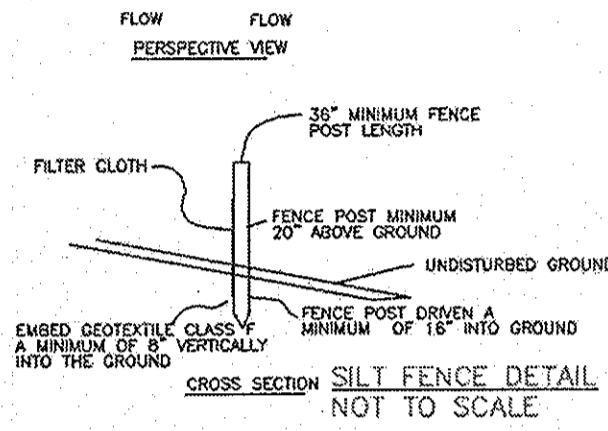
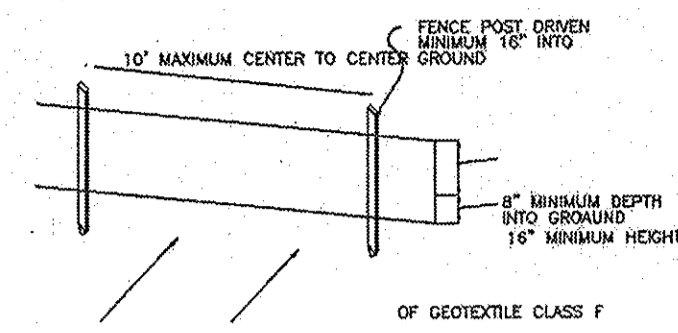


STORM WATER MANAGEMENT INTRODUCTION TO REPORT



LEGEND

	EXISTING UTILITY POLE
	EXISTING GUY WIRE
	EXISTING FIRE HYDRANT
	EXISTING TREE
	24' USE-IN-COMMON PRIVATE DRIVEWAY EASEMENT
	R/W DEDICATION
	PROPOSED WATER LINE
	PROPOSED SEWER LINE
	SOIL LINE
	BOUNDARY / R/W
	EXISTING CONTOURS
	PROPOSED CONTOURS
	EXISTING TREE LINE
	BRUSH LINE
	LIMIT OF DISTURBANCE
	SILT FENCE
	EX. FENCE LINE
	BUILDING RESTRICTION LINE

Site Analysis Data Chart and Notes

- Total Project Area: 2.3379 Acres
- Area of Plan Submission: 2.3379 Acres
- Limit of Disturbed Area: 27,817 square feet
- Zoning: R20
- Proposed Use: Residential
- N/A
- Five Units Allowed
- Five
- N/A
- N/A
- N/A
- Open Space: 0 Fee in lieu to be paid.
- Area of Open Space Required: 0.1310
- Building Coverage: To be determined at Site Development stage.
- DPZ File numbers: None
- No wetlands exist on site.
- No environmental features exist within the LOD.
- No specimen trees are to be removed.
- No forest exists on site. Forest stand obligations will be satisfied by a fee-in-lieu payment.

AREA TABULATION	
TOTAL NUMBER OF LOTS AND/OR PARCELS TO BE RECORDED	4
BUILDABLE	0
NON-BUILDABLE	0
OPEN SPACE	0
PRESERVATION PARCELS	0
TOTAL AREA OF LOTS AND/OR PARCELS	2.3379 ACRES
BUILDABLE	0
NON-BUILDABLE	0
OPEN SPACE	0
PRESERVATION PARCELS	0
TOTAL AREA OF ROADWAY TO BE RECORDED, INCLUDING WIDENING STRIPS	0.1551 ACRES
TOTAL AREA OF SUBDIVISION TO BE RECORDED	2.2228 ACRES

Introduction

This report is being prepared to document compliance with the Stormwater management regulations for the four new lots being created by the Goins Subdivision at 2778 Saint Johns Lane in Howard County Maryland. The existing 2.38 Acre parcel is long and narrow and is improved with a 2 story frame house, wooden deck, separate garage, driveway with parking pad, and a small garden shed. All of these improvements are at north end of the parcel where it fronts on St. Johns Lane near County Lane. The existing residence gets its access, and is served by public utilities, from Saint Johns Lane. All of these existing improvements are within the limits of proposed Lot 1 of the subdivision.

