

- GENERAL NOTES**
- THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
 - THE BOUNDARY SHOWN IS BASED ON A MONUMENTED FIELD-RUN SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC., DATED JANUARY, 2012.
 - THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL MONUMENTS 40FA & 40FB, WHICH ARE BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM.
 - EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN BY BENCHMARK ENGINEERING, INC., ON OR ABOUT JANUARY 2012. CONTOUR INTERVAL IS 2 FEET.
 - EXISTING UTILITIES SHOWN HEREON ARE BASED ON FIELD LOCATIONS AND RECORD DRAWINGS.
 - THIS PROPERTY IS NOT WITHIN THE METROPOLITAN DISTRICT. WATER AND SEWER SHALL BE PRIVATE FOR LOTS 1-10 AND PRESERVATION PARCEL "A". WATER SHALL BE PRIVATE AND SEWER SHALL BE PUBLIC FOR LOTS 11-16.
 - FOREST STAND DELINEATION PLAN WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED MARCH 14, 2012.
 - SPECIMEN TREES WERE FOUND ON-SITE AS PER FOREST STAND DELINEATION PLAN PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED MARCH 14, 2012.
 - WETLANDS EXIST WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE WETLAND DELINEATION REPORT PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED MARCH 14, 2012.
 - A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
 - A.P.F.O. TRAFFIC STUDY WAS PREPARED BY THE MARS TRAFFIC GROUP, INC., DATED MARCH, 2012.
 - THE EXISTING PERCOLATION TEST LOCATIONS WILL PROVIDE ADEQUATE PRELIMINARY INFORMATION FOR THE SEVERAL OF THE ESD'S. A GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY GEOTECHNICAL LABORATORIES, INC., DATED APRIL, 2012 FOR THE REMAINING ESD'S.
 - THERE IS AN EXISTING STRUCTURE LOCATED ON-SITE TO BE REMOVED.
 - TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ON-SITE.
 - THIS PLAN IS SUBJECT TO THE AMENDED 5th EDITION OF THE HOWARD COUNTY SUBDIVISION REGULATIONS AND THE AMENDED HOWARD COUNTY ZONING REGULATIONS.
 - STORMWATER MANAGEMENT SHALL BE PROVIDED FOR THIS PROJECT BASED ON GUIDELINES ESTABLISHED BY THE 2006 MARYLAND STORMWATER DESIGN MANUAL VOLUMES I & II AS AMENDED BY THE STORMWATER MANAGEMENT ACT OF 2007. ENVIRONMENTAL SITE DESIGN METHODS SHALL BE UTILIZED AS FOLLOWS: THE ROADS ARE TREATED BY NON-ROOFTOP DISCONNECT, GRASS SWALES AND MICRO-BIORETENTION FACILITIES. DRIVEWAY AREAS MAY BE TREATED BY DISCONNECTION, OR ON-LOT MICRO-BIORETENTION. SOME SHARED DRIVEWAY SECTION WILL BE TREATED IN MICRO-BIORETENTION FACILITIES C & D.
 - THE STORMWATER MANAGEMENT SYSTEMS SHOWN ON THIS PLAN IS AN APPROXIMATION OF THE SIZE, SHAPE, AND LOCATION. IT IS UNDERSTOOD THAT THIS SYSTEM HAS NOT BEEN DESIGNED AND THE ACTUAL DESIGN MAY CHANGE ALTERING THE NUMBER OF UNITS ALLOCATED FOR THIS DEVELOPMENT.
 - STREET LIGHTS ARE NOT REQUIRED.
 - ALL LANDSCAPING REQUIREMENTS SHALL BE FULFILLED IN ACCORDANCE WITH THE HOWARD COUNTY CODE, SECTION 16.124 AND THE LANDSCAPE MANUAL.
 - FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY AND NOT TO THE PIPESTEM LOT DRIVEWAY.
 - DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - WIDTH - 12' (6" SERVING MORE THAN ONE RESIDENCE).
 - SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING.
 - GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE & MIN. 45° TURNING RADIUS.
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (425 LOAD).
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.
 - STRUCTURE CLEARANCES - MINIMUM 12 FEET.
 - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
 - IT IS UNDERSTOOD THAT THE FINAL DESIGN OF THE ROADWAY AND TEE TURNAROUND WILL BE IN COMPLIANCE WITH ALL SPECIFICATIONS AND REGULATIONS IN EFFECT AT THE TIME OF FINAL SUBMISSION AND THAT THIS MAY ALTER THE LAYOUT AS SHOWN ON THIS PLAN.
 - SUBJECT PROPERTY IS ZONED RR-DEO PER 2-02-04 COMPREHENSIVE ZONING PLAN.
 - APPLICABLE HOWARD COUNTY DPZ FILE REFERENCES FOR THIS PROJECT INCLUDE: ECP-12-045, WP-13-025
 - THE FOREST CONSERVATION ACT REQUIREMENTS FOR THIS PROJECT WILL BE MET BY 7.0 AC. OF ON-SITE RETENTION, 1.7 AC. OF AFFORESTATION AND 6.0 AC. OF REFORESTATION.

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|----------------------------|-----------------------|
| 6.0 AC. RETENTION (CREDIT) | 1.0 AC. AFFORESTATION |
| 1.0 AC. AFFORESTATION | 6.0 AC. REFORESTATION |
 - WRITTEN AUTHORIZATION BY BOE OF THE PROJECT LANDSCAPE PLAN WILL BE OBTAINED PRIOR TO SIGNATURE APPROVAL OF ROAD CONSTRUCTION PLANS.
 - THE INTENDED USE OF THE PRESERVATION PARCELS:

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| BUILDABLE PRESERVATION PARCEL "A": PRIVATELY OWNED RESIDENCE. |
| NON-BUILDABLE PRESERVATION PARCEL "B": FOR PROTECTION OF ENVIRONMENTAL FEATURES, TO BE PRIVATELY OWNED. |
| NON-BUILDABLE PRESERVATION PARCEL "C": SOLELY FOR PUBLIC OWNED SEWERAGE EASEMENT, TO BE OWNED BY HOWARD COUNTY MARYLAND. |
 - THERE IS A FLOODPLAIN LOCATED ON-SITE BASED ON A FLOODPLAIN ANALYSIS PREPARED BY BENCHMARK ENGINEERING, INC., DATED MARCH 2012, REVISED JULY, 2012.
 - WAVES TO BE SUBMITTED FOR A LOCAL ROAD SECTION TO PERMIT 22' PAVING WIDTH FOR AN ADT EXCEEDING 200.
 - TRAFFIC CONTROL DEVICES:
 - THE R1-1 ("STOP") SIGN AND THE STREET NAME SIGN FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETE.
 - THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY TRAFFIC CONTROL DEVICES.
 - ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUMUTCD).
 - ALL SIGN POSTS 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, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
 - A PRIVATE RANGE OF ADDRESS SIGN SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE FOR EACH OF THE USE-IN-COMMON DRIVEWAYS. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 401-313-2430 FOR DETAILS AND COST ESTIMATE.
 - AN INVESTIGATION OF DESIGN ALTERNATIVES WILL BE PROVIDED AT THE FINAL PLAN SUBMISSION FOR EXTENDING POINT RIDGE ROAD AND ROAD 'B' IN ORDER TO ELIMINATE OR SHORTEN THE LOT PIPESTEMS.

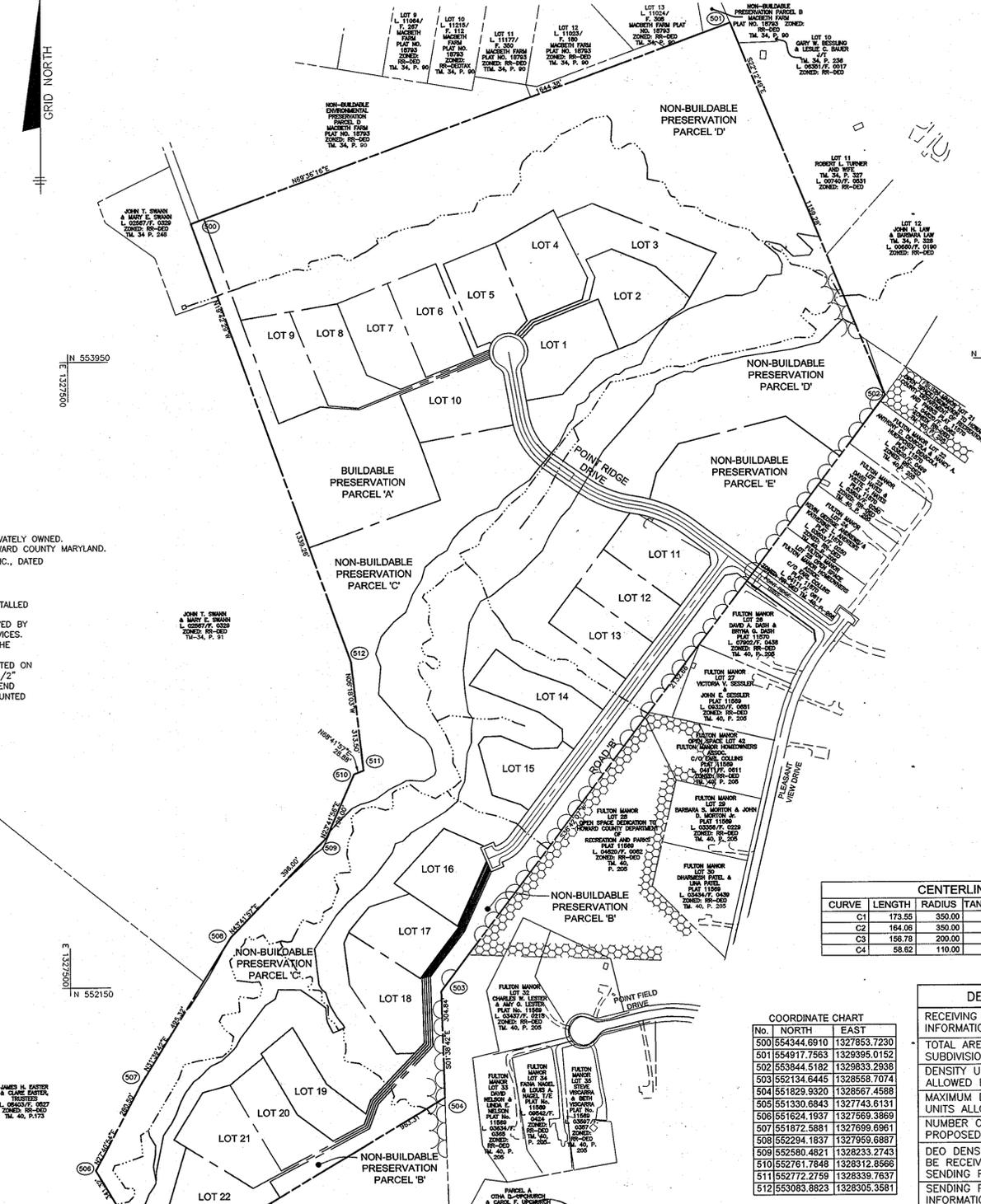
PRELIMINARY EQUIVALENT SKETCH PLAN

REGAN PROPERTY

LOTS 1-22, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PRESERVATION PARCELS "B" THRU "E"

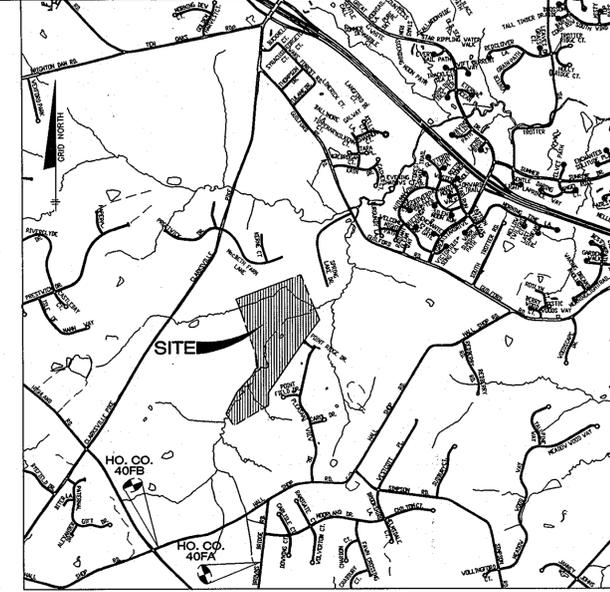
5th ELECTION DISTRICT

HOWARD COUNTY, MARYLAND



BENCH MARKS

| | | |
|--|-----------------|----------------|
| HO. CO. #40FA (MD '83) CONCRETE MONUMENT 0.25' BELOW SURFACE ON BROWN BRIDGE ROAD 0.3 MILE NORTH OF ROUTE 216 | E 1,328,421.39' | N 548,106.926' |
| HO. CO. #40FB (MD '83) CONCRETE MONUMENT 10.5' OFF EDGE OF PAVEMENT 2.0' BELOW SURFACE AT THE INTERSECTION OF HALL SHOP ROAD AND ROUTE 216 | E 1,326,000.81' | N 548,470.381' |



VICINITY MAP
SCALE: 1" = 2000'
ADC MAP PAGE: 4933,
GRID: J10

LEGEND (1"=100')

SOLE CLASSIFICATION: ChB2

SOLE DELINEATION

EXISTING CONTOURS (APPROX. 12'/20')

PROPOSED CONTOURS

LIMIT OF WETLANDS

25' WETLANDS BUFFER

CENTRALINE OF STREAM

STREAM BUFFER

EXISTING WOODS LINE

PROPOSED WOODS LINE

EXISTING STRUCTURE

PROPOSED STRUCTURE

SLOPES 15% TO 24.9%

SLOPES 25% OR GREATER

100 YEAR FLOODPLAIN

PROPOSED FOREST CONSERVATION EASEMENT (RETENTION)

PROPOSED FOREST CONSERVATION EASEMENT (AFFORESTATION/REFORESTATION)

TREE PROTECTION FENCE

PROP. STREET TREE

PRIVATE SEWAGE DISPOSAL AREA

PRIVATE WELL AREA

PROP. WELL LOCATION

SHEET INDEX

| NO. | DESCRIPTION |
|-----|--|
| 1 | COVER SHEET |
| 2 | LAYOUT PLAN |
| 3 | LAYOUT PLAN |
| 4 | LAYOUT PLAN |
| 5 | LAYOUT PLAN |
| 6 | LAYOUT PLAN |
| 7 | LAYOUT PLAN |
| 8 | GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP |
| 9 | GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP |
| 10 | GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP |
| 11 | GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP |
| 12 | GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP |
| 13 | GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP |
| 14 | ROAD PROFILE AND DETAILS (POINT RIDGE DRIVE) |
| 15 | ROAD PROFILE AND DETAILS (ROAD 'B') |
| 16 | STORM DRAIN DRAINAGE AREA MAP |
| 17 | STORM DRAIN DRAINAGE AREA MAP |
| 18 | FOREST CONSERVATION PLAN |
| 19 | FOREST CONSERVATION PLAN |
| 20 | FOREST CONSERVATION NOTES AND DETAILS |
| 21 | LANDSCAPE PLAN |
| 22 | LANDSCAPE PLAN |
| 23 | PERCOLATION CERTIFICATION PLAN |
| 24 | PERCOLATION CERTIFICATION PLAN |
| 25 | PERCOLATION CERTIFICATION PLAN |

GENERAL NOTES CONTINUED:

33.) WAIVER PETITION WP-13-025, A REQUEST TO WAIVE SUBSECTIONS 16.115(C) AND 16.116(A) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE PLANNING DIRECTOR APPROVED THE WAIVER REQUEST ON FEBRUARY 8, 2013 SUBJECT TO THE FOLLOWING CONDITIONS:

- THE PETITIONER SHALL OBTAIN AUTHORIZATION BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AND U.S. ARMY CORPS OF ENGINEERS FOR ACTIVITIES PROPOSED IN STREAMS, WETLANDS, THE WETLAND BUFFER AND THE 100-YEAR FLOODPLAIN.
- THE PETITIONER SHALL NOT STORE OR DISCARD BUILDING MATERIALS OR OTHER DEBRIS WITHIN THE 100-YEAR FLOODPLAIN WITHOUT PRIOR WRITTEN AUTHORIZATION BY THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- THE PETITIONER SHALL ENSURE THAT ALL GRADING AND ROAD CONSTRUCTION ACTIVITIES WITHIN THE WETLANDS, BUFFERS AND 100-YEAR FLOODPLAIN THE MINIMUM NECESSARY TO ACCOMMODATE THE PROPOSED ROAD CROSSINGS AND SIDE SLOPE GRADING. THE PETITIONER SHALL ENSURE THAT BEST MANAGEMENT PRACTICES ARE USED WHEN CONSTRUCTING THE ROAD CROSSING AND THAT STABILIZATION IS INITIATED IMMEDIATELY UPON COMPLETING OF THE ROAD CONSTRUCTION ACTIVITIES.
- THE PETITIONER SHALL COMPLY WITH THE DEVELOPMENT ENGINEERING DIVISION COMMENTS DATED AUGUST 13, 2012.

MINIMUM LOT SIZE CHART

| LOT NO. | GROSS AREA | PIPESTEM AREA | MIN. LOT SIZE |
|---------|------------|---------------|---------------|
| 2 | 50,317 sf | 2,390 sf | 47,927 sf |
| 3 | 54,106 sf | 4,124 sf | 49,982 sf |
| 4 | 50,404 sf | 446 sf | 49,958 sf |
| 6 | 45,110 sf | 191 sf | 42,908 sf |
| 7 | 43,943 sf | 1,309 sf | 44,350 sf |
| 8 | 45,659 sf | 2,288 sf | 43,778 sf |
| 9 | 46,854 sf | 813 sf | 42,041 sf |
| 17 | 47,233 sf | 1,533 sf | 46,400 sf |
| 18 | 47,233 sf | 4,223 sf | 40,010 sf |
| 19 | 45,035 sf | 5,018 sf | 40,017 sf |
| 20 | 47,498 sf | 6,065 sf | 41,433 sf |
| 22 | 56,251 sf | 6,345 sf | 49,906 sf |

SITE DATA TABULATION

- GENERAL SITE DATA
 - PRESENT ZONING: RR-DEO
 - LOCATION: TAX MAP 34 - GRID 24 - PARCEL 200
 - APPLICABLE DPZ FILE REFERENCES: ECP-12-045
 - DEED REFERENCE: L.11915 / F.00086
 - PROPOSED USE OF SITE: 22 SFD HOMES; 1 BUILDABLE PRESERVATION PARCEL; 4 NON-BUILDABLE PRESERVATION PARCEL
 - PROPOSED WATER AND SEWER SYSTEMS: PRIVATE; LOTS 1-10, 17-22 AND PRESERVATION PARCEL "A" PRIVATE WATER PUBLIC SEWER; LOTS 11-16
- AREA TABULATION

| | |
|---|--|
| a. TOTAL AREA OF SITE | 83.81 Ac.± |
| b. AREA OF 100 YEAR FLOODPLAIN (APPROX.) | 21.97 Ac.± |
| c. AREA OF STEEP SLOPES (25% OR GREATER) | 1.30 Ac.± (1.15 Ac.± OUTSIDE FLOODPLAIN) |
| d. NET AREA OF SITE | 60.69 Ac.± |
| e. AREA OF THIS PLAN SUBMISSION | 83.81 Ac.± |
| f. LIMIT OF DISTURBANCE (APPROX.) | 17.9 Ac.± |
| g. AREA OF PROPOSED BUILDABLE LOTS | 22.90 Ac.± |
| h. AREA OF PRESERVATION PARCEL | 58.28 Ac.± |
| i. AREA OF PROPOSED PUBLIC ROAD | 2.63 Ac.± |
| j. AREA OF PROPOSED PUBLIC R/W DEDICATION | N/A |
- DENSITY TABULATION

| | |
|--|------------|
| a. NET AREA OF SITE | 60.69 Ac.± |
| b. TOTAL NUMBER OF LOTS ALLOWED PER ZONING | 19 |
| 1 UNIT PER 4.25 GROSS ACRES | 19 |
| 1 UNIT PER 2 NET ACRES (MAX) | 30 |
- UNIT/LOT TABULATION

| | |
|---|-----------------|
| a. TOTAL NUMBER OF BUILDABLE LOTS PROPOSED ON THIS SUBMISSION | 22 |
| b. TOTAL NUMBER OF PRESERVATION PARCELS PROPOSED ON THIS SUBMISSION | 4 (1 BUILDABLE) |

CENTERLINE CURVE TABLE

| CURVE | LENGTH | RADIUS | TANGENT | CHORD | BEARING | DELTA |
|-------|--------|--------|---------|--------|-------------|-----------|
| C1 | 173.55 | 350.00 | 88.60 | 171.78 | N87°30'12"W | 28°24'37" |
| C2 | 164.00 | 350.00 | 83.56 | 162.58 | S88°16'40"E | 28°51'24" |
| C3 | 156.78 | 200.00 | 82.67 | 152.79 | S32°23'43"E | 44°54'49" |
| C4 | 58.62 | 110.00 | 30.02 | 57.92 | N81°58'03"E | 30°31'52" |

COORDINATE CHART

| NO. | NORTH | EAST |
|-----|-------------|--------------|
| 500 | 554344.6910 | 1327853.7230 |
| 501 | 554917.7583 | 1329395.0152 |
| 502 | 553844.5182 | 1329833.2938 |
| 503 | 552134.6445 | 1328558.7074 |
| 504 | 551829.9320 | 1328567.4588 |
| 505 | 551330.6843 | 1327743.6131 |
| 506 | 551624.1937 | 1327569.3869 |
| 507 | 551872.5881 | 1327699.6961 |
| 508 | 552294.1837 | 1327959.6967 |
| 509 | 552580.4821 | 1328233.2743 |
| 510 | 552761.7848 | 1328312.8566 |
| 511 | 552772.2759 | 1328339.7637 |
| 512 | 553083.8823 | 1328305.3581 |

DENSITY EXCHANGE CHART

| RECEIVING PARCEL INFORMATION | TAX MAP 34, GRID 24, PARCEL 200 |
|--|--|
| TOTAL AREA OF SUBDIVISION | 83.81 AC |
| DENSITY UNITS ALLOWED BY RIGHT | 83.81 / 4.25 = 19 D.U. |
| MAXIMUM DEO UNITS ALLOWED | 60.69 / 2 = 30 D.U. |
| NUMBER OF UNITS PROPOSED | 23 (22 LOTS AND 1 BUILDABLE PRESERVATION PARCEL) |
| DEO DENSITY UNITS TO BE RECEIVED FROM SENDING PARCEL | 4 |
| SENDING PARCEL INFORMATION | TBD |

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE SUITE 418 • ELLICOTT CITY, MARYLAND 21043
(P) 410-485-6105 (F) 410-485-6644

60 THOMAS JOHNSON DRIVE • FREDERICK, MARYLAND 21702
(P) 301-371-3505 (F) 301-371-3506
WWW.BEI-CVLENGINEERING.COM

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2013.

OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN
12859 ROUTE 108
HIGHLAND, MARYLAND 20777
301.672.4820

PROJECT: REGAN PROPERTY
LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E"

LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN COVER SHEET

DATE: MARCH, 2012
FEBRUARY, 2013

PROJECT NO.: 2171

SCALE: AS SHOWN

DRAWING 1 OF 25

DESIGN: JMC DRAFT: JMC

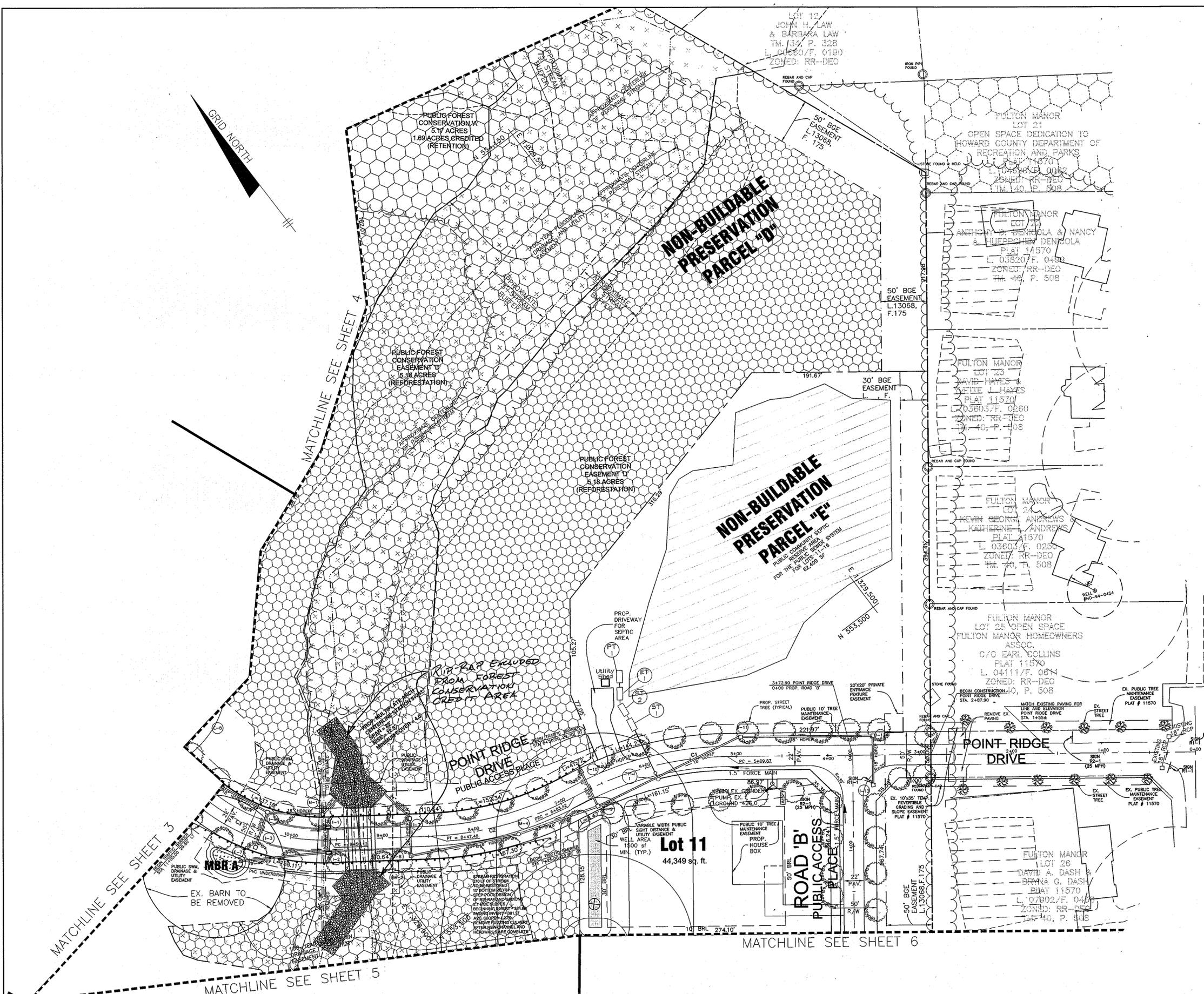
TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

Paul D. Gaylor 4/13/13
PLANNING DIRECTOR DATE

PLAN VIEW
SCALE: 1" = 200'

LEGEND

- SOILS CLASSIFICATION ChB2
- SOILS DELINEATION
- EXISTING CONTOURS (AERIAL 12/02)
- PROPOSED CONTOURS
- LIMIT OF WETLANDS
- 25' WETLANDS BUFFER
- CENTERLINE OF STREAM
- STREAM BUFFER
- EXISTING WOODS LINE
- PROPOSED WOODS LINE
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- SLOPES 15% TO 24.9%
- SLOPES 25% OR GREATER
- 100 YEAR FLOODPLAIN
- PROPOSED FOREST CONSERVATION EASEMENT (RETENTION)
- PROPOSED FOREST CONSERVATION EASEMENT (AFFORESTATION/REFORESTATION)
- TREE PROTECTION FENCE
- FCE PERMANENT SIGNAGE
- PROP. STREET TREE
- PRIVATE SEWAGE DISPOSAL AREA
- PRIVATE WELL AREA
- PROP. WELL LOCATION



TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
Ronald Regan 4/3/12
PLANNING DIRECTOR DATE

PLAN VIEW
SCALE: 1" = 50'

| NO. | DATE | REVISION |
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| | | |

BENCHMARK
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ENGINEERING, INC.

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2013.

| | |
|---|--|
| OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 301.672.4820 | PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E" |
| DESIGN: JMC DRAFT: JMC | LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND |
| TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN LAYOUT PLAN | DATE: MARCH, 2012 FEBRUARY, 2013 |
| SCALE: AS SHOWN | PROJECT NO. 2171 DRAWING 2 OF 25 |



LEGEND

- SOILS CLASSIFICATION ChB2
- SOILS DELINEATION —————
- EXISTING CONTOURS (AERIAL 12/02) - - - - - 480
- - - - - 478
- PROPOSED CONTOURS ————— 999
- LIMIT OF WETLANDS - - - - -
- 25' WETLANDS BUFFER - - - - -
- CENTERLINE OF STREAM - - - - -
- STREAM BUFFER - - - - -
- EXISTING WOODS LINE ~~~~~
- PROPOSED WOODS LINE ~~~~~
- EXISTING STRUCTURE []
- PROPOSED STRUCTURE []
- SLOPES 15% TO 24.9% []
- SLOPES 25% OR GREATER []
- 100 YEAR FLOODPLAIN []
- PROPOSED FOREST CONSERVATION EASEMENT (RETENTION) []
- PROPOSED FOREST CONSERVATION EASEMENT (AFFORESTATION/REFORESTATION) []
- TREE PROTECTION FENCE //
- FCE PERMANENT SIGNAGE ●
- PROP. STREET TREE ○
- PRIVATE SEWAGE DISPOSAL AREA []
- PRIVATE WELL AREA []
- PROP. WELL LOCATION ⊗

| NO. | DATE | REVISION |
|-----|------|----------|
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BENCHMARK
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ENGINEERING, INC.

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2013.

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| OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 301.672.4820 | PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E" |
| LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN LAYOUT PLAN |
| DATE: MARCH, 2012 FEBRUARY, 2013 | PROJECT NO. 2171 |
| DESIGN: JMC | DRAFT: JMC |
| SCALE: AS SHOWN | DRAWING 3 OF 25 |

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

People to people
PLANNING DIRECTOR

4/12/12
DATE

PLAN VIEW
SCALE: 1" = 50'

LEGEND

- SOILS CLASSIFICATION ChB2
- SOILS DELINEATION —————
- EXISTING CONTOURS (AERIAL 12/02) - - - - - 480
- - - - - 478
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- FCE PERMANENT SIGNAGE ●
- PROP. STREET TREE ○
- PRIVATE SEWAGE DISPOSAL AREA []
- PRIVATE WELL AREA []
- PROP. WELL LOCATION ⊗



PLAN VIEW
SCALE: 1" = 50'

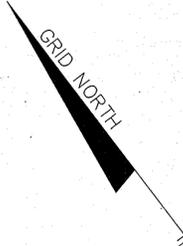
TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
Mark A. Ganga 4/6/12
PLANNING DIRECTOR DATE

| NO. | DATE | REVISION |
|--|----------------|------------------|
| | | |
| BENCHMARK ENGINEERS • LAND SURVEYORS • PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 418 A ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6844 60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702 (P) 301-371-3505 (F) 301-371-3508 WWW.BEI-CIVILENGINEERING.COM | | |
| OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 301.672.4820 | | |
| PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E" | | |
| LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | | |
| TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN LAYOUT PLAN | | |
| DATE: | MARCH, 2012 | PROJECT NO. 2171 |
| DATE: | FEBRUARY, 2013 | PROJECT NO. 2171 |
| DESIGN: | JMC | DRAFT: JMC |
| SCALE: | AS SHOWN | DRAWING 4 OF 25 |



LEGEND

- SOILS CLASSIFICATION ChB2
- SOILS DELINEATION —————
- EXISTING CONTOURS (AERIAL 12/02) -480-
-478-
- PROPOSED CONTOURS ————— 999
- LIMIT OF WETLANDS - - - - -
- 25' WETLANDS BUFFER - - - - -
- CENTERLINE OF STREAM - - - - -
- STREAM BUFFER - - - - -
- EXISTING WOODS LINE ~~~~~
- PROPOSED WOODS LINE ~~~~~
- EXISTING STRUCTURE []
- PROPOSED STRUCTURE []
- SLOPES 15% TO 24.9% []
- SLOPES 25% OR GREATER []
- 100 YEAR FLOODPLAIN []
- PROPOSED FOREST CONSERVATION EASEMENT (RETENTION) []
- PROPOSED FOREST CONSERVATION EASEMENT (AFFORESTATION/REFORESTATION) []
- TREE PROTECTION FENCE //
- FCE PERMANENT SIGNAGE ●
- PROP. STREET TREE ○
- PRIVATE SEWAGE DISPOSAL AREA []
- PRIVATE WELL AREA []
- PROP. WELL LOCATION ⊗



JOHN T. SWANN
& MARY E. SWANN
L. 02567/F. 0329
ZONED: RR-DEO
TM. 34 P. 91

PLAN VIEW
SCALE: 1" = 50'

| NO. | DATE | REVISION |
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| | | |

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.

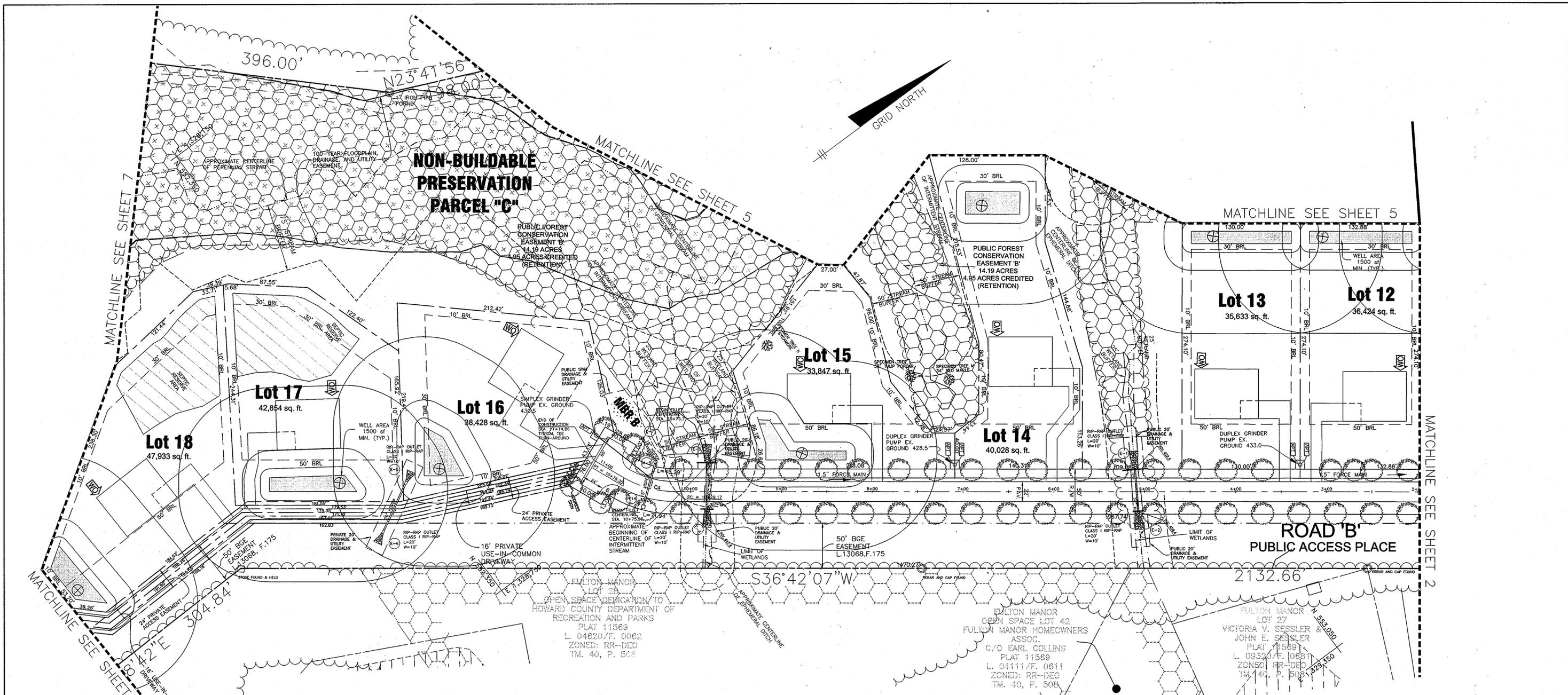
8480 BALTIMORE NATIONAL PIKE & SUITE 418 & ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702
(P) 301-371-3505 (F) 301-371-3506
WWW.BEI-CVLENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2013.

| | |
|---|--|
| OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 301.672.4820 | PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E" |
| LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN LAYOUT PLAN |
| DATE: MARCH, 2012 FEBRUARY, 2013 | PROJECT NO. 2171 |
| DESIGN: JMC | DRAFT: JMC |
| SCALE: AS SHOWN | DRAWING 5 OF 25 |

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

Mark A. Wight 4/5/12
PLANNING DIRECTOR DATE



TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
Mark A. Uggla 4/16/12
 PLANNING DIRECTOR DATE

PLAN VIEW
 SCALE: 1" = 50'

| NO. | DATE | REVISION |
|-----|------|----------|
| | | |

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE & SUITE 418 A ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-8105 (F) 410-465-6644

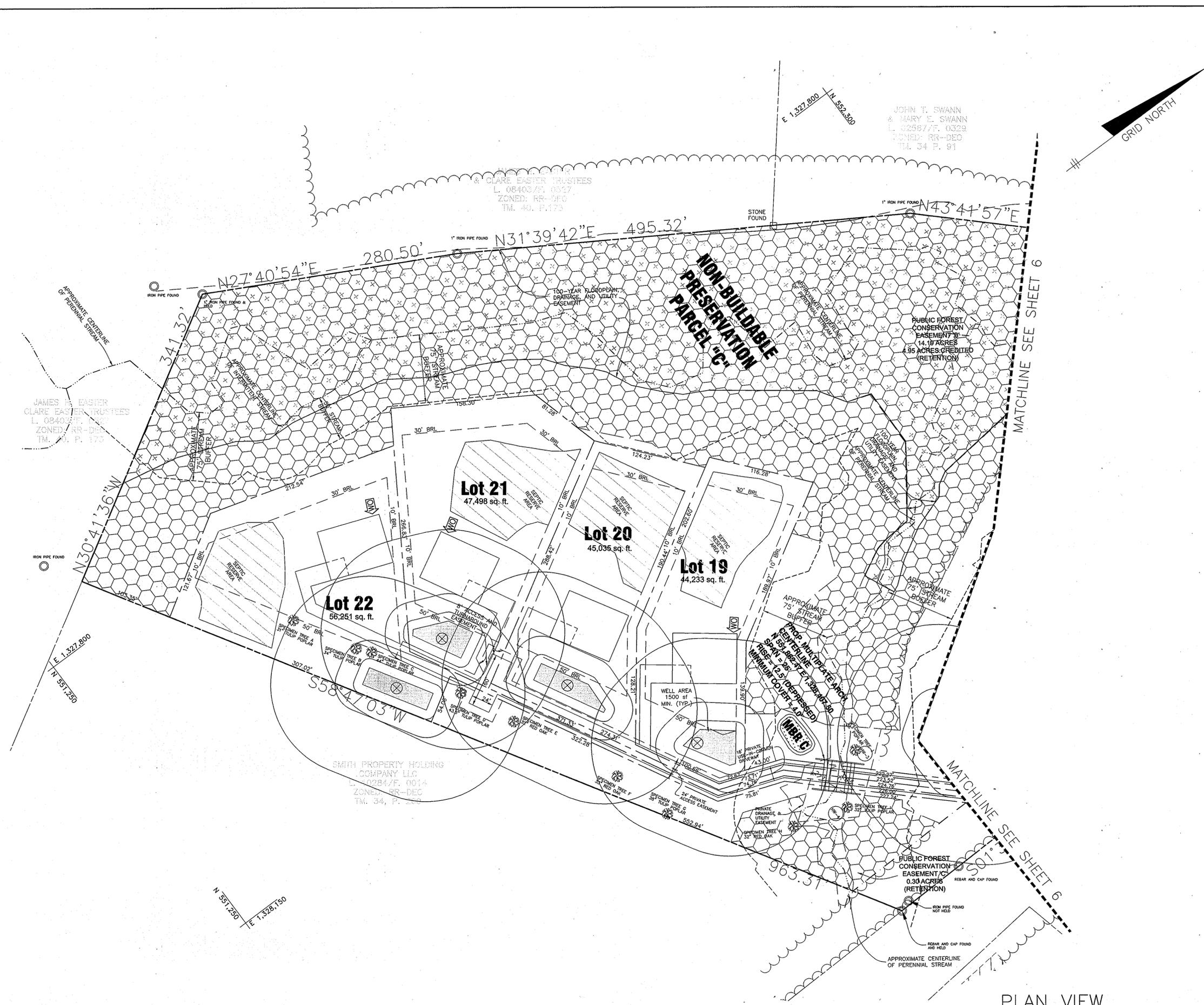
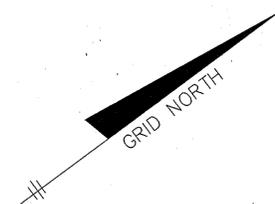
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 (P) 301-371-3505 (F) 301-371-3506
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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2013.

