

SHEET INDEX - PRELIMINARY EQUIVALENT SKETCH PLAN	
NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL SITE PLAN
3	ROAD DETAILS, PROFILES AND SWM DETAILS
4	GRADING, SEDIMENT AND EROSION CONTROL PLAN
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8	FOREST CONSERVATION DETAILS
9	PERCOLATION CERTIFICATION PLAN

PRELIMINARY EQUIVALENT SKETCH PLAN

CLOVERFIELD SECTION II

LOTS 1-15 AND PRESERVATION PARCELS A, B AND C

BENCH MARKS (NAD'83)

HO. CO. No. 15AA ELEV. 548.605
 STAMPED BRASS DISK SET ON TOP OF
 CONCRETE (3" DEEP) COLUMN.
 8.4' NE OF THE NORTH EDGE OF PAVING
 OF MD ROUTE 144; 100' NW OF B&E
 POLE #81943
 N 599,605.293 E 1,314,773.416

HO. CO. No. 15AB ELEV. 536.524
 STAMPED BRASS DISK SET ON TOP OF
 CONCRETE (3" DEEP) COLUMN.
 6.3' SW OF THE SOUTH EDGE OF PAVING
 OF MD ROUTE 144; 7.2' NW OF C&P POLE
 #813
 N 598,858.933 E 1,316,925.181

SITE ANALYSIS DATA CHART

- GENERAL SITE DATA**
- PRESENT ZONING: RC-DEO
 - APPLICABLE DPZ FILE REFERENCES: -
 - PROPOSED USE OF SITE: RESIDENTIAL (SFD)
 - PROPOSED WATER AND SEWER SYSTEMS: PRIVATE

- AREA TABULATION**
- GROSS TRACT AREA: 61.37±
 - AREA OF BULK PARCEL "F" FROM F-06-110 (NOT COUNTED TOWARDS NET TRACT AREA): 0.34±
 - AREA WITHIN 100-YEAR FLOODPLAIN: 3.41 AC±
 PARCEL A: 0.11 AC±
 PARCEL B: 3.30 AC±
 - TOTAL AREA OF 25% OR GREATER STEEP SLOPES: 0.14 AC±
 AREA NOT IN FLOODPLAIN (FOR NTA CALC): 0.00 AC±
 - NET TRACT AREA: 57.48 AC±
 - TOTAL NUMBER OF LOTS ALLOWED PER ZONING:
 1 UNIT PER 4.25 GROSS ACRES: 14
 1 UNIT PER 2 NET ACRES (MAX): 28
 - TOTAL NUMBER OF RESIDENTIAL UNITS/LOTS PROPOSED ON THIS SUBMISSION: 16
 - AREA OF CLUSTER LOTS: 16.56 AC±
 - AREA OF NON-BUILDABLE PRESERVATION PARCELS: 7.33 AC± (PARCEL A & C)
 - AREA OF BUILDABLE PRESERVATION PARCELS: 35.91 AC± (PARCEL B)
 - AREA OF NON-BUILDABLE BULK PARCELS: N/A
 - AREA OF BUILDABLE BULK PARCELS: N/A
 - AREA OF ROAD RIGHT-OF-WAY: 1.23 AC± (PARCEL 119)
 - OPEN SPACE ON-TOTAL SITE: N/A
 - AREA OF RECREA. L.A.S. OPEN SPACE REQUIRED: N/A

* 5% OF GROSS REQUIRED (0.85 AC±) OR NONE IF THE PRES. PARCEL IS DEDICATED TO THE HOWARD COUNTY.

SUMMARY OF GENERAL STORAGE REQUIREMENTS DRAINAGE AREA #1

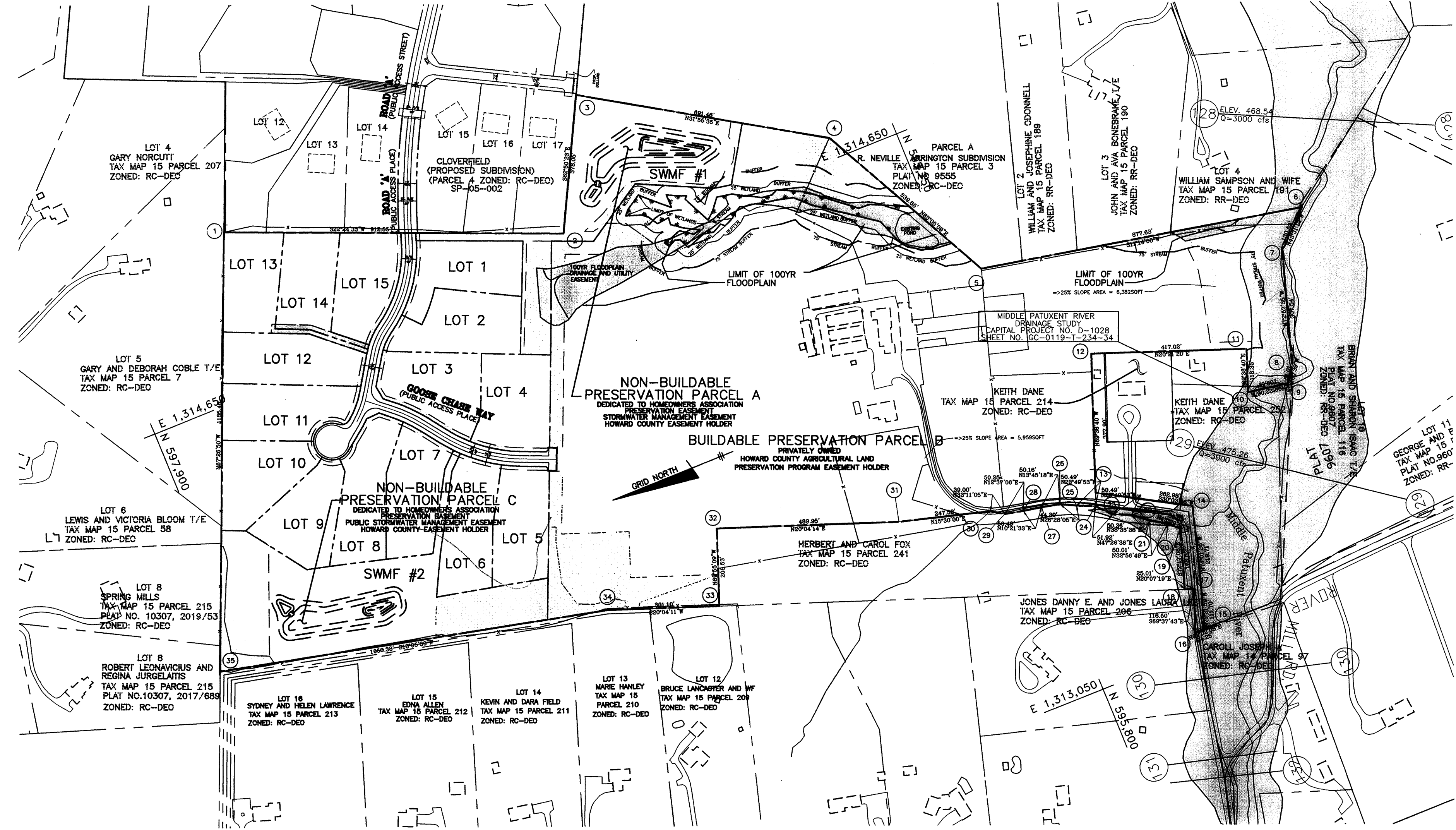
Step	Requirement	Volume Required (ac-ft)	Notes
1.	Water Quality Volume (WQv)	Sub 1 = N/A Sub 2 = 0.3582 ac-ft (or 15,604.1 cfs)	0.3582 ac-ft provided within a micro-pool extended detention facility
2.	Recharge Volume (Rev)	Sub 1 = N/A Sub 2 = 0.0931 ac-ft (or 1,026.6 ac-ft)	Rev provided within grassed swales along roadway.
3.	Channel Protection Volume (Cpv)	0.6211 ac-ft (or 27,055.53 ac-ft)	0.6211 ac-ft provided within a micro-pool extended detention facility
4.	Overbank Flood Protection Volume (Op)	N/A	Not required
5.	Extreme Flood Volume (Qf)	N/A	Not required

SUMMARY OF GENERAL STORAGE REQUIREMENTS DRAINAGE AREA #2

Step	Requirement	Volume Required (ac-ft)	Notes
1.	Water Quality Volume (WQv)	Sub 1 = N/A Sub 2 = 0.1026 ac-ft (or 4,467.43 cfs)	0.1026 ac-ft provided within a micro-pool extended detention facility
2.	Recharge Volume (Rev)	Sub 1 = N/A Sub 2 = 0.0267 ac-ft (or 0.2785 acres)	Rev provided within grassed swales.
3.	Channel Protection Volume (Cpv)	0.5452 ac-ft	Provided within a micro-pool extended detention facility
4.	Overbank Flood Protection Volume (Op)	N/A	Not required
5.	Extreme Flood Volume (Qf)	N/A	Not required

SUMMARY OF GENERAL STORAGE REQUIREMENTS DRAINAGE AREA #3

Step	Requirement	Volume Required (ac-ft)	Notes
1.	Water Quality Volume (WQv)	N/A	No new disturbance or impervious
2.	Recharge Volume (Rev)	N/A	No new disturbance or impervious
3.	Channel Protection Volume (Cpv)	N/A	CPv controlled at facility for drainage area #2
4.	Overbank Flood Protection Volume (Op)	N/A	Not required
5.	Extreme Flood Volume (Qf)	N/A	Not required



PLAN VIEW
SCALE: 1" = 200'

MINIMUM LOT SIZE CHART

LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
13	43,428	3,087	40,341
14	40,878	1,286	39,592

COORDINATE CHART (NAD '83)

No.	BOUNDARY COORDINATES		BOUNDARY COORDINATES		
	NORTH	EAST	NORTH	EAST	
1	597524.0390	1315083.9646	19	595445.5662	1313373.8849
2	596875.9016	1314736.0003	20	595470.9710	1313397.9907
3	596507.8274	1315072.4452	21	595512.9281	1313425.1892
4	595920.9692	1314708.7825	22	595511.1813	1313455.7743
5	595676.9207	1314225.6520	23	595588.4866	1313477.0382
6	594815.8838	1314054.5831	24	595633.5711	1313515.2829
7	594910.5379	1313964.6965	25	595679.7563	1313535.6832
8	595000.6606	1313670.6578	26	595719.4934	1313555.4677
9	595030.2744	1313629.1242	27	595768.2149	1313567.3943
10	595138.3238	1313646.9506	28	595817.8819	1313576.4733
11	595097.1561	1313757.9098	29	595866.9182	1313587.4507
12	595488.1295	1313902.9669	30	595899.5578	1313608.7969
13	595619.5808	1313546.6663	31	596138.0756	1313674.9436
14	595391.9779	1313416.9263	32	596598.2760	1313843.0843
15	595488.1407	1313099.8577	33	596669.8737	1313647.2310
16	595512.3891	1313100.2955	34	596952.7003	1313750.5575
17	595471.8837	1313200.5129	35	597978.7029	1313989.1605
18	595491.3242	1313218.1076			