Much of the remaining 1.74 acre site for Lots 2 through 5 has been cleared and has a well-established grass lawn cover with a few trees at the perimeter. Each of the proposed lots is a little less than one half acre in size. These new lots are located at the top of a knoll and runoff fans out as sheet flow toward the North East and South. The adjacent lot to the east is an Open Space Lot owned and maintained by the Howard County Department of Parks and Recreation. The open space lot is a little over an Acre in size, long and narrow, with no improvements. Its unique shape, with front and rear building setbacks being so close together, make the development envelope very small.

The four new lots will obtain access and public utilities from Green Bower Way, which is a dead end road approaching from the west near the middle of the western property line. A 30' wide private utility and access easement has been provided through the adjacent Robbins Subdivision to make these connections. The easement is centered on the Green Bower Way "T" turnaround and extends the access to the western Goins tract boundary. A new 24' access and utility easement runs parallel to and contiguous with the western Goins tract boundary forming a "T" with the existing easement. Driveways and utility connections for the four new lots will utilize these easements. Runoff from the new driveways will fan away from the top of the "T" by sheet flow through the adjacent flat vegetated areas.

Efforts have been made to balance the earthwork and minimize off site disposal. Any waste disposed of off site will be legally deposited in an approved landfill or at an active permitted grading site. Appropriate sediment control devices will be utilized during the grading activity and construction of the new homes.

FIRM Community Panel #240044-0017B, which is attached in the appendices, indicates that the property does not lie within a floodplain. The Goins property is situated near the top, on the end of a rounded ridge such that the drainage fans out onto the open space parcel below. The entire parcel is in the Gmelin/Monor Loam soil classifications which has a hydrologic soil group of B.

Since the improvements on Lot 1 are existing, and will remain undisturbed, Lot 1 is not included in our SWM calculations. The moderately sloping 1.74 acre area that comprises the new lots has been cleared; however, for SWM purposes, it will be considered wooded in good condition.

The proposed new lots are not within the Chesapeake Bay Critical Area, nor within any 100 year floodplain. No wetlands are present within the project site. Runoff from the site fans out and discharges overlaid into the adjacent Open Space Lot owned by Howard County Recreation and Parks creating an adequate, stable outfall for stormwater originating on and above the site.

Methodologies Utilized

The impervious areas were measured from the attached drawings using CADD "area" tools. Stormwater management calculations and techniques in accordance with the "Howard County Design Manual", the "2000 Maryland Stormwater Design Manual", the "Stormwater Management Act of 2007", and also "Environmental Site Design (ESD) Process & Computations July 2010" were utilized in the preparation of this report.

Analysis

The new lot area is 75,982 square feet. The new impervious improvements planned for the lots are the shared driveway (4,304 s.f.), private driveways and parking pads (6,008 s.f.), and the new houses (6,000 s.f.). The existing improvements on Lot 1 will not be disturbed and will not result in any increase in impervious and Lot 1 not included in these calculations. So the Area for the project is 1.744 acres and the total new impervious area is 0.378 acres.

Step 1 - Determine Stormwater Management Requirements

Initial Site Assessment (Site Data)

Existing Conditions
 Project area: 75,982 ft²
 Soil Types: 90.8% GmB (Gleesly-Urban land Cpl: 0-8% slope) HGS 'B' soils
 9.2% MaC (Manor Loam 8-15% slope) HGS 'B' soils
 Land Use: Vacant Residential

Proposed Layout
 Total New Impervious to be treated: 16,472 ft²

Determine RCN's for Wooded Conditions

RCN_{wood} = 55 (Wooded Conditions for Type 'B' soils)

Determine ESD Targets:

