-			
		SHEET INDEX	
	SHEET NO.	DESCRIPTION	
	1	TITLE SHEET	
	2	OVERALL PLAN	
	3	ENVIRONMENTAL CONCEPT PLAN	
	4	PRELIMINARY SEDIMENT AND EROSION CONTROL PLAN	
	5	5 STORMWATER MANAGEMENT DETAILS & NOTES	

SOILS LEGEND				
SOIL	NAME	CLASS	K FACTOR	
BrD	Brinklow channery loam, 15 to 25 percent slopes		0.20	
GgA	Glenelg loam, 0 to 3 percent slopes	В	0.20	
GgB	Glenelg loam, 3 to 8 percent slopes	В	0.20	
GgC	Glenelg loam, 8 to 15 percent slopes	В	0.20	
GmB	Glenville silt loam, 3 to 8 percent slopes	С	0.37	
OcC	Occoquan loam, 8 to 15 percent slopes	В	0.20	

- * 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:

Layton Knoll is zoned RC-DEO and are located on Tax Map 7, P/O Parcel No. 112 of the Howard County, Maryland Tax Map Database System. The property consists of 31.597 acres of which approximately 1.81 acres is forested. Currently the property consists of five (5) parcels that is improved by one (1) existing historic house (MHT #103) as well as three (3) existing accessory structures and existing unpaved driveway. The proposed lots will be served by private well and septic systems already approved by the Health Department. The six (6) proposed lots will be served by a common driveway and the existing historic house will be served by the existing driveway on Preservation Parcel 'A'. Only four (4) specimen trees exist on-site, which are located within Non-Buildable Bulk Parcel 'B' on the west side of Saint Michaels Road. No disturbance is to take place in this area of the site so the specimen trees are planned to be retained. Per the 2004 Web Soil Survey, soils on-site consist of "BrD" Brinklow channery loam, "GgA", "GgB", "GgC" Glenelg loam, "GmB" Glenville—Baile silt loam, and "OcC" Occoquan loam. All of which are Type B soils, except for "GmB" which is Type C soils. Only Type B soils will be within the limits of disturbance. The Type C Soils are located on proposed Non-Buildable Bulk Parcel 'B'.

- Environmentally sensitive features such as wetlands, streams, steep slopes exist on the proposed Non-Buildable Preservation Parcel B. Floodplain does not exist on-site. To ensure the protection of natural resources located on this site, all buffers will be honored since they exist only on the non-buildable parcel. These environmentally sensitive areas will be placed within a proposed forest conservation (retention) easement.
- 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
- III. Reduction of impervious greas through better site design, alternative surfaces and Nonstructural Practices A proposed common driveway will serve the proposed six (6) lots and no improvements are proposed to the existing driveway serving the existing historic house on Preservation Parcel 'A'. The design will make use of non-rooftop disconnection credit for the proposed driveways and rooftop disconnection for the proposed houses.
- IV. Integration of Erosion and Sediment Controls into Stormwater Strategy: It is anticipated that silt fence and super silt fence will be provided and that the use of sediment traps will not be necessary.
- 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 environmental waivers are expected to be required on this project.