CENTER LINE CURVE DATA

STREET NAME	STATION	RADIUS	LENGTH	TANGENT	DELTA	CHORD
ROAD A	11+39.26 to 16+69.38	1800'	530.12'	266.99'	16°52'28"	528.21'
ROAD A	16+69.38 to 19+15.46	363'	246.08'	127.98'	38°05'30"	241.40'
ROAD A	19+15.46 to 19+89.01	174'	73.54'	37.33'	24°12'59"	73.00'
ROAD A	20+98.66 to 21+80.71	259.78'	82.06'	41.37'	18°05'52"	81.72'
ROAD B	0+71.46 to 1+69.80	400'	98.34'	49.42'	14°05'09"	98.09'
ROAD B	2+33.66 to 4+53.16	400'	219.50'	112.59'	31°26'28"	216.76'

SWM DISCHARGE SUMMARY TABLES

DRAINAGE AREA 1			
STORM FREQUENCY (YR)	EXISTING RUNOFF (cfs)	DEVELOPED DISCHARGE (cfs)	SWM FACILITY #1
1	6.8	5.2	1.6
10	65.4	52.5	12.9
100	132.9	136.9	26.0

DRAINAGE AREA 2			
STORM FREQUENCY (YR)	EXISTING RUNOFF (cfs)	DEVELOPED DISCHARGE (cfs)	SWM FACILITY #2
1	7.1	0.7	6.4
10	50.0	41.5	8.5
100	98.9	95.5	3.4

DRAINAGE AREA 3			
STORM FREQUENCY (YR)	EXISTING RUNOFF (cfs)	DEVELOPED DISCHARGE (cfs)	SWM FACILITY #3
1	32.5	25.9	6.6
10	200.8	182.3	18.5
100	380.4	380.0	0.4

GENERAL NOTES CONT.:

26.) THE FOREST CONSERVATION SHOWN ON THIS PLAN IS CONCEPTUAL AND SUBJECT TO CHANGE AND FINALIZATION BEFORE THE SIGNATURE OF THE FINAL PLAN. FOREST CONSERVATION MUST MEET WITH THE APPROVAL OF BOTH THE AGRICULTURAL PRESERVATION PROGRAM AND WITH THE SUBDIVISION REVIEW COMMITTEE. IF THE FOREST CONSERVATION LOCATIONS CHANGE, THEN BUILDING RESTRICTION LINES WILL BE ADJUSTED ACCORDINGLY.

GENERAL NOTES

- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS. SCALE: 1" = 200'
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH 2-FOOT CONTOUR INTERVALS PREPARED BY BENCHMARK ENGINEERING INC. ON OR ABOUT FEBRUARY 2005.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 15AA AND 15AB WERE USED FOR THIS PROJECT.
- WATER IS PRIVATE.
- SEWER IS PRIVATE.
- STORMWATER MANAGEMENT SHALL BE PROVIDED BY EXTENDED DETENTION PONDS WITH MICRO-POOLS AND GRASSED SWALES.
- EXISTING UTILITIES ARE BASED UPON FIELD SURVEY LOCATIONS.
- THERE IS A FLOODPLAIN ON THIS SITE LOCATED ALONG THE EASTERN AND SOUTHERN BOUNDARIES. THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY BENCHMARK ENGINEERING, INC., DATED JULY, 2005.
- THE WETLANDS DELINEATION FOR THIS PROJECT WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. IN JULY 2005.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HILLIS CARNES ENGINEERING ASSOCIATES, INC.
- THE SUBJECT PROPERTY IS ZONED RC-DEO PER THE 2-2-04 COMPREHENSIVE ZONING PLAN.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO BURIAL GROUNDS OR CEMETERIES LOCATED ON THIS SITE.
- THERE SHALL BE NO DISTURBANCE WITHIN THE 100-YR FLOODPLAIN, WETLANDS, STREAMS, THEIR BUFFERS OR STEEP SLOPES THAT ARE AT LEAST 20,000 S.F. UNLESS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING.
- BOUNDARY IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED DURING FEBRUARY, 2005 BY BENCHMARK ENGINEERING, INC.
- FOREST STAND DELINEATION WAS PREPARED BY ECO-SCIENCE PROFESSIONALS IN JULY, 2005.
- THIS PROJECT IS NOT LOCATED WITHIN THE METROPOLITAN DISTRICT.
- THE STORMWATER MANAGEMENT SYSTEM 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 ALLOWED FOR THIS DEVELOPMENT.
- AS REQUIRED BY THE STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL PRESERVATION PARCELS, THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF 10,000 SQUARE FEET PUBLIC DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA IS RESTRICTED UNTIL SUCH TIME AS THE SEWERAGE EASEMENT BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE NECESSARY.
- THE PURPOSE OF THE PRESERVATION PARCELS AND THE JUSTIFICATION FOR THE DESIGN OF THE CLUSTER SUBDIVISION IS AS FOLLOWS:
 PRESERVATION PARCEL "A" IS PROPOSED AS NON-BUILDABLE PARCELS THAT SHALL INCLUDE BUT NOT BE LIMITED TO STORM DRAINAGE, UTILITY EASEMENTS, FOREST CONSERVATION EASEMENTS AND STORM WATER MANAGEMENT. IT WILL BE OWNED BY THE HOMEOWNERS ASSOCIATION. IT IS ENCUMBERED BY AN EASEMENT AGREEMENT WITH HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM. THIS AGREEMENT PROHIBITS FURTHER SUBDIVISION OF THE PARCEL. OUTLINES THE MAINTENANCE RESPONSIBILITIES OF ITS OWNER AND ENUMERATES THE USES PERMITTED ON THE PROPERTY.
 PRESERVATION PARCEL "B" IS PROPOSED AS A BUILDABLE PARCEL. ONE (1) HOUSING ALLOCATION ALLOWING ONE (1) BUILDABLE UNIT SHALL BE UTILIZED. THIS PARCEL SHALL INCLUDE BUT NOT BE LIMITED TO FOREST CONSERVATION EASEMENTS. IT WILL BE PRIVATELY OWNED. IT IS ENCUMBERED BY AN EASEMENT AGREEMENT WITH HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM. THIS AGREEMENT PROHIBITS FURTHER SUBDIVISION OF THE PARCEL. OUTLINES THE MAINTENANCE RESPONSIBILITIES OF ITS OWNER AND ENUMERATES THE USES PERMITTED ON THE PROPERTY.
 PRESERVATION PARCEL "C" IS PROPOSED AS NON-BUILDABLE PARCELS THAT SHALL INCLUDE BUT NOT BE LIMITED TO STORM DRAINAGE, UTILITY EASEMENTS, FOREST CONSERVATION EASEMENTS AND STORM WATER MANAGEMENT. IT WILL BE OWNED BY THE HOMEOWNERS ASSOCIATION. IT IS ENCUMBERED BY AN EASEMENT AGREEMENT WITH HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM. THIS AGREEMENT PROHIBITS FURTHER SUBDIVISION OF THE PARCEL. OUTLINES THE MAINTENANCE RESPONSIBILITIES OF ITS OWNER AND ENUMERATES THE USES PERMITTED ON THE PROPERTY.
- FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH THE FOREST CONSERVATION MANUAL SHALL BE FULLY FILLED BY THE PLACEMENT OF 7.74 ACRES OF PLANTINGS AND RETENTION INTO AN EASEMENT AREA WHICH IS SUFFICIENT TO MEET THE BREAKDOWN POINT OF REGENERATION. THESE EASEMENTS ARE LOCATED IN BOTH THE DEVELOPED AREA OF THE SITE AND THE AGRICULTURAL PRESERVATION PARCEL B. THESE AREAS WITHIN THE PARCEL B WERE TAKEN AT 1:1 RATIO FOR REDFORESTATION AND 2:1 RATIO FOR FOREST RETENTION TO MEET THE OBLIGATION.
- PERMETER, STORM WATER MANAGEMENT AND STREET TREE PLANTINGS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE LANDSCAPE MANUAL.
- WELLS SHALL BE PLACED AT THE FURTHEST PORTION OF THE WELL BOX. MAINTAIN 15' OF SEPARATION FROM ROADS AND R/W.
- WELLS SHALL BE DRILLED BY A CERTIFIED WELL DRILLER PRIOR TO FINAL PLAN SIGNATURE PER HOWARD COUNTY HEALTH DEPARTMENT REQUIREMENTS.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.

OVERALL DENSITY EXCHANGE CHART

GROSS AREA	61.37 AC±
NET TRACT AREA	57.48 AC± (SEE AREA TABULATION THIS SHEET)
DWELLING UNITS ALLOWED (as matter of right)	57.48 AC± @ 1 DU per 4.25 GROSS ACRES = 13
MAXIMUM DWELLING UNITS ALLOWED W/ CEO'S	57.48 AC± @ 1 DU per 2.00 NET ACRES = 28
PROPOSED DWELLING UNITS	15 + 1 EXISTING DWELLING = 16
NUMBER OF CEO UNITS TO BE RECEIVED	16 - 13 (base density) = 3
SENDING PARCEL INFORMATION	SUBDIVISION NAME: HOOVER PROPERTY TAX MAP: 2 GRID: 17 PARCEL: 184

PLEASE NOTE THAT THE AREA OF BULK PARCEL "F" (0.34AC) HAS NOT BEEN COUNTED TOWARDS DENSITY AND FOREST CONSERVATION FOR THAT PARCEL WAS ADDRESSED IN F-06-110.