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| LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN LAYOUT PLAN |
| DATE: MARCH, 2012 FEBRUARY, 2013 | PROJECT NO. 2171 |
| DESIGN: JMC DRAFT: JMC | SCALE: AS SHOWN DRAWING 8 OF 25 |

LEGEND

- SOILS CLASSIFICATION ChB2
- SOILS DELINEATION —————
- EXISTING CONTOURS (AERIAL 12/02) - - - - - 480
- PROPOSED CONTOURS - - - - - 999
- LIMIT OF WETLANDS ~~~~~
- 25' WETLANDS BUFFER - - - - -
- CENTERLINE OF STREAM - - - - -
- STREAM BUFFER - - - - -
- EXISTING WOODS LINE ~~~~~
- PROPOSED WOODS LINE ~~~~~
- EXISTING STRUCTURE []
- PROPOSED STRUCTURE []
- SLOPES 15% TO 24.9% []
- SLOPES 25% OR GREATER []
- 100 YEAR FLOODPLAIN []
- PROPOSED FOREST CONSERVATION EASEMENT (RETENTION) []
- PROPOSED FOREST CONSERVATION EASEMENT (AFFORESTATION/REFORESTATION) []
- TREE PROTECTION FENCE - - - - -
- FCE PERMANENT SIGNAGE ●
- PROP. STREET TREE ○
- PRIVATE SEWAGE DISPOSAL AREA []
- PRIVATE WELL AREA []
- PROP. WELL LOCATION ⊗



MATCHLINE SEE SHEET 6

MATCHLINE SEE SHEET 6

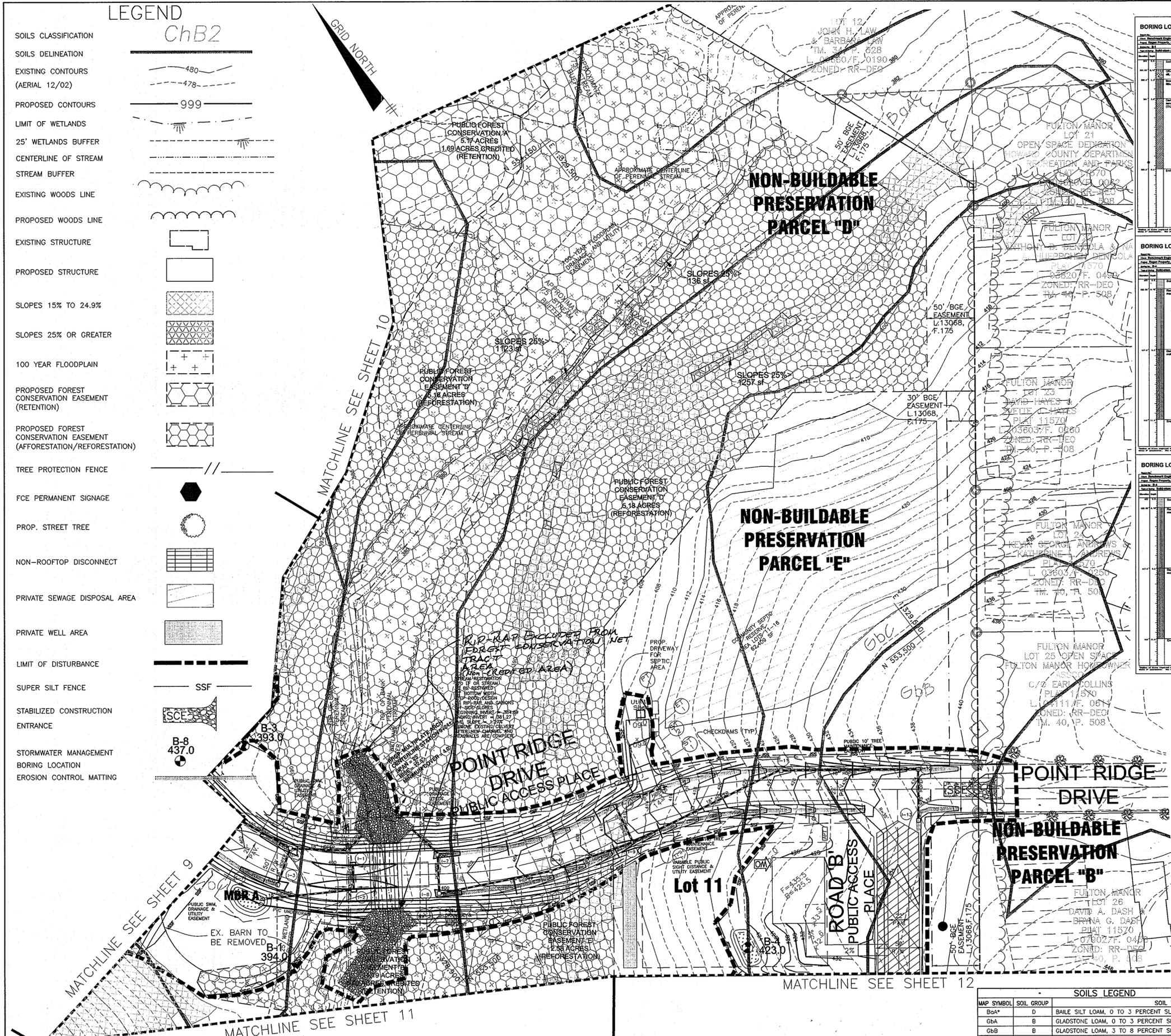
PLAN VIEW
SCALE: 1" = 50'

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
David A. Angell 4/3/12
PLANNING DIRECTOR DATE

| NO. | DATE | REVISION |
|--|------|--|
| | | |
| BENCHMARK ENGINEERS • LAND SURVEYORS • PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE • SUITE 418 • ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 60 THOMAS JOHNSON DRIVE • FREDERICK, MARYLAND 21702 (P) 301-371-3505 (F) 301-371-3506 WWW.BEI-CIVILENGINEERING.COM | | Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2013. |
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| DESIGN: JMC DRAFT: JMC | | TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN LAYOUT PLAN DATE: MARCH, 2012 PROJECT NO. 2171 FEBRUARY, 2013 SCALE: AS SHOWN DRAWING 7 OF 25 |

LEGEND
ChB2

- SOILS CLASSIFICATION
- SOILS DELINEATION
- EXISTING CONTOURS (AERIAL 12/02)
- PROPOSED CONTOURS
- LIMIT OF WETLANDS
- 25' WETLANDS BUFFER
- CENTERLINE OF STREAM
- STREAM BUFFER
- EXISTING WOODS LINE
- PROPOSED WOODS LINE
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
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- TREE PROTECTION FENCE
- FCE PERMANENT SIGNAGE
- PROP. STREET TREE
- NON-ROOFTOP DISCONNECT
- PRIVATE SEWAGE DISPOSAL AREA
- PRIVATE WELL AREA
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- STORMWATER MANAGEMENT BORING LOCATION
- EROSION CONTROL MATTING



| BORING LOG | GEOLAB, INC. | BORING LOG | GEOLAB, INC. | BORING LOG | GEOLAB, INC. |
|------------|--------------|------------|--------------|------------|--------------|
| | | | | | |
| | | | | | |
| | | | | | |

SWM BORING LOGS
NO SCALE

| SOILS LEGEND | | |
|--------------|------------|--|
| MAP SYMBOL | SOIL GROUP | SOIL TYPE |
| Ba* | D | BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES |
| Gba | B | GLADSTONE LOAM, 0 TO 3 PERCENT SLOPES |
| Gbb | B | GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES |
| Gbc | B | GLADSTONE LOAM, 8 TO 15 PERCENT SLOPES |
| Gmb* | C | GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES |
| Mad | B | MANOR LOAM, 15 TO 25 PERCENT SLOPES |

FROM NATURAL RESOURCES CONSERVATION SERVICES WEB SOIL SURVEY 2.0
* ERODIBLE SOILS

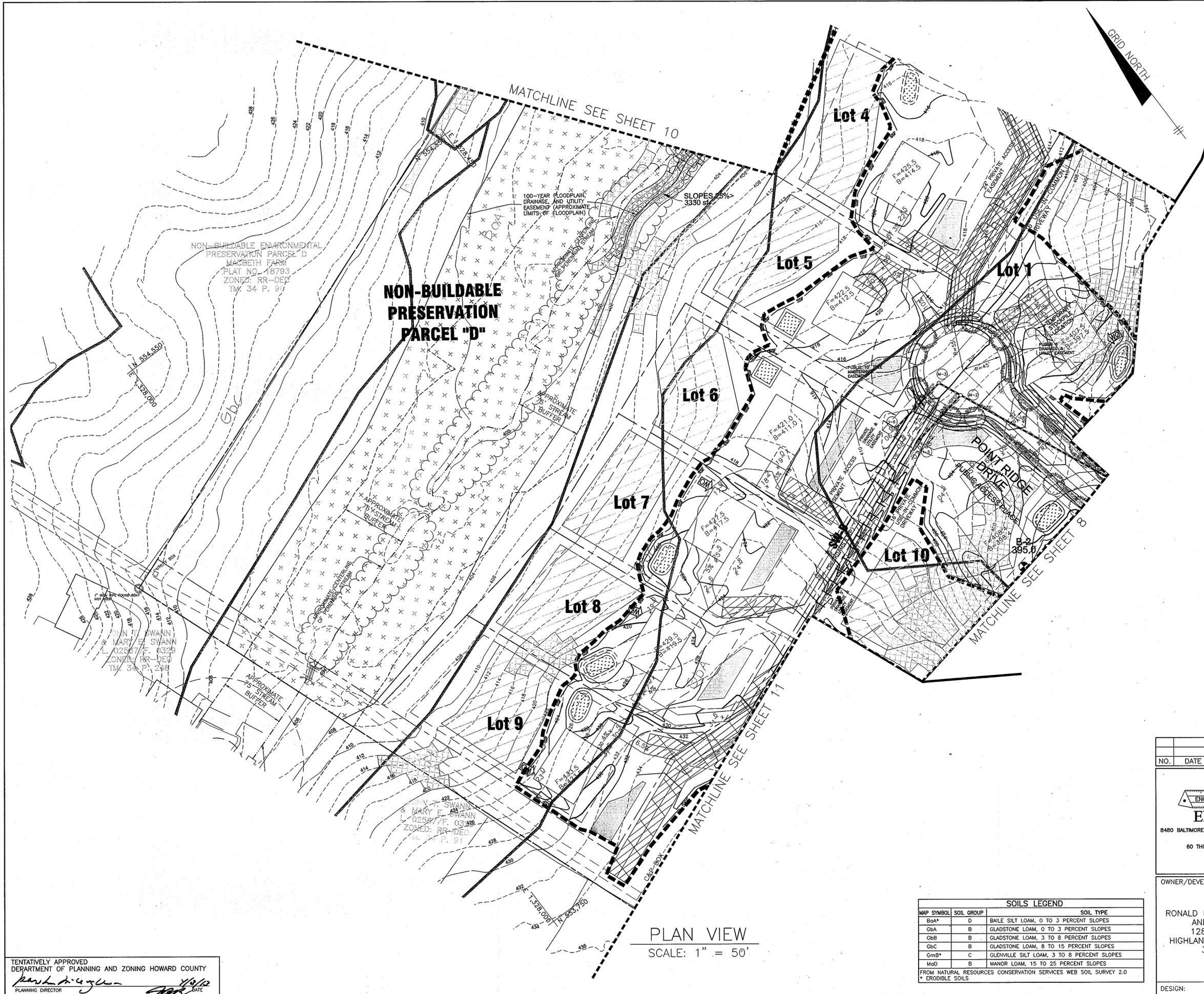
PLAN VIEW
SCALE: 1" = 50'

| | | |
|--|------------|--|
| NO. | DATE | REVISION |
| BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE SUITE 418 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 60 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702 (P) 301-371-3505 (F) 301-371-3506 WWW.BEI-CIVILENGINEERING.COM | | |
| OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 301.672.4820 | | PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E" LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP DATE: MARCH, 2012 PROJECT NO. 2171 |
| DESIGN: JCO | DRAFT: JCO | SCALE: AS SHOWN DRAWING 8 OF 25 |

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
Mark A. Coughlin
PLANNING DIRECTOR

LEGEND

- SOILS CLASSIFICATION ChB2
- SOILS DELINEATION
- EXISTING CONTOURS (AERIAL 12/02)
- PROPOSED CONTOURS
- LIMIT OF WETLANDS
- 25' WETLANDS BUFFER
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- SUPER SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- STORMWATER MANAGEMENT BORING LOCATION
- EROSION CONTROL MATTING



| SOILS LEGEND | | |
|--------------|------------|--|
| MAP SYMBOL | SOIL GROUP | SOIL TYPE |
| Ba* | D | BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES |
| Gba | B | GLADSTONE LOAM, 0 TO 3 PERCENT SLOPES |
| Gbb | B | GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES |
| Gbc | B | GLADSTONE LOAM, 8 TO 15 PERCENT SLOPES |
| Gmb* | C | GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES |
| Md | B | MANOR LOAM, 15 TO 25 PERCENT SLOPES |

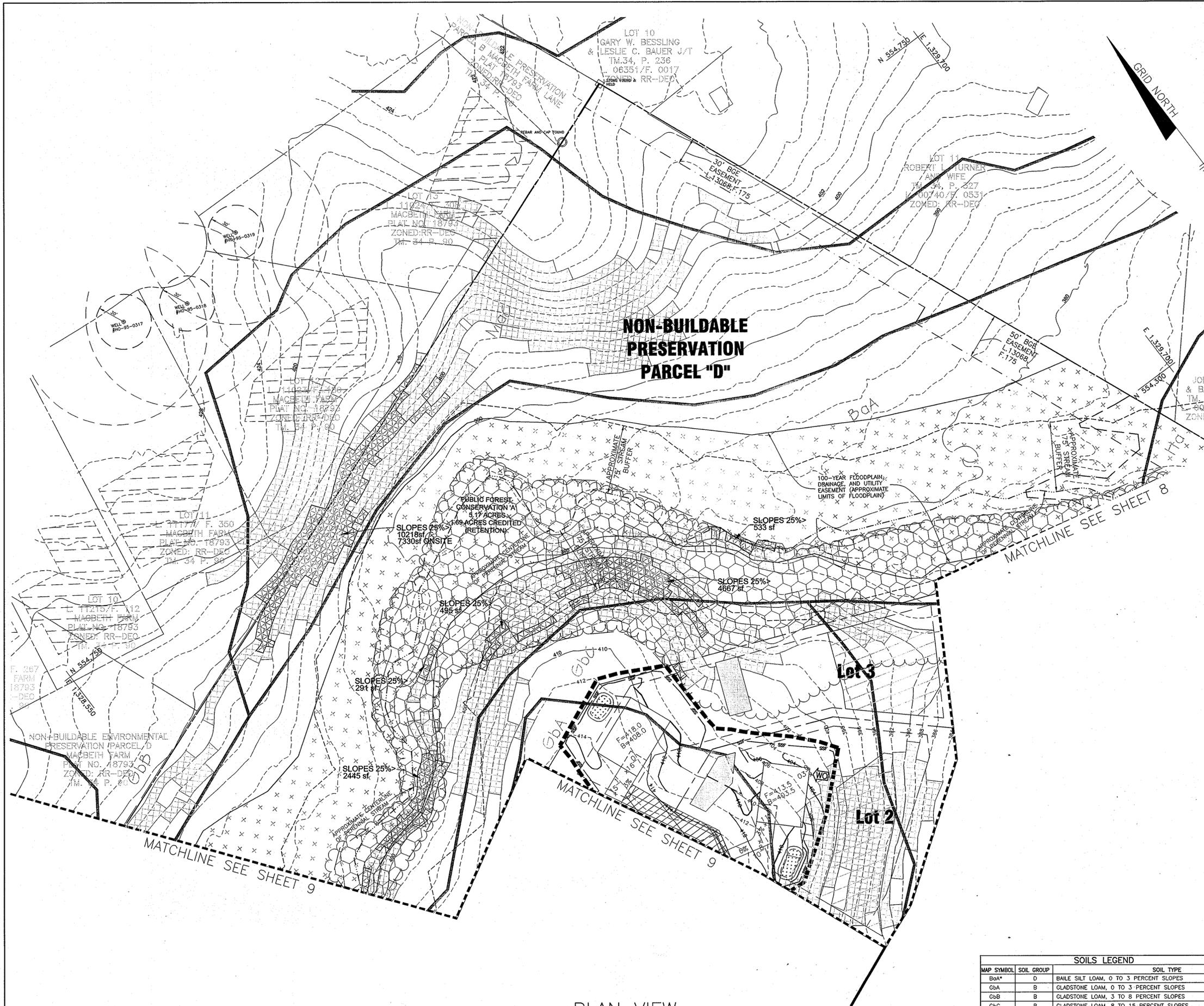
FROM NATURAL RESOURCES CONSERVATION SERVICES WEB SOIL SURVEY 2.0
* ERODIBLE SOILS

| | | |
|--|------------|---|
| NO. | DATE | REVISION |
| BENCHMARK ENGINEERS • LAND SURVEYORS • PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE • SUITE 418 • ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 60 THOMAS JOHNSON DRIVE • FREDERICK, MARYLAND 21702 (P) 301-371-3505 (F) 301-371-3506 WWW.BEI-CIVILENGINEERING.COM | | |
| OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 301.672.4820 | | PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E" LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP DATE: MARCH, 2012 FEBRUARY, 2013 PROJECT NO. 2171 |
| DESIGN: JCO | DRAFT: JCO | SCALE: AS SHOWN DRAWING 9 OF 25 |

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
Paul D. Cullen
 PLANNING DIRECTOR
 DATE: 4/9/12

LEGEND

- SOILS CLASSIFICATION **ChB2**
- SOILS DELINEATION
- EXISTING CONTOURS (AERIAL 12/02)
- PROPOSED CONTOURS
- LIMIT OF WETLANDS
- 25' WETLANDS BUFFER
- CENTERLINE OF STREAM
- STREAM BUFFER
- EXISTING WOODS LINE
- PROPOSED WOODS LINE
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
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- SLOPES 25% OR GREATER
- 100 YEAR FLOODPLAIN
- PROPOSED FOREST CONSERVATION EASEMENT (RETENTION)
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- TREE PROTECTION FENCE
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- NON-ROOFTOP DISCONNECT
- PRIVATE SEWAGE DISPOSAL AREA
- PRIVATE WELL AREA
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- STORMWATER MANAGEMENT BORING LOCATION
- EROSION CONTROL MATTING



NON-BUILDABLE PRESERVATION PARCEL "D"

PUBLIC FOREST CONSERVATION "A"
5.17 ACRES
RETENTION

PLAN VIEW
SCALE: 1" = 50'

| SOILS LEGEND | | |
|--------------|------------|--|
| MAP SYMBOL | SOIL GROUP | SOIL TYPE |
| [Symbol] | D | BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES |
| [Symbol] | B | GLADSTONE LOAM, 0 TO 3 PERCENT SLOPES |
| [Symbol] | B | GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES |
| [Symbol] | B | GLADSTONE LOAM, 8 TO 15 PERCENT SLOPES |
| [Symbol] | C | GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES |
| [Symbol] | B | MANOR LOAM, 15 TO 25 PERCENT SLOPES |

FROM NATURAL RESOURCES CONSERVATION SERVICES WEB SOIL SURVEY 2.0
* ERODIBLE SOILS

| | | |
|--|------------|------------------|
| NO. | DATE | REVISION |
| BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE SUITE 418 • ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 60 THOMAS JOHNSON DRIVE • FREDERICK, MARYLAND 21702 (P) 301-371-3505 (F) 301-371-3506 WWW.BEI-CIVILENGINEERING.COM | | |
| OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 301.672.4820 | | |
| PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E" LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | | |
| TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP DATE: MARCH 2012 PROJECT NO. 2171 | | |
| DESIGN: JCO | DRAFT: JCO | SCALE: AS SHOWN |
| | | DRAWING 10 OF 25 |

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

 PLANNING DIRECTOR

LEGEND

- SOILS CLASSIFICATION ChB2
- SOILS DELINEATION
- EXISTING CONTOURS (AERIAL 12/02)
- PROPOSED CONTOURS
- LIMIT OF WETLANDS
- 25' WETLANDS BUFFER
- CENTERLINE OF STREAM
- STREAM BUFFER
- EXISTING WOODS LINE
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- STABILIZED CONSTRUCTION ENTRANCE
- STORMWATER MANAGEMENT BORING LOCATION
- EROSION CONTROL MATTING



PLAN VIEW
SCALE: 1" = 50'

| MAP SYMBOL | SOIL GROUP | SOIL TYPE |
|------------|------------|--|
| BaA* | D | BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES |
| GbA | B | GLADSTONE LOAM, 0 TO 3 PERCENT SLOPES |
| GbB | B | GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES |
| GbC | B | GLADSTONE LOAM, 8 TO 15 PERCENT SLOPES |
| GmB* | C | GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES |
| MoD | B | MANOR LOAM, 15 TO 25 PERCENT SLOPES |

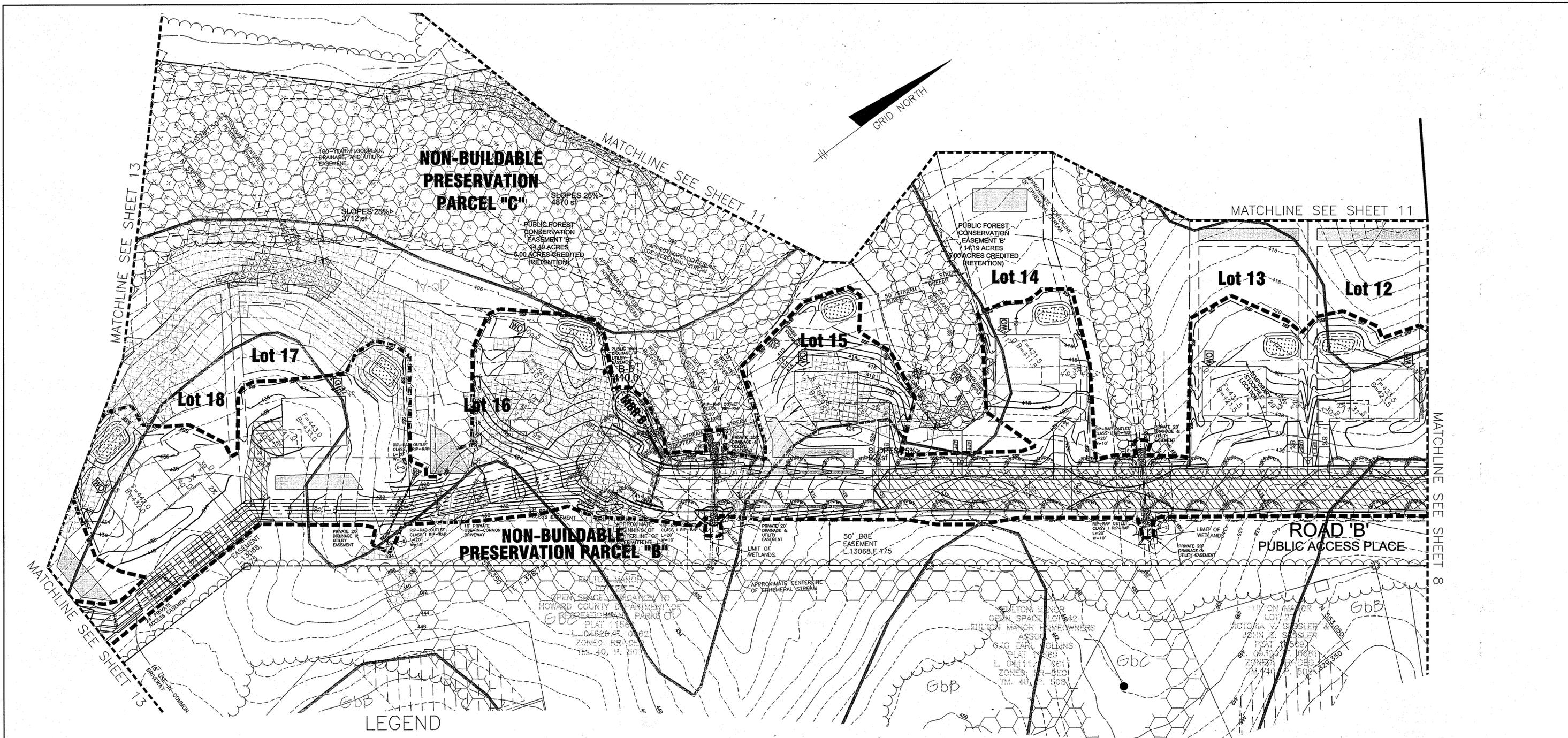
FROM NATURAL RESOURCES CONSERVATION SERVICES WEB SOIL SURVEY 2.0
* ERODIBLE SOILS

| | | |
|--|------------|---|
| NO. | DATE | REVISION |
| <p align="center">BENCHMARK ENGINEERS • LAND SURVEYORS • PLANNERS ENGINEERING, INC.</p> <p>8480 BALTIMORE NATIONAL PIKE • SUITE 418 • ELLICOTT CITY, MARYLAND 21043 (P) 410-485-8105 (F) 410-465-6644</p> <p>60 THOMAS JOHNSON DRIVE • FREDERICK, MARYLAND 21702 (P) 301-371-3505 (F) 301-371-3506 WWW.BE-CIVILENGINEERING.COM</p> | | |
| <p>OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 301.672.4820</p> | | <p>PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E"</p> <p>LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND</p> <p>TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP</p> <p>DATE: MARCH, 2012 FEBRUARY, 2013</p> <p>PROJECT NO. 2171</p> |
| DESIGN: JCO | DRAFT: JCO | SCALE: AS SHOWN |
| | | DRAWING 11 OF 25 |

