJECT.
- 24. FOREST CONSERVATION REQUIREMENTS FOR THIS PROPOSED RESUBDIVISION WILL BE PROVIDED BY RETENTION OF EXISTING FOREST.
- 25, SOIL BORINGS WILL BE REQUIRED FOR THIS PROJECT SINCE DRYWELLS, PERMEABLE PAVEMENT, AND BIORETENTION FACILITIES ARE BEING UTILIZED.
- 26. APPROVAL OF THIS ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT SUBDIMISION, 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.
- 27. APPROVAL OF THIS ECP BY THE HOWARD SOIL CONSERVATION DISTRICT DOES NOT PROVIDE APPROVAL OF THE SHOWN SEDIMENT CONTROLS.
- 28. STRUCTURE EXIST ON THE PROPERTY, KNOWN AS 3958 COOKS LANE, WHICH IS TO REMAIN, AND 3952 & 3960 COOKS LANE WHICH ARE TO BE REMOVED.
- 29. PREVIOUS HOWARD COUNTY FILES: WP-17-084, 5-17-006; ZB1106M; F-09-074; F-05-129; F-09-150; P-09-40; 5-09-14.

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. Per the Howard County Design Manual, 10 and 100 year management will be required.
- <u>General Site Conditions:</u> Dorsey's Ridge is a 55 lot single family lot subdivision including one existing house to remain and multiple existing houses and existing accessory structures to be removed. Property is zoned CEF and located on Tax Map 24, Grid 18, Parcel No. 260 of the removed on plat # 19442. Wilhide the Howard County, Maryland Tax Map Database System. The property is three (3) lots recorded on plat # 18442, Wilhide Property. Subdivision will utilize existing and proposed public water and sewer extensions. The property is located in the Ellicott City area of Howard County in the watershed of the Tiber River of the Patapsco River Lower North Branch (02130906). The existing house to remain acts as a high poin for runoff flowing in each direction. The majority of the site flows toward Tiber River and the remaining portion toward Cooks Lane to Old Columbia Pike which is also in the Patapsco River watershed. This property is relatively square in shape. The proposed runoff flows toward three, micro-bioretention facilities, three proposed bioretention facilities, and a stone trench, then eventually to the Tiber River, with some of the proposed Cooks Lane improvements flowing toward Old Columbia Pike. Since majority of pavement for Cooks Lane exists, the upper portion of the existing and proposed Cooks Lane has been treated in a bioretention facility where right of way is wide enough to provide stormwater management. Forest exists on-site along with wetlands and floodplain toward the rear of the property per a field inspection conducted by Eco-Science Professionals (ESP). The Web Soil Survey shows soils on the site consist of Legore-Montatto-Urban land complex (LoC), Legore-Relay gravely loams (LrD), and Manor loam (MaC), Type "B" soils and Codorus and Hatboro silt loams (Co) and Legore silt loam (LeB), Type "C" soils exist on the property. The runoff from the roofs of the proposed houses that is not going to the bioretention facilities is to be directed to drywells. Majority of runoff from the proposed roads and driveways will flow by storm drain and be treated in bioretention facilities. Management of the 100yr storm is proposed to be treated in a regional facility being designed in the stream channel. An alternate proposal is being presented as well to manage for the 100yr storm for the site only, should the first alternative not be accepted by MDE.
- Natural Resource Protection nvironmentally sensitive areas do exist on-site, therefore special effort is required to protect natural resource on-site. Sensitive areas are being placed in a Forest Conservation Easement on a proposed open space lot, however, the regional facility is proposed in the stream channel
- 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. <u>Reduction of impervious areas through better site design, alternative surfaces and Nonstructural Practices</u> The design of this project utilizes a public road, two alleys, and individual driveways for the fifty-five (55) townhouse lots. Non-Structural practices as permitted in Chapter 5. Dry Wells (M-5) and Permeable Pavement (A-2) will be used in conjunction with four (4) Bioretentions (F-3) from Chapter 3 to address ESD to the MEP requirements, along with regional facility providing 10yr & 100yr storm management.
- N. Integration of Erosion and Sediment Controls into Stormwater Strategy: It is anticipated that sediment traps will be utilized in the areas around the proposed bioretention facilities. Silt fence, super silt fence, and erosion control matting will be utilized along with the sediment traps. In order to create the regional facility that is proposed to reduce the existing 10 yr & 100 yr runoff Q, there is direct discharge of runoff directly to the stream, which is seen as essential disturbance. All site runoff will discharge to Tiber Run. No drainage easements will be required. It is anticipated that all cut will be utilized on-site for construction at time of Site Development Plans.
- V. <u>Implementation of ESD Planning Techniques and practices to the Maximum Extent Practicable (MEP)</u> The full required ESD volume is being provided along with 10 and 100 year management.
- VI. <u>Request for a Design Manual Waiver:</u>
- No Waivers related to stormwater management are being requested in this project.