BENCHMARK
ENGINEERS • LAND SURVEYORS • PLANNERS

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE • SUITE 418 • ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
www.bei-civilengineering.com

OWNER: THOMAS AND SHARON SMITH
14120 ROVER MILL ROAD
WEST FRIENDSHIP, MD 21794

DEVELOPER: SPRING MILL, LLC
P.O. BOX 417
ELLICOTT CITY, MD 21041

PROJECT: CLOVERFIELD SECTION II

LOCATION: TAX MAP-15 GRID-7 PARCEL-119
3rd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN
TITLE SHEET

DATE: JULY 2005
MAY, 2006

PROJECT NO.: 1649

SCALE: 1" = 100'

DRAWING: 1 OF 9

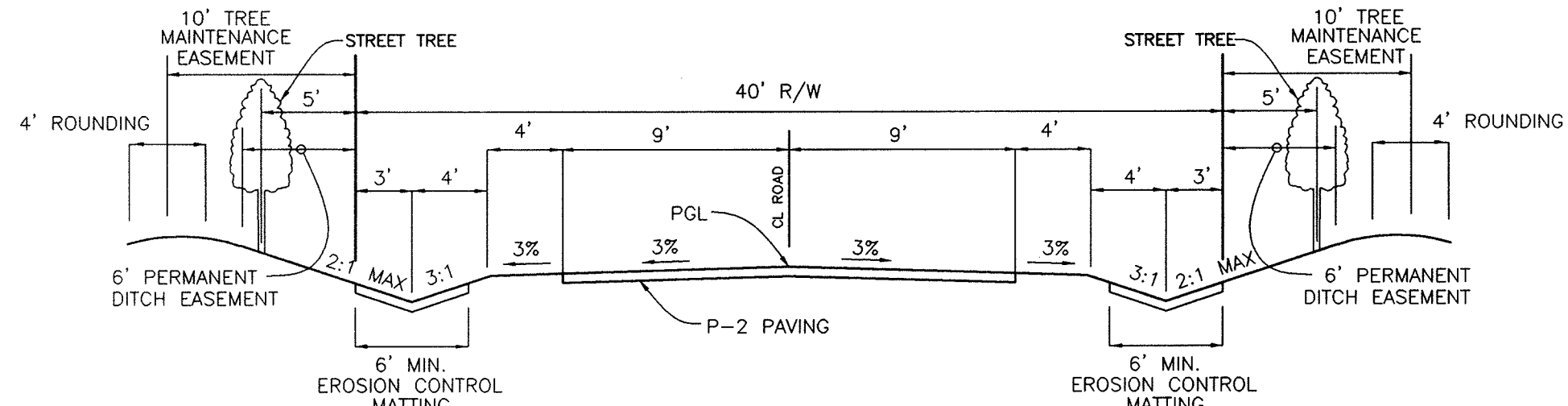
Design: BFC **Draft:** BFC

APPROVED FOR PRIVATE WATER AND SEWERAGE SYSTEM
HOWARD COUNTY HEALTH DEPARTMENT

Robert J. Walden 5/31/06
HOWARD COUNTY HEALTH OFFICER nqd DATE

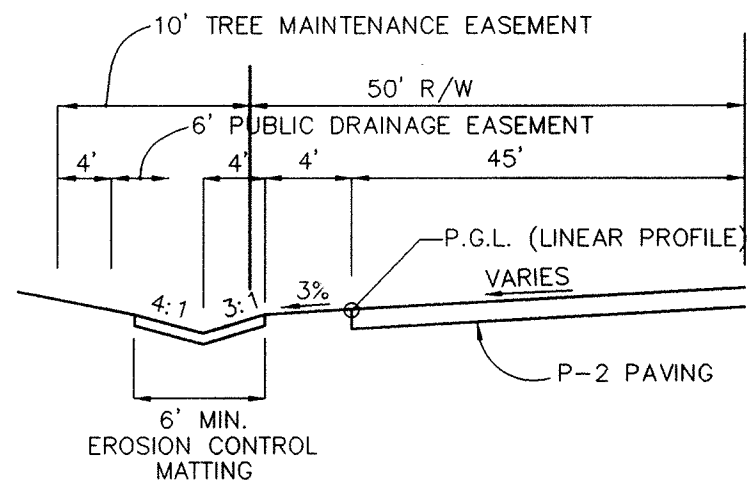
TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Mark A. Leylek 7/19/06
PLANNING DIRECTOR DATE



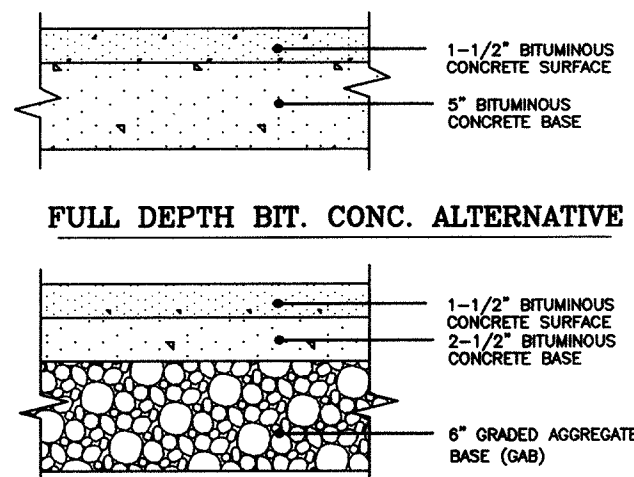
TYPICAL ROADWAY SECTION ROAD 'A'

PUBLIC ACCESS PLACE (MAX. 200 ADT)
 DESIGN SPEED: (15+5) = 20 MPH
 ROAD A - STA. 13+30 TO 22+00
 ROAD B - STA. 0+00 TO 14+53
 NOT TO SCALE