Compute Percent Imperviousness

I = Impervious Area / Total Area

= 16,212 ft² / 75,982 ft²

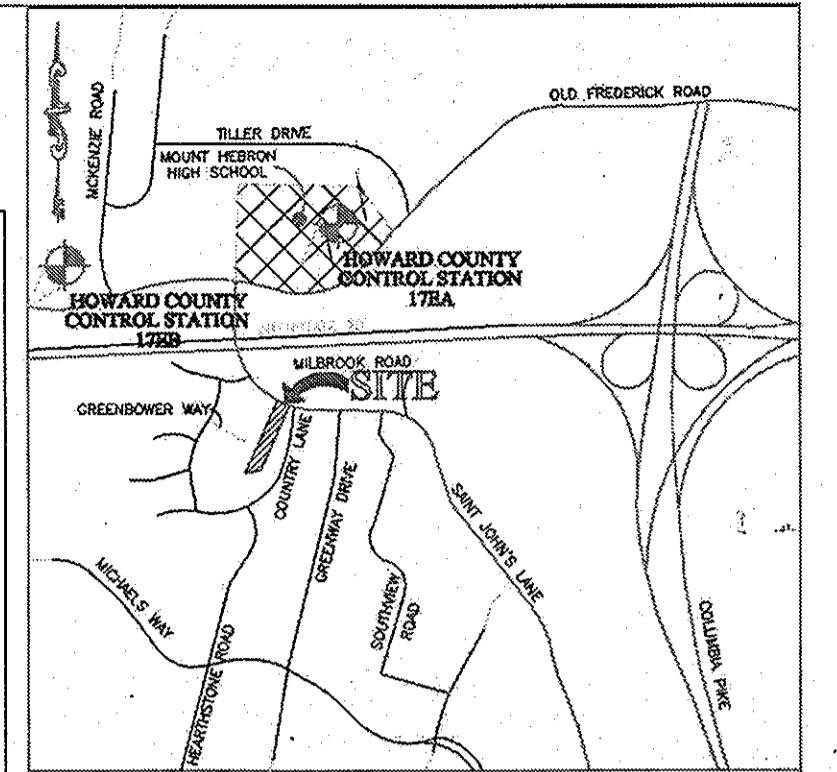
= 21.34% USE 25%

Calculate Runoff Coefficient, R_i

R_i = 0.05 + 0.009(I)

R_i = 0.05 + 0.009(20)

R_i = 0.23



VICINITY MAP
 SCALE 1" = 2000'
 ADC MAP COORDINATES: 4815 / F3
 STATION 1728
 N: 594357.6177
 E: 1357519.3685
 STATION 1728
 N: 593813.8606
 E: 1355731.8540

FOREST CONSERVATION WORKSHEET

A. GROSS SITE AREA	2.3 AC	L. TOTAL AREA OF FOREST TO BE CLEARED = 0
B. AREA WITHIN 100 YEAR FLOODPLAIN	0.00 AC	M. TOTAL AREA OF FOREST TO BE RETAINED = 0.00 AC
C. AREA WITHIN AGR. USE OR PRESERVATION PARCEL	0.00 AC	
D. NET TRACT AREA	2.2 AC	
E. AFFORESTATION THRESHOLD	15% X D = 0.3 AC	N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD = 0
F. CONSERVATION THRESHOLD	20% X D = 0.4 AC	O. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD = 0
G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)	0	P. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD = 0.00 AC
H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD	0	Q. TOTAL REFORESTATION REQUIRED = 0
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD	0	R. TOTAL AFFORESTATION REQUIRED = 0.3 AC
J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION	0	S. TOTAL REFORESTATION AND AFFORESTATION REQUIRED = 0.3 AC
K. CLEARING PERMITTED WITHOUT MITIGATION	0	

MARKS & ASSOCIATES L.L.C.

ENGINEERING-SURVEYING-LAND PLANNING
 4531 COLLEGE AVENUE
 ELLICOTT CITY, MARYLAND 21043
 (410) 747-8738

OWNER/DEVELOPER
 DENVER LEE GOINS & ROVERN E. GOINS
 2778 SAINT JOHN'S LANE
 ELLICOTT CITY, MD 21042-2539
 PH. (410) 465-0608

NO.	REVISION	DATE

APPROVED:

Chris Edwards
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 12-18-13
 DATE

APPROVED: HOWARD COUNTY
 DEPARTMENT PLANNING AND
 ZONING

Mark Schuchman
 CHIEF DIVISION OF
 LAND DEVELOPMENT
 11-04-13
 DATE

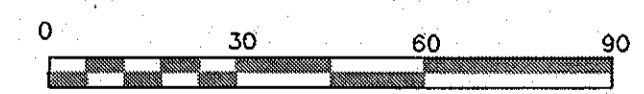


THE REQUIREMENTS OF § 3-108, THE REAL PROPERTY
 ARTICLE, ANNOTATED CODE OF MARYLAND,
 1989 REPLACEMENT VOLUME, (AS SUPPLEMENT)
 AS FAR AS THEY RELATE TO THE MAKING OF
 THIS PLAT AND THE SETTING OF MARKERS HAVE
 BEEN COMPLIED WITH.
Eric C. Marks
 ERIC C. MARKS, R.P.L.S. #607 DATE

ENVIRONMENTAL CONCEPT PLAN

GOINS PROPERTY
 LOTS 1 THRU 5

LIBER 433 FOLIO 226, APRIL 1, 1965
 TAX MAP NO:17 PARCEL NO:72 GRID NO:16
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

