

GENERAL NOTES

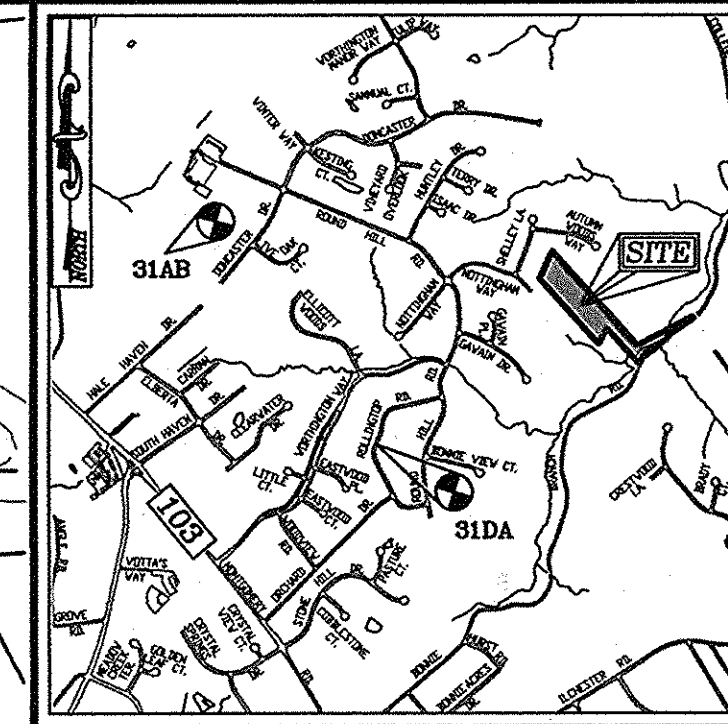
1. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
2. THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON HOWARD COUNTY GIS AND DRAWINGS OF RECORD.
3. THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED OCTOBER 14, 2014.
4. 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. 31AB AND 31DA WERE USED FOR THIS PROJECT.
5. THE SUBJECT PROPERTY IS ZONED "R-20" IN ACCORDANCE WITH THE 10/6/2013 COMPREHENSIVE ZONING PLAN AND IS SUBJECT TO THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/2/03 PER COUNCIL BILL 75-2003.
6. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100-YEAR FLOODPLAIN.
7. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
8. WATER FOR THIS PROJECT IS TO BE SERVICE CONNECTIONS FROM CONTRACT NO. 14-4182-D.
9. SEWER FOR THIS PROJECT IS TO BE SERVICE CONNECTIONS FROM CONTRACT NO. 14-4182-D.
10. EXISTING UTILITIES LOCATED FROM TOPOGRAPHIC SURVEY AND AS-BUILT DRAWINGS. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE.
11. THE PROJECT IS LOCATED WITHIN THE BONNIE BRANCH DRAINAGE AREA, THE APPROXIMATE FLOODPLAIN COMMON TO BONNIE BRANCH IS SHOWN HEREON PER THE HOWARD COUNTY - DIGITAL FLOOD INSURANCE RATE MAP (DFIRM). THIS FLOODPLAIN HAS AN "AE" DESIGNATION REPRESENTING HIGH FLOOD RISK. AS THE PROJECT PROPOSAL IS SEPARATED BY OVER 80 VERTICAL FEET, THE FLOODPLAIN LOCATED ONSITE CAN BE CONSIDERED "NON CRITICAL" TO THE PROJECT. THE REQUIRED DETAILED STUDY SHALL BE SUBMITTED WITH THE FUTURE SUBDIVISION PLANS.
12. STEEP SLOPES 15% AND GREATER ARE SHOWN HEREON.
13. FOREST CONSERVATION OBLIGATIONS FOR THIS PROJECT SHALL BE ADDRESSED BY A FOREST CONSERVATION PLAN SUBMITTED WITH A SUBDIVISION OR SITE DEVELOPMENT PLAN.
14. WETLANDS AND STREAMS SHOWN ONSITE ARE BASED ON ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES, SEPTEMBER 2014.
15. IN ACCORDANCE WITH SECTION 16.121(A)(2) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, THE OPEN SPACE REQUIREMENTS FOR THIS PROJECT (12,000 SF MIN LOT SIZE) IS 40% OF GROSS AREA (8.48 AC. GROSS AREA x 40% = 3.4 AC.+/-). REFER TO THE CONCEPTUAL OPEN SPACE LOTS.
16. GEOTECHNICAL INVESTIGATIONS SHALL COMPLETED AS PART OF THE SITE DEVELOPMENT PLAN PACKAGE.
17. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
18. FOREST STAND DELINEATION PLAN PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES, SEPTEMBER 2014.
19. BONNIE BRANCH ROAD IS CLASSIFIED AS A MINOR COLLECTOR. NO IMPROVEMENTS ARE PROPOSED. ATTENBOROUGH WAY IS CLASSIFIED AS A 40' R/W ACCESS PLACE (FO4-181). PROPOSED EXTENSION SHALL CONFORM WITH GUIDELINES WITHIN THE DESIGN MANUAL / ACCESS STREET.
20. TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS, CEMETERIES, OR HISTORIC STRUCTURES LOCATED ON THIS PROPERTY.
21. THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
22. STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF MICRO-SCALE PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. MICRO-SCALE PRACTICES INCLUDE M-6 MICRO-BIORETENTION, M-7 RAIN GARDENS, M-8 BIOSWALES AND M-5 DRY WELLS. ONLOT THESE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED. MICRO-SCALE FACILITIES MANAGING ROAD RUNOFF SHALL BE DESIGNATED AS A PUBLICLY OWNED AND JOINTLY MAINTAINED FACILITIES (H.O.A. AND HOWARD COUNTY). HOWARD COUNTY WILL MAINTAIN OUTLET STRUCTURES AND PIPES WHILE THE H.O.A. SHALL MAINTAIN MULCH, WEEDING, PLANTINGS, PERFORATED UNDERDRAINS, FEEDER PIPES, AND ROUTINE SOIL REPLACEMENT.
23. AS THE PROJECT IS LOCATED WITHIN THE BONNIE BRANCH DRAINAGE AREA, 10 YEAR PEAK MANAGEMENT IS REQUIRED. A COMBINATION WATER QUALITY SAND FILTER AND 10 YEAR QUANTITY CONTROL FACILITY IS PROPOSED. 0.4 AC/FT IS REQUIRED TO MANAGE THE DEVELOPMENT TO EXISTING CONDITIONS.
24. APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN (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 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.
25. IN ACCORDANCE WITH SECTION 16.121(A)(4) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, RECREATION OPEN SPACE FOR THIS R-20 PROJECT IS 200 SF / UNIT (14 X 200 = 2,800 SF).

ENVIRONMENTAL CONCEPT PLAN

HAMPTON HILLS

LOTS 1-14 AND OPEN SPACE LOTS 15-17

PARCEL 24 (L. 11433 / F. 112)
4786 BONNIE BRANCH ROAD
ELLCOTT CITY, MD 21043



VICINITY MAP
SCALE: 1"=2,000'
ADC MAP COORDINATE: MAP 28, GRID 5C

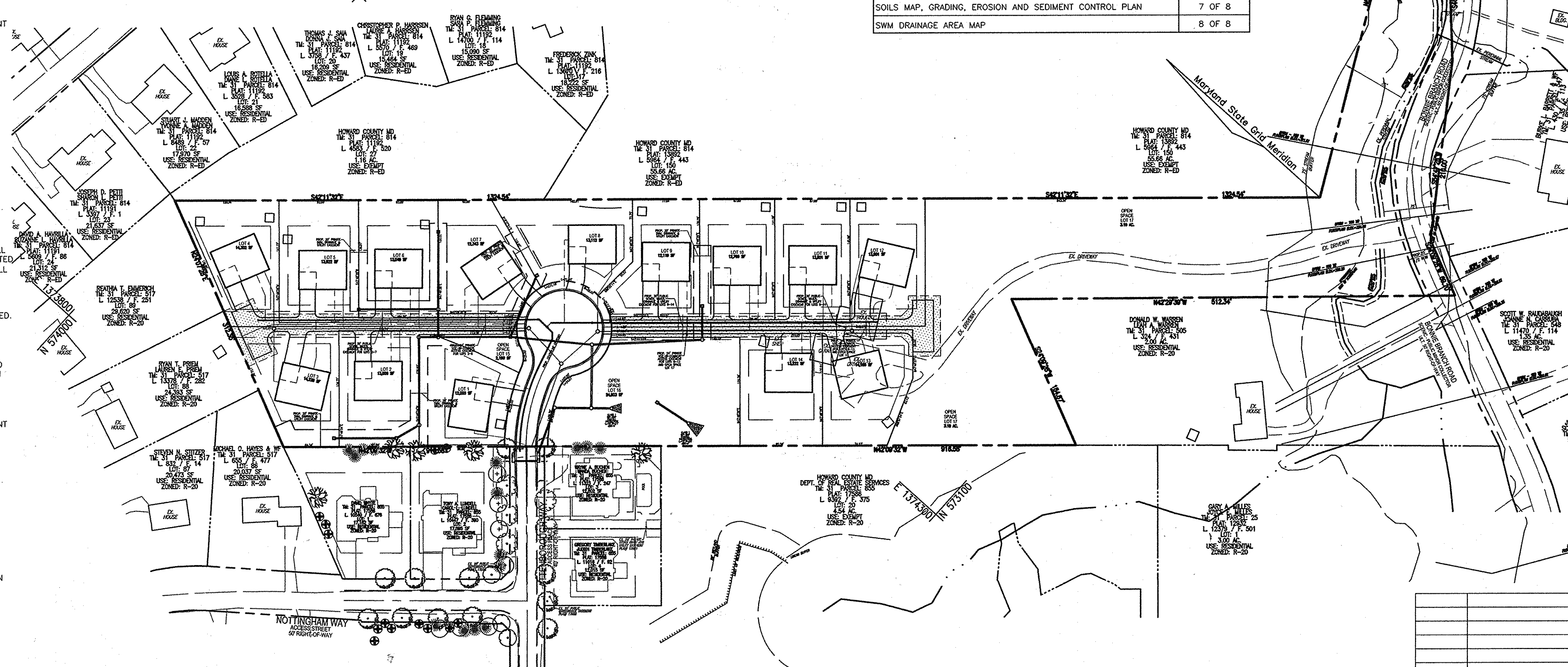
BENCHMARKS
HOWARD COUNTY BENCHMARK 31AB (CONC. MON.)
N 573984.52 E 1369949.46 ELEV. 499.905
LOCATION: TRANSMISSION LINE 0.2 MILES EAST OF NEW CUT ROAD
HOWARD COUNTY BENCHMARK 31DA (CONC. MON.)
N 571982.70 E 1372145.06 ELEV. 481.604
LOCATION: FOLLING TOP ROAD 0.1 MILES NORTH OF ORCHARD ROAD