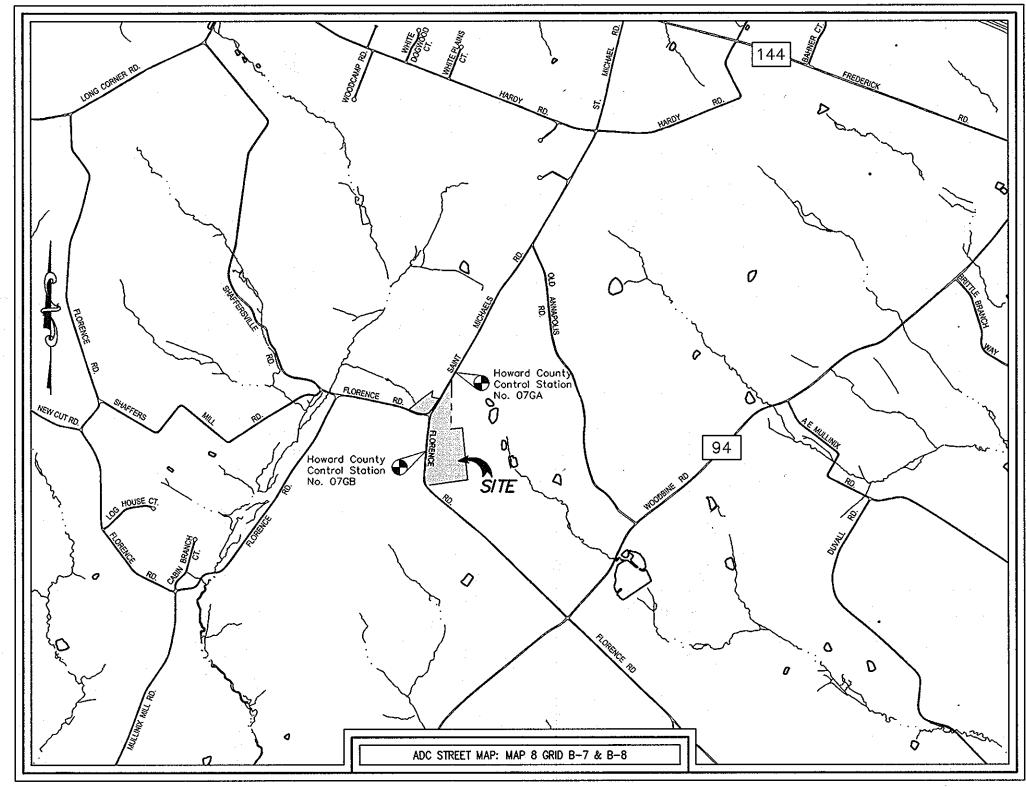
	SPECIMEN TREE TABLE				
KEY	SPECIES, SIZE (DBH)	CONDITION	STATUS		
Α	WHITE OAK, 31.5"	GOOD CONDITION	TO REMAIN		
В	WHITE OAK, 32.5"	GOOD CONDITION	TO REMAIN		
С	WHITE OAK, 40"	GOOD CONDITION	TO REMAIN		
D	BLACK CHERRY, 34"	FAIR CONDITION	TO REMAIN		
E	WHITE OAK, 40"	OFF-SITE	_		
F	TULIP POPAR, 30.5"	OFF-SITE			

NOTE: Critical root zone shall be 1.5':1" dbh

BFISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS DATE X

ENVIRONMENTAL CONCEPT PLAN LAYTON KNOLL,

LOTS 1 THRU 6 AND BUILDABLE PRESERVATION PARCEL 'A' & NON-BUILDABLE PRESERVATION PARCEL 'B' TAX MAP No. 7 GRID No. 19 PARCEL NOs. 112, 544, & 545 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND



VICINITY MAP

BENCHMARK INFORMATION

B.M.#1 - HOWARD COUNTY CONTROL STATION #07GA - HORIZONTAL - NAD '83) (LOCATED 34.7' SOUTH OF PEPCO #67950, 32.3' NORTHEAST OF C&P #36, AND 1.8' EAST OF EDGE OF SAINT MICHAELS ROAD. N 603,796,628

E 1,279,230,677

ELEVATION = 749.480 - VERTICAL - (NAVD '88)3.M.#2 — HOWARD COUNTY CONTROL STATION #07GB — HORIZONTAL — (NAD '83) (LOCATED 34.5' SOUTH OF THE CENTERLINE OF THE DRIVEWAY TO 2770 FLORENCE ROAD, 11.8' WEST OF THE CENTERLINE OF FLORENCE ROAD, AND 39.6' SOUTHWEST OF C&P POLE #43. E 1.278.602.539 ELEVATION = 743.399 - VERTICAL - (NAVD '88)