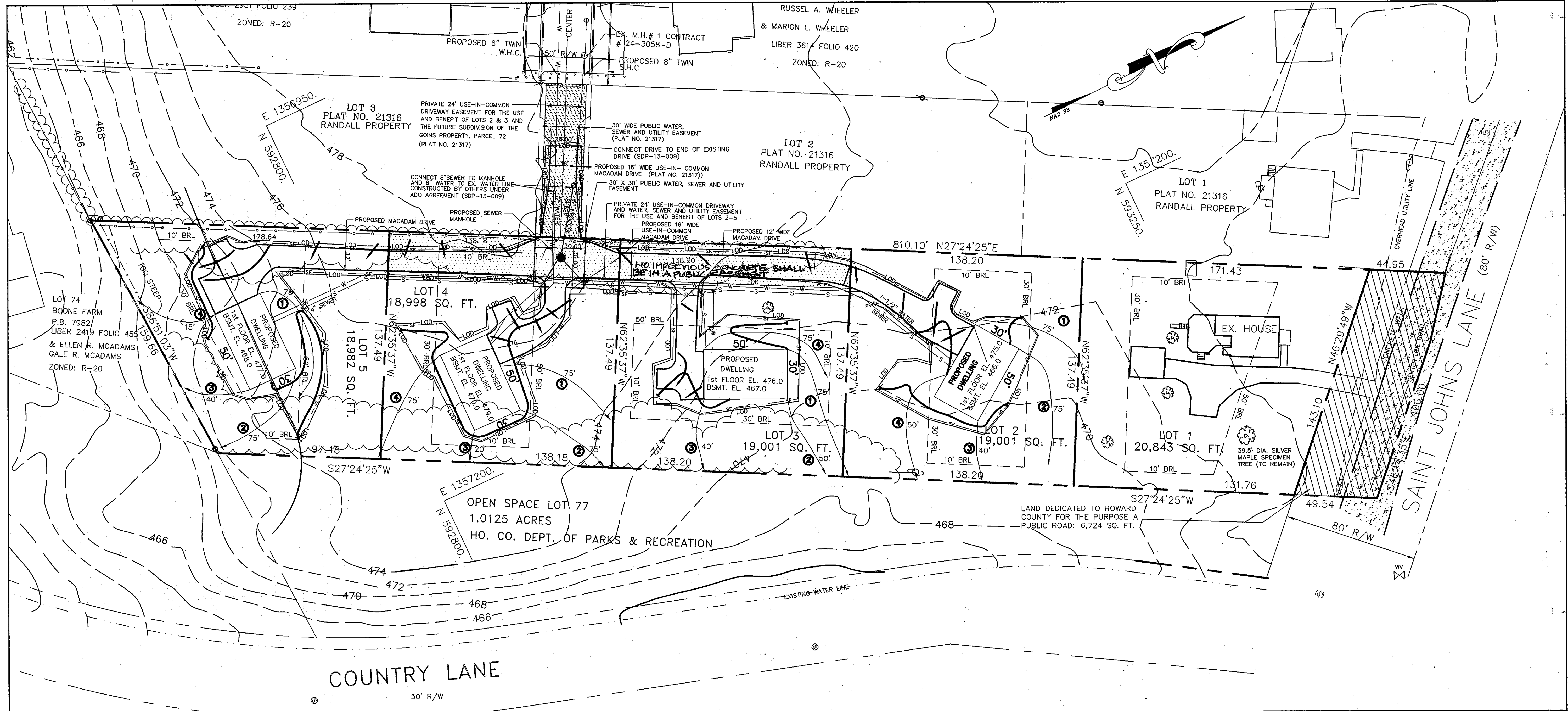


SCALE: 1"=30'
 SHEET 1 OF 2

DESIGN BY: *ELC*
 DRAWN BY: *ELC*
 CHECKED BY: *ELC*
 DATE: MAR 14, 2013
 SCALE:
 W.O. # 23/11

1 SHEET 3
 OF

FILE# ECP-13-042



APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

[Signature]
HOWARD COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 12-18-13 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 12/11/13 DATE
DIRECTOR, DIVISION OF LAND DEVELOPMENT

Marks & Associates, L.L.C.
—Surveyors—Planners—
4531 COLLEGE AVENUE
ELLCOTT CITY, MARYLAND 21043
PH. (410) 747-8738 FAX (410) 747-8547