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- CENTERLINE OF EXISTING STREAM
- EXISTING TREELINE
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER

SHEET INDEX

DESCRIPTION	SHEET NO.
COVER SHEET	1 OF 8
LAYOUT SHEET	2 OF 8
LAYOUT SHEET	3 OF 8
LAYOUT SHEET	4 OF 8
SOILS MAP, GRADING, EROSION AND SEDIMENT CONTROL PLAN	5 OF 8
SOILS MAP, GRADING, EROSION AND SEDIMENT CONTROL PLAN	6 OF 8
SOILS MAP, GRADING, EROSION AND SEDIMENT CONTROL PLAN	7 OF 8
SWM DRAINAGE AREA MAP	8 OF 8



ENVIRONMENTAL SITE DESIGN NARRATIVE:

- IN ACCORDANCE WITH THE DEVELOPMENT ENGINEERING DIVISION ECP CHECKLIST ITEM III.K.
1. THE NATURAL AREAS ON THIS PROJECT SITE ARE LOCATED NEAR THE SOUTHEAST PORTION OF THE SITE. NO DISTURBANCE TO THE STREAM AND STREAM BUFFER RESOURCES IS PROPOSED.
PER ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES, SEPTEMBER 2014, NO WETLANDS EXIST ON THE PROPERTY.
ONSITE FOREST RESOURCES ARE BEING PROTECTED TO THE EXTENT POSSIBLE AS THE DEVELOPED AREA IS CLUSTERED NEAREST TO THE EXISTING ROAD TO BE EXTENDED. THIS DEVELOPMENT STRATEGY SAVES/PROTECTS THE MAXIMUM FOREST AREA POSSIBLE.
 2. NO DRAMATIC DISTURBANCE TO THE NATURAL DRAINAGE PATTERNS ARE PROPOSED, PLEASE REFER TO THE PROPOSED CONCEPTUAL GRADING.
 3. THE CONCEPTUAL REDUCTION IN IMPERVIOUS AREA THROUGH BETTER SITE DESIGN IS ACHIEVED THROUGH THE ENVIRONMENTAL SITE DESIGN (ESD) FOR THE PROJECT. THE ESD CONCEPT INCLUDES THE USE OF MICRO-SCALE PRACTICES TO INCLUDE M-6 MICRO-BIORETENTION FACILITIES, M-5 DRYWELLS, M-7 RAINGARDENS AND M-8 BIO-SWALES. A COMBINATION WATER QUALITY SAND FILTER AND 10 YEAR QUANTITY CONTROL FACILITY IS PROPOSED.
 4. SEDIMENT CONTROL FOR THIS SPECIFIC SITE PLAN WILL BE PROVIDED THROUGH THE USE A PROPOSED SEDIMENT BASIN AND OR TRAP(S), EARTH DIKES, AND SILT FENCE PERIMETER CONTROLS. SEDIMENT CONTROL SHALL BE IN ACCORDANCE WITH CURRENT REQUIREMENTS AND SHALL BE APPROVED BY THE HOWARD SOIL CONSERVATION DISTRICT. AS THE SITE IS COMPRISED OF MOSTLY STEEP SLOPES AND/OR HIGHLY ERODIBLE SOILS, MORE STRINGENT SEEDING AND STABILIZATION METHODS MAY BE EMPLOYED.
 5. STORMWATER MANAGEMENT FOR THE PROJECT SHALL BE MET THROUGH THE USE OF MICRO-SCALE PRACTICES TO INCLUDE MICRO-SCALE PRACTICES TO INCLUDE M-6 MICRO-BIORETENTION FACILITIES, M-5 DRYWELLS, M-7 RAINGARDENS AND M-8 BIOSWALES. THE RESULT OF THE ENVIRONMENTAL SITE DESIGN FOR THIS PROJECT SHOULD REFLECT "WOODS IN GOOD CONDITION". AS THE PROJECT IS LOCATED WITHIN THE BONNIE BRANCH DRAINAGE AREA, 10 YEAR PEAK MANAGEMENT IS REQUIRED. A COMBINATION WATER QUALITY SAND FILTER AND 10 YEAR QUANTITY CONTROL FACILITY IS PROPOSED. 0.4 AC/FT IS REQUIRED TO MANAGE THE DEVELOPMENT TO EXISTING CONDITIONS.

TARGET PE = 1.6" PROVIDED PE = 1.6"
TARGET ESDV = 9,049 CUFT PROVIDED = 9,084 CUFT (REFER TO SUMMARY)

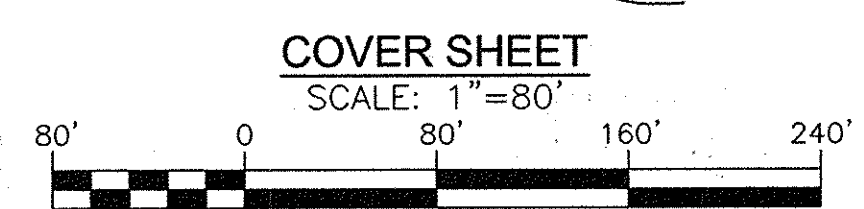
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 3-30-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 3-26-15
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

NOTES:

1. ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAILS W-3.28 OUTSIDE METER SETTINGS.



SITE ANALYSIS DATA CHART

A. TOTAL PROJECT AREA:	8.48 AC.
B. AREA OF PLAN SUBMISSION:	5.4 AC.
C. AREA OF WETLANDS AND BUFFERS:	0.0 AC. (SEE "ECO-SCIENCE" REPORT)
D. AREA OF FLOODPLAIN:	0.6 AC.+/- NON-CRITICAL (TBD) ASSUMED 4 FEET ABOVE INVERT (SEE NOTE: 11)
E. AREA OF FOREST:	5.9 AC. (SEE "ECO-SCIENCE" REPORT)
F. AREA OF STEEP SLOPES (15% & GREATER):	APPROX. 3.9 AC.+/-
G. ERODIBLE SOILS:	2.06 AC WITHIN LOD 119910 S.F. OR 5.4 AC.
H. LIMIT OF DISTURBED AREA:	RESIDENTIAL SINGLE FAMILY DETACHED (SFD) HOMES
I. PROPOSED USES FOR SITE AND STRUCTURES:	6.83 AC. -(8.48 - 1.53 - 0.12 BONNIE BRANCH PAVING)
J. GREEN OPEN AREA:	1.53 AC. (INCLUDES ROAD EXTENSION)
K. PROPOSED IMPERVIOUS AREA:	R-20 (MIN 12,000 SF LOT)
L. PRESENT ZONING DESIGNATION:	
M. DPZ FILE REFERENCES:	

ENVIRONMENTAL CONCEPT PLAN
COVER SHEET
HAMPTON HILLS
LOTS 1-14 AND OPEN SPACE LOTS 15-17
PARCEL 24 (L. 11433 / F. 112)
4786 BONNIE BRANCH ROAD
ELLCOTT CITY, MD 21043

TAX MAP: 31 GRID: 9
2ND ELECTION DISTRICT

PARCEL: 24
ZONED: R-20
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLCOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: RHV
DRAWN BY: RVE/KG
CHECKED BY: RHV
DATE: MARCH 2015
SCALE: AS SHOWN
W.O. NO.: 12-10

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. 16193, EXPIRATION DATE: 09-27-2018

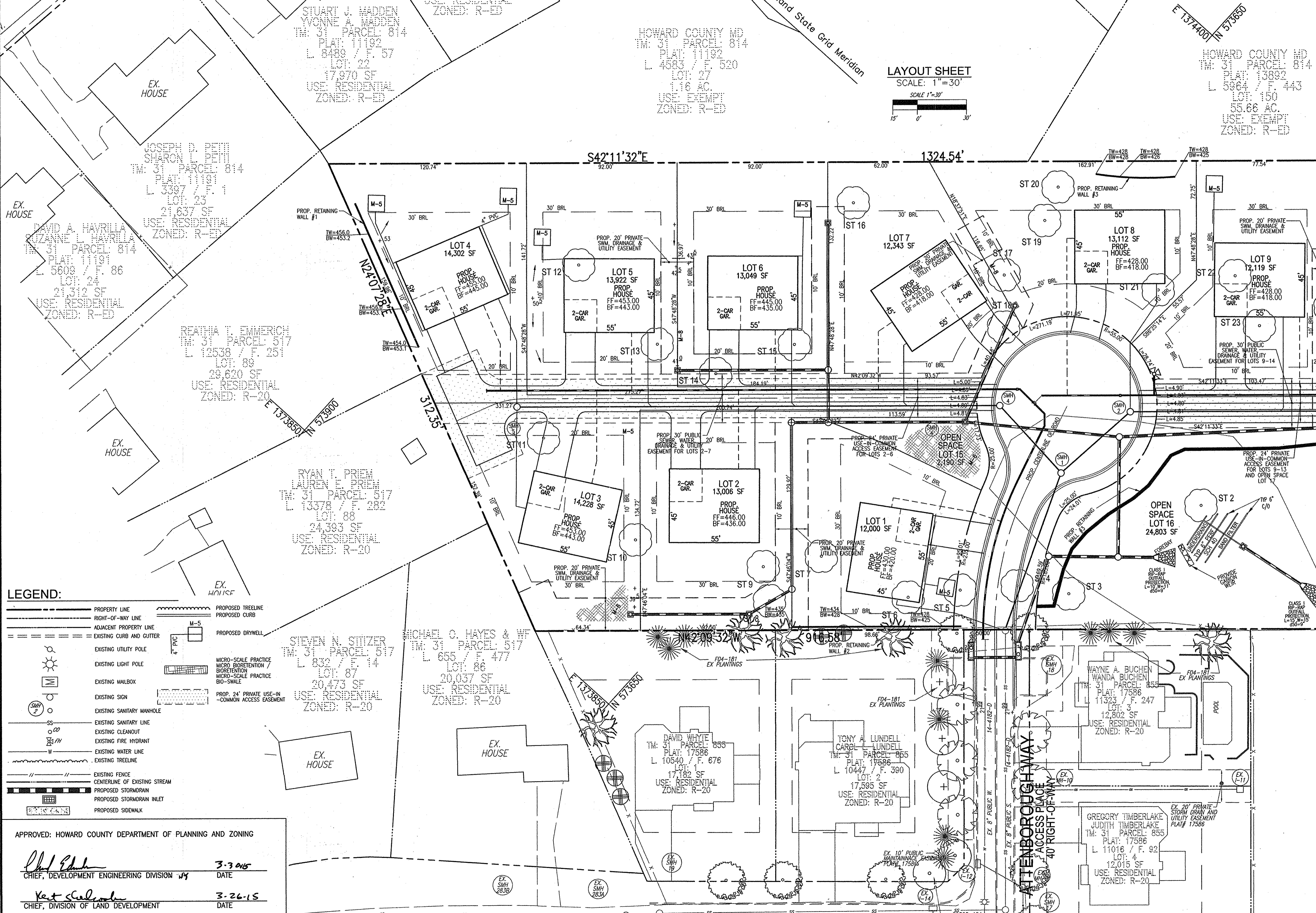
1 SHEET OF 8

Eco-Science Professionals, Inc.
 Consulting Ecologists
 P.O. Box 5006 Glen Arm, Maryland 21097 Telephone (410) 832-2480 Fax (410) 832-2488