	-	LEGE	ND
	SYMBOL		DESCRIPTION
		EXISTING CON	TOUR 2' INTERVAL
		PROPOSED O	INTOUR 2' INTERVAL
	-35-35-	SILT FENCE	1
	-ssr—ssr-	Super Silt I	ENCE
	LOD	LIMIT OF DIS	URBANCE
	×	existing fen	CE LINE
	\cdots	EX. LIMIT OF	TREES AND FOREST
		PROPOSED L	MOSCAPING
	₩	existing tre	ES .
		PROPOSED G	(AVEL
	#	PROPOSED C	INCRETE WALK
·		25% OR GRE	ITER SLOPES (STEEP SLOPES)
:		15% TO 25%	SLOPES
		PROPOSED FI	IREST CONSERVATION EASEMENT
•	* * *	EXISTING WET	LANDS
	— ¥9— <u> </u>	WETLAND BU	FER
		EXISTING LIM	F OF WETLANDS
		EXISTING STR	EAM BANKS
	Q	EXISTING POL	ER POLE

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 EXCLAPATION WORK BEING 3. BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY CONDUCTED BY FISHER, COLLINS & CARTER, INC. IN JULY 2012. TOPOGRAPHY SHOWN IS FROM 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 BASE) UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 07GA AND 07GB WERE USED FOR THIS I PROJECT.

 5. PREVIOUS DPZ FILE NUMBERS: MHT #103, WP-13-061.

 6. 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.

 7. THIS PROPERTY IS LOCATED OUTSIDE THE METROPOLITAN DISTRICT.
- 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 02/02/04 COMPREHENSIVE ZONING PLAN AND THE COMP-LITE ZONING
- AMENDMENTS DATED 07/28/06.

 10. AMENDMENTS DATED 07/28/06.

 11. STEEP SLOPES, WETLANDS, STREAM(S) AND THEIR BUFFERS EXIST ON THE PROPOSED NON-BUILDABLE PRESERVATION PARCEL B. NO 100 YEAR ELOODELAIN EXISTS ON-SITE

- 10. STEEP SLOPES, WEILANDS, STREAM(S) AND THEIR BUFFERS EXIST ON THE PROPOSED NON-BUILDABLE PRESERVATION PARCEL B. NO
 100 YEAR FLOODPLAIN EXISTS ON—SITE.

 12. NO CLEARING, GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE
 LIMITS OF WEILANDS, STREAM(S), OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.

 13. LANDSCAPING WILL BE PROVIDED AT THE FINAL PLAN STAGE OF THIS PROJECT, LANDSCAPING SHOWN IS CONCEPTUAL.

 14. FOREST CONSERVATION OBLIGATIONS WILL BE MET BY ON—SITE RETENTION OF EXISTING FOREST AND REFOREST/TION PLANTING AT THE
 FINAL PLAN STAGE OF THIS PROJECT.

 15. NO SOIL BORINGS ARE REQUIRED FOR THIS PROJECT, ROOFTOP AND NON—ROOFTOP DISCONNECTIONS ARE PROPOSED.
- 16. 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/OR 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.

 17. SOILS ARE BASED ON THE NRCS WEBSOIL SURVEY.

 18. A WETLAND DELINEATION & FOREST STAND DELINEATION REPORT FOR THIS PROJECT DATED APRIL 5, 2013 WAS PREPARED BY ECO—SCIENCE PROFESSIONALS.
- 19. PLAN IS SUBJECT TO HISTORIC DISTRICT COMMISSION LETTER OF NO OBJECTION UNDER HDC #13-03 DATED MARCH 7, 2013. 20. PLAT SUBJECT TO WP-13-061 WHICH THE PLANNING DIRECTOR ON JANUARY 23, 2013 APPROVED A REQUEST TO WAIVE SECTION 16.119.(F).(1) WHICH REQUIRES WHERE A PROPOSED SUBDIVISION INVOLVES FRONTAGE ON AN ARTERIAL ROAD, (IR FRONTS A MAJOR COLLECTOR, THE STREET LAYOUT SHOULD PROVIDE VEHICULAR ACCESS TO THE SUBDIVISION BY A LOWER CLASSIFICATION PUBLIC ROAD; AND, APPROVED A REQUEST TO WAIVE SECTION 16.145.(A) WHICH REQUIRES THE SUBMISSION OF A PRELIMINARY EQUIVALENT SKETCH PLAN FOR A MAJOR SUBDIVISION IN THE RC ZONING DISTRICT. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

1) DEPARTMENT OF PLANNING AND ZONING APPROVES THE USER OF A SINGLE USE—IN-COMMON DRIVEWAY THAT MEETS THE MINIMUM SIGHT DISTANCE REQUIREMENTS OF THE DESIGN MANUAL ACCESS REQUIREMENTS FOR THE PROPOSED SIX NEW RESIDENTIAL LOTS OF THIS SUBDIVISION.