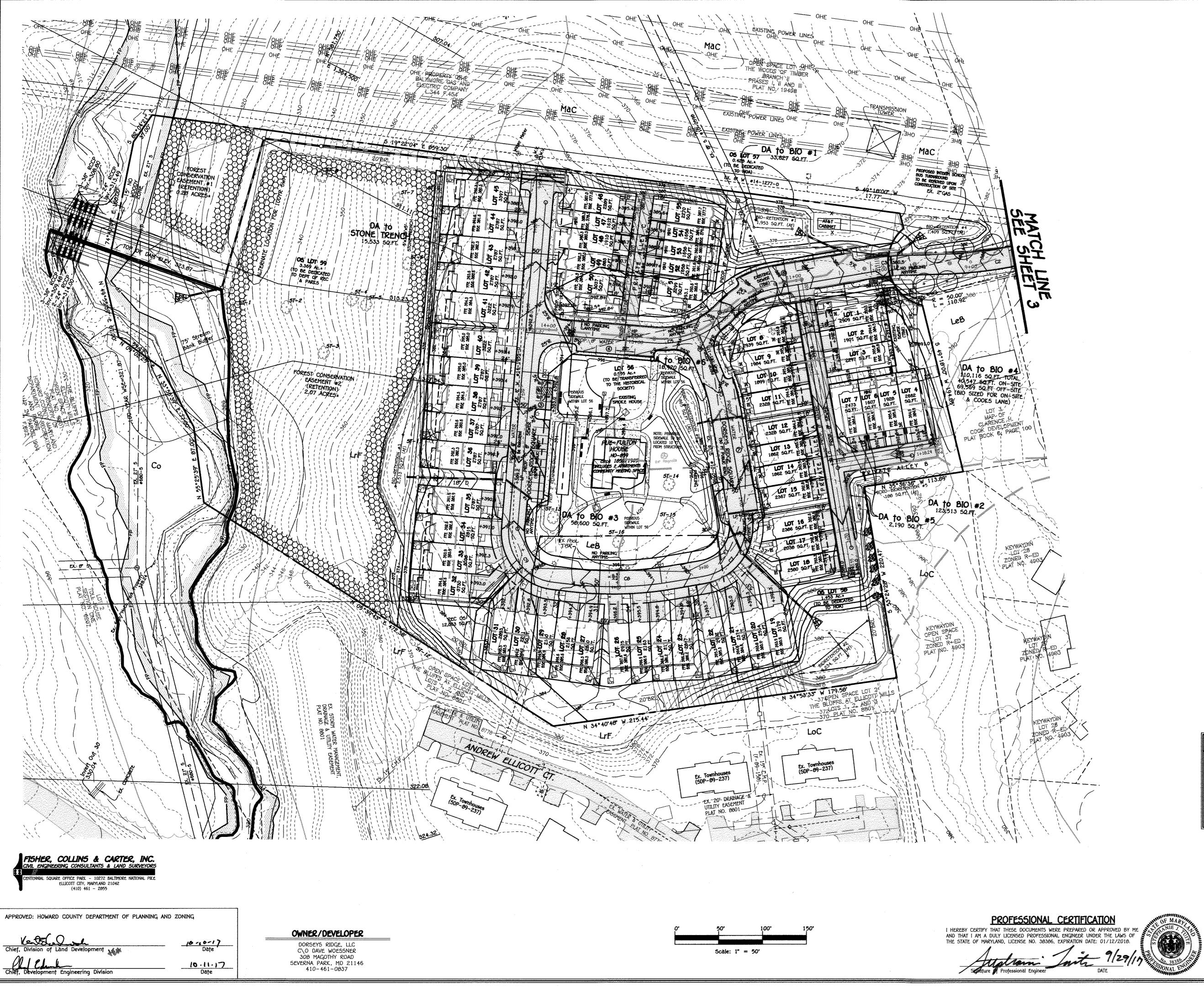


OPEN SPACE LOTS 57 THRU 59

A RESUBDIVISION OF "WILHIDE PROPERTY, LOT 1, 2 & 3", PLAT No. 18442



ZONED: CEF TAX MAP NO.: 24 GRID NO.: 18 PARCEL NO: 260 LOTS: 1 thru 3 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: SEPTEMBER, 2017 SHEET 1 OF 4



