

GENERAL NOTES

- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE UNLESS WAIVERS HAVE BEEN APPROVED.
- THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
 - MISS UTILITY 1-800-257-7777
 - VERIZON TELEPHONE COMPANY 1-410-954-6281
 - HOWARD COUNTY BUREAU OF UTILITIES 410-313-2366
 - AT&T CABLE LOCATION DIVISION 1-800-353-3553
 - B.G.&E. CO. CONTRACTOR SERVICES 410-850-4620
 - B.G.&E. CO. UNDERGROUND DAMAGE CONTROL 410-787-4620
 - STATE HIGHWAY ADMINISTRATION 410-523-5533
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- 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 START OF WORK.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THE PROJECT BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC. DATED APRIL 2013.
- 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. 34HB AND 34HC WERE USED FOR THIS PROJECT.
- THE SUBJECT PROPERTY IS ZONED RR-DEO IN ACCORDANCE WITH THE 2/2/04 COMPREHENSIVE ZONING PLAN AND THE COMP. LITE ZONING REGULATIONS EFFECTIVE ON 7/28/06.
- TOPOGRAPHY SHOWN HEREON IS OBTAINED FROM CURRENT HOWARD COUNTY GIS DATA.
- EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND AND SEWER EXTENSION PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION. 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. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- SOIL TYPES SHOWN HEREON ARE IN ACCORDANCE WITH THE WEB SOIL SURVEY, HOWARD COUNTY MARYLAND.
- THERE ARE EXISTING STRUCTURES LOCATED ON SITE.
- THE EXISTING HISTORIC HOUSE AND ITS ASSOCIATED OUTBUILDINGS AT #13032 HIGHLAND ROAD ARE LISTED ON THE HISTORIC SITES INVENTORY AS HO-20, HICKORY RIDGE AND HAVE AN MHT EASEMENT DATING TO 6/9/77. THIS PLAN CAME BEFORE THE HISTORIC DISTRICT COMMISSION ON JUNE 7, 2012 FOR ADVISORY COMMENTS. ALL EXISTING STRUCTURES ARE TO REMAIN.
- ACCORDING TO THE HOWARD COUNTY CEMETERY INVENTORY, PARCEL 117 CONTAINS A CEMETERY KNOWN AS #34-4 - ID # 73-GS. BASED UPON WP13-140 (SEE NOTE 48) PLANNING BOARD APPROVAL FOR THE CEMETERY IS NOT REQUIRED.
- THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS OR CEMETERIES LOCATED ON PARCEL 78 - LOT 29.
- THERE ARE NO FLOODPLAIN, WETLANDS, WETLAND BUFFERS, STREAMS, STREAM BUFFERS OR STEEP SLOPES WITHIN PARCEL 117.
- PARCEL 78 (LOT 29) PREVIOUSLY PLATTED FLOODPLAIN ON EXISTING LOT 29 - KOANDAH GARDENS ESTATES (PLAT # 15371) IS SHOWN HEREON. NO DISTURBANCE IS PROPOSED.
- NO STEEP SLOPES OVER 20,000 SF CONTIGUOUS ARE LOCATED ON SITE.
- A TRAFFIC STUDY HAS BEEN PREPARED BY THE TRAFFIC GROUP, MAY 2012.
- HIGHLAND ROAD IS NOT A SCENIC ROAD.
- HIGHLAND ROAD IS CLASSIFIED AS A MAJOR COLLECTOR. THE PROPOSED ACCESS POINTS ARE LIMITED TO EXISTING DRIVEWAY LOCATIONS. DRIVEWAYS SHALL BE IMPROVED AS DETAILED HEREIN.
- A NOISE STUDY IS NOT REQUIRED FOR THIS SUBDIVISION.
- STREET LIGHTS ARE NOT REQUIRED FOR THIS DEVELOPMENT.
- ALL DRIVEWAY ENTRIES SHALL UTILIZE STANDARD DETAIL NO. R-6-06.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - A) WIDTH - 12 FEET (16 FEET IF SERVING MORE THAN ONE RESIDENCE)
 - B) SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING
 - C) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE, AND MINIMUM 45 FOOT TURNING RADIUS
 - D) STRUCTURES (CULVERTS/BRIDGES) - MUST SUPPORT 25 GROSS TON LOADING (H25 LOADING)
 - E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD EVENTS WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
 - F) STRUCTURE CLEARANCES - MINIMUM 12 FEET
 - G) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE
- LOTS 1-3, BUILDABLE PRESERVATION PARCEL "A" AND THE CEMETERY #34-4, 73-GS ACCESS WILL UTILIZE A USE-IN-COMMON DRIVEWAY. THE USE-IN-COMMON MAINTENANCE AGREEMENT WILL BE RECORDED SIMULTANEOUSLY WITH THE PLAT.
- LOTS 4-8, BUILDABLE PRESERVATION PARCEL "A", NON-BUILDABLE PRESERVATION PARCEL "B" AND LOT 1 KOANDAH GARDENS ESTATES (PLAT # 6700) WILL UTILIZE A USE-IN-COMMON DRIVEWAY. THE USE-IN-COMMON MAINTENANCE AGREEMENT WILL BE RECORDED SIMULTANEOUSLY WITH THE PLAT.
- THIS PROPERTY IS NOT LOCATED WITHIN THE METROPOLITAN DISTRICT.
- WATER AND SEWER FOR THIS PROJECT WILL BE PRIVATE WELLS & SEPTIC SYSTEMS. PERCOLATION CERTIFICATION PLAN WAS APPROVED BY THE HEALTH COUNTY HEALTH DEPARTMENT 3/30/2012 (REVISED 3/11/2013).
- THE PROPOSED DWELLINGS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM(S), OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
- WETLANDS AND STREAMS SHOWN HEREON ARE BASED ON A FIELD INVESTIGATION PREPARED BY MCCARTHY & ASSOCIATES, INC. DATED FEBRUARY 2012 AND REVIEWED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) & THE CORPS OF ENGINEERS. THERE ARE NO PROPOSED DISTURBANCES TO THE WETLANDS OR ASSOCIATED BUFFERS.
- THE PROPOSED SUBDIVISION AND RELATED CONSTRUCTION WILL NOT AFFECT ENVIRONMENTAL FEATURES OR BUFFERS.
- FOREST STAND DELINEATION PLAN WAS PREPARED BY MCCARTHY & ASSOCIATES, INC. DATED MARCH 2012.
- NO SPECIMEN TREES ARE PROPOSED TO BE REMOVED AS PART OF THIS PROJECT PROPOSAL. THE SPECIMEN TREES LOCATED ALONG THE EXISTING DRIVEWAYS SHOULD NOT BE AFFECTED BY THE WIDENING OF THE DRIVEWAYS FOR THIS PROJECT.
- FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- TOTAL FOREST CONSERVATION OBLIGATION OF THIS PROJECT WILL BE FULFILLED BY ONSITE AFFORESTATION OF 1.96 AC. FINANCIAL SURETY IN THE AMOUNT OF \$ 42,689 (85,378 x 0.50) WILL BE POSTED AS PART OF DEPARTMENT OF PUBLIC WORKS DEVELOPER'S AGREEMENT.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF \$25,200 FOR THE REQUIRED 68 SHADE TREES AND 32 EVERGREEN TREES SHALL BE POSTED WITH THE DEVELOPERS AGREEMENTS FOR THIS PLAN.
- LANDSCAPING WILL BE INSTALLED PRIOR TO CONSTRUCTION OF THE HOUSES SO THAT IT HAS TIME TO MATURE AND GROW.
- IN ACCORDANCE WITH SECTION 16.124(E) STREET TREES ARE NOT REQUIRED ALONG HIGHLAND ROAD AS NO IMPROVEMENTS ARE PROPOSED. NO INTERNAL STREETS ARE PROPOSED; USE-IN-COMMON DRIVEWAY SHALL BE WIDENED AS REQUIRED / DETAILED HEREIN TO CURRENT HOWARD COUNTY SPECIFICATIONS.
- TRAFFIC CONTROL DEVICES:
 - A. THE R1-1(STOP) SIGNS AND STREET NAME SIGN (SNS) ASSEMBLIES FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETE.
 - B. THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-5752) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
 - C. ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - D. ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED QUICK PUNCH, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED QUICK PUNCH, SQUARE TUBE SLEEVE (12 GAUGE - 3" LONG). A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON THE TOP OF EACH POST.
 - E. ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL.
- TWO PRIVATE RANGES OF ADDRESS SIGNS SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-343-2430 FOR DETAILS AND COST ESTIMATES.
- TRASH AND RECYCLING COLLECTION WILL BE AT HIGHLAND ROAD WITHIN 5' OF THE EDGE OF THE COUNTY ROADWAY.
- STORM WATER MANAGEMENT TO BE PROVIDED FOR THIS DEVELOPMENT BY ENVIRONMENTAL SITE DESIGN UTILIZING: ROOFTOP & NON-ROOFTOP DISCONNECTIONS, RAIN BARRELS, PERMEABLE SURFACES. THE PERMEABLE SURFACES FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED. IF REQUIRED, GEOTECHNICAL INVESTIGATIONS SHALL COMPLETED.
- THIS PLAN IS SUBJECT TO A DESIGN MANUAL WAIVER OF DESIGN MANUAL VOLUME III, SECTION 2.6.A. TO ALLOW MORE THAN 6 USERS TO SHARE A SINGLE USE-IN-COMMON DRIVEWAY. ON JANUARY 3, 2013, THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION APPROVED THE REQUEST BASED UPON JUSTIFICATION PROVIDED IN THE WAIVER REQUEST LETTER AND THE FACT THAT THE GRANTING OF SAID REQUEST WILL NOT IMPACT THE COUNTY'S EXISTING AND FUTURE INFRA-STRUCTURE SYSTEMS.
- THIS PLAN IS SUBJECT TO A DESIGN MANUAL WAIVER OF DESIGN MANUAL VOLUME III, SECTION 2.6.B. TO ALLOW A REDUCED WIDTH (MINIMUM 12 FEET) FOR THE PORTION OF A USE-IN-COMMON DRIVEWAY THAT TRAVELS THROUGH THE TREES. ON OCTOBER 11, 2013, THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION APPROVED THE REQUEST BASED UPON JUSTIFICATION PROVIDED IN THE WAIVER REQUEST LETTER AND GRANTING OF THE WAIVER WILL NOT IMPACT THE COUNTY'S EXISTING OR FUTURE INFRA-STRUCTURE SYSTEMS.
- THE PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON MARCH 5, 2012.
- THE ENVIRONMENTAL CONCEPT PLAN (ECP12-048) WAS APPROVED ON JUNE 7, 2012.
- THE PRELIMINARY EQUIVALENT SKETCH PLAN (SP13-005) WAS APPROVED ON APRIL 10, 2013.
- HOUSING ALLOCATIONS WERE RECEIVED ON JUNE 12, 2013.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Edmister 3-19-14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION J.P. DATE

Kate Schenck 3-25-14
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

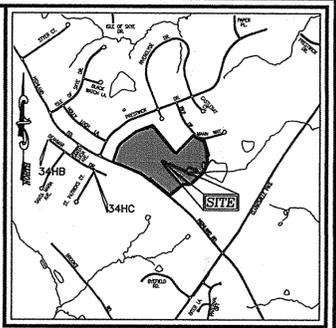
SUPPLEMENTAL INFORMATION PLAN

MCDANIEL PROPERTY

LOTS 1-8, BUILDABLE PRESERVATION PARCEL "A" AND NON BUILDABLE PARCEL "B"

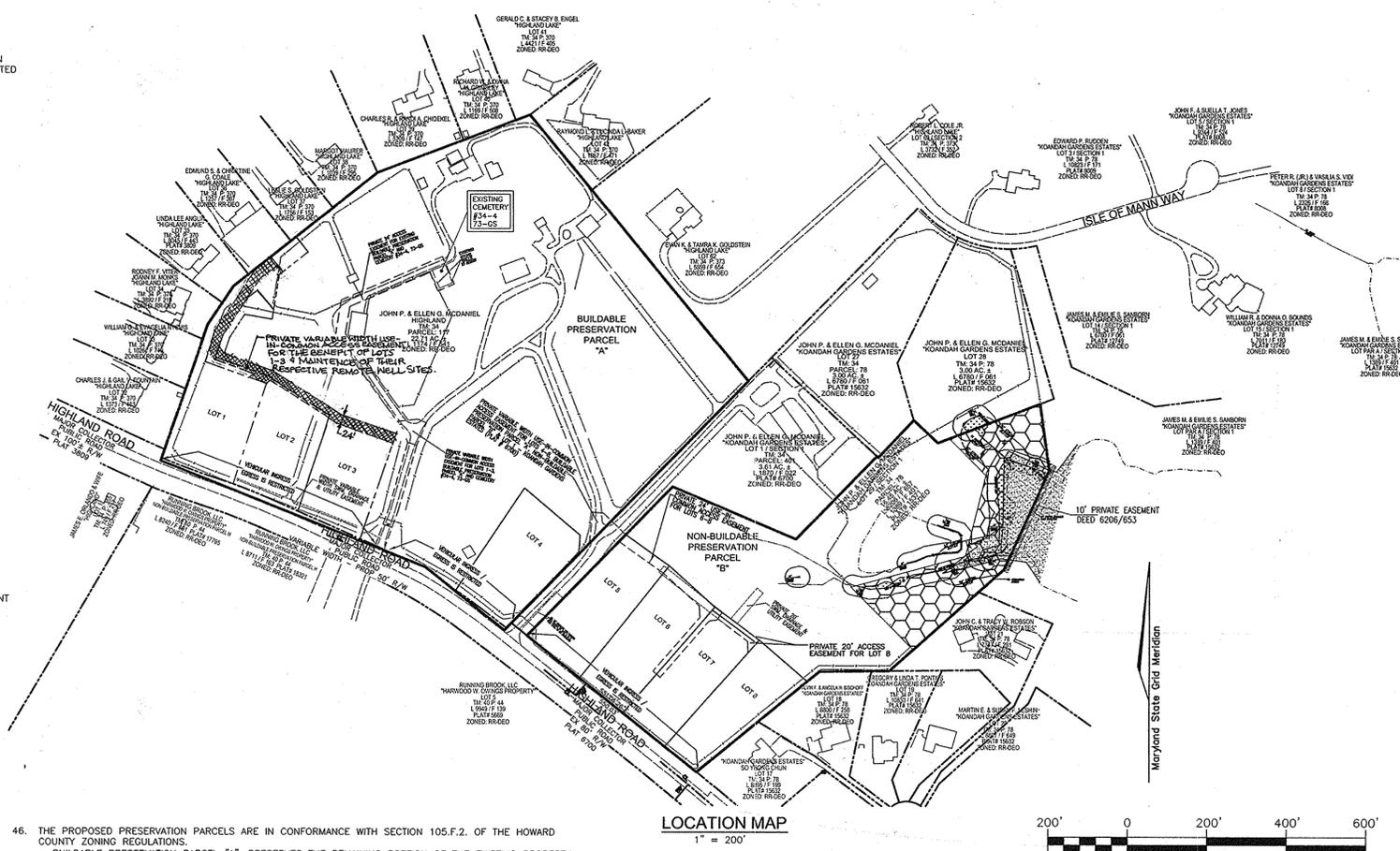
HOWARD COUNTY, MARYLAND

SHEET INDEX	
DESCRIPTION	SHEET NO.
COVER SHEET	1 OF 14
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LAYOUT SHEET	4 OF 14
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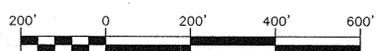


VICINITY MAP
 SCALE: 1" = 2000'
 ADC MAP COORDINATE: 31, 85

BENCHMARKS
 HOWARD COUNTY BENCHMARK 34HC (CONC. MON.)
 N 553449.1287 E 1320244.3459 ELEV. 549.850
 HOWARD COUNTY BENCHMARK 34HS (CONC. MON.)
 N 552735.3138 E 1321330.2220 ELEV. 553.078