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

David Z. Long
PLANNING DIRECTOR

[Signature]
DATE



LEGEND

| | | | | | |
|----------------------------------|------|---|--|---------------------------------------|--|
| SOILS CLASSIFICATION | ChB2 | SLOPES 15% TO 24.9% | | NON-ROOFTOP DISCONNECT | |
| SOILS DELINEATION | | SLOPES 25% OR GREATER | | PRIVATE SEWAGE DISPOSAL AREA | |
| EXISTING CONTOURS (AERIAL 12/02) | | 100 YEAR FLOODPLAIN | | PRIVATE WELL AREA | |
| PROPOSED CONTOURS | | PROPOSED FOREST CONSERVATION EASEMENT (RETENTION) | | LIMIT OF DISTURBANCE | |
| LIMIT OF WETLANDS | | PROPOSED FOREST CONSERVATION EASEMENT (AFFORESTATION/REFORESTATION) | | SUPER SILT FENCE | |
| 25' WETLANDS BUFFER | | TREE PROTECTION FENCE | | STABILIZED CONSTRUCTION ENTRANCE | |
| CENTERLINE OF STREAM | | FCE PERMANENT SIGNAGE | | STORMWATER MANAGEMENT BORING LOCATION | |
| STREAM BUFFER | | PROP. STREET TREE | | EROSION CONTROL MATTING | |
| EXISTING WOODS LINE | | | | | |
| PROPOSED WOODS LINE | | | | | |
| EXISTING STRUCTURE | | | | | |
| PROPOSED STRUCTURE | | | | | |

PLAN VIEW
SCALE: 1" = 50'

| MAP SYMBOL | SOIL GROUP | SOIL TYPE |
|------------|------------|--|
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| Gmb* | C | GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES |
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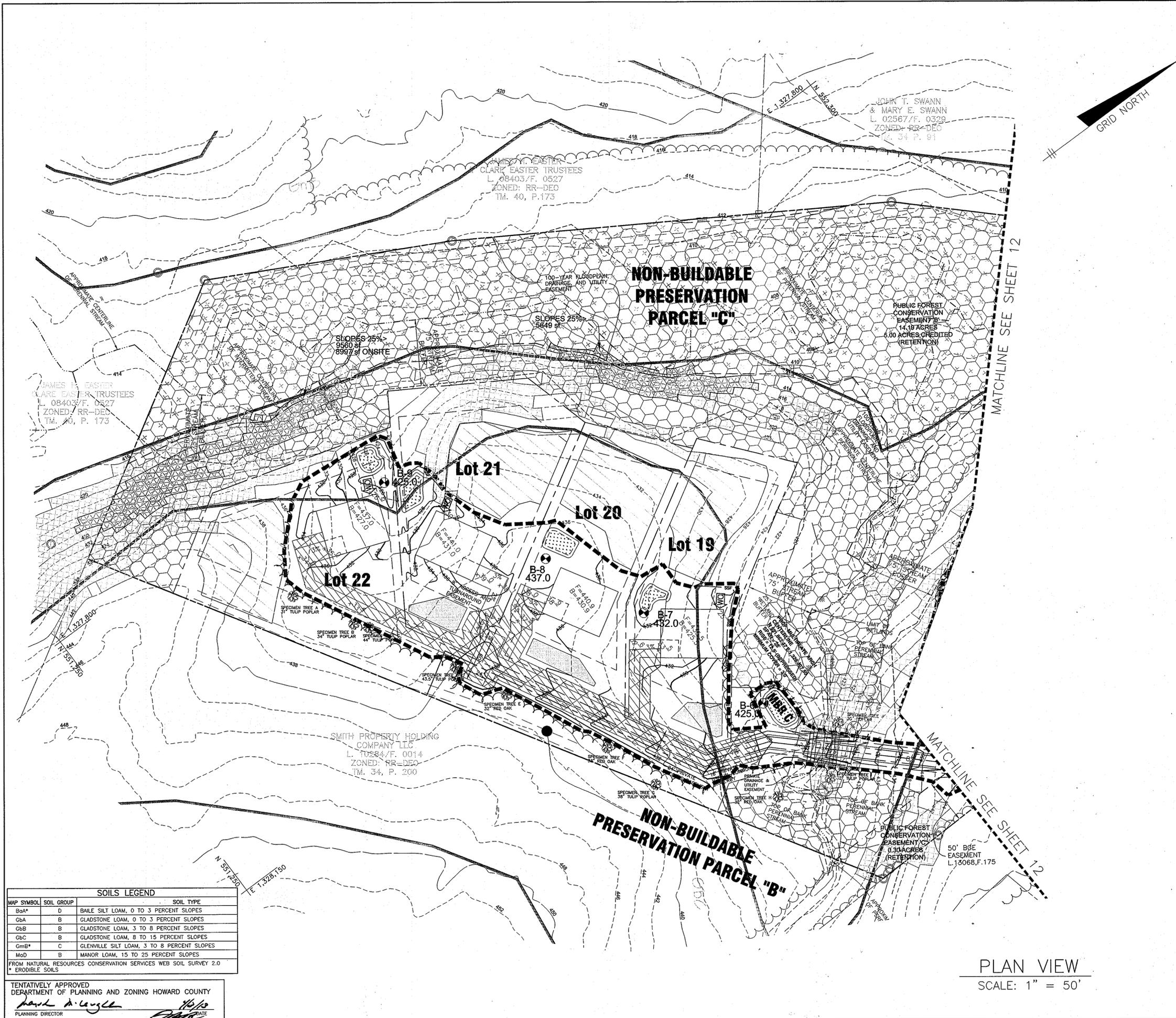
FROM NATURAL RESOURCES CONSERVATION SERVICES WEB SOIL SURVEY 2.0
* ERODIBLE SOILS

| | |
|--|--|
| NO. DATE REVISION | |
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| Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2013. | |
| | |
| OWNER/DEVELOPER: | PROJECT: |
| RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 301.672.4820 | REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E" |
| LOCATION: | TITLE: |
| TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | PRELIMINARY EQUIVALENT SKETCH PLAN GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP |
| DATE: | PROJECT NO.: |
| MARCH, 2012 FEBRUARY, 2013 | 2171 |
| DESIGN: JCO | DRAFT: JCO |
| SCALE: AS SHOWN | DRAWING 12 OF 25 |

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
Mark D. Gaylor 4/12/12
PLANNING DIRECTOR DATE

LEGEND

| | |
|---|------|
| SOILS CLASSIFICATION | ChB2 |
| SOILS DELINEATION | |
| EXISTING CONTOURS (AERIAL 12/02) | |
| PROPOSED CONTOURS | |
| LIMIT OF WETLANDS | |
| 25' WETLANDS BUFFER | |
| CENTERLINE OF STREAM | |
| STREAM BUFFER | |
| EXISTING WOODS LINE | |
| PROPOSED WOODS LINE | |
| EXISTING STRUCTURE | |
| PROPOSED STRUCTURE | |
| SLOPES 15% TO 24.9% | |
| SLOPES 25% OR GREATER | |
| 100 YEAR FLOODPLAIN | |
| PROPOSED FOREST CONSERVATION EASEMENT (RETENTION) | |
| PROPOSED FOREST CONSERVATION EASEMENT (AFFORESTATION/REFORESTATION) | |
| TREE PROTECTION FENCE | |
| FCE PERMANENT SIGNAGE | |
| PROP. STREET TREE | |
| NON-ROOFTOP DISCONNECT | |
| PRIVATE SEWAGE DISPOSAL AREA | |
| PRIVATE WELL AREA | |
| LIMIT OF DISTURBANCE | |
| SUPER SILT FENCE | SSF |
| STABILIZED CONSTRUCTION ENTRANCE | |
| STORMWATER MANAGEMENT BORING LOCATION | |
| EROSION CONTROL MATTING | |



| SOILS LEGEND | | |
|--------------|------------|--|
| MAP SYMBOL | SOIL GROUP | SOIL TYPE |
| Ba* | D | BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES |
| G1a | B | GLADSTONE LOAM, 0 TO 3 PERCENT SLOPES |
| G2b | B | GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES |
| G3c | B | GLADSTONE LOAM, 8 TO 15 PERCENT SLOPES |
| Gm6* | C | GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES |
| MoD | B | MANOR LOAM, 15 TO 25 PERCENT SLOPES |

FROM NATURAL RESOURCES CONSERVATION SERVICES WEB SOIL SURVEY 2.0
* ERODIBLE SOILS

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
David A. Leagle 4/6/10
PLANNING DIRECTOR

PLAN VIEW
SCALE: 1" = 50'

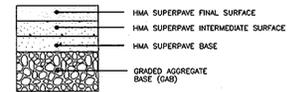
| NO. | DATE | REVISION |
|-----|------|----------|
| | | |

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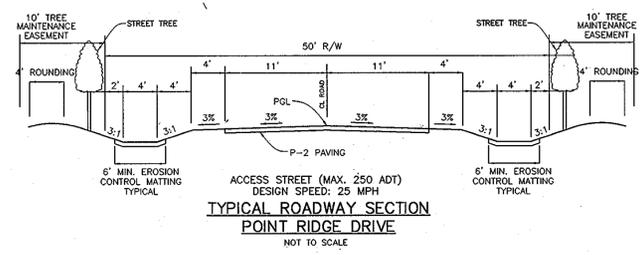
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2013.

| | |
|---|--|
| OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 301.672.4820 | PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E" |
| LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP |
| DATE: MARCH 2012 FEBRUARY, 2013 | PROJECT NO. 2171 |
| DESIGN: JCO DRAFT: JCO | SCALE: AS SHOWN DRAWING 13 OF 25 |

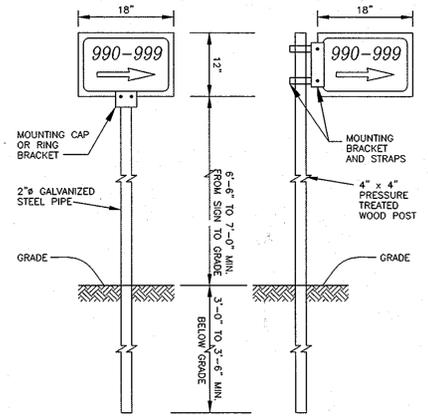
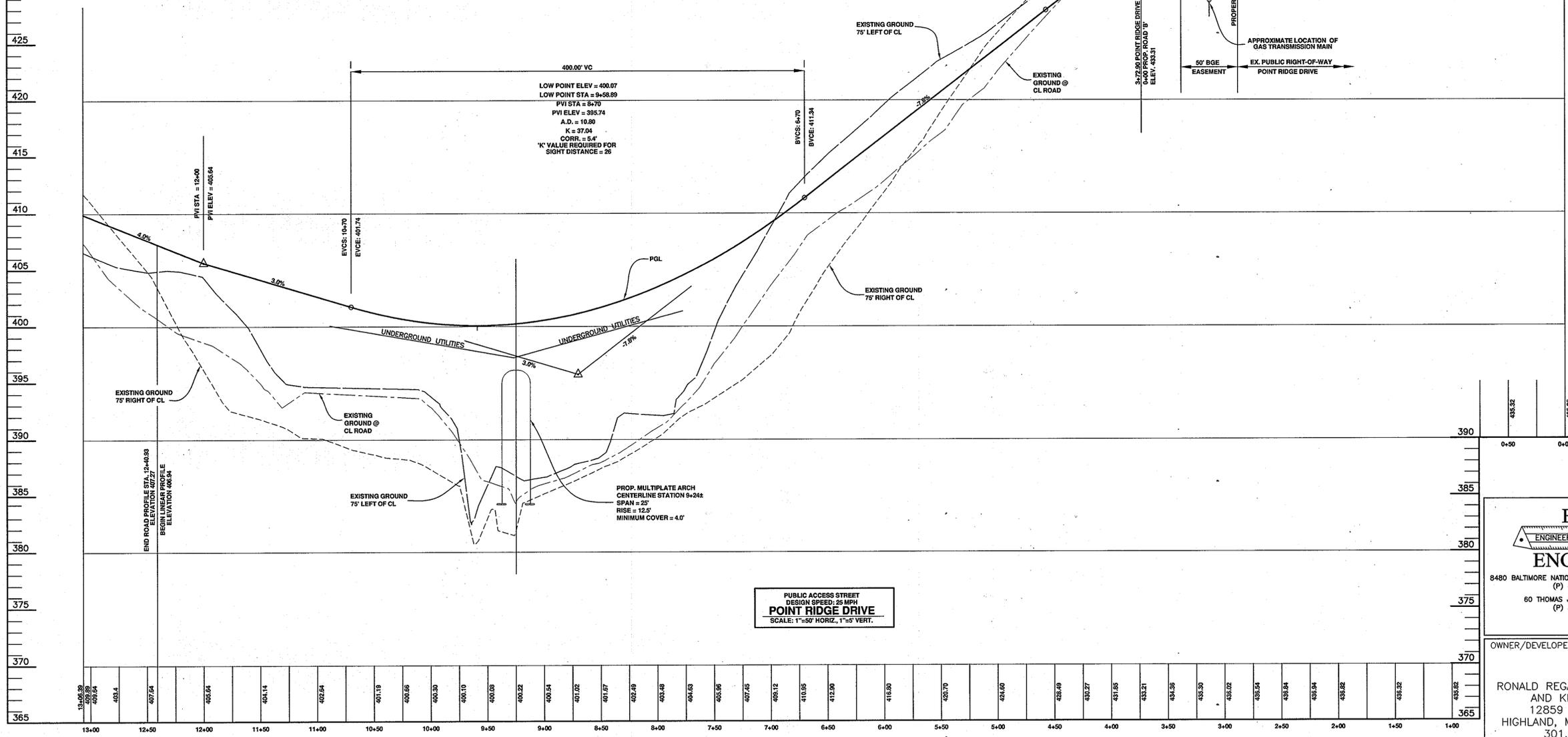
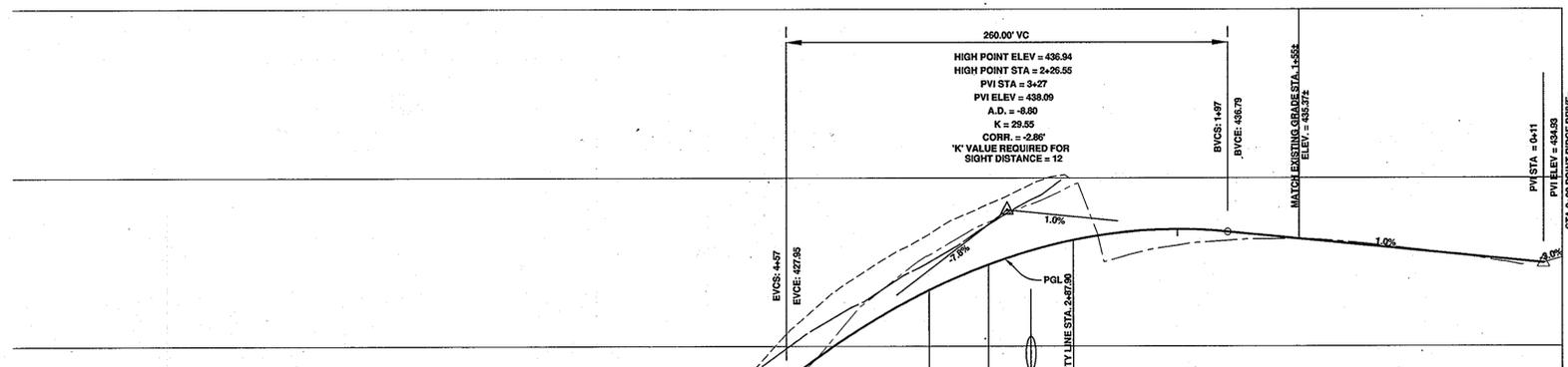
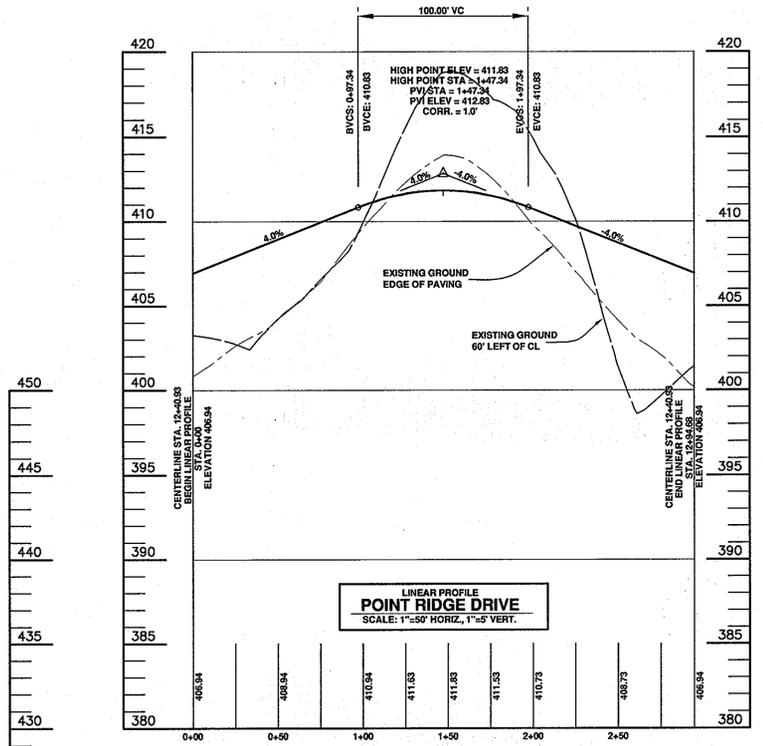


| SECTION NUMBER | ROAD AND STREET CLASSIFICATION | CALIFORNIA BEARING RATIO (CBR) | | | | | | | |
|--------------------------------------|--|-------------------------------------|--|---------|--|-----|--|-----|--|
| | | 3 TO <5 | | 5 TO <7 | | >7 | | | |
| P-2 | PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SAC RESIDENTIAL | PAVEMENT MATERIAL (INCHES) | | | | | | | |
| | | HMA SUPERPAVE FINAL SURFACE | | | | | | | |
| | | 9.5 MM PG 64-22, LEVEL 1 (LOW ESAL) | | 1.5 | | 1.5 | | 1.5 | |
| | | HMA SUPERPAVE INTERMEDIATE SURFACE | | | | | | | |
| 9.5 MM PG 64-22, LEVEL 1 (LOW ESAL) | | 1.0 | | 1.0 | | 1.0 | | | |
| HMA SUPERPAVE BASE | | | | | | | | | |
| 19.0 MM PG 64-22, LEVEL 1 (LOW ESAL) | | 2.0 | | 2.0 | | 2.0 | | | |
| GRADED AGGREGATE BASE (GAB) | | | | | | | | | |
| | | 8.0 | | 4.0 | | 4.0 | | | |

P-2 PAVING DETAIL



TYPICAL ROADWAY SECTION POINT RIDGE DRIVE



HO. CO. APPROVED SIGN DESIGN AND INSTALLATION DETAIL

- THE FOLLOWING STANDARD SIGN DESIGN SPECIFICATIONS SHALL APPLY:
1. THE SIGN SIZE SHALL BE 12" X 18".
 2. THE SIGN MATERIAL SHALL BE 0.080 GAUGE THICKNESS ANODIZED ALUMINUM.
 3. THE SIGN SHALL HAVE A GREEN BACKGROUND WITH 3" HIGH WHITE REFLECTIVE NUMBERS AND ARROW WITH A WHITE REFLECTIVE BORDER.
 4. WHERE A PRIVATE ROAD NAME IS IN USE OR PART OF A PRIVATE HOMEOWNER'S ARTICLES OF INCORPORATION AGREEMENT THE SIGN SIZE WILL BE ENLARGED TO ACCOMMODATE THE NECESSARY LETTERING BUT REMAIN PROPORTIONAL TO THE ABOVE DESIGN LIMITS.
 5. THE SIGN WILL BE INSTALLED WITHIN THE COMMON DRIVEWAY EASEMENT AREA AS NOTED ON THE FINAL PLAT.
 6. ADDRESS NUMBER IDENTIFICATION SIGNS ARE TO BE PROVIDED UNDER THE TENANTS OF THE HOMEOWNER'S ASSOCIATION INCORPORATION OR A PROPERTY MANAGEMENT COMPANY FOR INSTALLATION AND MAINTENANCE IN ACCORDANCE WITH THE DEPARTMENT OF PLANNING AND ZONING ADDRESS NUMBERING SYSTEM AND PER SECTION 3.503(G) OF THE HOWARD COUNTY CODE - PUBLIC SIGNS. MAINTENANCE/REPAIR AND REPLACEMENT OF THE ADDRESS NUMBER DIRECTIONAL SIGNS WILL BE THE RESPONSIBILITY OF THE HOMEOWNER'S ASSOCIATION OR A PROPERTY MANAGEMENT COMPANY.
 7. COMPLIANCE REGARDING THE INSTALLATION OF THE NEW ADDRESS NUMBER DIRECTIONAL SIGNS WILL BE ENFORCED BY THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT THE TIME OF FINAL APPROVAL FOR ISSUANCE OF THE USE AND OCCUPANCY PERMITS.