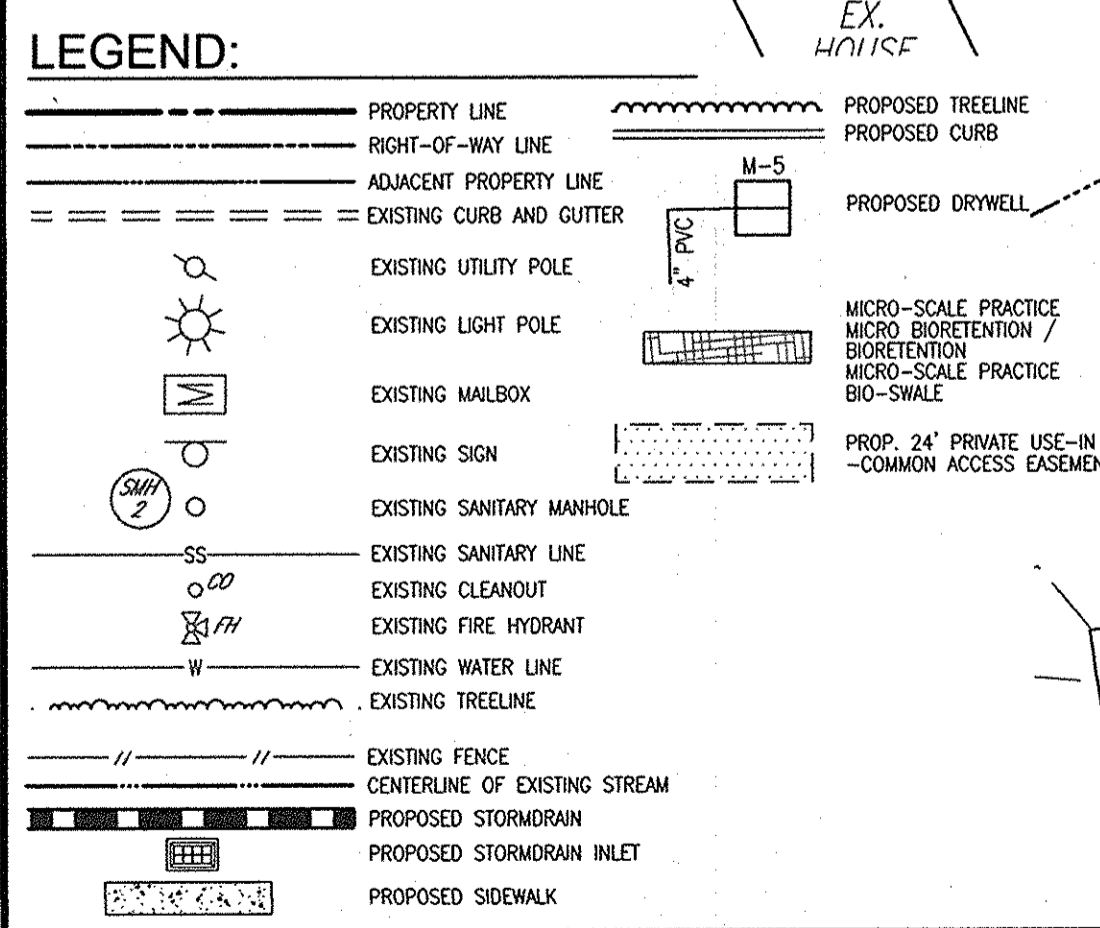
MD DNR Qualified Professional
USACOE Wetland Delimitator
 Certification # WDCP93MD0610044B2
 John P. Canoles

- NO RARE, THREATENED OR ENDANGERED SPECIES OR THEIR HABITAT WERE OBSERVED ON THE PROPERTY
- SURROUNDING LAND USE PRIMARILY MEDIUM/HIGH DENSITY RESIDENTIAL DEVELOPMENT AND FOREST
- APPROXIMATELY 5.8 ACRES OF FOREST IS PRESENT WITHIN 100 FEET OF THE SUBJECT PROPERTY.
- ALL STREAMS ON THE PROPERTY ARE PART OF A USE1 WATERSHED. THE STREAM CHANNEL IS PERENNIAL AND WILL REQUIRE A 75 FOOT BUFFER.
- A NON-CRITICAL 100 YEAR FLOODPLAIN IS PRESENT ON THE SUBJECT PROPERTY. APPROXIMATE LIMITS HAVE BEEN SHOWN HEREON TO BE FURTHER DEFINED UNDER FUTURE SUBDIVISION PLANS. FOREST CONSERVATION OBLIGATIONS SHALL BE RE-VISITED.
- THERE ARE STEEP SLOPES (15-24.99 AND 25% OR GREATER) ON THE SUBJECT PROPERTY
- THERE ARE NO HISTORIC STRUCTURES OR CEMETERIES ON THIS PROPERTY.
- THERE ARE SPECIMEN TREES ON THE PROPERTY. THERE ARE NO KNOWN TREES THAT ARE STATE CHAMPION TREES AND OR TREES 75% OF THE SIZE OF THE STATE CHAMPION TREE ON THE PROPERTY.

NOTES:
 1. ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAILS W-3.28 OUTSIDE METER SETTINGS.



LAYOUT SHEET
 SCALE: 1"=30'
 SCALE: 1"=30'



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John P. Canoles 3-3-15
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Kurt Chalman 3-26-15
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

SPECIMEN TREE CHART					
NO.	SIZE (DBH)	CRZ	COMMON NAME	CONDITION	COMMENTS
ST 1	30.5"	45.75'	TULIP POPLAR	FAR-GOOD HEALTH, LIMITED CROWN	TO REMAIN
ST 2	30.5"	45.75'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 3	32.5"	48.75'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 4	31.5"	47.25'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 5	32"	48"	TULIP POPLAR	FAR-LIMB DIEBACK	PROPOSED TO BE REMOVED
ST 6	35.5"	53.25'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 7	30.5"	45.75'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 8	34"	51"	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 9	31"	46.5'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 10	47"	70.5'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 11	31.5"	47.25'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 12	35.5"	53.25'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 13	31"	46.5'	TULIP POPLAR	POOR-TRUNK ROT NOTED	PROPOSED TO BE REMOVED
ST 14	31"	46.5'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 15	34"	51"	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 16	32"	48"	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 17	31.5"	47.25'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 18	32.5"	48.75'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 19	39"	58.5'	TULIP POPLAR	POOR-TRUNK ROT NOTED	PROPOSED TO BE REMOVED
ST 20	43"	64.5'	TULIP POPLAR	VERY POOR-SEVERE TRUNK ROT	PROPOSED TO BE REMOVED
ST 21	33"	49.5'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 22	41.5"	62.25'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 23	33"	49.5'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 24	31"	46.5'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 25	37"	55.5'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 26	35"	52.5'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 27	35"	52.5'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 28	37"	55.5'	TULIP POPLAR	GOOD CONDITION	PROPOSED TO BE REMOVED
ST 29	31"	46.5'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 30	30"	45'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 31	33"	49.5'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 32	35.5"	53.25'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	TO REMAIN
ST 33	33"	49.5'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	TO REMAIN
ST 34	34"	51"	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	TO REMAIN
ST 35	35.5"	53.25'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	TO REMAIN
ST 36	31"	46.5'	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	TO REMAIN
ST 37	32"	48"	TULIP POPLAR	FAR-LIMITED CROWN SPREAD	TO REMAIN

NOTES:

- APPROVAL OF THIS ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED BUILDING AND/OR GRADING PERMIT
- REVIEW OF THIS PLAN FOR COMPLIANCE WITH ZONING AND SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SHALL OCCUR AT THE PERMIT STAGES; AND THEREFORE, THIS PLAN IS SUBJECT TO ADDITIONAL AND MORE DETAILED COMMENTS AS THE PLAN PROGRESSES THROUGH THE PERMIT PROCESS.