LOCATION MAP
 1" = 200'



SITE ANALYSIS DATA

- A. PRESENT ZONING DESIGNATION: RR-DEO
 - B. GROSS AREA OF PROPERTY TRACT: 38.27 AC.
 - AREA OF PLAN SUBMISSION: 38.27 AC.
 - AREA OF WETLANDS AND BUFFERS: 1.68 AC.
 - AREA OF STREAMS AND BUFFERS: 2.03 AC.
 - AREA OF FLOODPLAIN: 0.55 AC.
 - AREA OF FOREST: 0.00 AC.
 - AREA OF STEEP SLOPES (15% & GREATER): 0.00 AC.
 - ERODIBLE SOILS: N/A
 - C. NET AREA OF PROJECT TRACT: 37.72 (38.27 - 0.55 AC. = 37.72)
 - D. AREA OF PROPOSED LOTS OR PARCELS: 9.65 AC± (LOTS 1-8), 19.92 AC± PRESERVATION PARCEL 19.92 AC± BUILDABLE PRESERVATION PARCEL 8.55 AC± NON-BUILDABLE PRESERVATION PARCEL
 - PROPOSED USES FOR SITE AND STRUCTURES: RESIDENTIAL SINGLE FAMILY DETACHED HOMES
 - E. AREA OF PROPOSED LOTS: 0.06 AC±
 - F. TOTAL NUMBER OF UNITS ALLOWED: 9 (38.27 GROSS AREA / 4.25 = 9.00)
 - G. TOTAL NUMBER OF UNITS PROPOSED: 9 (LOTS 1-8, BUILD. PRES. PARCEL "A")
 - H. PROPOSED WATER SYSTEM: PRIVATE WELL
 - I. PROPOSED SEWER SYSTEM: PRIVATE SEPTIC
 - H. DPZ FILE REFERENCES: F 95-121, F 02-057, ECP 12-048, WP 13-034, SP 13-005, WP 13-140 (SEE TITLEBLOCK FOR FULL LIST)
 - I. OPEN SPACE REQUIRED: N/A
 - J. LIMIT OF DISTURBED AREA: 6.5 AC.
 - K. GREEN OPEN AREA: 31.77 AC.
 - L. PROPOSED IMPERVIOUS AREA: 1.2 AC +/- (SEE SHT 14)
- * WETLAND AND BUFFER ACREAGE IS PART OF STREAM & BUFFER ACREAGE

OWNER / DEVELOPER

JOHN P. MCDANIEL
 13032 HIGHLAND ROAD
 HIGHLAND, MD 20777
 ATTN: MR. JOE RUTER
 443-367-0422

NO.	REVISION	DATE
1	REVISED LOTS 1-3, BUILDINGS, DRIVEWAYS, PRIVATE USE IN COMMON ACCESS EASEMENT AND WELL LOCATIONS	12-16-14

SWM PRACTICE CHART

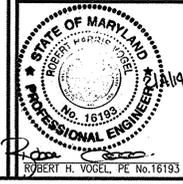
ESD PRACTICES BY LOT - AREA 1	
LOT #	ESD PRACTICE
#1	DISCONNECT ROOFTOP RUNOFF (N-1), PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)
#2	DISCONNECT ROOFTOP RUNOFF (N-1), PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)
#3	DISCONNECT ROOFTOP RUNOFF (N-1), PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)
ESD PRACTICES BY LOT - AREA 2	
#4	DISCONNECT ROOFTOP RUNOFF (N-1), PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)
#5	PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)
#6	PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)
#7	PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)
#8	DISCONNECT ROOFTOP RUNOFF (N-1), PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)

SUPPLEMENTAL INFORMATION PLAN

COVER SHEET
MCDANIEL PROPERTY
LOTS 1-8, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PARCEL "B"
 A SUBDIVISION OF THE MCDANIEL PROPERTY (P. 117) AND A RESUBDIVISION OF LOT 29 - KOANDAH GARDENS ESTATES (PLAT 15371)

TAX MAP 34 BLOCK 22 & TAX MAP 40 BLOCK 4 ZONED: RR-DEO 5TH ELECTION DISTRICT
 SP13-005, F 95-121, F 02-057, F 02-004, P 01-003, F 07-200, F 08-078, F 09-009, F 09-121, F 07-148, F 02-057, ECP 12-048, WP 13-034, SP 13-005, WP 13-140
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET TEL: 410.461.7666
 ELICOTT CITY, MD 21043 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: 02-27-2014

DESIGN BY: RHV / EDS
 DRAWN BY: EDS/RVE
 CHECKED BY: RHV
 DATE: FEBRUARY 2014
 SCALE: AS SHOWN
 W.O. NO.: 08-43

1 SHEET OF 14

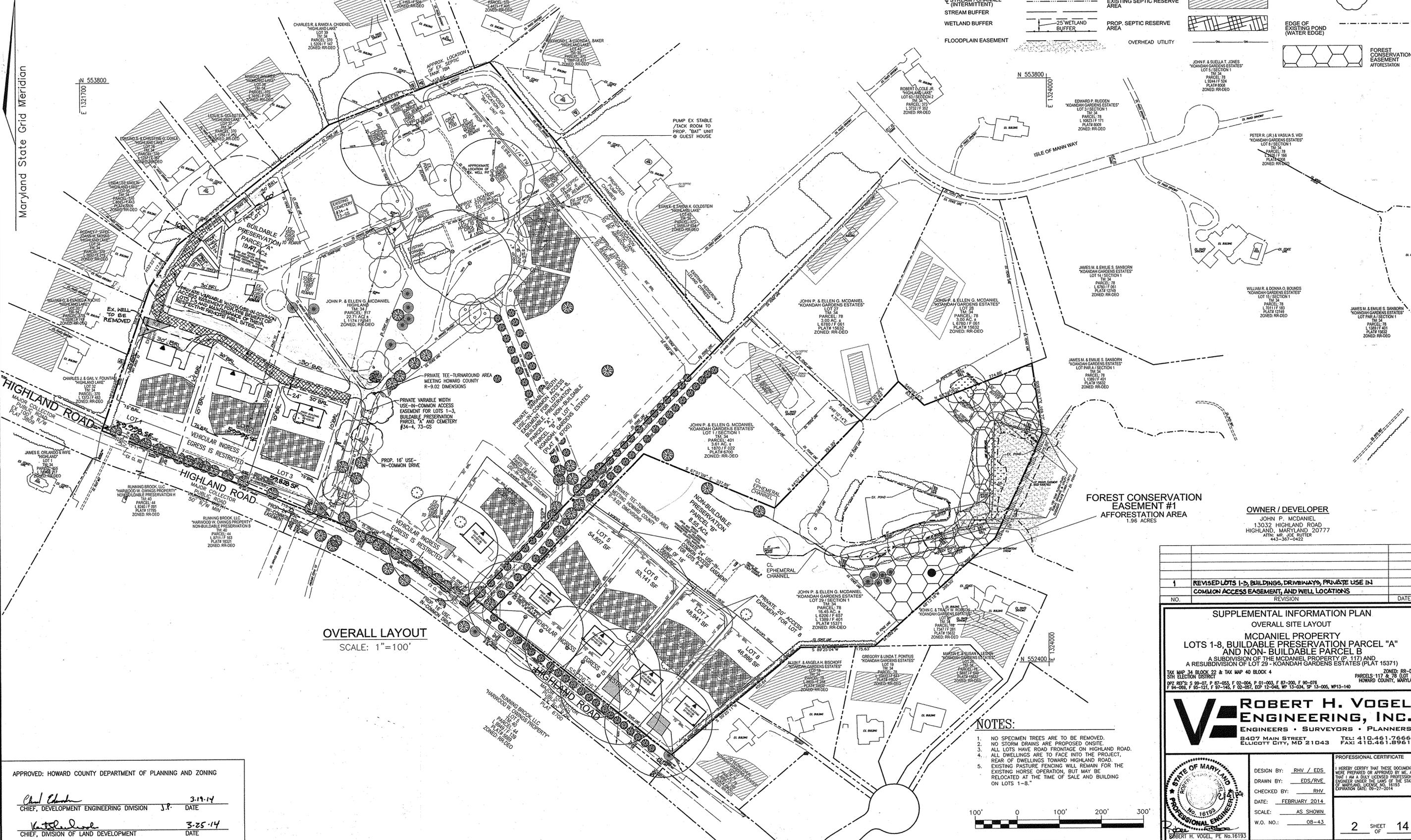
MAPPED SOILS TYPES					
SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	K-FACTOR	PERM. PORE CAPACITY
G8A	GLAUCONITE LOAM, 0 TO 3 PERCENT SLOPES	B	NO	0.20	YES
G8B	GLAUCONITE LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.20	YES
G8C	GLAUCONITE-SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	0.37	NO
W	WATER				

TAKEN FROM: USDA, SCS-WE8 SOIL SURVEY, HOWARD COUNTY
 MAJOR COMPONENT OF G8B, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC

THESE AREAS DESIGNATE A MINIMUM 10,000 SQ FT PRIVATE SEWAGE EASEMENT REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL BE NULL AND VOID UPON CONNECTION TO A PUBLIC SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A MODIFIED SEWAGE EASEMENT SHALL NOT BE NECESSARY.

LEGEND

EXISTING CONTOUR	382 380	EXISTING WELL	EX WELL	EXISTING VEGETATION TO REMAIN UNLESS NOTED OTHERWISE (APPROXIMATE LOCATION)	
EXISTING TREELINE		PROPERTY LINE		SPECIMEN TREE	
SOIL BOUNDARY	G8A G8B	PROP. WELL AREA		EDGE OF EXISTING POND (WATER EDGE)	
NON-TIDAL WETLAND		PROP. WELL		FOREST CONSERVATION EASEMENT AFFORESTATION	
Q-STREAM / CHANNEL (INTERMITTENT)		EXISTING SEPTIC RESERVE AREA			
STREAM BUFFER		PROP. SEPTIC RESERVE AREA			
WETLAND BUFFER	25' WETLAND BUFFER				
FLOODPLAIN EASEMENT		OVERHEAD UTILITY			



OVERALL LAYOUT
 SCALE: 1"=100'

FOREST CONSERVATION EASEMENT #1
 AFFORESTATION AREA
 1.96 ACRES

OWNER / DEVELOPER
 JOHN P. MCDANIEL
 13032 HIGHLAND ROAD
 HIGHLAND, MARYLAND 20777
 ATTN: MR. JOE RUTTER
 443-367-0422

NO.	REVISION	DATE
1	REVISED LOTS 1-3, BUILDINGS, DRIVEWAYS, PRIVATE USE IN COMMON ACCESS EASEMENT, AND WELL LOCATIONS	

SUPPLEMENTAL INFORMATION PLAN
 OVERALL SITE LAYOUT
 MCDANIEL PROPERTY
 LOTS 1-8, BUILDABLE PRESERVATION PARCEL "A"
 AND NON-BUILDABLE PARCEL B
 A SUBDIVISION OF THE MCDANIEL PROPERTY (P. 117) AND
 A RESUBDIVISION OF LOT 29 - KOANDAH GARDENS ESTATES (PLAT 15371)
 TAX MAP 34 BLOCK 22 & TAX MAP 40 BLOCK 4
 5TH ELECTION DISTRICT
 PARCELS 117 & 78 LOT 29
 HOWARD COUNTY, MARYLAND
 04-093, F 85-121, F 87-145, F 02-057, ECP 12-046, WP 13-004, SP 13-005, WP13-140

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8966

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: 09-27-2014

DESIGN BY: RHY / EDS
 DRAWN BY: EDS/RVE
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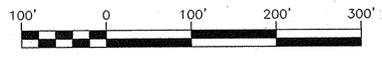
2 SHEET OF 14

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Chubb
 CHIEF, DEVELOPMENT ENGINEERING DIVISION J.P. DATE 3-19-14

V. J. ...
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE 3-25-14

- NOTES:
- NO SPECIMEN TREES ARE TO BE REMOVED.
 - NO STORM DRAINS ARE PROPOSED ONSITE.
 - ALL LOTS HAVE ROAD FRONTAGE ON HIGHLAND ROAD.
 - ALL DWELLINGS ARE TO FACE INTO THE PROJECT, REAR OF DWELLINGS TOWARD HIGHLAND ROAD.
 - EXISTING PASTURE FENCING WILL REMAIN FOR THE EXISTING HORSE OPERATION, BUT MAY BE RELOCATED AT THE TIME OF SALE AND BUILDING ON LOTS 1-8.



LEGEND:

- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING TREELINE
- EXISTING METAL FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- PROPOSED SEPTIC RESERVE AREA
- PROPOSED WELL AREA
- EXISTING SEPTIC RESERVE AREA
- EXISTING SPECIMEN TREE
- TYPICAL (N-1) NON-STRUCTURAL PRACTICE DISCONNECTION OF ROOFTOP RUNOFF
- EXISTING VEGETATION TO REMAIN UNLESS NOTED OTHERWISE (APPROXIMATE LOCATION)
- OVERHEAD UTILITY

THESE AREAS DESIGNATE A MINIMUM 10,000 SQ FT PRIVATE SEWAGE EASEMENT REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL BE NULL AND VOID UPON CONNECTION TO A PUBLIC SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A MODIFIED SEWAGE EASEMENT SHALL NOT BE NECESSARY.

NOTES:

1. NO SPECIMEN TREES ARE TO BE REMOVED.
2. NO STORM DRAINS ARE PROPOSED ON-SITE.
3. ALL LOTS HAVE ROAD FRONTAGE ON HIGHLAND ROAD.
4. ALL DWELLINGS ARE TO FACE INTO THE PROJECT. REAR OF DWELLINGS TOWARD HIGHLAND ROAD.
5. EXISTING PASTURE FENCING WILL REMAIN FOR THE EXISTING HORSE OPERATION, BUT MAY BE RELOCATED AT THE TIME OF SALE AND BUILDING ON LOTS 1-8.