SITE ANALYSIS DATA CHART

- A. TOTAL AREA OF THIS SUBMISSION = $31.60 \text{ AC.}\pm$.
- B. LIMIT OF DISTURBED AREA = $6.77 \text{ Ac.} \pm$. PRESENT ZONING DESIGNATION = RC-DEO
- (PER 02/02/04 COMPREHENSIVE ZONING PLAN AND THE COMP-LITE ZONING AMENDMENTS DATED 07/28/06)
- PROPOSED USE: RESIDENTIAL PREVIOUS HOWARD COUNTY FILES: MHT #103, WP-13-061.
- TOTAL AREA OF FLOODPLAIN LOCATED ON SITE = 0 AC±
- G. TOTAL AREA OF SLOPES IN EXCESS OF 25% = 0.08 AC± (ON NON-BUILDABLE PRES. PARCE. B) H. TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.42 AC.± (LOCATED WITHIN FORESTED AREA ON NON-BUILDABLE PRES.
- TOTAL AREA OF EXISTING FOREST = 1.81 AC± (ON NON-BUILDABLE PRES. PARCEL B) TOTAL GREEN OPEN AREA = 8.93 AC±
- K. TOTAL IMPERVIOUS AREA = 1.10 AC± L. AREA OF LOTS 1 THRU $6 = 8.34 \text{ AC} \pm$

- M. AREA OF BUILDABLE PRESERVATION PARCEL A = 17.74 AC.±. (CONTAINS EXISTING HOUSE & 0.96 ACRES OF REFORESTATION)
- N. AREA OF NON-BUILDABLE PRESERVATION PARCEL B = 3.51 AC± (CONTAINS 1.81 ACRES OF EXISTING FOREST) O. AREA OF ROAD DEDICATION = $2.02 \text{ AC.}\pm$.

		APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
		Chief, Division of Land Development Chief, Development Engineering Division 7/25/3 Oate
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	OWNERS	PROJECT LAYTON KNOLL, LOTS 1 THRU 6 AND BUILDABLE PRES. PAR. A & NON-BUILDABLE PRES. PAR. B PARCEL NO. 112, 544, & 545
THE STATE OF MARYLAND, LICENSE NO. 38386, EXPIRATION DATE: 01/12/2014.	NOREEN L. GORDON & JAN E. GORDON 1775 SAINT MICHAELS ROAD	DEED BLOCK NO. ZONE TAX/ZONE BLEC. DIST. CENSUS TR. 14851/362 19 RC-DEO 2 FOURTH 6040.01
Signature Of Professional Engineer DATE DATE	WOODBINE, MARYLAND 21797	WATER CODE SEWER CODE N/A N/A