OWNER
 O'BRIEN FAMILY, LLC
 5220 TALBOTS LANDING
 ELLICOTT CITY, MD 21043
 (410) 480-0023

DEVELOPER
 TRINITY QUALITY HOMES, INC.
 3875 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

MATCHLINE - SEE SHEET 3

MATCHLINE - SEE SHEET 3

ENVIRONMENTAL CONCEPT PLAN
 LAYOUT SHEET
HAMPTON HILLS
 LOTS 1-14 AND OPEN SPACE LOTS 15-17
 PARCEL 24 (L. 11433 / F. 112)
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 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: RHV
 DRAWN BY: RVE/KG
 CHECKED BY: RHV
 DATE: MARCH 2015
 SCALE: AS SHOWN
 W.O. NO.: 12-10

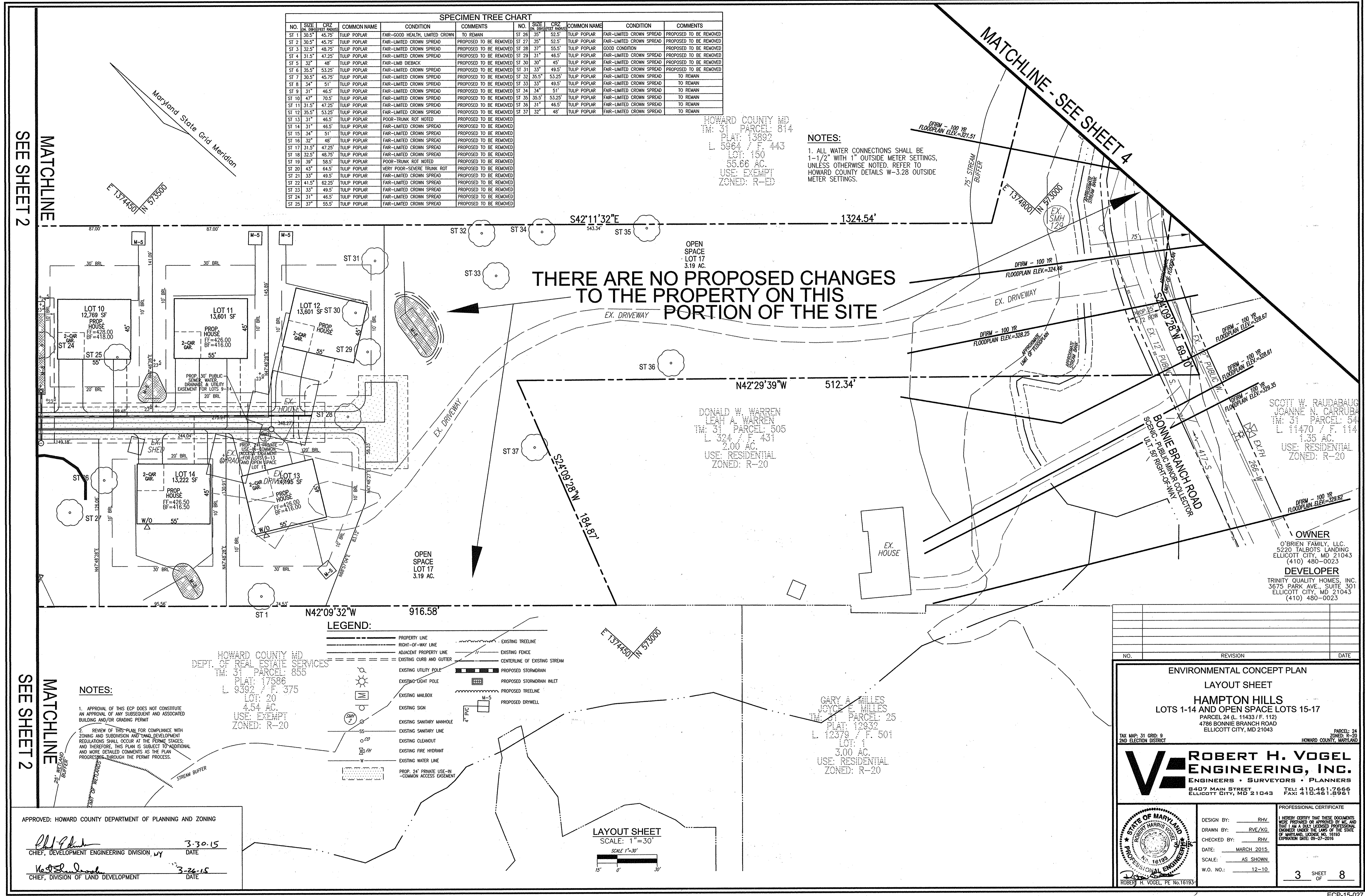
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A VALID LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18193 EXPIRATION DATE: 09-27-2016

2 SHEET OF 8

SPECIMEN TREE CHART											
NO.	SIZE (DBH)	CRZ (FEET RADIUS)	COMMON NAME	CONDITION	COMMENTS	NO.	SIZE (DBH)	CRZ (FEET RADIUS)	COMMON NAME	CONDITION	COMMENTS
ST 1	30.5"	45.75'	TULIP POPLAR	FAIR-GOOD HEALTH, LIMITED CROWN	TO REMAIN	ST 26	35"	52.5'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 2	30.5"	45.75'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED	ST 27	35"	52.5'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 3	32.5"	48.75'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED	ST 28	37"	55.5'	TULIP POPLAR	GOOD CONDITION	PROPOSED TO BE REMOVED
ST 4	31.5"	47.25'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED	ST 29	31"	46.5'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 5	32"	48'	TULIP POPLAR	FAIR-LIMB DIEBACK	PROPOSED TO BE REMOVED	ST 30	30"	45'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 6	35.5"	53.25'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED	ST 31	33"	49.5'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED
ST 7	30.5"	45.75'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED	ST 32	35.5"	53.25'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	TO REMAIN
ST 8	34"	51'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED	ST 33	33"	49.5'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	TO REMAIN
ST 9	31"	46.5'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED	ST 34	34"	51'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	TO REMAIN
ST 10	47"	70.5'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED	ST 35	35.5"	53.25'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	TO REMAIN
ST 11	31.5"	47.25'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED	ST 36	31"	46.5'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	TO REMAIN
ST 12	35.5"	53.25'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED	ST 37	32"	48'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	TO REMAIN
ST 13	31"	46.5'	TULIP POPLAR	POOR-TRUNK ROT NOTED	PROPOSED TO BE REMOVED						
ST 14	31"	46.5'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED						
ST 15	34"	51'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED						
ST 16	32"	48'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED						
ST 17	31.5"	47.25'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED						
ST 18	32.5"	48.75'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED						
ST 19	39"	58.5'	TULIP POPLAR	POOR-TRUNK ROT NOTED	PROPOSED TO BE REMOVED						
ST 20	43"	64.5'	TULIP POPLAR	VERY POOR-SEVERE TRUNK ROT	PROPOSED TO BE REMOVED						
ST 21	33"	49.5'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED						
ST 22	41.5"	62.25'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED						
ST 23	33"	49.5'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED						
ST 24	31"	46.5'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED						
ST 25	37"	55.5'	TULIP POPLAR	FAIR-LIMITED CROWN SPREAD	PROPOSED TO BE REMOVED						

NOTES:
 1. ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAILS W-3.28 OUTSIDE METER SETTINGS.

THERE ARE NO PROPOSED CHANGES TO THE PROPERTY ON THIS PORTION OF THE SITE



LEGEND:

—	PROPERTY LINE	—	EXISTING TREELINE
- - -	RIGHT-OF-WAY LINE	- - -	EXISTING FENCE
- · - · -	ADJACENT PROPERTY LINE	- - -	CENTERLINE OF EXISTING STREAM
- · - · -	EXISTING CURB AND GUTTER	- - -	PROPOSED STORMDRAIN
- · - · -	EXISTING UTILITY POLE	- - -	PROPOSED STORMDRAIN INLET
- · - · -	EXISTING LIGHT POLE	- - -	PROPOSED TREELINE
- · - · -	EXISTING MAILBOX	- - -	PROPOSED DRYWELL
- · - · -	EXISTING SIGN	- - -	
- · - · -	EXISTING SANITARY MANHOLE	- - -	
- · - · -	EXISTING SANITARY LINE	- - -	
- · - · -	EXISTING CLEANOUT	- - -	
- · - · -	EXISTING FIRE HYDRANT	- - -	
- · - · -	EXISTING WATER LINE	- - -	
- · - · -	PROP. 24' PRIVATE USE-IN-COMMON ACCESS EASEMENT	- - -	

NOTES:
 1. APPROVAL OF THIS ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED BUILDING AND/OR GRADING PERMIT.
 2. REVIEW OF THIS PLAN FOR COMPLIANCE WITH ZONING AND SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SHALL OCCUR AT THE PERMIT STAGES, AND THEREFORE, THIS PLAN IS SUBJECT TO ADDITIONAL AND MORE DETAILED COMMENTS AS THE PLAN PROGRESSES THROUGH THE PERMIT PROCESS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 3-30-15
 CHIEF, DEVELOPMENT ENGINEERING DIVISION, WY DATE
 [Signature] 3-26-15
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

LAYOUT SHEET
 SCALE: 1"=30'
 15' 0' 30'

NO.	REVISION	DATE

ENVIRONMENTAL CONCEPT PLAN
 LAYOUT SHEET
 HAMPTON HILLS
 LOTS 1-14 AND OPEN SPACE LOTS 15-17
 PARCEL 24 (L. 11433 / F. 112)
 4786 BONNIE BRANCH ROAD
 ELLICOTT CITY, MD 21043

TAX MAP: 31 GRID: 9
 2ND ELECTION DISTRICT

PARCEL: 24
 ZONED: R-20
 HOWARD COUNTY, MARYLAND

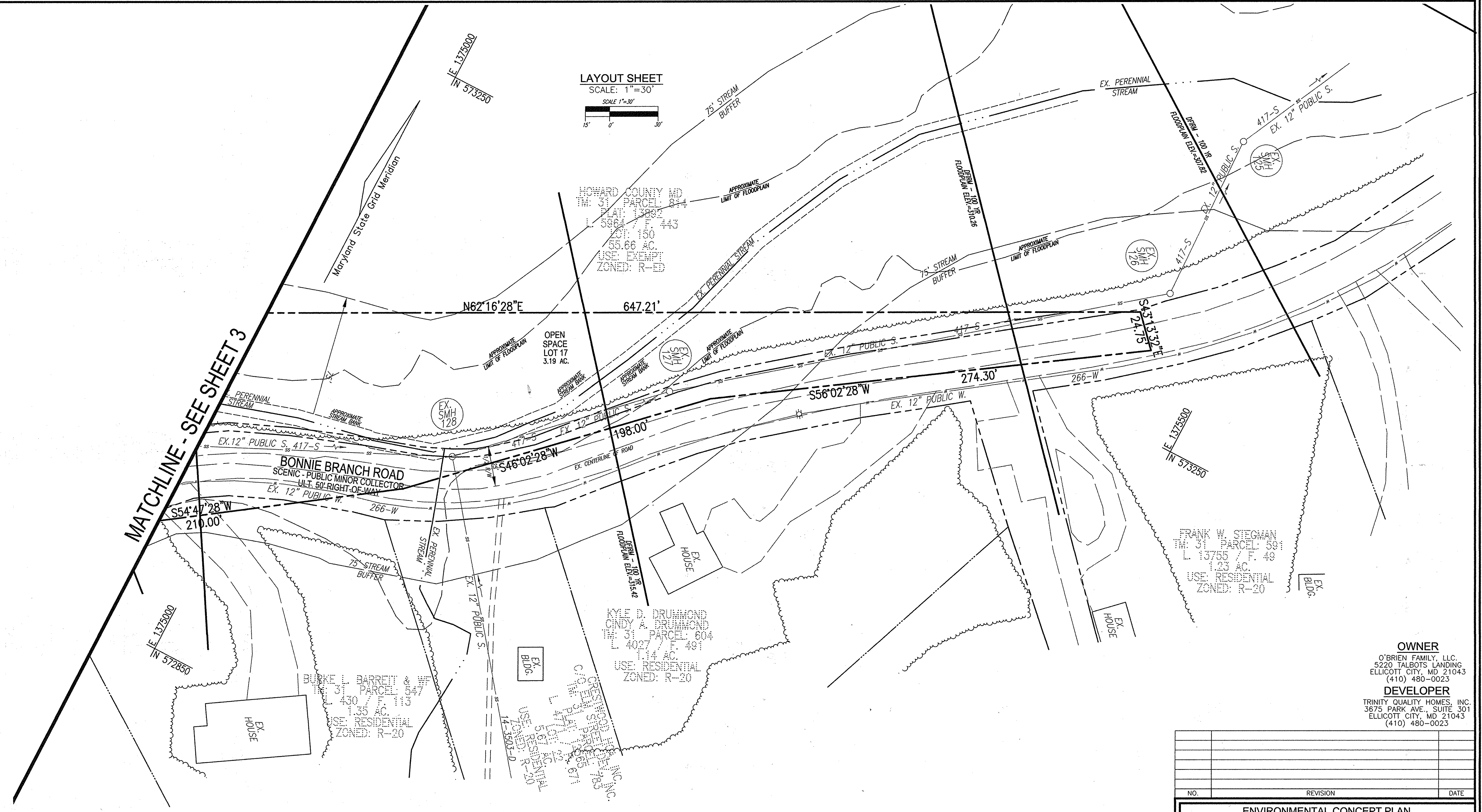
ROBERT H. VOGEL
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
 DESIGN BY: RHV
 DRAWN BY: RVE/KG
 CHECKED BY: RHV
 DATE: MARCH 2015
 SCALE: AS SHOWN
 W.O. NO.: 12-10