LEGEND				
SYMBOL	DESCRIPTION			
492	EXISTING 2' CONTOURS			
490	EXISTING 10' CONTOURS			
	SOILS LINES AND TYPE			
~~~~~	existing treeline			
~~~~~	PROPOSED TREELINE			
- 102	PROPOSED CONTOUR			
×.	PROPOSED DRYWELL (M-5)			
+ 362.5	SPOT ELEVATION			
-	FLOW ARROW			
С С	EXISTING POWER POLE			
() গ-1	SPECIMEN TREE			
\odot	EXISTING TREES			
	NON-CREDITED OPEN SPACE			
\mathcal{O}	EX POOL (TER)			



	SOILS LEGEND				
50IL	NAME	CLASS	K FACTOR		
Co	Codorus and Hatboro silt loams, 0 to 3 percent slopes	С	0.37		
LeB	Legore silt loam, 3 to 8 percent slopes, stony	С	0.28		
8ما	Legore-Montalto-Urban land complex, 0 to 8 percent slopes	B	0.32		
LoC	Legore-Montalto-Urban land complex, 8 to 15 percent slopes	B	0.32		
LrF	Legore-Relay gravelly loams, 25 to 65 percent slopes, very stony	B/C	0.32		
MaC	Manor loam, 8 to 15 percent slopes	B	0.24		



A RESUBDIVISION OF "WILHIDE PROPERTY, LOT 1, 2 & 3", PLAT No. 18442 ZONED: CEF TAX MAP NO.: 24 GRID NO.: 18 PARCEL NO: 260 LOTS: 1 thru 3 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: SEPTEMBER, 2017 SHEET 2 OF 4

ECP-17-034

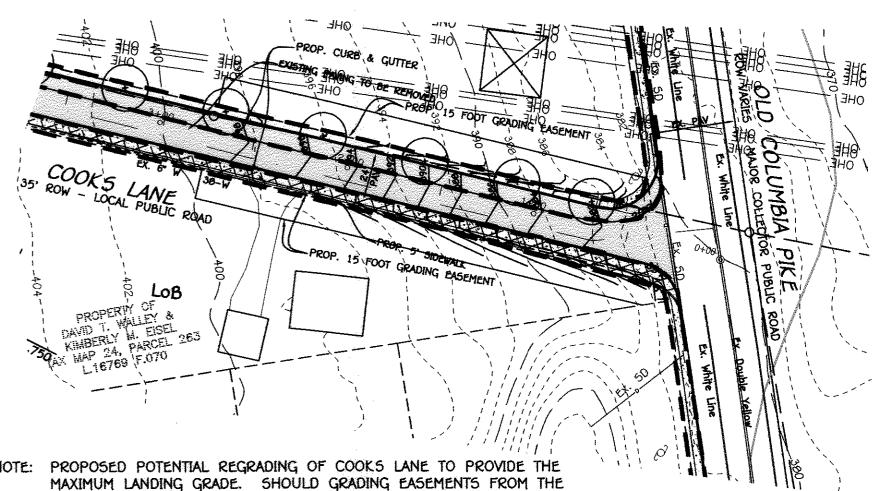


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PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF MARYLAND, LICENSE NO. 36366, EXPIRATION DATE: 01/12/2018.

ignature Of Professional Engineer

	LEGEND				
SYMBOL	DESCRIPTION				
`492	EXISTING 2" CONTOURS				
490	EXISTING 10' CONTOURS				
	SOILS LINES AND TYPE				
~~~~~	EXISTING TREELINE				
~~~~~	PROPOSED TREELINE				
-102	PROPOSED CONTOUR				
X	PROPOSED DRYWELL (M-5)				
+ 362.5	SPOT ELEVATION				
	FLOW ARROW				
പ	existing power pole				
💮 ज-।	Specimen tree				
\odot	existing trees				
	SLOPES 15% TO 25%				
	slopes 25% or greater				
	LIMITS OF DISTURBANCE				
	SILT FENCE				
<u>55F</u>	SUPER SILT FENCE				
	STABILIZES CONSTRUCTION ENTRANCE				
	drainage area divide				



NOTE: PROPOSED POTENTIAL REGRADING OF COOKS LANE TO PROVIDE THE MAXIMUM LANDING GRADE. SHOULD GRADING EASEMENTS FROM THE ADJACENT PROPERTIES NOT BE POSSIBLE TO BE OBTAINED, THIS REQUIREMENT WILL BE READDRESSED.