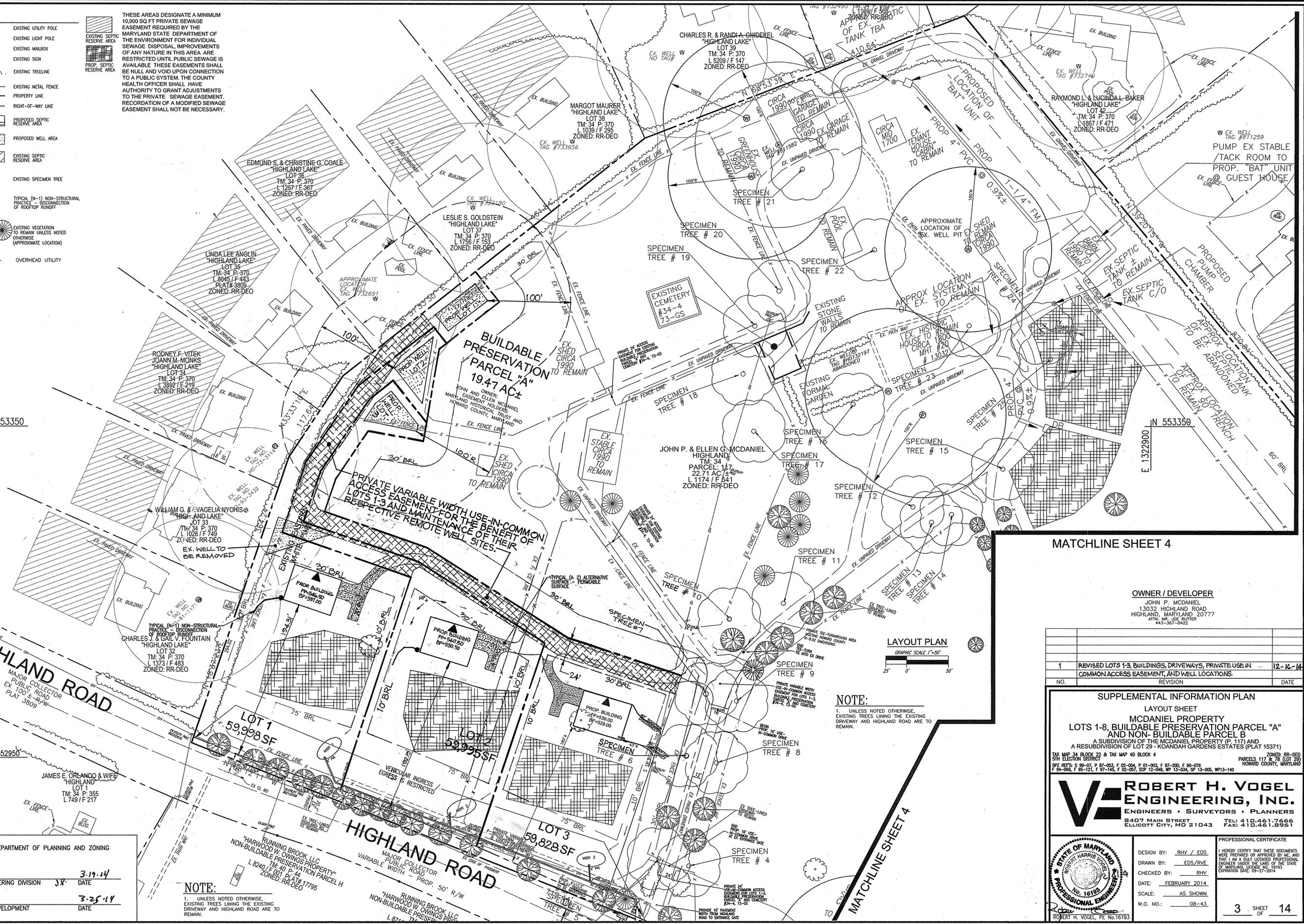
N 553350
E 1321500
Maryland State Grid Meridian

HIGHLAND ROAD
MAJOR COLLECTOR PUBLIC ROAD
EX 100' E-R/W
PLAT 3809

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Elmer 3-19-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION J.R. DATE

Robert H. Vogel 3-25-14
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



LAYOUT PLAN
GRAPHIC SCALE 1"=50'

NOTE:
1. UNLESS NOTED OTHERWISE, EXISTING TREES LINING THE EXISTING DRIVEWAY AND HIGHLAND ROAD ARE TO REMAIN.

MATCHLINE SHEET 4

OWNER / DEVELOPER
JOHN P. MCDANIEL
13032 HIGHLAND ROAD
HIGHLAND, MARYLAND 20777
ATTN: MR. JOE RUTTER
443-367-0422

NO.	REVISION	DATE
1	REVISED LOTS 1-3, BUILDINGS, DRIVEWAYS, PRIVATE USE IN COMMON ACCESS EASEMENT, AND WELL LOCATIONS.	12-16-14

SUPPLEMENTAL INFORMATION PLAN
LAYOUT SHEET
MCDANIEL PROPERTY
LOTS 1-8, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PARCEL B
A SUBDIVISION OF THE MCDANIEL PROPERTY (P. 117) AND A RESUBDIVISION OF LOT 29 - KOANDAH GARDENS ESTATES (PLAT 15371)
TAX MAP 34, BLOCK 22 & TAX MAP 40 BLOCK 4 PARCELS 117 & 78 (LOT 29)
OPZ REF'S: S 89-07, P 87-053, F 02-004, P 01-003, F 87-200, F 90-078
F 94-066, F 95-121, F 97-143, F 02-267, EOP 12-048, WP 13-034, SP 13-005, WP13-140
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

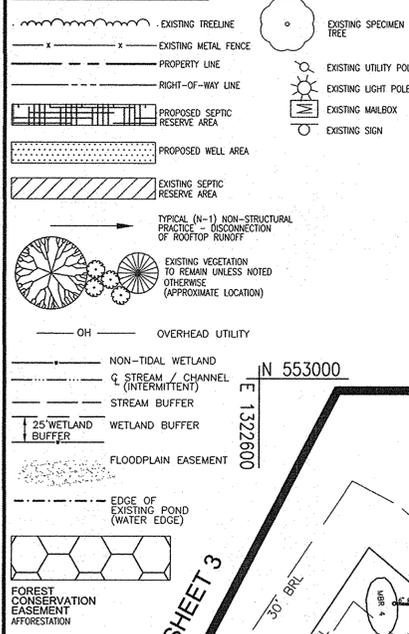
PROFESSIONAL CERTIFICATE

DESIGN BY: RHV / EDS
DRAWN BY: EDS/RV
CHECKED BY: RHV
DATE: FEBRUARY 2014
SCALE: AS SHOWN
W.O. NO.: 08-43

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: 09-27-2014

3 SHEET OF 14

LEGEND:



THESE AREAS DESIGNATE A MINIMUM 10,000 SQ FT PRIVATE SEWAGE EASEMENT REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL BE NULL AND VOID UPON CONNECTION TO A PUBLIC SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A MODIFIED SEWAGE EASEMENT SHALL NOT BE NECESSARY.

MATCHLINE SHEET 3

BUILDABLE PRESERVATION PARCEL "A"
19.92 AC±

JOHN P. & ELLEN G. MCDANIEL
"KOANDAH GARDENS ESTATES"
LOT 27
TM: 34
PARCEL: 78
3.00 AC ±
L 6780 / F 061
PLAT# 15632
ZONED: RR-DEO

JOHN P. & ELLEN G. MCDANIEL
"KOANDAH GARDENS ESTATES"
LOT 28
TM: 34 P: 78
3.00 AC ±
L 6780 / F 061
PLAT# 15632
ZONED: RR-DEO

JAMES M. & EMILIE S. SANBORN
"KOANDAH GARDENS ESTATES"
LOT PAR A / SECTION 1
TM: 34 P: 78
L 1389 / F 401
PLAT# 15632
ZONED: RR-DEO

JOHN P. & ELLEN G. MCDANIEL
"KOANDAH GARDENS ESTATES"
LOT 1 / SECTION 1
TM: 34
PARCEL: 401
3.61 AC ±
L 1870 / F 022
PLAT# 6700
ZONED: RR-DEO

NON-BUILDABLE PRESERVATION PARCEL "B"
8.55 AC±

JOHN P. & ELLEN G. MCDANIEL
"KOANDAH GARDENS ESTATES"
LOT 29 / SECTION 1
TM: 34
PARCEL: 78
16.45 AC ±
L 6206 / F 657
L 1389 / F 401
PLAT# 15371
ZONED: RR-DEO

JOHN C. & TRACY W. ROBSON
"KOANDAH GARDENS ESTATES"
LOT 21
TM: 34 P: 78
L 7347 / F 281
PLAT# 15632
ZONED: RR-DEO

OWNER / DEVELOPER
JOHN P. MCDANIEL
13032 HIGHLAND ROAD
HIGHLAND, MARYLAND 20777
ATTN: MS. JOE RUTER
443-367-0422

NOTES:

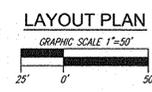
- NO SPECIMEN TREES ARE TO BE REMOVED.
- NO STORM DRAINS ARE PROPOSED ON-SITE.
- ALL LOTS HAVE ROAD FRONTAGE ON HIGHLAND ROAD.
- ALL DWELLINGS ARE TO FACE INTO THE PROJECT. REAR OF DWELLINGS TOWARD HIGHLAND ROAD.
- EXISTING PASTURE FENCING WILL REMAIN FOR THE EXISTING HORSE OPERATION, BUT MAY BE RELOCATED AT THE TIME OF SALE AND BUILDING ON LOTS 1-8.

NOTE:

1. UNLESS NOTED OTHERWISE, EXISTING TREES LINING THE EXISTING DRIVEWAY AND HIGHLAND ROAD ARE TO REMAIN.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

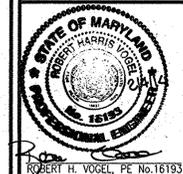
[Signature] 3-19-14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
 [Signature] 3-25-14
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE



NO.	REVISION	DATE

SUPPLEMENTAL INFORMATION PLAN
LAYOUT SHEET
MCDANIEL PROPERTY
LOTS 1-8, BUILDABLE PRESERVATION PARCEL "A"
AND NON-BUILDABLE PARCEL B
A SUBDIVISION OF THE MCDANIEL PROPERTY (P. 117) AND
A RESUBDIVISION OF LOT 29 - KOANDAH GARDENS ESTATES (PLAT 15371)
TAX MAP 34 BLOCK 22 & TAX MAP 40 BLOCK 4 PARCELS 117 & 78 (LOT 29)
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
092 REF'S: S 99-07, P 87-053, F 02-004, P 01-003, F 87-200, F 90-078
F 94-068, F 95-121, F 97-140, F 02-057, E22-12-046, W13-034, SP 13-005, W13-140

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



DESIGN BY: RHY / EDS
DRAWN BY: EDS/RVE
CHECKED BY: RHY
DATE: FEBRUARY 2014
SCALE: AS SHOWN
W.O. NO.: 08-43

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: 08-27-2014

4 SHEET OF 14

LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING TREELINE
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- SILT FENCE
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SEPTIC RESERVE AREA
- PROPOSED WELL AREA
- EXISTING SEPTIC RESERVE AREA
- EXISTING SPECIMEN TREE

MAPPED SOILS TYPES

SYMBOL NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT SILT	K-FACTOR	PERCENT SAND	PERCENT CLAY
GaA GLAUCOSE LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
GaB GLAUCOSE LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO
GaC GLENNVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	PARTIALLY
W WATER						

NOTE:
1. THE STANDARD SEDIMENT CONTROL PLAN SHALL NOT BE PERMITTED FOR THE CONSTRUCTION OF THE PROPOSED HOUSES FOR THIS PROJECT.

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.

BY THE DEVELOPER:
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

John P. McDaniel 2/4/14
SIGNATURE OF DEVELOPER DATE

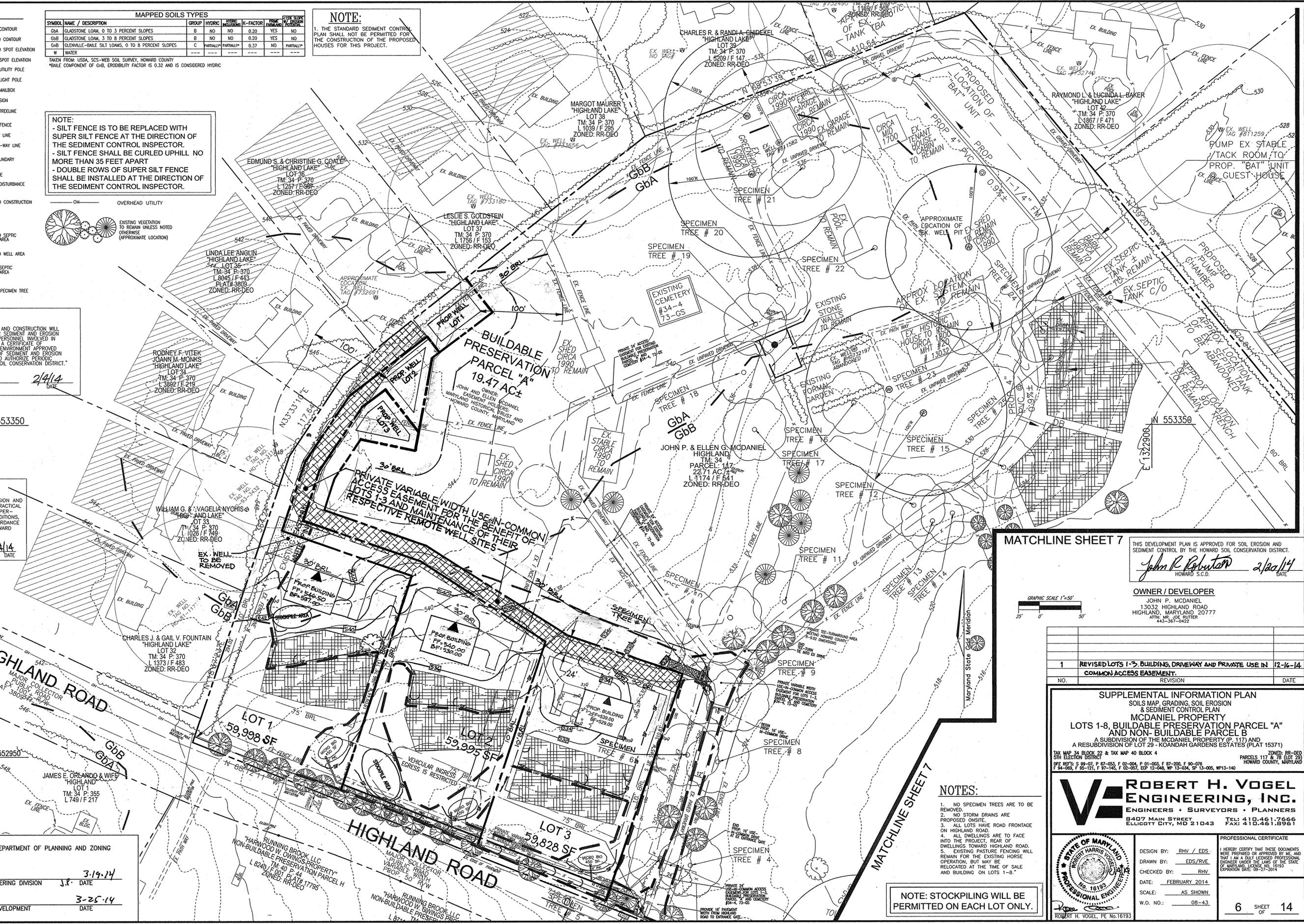
BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert H. Vogel 2/4/14
SIGNATURE OF ENGINEER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Paul Edwards 3-19-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION J.P. DATE

Robert H. Vogel 3-25-14
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

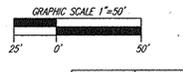


MATCHLINE SHEET 7

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Robertson 2/20/14
HOWARD S.C.D. DATE

OWNER / DEVELOPER
JOHN P. MCDANIEL
13032 HIGHLAND ROAD
HIGHLAND, MARYLAND 20777
ATHL. MGR. JOE BUTLER
443-367-0422



NO.	REVISION	DATE
1	REVISED LOTS 1-3, BUILDING, DRIVEWAY AND PRIVATE USE IN COMMON ACCESS EASEMENT.	12-16-14

SUPPLEMENTAL INFORMATION PLAN
SOILS MAP, GRADING, SOIL EROSION & SEDIMENT CONTROL PLAN
MCDANIEL PROPERTY
LOTS 1-8, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PARCEL B
A SUBDIVISION OF THE MCDANIEL PROPERTY (P. 117) AND A RESUBDIVISION OF LOT 29 - KOANDAH GARDENS ESTATES (PLAT 15371)

TAX MAP 34 BLOCK 29 & TAX MAP 40 BLOCK 4 PARCELS 117 & 78 (LOT 29) HOWARD COUNTY, MARYLAND
092' REF'S: S 89-07, P 87-053, P 01-003, P 87-200, P 90-076
P 94-069, P 95-121, P 97-143, P 02-057, EOP 12-046, WP 13-034, SP 13-005, WP13-140

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELICOTT CITY, MD 21043 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: 09-29-2014