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. 16193, EXPIRATION DATE: 02-27-2016

3 SHEET OF 8

LAYOUT SHEET
SCALE: 1"=30'
SCALE 1"=30'



MATCHLINE - SEE SHEET 3

THERE ARE NO PROPOSED CHANGES TO THE PROPERTY ON THIS PORTION OF THE SITE

OWNER
O'BRIEN FAMILY, LLC.
5220 TALBOTS LANDING
ELLCOTT CITY, MD 21043
(410) 480-0023

DEVELOPER
TRINITY QUALITY HOMES, INC.
3875 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

NO.	REVISION	DATE

ENVIRONMENTAL CONCEPT PLAN
LAYOUT SHEET
HAMPTON HILLS
LOTS 1-14 AND OPEN SPACE LOTS 15-17
PARCEL 24 (L. 11433 / F. 112)
4786 BONNIE BRANCH ROAD
ELLCOTT CITY, MD 21043

TAX MAP: 31 GRID: 9
2ND ELECTION DISTRICT

PARCEL: 24
ZONED: R-20
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLCOTT CITY, MD 21043
TEL: 410.481.7666
FAX: 410.481.8991

PROFESSIONAL CERTIFICATE

DESIGN BY: RHV
DRAWN BY: RVE/KG
CHECKED BY: RHV
DATE: MARCH 2015
SCALE: AS SHOWN
W.O. NO.: 12-10

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EXPIRATION DATE: 09-27-2018

4 SHEET OF 8

NOTES:

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- REVIEW OF THIS PLAN FOR COMPLIANCE WITH ZONING AND SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SHALL OCCUR AT THE PERMIT STAGES; AND THEREFORE, THIS PLAN IS SUBJECT TO ADDITIONAL AND MORE DETAILED COMMENTS AS THE PLAN PROGRESSES THROUGH THE PERMIT PROCESS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 3.30.15
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 3-26-15
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



MAPPED SOILS TYPES - SAVAGE NE MAP # 19

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRO	PERCENT	K FACTOR	PERCENT	PERCENT
Co	COORUS AND HARBOR SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	NO	37	NO	NO
Gd	GLADSTONE-LEGORE COMPLEX, 8 TO 15 PERCENT SLOPES, STONY	B	NO	NO	28	NO	NO
Gd	GLADSTONE-LEGORE COMPLEX, 15 TO 25 PERCENT SLOPES, STONY	B	NO	NO	28	NO	NO
Gd	GLADSTONE-LEGORE COMPLEX, 8 TO 15 PERCENT SLOPES	B	NO	NO	28	NO	NO
Gm	GLENMILL SILT LOAM, 8 TO 15 PERCENT SLOPES	C	NO	NO	37	YES	YES
Gm	GLENMILL-COORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	NO	NO	37	YES	YES
Mf	MOUNT LUCAS SILT LOAM, 25 TO 35 PERCENT SLOPES, ROCKY	B	NO	NO	24	NO	NO
Mf	MOUNT LUCAS SILT LOAM, 8 TO 15 PERCENT SLOPES, STONY	C	NO	NO	32	NO	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

- LEGEND:**
- PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - ADJACENT PROPERTY LINE
 - EXISTING CURB AND GUTTER
 - EXISTING UTILITY POLE
 - EXISTING LIGHT POLE
 - EXISTING MAILBOX
 - EXISTING SIGN
 - EXISTING SANITARY MANHOLE
 - EXISTING SANITARY LINE
 - EXISTING CLEANOUT
 - EXISTING FIRE HYDRANT
 - EXISTING WATER LINE
 - EXISTING 10' CONTOUR
 - EXISTING 2' CONTOUR
 - SOILS
 - EXISTING TRENCH (FIELD LOCATED)
 - EXISTING TREES (FIELD LOCATED)
 - EXISTING FENCE
 - CENTERLINE OF EXISTING STREAM
 - PROPOSED STORMDRAIN
 - PROPOSED STORMDRAIN INLET
 - PROPOSED TRENCH
 - PROPOSED CURB
 - PROPOSED 10' CONTOUR
 - PROPOSED 2' CONTOUR
 - PROPOSED STABILIZED CONSTRUCTION ENTRANCE
 - PROPOSED SILT FENCE
 - PROPOSED SUPER SILT FENCE
 - PROPOSED LIMIT OF DISTURBANCE
 - PROP. 24' PRIVATE USE-IN-COMMON ACCESS EASEMENT
 - SLOPES MODERATE (15%-24.9%)
 - SLOPES STEEP (25%-100%)

MATCHLINE - SEE SHEET 6

GRADING PLAN
SCALE: 1" = 30'

NOTE:

- SILT FENCE IS TO BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- SILT FENCE SHALL BE CURLED UPHILL NO MORE THAN 35 FEET APART
- DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

NOTE:

EITHER PERMANENT OR TEMPORARY STABILIZATION IS TO BE APPLIED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR REGARDLESS OF DAYS/DATES IN THE STANDARD SEDIMENT CONTROL NOTES AND/OR SEEDING SPECIFICATIONS.

NOTES:

APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN (ECP) BY THE HOWARD SOIL CONSERVATION DISTRICT DOES NOT GRANT APPROVAL OF THE PROPOSED SEDIMENT CONTROL SCHEME.

1. THE FINAL PLAN SHALL INCLUDE A SEQUENCE OF CONSTRUCTION WHICH SHALL DETAIL SEDIMENT & EROSION CONTROLS AND PHASING
2. THE PROJECT SHALL ADDRESS ANY TEMPORARY STORMWATER MANAGEMENT REQUIREMENTS.
3. THE FINAL PLAN SUBMISSION SHALL PROVIDE A DRAINAGE AREA MAP SPECIFIC TO CHOSEN SEDIMENT CONTROLS
4. THE FINAL PLAN SUBMISSION SHALL PROVIDE COMPUTATIONS TO VERIFY VELOCITIES ALONG DIKES, SWALES AND AT DRAINS OUTLET LOCATIONS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 3-30-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 3-26-15
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

OWNER
O'BRIEN FAMILY, LLC
5220 TALBOTS LANDING
ELLICOTT CITY, MD 21043
(410) 480-0023

DEVELOPER
TRINITY QUALITY HOMES, INC.
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
(410) 480-0023

NO.	REVISION	DATE

ENVIRONMENTAL CONCEPT PLAN
SOILS MAP, GRADING, EROSION, AND
SEDIMENT CONTROL PLAN

HAMPTON HILLS
LOTS 1-14 AND OPEN SPACE LOTS 15-17

TAX MAP: 31 GRID: 9 PARCEL: 24
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELLICOTT CITY, MD 21043 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: RHV
DRAWN BY: RVE/KG
CHECKED BY: RHV
DATE: MARCH 2015
SCALE: AS SHOWN
W.O. NO.: 12-10

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. 16193, EXPIRATION DATE: 09-27-2016

5 SHEET OF 8

MATCHLINE - SEE SHEET 6

SEE SHEET 5
MATCHLINE

SEE SHEET 5
MATCHLINE

NOTES:

APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN (ECP) BY THE HOWARD SOIL CONSERVATION DISTRICT DOES NOT GRANT APPROVAL OF THE PROPOSED SEDIMENT CONTROL SCHEME.

1. THE FINAL PLAN SHALL INCLUDE A SEQUENCE OF CONSTRUCTION WHICH SHALL DETAIL SEDIMENT & EROSION CONTROLS AND PHASING.
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3. THE FINAL PLAN SUBMISSION SHALL PROVIDE A DRAINAGE AREA MAP SPECIFIC TO CHOSEN SEDIMENT CONTROLS.
4. THE FINAL PLAN SUBMISSION SHALL PROVIDE COMPUTATIONS TO VERIFY VELOCITIES ALONG DRES, SWALES AND AT DRES OUTLET LOCATIONS.

NOTE:

EITHER PERMANENT OR TEMPORARY STABILIZATION IS TO BE APPLIED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR REGARDLESS OF DAYS/DATES IN THE STANDARD SEDIMENT CONTROL NOTES AND/OR SEEDING SPECIFICATIONS.