LANDING GRADING DETAIL

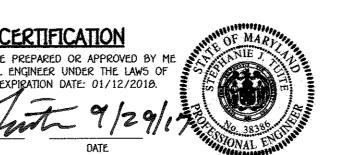
NO SCALE

SOILS LEGEND			
501L	NAME	CLASS	
Co	Codorus and Hatboro silt loams, 0 to 3 percent slopes	C	
LeB	Legore silt loam, 3 to 8 percent slopes, stony	С	
Loß	Legore-Montalto-Urban land complex, 0 to 8 percent slopes	B	
LoC	Legore-Montalto-Urban land complex, 8 to 15 percent slopes	В	
LrF	Legore-Relay gravelly loams, 25 to 65 percent slopes, very stony	8/0	
MaC	Manor loam, 8 to 15 percent slopes	B	

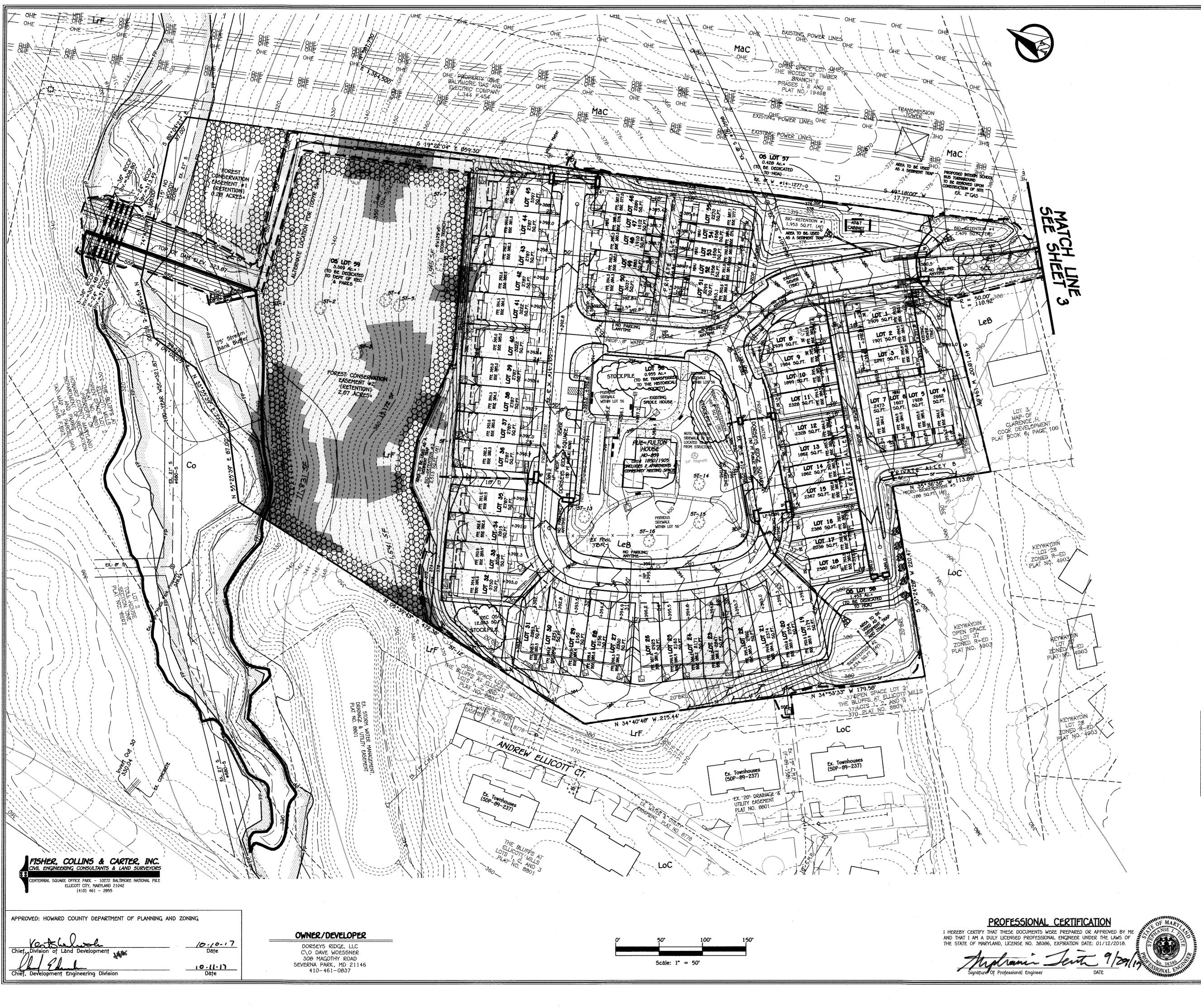
Scale: $1^{"} = 50^{"}$

ENVIRONMENTAL CONCEPT PLAN, SCHEMATIC GRADING AND SEDIMENT & EROSION CONTROL PLAN

DORSEY'S RIDGE LOTS 1 THRU 56 AND OPEN SPACE LOTS 57 THRU 59 A RESUBDIVISION OF "WILHIDE PROPERTY, LOT 1, 2 & 3", PLAT No. 18442



ZONED: CEF TAX MAP NO.: 24 GRID NO.: 18 PARCEL NO: 260 LOTS: 1 thru 3 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: SEPTEMBER, 2017 SHEET 3 OF 4



Key (5T-#)	5pecies	Size (in.dbh)	CRZ (feet ràdius)	Comments
1	Red oak	38	57	
2	Red oak	35	52.5	
3	Tulip poplar	34	51	
4	Black oak	35	52.5	fair, limb dieback noted
5	American beech	30	45	
6	Black walnut	34	51	
7	Tulip poplar	35	52.5	twin stems above breast heigh
8	Tulip poplar	34	51	
9	Black oak	35	52.5	
*10	White oak	31	46.5	
*11	Tulip poplar	52	78	fair, limb dieback and heavy vine cover
12	American beech	34	51	
13	White oak	49.5	74.25	
14	White oak	41	61.5	fair, heavily trimmed