OWNER/DEVELOPER
DENVER LEE GOINS & ROVERN E. GOINS
2778 SAINT JOHN'S LANE
ELLCOTT CITY MD 21042-2539
PH. (410) 465-0608

NO.	REVISION	DATE

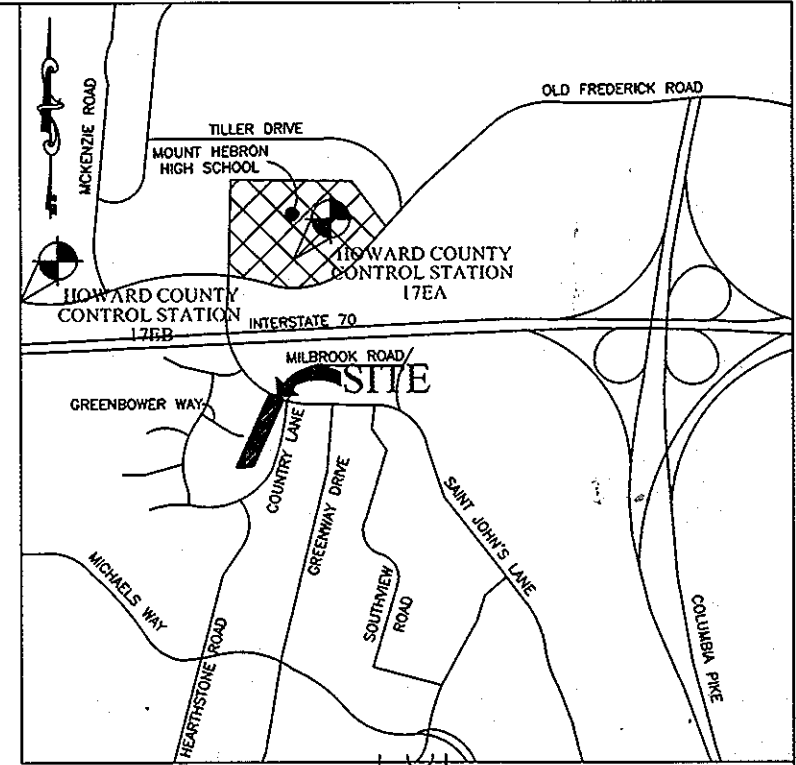
ENVIRONMENTAL CONCEPT PLAN
GOINS PROPERTY
LOTS 1 THRU 5

LIBER 433 FOLIO 226, APRIL 1, 1965
TAX MAP NO:17 PARCEL NO:72 GRID NO:16
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