TYPICAL ROADWAY SECTION AT CUL-DE-SAC

LINEAR PROFILE
 NOT TO SCALE



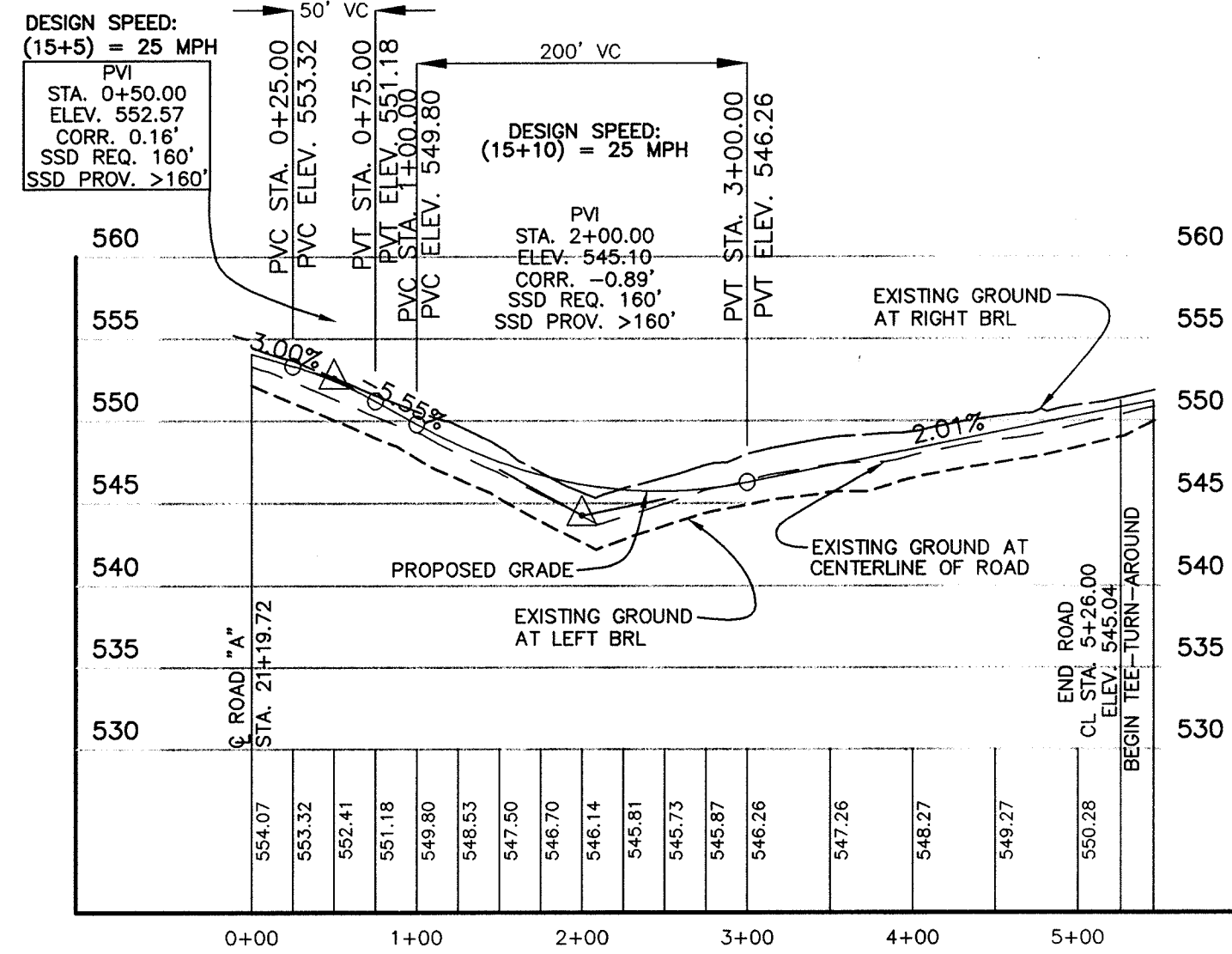
FULL DEPTH BIT. CONC. ALTERNATIVE



GRANULAR BASE ALTERNATIVE

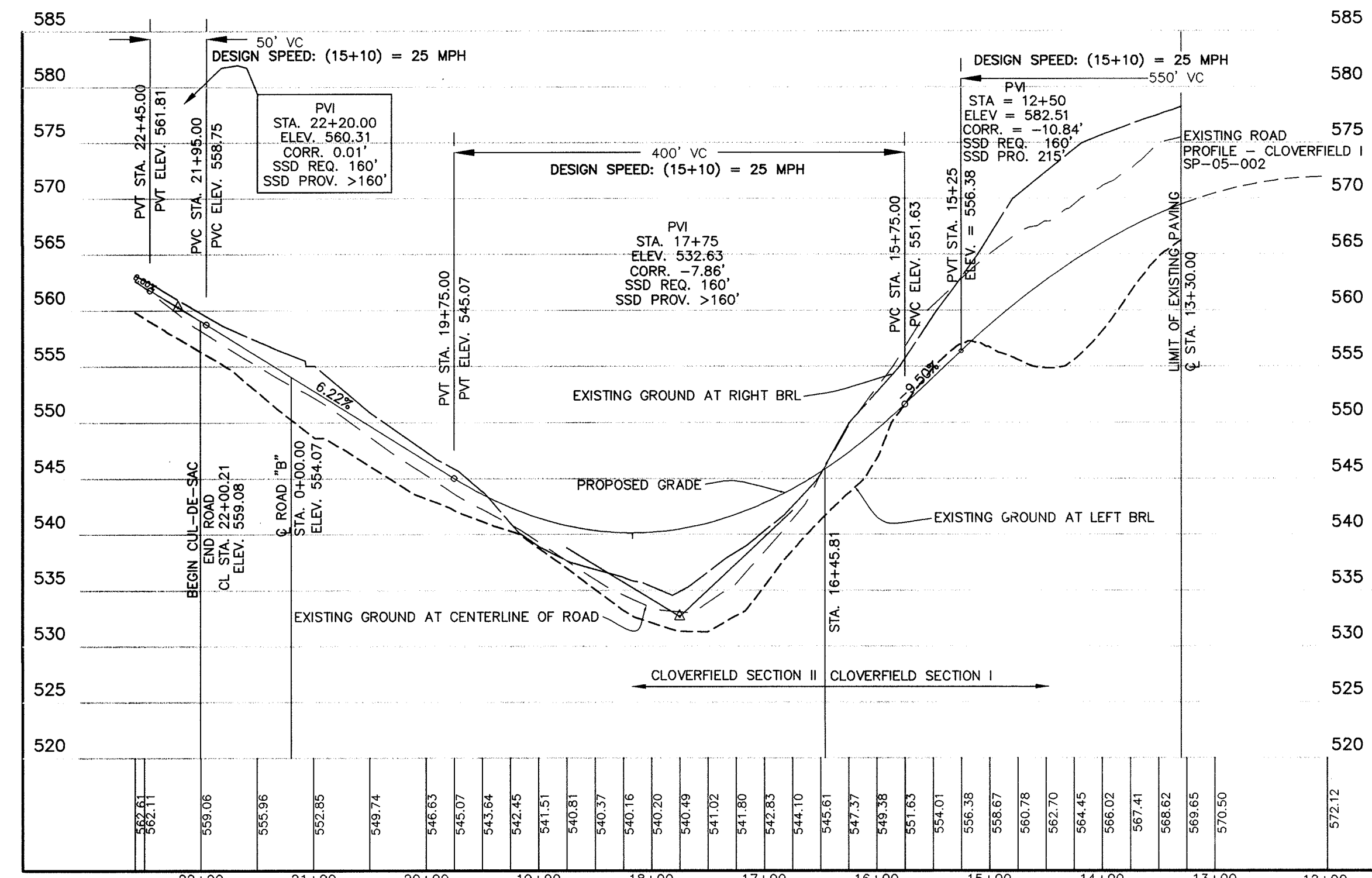
P-2 PAVING DETAIL

NOT TO SCALE



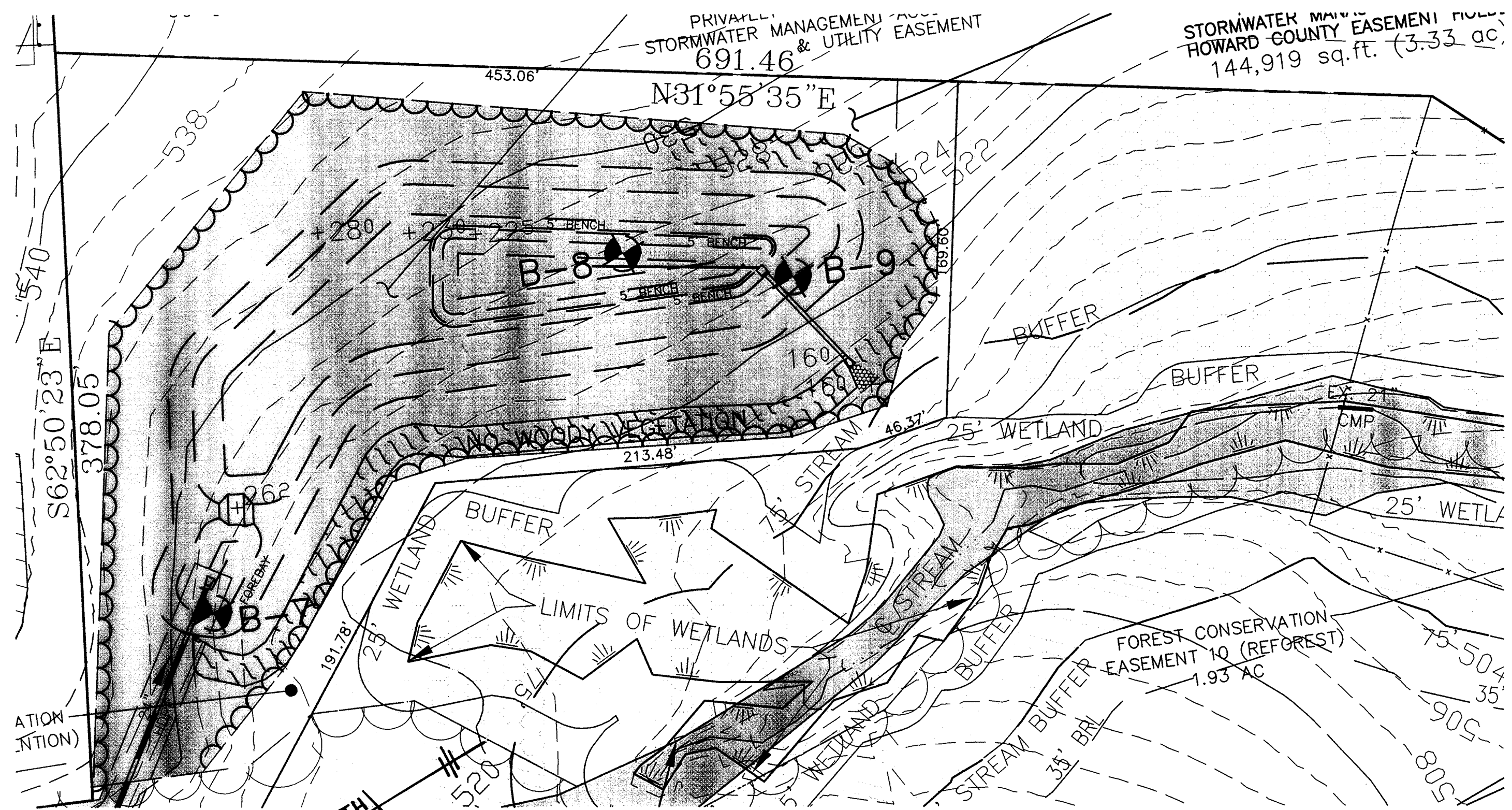
ROAD B

SCALE: 1"=100' HORIZ., 1"=10' VERT.



ROAD A

SCALE: 1"=100' HORIZ., 1"=10' VERT.



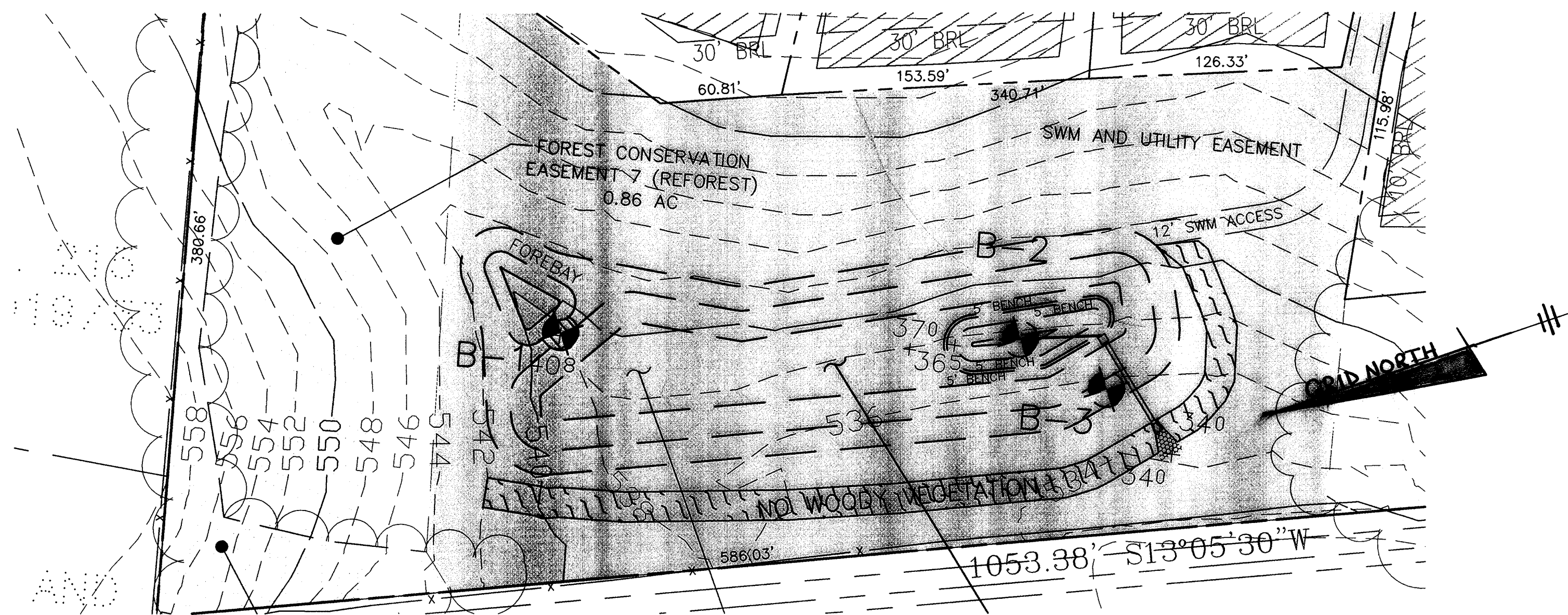
SWM FACILITY #1

SCALE: 1"=50'

FACILITY NO. 1	
VOLUME	ELEVATION
WQv	523.35'
Cpv	524.94'
100yr	526.00'

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- LIMIT OF WETLANDS
- EXISTING WOODS LINE
- PROPOSED WOODS LINE
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- BORING LOCATIONS
- 15% - 24.99% STEEP SLOPES
- EXISTING WELL
- PROPOSED WELL AREA
- EXISTING SEPTIC FIELD
- PROPOSED SEPTIC FIELD
- FOREST CONSERVATION EASEMENT (RETENTION)
- NO WOODY BUFFER
- FOREST CONSERVATION EASEMENT (REFOREST)
- 25% OR GREATER STEEP SLOPES
- FENCE
- EX. WELL