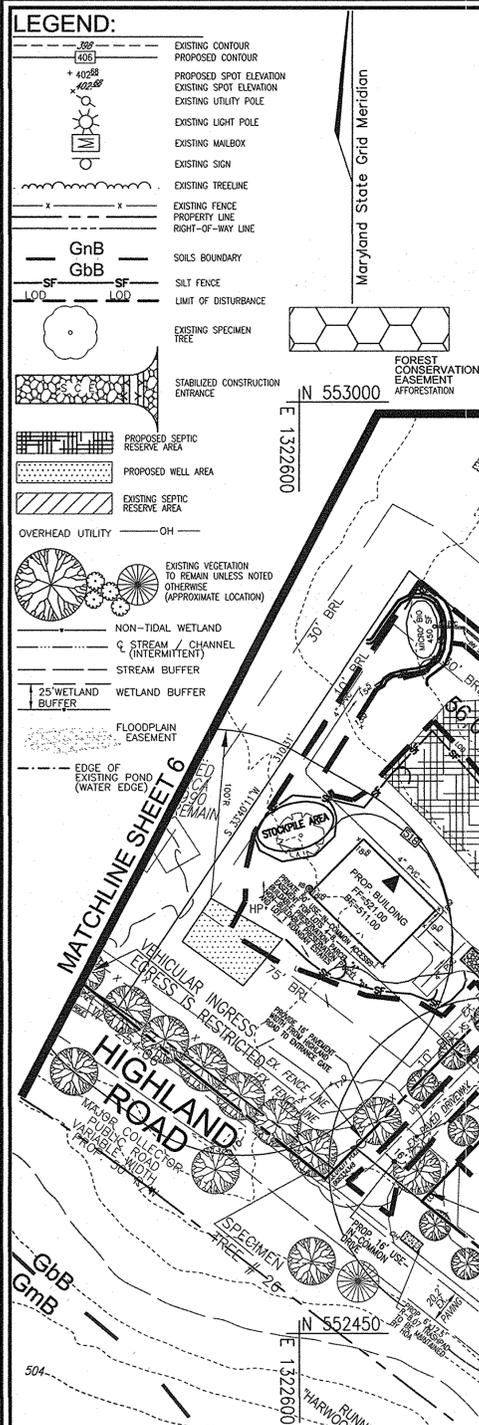
DESIGN BY: RHV / EDS
DRAWN BY: EDS/RVE
CHECKED BY: RHV
DATE: FEBRUARY 2014
SCALE: AS SHOWN
W.O. NO.: 08-43

6 SHEET OF 14

NOTES:

- NO SPECIMEN TREES ARE TO BE REMOVED.
- NO STORM DRAINS ARE PROPOSED ON-SITE.
- ALL LOTS HAVE ROAD FRONTAGE ON HIGHLAND ROAD.
- ALL DWELLINGS ARE TO FACE INTO THE PROJECT. REAR OF DWELLINGS TOWARD HIGHLAND ROAD.
- EXISTING PASTURE FENCING WILL REMAIN FOR THE EXISTING HORSE OPERATION, BUT MAY BE RELOCATED AT THE TIME OF SALE AND BUILDING ON LOTS 1-8.

NOTE: STOCKPILING WILL BE PERMITTED ON EACH LOT ONLY.



LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING TREELINE
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- SILT FENCE
- LIMIT OF DISTURBANCE
- EXISTING SPECIMEN TREE
- STABILIZED CONSTRUCTION ENTRANCE
- FOREST CONSERVATION EASEMENT AFFORESTATION
- PROPOSED SEPTIC RESERVE AREA
- PROPOSED WELL AREA
- EXISTING SEPTIC RESERVE AREA
- OVERHEAD UTILITY
- EXISTING VEGETATION TO REMAIN UNLESS NOTED OTHERWISE (APPROXIMATE LOCATION)
- NON-TIDAL WETLAND
- STREAM CHANNEL (INTERMITTENT)
- STREAM BUFFER
- 25' WETLAND BUFFER
- FLOODPLAIN EASEMENT
- EDGE OF EXISTING POND (WATER EDGE)

NOTE:

1. THE STANDARD SEDIMENT CONTROL PLAN SHALL NOT BE PERMITTED FOR THE CONSTRUCTION OF THE PROPOSED HOUSES FOR THIS PROJECT.

MAPPED SOILS TYPES

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT	K-FACTOR	PERM	STY	STY
GbA	GLADSTONE LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES	NO	NO
GbB	GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES	NO	NO
GbC	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	PARTIALLY	PARTIALLY
W	WATER							

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY
 *BAILE COMPONENT OF GbB, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC

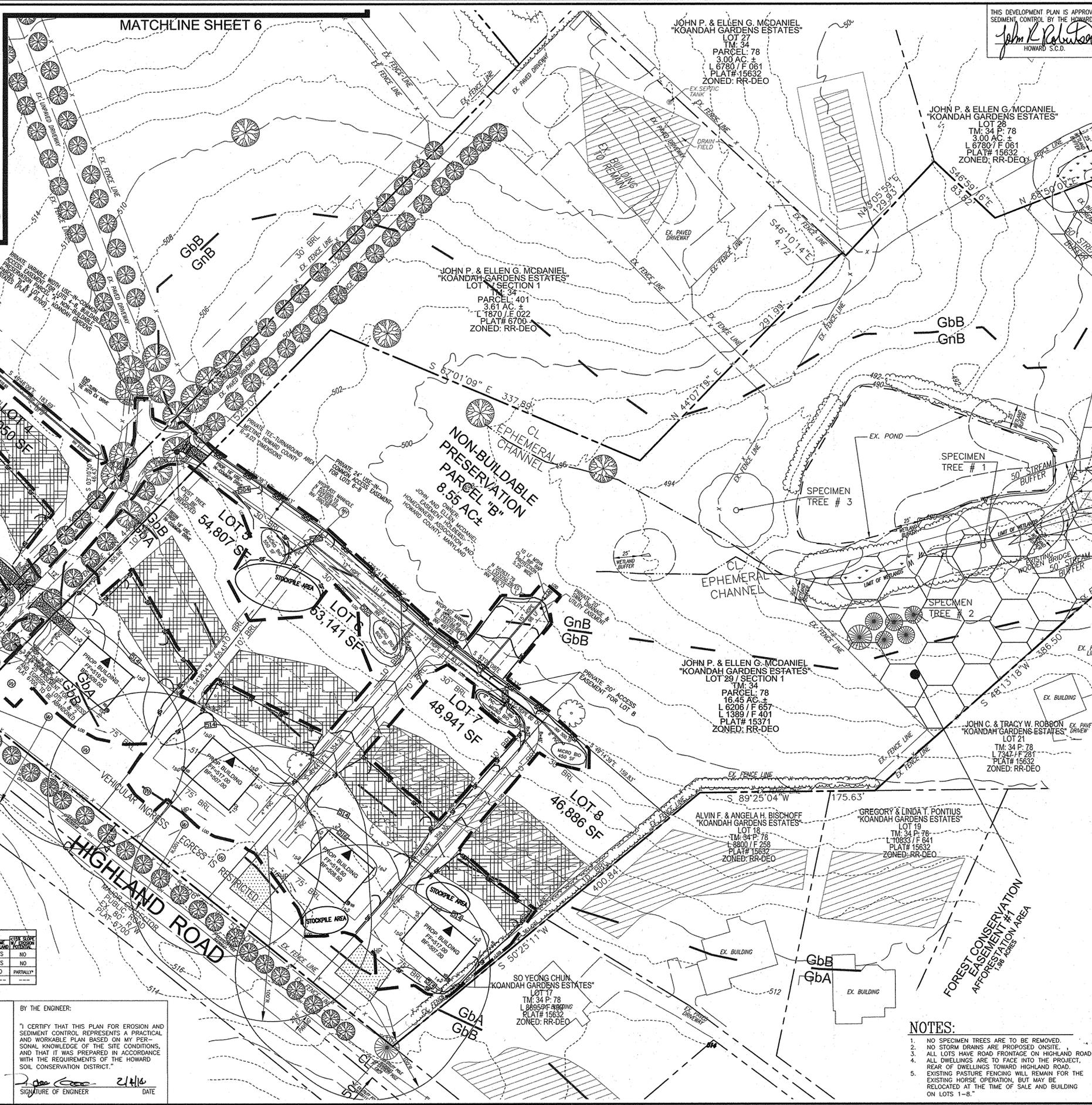
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

Signature: *Chad Elmer* DATE: 3-19-14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Signature: *John P. McDaniel* DATE: 3-25-14
 CHIEF, DIVISION OF LAND DEVELOPMENT



THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

Signature: *John P. McDaniel* DATE: 2/24/14
 HOWARD COUNTY S.C.D.

BY THE DEVELOPER:

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION OF THIS PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

Signature: *John P. McDaniel* DATE: 2/24/14
 SIGNATURE OF DEVELOPER

OWNER / DEVELOPER

JOHN P. MCDANIEL
 13032 HIGHLAND ROAD
 HIGHLAND, MARYLAND 20777
 ATTN: MR. JOE BUTLER
 443-367-0422

REVISION TABLE

NO.	REVISION	DATE

SUPPLEMENTAL INFORMATION PLAN
 SOILS MAP, GRADING, SOIL EROSION & SEDIMENT CONTROL PLAN
 MCDANIEL PROPERTY
 LOTS 1-8, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PARCEL "B"
 A SUBDIVISION OF THE MCDANIEL PROPERTY (P. 117) AND A RESUBDIVISION OF LOT 29 - KOANDAH GARDENS ESTATES (PLAT 15371)

TAX MAP 34 BLOCK 22 & TAX MAP 40 BLOCK 4
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 ELLICOTT CITY, MD 21043
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PROFESSIONAL CERTIFICATE

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DESIGN BY: RHY / EDS
 DRAWN BY: EDS/RVE
 CHECKED BY: RHY
 DATE: FEBRUARY 2014
 SCALE: AS SHOWN
 W.O. NO.: 08-43

7 SHEET OF 14

ROBERT H. VOGEL, PE No. 16193

MAPPED SOILS TYPES						
SYMBOL	NAME / DESCRIPTION	GROUP	HYDRO	PERCENT SAND	K-FACTOR	PERCENT CLAY
GMA	GLADSTONE LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES
GBB	GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES
GBS	GLENNVILLE-SHALE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO
W	WATER					

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY
 *BALE COMPONENT OF GbB, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRO

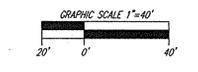
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LEGEND

- EXISTING CONTOUR
- EXISTING TREELINE
- SOIL BOUNDARY
- EXISTING WELL
- PROPERTY LINE
- PROP. WELL AREA
- PROP. WELL
- EXISTING SEPTIC RESERVE AREA
- PROP. SEPTIC RESERVE AREA
- SPOT ELEVATION
- SPECIMEN TREE
- EXISTING VEGETATION TO REMAIN UNLESS NOTED OTHERWISE (APPROXIMATE LOCATION)
- BG & E GREEN ZONE
- BG & E YELLOW ZONE
- OVERHEAD UTILITY
- PROPOSED SHADE TREE TYP.
- PROPOSED EVERGREEN TREE TYP.

NOTE
 1. UNLESS NOTED OTHERWISE, EXISTING TREES LINING THE EXISTING DRIVEWAY ARE TO REMAIN.

DEVELOPER/BUILDER'S CERTIFICATE
 I/WE CERTIFY THAT THE LANDSCAPE SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.04 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
 Signature: John P. McDaniel 2/14/14
 Date: 2/14/14



OWNER / DEVELOPER
 JOHN P. MCDANIEL
 13032 HIGHLAND ROAD
 HIGHLAND, MARYLAND 20777
 ATTN: MR. JOE RUTTER
 443-367-0422

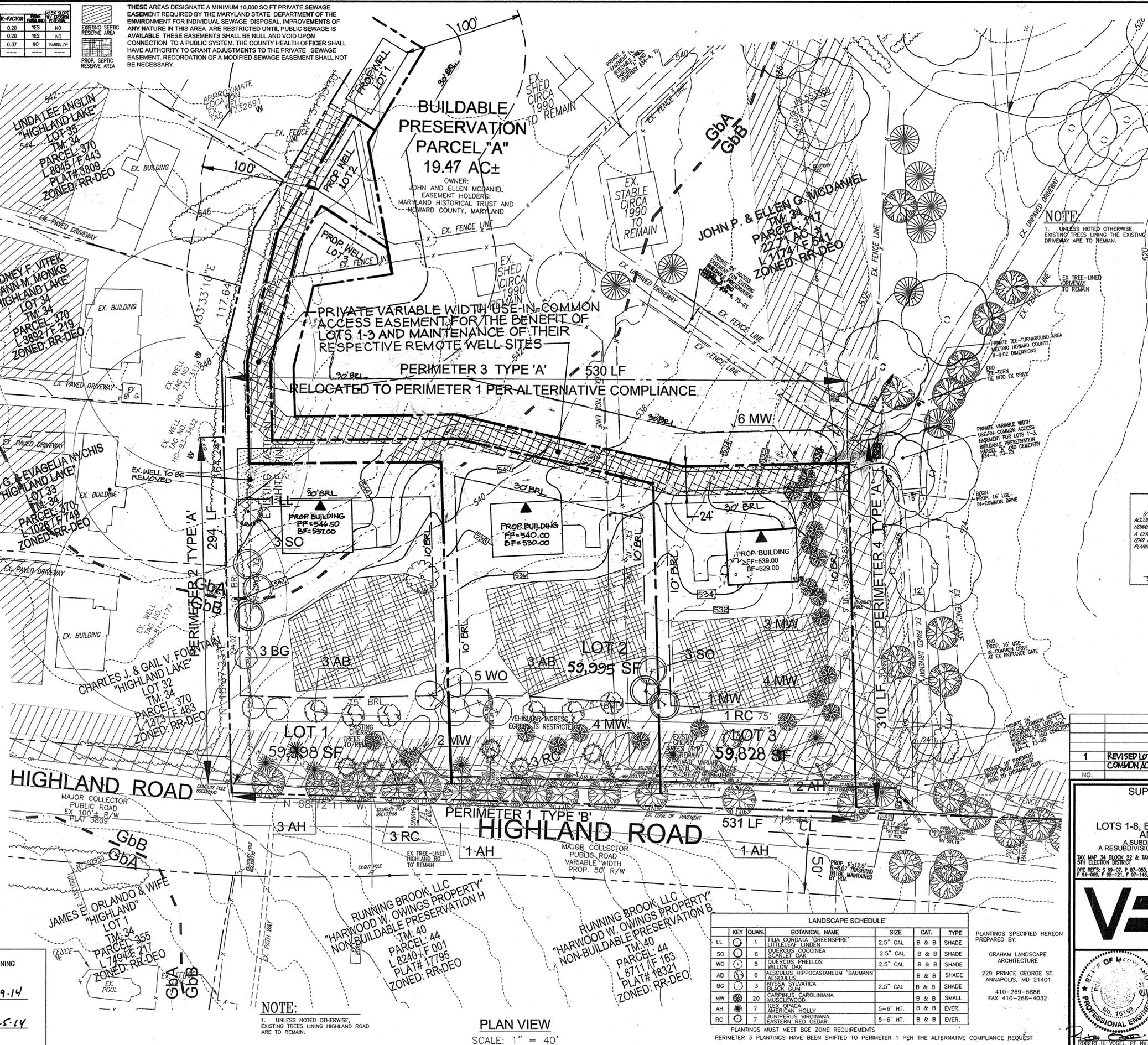
- NOTES:**
- NO SPECIMEN TREES ARE TO BE REMOVED.
 - NO STORM DRAINS ARE PROPOSED ON-SITE.
 - ALL LOTS HAVE ROAD FRONTAGE ON HIGHLAND ROAD.
 - ALL DWELLINGS ARE TO FACE INTO THE PROJECT, REAR OF DWELLINGS TOWARD HIGHLAND ROAD.
 - EXISTING PASTURE FENCING WILL REMAIN FOR THE EXISTING HORSE OPERATION, BUT MAY BE RELOCATED AT THE TIME OF SALE AND BUILDING ON LOTS 1-8.