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2013.

OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN, 12859 ROUTE 108, HIGHLAND, MARYLAND 20777, 301.672.4820

PROJECT: REGAN PROPERTY, LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E"

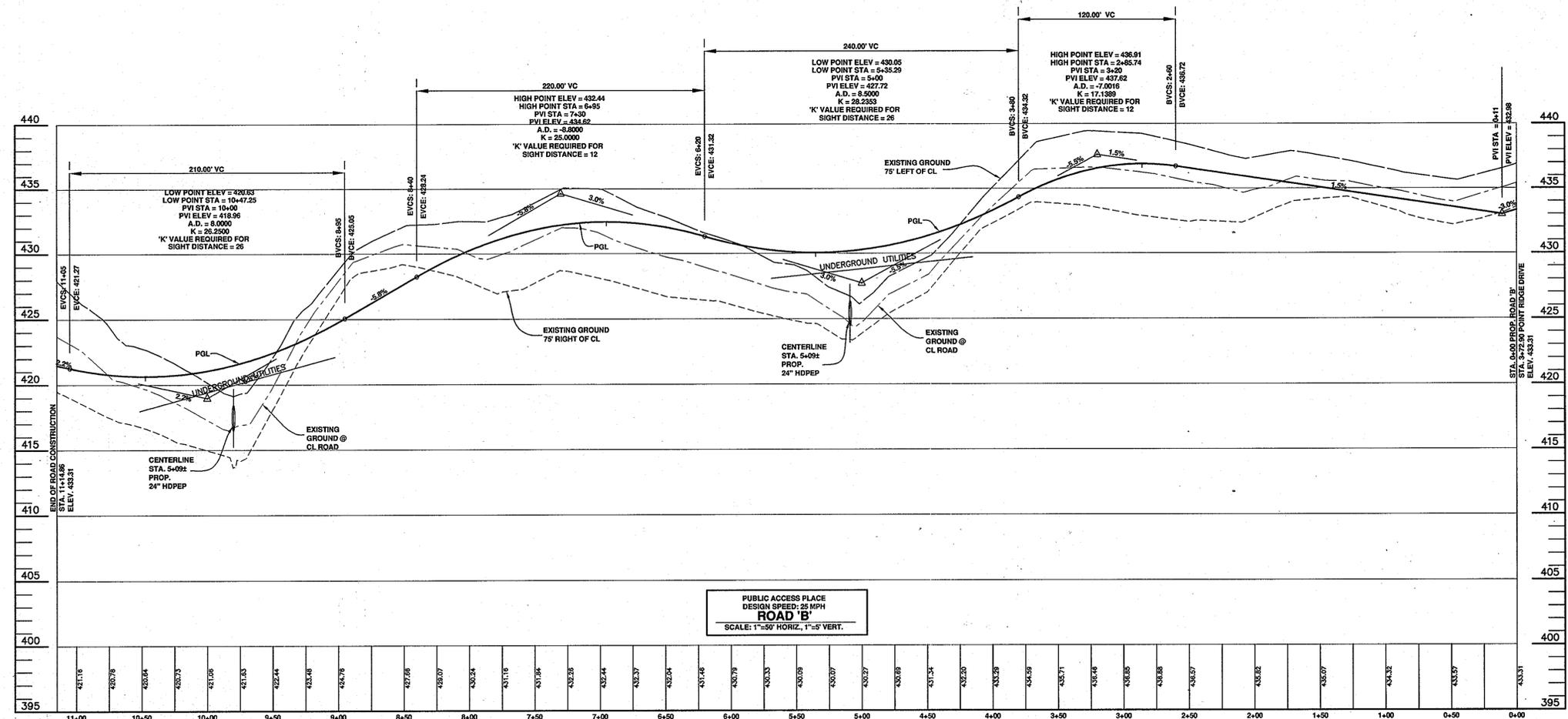
LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200, 5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE: POINT RIDGE DRIVE, PRELIMINARY EQUIVALENT SKETCH PLAN, ROAD PROFILE AND DETAILS

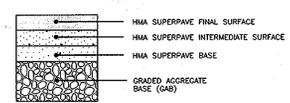
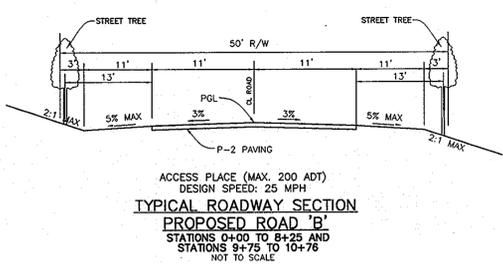
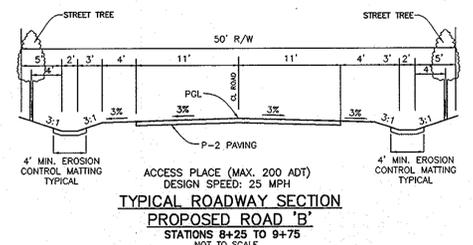
DATE: MARCH 2012, FEBRUARY 2013, PROJECT NO. 2171

DESIGN: JMC, DRAFT: JMC, SCALE: AS SHOWN, DRAWING 14 OF 25

TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
 [Signature] PLANNING DIRECTOR



PUBLIC ACCESS PLACE
DESIGN SPEED: 25 MPH
ROAD 'B'
SCALE: 1"=50' HORIZ., 1"=5' VERT.



| SECTION NUMBER | ROAD AND STREET CLASSIFICATION | CALIFORNIA BEARING RATIO (CBR) | | 3 TO <5 | | 5 TO <7 | | 7 TO <9 | |
|----------------|---|------------------------------------|--------------|-----------------------|-----------------------|-----------------------|-----------------------|---------|-----|
| | | MIN | HMA WITH GAB | HMA WITH CONSTANT GAB | | |
| P-2 | PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SAC: RESIDENTIAL | PAVEMENT MATERIAL (INCHES) | | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| | | HMA SUPERPAVE FINAL SURFACE | | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| | | HMA SUPERPAVE INTERMEDIATE SURFACE | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | | HMA SUPERPAVE BASE | | 2.0 | 2.0 | 2.0 | 3.5 | 2.0 | 2.0 |
| | | GRADED AGGREGATE BASE (GAB) | | 8.0 | 4.0 | 3.0 | 4.0 | 4.0 | 4.0 |

P-2 PAVING DETAIL

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
Mark A. Leyle
PLANNING DIRECTOR
DATE: 1/20/13

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2013.

OWNER/DEVELOPER:
RONALD REGAN, SCOTT REGAN AND KELLY REGAN
12859 ROUTE 108
HIGHLAND, MARYLAND 20777
301.672.4820

PROJECT:
REGAN PROPERTY
LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E"

LOCATION:
TAX MAP No. 34, GRID No. 24, PARCEL No. 200
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
ROAD 'B'
PRELIMINARY EQUIVALENT SKETCH PLAN
ROAD PROFILE AND DETAILS

DATE:
MARCH 2012
FEBRUARY, 2013

PROJECT NO. 2171

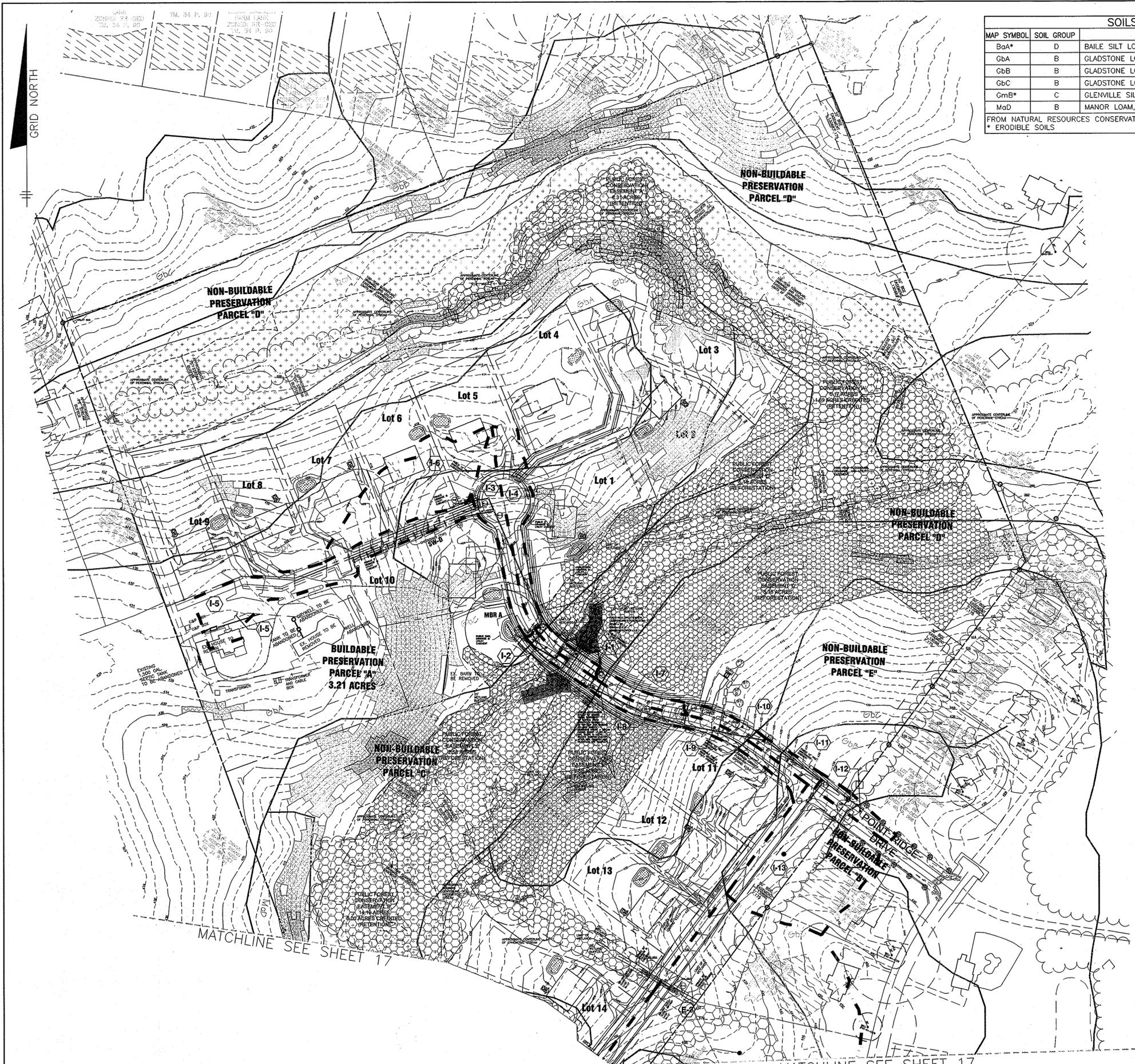
SCALE: AS SHOWN

DESIGN: JMC

DRAFT: JMC

SCALE: AS SHOWN

DRAWING 15 OF 25



| SOILS LEGEND | | |
|--------------|------------|--|
| MAP SYMBOL | SOIL GROUP | SOIL TYPE |
| BdA* | D | BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES |
| GbA | B | GLADSTONE LOAM, 0 TO 3 PERCENT SLOPES |
| GbB | B | GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES |
| GbC | B | GLADSTONE LOAM, 8 TO 15 PERCENT SLOPES |
| GmB* | C | GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES |
| MoD | B | MANOR LOAM, 15 TO 25 PERCENT SLOPES |

FROM NATURAL RESOURCES CONSERVATION SERVICES WEB SOIL SURVEY 2.0
* ERODIBLE SOILS

| AREA AND "C" FACTOR TABULATION | | | | | | |
|--------------------------------|---------|-----------------|-------------|---------------|-------------------|---------------------|
| PROJECT: Regan Property | | DATE: 3/29/2012 | | BY: JCO | | |
| PHASE | INLET # | ZONING (Z) | SUBAREA (B) | AREA (A) (AC) | "C" FACTOR (C)<25 | % IMPERVIOUS (P)<25 |
| | I-1 | RR-DEO | | 0.09 | 0.47 | 44.4 |
| | I-2 | RR-DEO | | 0.09 | 0.47 | 44.4 |
| | I-3 | RR-DEO | | 0.33 | 0.45 | 44.8 |
| | I-4 | RR-DEO | | 0.38 | 0.42 | 42.1 |
| | I-5 | RR-DEO | | 0.85 | 0.35 | 45.0 |
| | I-6 | RR-DEO | | 1.04 | 0.21 | 45.0 |
| | I-7 | RR-DEO | | 0.12 | 0.45 | 41.7 |
| | I-8 | RR-DEO | | 0.12 | 0.45 | 41.7 |
| | I-9 | RR-DEO | | 0.18 | 0.44 | 41.1 |
| | I-10 | RR-DEO | | 0.11 | 0.42 | 40.0 |
| | I-11 | RR-DEO | | 0.10 | 0.39 | 36.0 |
| | I-12 | RR-DEO | | 0.15 | 0.41 | 38.7 |
| | I-13 | RR-DEO | | 1.29 | 0.26 | 25.0 |
| | I-14 | RR-DEO | | 0.46 | 0.34 | 33.9 |
| | E-2 | RR-DEO | | 6.30 | 0.21 | 20.0 |
| | E-4 | RR-DEO | | 7.41 | 0.21 | 20.0 |
| | E-6 | RR-DEO | | 7.16 | 0.21 | 20.0 |

| LEGEND | |
|---|------------|
| SOILS CLASSIFICATION | ChB2 |
| SOILS DELINEATION | --- |
| EXISTING CONTOURS (AERIAL 12/02) | ---400--- |
| PROPOSED CONTOURS | ---999--- |
| LIMIT OF WETLANDS | ---W--- |
| 25' WETLANDS BUFFER | ---WB--- |
| CENTERLINE OF STREAM | ---S--- |
| STREAM BUFFER | ---SB--- |
| EXISTING WOODS LINE | ---WL--- |
| PROPOSED WOODS LINE | ---PWL--- |
| EXISTING STRUCTURE | ---S--- |
| PROPOSED STRUCTURE | ---PS--- |
| SLOPES 15% TO 24.9% | ---S15--- |
| SLOPES 25% OR GREATER | ---S25--- |
| 100 YEAR FLOODPLAIN | ---F--- |
| PROPOSED FOREST CONSERVATION EASEMENT (RETENTION) | ---FCE--- |
| PROPOSED FOREST CONSERVATION EASEMENT (AFFORESTATION/REFORESTATION) | ---FCEA--- |
| TREE PROTECTION FENCE | ---TF--- |
| FCE PERMANENT SIGNAGE | ---FCS--- |
| PROP. STREET TREE | ---S--- |
| PRIVATE SEWAGE DISPOSAL AREA | ---PSDA--- |
| PRIVATE WELL AREA | ---PWA--- |
| STORM DRAIN DRAINAGE DIVIDE | ---SD--- |
| DRAINAGE AREA DESIGNATION | ---DA--- |
| PROP. STORMWATER MANAGEMENT FACILITY | ---SMF--- |

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
Mark D. Anglin
PLANNING DIRECTOR

PLAN VIEW
SCALE: 1" = 100'

| NO. | DATE | REVISION |
|-----|------|----------|
| | | |

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2013.

| | |
|---|--|
| OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 301.672.4820 | PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E" |
| LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN STORM DRAIN DRAINAGE AREA MAP |
| DATE: MARCH, 2012 FEBRUARY, 2013 | PROJECT NO. 2171 SCALE: AS SHOWN DRAWING 16 OF 25 |
| DESIGN: JCO | DRAFT: JCO |

GRID NORTH

MATCHLINE SEE SHEET 16

MATCHLINE SEE SHEET 16



LEGEND

- SOILS CLASSIFICATION ChB2
- SOILS DELINEATION
- EXISTING CONTOURS (AERIAL 12/02)
- PROPOSED CONTOURS 999
- LIMIT OF WETLANDS
- 25' WETLANDS BUFFER
- CENTERLINE OF STREAM
- STREAM BUFFER
- EXISTING WOODS LINE
- PROPOSED WOODS LINE
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- SLOPES 15% TO 24.9%
- SLOPES 25% OR GREATER
- 100 YEAR FLOODPLAIN
- PROPOSED FOREST CONSERVATION EASEMENT (RETENTION)
- PROPOSED FOREST CONSERVATION EASEMENT (AFFORESTATION/REFORESTATION)
- TREE PROTECTION FENCE
- FCE PERMANENT SIGNAGE
- PROP. STREET TREE
- PRIVATE SEWAGE DISPOSAL AREA
- PRIVATE WELL AREA
- STORM DRAIN DRAINAGE DVIDE
- DRAINAGE AREA DESIGNATION
- PROP. STORMWATER MANAGEMENT FACILITY

E 1327500
N 552150

NON-BUILDABLE PRESERVATION PARCEL "C"

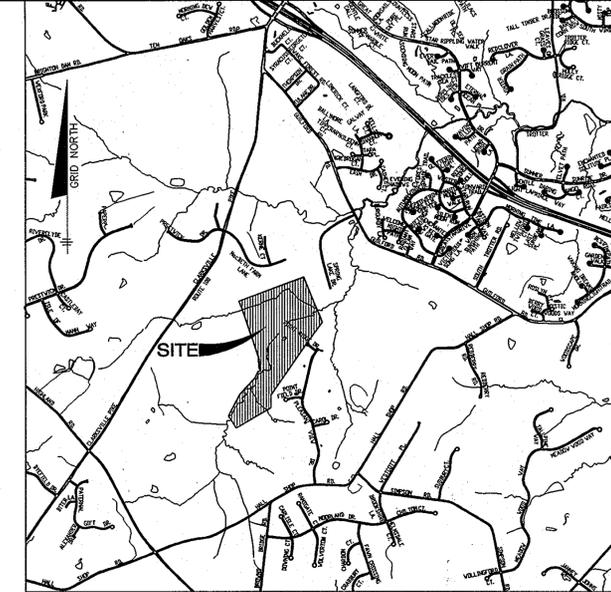
NON-BUILDABLE PRESERVATION PARCEL "B"

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

Frank D. Cagle 4/6/13
PLANNING DIRECTOR DATE

PLAN VIEW
SCALE: 1" = 100'

| NO. | DATE | REVISION |
|--|------|---|
| | | |
| BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE SUITE 418 • ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 60 THOMAS JOHNSON DRIVE • FREDERICK, MARYLAND 21702 (P) 301-371-3505 (F) 301-371-3506 WWW.BEI-CIVILENGINEERING.COM | | |
| Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 28559 Expiration Date: 7-22-2013. | | |
| | | |
| OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 301.672.4820 | | PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E" LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN STORM DRAIN DRAINAGE AREA MAP DATE: MARCH, 2012 PROJECT NO. 2171 FEBRUARY, 2013 DESIGN: JCO DRAFT: JCO SCALE: AS SHOWN DRAWING 17 OF 25 |



VICINITY MAP
 SCALE: 1" = 2000'
 ADC MAP PAGE: 4933,
 GRID: J10

Specimen Trees

| Key | Species, Size (dbh) | Comments * |
|-----|---------------------|----------------------------|
| A | Tulip poplar, 31" | |
| B | Tulip poplar, 34" | Fair condition, poor trunk |
| C | Tulip poplar, 44" | Good condition, twin stems |
| D | Tulip poplar, 43.5" | Twin stems |
| E | Red oak, 32" | Fair, limb dieback |
| F | Red oak, 33" | |
| G | Tulip poplar, 38" | Poor condition, trunk rot |
| H | Red oak, 32" | |
| I | Tulip poplar, 32" | |
| J | Tulip poplar, 35" | |
| K | Sycamore, 31" | |
| L | Tulip poplar, 38" | |
| M | Red maple, 34" | |

* Good unless otherwise noted

LEGEND

| | |
|---|--|
| EXISTING CONTOURS (AERIAL 12/02) | |
| PROPOSED CONTOURS | |
| LIMIT OF WETLANDS | |
| 25' WETLANDS BUFFER | |
| CENTERLINE OF STREAM | |
| STREAM BUFFER | |
| EXISTING WOODS LINE | |
| PROPOSED WOODS LINE | |
| EXISTING STRUCTURE | |
| PROPOSED STRUCTURE | |
| SLOPES 15% TO 24.9% | |
| SLOPES 25% OR GREATER | |
| EX. 100 YEAR FLOODPLAIN | |
| PROPOSED FOREST CONSERVATION EASEMENT (RETENTION) | |
| PROPOSED FOREST CONSERVATION EASEMENT (AFFORESTATION/REFORESTATION) | |
| TREE PROTECTION FENCE | |
| FCE PERMANENT SIGNAGE | |
| PROP. STREET TREE | |
| PRIVATE SEWAGE DISPOSAL AREA | |
| PRIVATE WELL AREA | |