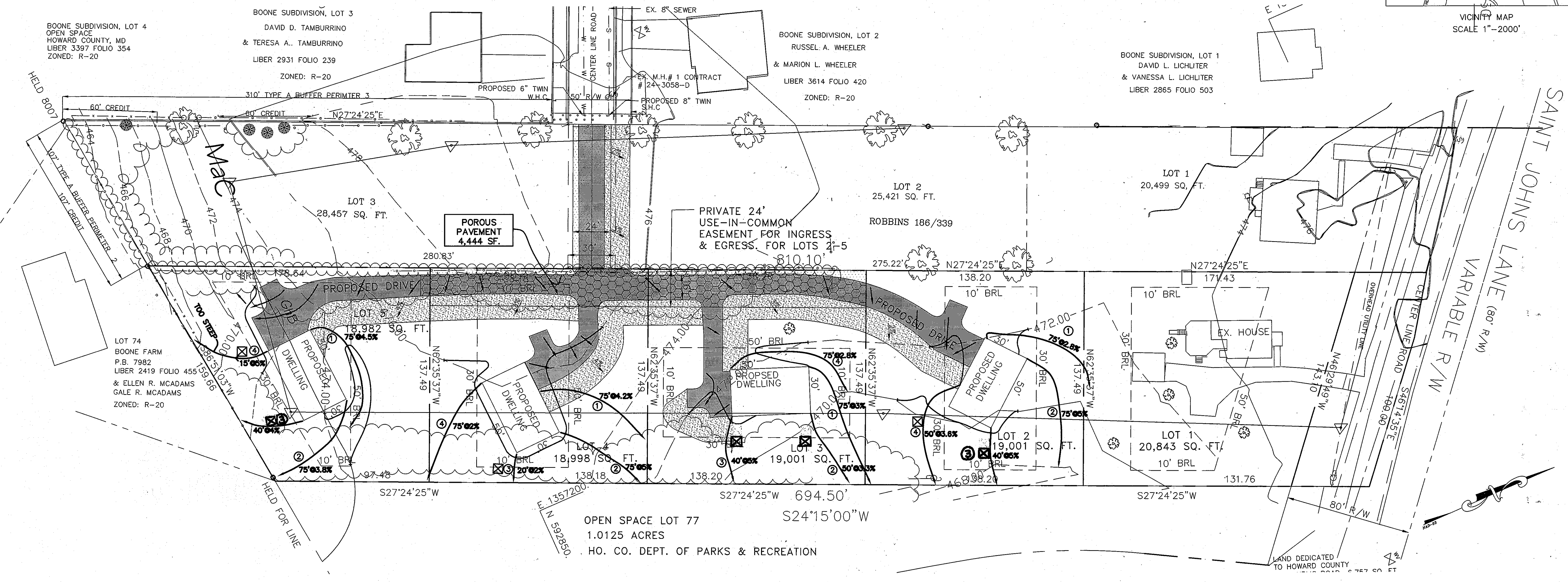
0 30 60 90
SCALE: 1"=30'
SHEET 2 OF 2

DESIGN BY: E.C.M.
DRAWN BY: D.B.S.
CHECKED BY: E.C.M.
DATE: MARCH, 2013
SCALE:
W.O. # 23/11

2 SHEET OF 3



VICINITY MAP
SCALE 1"=2000'



BOONE SUBDIVISION, LOT 4
OPEN SPACE
HOWARD COUNTY, MD
LIBER 3397 FOLIO 354
ZONED: R-20

BOONE SUBDIVISION, LOT 3
DAVID D. TAMBURRINO
& TERESA A. TAMBURRINO
LIBER 2931 FOLIO 239
ZONED: R-20

BOONE SUBDIVISION, LOT 2
RUSSEL A. WHEELER
& MARION L. WHEELER
LIBER 3614 FOLIO 420
ZONED: R-20

BOONE SUBDIVISION, LOT 1
DAVID L. LICHLITER
& VANESSA L. LICHLITER
LIBER 2865 FOLIO 503

LOT 74
BOONE FARM
P.B. 7982
LIBER 2419 FOLIO 455
& ELLEN R. MCADAMS
& GALE R. MCADAMS
ZONED: R-20

POROUS PAVEMENT
4,444 SF.

PRIVATE 24'
USE-IN-COMMON
EASEMENT FOR INGRESS
& EGRESS FOR LOTS 4-5

OPEN SPACE LOT 77
1.0125 ACRES
HO. CO. DEPT. OF PARKS & RECREATION

LEGEND

- DIST. @ Avg. Slope
- IMPERVIOUS PAVEMENT
- 6'X6'X1' RAIN GARDEN
- POROUS SURFACES
- NON-ROOFTOP DISCONNECT CREDIT AREA

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING AND
ZONING
Chief Development Engineer 12.18.13
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Director 11.01.13
DIRECTOR, DIVISION OF LAND DEVELOPMENT

Marks & Associates, L.L.C.
—Surveyors—Planners—
4531 COLLEGE AVENUE
ELLCOTT CITY, MARYLAND 21043
PH. (410) 747-8738 FAX (410) 747-8547

OWNER/DEVELOPER
DENVER LEE GOINS & ROVERNE E. GOINS
2778 SAINT JOHN'S LANE
ELLCOTT CITY, MD 21042-2539
PH. (410) 465-0608

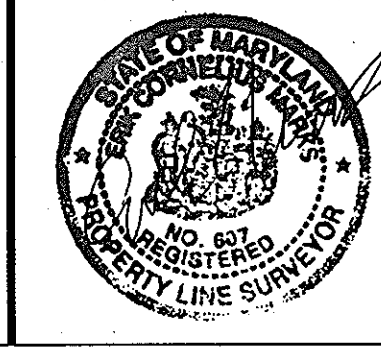
NO.	REVISION	DATE

SUPPLEMENTAL PLAN—LANDSCAPE PLAN, FOREST CONSERVATION PLAN

SWM PLAN
GOINS PROPERTY
LOTS 1 THRU 5

LIBER 433 FOLIO 226, APRIL 1, 1965
TAX MAP NO:17 PARCEL NO:72 GRID NO:16
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE: 1"=30'
SHEET 2 OF 2



DESIGN BY: J.R.H.
DRAWN BY: J.R.H.
CHECKED BY: E.C.M.
DATE: 3-22-13
SCALE: 1"=30'
W.O. # 23/11