SCHEDULE 'A' PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO PERIMETER	ADJACENT TO PERIMETER AND ROWWAYS	TOTAL		
PERIMETER/FRONTAGE DESIGNATION	1*	2	3**	4	
LANDSCAPE TYPE	B	A	A	A	
LINEAR FEET OF ROWWAY FRONTAGE/PERIMETER	531	294	530	310	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	No*	No	No	No	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	No	No	No	No	
NUMBER OF PLANTS REQUIRED	1:50 11	1:60 5	1:60 9	1:60 6	31
SHADE TREES	1:40 14	-	-	-	14
EVERGREEN TREES	-	-	-	-	17
SHRUBS	-	-	-	-	10
NUMBER OF PLANTS PROVIDED	7	5	9	1	21
SHADE TREES	14(1)	-	-	-	14
EVERGREEN TREES	-	-	-	-	17
EX SHADE TREES	-	-	-	-	1
OTHER TREES (21 SUBSTITUTION)	8	-	-	-	8
SHRUBS (10:1 SUBSTITUTION)	-	-	-	-	10
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED					

* PERIMETER 1 ALONG HIGHLAND ROAD HAS 14 EXISTING TREES PROPOSED TO REMAIN PENDING BOE APPROVAL. CREDIT HAS NOT BEEN TAKEN FOR THESE EXISTING TREES.
 ** PERIMETER 3 PLANTING REQUIREMENTS HAVE BEEN RELOCATED TOWARD PERIMETER 1 AS PART OF THE ALTERNATIVE COMPLIANCE REQUEST.
 (1) 14 EVERGREEN TREES SHALL BE BOE ZONE COMPLIANT.
 FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$14,000 FOR THE REQUIRED 31 SHADE TREES (9,300), 14 EVERGREEN TREES (2,100).

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division J.P. DATE 3-19-14
 Chief, Division of Land Development K.P. DATE 3-25-14

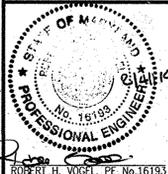


LANDSCAPE SCHEDULE

KEY	QUAN.	BOTANICAL NAME	SIZE	CAT.	TYPE
LL	1	TILIA CORDATA 'GREENSPIRE'	2.5" CAL	B & B	SHADE
SO	6	QUERCUS COCCINEA	2.5" CAL	B & B	SHADE
WO	5	QUERCUS PHellos	2.5" CAL	B & B	SHADE
AB	6	AEQUILUS HIPPOCASTANEUM 'BAUMANN'		B & B	SHADE
BG	3	NYSSA SYLVATICA	2.5" CAL	B & B	SHADE
MW	20	CARPINUS CAROLINIANA		B & B	SMALL
AH	7	AMERICAN HOLLY	5-6" HT.	B & B	EVER.
RC	7	LUNARIA VIRGINIANA	5-6" HT.	B & B	EVER.

PLANTINGS MUST MEET BOE ZONE REQUIREMENTS
 PERIMETER 3 PLANTINGS HAVE BEEN SHIFTED TO PERIMETER 1 PER THE ALTERNATIVE COMPLIANCE REQUEST

PLANTINGS SPECIFIED HEREON PREPARED BY:
 GRAHAM LANDSCAPE ARCHITECTURE
 228 PRINCE GEORGE ST.
 ANNAPOLIS, MD 21401
 410-269-5886
 FAX 410-268-4032



PROFESSIONAL CERTIFICATE
 DESIGN BY: RHV / EDS
 DRAWN BY: EDS/RVE
 CHECKED BY: RHV
 DATE: FEBRUARY 2014
 SCALE: AS SHOWN
 W.O. NO.: 08-43

NO.	REVISION	DATE
1	REVISED LOTS 1-3, BUILDINGS, DRIVEWAYS, PRIVATE USE IN COMMON ACCESS EASEMENT, AND WELL LOCATIONS.	12-16-14

SUPPLEMENTAL INFORMATION PLAN LANDSCAPE PLAN
 MCDANIEL PROPERTY
 LOTS 1-8, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PARCEL B
 A SUBDIVISION OF THE MCDANIEL PROPERTY (P. 117) AND A RESUBDIVISION OF LOT 29 - KOANDAH GARDENS ESTATES (PLAT 15371)
 TAX MAP 34 BLOCK 22 & TAX MAP 40 BLOCK 4
 PARCELS 117 & 78 (LOT 29)
 HOWARD COUNTY, MARYLAND
 992 REF'S: S 98-07, P 87-053, F 02-004, P 01-003, F 87-200, F 80-076
 F 84-006, F 85-121, F 87-143, F 02-027, EDP 12-046, MP 13-024, SP 13-005, WP13-140

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

MAPPED SOILS TYPES						
SYMBOL NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT ORGANIC	K-FACTOR	PERCENT SAND	CLAY SOIL
Ga	B	NO	0.20	NO	NO	NO
Gb	B	NO	0.20	NO	NO	NO
Gc	C	NO	0.20	NO	NO	NO
Gd	B	NO	0.20	NO	NO	NO
W	---	---	---	---	---	---

TAKEN FROM USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY
 *BALE COMPONENT OF Gb, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC

LANDSCAPE SCHEDULE						
KEY	QUAN.	BOTANICAL NAME	SIZE	CAT.	TYPE	
AB	3	AEOLUS HIPPOCASTANEUM 'BAUMANN'	2.5" CAL	B & B	SHADE	
BC	4	NYSSA SYLVATICA BLACK SWIM	2.5" CAL	B & B	SHADE	
SO	12	QUERCUS COCCINEA SCARLET OAK	2.5" CAL	B & B	SHADE	
WO	9	QUERCUS FINELOS LITTLE LEAF	2.5" CAL	B & B	SHADE	
LL	4	TILIA CORDATA 'GREENSPIRE'	2.5" CAL	B & B	SHADE	
MW	10	CARPINUS CAROLINIANA MUSCLEWOOD	5-6" HT.	B & B	SMALL	
AH	12	ILEX OPACA AMERICAN HOLLY	5-6" HT.	B & B	EVER.	
RC	6	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	5-6" HT.	B & B	EVER.	

PLANTINGS SPECIFIED HEREON PREPARED BY:
 GRAHAM LANDSCAPE ARCHITECTURE
 229 PRINCE GEORGE ST. ANNAPOLIS, MD 21401
 410-269-5886
 FAX 410-268-4032

PLANTINGS MUST MEET BGE ZONE REQUIREMENTS
 PERIMETER 7 PLANTINGS HAVE BEEN SHIFTED TO PERIMETER 1 PER THE ALTERNATIVE COMPLIANCE REQUEST

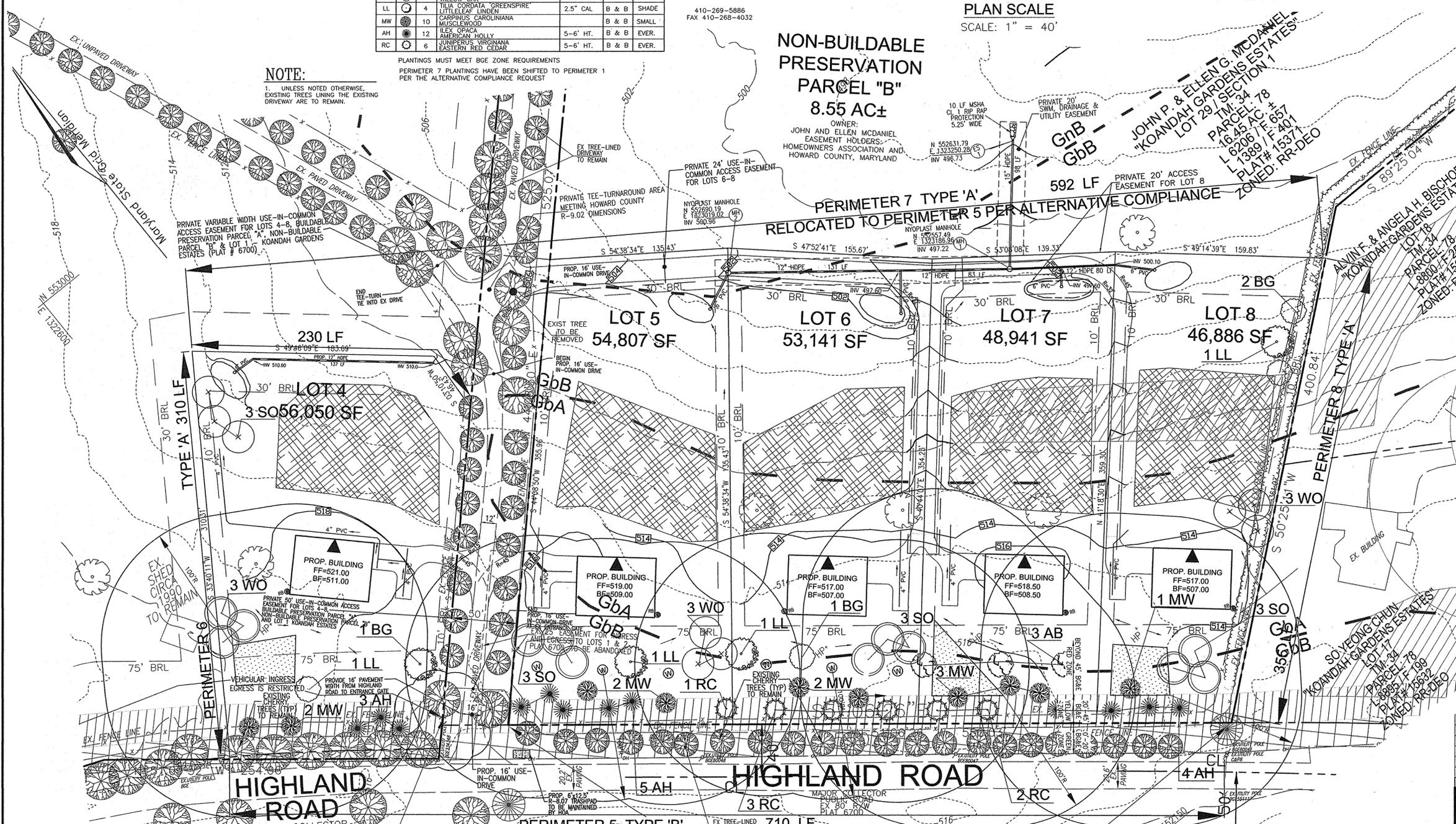
NOTE:

1. UNLESS NOTED OTHERWISE, EXISTING TREES LINING THE EXISTING DRIVEWAY ARE TO REMAIN.

PLAN SCALE
 SCALE: 1" = 40'

NON-BUILDABLE PRESERVATION PARCEL "B"
 8.55 AC±

OWNER:
 JOHN & ELLEN MCDANIEL EASEMENT HOLDERS, HOMEOWNERS ASSOCIATION AND HOWARD COUNTY, MARYLAND



LEGEND	
EXISTING CONTOUR	--- 382 --- --- 380 ---
EXISTING TREELINE	~~~~~
SOIL BOUNDARY	GnB Gbb
EXISTING WELL	⊙
PROPERTY LINE	---
PROP. WELL AREA	▨
EXISTING SEPTIC RESERVE AREA	▨
PROP. SEPTIC RESERVE AREA	▨
SPOT ELEVATION	372
NON-ROOFTOP DISCONNECT	⊙
PERMEABLE SURFACE DRIVEWAY	▨
SPECIMEN TREE	⊙
EXISTING VEGETATION TO REMAIN UNLESS NOTED OTHERWISE (APPROXIMATE LOCATION)	⊙
BG & E GREEN ZONE	▨
BG & E YELLOW ZONE	▨
OVERHEAD UTILITY	—
PROPOSED SHADE TREE TYP.	⊙
PROPOSED EVERGREEN TREE TYP.	⊙

OWNER / DEVELOPER
 JOHN P. MCDANIEL
 13032 HIGHLAND ROAD
 HIGHLAND, MARYLAND 20777
 ATTN: MR. JOE RUTTER
 443-367-0422

- BG & E NOTES:**
- THE LANDSCAPING ON WIREZONE (40' FROM BGE POLES) IS IN ACCORDANCE WITH BGE LIST OF TREES AND PLANTS.
 - BGE RESERVES THE RIGHT TO TRIM, TOP OR CUT DOWN ANY TREE IN PROXIMITY TO THE LINE THAT IN THE OPINION OF BGE SHALL BE DEEMED A HAZARD TO THE SAFE AND RELIABLE DELIVERY OF ELECTRICITY.
 - THE DEPARTMENT OF PLANNING AND ZONING MAY AUTHORIZE THE TRIMMING OR REMOVAL OF TREES OR VEGETATION IMMEDIATELY ADJACENT TO THE BGE R/W OR EASEMENT, IF BGE DETERMINES THE TREES ARE COMPROMISING THE SAFETY OR A TRANSMISSION LINE LOCATED WITHIN THEIR UTILITY R/W OR EASEMENT. IF BGE INTENDS TO TRIM OR REMOVE TREES WITHIN A FOREST CONSERVATION EASEMENT, A LETTER SPECIFYING THE LOCATION AND SCOPE OF WORK NEEDS TO BE SENT TO DPZ AT LEAST 30 DAYS IN ADVANCE OF UNDERTAKING THE WORK. DPZ UNDERSTANDS CONSTELLATION ENERGY'S NEED TO PROTECT ITS TRANSMISSION LINES AND WILL NOT UNREASONABLY WITHHOLD PERMISSION.

CATEGORY	SCHEDULE 'A' PERIMETER LANDSCAPE EDGE				TOTAL
	ADJACENT TO PERIMETER	ADJACENT TO PERIMETER	ADJACENT TO PERIMETER	ADJACENT TO PERIMETER	
PERIMETER/FRONTAGE DESIGNATION LANDSCAPE TYPE	5*	6	7**	8	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	710	310	592	355	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	No*	No	No	No	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	No*	No	No	No	
NUMBER OF PLANTS REQUIRED	1:50	1:60	1:60	1:60	37
SHADE TREES	1:40	18	18	18	18
EVERGREEN TREES					
SHRUBS					
NUMBER OF PLANTS PROVIDED					
SHADE TREES	18(1)	6	10	6	32
EVERGREEN TREES					18
OTHER TREES (2:1 SUBSTITUTION)	10				10
SHRUBS (10:1 SUBSTITUTION)					
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED					

RUNNING BROOK, LLC
 "HARWOOD W. OWINGS PROPERTY"
 LOT 5
 TM: 40
 PARCEL: 44
 L 9949 / F 139
 PLAT# 5669
 ZONED: RR-DEO

- NOTES:**
- NO SPECIMEN TREES ARE TO BE REMOVED.
 - NO STORM DRAINS ARE PROPOSED ON-SITE.
 - ALL LOTS HAVE ROAD FRONTAGE ON HIGHLAND ROAD.
 - ALL DWELLINGS ARE TO FACE INTO THE PROJECT, REAR OF DWELLINGS TOWARD HIGHLAND ROAD.
 - EXISTING PASTURE FENCING WILL REMAIN FOR THE EXISTING HORSE OPERATION, BUT MAY BE RELOCATED AT THE TIME OF SALE AND BUILDING ON LOTS 1-8.