SOILS LEGEND

| MAP SYMBOL | SOIL GROUP | SOIL TYPE |
|------------|------------|--|
| BoA* | D | BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES |
| GbA | B | GLADSTONE LOAM, 0 TO 3 PERCENT SLOPES |
| GbB | B | GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES |
| GbC | B | GLADSTONE LOAM, 8 TO 15 PERCENT SLOPES |
| GmB* | C | GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES |
| MdD | B | MANOR LOAM, 15 TO 25 PERCENT SLOPES |

FROM NATURAL RESOURCES CONSERVATION SERVICES WEB SOIL SURVEY 2.0
 * ERODIBLE SOILS

THE WATERSHED FOR THIS DRAINAGE AREA IS THE MIDDLE PATUXENT RIVER, DNR LISTING NUMBER 2111306.

| NO. | DATE | REVISION |
|-----|------|----------|
| | | |

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2013.

| | |
|--|--|
| OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 310.672.4820 | PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E" |
| DESIGN: JMC | DRAFT: JMC |
| DATE: FEBRUARY, 2013 | PROJECT NO. 2171 |
| SCALE: AS SHOWN | DRAWING 18 OF 25 |

JOHN T. SWANN & MARY E. SWANN
 L. 02567/F. 0329
 ZONED: RR-DEC
 TM-34, P. 91

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

John T. Swann
 PLANNING DIRECTOR

1/16/12
 DATE

PLAN VIEW
 SCALE: 1" = 100'

MATCHLINE SEE SHEET 19

Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS

MD DNR Qualified Professional
 USACE Wetland Delineator
 Certification # WDPC93MD061004432

P.O. Box 5006 Glen Arm, MD 21057 (410) 592-6752
 John P. Canoles

| SOILS LEGEND | | |
|--------------|------------|--|
| MAP SYMBOL | SOIL GROUP | SOIL TYPE |
| Ba* | D | BALE SILT LOAM, 0 TO 3 PERCENT SLOPES |
| Gba | B | GLADSTONE LOAM, 0 TO 3 PERCENT SLOPES |
| Gbb | B | GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES |
| Gbc | B | GLADSTONE LOAM, 8 TO 15 PERCENT SLOPES |
| Gmb* | C | GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES |
| MoD | B | MANOR LOAM, 15 TO 25 PERCENT SLOPES |

FROM NATURAL RESOURCES CONSERVATION SERVICES WEB SOIL SURVEY 2.0
* ERODIBLE SOILS

| Specimen Trees | | |
|----------------|---------------------|----------------------------|
| Key | Species, Size (dbh) | Comments * |
| A | Tulip poplar, 31" | |
| B | Tulip poplar, 34" | Fair condition, poor trunk |
| C | Tulip poplar, 44" | Good condition, twin stems |
| D | Tulip poplar, 43.5" | Twin stems |
| E | Red oak, 32" | Fair, limb dieback |
| F | Red oak, 33" | |
| G | Tulip poplar, 38" | Poor condition, trunk rot |
| H | Red oak, 32" | |
| I | Tulip poplar, 32" | |
| J | Tulip poplar, 35" | |
| K | Sycamore, 31" | |
| L | Tulip poplar, 38" | |
| M | Red maple, 34" | |

* Good unless otherwise noted

LEGEND

- EXISTING CONTOURS (AERIAL 12/02)
- PROPOSED CONTOURS
- LIMIT OF WETLANDS
- 25' WETLANDS BUFFER
- CENTERLINE OF STREAM
- STREAM BUFFER
- EXISTING WOODS LINE
- PROPOSED WOODS LINE
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- SLOPES 15% TO 24.9%
- SLOPES 25% OR GREATER
- EX. 100 YEAR FLOODPLAIN
- PROPOSED FOREST CONSERVATION EASEMENT (RETENTION)
- PROPOSED FOREST CONSERVATION EASEMENT (AFFORESTATION/REFORESTATION)
- TREE PROTECTION FENCE
- FCE PERMANENT SIGNAGE
- PROP. STREET TREE
- PRIVATE SEWAGE DISPOSAL AREA
- PRIVATE WELL AREA

THE WATERSHED FOR THIS DRAINAGE AREA IS THE MIDDLE PATUXENT RIVER, DNR LISTING NUMBER 2111306.

| NO. | DATE | REVISION |
|-----|------|----------|
| | | |

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ENGINEERING, INC.

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(P) 301-371-3505 (F) 301-371-3506

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| | | | |
|--|--|---|--|
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John P. Canoles



TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
Mark D. Wright 7/1/12
PLANNING DIRECTOR DATE

PLAN VIEW
SCALE: 1" = 100'

FOREST CONSERVATION WORKSHEET

REGAN PROPERTY

Computations by: JC BEI JOB NO. 2171 Date: 7/10/2012

NET TRACT AREA:

| | |
|---|-------------|
| A. Total tract area | 83.81 ac. |
| B. Land Dedication acres (parks, county facility, etc.) | 0.00 ac. |
| C. Area within underground transmissions lines but not Floodplain | 3.46 ac. |
| D. Area to remain in Commercial Agricultural Production/Use | 0.00 ac.** |
| E. Other deductions: (floodplain) | 21.67 ac. |
| F. Net Tract Area | 58.68 ac.** |

LAND USE CATEGORY:
Select category (RLD, RMD, Sub., CIO, Inst.) **RMD**

| | | |
|----------------------------|-----------|-----------|
| G. Afforestation Threshold | 20% x "F" | 11.70 ac. |
| H. Conservation threshold | 25% x "F" | 14.70 ac. |

EXISTING FOREST COVER:

| | |
|---|----------|
| J. Existing forest cover | 9.92 ac. |
| I. Area of forest above afforestation threshold | 0.00 ac. |
| K. Area of forest above conservation threshold | 0.00 ac. |

BREAK EVEN POINT:

| | |
|--|-----------|
| L. Forest retention above threshold with no mitigation | 0.00 ac. |
| M. Clearing permitted without mitigation | 0.00 ac. |
| Break Even Point | 13.71 ac. |

PROPOSED FOREST CLEARING:

| | |
|--|----------|
| N. Total area of forest to be cleared | 2.98 ac. |
| O. Total area of forest to be retained | 6.94 ac. |

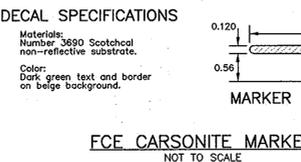
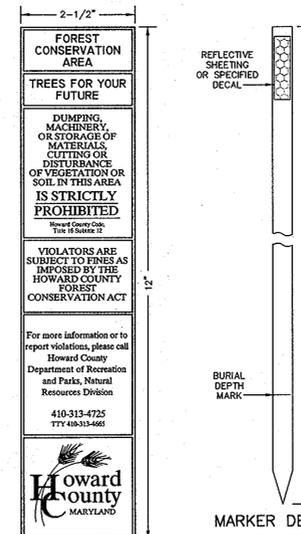
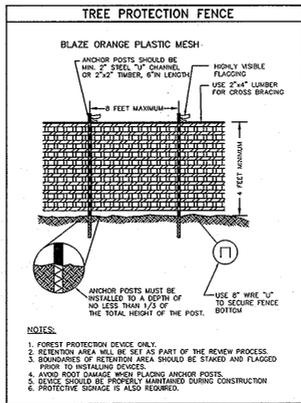
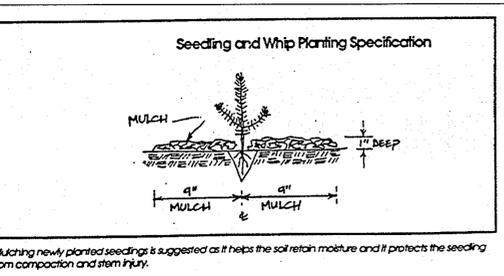
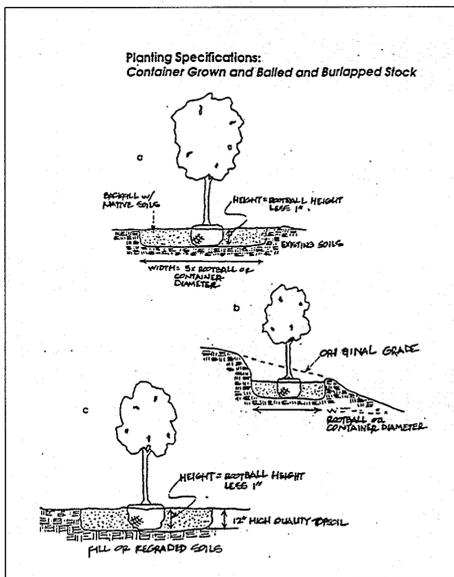
PLANTING REQUIREMENTS:

| | |
|--|----------|
| P. Reforestation for clearing above conservation threshold | 0.00 ac. |
| Q. Reforestation for clearing below conservation threshold | 8.00 ac. |
| R. Credit for retention above conservation threshold | 0.00 ac. |
| S. Total reforestation required | 6.00 ac. |
| T. Total afforestation required | 1.80 ac. |
| U. Credit for landscaping - may not exceed 20% of "S." | 0.00 ac. |
| V. Total reforestation and afforestation required | 7.80 ac. |

The Forest Conservation Obligations for this project will be met by:
6.94 ac. of ex. forest retained within an on-site Forest Conservation Easement,
7.81 of total reforestation and afforestation

** THE DEVELOPER MAY BREAK THE PRESERVATION PARCEL INTO MULTIPLE PARCELS WITH DIFFERENT USES AND/OR OWNERS. THIS MAY HAVE AN EFFECT ON THE NTA.

NOTE: IN ACCORDANCE WITH THE FOREST CONSERVATION MANUAL, APPENDIX L, RURAL CLUSTER OPTION "B" HAS BEEN USED TO CALCULATE THE FOREST CONSERVATION OBLIGATIONS.



FOREST CONSERVATION NOTES:

- ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
- THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE, FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENTS; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
- NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
- TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 15 FEET OF THE PROPOSED LIMITS OF DISTURBANCE.
- PERMANENT SIGNAGE SHALL BE PLACED 50-100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS.
- THE TOTAL FOREST CONSERVATION OBLIGATION AMOUNT OF 14.75 ACRES SHALL BE MET BY THE ON-SITE RETENTION OF 6.94 AC. WITHIN A FOREST CONSERVATION EASEMENT AND THE ON-SITE AFFORESTATION AND REFORESTATION OF 7.81 AC. WITHIN A FOREST CONSERVATION EASEMENT. THE DEVELOPER SHALL BOND IN ACCORDANCE WITH THE DEPARTMENT OF PUBLIC WORKS DEVELOPER'S AGREEMENT WITH SURETY IN THE AMOUNT OF \$230,563.08.

PLANTING NOTES:

- MULTIFLORA ROSE CONTROL MAY BE REQUIRED AS PART OF THIS PLANTING PLAN.
- BARBERCOT PLANT MATERIAL MAY BE USED TO OFFSET THE COST OF MULTIFLORA ROSE REMOVAL AND MAINTENANCE. IF BARBERCOT MATERIAL IS USED IT MUST BE PLANTED IN MARCH - APRIL AND AN ANTI-DESICCANT GEL SHOULD BE UTILIZED TO PROTECT ROOT SYSTEMS. CONTAINER GROWN STOCK IS RECOMMENDED.
- PLANTS SHOULD BE FLAGGED TO AID ON LOCATION DURING MAINTENANCE. PLANTINGS SHOULD ALSO BE PLANTED IN A GRID PATTERN TO FACILITATE MAINTENANCE AND REMOVAL OF INVASIVE AND EXOTIC SPECIES.

MULTIFLORA ROSE CONTROL NOTE

MULTIFLORA ROSE IS PREVALENT IN CERTAIN AREAS TO BE AFFORESTED. PRIOR TO PLANTING ALL MULTIFLORA ROSE SHOULD BE REMOVED. REMOVAL OF THE ROSE MAY BE PERFORMED WITH MOWING AND HERBICIDE TREATMENTS. PHYSICAL REMOVAL OF ALL TOP GROWTH FOLLOWED BY A PERIODIC HERBICIDE TREATMENT OF STUMP SPROUTS IS RECOMMENDED. NATIVE TREE AND SHRUB SPECIES OCCURRING WITHIN SHOULD BE RETAINED WHEREVER POSSIBLE. HERBICIDE 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 MANUFACTURERS 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.

PLANTING/SOIL SPECIFICATIONS

- PLANTING OF NURSERY STOCK SHALL TAKE PLACE BETWEEN MARCH 15TH AND APRIL 30TH. CONTAINER STOCK MAY BE PLANTED BETWEEN SEPTEMBER 1ST AND OCTOBER 30TH.
- ALL PLANT MATERIAL SHALL BE WATERED DURING THE 1ST GROWING SEASON. WATERING MAY BE MORE OR LESS FREQUENT DEPENDING ON WEATHER CONDITIONS. DURING SECOND GROWING SEASON, ONLY 1 MONTH OF WATERING IS REQUIRED AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. ALL PLANT MATERIAL BELOW THE 70% SURVIVAL THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE NEXT GROWING SEASON.
- INVASIVE EXOTICS AND NOxious WEEDS WILL BE REMOVED FROM REFORESTATION AREAS. OLD FIELD SUCCESSIONAL SEEDS WILL BE REMOVED FROM THE SITE.
- PLANTS WILL BE SPACED A MINIMUM OF TWO FEET DURING THE GROWING SEASON FOR SERIOUS PLANT PESTS AND DISEASES. SERIOUS PROBLEMS WILL BE TREATED WITH THE APPROPRIATE MEDS.
- DEAD BRANCHES WILL BE PRUNED FROM PLANTINGS.

SEQUENCE OF CONSTRUCTION

- PLANTS SHALL BE INSTALLED AS PER PLANT SCHEDULE AND PLANTING/SOIL SPECIFICATIONS FOR THE PROJECT.
- UPON COMPLETION OF THE PLANTING, SIGNAGE SHALL BE INSTALLED AS PER THE FOREST RETENTION AREA PROTECTIVE COVENANTS SHOWN ON THE SUBMITTED PLANNING PLAN.
- PLANTINGS SHALL BE MAINTAINED IN ACCORDANCE WITH THE MAINTENANCE AND GUARANTEE REQUIREMENTS FOR PROJECT.

MAINTENANCE OF PLANTINGS

- MAINTENANCE OF ALL PLANTINGS SHALL LAST FOR A PERIOD OF 24 MONTHS.
- ALL PLANT MATERIAL SHALL BE WATERED DURING THE 1ST GROWING SEASON. WATERING MAY BE MORE OR LESS FREQUENT DEPENDING ON WEATHER CONDITIONS. DURING SECOND GROWING SEASON, ONLY 1 MONTH OF WATERING IS REQUIRED AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. ALL PLANT MATERIAL BELOW THE 70% SURVIVAL THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE NEXT GROWING SEASON.
- INVASIVE EXOTICS AND NOxious WEEDS WILL BE REMOVED FROM REFORESTATION AREAS. OLD FIELD SUCCESSIONAL SEEDS WILL BE REMOVED FROM THE SITE.
- PLANTS WILL BE SPACED A MINIMUM OF TWO FEET DURING THE GROWING SEASON FOR SERIOUS PLANT PESTS AND DISEASES. SERIOUS PROBLEMS WILL BE TREATED WITH THE APPROPRIATE MEDS.
- DEAD BRANCHES WILL BE PRUNED FROM PLANTINGS.

GUARANTEE REQUIREMENTS

- AFTER ONE GROWING SEASON, PLANT MATERIAL SHALL BE MAINTAINED AT 90% SURVIVAL THRESHOLD. A 70% SURVIVAL RATE OF FORESTPLANTINGS WILL BE REQUIRED AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. ALL PLANT MATERIAL BELOW THE 70% THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE NEXT GROWING SEASON.
- THE CONTRACTOR WILL NOT BE LIABLE FOR PLANT LOSS DUE TO INERT OR VOLATILE SOILS. HOWEVER, DEVELOPER SHALL BE RESPONSIBLE UNTIL RELEASE FROM THE FOREST SURETY OBLIGATION.

SURETY FOR REFORESTATION

- THE DEVELOPER SHALL POST A SURETY (BOND, LETTER OF CREDIT) TO ENSURE THAT REFORESTATION PLANTINGS ARE COMPLETED. UPON ACCEPTANCE OF THE PLANTINGS BY THE COUNTY, THE BOND SHALL BE RELEASED.

2" CALIPER TREES = 7 PLANTING UNITS
1" CALIPER TREES = 3.5 PLANTING UNITS
WHIPS W/SHELTERS = 2 PLANTING UNITS
SEEDLINGS = 1 PLANTING UNIT

PLANTING SHALL BE INSTALLED IN A CURVILINEAR FASHION ALONG A CONTOUR TO AVOID A GRID APPEARANCE BUT SHOULD BE SPACED TO FACILITATE MAINTENANCE. LARGER STOCK TREES (1" AND 2" CALIPER) SHOULD BE STAGGERED ALONG THE OUTER PERIMETER OF THE PLANTING AREAS TO SERVE AS A DEMARCATION OF THE FCE.

FOREST PROTECTION PROCEDURES - Preconstruction Phase

- The edge of the woods to be protected will be marked (staked or flagged) in the field per the limits of forest conservation easement shown in the approved site development plan prior to the start of construction activity. All areas within protective easement are to be considered "off limits" to any construction activities. The optional protective fencing shall be installed at the outside edge of forested areas and should be combined with sediment control devices when possible. The limit of the critical root zone and therefore the location of the protective devices is to be determined as follows:

Edge of Forested Area - 1 foot of protective radius/inch of DBH or an eight foot protective radius, whichever is greater.

Critical Root Zone for the forest on this site is an average of 12 feet from the trunk of the tree. Critical root zones for Specimen Tree #1 and #2 are 34' and 30'.

- Construction activities expressly prohibited within the preservation areas are:

Placing or stockpiling backfill or top soil in protected areas
Falling trees into protected areas
Driving construction equipment into or through protected areas
Burning in or in close proximity to protected areas
Stacking or storing supplies of any kind
Concrete wash-off areas
Conducting trenching operations
Grading beyond the limits of disturbance
Parking vehicles or construction equipment
Removal of root mat or topsoil
Siting and construction of:
Utility lines
Access roads
Impervious surfaces
Stormwater management devices
Staging areas

- Protective fencing (see Figure "Protective Fencing") shall be the responsibility of the general contractor. The general contractor shall affix signs to the fencing at 25' minimum intervals indicating that these areas are Forest Retention Area (see Figure "Signage"). The general contractor shall take great care to assure the restricted areas are not violated and that root systems are protected from smothering, flooding, excessive wetting from dewatering operations, off-site runoff, spillage, and drainage or solutions containing materials hazardous to tree roots.

- The general contractor shall be responsible for any tree damaged or destroyed within the preservation areas whether caused by the contractor, his agents, employees, subcontractors, or licensees.

- Foot traffic shall be kept to a minimum in the protective areas.
- All trees which are not to be preserved within fifty feet of any tree preservation areas are to be removed in a manner that will not damage those trees that are designated for preservation. It is highly recommended that tree stumps within this fifty foot area be ground out with a stump grinding machine to minimize damage.

- The general contractor shall designate a "wash out" area onsite for concrete trucks which will not drain toward a protected area.
- A pre-construction meeting shall be held with local authorities before any disturbance has taken place on site.

FOREST PROTECTION PROCEDURES - Construction Phase

Forest and tree conditions should be monitored during construction and corrective measures taken when appropriate.

- The following shall be monitored:
- Soil compaction
 - Root injury - prune and monitor; consider crown reduction
 - Limb injury - prune and monitor
 - Flooded conditions - drain and monitor; correct problem
 - Drought conditions - water and monitor; correct problem
 - Other stress signs - determine reason, correct, and monitor

FOREST PROTECTION PROCEDURES - Post Construction Phase

The following measures shall be taken:

- Corrective measures if damages were incurred due to negligence:
 - Stress reduction
 - Removal of dead or dying trees. This may be done only if trees pose an immediate safety hazard.
- Removal of temporary structures:
 - No burial of discarded materials will occur onsite within the conservation area.
 - No open burning within 100 feet of a wooded area.
 - All temporary forest protective structures will be removed after construction.
 - Remove temporary roads by removing stone or broadcasting mulch; pre-construction elevation should be maintained.
 - Aerote compacted soil.
 - Replant disturbed sites with trees, shrubs and/or herbaceous plants.
 - Retain signs for retention areas or specimen trees.
 - A County official shall inspect the entire site.
- Future protection measures:
 - Howard County and the developer shall arrange for the dedication of an appropriate forest conservation easement at a later date.

FOREST PROTECTION PROCEDURES - Preconstruction Phase

Stress Reduction and Protection of Specimen Trees Isolated from Forest Retention Areas and General Forest Retention Areas (as they may apply)

Isolated specimen trees that are to be preserved will be examined to determine if stress reduction techniques are needed. Protective measures and their evaluation criteria are provided on this plan only if they are employed herein.

Root Pruning
Evaluation Criteria
Will the critical root zone be affected by construction activities such as grade changes, digging for foundations and roads or utility installation?

Design Considerations

- Prune prior to construction as shown on the plan (see Figure "Root Pruning Detail.")
- Prune root with a clean cut using proper pruning equipment such as a vibratory knife.
- Exact location of pruning trench should be identified, and immediately backfilled to cover exposed roots after pruning with soil removed other topsoil, peat moss, or other suitable material or with other high organic soil.
- For trees over 15" in diameter, root pruning may be done up to one year in advance of construction.
- Tree(s) will be monitored for signs of stress.