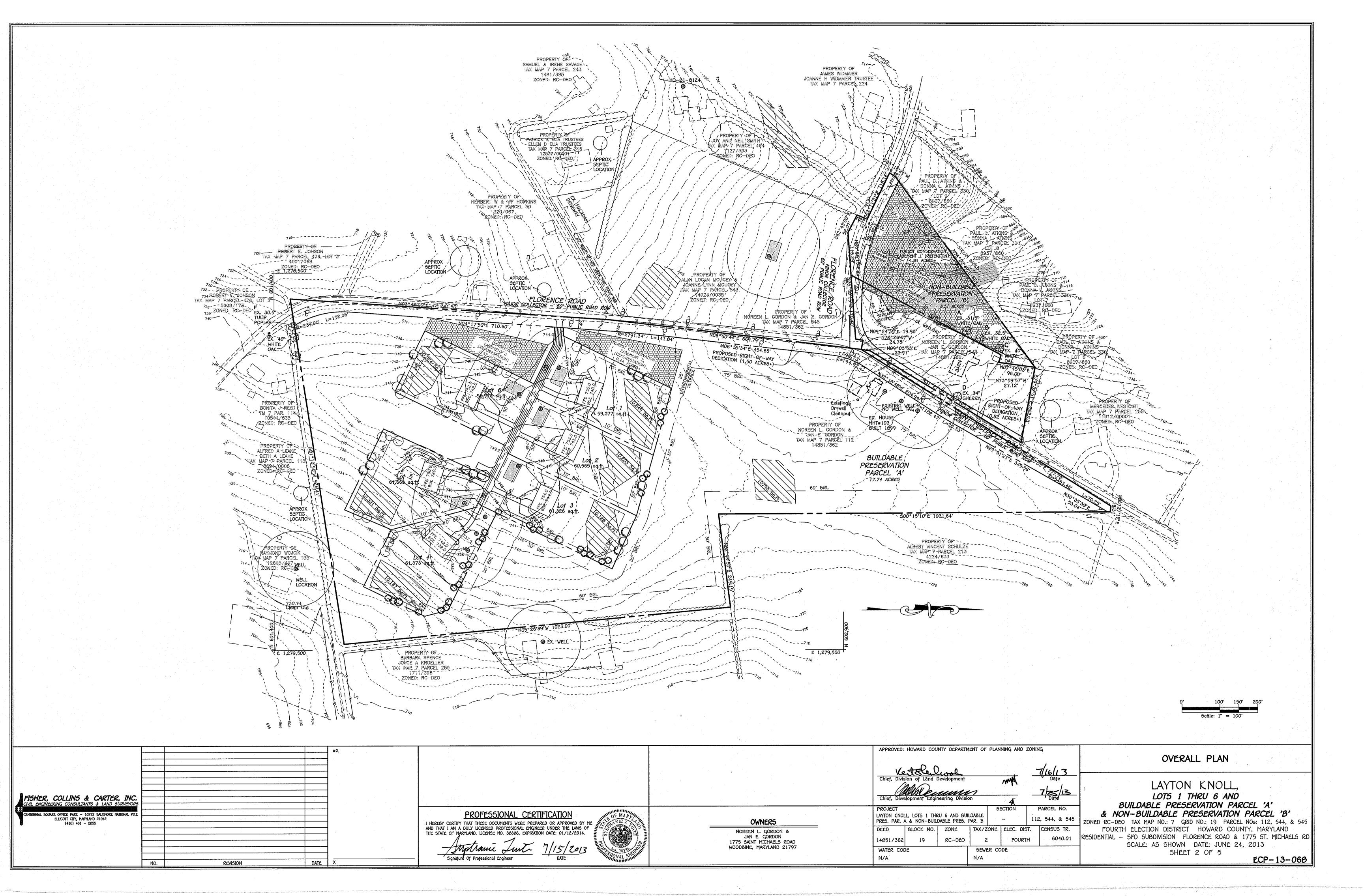
TITLE SHEET

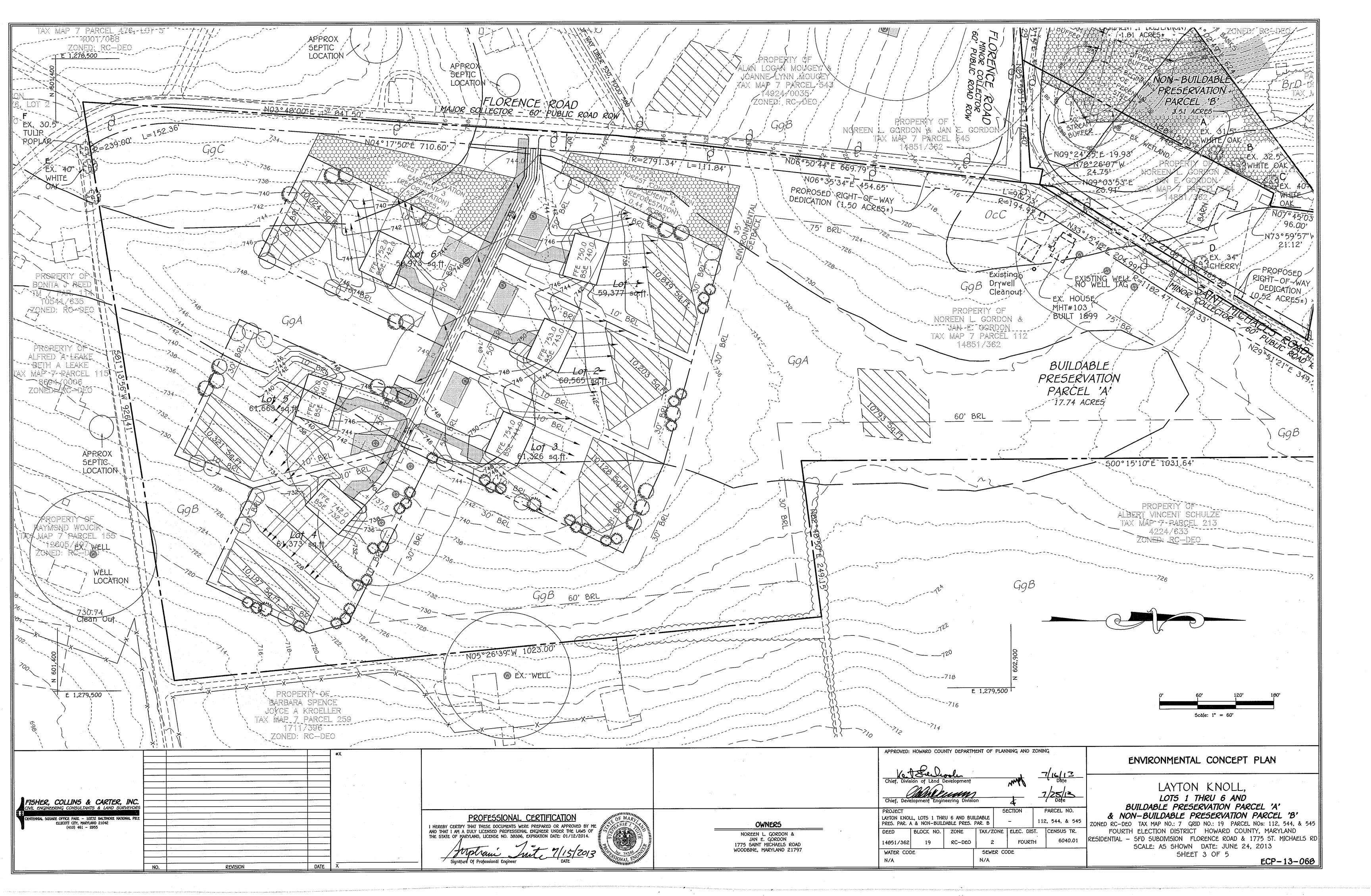
LAYTON KNOLL LOTS 1 THRU 6 AND

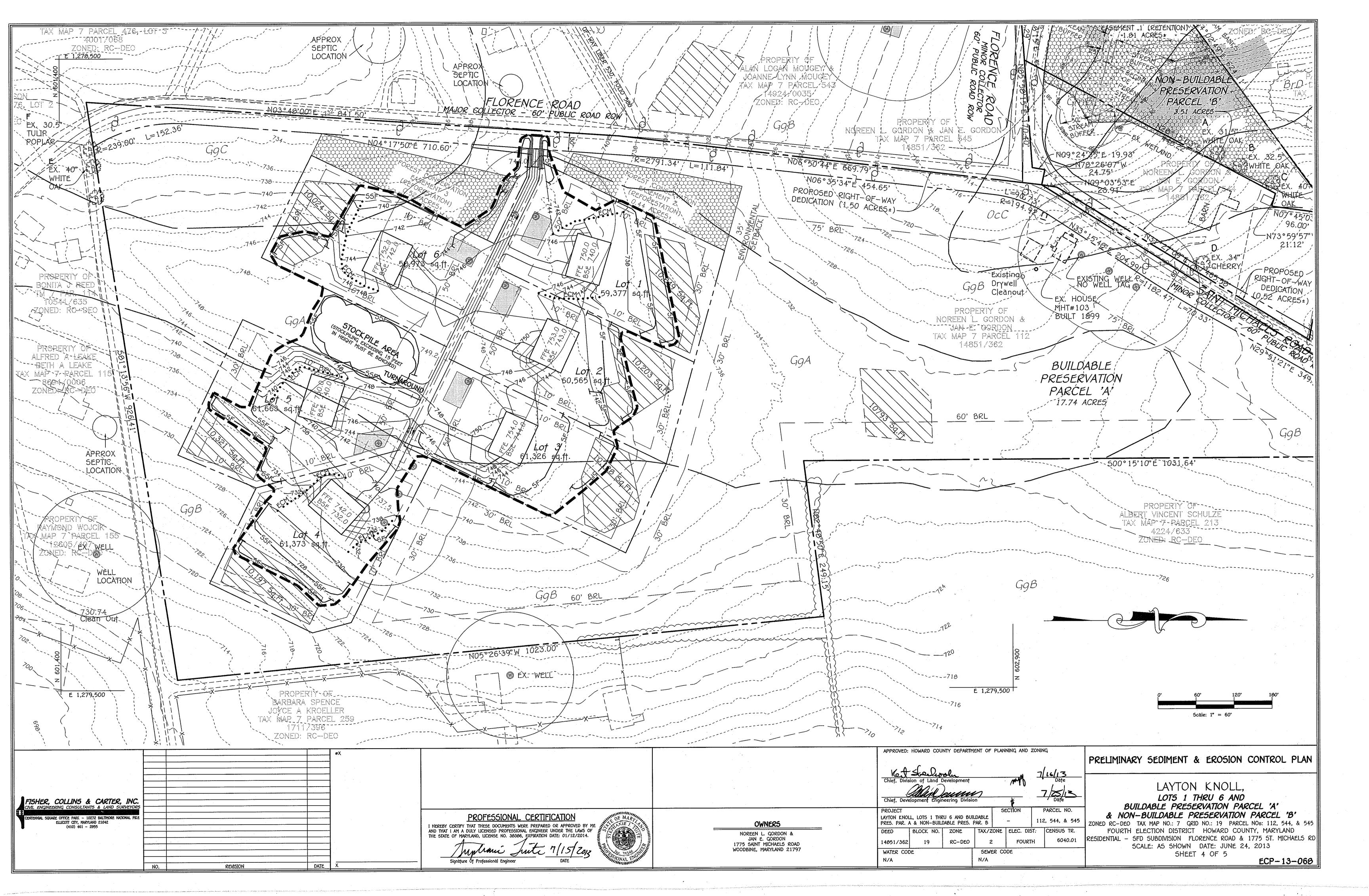
BUILDABLE PRESERVATION PARCEL 'A' & NON-BUILDABLE PRESERVATION PARCEL 'B' ZONED RC-DEO TAX MAP NO.: 7 GRID NO.: 19 PARCEL NOs: 112, 544, & 545 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND ESIDENTIAL — SFD SUBDIVISION FLORENCE ROAD & 1775 ST. MICHAELS RD

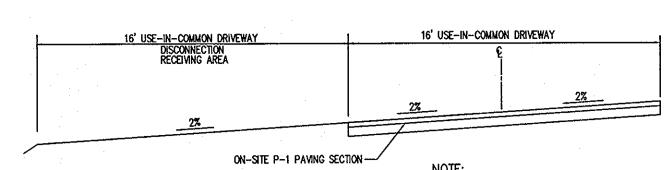
SCALE: AS SHOWN DATE: JUNE 24, 2013

SHEET 1 CF 5 ECP-13-068









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

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

12' (SINGLE USERS)

DISCONNECTION

RECEIVING AREA

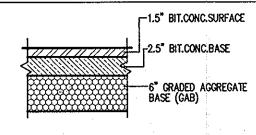
2%

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

TYPICAL PRIVATE DRIVEWAY CROSS SLOPE SECTION
NOT TO SCALE

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED, DISCONNECTION OF NONROOFTOP RUNOFF (N-2)