SWM FACILITY #2

SCALE: 1"=50'

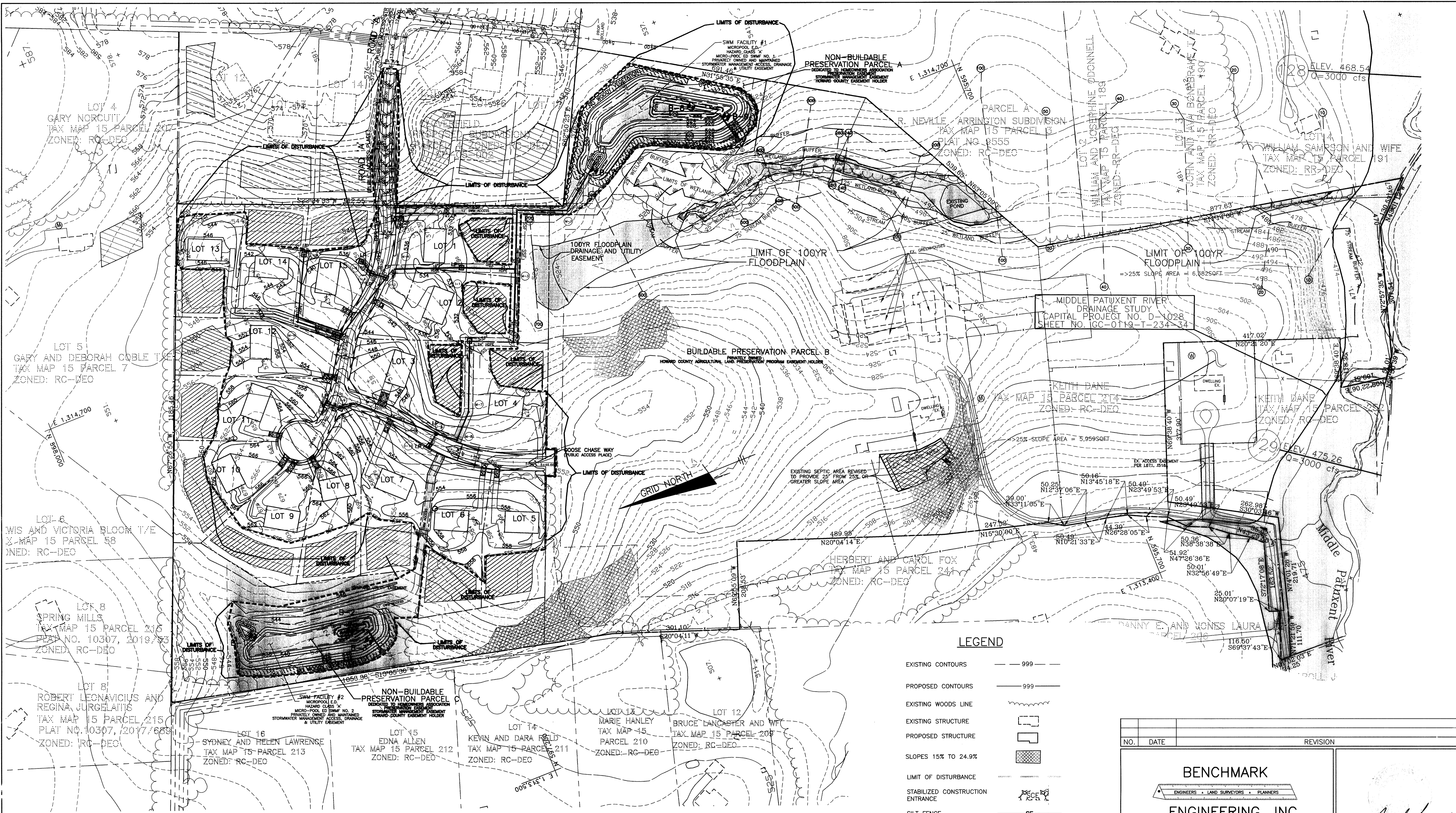
FACILITY NO. 2

VOLUME	ELEVATION
WQv	537.17'
Cpv	539.02'
100yr	540.00'

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

Handwritten signature
 PLANNING DIRECTOR DATE

NO.		DATE		REVISION	
BENCHMARK ENGINEERING, INC. <small>ENGINEERS • LAND SURVEYORS • PLANNERS</small> 8480 BALTIMORE NATIONAL PIKE • SUITE 418 • ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-6105 FAX: 410-465-6644 www.bel-civilengineering.com					
OWNER: THOMAS AND SHARON SMITH 14120 ROVER MILL ROAD WEST FRIENDSHIP, MD 21794			PROJECT: CLOVERFIELD SECTION II		
DEVELOPER: SPRING MILL, LLC P.O. BOX 417 ELLICOTT CITY, MD 21041			LOCATION: TAX MAP-15 GRID-7 PARCEL-119 3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN ROAD DETAILS, PROFILES AND SWM DETAILS					
DATE: JULY 2005 MAY, 2006		PROJECT NO. 1649		DRAWING 3 OF 9	
Design: BFC		Draft: BFC		SCALE: AS SHOWN	



APPROVED FOR PRIVATE WATER AND SEWERAGE SYSTEM
 HOWARD COUNTY HEALTH DEPARTMENT

Robert J. Walden 5/31/06
 HOWARD COUNTY HEALTH OFFICER DATE

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

Mark D. Lingle 2/19/06
 PLANNING DIRECTOR DATE

100-YEAR FLOODPLAIN SUMMARY TABLE

SECTION NO.	FLOW (CFS)	WS ELEV. (100 YR.)
10	229	471.92
20	229	479.7
30	229	483.7
40	229	485.8
50	229	488.0
100	229	492.7
200	186	498.7
240	186	501.7
CULVERT		
260	186	503.0
300	186	502.9
400	186	503.6
500	125	508.4
600	125	521.5
700	125	526.4

FACILITY NO. 1

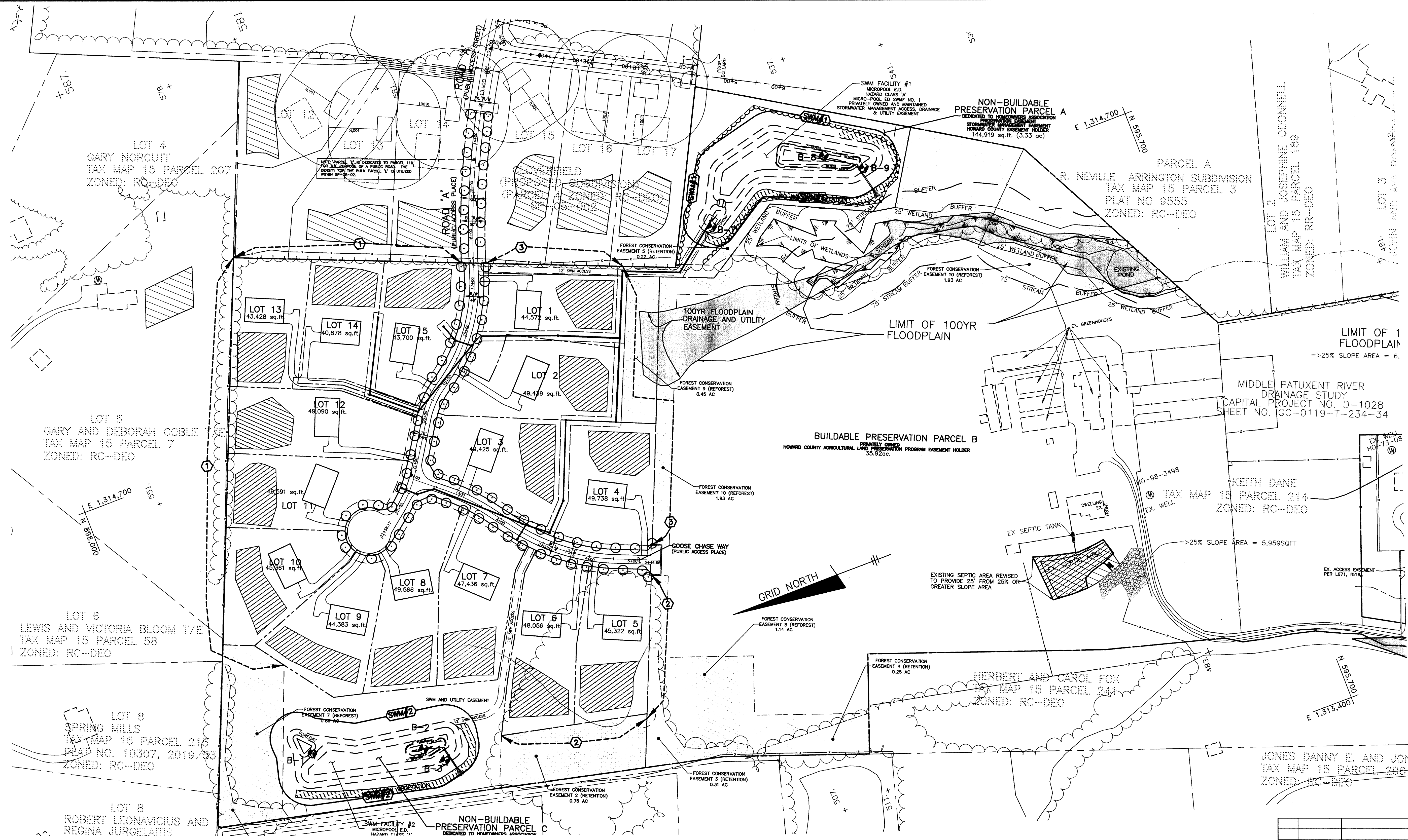
VOLUME	ELEVATION
WQv	523.35'
Cpv	524.94'
100yr	526.00'

FACILITY NO. 2

VOLUME	ELEVATION
WQv	537.17'
Cpv	539.02'
100yr	540.00'

- LEGEND**
- EXISTING CONTOURS ——— 999 ———
 - PROPOSED CONTOURS ——— 999 ———
 - EXISTING WOODS LINE [Symbol]
 - EXISTING STRUCTURE [Symbol]
 - PROPOSED STRUCTURE [Symbol]
 - SLOPES 15% TO 24.9% [Symbol]
 - LIMIT OF DISTURBANCE [Symbol]
 - STABILIZED CONSTRUCTION ENTRANCE [Symbol]
 - SILT FENCE — SF —
 - SUPER SILT FENCE — SSF —
 - CL STREAM [Symbol]
 - LIMIT OF WETLANDS [Symbol]
 - LIMIT OF SUBMISSION [Symbol]
 - PROPOSED FOREST CONSERVATION EASEMENT RETENTION [Symbol]
 - PROPOSED FOREST CONSERVATION EASEMENT REFORESTATION/AFORESTATION [Symbol]
 - NO WOODY BUFFER [Symbol]
 - SLOPES 25% OR GREATOR [Symbol]