NOTE:
 1. UNLESS NOTED OTHERWISE, EXISTING TREES LINING HIGHLAND ROAD ARE TO REMAIN.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Chief, Division of Land Development

DEVELOPER/BUILDER'S CERTIFICATE
 I HEREBY CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXCLUDED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
 John P. McDaniel 2/4/14
 SIGNATURE OF DEVELOPER DATE

SUPPLEMENTAL INFORMATION PLAN
 LANDSCAPE PLAN
 MCDANIEL PROPERTY
 LOTS 1-8, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PARCEL B
 A SUBDIVISION OF THE MCDANIEL PROPERTY (P. 117) AND A RESUBDIVISION OF LOT 29 - KOANDAH GARDENS ESTATES (PLAT 15371)
 TAX MAP 34 BLOCK 22 & TAX MAP 40 BLOCK 4
 DPZ REF'S: S 99-07, P 87-053, F 02-004, P 01-003, F 87-200, F 90-076, F 84-068, F 85-121, F 87-145, F 87-029, E2P 12-046, WP 13-034, SP 13-005, WP13-140
 PARCELS 117 & 78 (LOT 29)
 HOWARD COUNTY, MARYLAND

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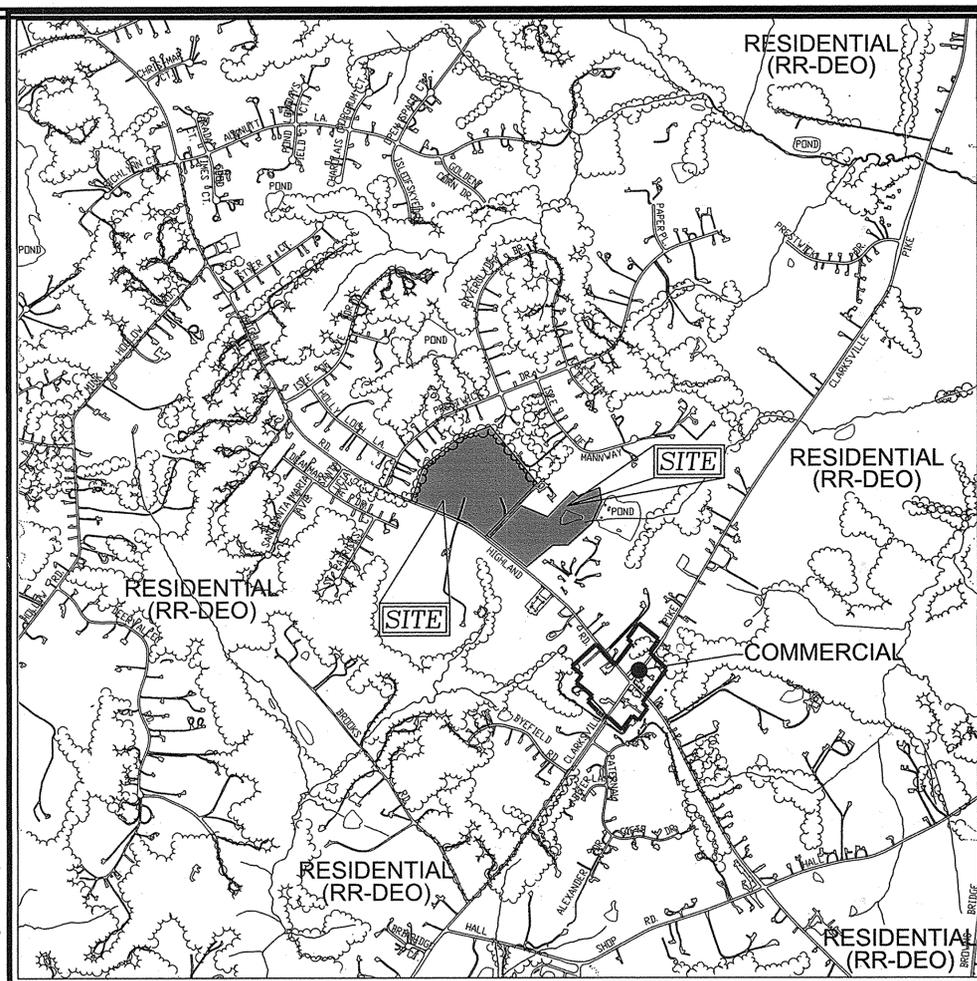
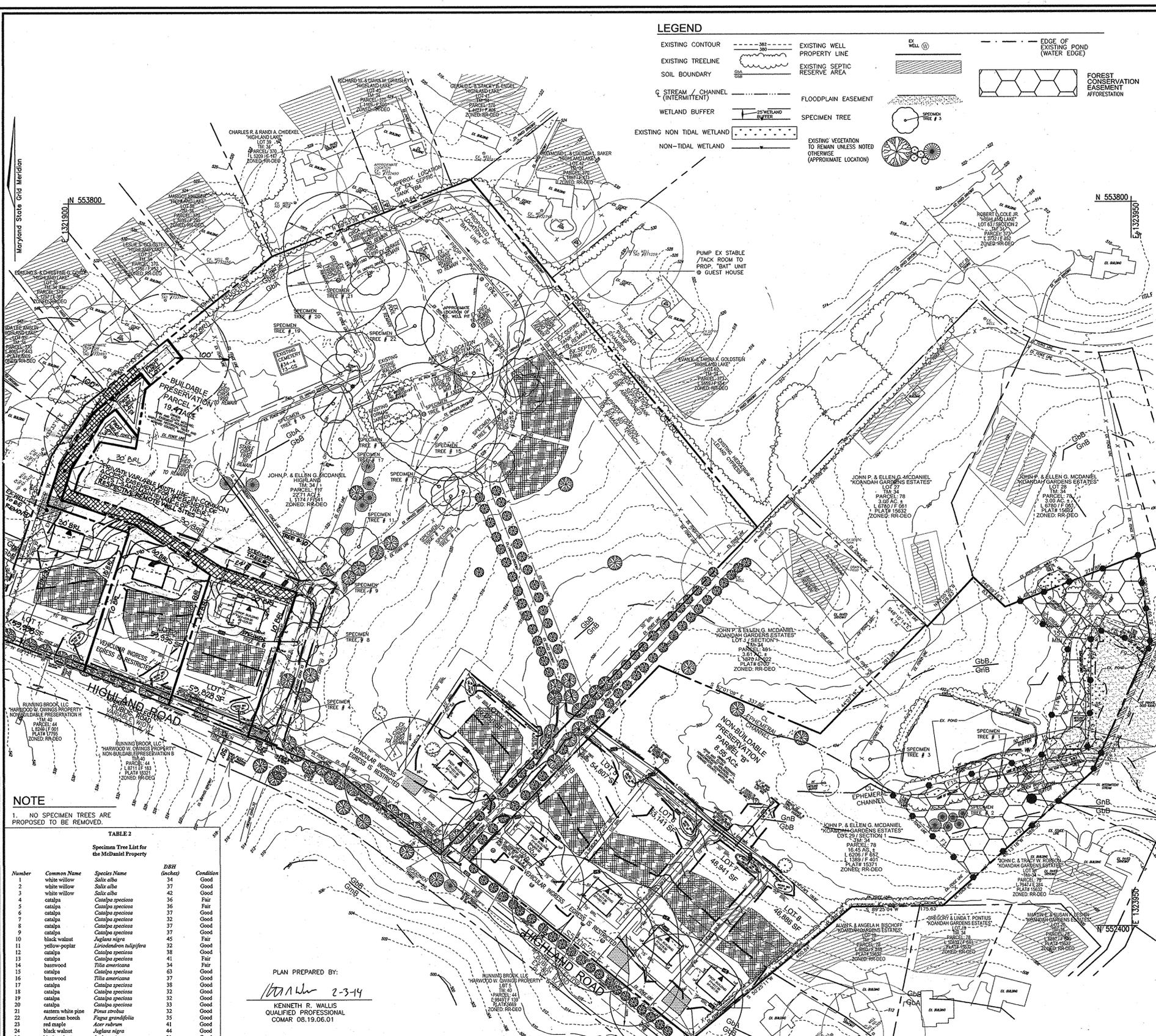
DESIGN BY: RHV / EDS
 DRAWN BY: EDS/RVE
 CHECKED BY: RHV
 DATE: FEBRUARY 2014
 SCALE: AS SHOWN
 W.O. NO.: 08-43

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. 1E193 (EXPIRATION DATE: 09-27-2014)

10 SHEET OF 14

LEGEND

- EXISTING CONTOUR
- EXISTING TREELINE
- SOIL BOUNDARY
- STREAM / CHANNEL (INTERMITTENT)
- WETLAND BUFFER
- EXISTING NON TIDAL WETLAND
- NON-TIDAL WETLAND
- EXISTING WELL PROPERTY LINE
- EXISTING SEPTIC
- FLOODPLAIN EASEMENT
- SPECIMEN TREE
- EXISTING VEGETATION TO REMAIN UNLESS NOTED OTHERWISE (APPROXIMATE LOCATION)
- EDGE OF EXISTING POND (WATER EDGE)
- FOREST CONSERVATION EASEMENT



VICINITY MAP
SCALE: 1"=1000'
ADC MAP COORDINATES: 5051/F1

McCarthy & Associates, Inc.
Environmental/Regulatory Consultants
1458 Old Mill Road, Suite 201
Upper Marlboro, Maryland 20772
Phone: (301) 627-7505 FAX: (301) 627-5571
ENVIRONMENTAL CONSULTANT

OWNER / DEVELOPER
JOHN P. MCDANIEL AND ELLEN G. MCDANIEL
13032 HIGHLAND ROAD
HIGHLAND, MARYLAND 20777
ATTN: MR. JOE RUTTER
443-367-0422

FOREST CONSERVATION EASEMENT #1

LINE	COURSE	DIST.
F1	S 44-37-24	223.02
F2	S 48-13-18 E	508.02
F3	N 24-15-54 E	40.77
F4	N 65-42-59 W	27.74
F5	N 04-43-31 E	59.69
F6	N 00-53-57 E	148.44
F7	N 50-17-52 E	25.23
F8	S 73-11-30 S	78.86
F9	S 52-08-25 E	17.81
F10	N 24-15-54 E	12.99
F11	N 08-08-17 W	169.77
F12	S 68-50-07 W	244.00
F13	S 44-35-49 E	131.32
F14	S 13-59-09 W	210.23
F15	S 74-48-19 W	298.16

FOREST CONSERVATION EASEMENT #1 AFFORESTATION AREA
1.96 ACRES

GENERAL NOTES

1. THERE ARE NO STEEP SLOPES OVER 20,000 SF CONTIGUOUS ARE LOCATED ON SITE.
2. IN ACCORDANCE WITH THE WILDLIFE & HERITAGE SERVICE, THERE ARE NO STATE OR FEDERAL RECORDS FOR RARE, THREATENED OR ENDANGERED SPECIES WITHIN THE BOUNDARIES OF THE PROJECT SITE AS DELINEATED.
3. THERE ARE NO STATE CHAMPION TREES ON THE PROJECT SITE, SPECIMEN TREE # 15 IS 75% OF THE CURRENT STATE CHAMPION.
4. CHANNELS ON SITE IDENTIFIED AS EPHEMERAL, REQUIRE NO BUFFER.
5. STREAM SECTIONS IDENTIFIED AS INTERMITTENT, REQUIRE A 50 FT BUFFER.
6. THE FOREST CONSERVATION EASEMENT SHALL BE A MINIMUM OF 35' WIDE.
7. WATERSHED NAME: MIDDLE PATUXENT RIVER
DNR LISTING: 2131106

NOTE
1. NO SPECIMEN TREES ARE PROPOSED TO BE REMOVED.

TABLE 2
Specimen Tree List for the McDaniel Property

Number	Common Name	Species Name	DBH (inches)	Condition
1	white willow	<i>Salix alba</i>	34	Good
2	white willow	<i>Salix alba</i>	37	Good
3	white willow	<i>Salix alba</i>	42	Good
4	catappa	<i>Catalpa speciosa</i>	36	Fair
5	catappa	<i>Catalpa speciosa</i>	36	Fair
6	catappa	<i>Catalpa speciosa</i>	37	Good
7	catappa	<i>Catalpa speciosa</i>	32	Good
8	catappa	<i>Catalpa speciosa</i>	37	Good
9	catappa	<i>Catalpa speciosa</i>	37	Good
10	black walnut	<i>Juglans nigra</i>	45	Fair
11	yellow-poplar	<i>Liquidambar styraciflua</i>	32	Good
12	catappa	<i>Catalpa speciosa</i>	38	Good
13	catappa	<i>Catalpa speciosa</i>	41	Fair
14	basewood	<i>Tilia americana</i>	34	Fair
15	catappa	<i>Catalpa speciosa</i>	63	Good
16	basewood	<i>Tilia americana</i>	37	Good
17	catappa	<i>Catalpa speciosa</i>	38	Good
18	catappa	<i>Catalpa speciosa</i>	32	Good
19	catappa	<i>Catalpa speciosa</i>	32	Good
20	catappa	<i>Catalpa speciosa</i>	33	Good
21	eastern white pine	<i>Pinus strobus</i>	35	Good
22	American beech	<i>Fagus grandifolia</i>	35	Good
23	red maple	<i>Acer rubrum</i>	41	Good
24	black walnut	<i>Juglans nigra</i>	44	Good
25	black walnut	<i>Juglans nigra</i>	31	Good
26	catappa	<i>Catalpa speciosa</i>	32	Fair

PLAN PREPARED BY:
Kenneth R. Wallis 2-3-14
KENNETH R. WALLIS
QUALIFIED PROFESSIONAL
COMAR 08.19.06.01

PLAN SCALE
SCALE: 1"=100'

TABULATIONS

- | | |
|--------------------------|-------------|
| 1. TOTAL SITE AREA: | 38.27 ACRES |
| 2. 100-YEAR FLOODPLAIN: | 0.55 ACRES |
| 3. EXISTING FOREST: | 0.00 ACRES |
| 4. WETLANDS AND BUFFERS: | 1.68 ACRES* |
| 5. STREAM & BUFFER: | 2.03 ACRES |
- * WETLAND AND BUFFER ACREAGE IS PART OF STREAM & BUFFER ACREAGE

MAPPED SOILS TYPES

SYMBOL / NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT ORGANICS	K-FACTOR	RISK FACTOR	STEEP SLOPE
Gba	GLADSTONE LOAM, 0 TO 3 PERCENT SLOPES	B	NO	NO	0.20	YES
Gbb	GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.20	YES
Gbc	GLENNVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO

TAKEN FROM USDA SCS-WEB SOIL SURVEY, HOWARD COUNTY
*BALE COMPONENT OF Gbc, ERODIBILITY FACTOR IS 0.32 AND IS CONSIDERED HYDRIC

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division 3-19-14
SR. DATE

Chief, Division of Land Development 3-25-14
DATE

1 REVISED LOTS 1-3, BUILDING, DRIVEWAY AND PRIVATE USE IN COMMON ACCESS EASEMENT 12-16-14

NO. REVISION DATE

SUPPLEMENTAL INFORMATION PLAN
FOREST CONSERVATION PLAN

MCDANIEL PROPERTY
LOTS 1-8, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PARCEL B
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TAX MAP 34 BLOCK 22 & TAX MAP 40 BLOCK 4 PARCELS 117 & 78 (LOT 29)
597 BEFS: S 99-07, P 87-053, F 02-004, P 01-003, F 87-200, F 90-076
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HOWARD COUNTY, MARYLAND

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DESIGN BY: RHV / EDS
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11 SHEET OF 14

AFFORESTATION PLAN

A. PLANTING PLAN AND METHODS

PLANT SPECIES SELECTION WAS BASED ON OUR KNOWLEDGE REGARDING PLANT COMMUNITIES IN MARYLAND'S PIEDMONT PLATEAU AND INFORMATION PROVIDED IN THE SOIL SURVEY ON TYPICAL VEGETATION FOR THE SOIL TYPE ON THE PLANTING SITE. SPECIES SELECTION WAS ALSO BASED ON OUR KNOWLEDGE OF PLANT AVAILABILITY IN THE NURSERY INDUSTRY.

AFFORESTATION WILL BE ACCOMPLISHED THROUGH A MIXED PLANTING OF WHIPS AND BRANCHED TRANSPLANTS. CONTAINER GROWN STOCK IS RECOMMENDED BUT BAREROOT STOCK MAY BE USED TO HELP CONTROL AFFORESTATION COSTS. IF BAREROOT STOCK IS USED THE ROOT SYSTEMS OF ALL PLANTS WILL BE DIPPED IN AN ANTI-DESICCANT GEL PRIOR TO PLANTING TO IMPROVE MOISTURE RETENTION IN THE ROOT SYSTEMS.