NOTE:
- SILT FENCE IS TO BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- SILT FENCE SHALL BE CURLED UPHILL NO MORE THAN 35 FEET APART
- DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

MATCHLINE - SEE SHEET 7

THERE ARE NO PROPOSED CHANGES TO THE PROPERTY ON THIS PORTION OF THE SITE

OWNER
O'BRIEN FAMILY, LLC
5220 TALBOTS LANDING
ELlicott CITY, MD 21043
(410) 480-0023

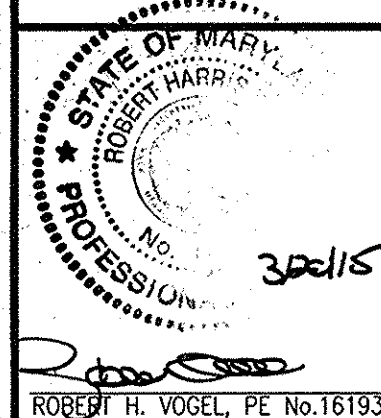
DEVELOPER
TRINITY QUALITY HOMES, INC.
3675 PARK AVE., SUITE 301
ELlicott CITY, MD 21043
(410) 480-0023

NO.	REVISION	DATE

ENVIRONMENTAL CONCEPT PLAN
SOILS MAP, GRADING, EROSION, AND
SEDIMENT CONTROL PLAN
HAMPTON HILLS
LOTS 1-14 AND OPEN SPACE LOTS 15-17
PARCEL 24 (L. 11433 / F. 112)
4780 BONNIE BRANCH ROAD
ELlicott CITY, MD 21043

TAX MAP: 31 GRID: 9 2ND ELECTION DISTRICT
PARCEL: 24
ZONE: R-20
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELlicott CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961



PROFESSIONAL CERTIFICATE
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. 16193, EXPIRATION DATE: 09-27-2018.

DESIGN BY: RHV
DRAWN BY: RVE/KG
CHECKED BY: RHV
DATE: MARCH 2015
SCALE: AS SHOWN
W.O. NO.: 12-10

6 SHEET OF 8

MAPPED SOILS TYPES - SAVAGE NE MAP # 19

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT SLOPE	K FACTOR	PERCENT ERODIBILITY	PERCENT ROCKY
Co	COODRUS AND HARBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	NO	37	NO	NO
GdC	GLADSTONE-LEIGORE COMPLEX, 8 TO 15 PERCENT SLOPES, STONY	B	NO	NO	28	NO	NO
GdD	GLADSTONE-LEIGORE COMPLEX, 15 TO 25 PERCENT SLOPES, STONY	B	NO	NO	28	NO	NO
GdC	GLADSTONE-LEIGORE COMPLEX, 8 TO 15 PERCENT SLOPES	B	NO	NO	28	NO	NO
GdC	GLENNVILLE SILT LOAM, 8 TO 15 PERCENT SLOPES	C	NO	NO	37	YES	YES
GdC	GLENNVILLE-COODRUS SILT LOAMS, 0 TO 9 PERCENT SLOPES	C	NO	NO	37	YES	YES
Mz	MANOR-BENNETTOWN SANDY LOAMS, 25 TO 45 PERCENT SLOPES, ROCKY	B	NO	NO	24	NO	YES
MzC	MOUNT LUCAS SILT LOAM, 8 TO 15 PERCENT SLOPES, STONY	C	NO	NO	32	NO	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY
NOTE:
HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

NOTES:

REFER TO SHEET 5 FOR LEGEND

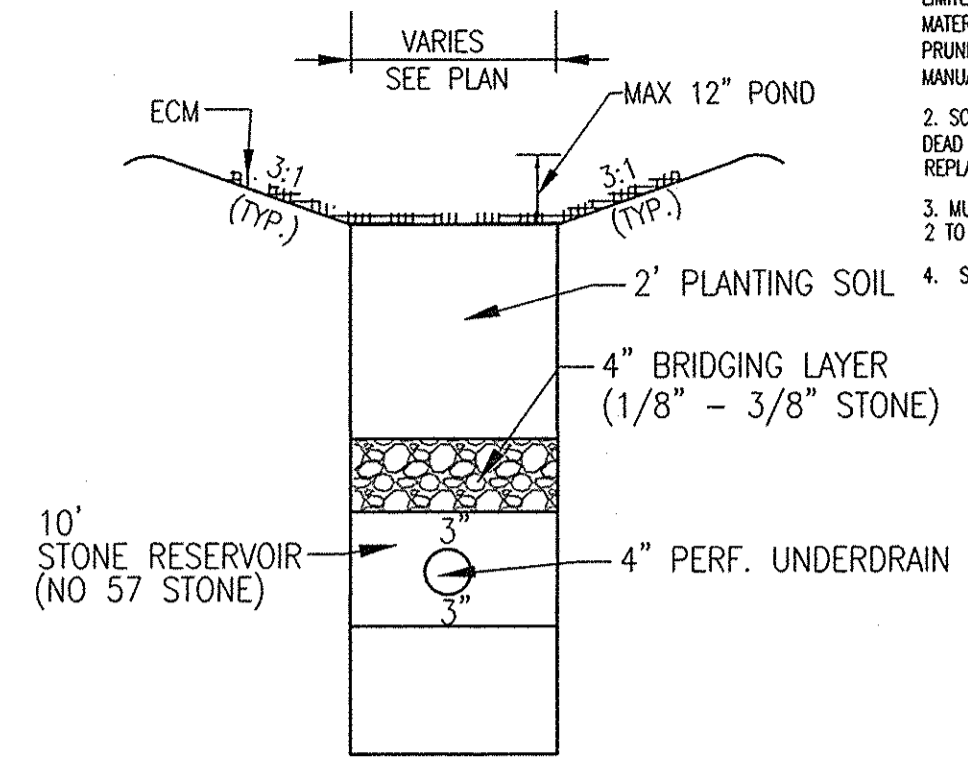
GRADING PLAN
SCALE: 1" = 30'
SCALE 1" = 30'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Oliver Plank 3-30-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION, DATE

Keisha Lewis 3-26-15
CHIEF, DIVISION OF LAND DEVELOPMENT, DATE

THERE ARE NO PROPOSED CHANGES TO THE PROPERTY ON THIS PORTION OF THE SITE



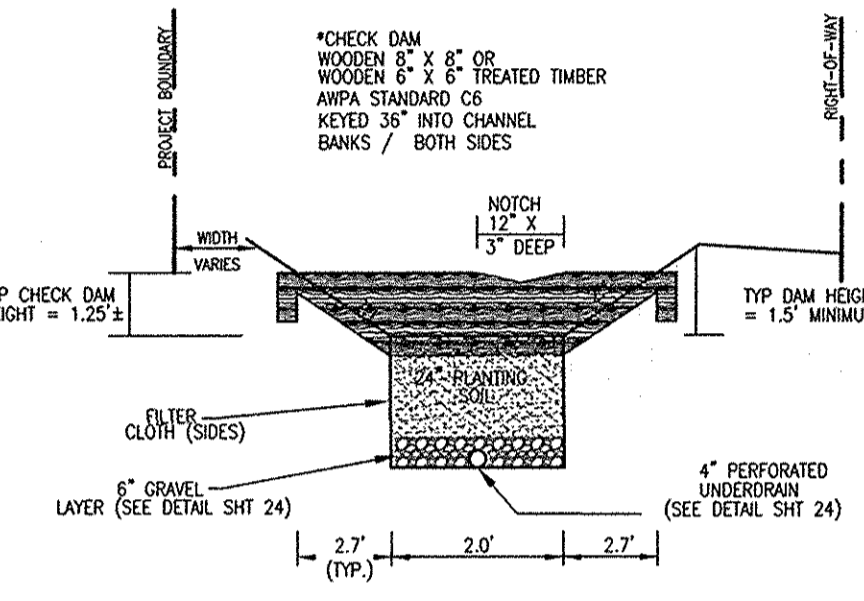
BIO-SWALE
TYPICAL CROSS SECTION
(NOT TO SCALE)

OPERATION AND MAINTENANCE SCHEDULE FOR (M-8) BIOSWALE AREAS

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. 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.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

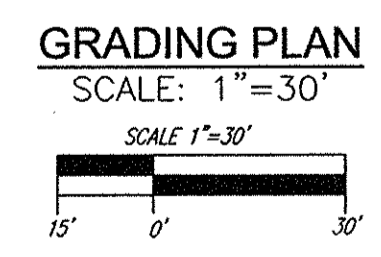
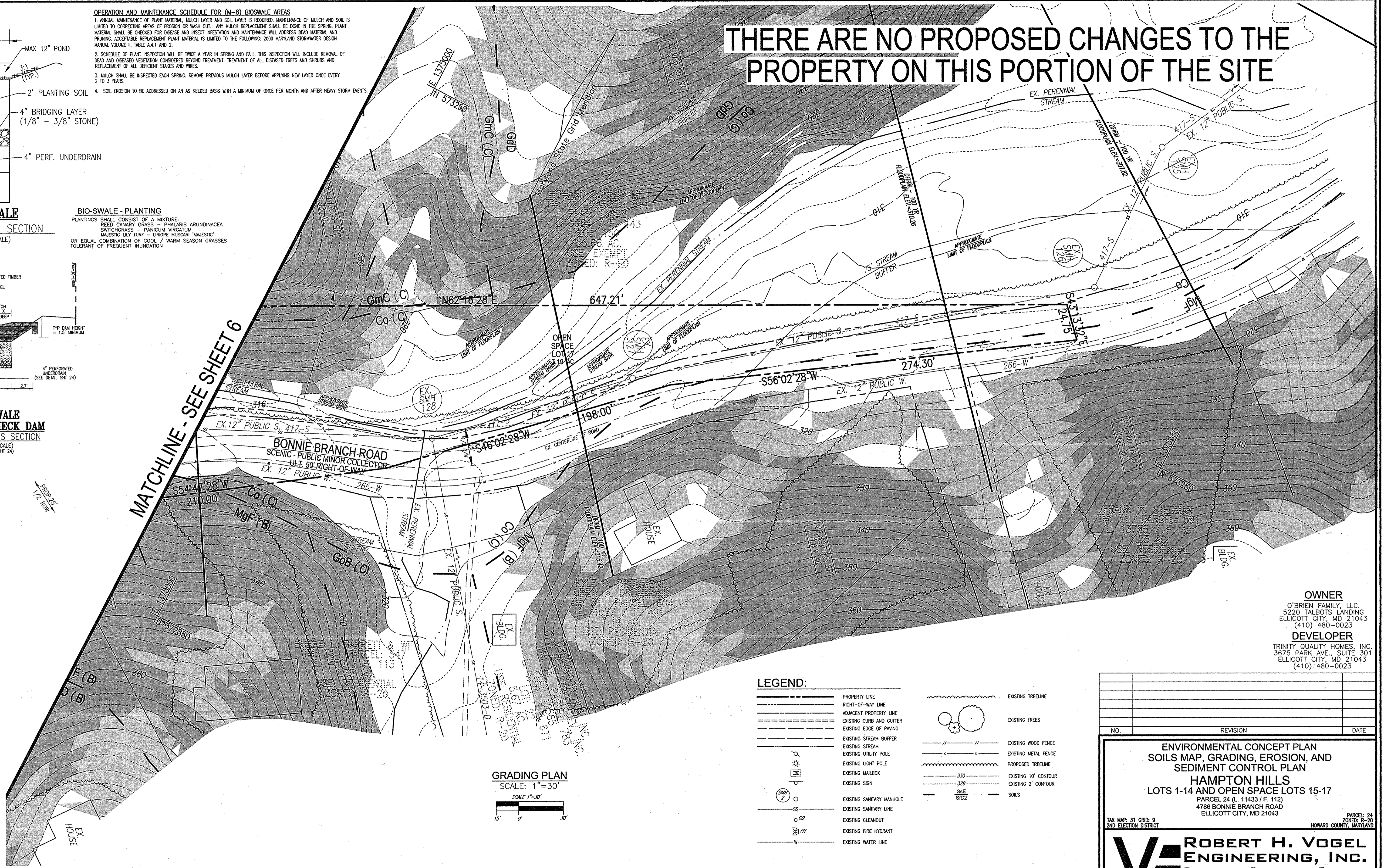
BIO-SWALE - PLANTING