Crown Reduction or Pruning
Evaluation Criteria
Has the root system been significantly reduced (>30%) or are there dead, damaged, or diseased limbs?

Design Considerations

- Reduce only at specified times of the year:
Flowering trees - only after flowering and before bud set
Non-Flowering trees - in late winter, early spring or mid-summer
- No more than 1/3 of the crown should be removed at one time using acceptable pruning methods (see Figure "Crown Reduction Detail")
- Monitor for signs of stress

Watering
Evaluation Criteria
Will construction activities alter the hydrology of the site? Has or will root pruning occur?

Design Considerations

- Water only as necessary
- Monitor for signs of stress (see Figure "Tree Planting and Maintenance Calendar")

Fertilizing
Evaluation Criteria
Is or will be tree(s) be under stressful conditions? Has or will root pruning occur?

Design Considerations

- Use low nitrogen and slow release fertilizers.
- Apply in late fall or early spring (see Figure "Tree Planting and Maintenance Calendar")
- For small trees (<3" in diameter), use punch hole method or pressurized injection method (see Figure "Application of Fertilizers by Injection.")
- For larger trees (>3" diameter), use punch hole method or pressurized injection method (see Figure "Application of Fertilizers by Injection.")
- Do not apply fertilizer any closer than 3' from tree trunk for pressurized injection method.
- Monitor for signs of stress.

| | | |
|---|--|------------------|
| NO. | DATE | REVISION |
| <p>BENCHMARK ENGINEERS • LAND SURVEYORS • PLANNERS</p> <p>ENGINEERING, INC.</p> <p>8480 BALTIMORE NATIONAL PIKE • SUITE 418 ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-6105 FAX: 410-465-6644 www.bel-civilengineering.com</p> | | |
| <p>Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 07/22/2013.</p> <p>STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER No. 28559 Exp. 07/22/2013</p> | | |
| OWNER/DEVELOPER: | PROJECT: | |
| RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 310.672.4820 | REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E" TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | |
| TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN FOREST CONSERVATION NOTES AND DETAILS | | |
| DATE: | FEBRUARY, 2013 | PROJECT NO. 2171 |
| DESIGN: | JMC | DRAFT: JMC |
| SCALE: | AS SHOWN | DRAWING 20 OF 25 |

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS

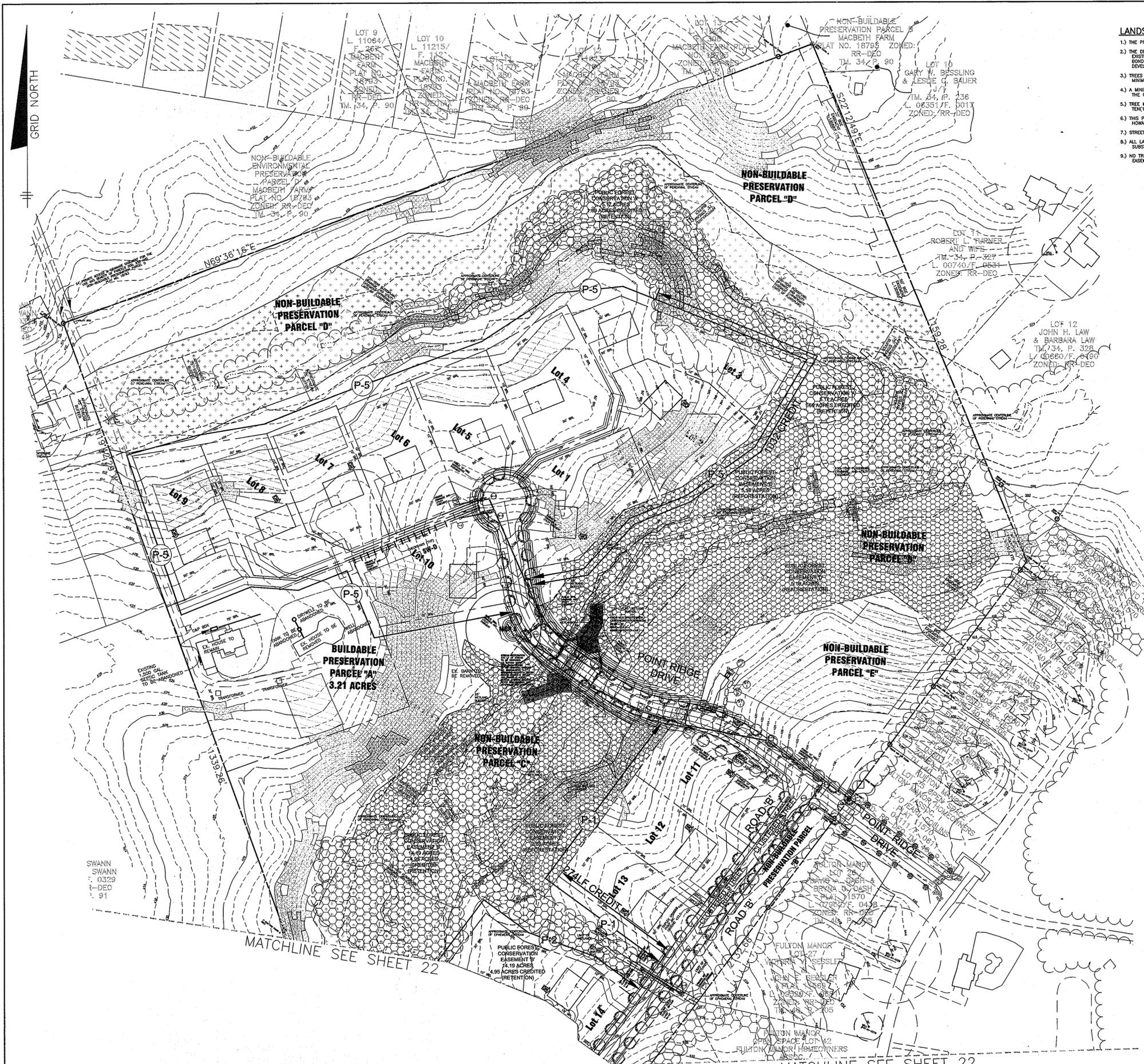
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Certification # WDCP93MD06100432

P.O. Box 5006 Glen Arm, MD 21057 (410) 592-6752

John P. Canoles

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

PLANNING DIRECTOR: *[Signature]* DATE: 7/10/12



LANDSCAPING NOTES

- 1.) THE PROPOSED LANDSCAPING SHALL BE PROVIDED BY THE PLANTINGS AS SHOWN ON THESE PLANS.
- 2.) THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL INTERNAL PLANTINGS; THE PRESERVATION OF THE EXISTING PERIMETER VEGETATION AND FOR THE PERIMETER PLANTINGS AS SHOWN ON THESE PLANS. BONDING FOR THE PROPOSED PLANTINGS IS THE OBLIGATION OF THE DEVELOPER AS PART OF THE DEVELOPERS AGREEMENT.
- 3.) TREES MUST BE A MINIMUM OF FOUR (4) FEET FROM THE CURB OR SIDEWALK AND MUST BE A MINIMUM OF FIVE (5) FEET FROM ANY STORM DRAIN.
- 4.) A MINIMUM DISTANCE OF TWENTY (20) FEET MUST BE MAINTAINED BETWEEN ANY TREES LOCATED ALONG THE CURB LINE AND FROM STREET LIGHTS.
- 5.) TREE MUST BE PLANTED A MINIMUM OF FIVE (5) FEET FROM AN OPEN SPACE ACCESS STRIP AND TEN (10) FEET FROM A DRIVEWAY.
- 6.) THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
- 7.) STREET TREES SHALL BE PLANTED SIX (6) FEET BEHIND FACE OF CURB WHEN THERE ARE NO SIDEWALKS.
- 8.) ALL LANDSCAPING PLANT TYPES SHOWN ON THESE PLANS ARE RECOMMENDATIONS AND MAY BE SUBSTITUTED WITH APPROVED EQUIVALENTS FROM THE HOWARD COUNTY LANDSCAPE MANUAL.
- 9.) NO TREES SHALL BE PLACED WITHIN 10' BEHIND A RETAINING WALL OR WITHIN A RELATED MAINTENANCE EASEMENT, WHICHEVER IS GREATER.

SCHEDULE A PERIMETER LANDSCAPE EDGE

| CATEGORY | ADJACENT TO ROADWAY | | | | | TOTAL |
|--|---------------------|----------|----------|-----------------------|----------|-------|
| | NO | NO | NO | NO | NO | |
| ADJACENT TO PERIMETER PROPERTIES | YES | YES | YES | YES | YES | |
| PERIMETER NO. / LANDSCAPE TYPE | ① A | ② A | ③ A | ④ A | ⑤ A | |
| LINEAR FEET OF PERIMETER (FRONTAGE/ROADWAY) | 696 | 1432 | 2408 | 1550 | 3302 | |
| CREDIT FOR EXISTING VEGETATION: NO OR YES (✓/LINEAR FEET) (DESCRIBE BELOW IF NEEDED) | YES 274 | YES 1432 | YES 2408 | YES 558 AND 250 TREES | YES 1032 | |
| LINEAR FEET OF REQUIRED PERIMETER LANDSCAPING | 422 | - | - | 682 | 2270 | |
| CREDIT FOR WALL, FENCE OR BERM: NO OR YES (✓/LINEAR FEET) (DESCRIBE BELOW IF NEEDED) | NO | NO | NO | NO | NO | |
| NUMBER OF PLANTS REQUIRED: | | | | | | |
| SHADE TREES 1:60 | 7 | - | - | 12 | 38 | 57 |
| EVERGREEN TREES | - | - | - | - | - | - |
| OTHER TREES (2:1 SUBSTITUTE) | - | - | - | - | - | - |
| SHRUBS (10:1 SUBSTITUTE) | - | - | - | - | - | - |
| (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED) | | | | | | |
| NUMBER OF PLANTS PROVIDED: | | | | | | |
| SHADE TREES | 7 | - | - | 12 | 38 | 57 |
| EVERGREEN TREES | - | - | - | - | - | - |
| OTHER TREES (2:1 SUBSTITUTE) | - | - | - | - | - | - |
| SHRUBS (10:1 SUBSTITUTE) | - | - | - | - | - | - |
| (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED) | | | | | | |

Specimen Trees

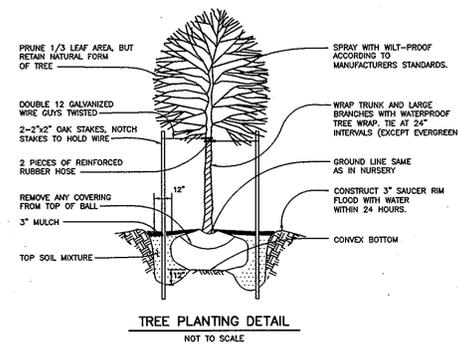
| Key | Species, Size (dbh) | Comments * |
|-----|---------------------|----------------------------|
| A | Tulip poplar, 31" | |
| B | Tulip poplar, 34" | Fair condition, poor trunk |
| C | Tulip poplar, 44" | Good condition, twin stems |
| D | Tulip poplar, 43.5" | Twin stems |
| E | Red oak, 32" | Fair, limb dieback |
| F | Red oak, 33" | |
| G | Tulip poplar, 38" | Poor condition, trunk rot |
| H | Red oak, 32" | |
| I | Tulip poplar, 32" | |
| J | Tulip poplar, 35" | |
| K | Sycamore, 31" | |
| L | Tulip poplar, 38" | |
| M | Red maple, 34" | |

STREET TREE REQUIREMENTS

| ROADWAY NAME: | POINT RIDGE DRIVE | PROP. ROAD 'B' |
|---|-------------------|----------------|
| LINEAR FEET OF ROADWAY | 2109 | 2287 |
| STREET TREES REQUIRED 1:40 | 55 | 57 |
| NUMBER OF PLANTS PROVIDED: | | |
| SHADE TREES | 55 | 57 |
| EVERGREEN TREES | - | - |
| OTHER TREES (2:1 SUBSTITUTE) | - | - |
| SHRUBS (10:1 SUBSTITUTE) | - | - |
| (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED) | | |

LEGEND

- EXISTING CONTOURS (AERIAL 12/02)
- PROPOSED CONTOURS
- LIMIT OF WETLANDS
- 25' WETLANDS BUFFER
- CENTERLINE OF STREAM
- STREAM BUFFER
- EXISTING WOODS LINE
- PROPOSED WOODS LINE
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- SLOPES 15% TO 24.9%
- SLOPES 25% OR GREATER
- EX. 100 YEAR FLOODPLAIN
- PROPOSED FOREST CONSERVATION EASEMENT (RETENTION)
- PROPOSED FOREST CONSERVATION EASEMENT (AFForestation/REFORESTATION)
- TREE PROTECTION FENCE
- FCE PERMANENT SIGNAGE
- PROP. STREET TREE
- PRIVATE SEWAGE DISPOSAL AREA
- PRIVATE WELL AREA



TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
Paul A. Long
PLANNING DIRECTOR
DATE: 4/2/13

PLAN VIEW
SCALE: 1" = 100'

| NO. | DATE | REVISION |
|-----|------|----------|
| | | |

BENCHMARK ENGINEERING, INC.

ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE SUITE 418 • ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6844

60 THOMAS JOHNSON DRIVE • FREDERICK, MARYLAND 21702
(P) 301-371-3505 (F) 301-371-3506

WWW.BEI-CIVILENGINEERING.COM

| | |
|--|--|
| OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 310.672.4820 | PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E" |
| LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN LANDSCAPE PLAN |
| DESIGN: JMC DRAFT: JMC | DATE: FEBRUARY, 2013 PROJECT NO. 2171 SCALE: AS SHOWN DRAWING 21 OF 25 |

MATCHLINE SEE SHEET 21

MATCHLINE SEE SHEET 21



E 1327500
N 552150

LEGEND

- EXISTING CONTOURS (AERIAL 12/02)
- PROPOSED CONTOURS
- LIMIT OF WETLANDS
- 25' WETLANDS BUFFER
- CENTERLINE OF STREAM
- STREAM BUFFER
- EXISTING WOODS LINE
- PROPOSED WOODS LINE
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- SLOPES 15% TO 24.9%
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- PROPOSED FOREST CONSERVATION EASEMENT (RETENTION)
- PROPOSED FOREST CONSERVATION EASEMENT (AFFORESTATION, REFORESTATION)
- TREE PROTECTION FENCE
- FCE PERMANENT SIGNAGE
- PROP. STREET TREE
- PRIVATE SEWAGE DISPOSAL AREA
- PRIVATE WELL AREA



PLAN VIEW
SCALE: 1" = 100'

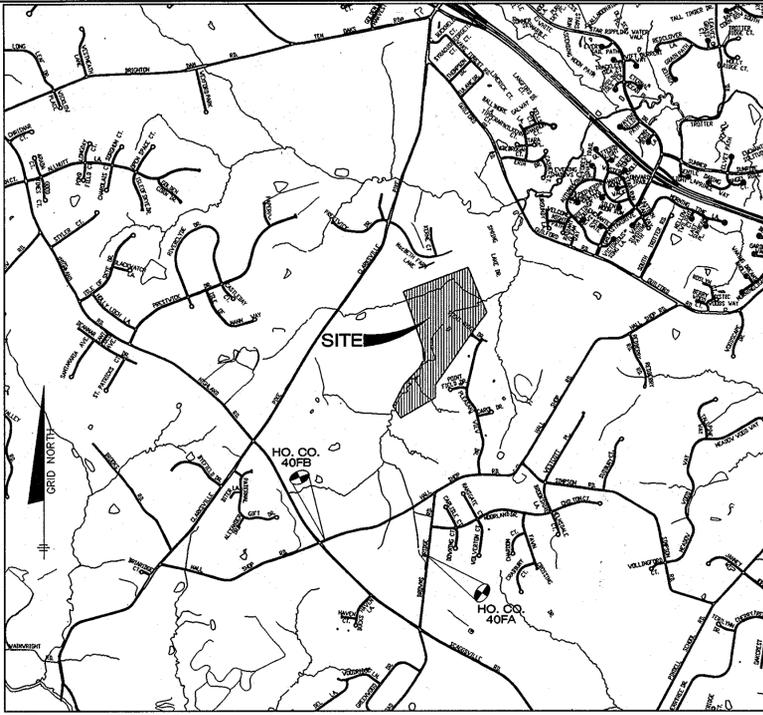
TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
Handwritten signature
PLANNING DIRECTOR

| NO. | DATE | REVISION |
|---|------------------|---|
| | | |
| BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 418 & ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702 (P) 301-371-3505 (F) 301-371-3506 WWW.BEI-CIVILENGINEERING.COM | | |
| Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 28559 Expiration Date: 7-22-2015. | | |
| | | |
| OWNER/DEVELOPER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 310.672.4820 | | PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" THRU "E" |
| LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | | TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN LANDSCAPE PLAN |
| DATE: FEBRUARY, 2013 | PROJECT NO. 2171 | SCALE: AS SHOWN |
| DESIGN: JMC | DRAFT: JMC | DRAWING 22 OF 25 |



BENCH MARKS

| | |
|---|----------------|
| HO. CO. #40FA (NAD '83) | ELEV. 497.10 |
| CONCRETE MONUMENT 0.25' BELOW SURFACE ON BROWN BRIDGE ROAD 0.3 MILE NORTH OF ROUTE 216 | |
| E 1,328,421.39' | N 548,106.92' |
| HO. CO. #40FB (NAD '83) | ELEV. 504.438' |
| MONUMENT BEING 10.5' OFF EDGE OF PLACEMENT 2.0' BELOW SURFACE AT THE INTERSECTION OF HALL SHOP ROAD AND ROUTE 216 | |
| E 1,328,000.81' | N 548,470.381' |



VICINITY MAP
 SCALE: 1"=2000'
 ADC MAP PAGE: 4933,
 GRID: J10

GENERAL NOTES

- 1.) THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- 2.) THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 S.F. AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWER SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. RECORDED OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE REQUIRED.
- 3.) EXACT LENGTH OF SEPTIC TRENCHES IS TO BE DETERMINED BY THE HEALTH DEPARTMENT AT THE TIME OF TRENCH LAYOUT AND INSPECTION.
- 4.) TOPOGRAPHY SHOWN IS BASED ON HOWARD COUNTY GIS AND FIELD VERIFIED BY BENCHMARK ENGINEERING, INC. ON AUGUST 20, 2011.
- 5.) THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THIS PROJECT'S BOUNDARY EXCEPT AS NOTED.
- 6.) THE EXISTING WELL AT 12895 CLARKSVILLE PIKE, HIGHLAND MD, 20777 (FUTURE PARCEL A) IS TO REMAIN TO SERVE THE EXISTING HOUSE.
- 7.) ANY CHANGES TO THE PRIVATE SEPTIC EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
- 8.) ALL EXISTING AND PROPOSED WELLS, SEPTIC SYSTEMS AND SEWAGE DISPOSAL SYSTEMS LOCATED WITHIN 200 FEET DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC AND SEWAGE DISPOSAL SYSTEMS HAVE BEEN SHOWN.
- 9.) LOTS 11-16 ARE PROVIDED SEWERAGE SERVICE BY A COMMUNITY SEPTIC SYSTEM. THIS SYSTEM HAS TO BE DESIGNED AND BUILT IN ACCORDANCE WITH THE HEALTH DEPARTMENT REGULATIONS, SEWER CONTRACT DRAWINGS AND A PERMIT FROM MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- 10.) THE WELL ON PRESERVATION PARCEL A THAT SERVED THE HOUSE TO BE RAZED WAS ABANDONED. ABANDONMENT OCCURRED ON 9-19-09 IN THE PRESENCE OF THE HOWARD COUNTY HEALTH DEPARTMENT SANITARIANS ROBERT BRICKER AND DANA BERNARD. ABANDONMENT WAS BY THE HOME OWNER, SCOTT REGAN. ALL SEPTIC COMPONENTS FOR THIS HOUSE MUST BE ABANDONED PRIOR TO RECORD PLAT APPROVAL.
- 11.) THE SEPTIC SYSTEM FOR THE EXISTING HOUSE ON PRESERVATION PARCEL A WILL BE ABANDONED AND A REPLACEMENT SYSTEM WILL BE INSTALLED IN THE SEPTIC DISPOSAL AREA PRIOR TO THE RECORDING OF THE RECORD PLAT AND BEFORE THE DRILLING OF THE WELL FOR LOT 9.
- 12.) AN ADVANCED PRE-TREATMENT SYSTEM, WHICH UTILIZES CURRENTLY ACCEPTABLE TECHNOLOGY TO PERFORM NITROGEN REDUCTION, MUST BE INSTALLED ON THE SEPTIC SYSTEMS FOR LOTS 11-16 DUE TO PERMITTING REQUIREMENTS. THESE ADVANCED PRE-TREATMENT SYSTEMS SHALL BE LIMITED TO THE SYSTEMS THAT HAVE COMPLETED AND PASSED THEIR FIELD VERIFICATION AS DETERMINED BY MFC AND LISTED IN THE WEBSITE FOR BAY RESTORATION FUND (BRF) BEST AVAILABLE TECHNOLOGY FOR REMOVING NITROGEN FROM ONSITE SYSTEMS. SUPPLEMENTAL SITE PLAN WITH ALL OF THE NECESSARY DETAILS FOR INSTALLATION OF THE SEPTIC SYSTEM WILL BE REQUIRED PRIOR TO THE RELEASE OF THE BUILDING PERMIT AND SYSTEM INSTALLATION PERMIT.
- 13.) THE PURPOSE OF THIS PLAN IS TO REVISE THE SEPTIC EASEMENTS AND WELL BOXES FROM THE PREVIOUSLY APPROVED PERCOLATION CERTIFICATION PLAN FOR LOTS 2, 3, 4, 9 AND 15.