15	White oak	36	54	
16	White oak	49	73.5	

NOTE: 5T10 & 5T11 ARE TO BE REMOVED.

	LEGEND				
SYMBOL	DESCRIPTION				
492	EXISTING 2' CONTOURS				
~ -490	EXISTING 10' CONTOURS				
	SOILS LINES AND TYPE				
~~~~~	EXISTING TREELINE				
~~~~~	PROPOSED TREELINE				
-462-	PROPOSED CONTOUR				
X	PROPOSED DRYWELL (M-5)				
+362.5	SPOT ELEVATION				
	FLOW ARROW				
പ്	EXISTING POWER POLE				
∰ 57-1	SPECIMEN TREE				
\mathfrak{S}	existing trees				
	5LOPES 15% TO 25%				
	SLOPES 25% OR GREATER				
	LIMITS OF DISTURBANCE				
	SILT FENCE				
	SUPER SILT FENCE				
	STABILIZED CONSTRUCTION ENTRANCE				
	drainage area divide				
	NON-CREDITED OPEN SPACE				
\bigcirc	EX POOL (TBR)				

SOILS LEGEND			
SOIL	NAME	CLA55	
Co	Codorus and Hatboro silt loams, 0 to 3 percent slopes	С	
LeB	Legore silt loam, 3 to 8 percent slopes, stony	С	
റവ	Legore-Montalto-Urban land complex, 8 to 15 percent slopes	В	
LrF	Legore-Relay gravelly loams, 25 to 65 percent slopes, very stony	B/C	
MaC	Manor loam, 8 to 15 percent slopes	B	

SCHEMATIC GRADING, SEDIMENT & EROSION CONTROL PLAN DORSEY'S RIDGE LOTS 1 THRU 56 AND OPEN SPACE LOTS 57 THRU 59 A RESUBDIVISION OF "WILHIDE PROPERTY, LOT 1, 2 & 3", PLAT NO. 18442 ZONED: CEF

TAX MAP NO.: 24 GRID NO.: 18 PARCEL NO: 260 LOTS: 1 thru 3SECOND ELECTION DISTRICTHOWARD COUNTY, MARYLANDSCALE: AS SHOWNDATE: SEPTEMBER, 2017SHEET 4 OF 4

ECP-17-034