PLANTINGS SHALL CONSIST OF A MIXTURE:
 REED CANARY GRASS - PHALARIS ARUNDINACEA
 SWITCHGRASS - PANICUM VIRGATUM
 MAJESTIC LAY TURF - LIRIOPE MUSCARI 'MAJESTIC'
 OR EQUAL COMBINATION OF COOL / WARM SEASON GRASSES TOLERANT OF FREQUENT INUNDATION



BIO-SWALE
**6\"/> TYPICAL CROSS SECTION
(NOT TO SCALE)
(SEE DETAIL SHT 24)**

MATCHLINE - SEE SHEET 6



LEGEND:

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- EXISTING EDGE OF PAVING
- EXISTING STREAM BUFFER
- EXISTING STREAM
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING TREELINE
- EXISTING TREES
- EXISTING WOOD FENCE
- EXISTING METAL FENCE
- PROPOSED TREELINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- SOILS

OWNER
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ELLCOTT CITY, MD 21043
(410) 480-0023

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Edrington
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 3-30-15

Kurt Schaefer
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 3-26-15

MAPPED SOILS TYPES - SAVAGE NE MAP # 10

SYMBOL NAME / DESCRIPTION	GROUP	HYDROIC	PERCENT SAND	K FACTOR	PERCENT SILT	PERCENT CLAY	PERCENT ORGANIC
Co	C	NO	YES	37	NO	YES	NO
CoC	C	NO	NO	28	NO	NO	NO
GdD	B	NO	NO	28	NO	YES	NO
GdC	B	NO	NO	29	NO	NO	NO
GmC	C	NO	NO	37	YES	YES	NO
GmB	C	NO	NO	37	YES	YES	NO
LmF	B	NO	NO	24	NO	YES	NO
MmC	C	NO	NO	36	NO	NO	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL CROSBY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

ENVIRONMENTAL CONCEPT PLAN
SOILS MAP, GRADING, EROSION, AND
SEDIMENT CONTROL PLAN
HAMPTON HILLS
LOTS 1-14 AND OPEN SPACE LOTS 15-17
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TAX MAP: 31 GRID: 9
2ND ELECTION DISTRICT

PARCEL: 24
ZONED: R-20
HOWARD COUNTY, MARYLAND

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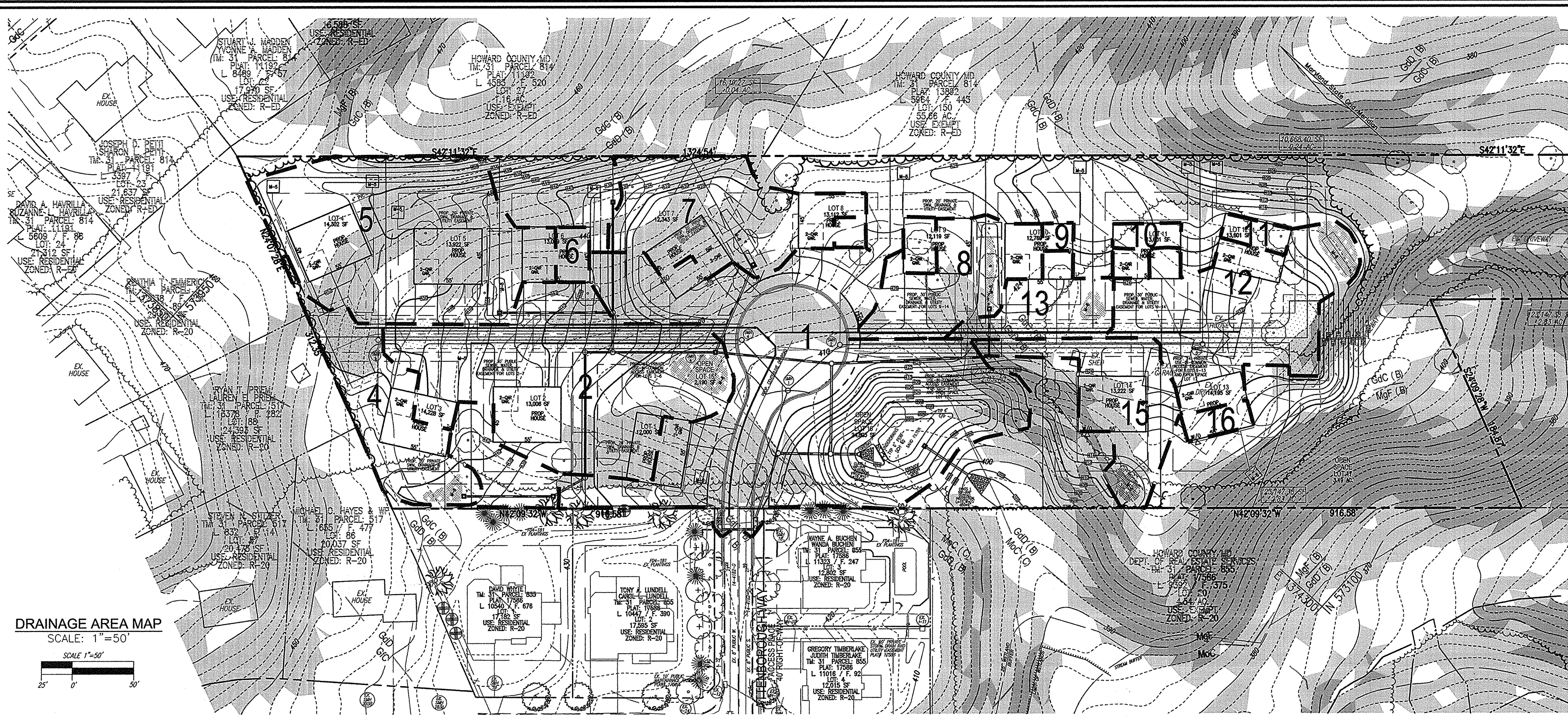
PROFESSIONAL CERTIFICATE

DESIGN BY: RHV
DRAWN BY: RVE/KG
CHECKED BY: RHV
DATE: MARCH 2015
SCALE: AS SHOWN
W.O. NO.: 12-10

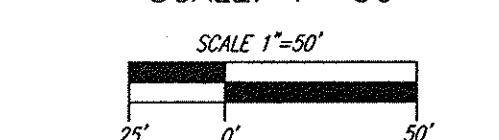
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7 SHEET OF 8

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DRAINAGE AREA MAP
SCALE: 1"=50'



APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BEDS

1. MATERIAL SPECIFICATIONS
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.

2. FILTERING MEDIA OR PLANTING SOIL
THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR BLENDED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH OR PROVIDE AN OBSTACLE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING OR MAINTENANCE OPERATIONS SHALL BE FREE OF BERBERIS GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.
THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
* SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION).
* ORGANIC CONTENT - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).
* CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
* PH RANGE - SHOULD BE BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE OR DECREASE PH.
THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

3. COMPACTION
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADERS, THE CONTRACTOR SHOULD USE WIDE TRACK OR WASH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYRE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.
COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHESL FLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACURE THE SOIL PROFILE THROUGHOUT THE 12 INCH COMPACTION ZONE. SUBSTRATE MATERIAL MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY POONED WATER BEFORE PREPARING (ROTOTILLING) BASE.
WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.
WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 16". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

4. PLANT MATERIAL
RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

5. PLANT INSTALLATION
COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SUBPARALLELS TO A UNIFORM THICKNESS OF 2" TO 3". SHREDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.
ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION. TREES SHALL BE GRADED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.
GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.
THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS, DEFOLIANTS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. UNDERDRAINS
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
* PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F758, TYPE PS 28, OR ASHMO-W-278) IN A GRAVEL LAYER.
* PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 7/4" (NO. 4 OR 44) GALVANIZED HARDWARE CLOTH OR EQUAL MATERIAL. SEE APPENDIX B.4.C.
* GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
* THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
* A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTERS.
* A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".
THIS MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

7. MISCELLANEOUS
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

OPERATION AND MAINTENANCE SCHEDULE FOR (M-6) MICROBIORETENTION AREAS

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. 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 HANDBOOK STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.

2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEFORE TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.