HOWARD COUNTY, MARYLAND (MD027)

| | |
|-----|--|
| B/A | Ballo silt loam, 0 to 3 percent slopes |
| G/A | Gladstone loam, 0 to 3 percent slopes |
| G/B | Gladstone loam, 3 to 8 percent slopes |
| G/C | Gladstone loam, 8 to 15 percent slopes |
| GmB | Glenville silt loam, 3 to 8 percent slopes |
| MaC | Manor loam, 8 to 15 percent slopes |
| MaD | Manor loam, 15 to 25 percent slopes |

NATURAL RESOURCES CONSERVATION SERVICES
 WEB SOIL SURVEY 2.0

I CERTIFY THAT THE INFORMATION SHOWN HEREON IS BASED ON FIELD WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND IS CORRECT, TO THE BEST OF MY KNOWLEDGE AND BELIEF.

John M. Carney 2-27-13
 JOHN M. CARNEY FOR BENCHMARK ENGINEERING, INC.
 PLAN PREPARER

APPROVED FOR PRIVATE WATER, PRIVATE SEPTIC SYSTEM, AND SHARED SEPTIC SYSTEM (LOTS 11-16)
 HOWARD COUNTY HEALTH DEPARTMENT

Barton for Mauro Regan 3/19/2013
 HOWARD COUNTY HEALTH OFFICER DATE 1790

THE PURPOSE OF THIS PLAN IS TO REVISE THE SEPTIC EASEMENTS AND WELL BOXES FROM THE PREVIOUSLY APPROVED PERCOLATION CERTIFICATION PLAN FOR LOTS 2, 3, 4, 9 AND 15.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 28569 Expiration Date: 7/22/2013

| | | |
|-----|---------|----------------------------|
| NO. | DATE | REVISION |
| 1 | 3-14-13 | Adjust House Box on Lot 5. |

BENCHMARK ENGINEERING, INC.
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 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 www.bei-civilengineering.com

| | |
|--|--|
| OWNER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 | PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" & "B" |
| DESIGN: JMC DRAFT: JMC | LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND |
| TITLE: REVISED PERCOLATION CERTIFICATION PLAN | DATE: FEBRUARY, 2013 PROJECT NO. 2171 |
| SCALE: AS SHOWN | DRAWING 23 OF 25 |

LEGEND

- EXISTING CONTOURS
- EXISTING TREELINE
- EXISTING STREAM
- EXISTING STREAM BUFFER
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- PROPOSED REVISED SEPTIC AREA
- PREVIOUSLY APPROVED SEPTIC AREA
- SOIL DELINEATION
- SOILS DELINEATION
- PROPOSED WELL
- ABANDONED WELL
- PROPOSED WELL BOX
- PREVIOUSLY APPROVED WELL BOX
- PASSED PERCOLATION TEST
- FAILED PERCOLATION TEST

Design Calculations

| | | | |
|----------------------|---------|--------------------|----------|
| number of lots | 6 | Max. Daily Flow | 4500 gpd |
| bedrooms per lot | 5 | Average Daily Flow | 2250 gpd |
| use rate per bedroom | 150 gpd | Maximum Daily Flow | 3.13 gpm |
| | | Average Daily Flow | 1.56 gpm |

PLAN VIEW MATCHLINE SEE SHEET 24
 SCALE: 1" = 100'

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
Paula R. Coughlin 3/19/13
 PLANNING DIRECTOR DATE



PLAN VIEW
SCALE: 1" = 100'

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
David P. ... 1/2/13
PLANNING DIRECTOR

HOWARD COUNTY, MARYLAND (MD027)

| | |
|-----|--|
| BaA | Baile silt loam, 0 to 3 percent slopes |
| GdA | Gladstone loam, 0 to 3 percent slopes |
| GdB | Gladstone loam, 3 to 8 percent slopes |
| GdC | Gladstone loam, 8 to 15 percent slopes |
| GmB | Glenville silt loam, 3 to 8 percent slopes |
| MaC | Manor loam, 8 to 15 percent slopes |
| MaD | Manor loam, 15 to 25 percent slopes |

NATURAL RESOURCES CONSERVATION SERVICES
WEB SOIL SURVEY 2.0

LEGEND

- EXISTING CONTOURS
- EXISTING TREELINE
- EXISTING STREAM
- EXISTING STREAM BUFFER
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- PROPOSED REVISED SEPTIC AREA
- PREVIOUSLY APPROVED SEPTIC AREA
- SOIL DELINEATION
- SOILS DELINEATION
- PROPOSED WELL
- ABANDONED WELL
- PROPOSED WELL BOX
- PREVIOUSLY APPROVED WELL BOX
- PASSED PERCOLATION TEST
- FAILED PERCOLATION TEST

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 28559 Expiration Date: 1/22/2013

I CERTIFY THAT THE INFORMATION SHOWN HEREON IS BASED ON FIELD WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND IS CORRECT, TO THE BEST OF KNOWLEDGE AND BELIEF.
John M. Carney 2-27-13
JOHN M. CARNEY FOR BENCHMARK ENGINEERING, INC.
PLAN PREPARER

APPROVED FOR PRIVATE WATER, PRIVATE SEPTIC SYSTEM, AND SHARED SEPTIC SYSTEM (LOTS 11-16)
HOWARD COUNTY HEALTH DEPARTMENT

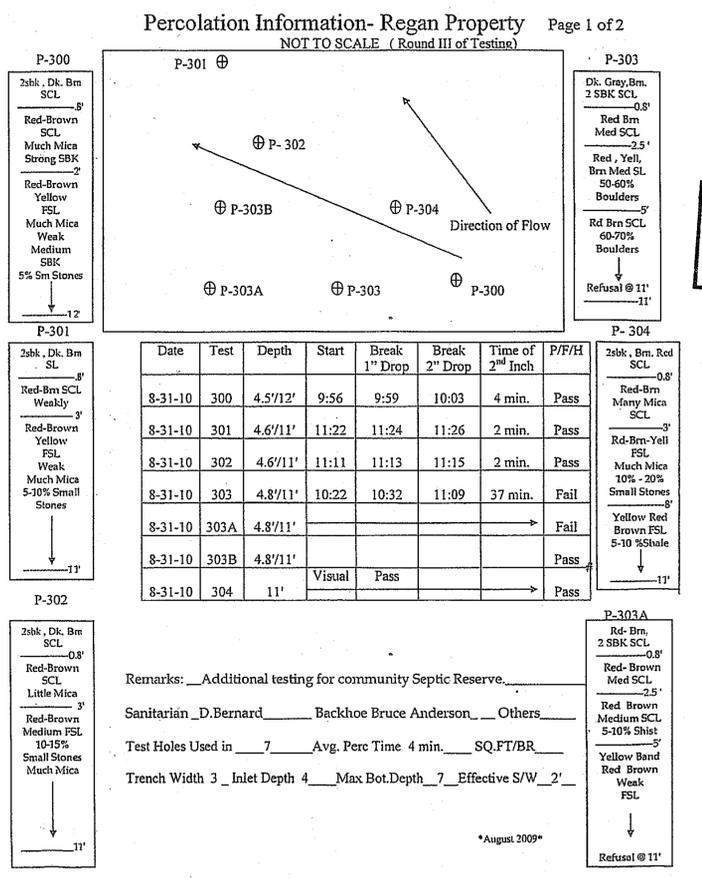
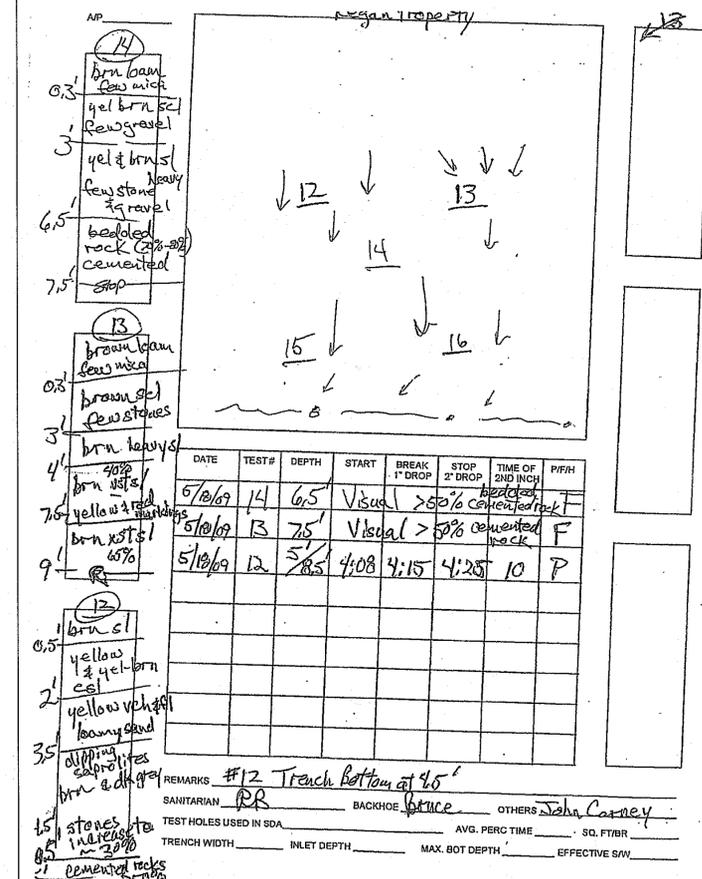
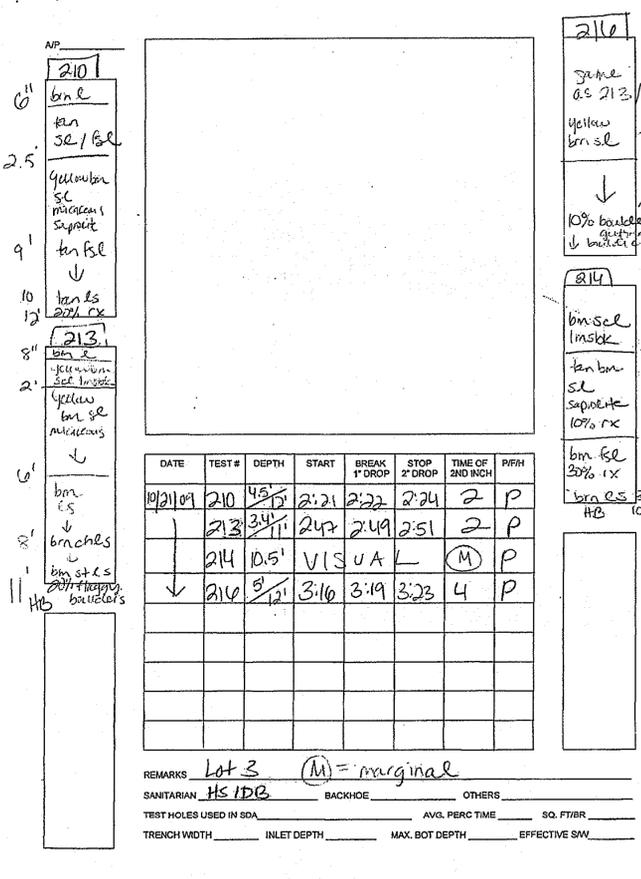
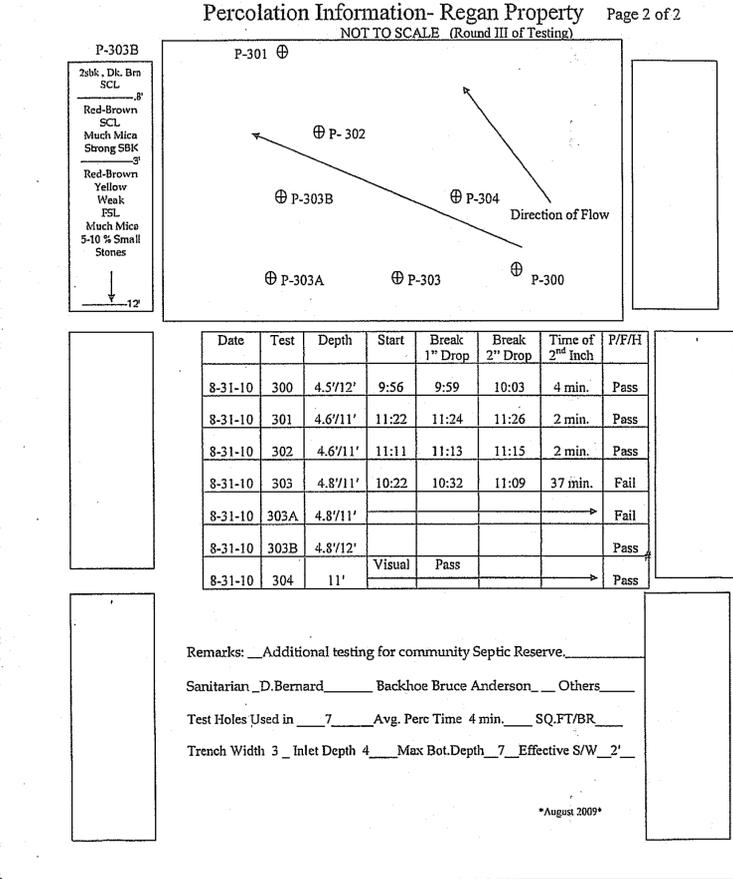
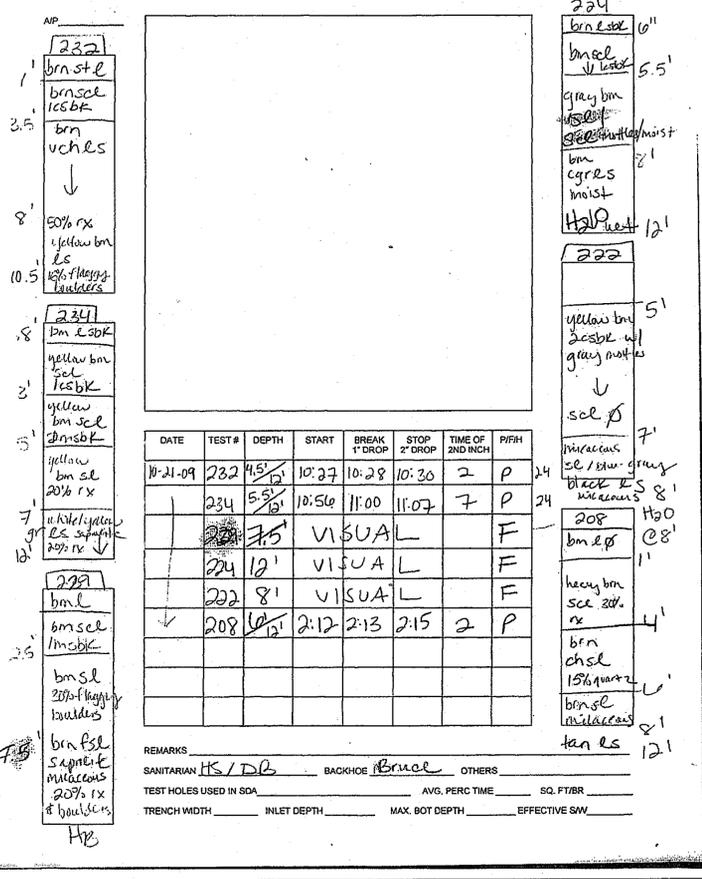
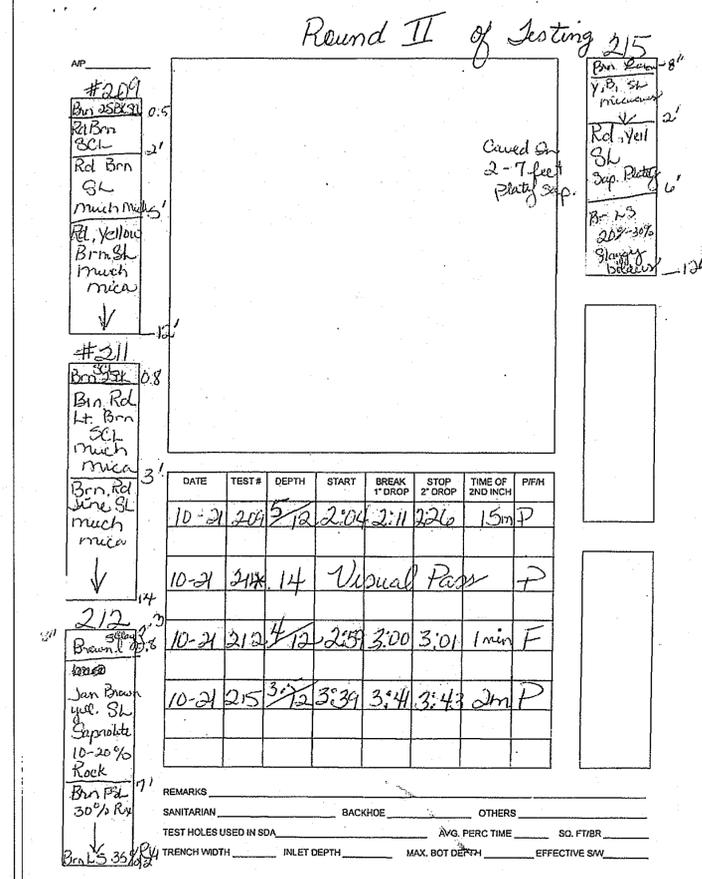
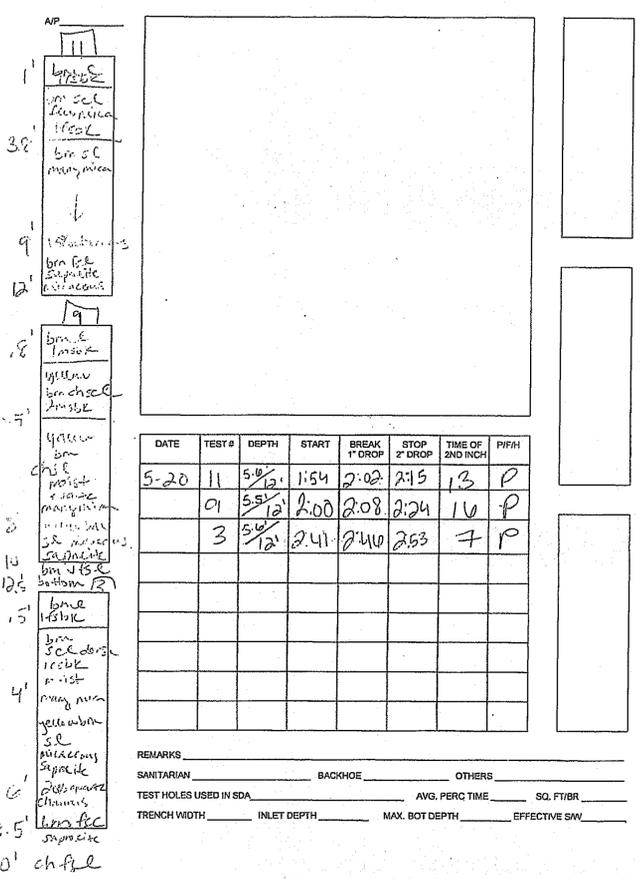
Brian M. ... 3/19/2013
HOWARD COUNTY HEALTH OFFICER DATE

THE PURPOSE OF THIS PLAN IS TO REVISE THE SEPTIC EASEMENTS AND WELL BOXES FROM THE PREVIOUSLY APPROVED PERCOLATION CERTIFICATION PLAN FOR LOTS 2, 3, 4, 9 AND 15.

| NO. | DATE | REVISION |
|-----|------|----------|
| | | |

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE & SUITE 418
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PHONE: 410-465-8105 FAX: 410-465-6644
www.bei-civilengineering.com

| | |
|--|---|
| OWNER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN 12859 ROUTE 108 HIGHLAND, MARYLAND 20777 | PROJECT: REGAN PROPERTY LOTS 1-22 AND PRESERVATION PARCELS "A" & "B" |
| LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | TITLE: REVISED PERCOLATION CERTIFICATION PLAN |
| DATE: FEBRUARY, 2013 | PROJECT NO. 2171 |
| DESIGN: JMC DRAFT: JMC | SCALE: AS SHOWN DRAWING 24 OF 25 |



I CERTIFY THAT THE INFORMATION SHOWN HEREON IS BASED ON FIELD WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND IS CORRECT, TO THE BEST OF MY KNOWLEDGE AND BELIEF.

John M. Carney 2-27-13
 JOHN M. CARNEY FOR BENCHMARK ENGINEERING, INC.
 PLAN PREPARER

APPROVED FOR PRIVATE WATER, PRIVATE SEPTIC SYSTEM, AND SHARED SEPTIC SYSTEM (LOTS 11-16)
 HOWARD COUNTY HEALTH DEPARTMENT

Brian F. Rossman 3/19/2013
 HOWARD COUNTY HEALTH OFFICER DATE

THE PURPOSE OF THIS PLAN IS TO REVISE THE SEPTIC EASEMENTS AND WELL BOXES FROM THE PREVIOUSLY APPROVED PERCOLATION CERTIFICATION PLAN FOR LOTS 2, 3, 4, 5, 6, 9 AND 15.

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 www.bei-civilengineering.com

OWNER: RONALD REGAN, SCOTT REGAN AND KELLY REGAN
 12859 ROUTE 108
 HIGHLAND, MARYLAND 20777

PROJECT: REGAN PROPERTY
 LOTS 1-22 AND PRESERVATION PARCELS "A" & "B"

LOCATION: TAX MAP No. 34, GRID No. 24, PARCEL No. 200
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: REVISED PERCOLATION CERTIFICATION PLAN

DATE: FEBRUARY, 2013 PROJECT NO. 2171

DESIGN: JMC DRAFT: JMC SCALE: AS SHOWN DRAWING 25 OF 25

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
Paul L. Wright 1/16/10
 PLANNING DIRECTOR DATE