PRIOR TO PLANTING THE PROPOSED FOREST CONSERVATION EASEMENTS ALL MULTIFLORA ROSE IN THE PLANTING AREA SHALL BE REMOVED. REMOVAL OF THE ROSE MAY BE PERFORMED WITH MOWING AND HERBICIDE TREATMENTS. PHYSICAL REMOVAL OF ALL TOP GROWTH FOLLOWING BY A PERIODIC HERBICIDE TREATMENT OF STUMP SPROUTS IS RECOMMENDED. NATIVE TREE AND SHRUB SPECIES OCCURRING WITHIN THE ROSE THICKETS SHOULD BE RETAINED WHEREVER POSSIBLE. HERBICIDES TREATMENTS SHALL OCCUR ON 2 MONTH INTERVALS DURING THE FIRST GROWING SEASON AND ONCE EACH IN THE SPRING AND FALL FOR SUBSEQUENT YEARS. HERBICIDE USED SHALL BE MADE SPECIFICALLY TO ADDRESS WOODY PLANT MATERIAL AND SHALL BE APPLIED AS PER MANUFACTURER'S SPECIFICATIONS. CARE SHOULD BE TAKEN NOT TO SPRAY PLANTED TREES OR NATURALLY OCCURRING NATIVE TREE/SHRUB SEEDLINGS. IT IS RECOMMENDED THAT INITIATION OF ROSE REMOVAL BEGIN AT LEAST SIX MONTHS PRIOR TO PLANTING.

B. PLANTING AND SOIL SPECIFICATIONS

PLANT MATERIAL WILL BE INSTALLED IN ACCORDANCE WITH THE PLANTING DETAIL AND PLANTING SPECIFICATIONS SHOWN ON THE FOREST CONSERVATION PLAN.

AMENDMENTS TO EXISTING SOIL WILL BE IN ACCORDANCE WITH THE PLANTING SPECIFICATIONS SHOWN ON THE FOREST CONSERVATION PLAN. SOIL DISTURBANCE WILL BE LIMITED TO INDIVIDUAL PLANTING LOCATIONS.

C. MAINTENANCE OF PLANTINGS

FOR INFORMATION REGARDING MAINTENANCE OF THE AFFORESTATION PLANTINGS, SEE SECTION VIII B.

D. GUARANTEE REQUIREMENTS

A 90 PERCENT SURVIVAL RATE OF THE AFFORESTATION PLANTINGS WILL BE REQUIRED AFTER ONE GROWING SEASON. ALL PLANT MATERIAL BELOW THE 90 PERCENT SURVIVAL THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE SECOND GROWING SEASON. AT THE END OF THE SECOND GROWING SEASON, A 75 PERCENT SURVIVAL RATE WILL BE REQUIRED. ALL PLANT MATERIAL BELOW THE 75 PERCENT SURVIVAL THRESHOLD WILL BE REPLACED BY THE BEGINNING OF THE NEXT GROWING SEASON.

E. SECURITY FOR AFFORESTATION

SECTION 16-1209 OF THE HOWARD COUNTY FOREST CONSERVATION ACT REQUIRES THAT A DEVELOPER SHALL POST A SECURITY (BOND, LETTER OF CREDIT, ETC.) WITH THE COUNTY TO INSURE THAT ALL WORK IS DONE IN ACCORDANCE WITH THE FCP.

CONSTRUCTION PERIOD PROTECTION PROGRAM

A. FOREST PROTECTION TECHNIQUES

1. SOIL PROTECTION AREA (CRITICAL ROOT ZONE)
THE SOIL PROTECTION AREA, OR CRITICAL ROOT ZONE, OF A TREE IS THAT PORTION OF THE SOIL COLUMN WHERE MOST OF ITS ROOTS WILL BE FOUND. THE MAJORITY OF ROOTS RESPONSIBLE FOR WATER AND NUTRIENT UPTAKE ARE LOCATED JUST BELOW THE SOIL SURFACE. TEMPORARY FENCING SHALL BE PLACED AROUND THE CRITICAL ROOT ZONE OF THE FOREST IN AREAS WHERE THE FOREST LIMITS OCCUR WITHIN 25 FEET OF THE LIMIT OF DISTURBANCE.

2. FENCING AND SIGNAGE
EXISTING FOREST LIMITS OCCURRING WITHIN 25 FEET OF THE LIMITS OF DISTURBANCE SHALL BE PROTECTED USING TEMPORARY PROTECTIVE FENCING. PERMANENT SIGNAGE SHALL BE PLACED AROUND THE AFFORESTATION AREA PRIOR TO PLANT INSTALLATION, AS SHOWN ON THE PLAN.

3. PRE-CONSTRUCTION MEETING
UPON STAKING OF LIMITS OF DISTURBANCE A PRE-CONSTRUCTION MEETING WILL BE HELD BETWEEN THE DEVELOPER, CONTRACTOR AND APPROPRIATE COUNTY INSPECTOR. THE PURPOSE OF THE MEETING WILL BE TO VERIFY THAT ALL SEDIMENT CONTROL IS IN ORDER, AND TO NOTIFY THE CONTRACTOR OF POSSIBLE PENALTIES FOR NON-COMPLIANCE WITH THE FCP.

4. STORAGE FACILITIES/EQUIPMENT CLEANING
ALL EQUIPMENT STORAGE, PARKING, SANITARY FACILITIES, MATERIAL STOCKPILING, ETC. ASSOCIATED WITH CONSTRUCTION OF THE PROJECT WILL BE RESTRICTED TO THOSE AREAS OUTSIDE OF THE PROPOSED FOREST CONSERVATION EASEMENT. CLEANING OF EQUIPMENT WILL BE LIMITED TO AREA WITHIN THE LOD OF THE PROPOSED HOMESTIES. WASTEWATER RESULTING FROM EQUIPMENT CLEANING WILL BE CONTROLLED TO PREVENT RUPOFF INTO ENVIRONMENTALLY SENSITIVE AREAS.

5. SEQUENCE OF CONSTRUCTION
THE FOLLOWING TIMETABLE REPRESENTS THE PROPOSED TIMETABLE FOR DEVELOPMENT. THE ITEMS OUTLINED IN THE FOREST CONSERVATION PLAN WILL BE ENACTED WITHIN TWO (2) YEARS OF SUBDIVISION APPROVAL.

6. BELOW FIND A PROPOSED SEQUENCE OF CONSTRUCTION.
1. INSTALL ALL SIGNAGE AND SEDIMENT CONTROL DEVICES.
2. HOLD PRE-CONSTRUCTION MEETING BETWEEN DEVELOPER, CONTRACTOR AND COUNTY INSPECTOR.
3. BUILD ACCESS ROADS, INSTALL UTILITIES, AND CONSTRUCT HOME. STABILIZE ALL DISTURBED AREAS ACCORDINGLY.
4. BEGIN MULTIFLORA ROSE REMOVAL, AS NEEDED. INSTALL PERMANENT PROTECTIVE SIGNAGE FOR EASEMENTS AND INITIAL PLANTINGS IN ACCORDANCE WITH FOREST CONSERVATION PLAN. PLANTINGS WILL BE COMPLETED WITHIN TWO (2) YEARS OF SUBDIVISION APPROVAL.
5. REMOVE SEDIMENT CONTROL.
6. HOLD POST-CONSTRUCTION MEETING WITH COUNTY INSPECTORS TO ASSURE COMPLIANCE WITH FCP. SUBMIT CERTIFICATION OF INSTALLATION.
7. MONITOR AND MAINTAIN PLANTINGS FOR 2 YEARS.

7. CONSTRUCTION MONITORING
ECO-SCIENCE PROFESSIONALS, OR ANOTHER QUALIFIED PROFESSIONAL DESIGNATED BY THE DEVELOPER, WILL MONITOR CONSTRUCTION OF THE PROJECT TO ENSURE THAT ALL ACTIVITIES ARE IN COMPLIANCE WITH THE FOREST CONSERVATION PLAN.

8. POST-CONSTRUCTION MEETING
UPON COMPLETION OF CONSTRUCTION, ECO-SCIENCE PROFESSIONALS, OR ANOTHER QUALIFIED PROFESSIONAL DESIGNATED BY THE DEVELOPER, WILL NOTIFY THE COUNTY THAT CONSTRUCTION HAS BEEN COMPLETED AND ARRANGE FOR A POST-CONSTRUCTION MEETING TO REVIEW THE PROJECT SITE. THE MEETING WILL ALLOW THE COUNTY INSPECTOR TO VERIFY THAT AFFORESTATION PLANTINGS HAVE BEEN INSTALLED.

9. POST-CONSTRUCTION MANAGEMENT PLAN
HOWARD COUNTY REQUIRES A TWO YEAR POST-CONSTRUCTION MANAGEMENT PLAN BE PREPARED AS PART OF THE FOREST CONSERVATION PLAN. THE PLAN GOES INTO EFFECT UPON ACCEPTANCE OF THE CONSTRUCTION CERTIFICATION OF COMPLETION BY THE COUNTY. ECO-SCIENCE PROFESSIONALS, OR ANOTHER QUALIFIED PROFESSIONAL DESIGNATED BY THE DEVELOPER, WILL BE RESPONSIBLE FOR IMPLEMENTATION OF THE POST-CONSTRUCTION MANAGEMENT PLAN.

10. THE FOLLOWING ITEMS WILL BE INCORPORATED INTO THE PLAN:
A. FENCING AND SIGNAGE
PERMANENT SIGNAGE INDICATING THE LIMITS OF THE RETENTION/AFFORESTATION AREA SHALL BE MAINTAINED.

11. B. GENERAL SITE INSPECTIONS/MAINTENANCE OF PLANTINGS
SITE INSPECTIONS WILL BE PERFORMED A MINIMUM OF THREE TIMES DURING THE GROWING SEASON. THE PURPOSE OF THE INSPECTIONS WILL BE TO ASSESS THE HEALTH OF THE AFFORESTATION PLANTINGS. APPROPRIATE MEASURES WILL BE TAKEN TO RECTIFY ANY PROBLEMS WHICH MAY ARISE.

12. IN ADDITION, MAINTENANCE OF THE AFFORESTATION PLANTINGS WILL INVOLVE THE FOLLOWING STEPS:
1. WATERING - ALL PLANT MATERIAL SHALL BE WATERED TWICE A MONTH DURING THE 1ST GROWING SEASON, MORE OR LESS FREQUENTLY DEPENDING ON WEATHER CONDITIONS. DURING THE SECOND GROWING SEASON, ONCE A MONTH DURING MAY-SEPTEMBER, IF NEEDED.
2. REMOVAL OF INVASIVE EXOTICS AND NOXIOUS WEEDS - OLD FIELD SUCCESSIONAL SPECIES WILL BE RETAINED.
3. IDENTIFICATION OF SERIOUS PLANT PESTS AND DISEASES, TREATMENT WITH APPROPRIATE AGENT.
4. PRUNING OF DEAD BRANCHES.
5. AFTER 12 AND 24 MONTHS, REPLACEMENT OF PLANTS, IF REQUIRED, IN ACCORDANCE WITH THE GUARANTEE REQUIREMENTS SHOWN ON THE FCP.

13. C. EDUCATION
THE DEVELOPER WILL PROVIDE APPROPRIATE MATERIALS TO PROPERTY OWNERS INFORMING THEM OF THE LOCATION AND PURPOSE OF THE AFFORESTATION AREA. MATERIALS MAY INCLUDE SITE PLANS AND INFORMATION EXPLAINING THE INTENT OF THE FOREST CONSERVATION LAW.

14. D. FINAL INSPECTION
AT THE END OF THE TWO YEAR POST-CONSTRUCTION MANAGEMENT PERIOD, ECO-SCIENCE PROFESSIONALS, OR ANOTHER QUALIFIED PROFESSIONAL, WILL SUBMIT TO THE ADMINISTRATOR OF THE HOWARD COUNTY FOREST CONSERVATION PROGRAM CERTIFICATION THAT ALL RETENTION/AFFORESTATION REQUIREMENTS HAVE BEEN MET. UPON ACCEPTANCE OF THIS CERTIFICATION, THE COUNTY WILL RELEASE THE DEVELOPER FROM ALL FUTURE OBLIGATIONS AND RELEASE THE DEVELOPER'S BOND.

15. APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

3/19/14
J.P. DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

3/25/14
DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

1/1 WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

2/4/14
DATE
SIGNATURE OF DEVELOPER

AFFORESTATION - PLANT SCHEDULE			
QUANTITIES FOR AFFORESTATION AREA			
BOTANICAL NAME	AREA 1	SIZE	SPACING (FT)
Platanus x acerifolia Sycamore	56	1" Cal.	15 X 15
Betula nirxa River Birch	56	1" Cal.	15 X 15
Celtis occidentalis Common Hackberry	56	1" Cal.	15 X 15
Nyssa sylvatica Black Gum	56	1" Cal.	15 X 15
Toxadium distichum Common Baldcypress	56	1" Cal.	15 X 15
Ilex opaca American Holly	56	1" Cal.	15 X 15
Cercis canadensis Eastern Redbud	56	1" Cal.	15 X 15

ALL PLANTING SPECIES HAVE BEEN VERIFIED AS SAFE FOR THE ONSITE EQUESTRIAN OPERATION

AFFORESTATION PROVIDED - AREA-1
1.96 ACRES
1" CALIPER TREES
392 TREES @ 200 TREES PER ACRE

PLANTING NOTES:

- PLANTING DENSITY BASED SPACING REQUIREMENTS WHIPS WITH SHELTER @ 11" ON CENTER.
- PLANTING MAY BE MADE IN A CURVILINEAR FASHION ALONG CONTOUR. THE PLANTING SHOULD AVOID A GRID APPEARANCE BUT SHOULD BE SPACED TO FACILITATE MAINTENANCE.
- MULTIFLORA ROSE/HEAVY BRUSH REMOVAL/CONTROL MAY BE REQUIRED PRIOR TO INSTALLATION OF PLANTING.
- ALL WHIPS ARE REQUIRED TO BE INSTALLED WITH TREE SHELTERS PER HOWARD COUNTY FCA REQUIREMENTS.
- PLANTING UNITS ESTABLISHED BY THE SPACING REQUIREMENTS ESTABLISHED IN THE FCA MANUAL ONE PLANT UNIT IS DEFINED AS 1 SEEDLING OR WHIP WITHOUT SHELTER. THE MANUAL STATES THAT 700 SEEDLINGS/WHIPS WITHOUT SHELTERS ARE REQUIRED PER ACRE, OR 350 WHIPS W/SHELTERS, OR 200 1" CALIPER TREES, OR 100 2" CALIPER TREES. BY CONVERSION IT HAS BEEN DETERMINED THAT A SEEDLING OR WHIP WITHOUT SHELTER = 1 UNIT, WHIP WITH SHELTER = 2 UNITS, 1" CALIPER TREE = 3.5 UNITS AND 2" CALIPER TREE = 7 UNITS. THE USE OF PLANT UNITS SIMPLIFIES THE PLANT DENSITY CALCULATIONS WHEN MIXING STOCK SIZE.

PLANTING/SOIL SPECIFICATIONS

- INSTALLATION OF BAREROOT/PLUG PLANT STOCK SHALL TAKE PLACE BETWEEN MARCH 15 - APRIL 20; B&B/CONTAINER STOCK MARCH 15 - MAY 30 OR SEPTEMBER 15 - NOVEMBER 15. FALL PLANTING OF B&B STOCK IS NOT RECOMMENDED.
- DISTURBED AREAS SHALL BE SEEDED AND STABILIZED AS PER GENERAL CONSTRUCTION PLAN FOR PROJECT. PLANTING AREAS NOT IMPACTED BY SITE GRADING SHALL HAVE NO ADDITIONAL TOPSOIL INSTALLED.
- BAREROOT PLANTS SHALL BE INSTALLED SO THAT THE TOP OF ROOT MASS IS LEVEL WITH THE TOP OF EXISTING GRADE. ROOTS SHALL BE DIPPED IN AN ANTI-DESICCANT GEL PRIOR TO PLANTING. BACKFILL IN THE PLANTING PITS SHALL CONSIST OF 3 PARTS EXISTING SOIL TO 1 PART FINE PINES OR EQUIVALENT. FERTILIZER SHALL CONSIST OF AGRIFORM 22-0-2 OR EQUIVALENT, APPLIED AS PER MANUFACTURER'S SPECIFICATIONS. FOR WOODY PLANTS, HERBACEOUS PLANT SHALL BE FERTILIZED WITH OSMOCOTE 8-6-12.
- PLANT MATERIAL SHALL BE TRANSPORTED TO THE SITE IN A TARPED OR COVERED TRUCK. PLANTS SHALL BE KEPT MOIST PRIOR TO PLANTING.
- THE CONTRACTOR SHALL REMOVE ALL NON-ORGANIC DEBRIS ASSOCIATED WITH THE PLANTING OPERATION FROM THE SITE.