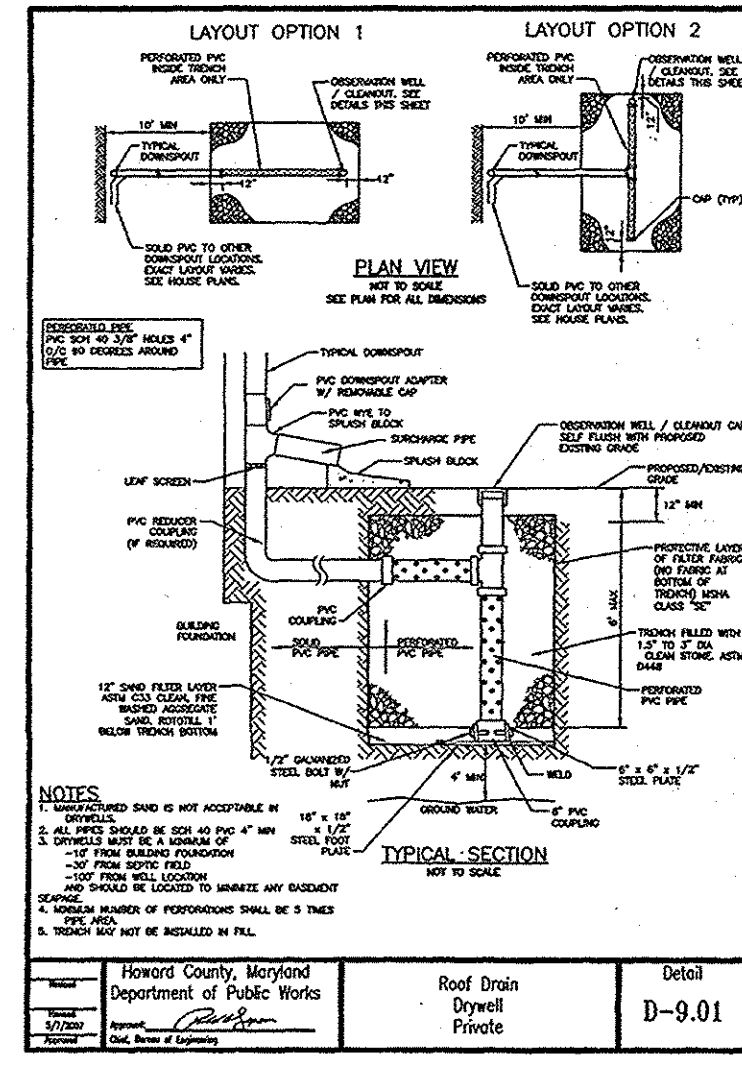
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.

4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRYWELL (M-5)

A. THE OWNER SHALL INSPECT & CLEAN ANNUALLY, INCLUDING PIPES, GUTTERS, DOWNSPOUTS AND FILTERS.

B. PONDING STANDING WATER OR ALGAL GROWTH ON THE TOP OF A DRYWELL MAY INDICATE FAILURE DUE TO SEDIMENTATION IN THE GRAVEL MEDIA. IF WATER PONDING FOR MORE THAN 48 HOURS AFTER A MAJOR STORM OR MORE THAN SIX INCHES OF SEDIMENT HAS ACCUMULATED, THE GRAVEL MEDIA SHOULD BE EXCAVATED AND REPLACED.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John P. ... 3-30-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

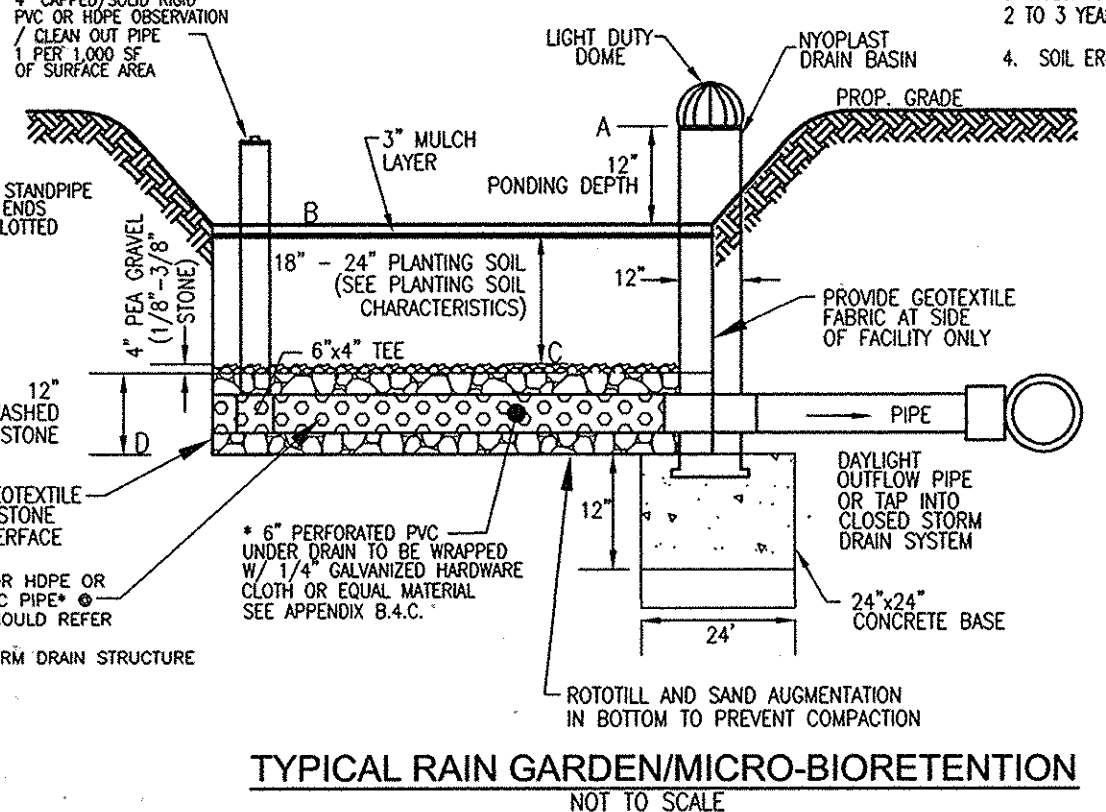
Kat ... 3-26-15
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

HAMPTON HILLS - ECP ESDv COMPUTATIONS

DA #	% IMPERV	Rv	DA (SF)	DA (AC)	MINIMUM VOLUME	MAXIMUM VOLUME	1.6" VOLUME PROVIDED*	VOLUME IMPERV (SF)	IMPERV (AC)	GREEN AREA	REMARKS	
AREA 1	27.52	0.2977	47623	1.09	1181	3072	1890	1650	13107	0.30	0.79	MICROSCALE - SAND FILTER 1650 1240 SF FILTER
LOT 1	100.00	0.9500	1237.5	0.03	98	255	157	165	1237.5	0.03	0.00	MICROSCALE - DRYWELL 165 11 10 5 DEEP TYPICAL
AREA 2	35.56	0.3701	27543	0.63	849	2208	1359	1435	9795	0.22	0.41	MICROSCALE MICRO-BIO RETENTION 1435 1077 SF MBR
AREA 4	37.95	0.3916	10250	0.24	334	870	535	535	3890	0.09	0.15	MICROSCALE MICRO-BIO RETENTION 535 400 SF MULCH
AREA 5	29.47	0.3153	25700	0.59	675	1756	1080	1080	7575	0.17	0.42	MICROSCALE MICRO-BIO RETENTION 630 472 SF MBR MICROSCALE - DRYWELL 450 10 10 5 DEEP
AREA 6	100.00	0.9500	1237.5	0.03	98	255	157	165	1237.5	0.03	0.00	MICROSCALE - DRYWELL 165 10.5 10.5 5 DEEP
AREA 7	25.65	0.2809	14035	0.32	328	854	526	530	3600	0.08	0.24	MICROSCALE BIOSWALE 530 402 SF MULCH
AREA 8	45.63	0.4607	8930	0.21	343	891	549	550	4075	0.09	0.11	MICROSCALE MICRO-BIO RETENTION 550 420 SF MBR
LOT 8	100.00	0.9500	1237.5	0.03	98	255	157	165	1237.5	0.03	0.00	MICROSCALE - DRYWELL 165 11 10 5 DEEP TYPICAL

AREA #	LOT #	% IMPERV	Rv	DA (SF)	DA (AC)	MINIMUM VOLUME	MAXIMUM VOLUME	1.6" VOLUME PROVIDED*	VOLUME IMPERV (SF)	IMPERV (AC)	GREEN AREA	REMARKS	
AREA 9	LOT 10	100.00	0.9500	618.8	0.01	49	127	78	79	618.75	0.01	0.00	MICROSCALE - DRYWELL 79 6 11 4 DEEP
AREA 10	LOT 11	100.00	0.9500	1237.5	0.03	98	255	157	165	1237.5	0.03	0.00	MICROSCALE - DRYWELL 165 11 10 5 DEEP
AREA 11	LOT 12	100.00	0.9500	1237.5	0.03	98	255	157	165	1237.5	0.03	0.00	MICROSCALE - DRYWELL 165 11 10 5 DEEP
AREA 12	LOTS 11, 12, 13 & UIC DRIVE	49.81	0.4983	18250	0.42	758	1970	1212	1220	9090	0.21	0.21	MICROSCALE MICRO-BIO RETENTION 1220 915 SF MBR
AREA 13	LOTS 10 & 11	42.90	0.4361	5630	0.13	205	532	327	460	2415	0.06	0.07	MICROSCALE MICRO-BIO RETENTION 460 345 SF MBR
AREA 15	LOT 14 & UIC	43.80	0.4442	9315	0.21	345	897	552	555	4080	0.09	0.12	MICROSCALE MICRO-BIO RETENTION 555 420 SF MBR
AREA 16	LOT 3	100.00	0.9500	1237.5	0.03	98	255	157	165	1237.5	0.03	0.00	MICROSCALE - DRYWELL 165 11 10 5 DEEP
PROJECT TOTALS		37.5	0.3871	175320	4.02	5656	14705	9049	9084	65671	1.51	2.52	

REMAINING DEVELOPED PORTION OF THE DEVELOPED AREA CONTAINS NO IMPERVIOUS AREAS TO BE TREATED



TYPICAL RAIN GARDEN/MICRO-BIORETENTION
NOT TO SCALE

NOTES
REFER TO SHEET 7 FOR BIO-SWALE DETAIL AND NOTES

OWNER
O'BRIEN FAMILY, LLC
5220 TALBOTS LANDING
ELLICOTT CITY, MD 21043
(410) 480-0023

DEVELOPER
TRINITY QUALITY HOMES, INC.
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
(410) 480-0023

ENVIRONMENTAL CONCEPT PLAN
SWM DRAINAGE AREA MAP
COMPUTATIONS, NOTES & DETAILS
HAMPTON HILLS
LOTS 1-14 AND OPEN SPACE LOTS 15-17
PARCEL 24 (L. 11433 / F. 112)
4786 BONNIE BRANCH ROAD
ELLICOTT CITY, MD 21043

TAX MAP: 31 GRID: 9
2ND ELECTION DISTRICT

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8991

PROFESSIONAL CERTIFICATE

DESIGN BY: RHV
DRAWN BY: RVE/KG
CHECKED BY: RHV
DATE: MARCH 2015
SCALE: AS SHOWN
W.O. NO.: 12-10

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. 16193 EXPIRES DATE: 09-27-2018

8 SHEET OF 8