1. MAINTENANCE OF AREAS RECEIVING DISCONNECTION RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL



P-1 DRIVEWAY PAVING SECTION

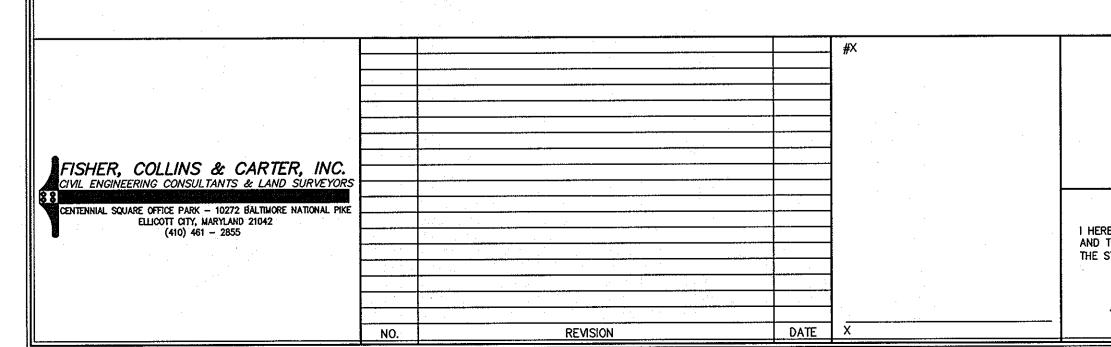
STORMWATER MANAGEMENT SUMMARY CHART

AREA = 8.34 ACRES (LOTS 1 thru 6 only)

RCN = 55

TARGET Pe = 1.0"

	SWM SUMMARY CHART
AREA ID	SWM TREATMENT PROVIDED
PRES. PARCEL A	n/a (existing house & driveway)
LOT 1	ROOFTOP DISCONNECTION (N-1) & NON-ROOFTOP DISCONNECTION (N-2)
LOT 2	ROOFTOP DISCONNECTION (N-1) & NON-ROOFTOP DISCONNECTION (N-2)
LOT 3	ROOFTOP DISCONNECTION (N-1) & NON-ROOFTOP DISCONNECTION (N-2)
LOT 4	ROOFTOP DISCONNECTION (N-1) & NON-ROOFTOP DISCONNECTION (N-2)
LOT 5	ROOFTOP DISCONNECTION (N-1) & NON-ROOFTOP DISCONNECTION (N-2)
LOT 6	ROOFTOP DISCONNECTION (N-1) & NON-ROOFTOP DISCONNECTION (N-2)



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: 01/12/2014.

Signature Of Professional Engineer

DATE

OWNERS

NOREEN L. GORDON &
JAN E. GORDON
1775 SAINT MICHAELS ROAD
WOODBINE, MARYLAND 21797

Chief, Division of Land Development

Chief, Development Engineering Division

PROJECT
LAYTON KNOLL, LOTS 1 THRU 6 AND BUILDABLE PRES. PAR. A & NON-BUILDABLE PRES. PAR. B

DEED

BLOCK NO. ZONE

TAX/ZONE

BLOCK NO. ZONE

TAX/ZONE

SEWER CODE

N/A

N/A

TIGIT

Date

7/25/15

Dat

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

STORMWATER MANAGEMENT DETAILS & NOTES

LAYTON KNOLL, LOTS 1 THRU 6 AND BUILDABLE PRESERVATION PARCEL 'A'

BUILDABLE PRESERVATION PARCEL 'A'
& NON-BUILDABLE PRESERVATION PARCEL 'B'
ZONED RC-DEO TAX MAP NO.: 7 GRID NO.: 19 PARCEL NOS: 112, 544, & 545
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
RESIDENTIAL - SFD SUBDIVISION FLORENCE ROAD & 1775 ST. MICHAELS RD
SCALE: AS SHOWN DATE: JUNE 24, 2013

SHEET 5 OF 5

ECP-13-068