NO.	DATE	REVISION
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.bel-civilengineering.com		
OWNER: THOMAS AND SHARON SMITH 14120 ROVER MILL ROAD WEST FRIENDSHIP, MD 21794		PROJECT: CLOVERFIELD SECTION II
DEVELOPER: SPRING MILL, LLC P.O. BOX 417 ELLICOTT CITY, MD 21041		LOCATION: TAX MAP-15 GRID-7 PARCEL-119 3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN GRADING, SEDIMENT AND EROSION CONTROL PLAN		
DATE: JULY 2005 MAY, 2006	PROJECT NO. 1649	DRAWING 4 OF 9
Design: BFC	Draft: BFC	SCALE: 1" = 100'



SCHEDULE B SWM AREA LANDSCAPING		
	SWM1	SWM2
LINEAR FEET OF PERIMETER	1174'	1096'
LINEAR FEET OF EXISTING WOODS LINE	1084'	0
LINEAR FEET OF REQUIRED PLANTING	90'	1096'
BUFFER TYPE	'B'	'B'
NUMBER OF TREES REQUIRED		
SHADE TREES	2	22
EVERGREEN TREES	3	28
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	YES, 92%	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO	NO

STREET TREE SCHEDULE		
ROAD NAME	PERIMETER TREES REQ.	
ROAD 'A'	2094'	53
ROAD 'B'	1082'	28

NOTE:
LANDSCAPING FOR THIS SUBDIVISION IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.

LEGEND

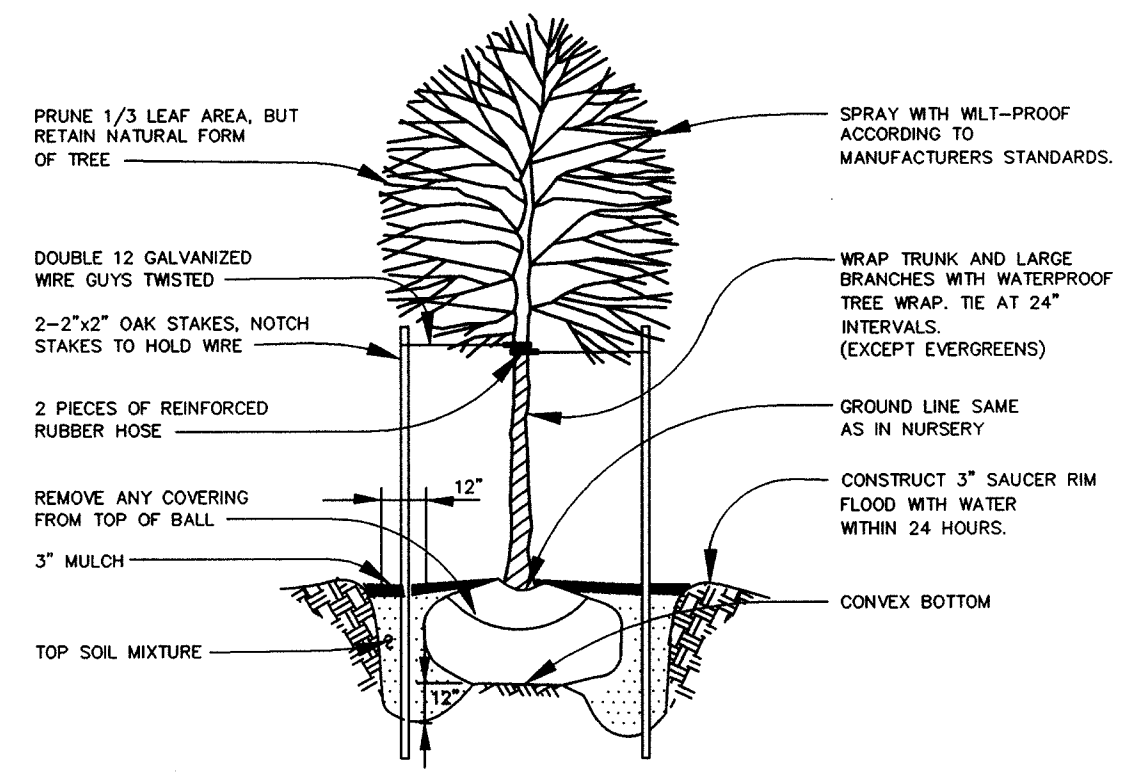
- EXISTING TREELINE
- PROPOSED TREELINE
- CL. STREAM
- LIMIT OF WETLANDS
- LIMIT OF SUBMISSION
- PROPOSED FOREST CONSERVATION EASEMENT
- LANDSCAPE PERIMETER DESIGNATION
- STREET TREES
- NO WOODY BUFFER

LANDSCAPING PLAN

SCALE: 1" = 100'

SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJ. TO PERIMETER PROP. (1)	ADJ. TO PERIMETER PROP. (2)	ADJ. TO PERIMETER PROP. (3)
LANDSCAPE TYPE	A	A	A
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	1413'	592'	931'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES 427'	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO
NUMBER OF PLANTS REQUIRED	1413'	165'	931'
SHADE TREES	24	3	16
EVERGREEN TREES	-	-	-
OTHER TREES (2:1 SUBSTITUTE)	-	-	-
SHRUBS	-	-	-



TREE PLANTING DETAIL
NOT TO SCALE

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Mark A. Layton 2/15/06
PLANNING DIRECTOR DATE

NO.	DATE	REVISION

BENCHMARK
ENGINEERS • LAND SURVEYORS • PLANNERS

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE • SUITE 418 • ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
www.bei-civilengineering.com

OWNER: THOMAS AND SHARON SMITH 14120 ROVER MILL ROAD WEST FRIENDSHIP, MD 21794	PROJECT: CLOVERFIELD SECTION II
DEVELOPER: SPRING MILL, LLC P.O. BOX 417 ELLICOTT CITY, MD 21041	LOCATION: TAX MAP-15 GRID-7 PARCEL-119 3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN LANDSCAPE PLAN	
DATE: JULY 2005 MAY, 2006	PROJECT NO. 1649
Design: BFC Draft: BFC	SCALE: 1" = 100' DRAWING 5 OF 9



LEGEND

- EXISTING CONTOURS --- 999 ---
- PROPOSED CONTOURS --- 999 ---
- EXISTING WOODS LINE [Symbol]
- EXISTING STRUCTURE [Symbol]
- PROPOSED STRUCTURE [Symbol]
- SLOPES 15% TO 24.9% [Symbol]
- LIMIT OF DISTURBANCE [Symbol]
- STABILIZED CONSTRUCTION ENTRANCE [Symbol]
- SILT FENCE --- SF ---
- SUPER SILT FENCE --- SSF ---
- CL STREAM [Symbol]
- LIMIT OF WETLANDS [Symbol]
- LIMIT OF SUBMISSION [Symbol]
- PROPOSED FOREST CONSERVATION EASEMENT RETENTION [Symbol]
- PROPOSED FOREST CONSERVATION EASEMENT REFORESTATION/AFORESTATION [Symbol]
- NO WOODY BUFFER [Symbol]

STORM DRAINAGE AREA DATA

NOTE: B SOIL TYPE ONLY

- (1-1) AREA = 1.02 AC ZONE = RC-DEO
"C" FACTOR = 0.21 IMPERVIOUS = 20%
- (1-2) AREA = 0.67 AC ZONE = RC-DEO
"C" FACTOR = 0.65 IMPERVIOUS = 67%
- (1-3) AREA = 14.61 AC ZONE = RC-DEO
"C" FACTOR = 0.21 IMPERVIOUS = 20%
- (1-4) AREA = 1.62 AC ZONE = RC-DEO
"C" FACTOR = 0.40 IMPERVIOUS = 41%
- (1-5) AREA = 2.20 AC ZONE = RC-DEO
"C" FACTOR = 0.21 IMPERVIOUS = 20%
- (1-6) AREA = 1.27 AC ZONE = RC-DEO
"C" FACTOR = 0.21 IMPERVIOUS = 20%
- (1-7) AREA = 0.79 AC ZONE = RC-DEO
"C" FACTOR = 0.21 IMPERVIOUS = 20%
- (1-8) AREA = 0.24 AC ZONE = RC-DEO
"C" FACTOR = 0.96 IMPERVIOUS = 100%
- (1-9) AREA = 0.31 AC ZONE = RC-DEO
"C" FACTOR = 0.48 IMPERVIOUS = 49%
- (1-10) AREA = 0.29 AC ZONE = RC-DEO
"C" FACTOR = 0.55 IMPERVIOUS = 57%
- (1-11) AREA = 2.75 AC ZONE = RC-DEO
"C" FACTOR = 0.29 IMPERVIOUS = 28%

SOILS LEGEND

MAP SYMBOL	SOIL GROUP	SOIL TYPE
Ba	D	CHESTER SILT LOAM, 0 TO 3 PERCENT SLOPES
Cb2	B	CHESTER GRAVELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
Cc2	B	CHESTER GRAVELLY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
Ca	B	CHESTER SILT LOAM, 0 TO 3 PERCENT SLOPES
Cb2	B	CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
Cc2	B	CHESTER SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
Cd2	B	CHESTER SILT LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
Ca	B	COMUS SILT LOAM
Ek2	C	ELKAY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
Gb2	B	GLENELG LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
Gc2	B	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
Gr2	B	GLENELG LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
Hg2	C	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
Id	D	HATBORO SILT LOAM
Mg2	B	MANOR GRAVELLY LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
Mq2	B	MANOR GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
Mb2	B	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
Mc2	B	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
Md2	B	MANOR LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
Md3	B	MANOR LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED

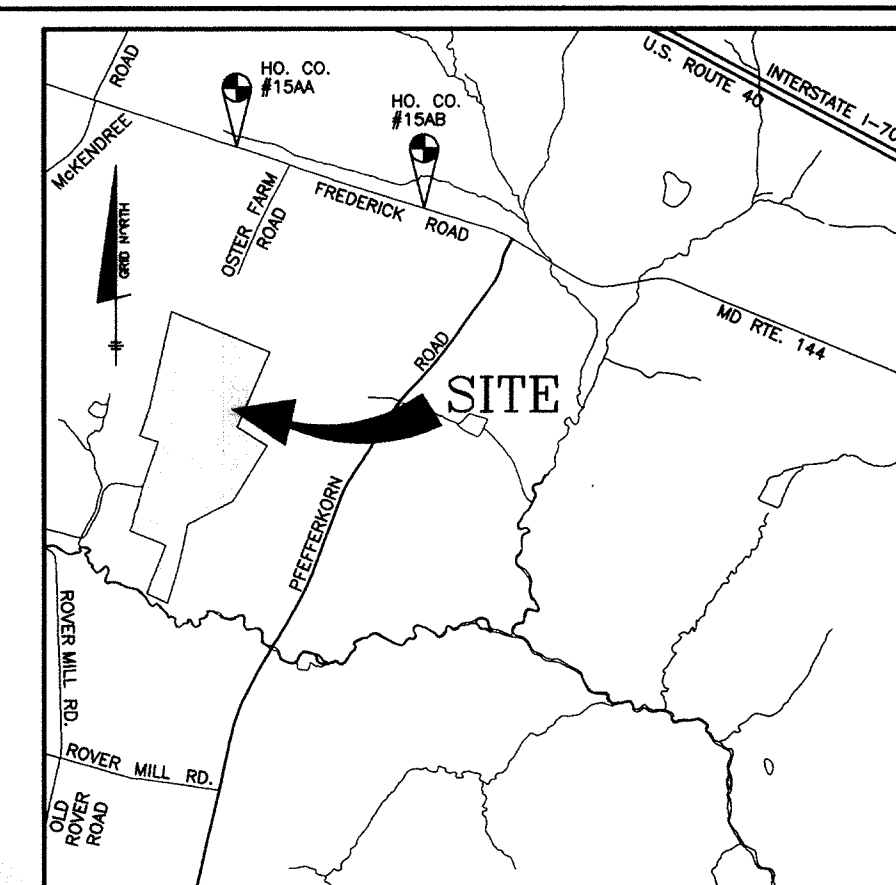
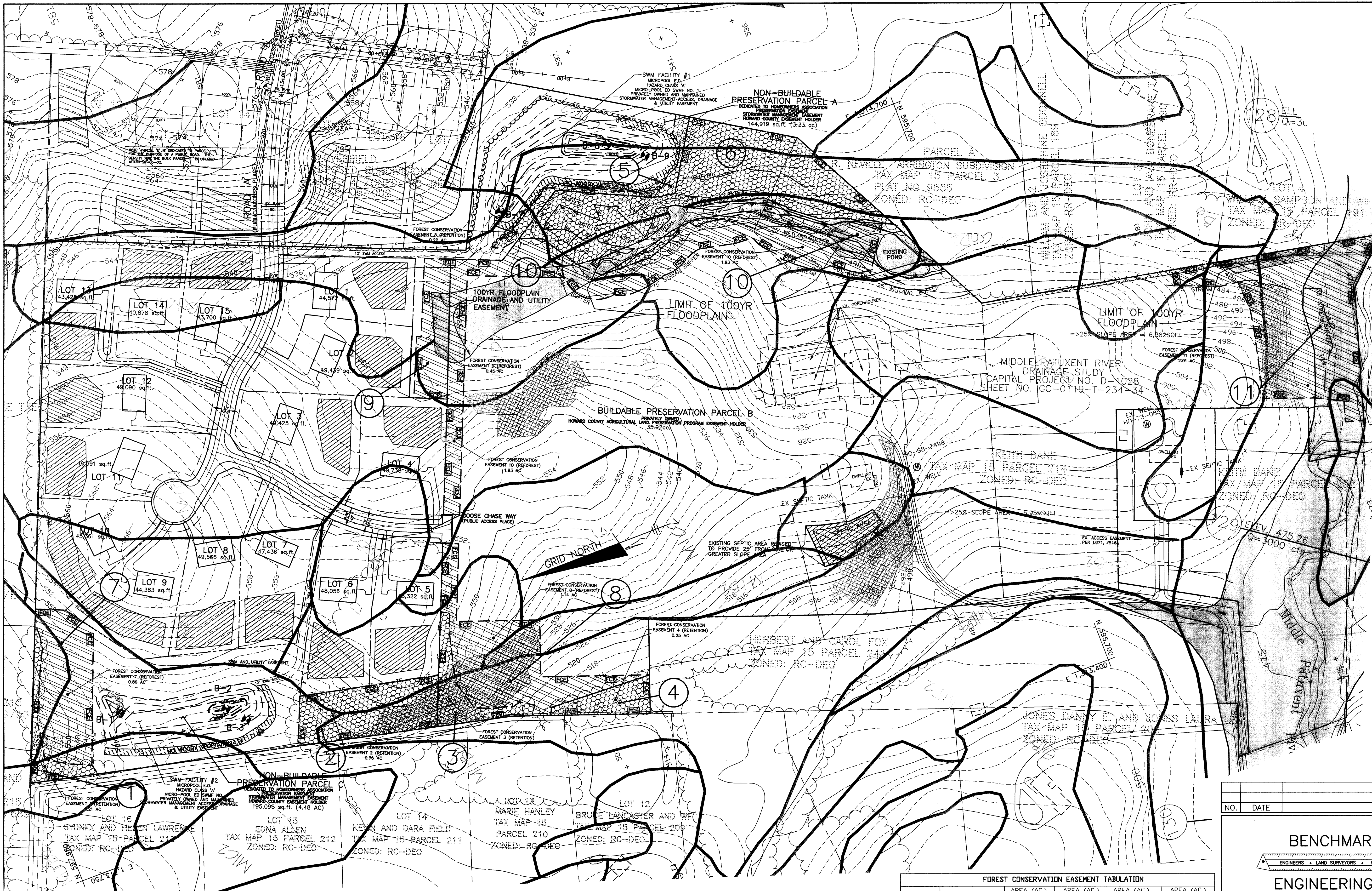
* INDICATES HYDRIC SOILS
TAKEN FROM SOILS SURVEY, ISSUED JULY 1988, MAP NO. 7

STORM DRAINAGE AREA MAP
SCALE: 1" = 100'

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

dash h. wyle 2/19/06
PLANNING DIRECTOR DATE

NO.	DATE	REVISION
BENCHMARK ENGINEERS • LAND SURVEYORS • PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE • SUITE 418 • ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-6105 FAX: 410-465-6644 www.bei-civilengineering.com		
OWNER: THOMAS AND SHARON SMITH 14120 ROVER MILL ROAD WEST FRIENDSHIP, MD 21794		PROJECT: CLOVERFIELD SECTION II
DEVELOPER: SPRING MILL, LLC P.O. BOX 417 ELLICOTT CITY, MD 21041		LOCATION: TAX MAP-15 GRID-7 PARCEL-119 3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN STORM DRAINAGE AREA MAP		
DATE:	JULY 2005 MAY, 2006	PROJECT NO. 1649
Design:	BFC	Draft: BFC
SCALE:	1" = 100'	DRAWING 6 OF 9



SITE VICINITY MAP
SCALE: 1" = 200'

LEGEND

- EXISTING CONTOURS --- 999 ---
- PROPOSED CONTOURS --- 999 ---
- EXISTING WOODS LINE ---
- EXISTING STRUCTURE [Symbol]
- PROPOSED STRUCTURE [Symbol]
- SLOPES 15% TO 24.9% [Symbol]
- LIMIT OF DISTURBANCE [Symbol]
- STABILIZED CONSTRUCTION ENTRANCE [Symbol]
- SILT FENCE --- SF ---
- SUPER SILT FENCE --- SSF ---
- CL. STREAM [Symbol]
- LIMIT OF WETLANDS [Symbol]
- LIMIT OF SUBMISSION [Symbol]
- PROPOSED FOREST CONSERVATION EASEMENT RETENTION [Symbol]
- PROPOSED FOREST CONSERVATION EASEMENT REFORESTATION/AFORESTATION [Symbol]
- NO WOODY BUFFER [Symbol]
- TREE PROTECTION FENCE --- TF ---
- FOREST CONSERVATION STORAGE [Symbol]

PLAN VIEW
SCALE: 1" = 100'

APPROVED FOR PRIVATE WATER AND SEWERAGE SYSTEM
HOWARD COUNTY HEALTH DEPARTMENT

Robert J. Walker 5/31/06
HOWARD COUNTY HEALTH OFFICER DATE

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Mark A. Cagle 2/16/06
PLANNING DIRECTOR DATE

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS

MD DNR Qualified Professional
USA DNR Wetland Deliberator
Certification # DCP93MD061004403

John P. Clarke
John P. Clarke

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

AREA NO.	AREA (SQ. FT.)	AREA (AC.) RETENTION	AREA (AC.) OFFSITE RET.	AREA (AC.) REFORESTATION	AREA (AC.) OFFSITE REF.
1	9333	0.21	-	-	-
2	33129	0.76	-	-	-
3	13299	-	(0.31)*0.5=0.16	-	-
4	11010	-	(0.25)*0.5=0.13	-	-
5	9721	0.22	-	-	-
6	93893	-	(2.16)*0.5=1.08	-	-
7	37439	-	-	0.86	-
8	49526	-	-	-	1.14
9	19483	-	-	0.45	-
10	83936	-	-	-	1.93
11	87549	-	-	-	2.01
TOTAL	448318	1.20	(2.71) 1.36	1.31	5.07

NOTE: OFFSITE REFERS TO THOSE EASEMENTS INDICATED WITHIN PRESERVATION PARCEL B.