SEQUENCE OF CONSTRUCTION

- SEDIMENT CONTROL SHALL BE INSTALLED IN ACCORDANCE WITH GENERAL CONSTRUCTION PLAN FOR SITE.
- PLANTS SHALL BE INSTALLED AS PER PLANT SCHEDULE AND THE PLANTING/SOIL SPECIFICATIONS FOR THE PROJECT.
- UPON COMPLETION OF THE PLANTING, SIGNAGE SHALL BE INSTALLED AS SHOWN.
- PLANTINGS SHALL BE MAINTAINED AND GUARANTEED IN ACCORDANCE WITH THE MAINTENANCE AND GUARANTEE REQUIREMENTS FOR PROJECT.

MAINTENANCE OF PLANTINGS

- MAINTENANCE OF PLANTINGS SHALL LAST FOR A PERIOD OF TWO YEARS.
- PLANTINGS MUST RECEIVE 2 GALLONS OF WATER, EITHER THROUGH PRECIPITATION OR WATERING, WEEKLY DURING THE 1ST GROWING SEASON, AS NEEDED. DURING SECOND GROWING SEASON, ONCE A MONTH DURING MAY-SEPTEMBER, IF NEEDED.
- INVASIVE EXOTICS AND NOXIOUS WEEDS WILL BE REMOVED, AS REQUIRED, FROM PLANTING AREAS MECHANICALLY AND/OR WITH LIMITED HERBICIDE. OLD FIELD SUCCESSIONAL SPECIES WILL BE RETAINED.
- PLANTS SHALL BE EXAMINED A MINIMUM TWO TIMES DURING THE GROWING SEASON FOR SERIOUS PLANT PESTS AND DISEASES. SERIOUS PROBLEMS WILL BE TREATED WITH THE APPROPRIATE AGENT.
- DEAD BRANCHES WILL BE PRUNED FROM PLANTINGS.

GUARANTEE REQUIREMENTS

- A 90 PERCENT SURVIVAL RATE OF THE REFORESTATION PLANTINGS WILL BE REQUIRED AFTER ONE GROWING SEASON. ALL PLANT MATERIAL BELOW THE 90 PERCENT SURVIVAL THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE SECOND GROWING SEASON. AT THE END OF THE SECOND GROWING SEASON, A 75 PERCENT SURVIVAL RATE WILL BE REQUIRED. ALL PLANT MATERIAL BELOW THE 75 PERCENT SURVIVAL THRESHOLD WILL BE REPLACED BY THE BEGINNING OF THE NEXT GROWING SEASON.

EDUCATION OF NEIGHBOURHOODS

- THE DEVELOPER SHALL PROVIDE EDUCATIONAL INFORMATION TO ALL PROPERTY OWNERS WITHIN THE NEW DEVELOPMENT/HOME ABOUT THE PROPER USE OF FOREST CONSERVATION AREAS.

FINAL INSPECTION AND RELEASE OF OBLIGATIONS

- AT THE END OF THE POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD THE DEVELOPER SHALL SUBMIT A CERTIFICATION TO THE COUNTY THAT ALL FOREST CONSERVATION AREAS HAVE REMAINED INTACT OR HAVE BEEN RESTORED TO APPROPRIATE CONDITION. THAT THE STIPULATED SURVIVAL RATES HAVE BEEN ACHIEVED, AND THAT ANY PERMANENT PROTECTION MEASURES REQUIRED BY THE PLAN ARE IN PLACE. UPON REVIEW AND ACCEPTANCE, THE COUNTY WILL INFORM THE DEVELOPER OF THEIR RELEASE OF THE DEVELOPMENT OF FUTURE OBLIGATIONS RELATED TO THE FOREST CONSERVATION ACT.

UNDISTURBED SOIL

DISTURBED SOIL

PLANTING SLOPE

CONTAINER GROWN AND B&B PLANTING TECHNIQUES

TYPICAL FOREST TREE DISTRIBUTION PATTERNS

AGGREGATE DISTRIBUTION DIRT

MATURE TRANSPARENT STOCK

PLANTING DISTRIBUTION PATTERNS

CONTAINER GROWN AND B&B PLANTING TECHNIQUES

HOWARD COUNTY FOREST CONSERVATION WORKSHEET

ZONED RR-DEO
NET TRACT AREA:

A. TOTAL TRACT AREA 38.27 AC.
B. AREA WITHIN 100 YEAR FLOODPLAIN 0.55 AC (1)
C. AREA IN PRESERVATION PARCEL 28.47 AC (2)
D. NET TRACT AREA 9.80 AC

LAND USE CATEGORY
INPUT THE NUMBER "1" UNDER THE APPROPRIATE LAND USE ZONING, AND LIMIT TO ONLY ONE ENTRY. ZONED RR-DEO

ARA	MDR	IDA	HDR	MPD	CIA
0	1	0	0	0	0

E. AFFOREST THRESHOLD 20% X 9.25 = 1.96 AC
F. CONSERVATION THRESHOLD 25% X 9.25 = 2.45 AC

EXISTING FOREST COVER:

G. EXISTING FOREST COVER = 0.00 AC
H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD = 0.00 AC
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD = 0.00 AC

BREAK EVEN POINT:
(2 X 1) + F = BREAK EVEN POINT (0 AC)

J. FOREST RETENTION WITH NO MITIGATION = 0.00 AC
K. CLEARING PERMITTED WITHOUT MITIGATION = 0.00 AC

PROPOSED FOREST CLEARING:

L. TOTAL AREA OF FOREST TO BE CLEARED = 0.00 AC
M. TOTAL AREA OF FOREST TO BE RETAINED = 0.00 AC

PLANTING REQUIREMENTS:

N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD (L X 25) = 0.00 AC
O. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD = 0.00 AC
R. TOTAL REFORESTATION REQUIRED (N-F-O) = 0.00 AC
S. TOTAL AFFORESTATION REQUIRED = 1.96 AC
T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED = 1.96 AC

FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

- TOTAL FOREST CONSERVATION OBLIGATION OF THIS PROJECT WILL BE FULFILLED BY ONSITE AFFORESTATION OF 1.96 AC. FINANCIAL SURETY IN THE AMOUNT OF \$ 42,689 (85,378 x 0.50) WILL BE POSTED AS PART OF DEPARTMENT OF PUBLIC WORKS DEVELOPER'S AGREEMENT.

(1) THE AREA OF FLOODPLAIN IS INCLUDED IN THE PRESERVATION PARCEL DEDUCTION

(2) IN ACCORDANCE WITH THE HOWARD COUNTY FOREST CONSERVATION MANUAL, APPENDIX L - GUIDELINES FOR RURAL CLUSTER SUBDIVISION - OPTION A PRESERVATION PARCELS MAY BE EXCLUDED FROM ALL CALCULATIONS BECAUSE IT IS NOT PART OF THE LAND USE CHANGE CAUSED BY THE CLUSTER, THERE ARE NO EXISTING RESOURCES ON THE SITE AND BY INCLUDING THE PRESERVATION PARCELS IT WOULD CREATE A LARGE AFFORESTATION OBLIGATION.

PLANNING NOTES:
- PLANTING DENSITY BASED SPACING REQUIREMENTS WHIPS WITH SHELTER @ 11" ON CENTER.
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1. THE DEVELOPER SHALL PROVIDE EDUCATIONAL INFORMATION TO ALL PROPERTY OWNERS WITHIN THE NEW DEVELOPMENT/HOME ABOUT THE PROPER USE OF FOREST CONSERVATION AREAS.

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UNDISTURBED SOIL

DISTURBED SOIL

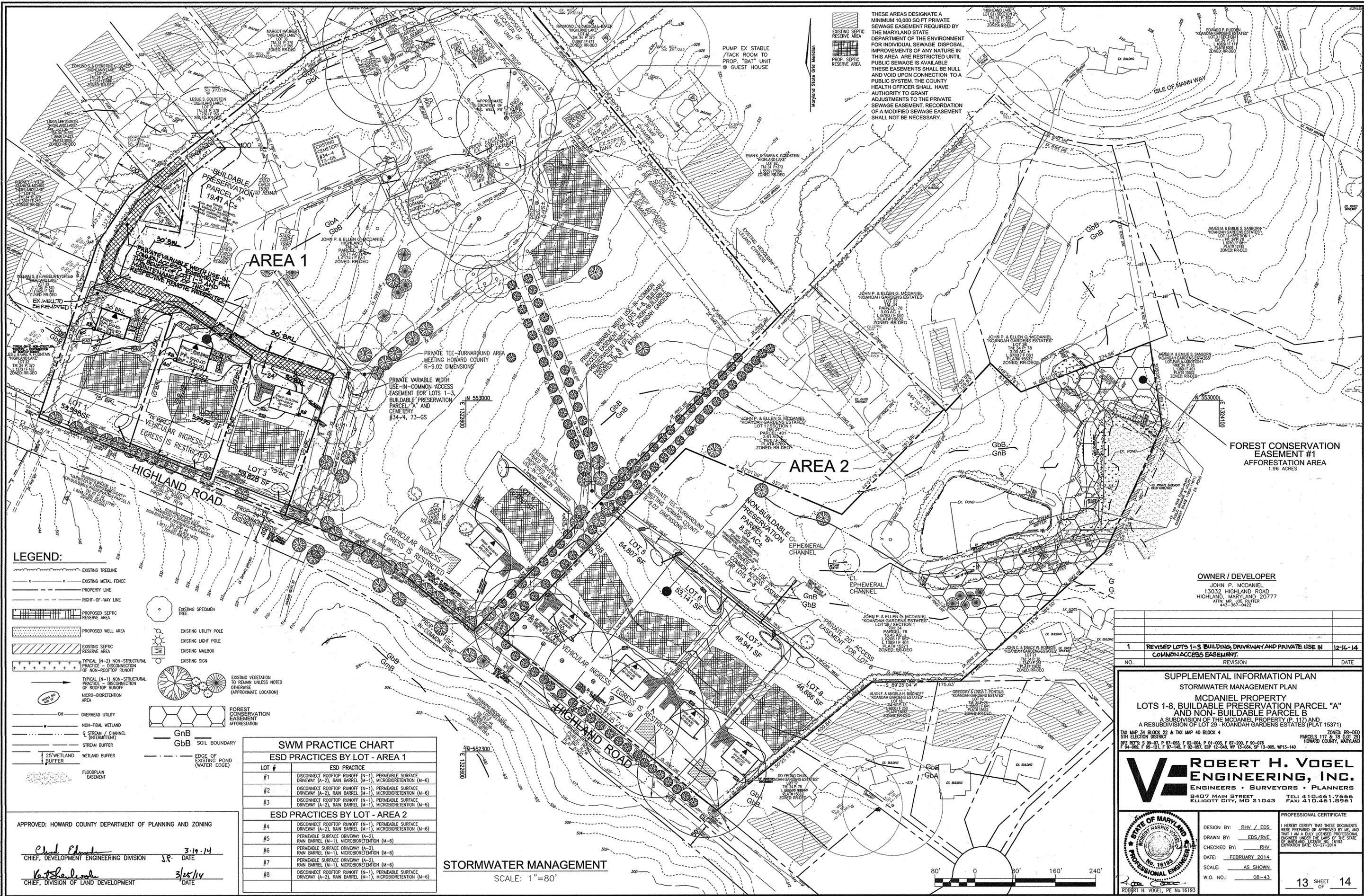
PLANTING SLOPE

CONTAINER GROWN AND B&B PLANTING TECHNIQUES

TYPICAL FOREST TREE DISTRIBUTION PATTERNS

AGGREGATE DISTRIBUTION DIRT

MATURE TRANSPARENT STOCK



THESE AREAS DESIGNATE A MINIMUM 10,000 SQ FT PRIVATE SEWAGE EASEMENT REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL BE NULL AND VOID UPON CONNECTION TO A PUBLIC SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A MODIFIED SEWAGE EASEMENT SHALL NOT BE NECESSARY.

LEGEND:

- EXISTING TREELINE
- EXISTING METAL FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- PROPOSED SEPTIC RESERVE AREA
- PROPOSED WELL AREA
- EXISTING SEPTIC RESERVE AREA
- TYPICAL (N-2) NON-STRUCTURAL PRACTICE - DISCONNECTION OF ROOFTOP RUNOFF
- TYPICAL (N-1) NON-STRUCTURAL PRACTICE - DISCONNECTION OF ROOFTOP RUNOFF
- MICRO-BIORETENTION AREA
- OH OVERHEAD UTILITY
- NON-TOTAL WETLAND
- C STREAM / CHANNEL (INTERMITTENT)
- STREAM BUFFER
- WETLAND BUFFER
- FLOORPLAN EASEMENT
- EXISTING SPECIMEN TREE
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING VEGETATION TO REMAIN UNLESS NOTED OTHERWISE (APPROXIMATE LOCATION)
- FOREST CONSERVATION EASEMENT AFFORESTATION
- GnB SOIL BOUNDARY
- GbB SOIL BOUNDARY
- EDGE OF EXISTING POND (WATER EDGE)

SWM PRACTICE CHART

ESD PRACTICES BY LOT - AREA 1

LOT #	ESD PRACTICE
#1	DISCONNECT ROOFTOP RUNOFF (N-1), PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)
#2	DISCONNECT ROOFTOP RUNOFF (N-1), PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)
#3	DISCONNECT ROOFTOP RUNOFF (N-1), PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)

ESD PRACTICES BY LOT - AREA 2

LOT #	ESD PRACTICE
#4	DISCONNECT ROOFTOP RUNOFF (N-1), PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)
#5	PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)
#6	PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)
#7	PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)
#8	DISCONNECT ROOFTOP RUNOFF (N-1), PERMEABLE SURFACE DRIVEWAY (A-2), RAIN BARREL (M-1), MICROBIORETENTION (M-6)

STORMWATER MANAGEMENT
SCALE: 1"=80'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division 3-19-14
DATE

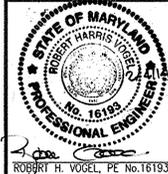
Chief, Division of Land Development 3/25/14
DATE

OWNER / DEVELOPER
JOHN P. MCDANIEL
13032 HIGHLAND ROAD
HIGHLAND, MARYLAND 20777
ATTN: MR. JOE RUTTER
443-367-0422

NO.	REVISION	DATE
1	REVISED LOTS 1-3 BUILDING, DRIVEWAY AND PRIVATE USE IN COMMON ACCESS EASEMENT.	12-14-14

SUPPLEMENTAL INFORMATION PLAN
STORMWATER MANAGEMENT PLAN
MCDANIEL PROPERTY
LOTS 1-8, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PARCEL B
A SUBDIVISION OF THE MCDANIEL PROPERTY (P. 117) AND A RESUBDIVISION OF LOT 29 - KOANDAH GARDENS ESTATES (PLAT 15371)
TAX MAP 34 BLOCK 22 & TAX MAP 40 BLOCK 4 PARCELS 117 & 78 (LOT 29) 5TH ELECTION DISTRICT ZONED: RR-DEO
092 867'S; S 99-07, P 87-003, F 02-004, P 01-003, F 87-200, F 90-078, 94-068, F 95-121, F 97-145, F 02-057, E2P 12-046, WP 13-034, SP 13-005, WP13-140 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

DESIGN BY: RHV / EDS
DRAWN BY: EDS/RVE
CHECKED BY: RHV
DATE: FEBRUARY 2014
SCALE: AS SHOWN
W.O. NO.: 08-43

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: 09-27-2014

13 SHEET OF 14