NO.	DATE	REVISION
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:	THOMAS AND SHARON SMITH 14120 ROVER MILL ROAD WEST FRIENDSHIP, MD 21794	
DEVELOPER:	SPRING MILL, LLC P.O. BOX 417 ELLICOTT CITY, MD 21041	
PROJECT:	CLOVERFIELD SECTION II	
LOCATION:	TAX MAP-15 GRID-7 PARCEL-119 3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE:	PRELIMINARY EQUIVALENT SKETCH PLAN FOREST CONSERVATION PLAN	
DATE:	JULY 2005 JANUARY, 2006	PROJECT NO. 1649 DRAWING 7 OF 9
SCALE:	AS SHOWN	
Design:	BFC	Draft: BFC

- 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.
 - THE (1) INCH MINIMUM ROOT BALL SHALL BE SPREAD OVER THE PLANTING AREA IMPACTED BY SITE GRADING TO ASSURE A SUITABLE PLANTING AREA. DISTURBED AREAS SHALL BE SEEDED AND STABILIZED AS PER GENERAL CONSTRUCTION PLAN FOR PROJECT. PLANTING AREAS NOT IMPACTED BY SITE GRADING SHALL HAVE NO ADDITIONAL TOPSOIL INSTALLED.
 - ALL NURSERY PLANTING STOCK SHALL HAVE THEIR ROOT SYSTEMS TOPPED INTO AN ANTI-DESCENDANT GEL TOPOR TO PLANTING.
 - PLANTS SHALL BE INSTALLED SO THAT THE TOP OF ROOT MASS IS LEVEL WITH THE TOP OF EXISTING GRADE. BACKFILL IN THE PLANTING PITS SHALL CONSIST OF 3 PARTS EXISTING SOIL TO 1 PART FINE FINES OR EQUIVALENT.
 - FERTILIZER SHALL CONSIST OF AGRIFORM 22-8-2, OR EQUIVALENT, APPLIED AS PER MANUFACTURER'S SPECIFICATIONS WHICH SHALL BE PLACED OVER THE ROOT AREA OF ALL PLANTING.
 - PLANT MATERIAL SHALL BE TRANSPORTED TO THE SITE IN A TARPED OR COVERED TRUCK. PLANTS SHALL BE KEPT MOIST PRIOR TO PLANTING.
 - ALL NON-ORGANIC DEBRIS ASSOCIATED WITH THE PLANTING OPERATION SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.

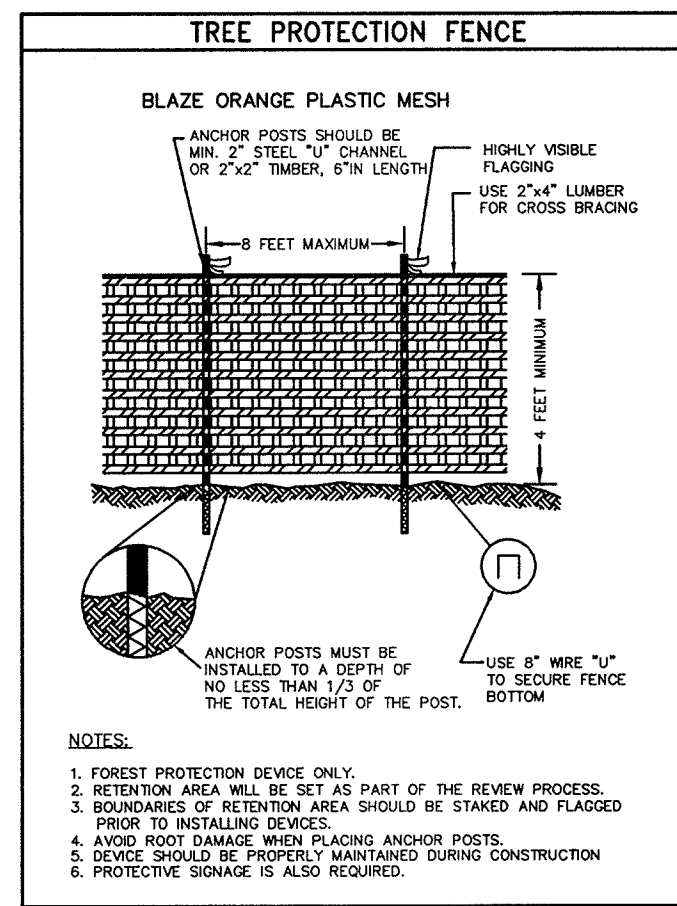
- SEQUENCE OF CONSTRUCTION**
- PLANTS SHALL BE INSTALLED AS PER PLANT SCHEDULE AND PLANTING/SOIL SPECIFICATIONS FOR THE PROJECT.
 - PROTECTION DEVICES SHOWN ON THE FOREST CONSERVATION PLAN SHALL BE MAINTAINED AND GUARANTEED IN ACCORDANCE WITH THE MAINTENANCE AND GUARANTEE REQUIREMENTS FOR PROJECT.

- MAINTENANCE OF PLANTINGS**
- MAINTENANCE OF ALL PLANTINGS SHALL LAST FOR A PERIOD OF 24 MONTHS.
 - ALL PLANT MATERIAL SHALL BE WATERED TWICE A MONTH DURING THE 1ST GROWING SEASON. WATERING MAY BE MORE OR LESS FREQUENT DEPENDING ON WEATHER CONDITIONS. DURING SECOND GROWING SEASON, ONCE A MONTH DURING WET WEATHER PERIODS.
 - DEAD BRANCHES AND NURSERY WEEDS SHALL BE REMOVED FROM REFORESTATION AREAS. OLD FIELD SUCCESSIONAL SPECIES WILL BE RETAINED.
 - PLANTS SHALL BE EXAMINED A MINIMUM OF TWO TIMES DURING THE GROWING SEASON FOR SERIOUS PLANT PESTS AND DISEASES. SERIOUS PROBLEMS WILL BE TREATED WITH THE APPROPRIATE MACHINERY.
 - DEAD BRANCHES WILL BE PRUNED FROM PLANTINGS.

- GUARANTEE REQUIREMENTS**
- AFTER ONE GROWING SEASON, PLANT MATERIAL SHALL BE MAINTAINED AT 90% SURVIVAL THRESHOLD. AT 75% SURVIVAL, LIMITS OF FORESTATION PLANTINGS WILL BE REQUIRED AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. ALL PLANT MATERIAL BELOW THE 75% THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE NEXT GROWING SEASON.
 - THE CONTRACTOR WILL NOT BE LIABLE FOR PLANT LOSS DUE TO THEFT OR VANDALISM.

- 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.

SITE DATA	
GROSS AREA:	61.03
100 YEAR FLOODPLAIN	0.11
AGRICULTURAL PRODUCTION AREA	35.91
NET TRACT AREA	25.01
EXISTING FOREST (EXCLUDING PARCEL B)	5.06
AFFORESTATION THRESHOLD	5.00
REFORESTATION THRESHOLD	6.25
CLEARING PROPOSED	3.87
PROPOSED FOREST RETENTION	1.20
REFORESTATION REQUIRED	7.74
ONSITE REFORESTATION PROPOSED	1.31
OFFSITE (PARCEL B) REFORESTATION PROP.	5.07
OFFSITE (PARCEL B) RETENTION PROP.	1.36
2:1 RATIO = 2.71/2	7.74
TOTAL	7.74



- PLANTING NOTES:**
- Planting density based on 700 planting units per acre. 2" caliper trees = 7 planting units, 1" caliper trees = 3.5 planting units, whips with shelter = 2 planting units.
 - ** - These species should not be planted within the wetland limits.
 - 1" caliper trees should be staggered along the outer perimeter of the planting area to serve as demarcation of the boundary. The trees should be no closer than 15 foot spacing.
 - Planting shall be made in a curvilinear fashion along contour. The planting should avoid a grid appearance but should be spaced to facilitate maintenance.
 - Multiflora rose/henry brush removal/control may be required prior to installation of planting.
 - All whips are required to be installed with tree shelters per Howard County FCA requirements.

MULTIFLORA ROSE CONTROL NOTE

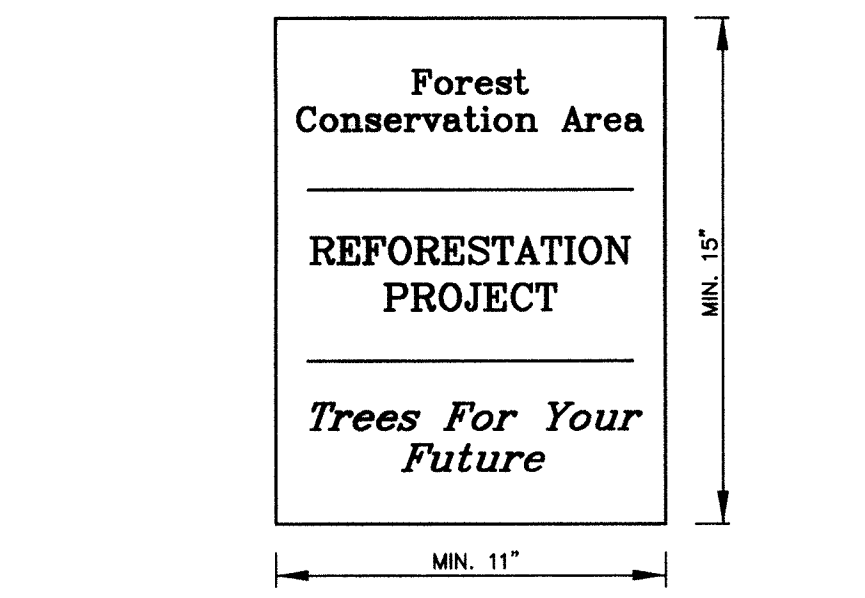
MULTIFLORA ROSE IS PREVALENT IN CERTAIN AREAS TO BE PLANTED. PRIOR TO PLANTING ALL MULTIFLORA ROSE SHOULD BE REMOVED. REMOVAL OF THE ROSE MAY BE PERFORMED WITH MOWING AND HERBICIDE TREATMENTS. PHYSICAL REMOVAL OF ALL TOP GROWTH FOLLOWED BY A PERIODIC HERBICIDE TREATMENT OF STUMP SPROUTS IS RECOMMENDED.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

- FCP 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 CLEARING 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 Forest Conservation Act obligation for this project will be met by restoring 1.19 acres of onsite forest and reforestation of 7.74 acres. The reforestation obligation will be met through 1.31 acres of onsite planting, 5.04 acres of offsite planting and 2.78 acres of offsite retention. The offsite retention is credited at 0.5:1. The offsite planting and reforestation occurs on Buildable Preservation Parcel B.
 - The Forest Conservation Act requirements of Buildable Preservation Parcel B have not been addressed by this plan. Should any activity requiring compliance with the FCA be pursued on Buildable Preservation Parcel B, this would require individual FCA processing and may incur an additional FCA obligation.

* FOREST CONSERVATION EASEMENT BEARING AND DISTANCE DESCRIPTIONS ARE PROVIDED ON THE FINAL PLAN.

FOREST CONSERVATION EASEMENT TABULATION					
AREA NO.	AREA (SQ. FT.)	AREA (AC.) RETENTION	AREA (AC.) OFFSITE RET.	AREA (AC.) REFORESTATION	AREA (AC.) OFFSITE REF.
1	9333	0.21	-	-	-
2	33129	0.76	-	-	-
3	13299	-	(0.31)*0.5=0.16	-	-
4	11010	-	(0.25)*0.5=0.13	-	-
5	9721	0.22	-	-	-
6	93893	-	(2.16)*0.5=1.08	-	-
7	37439	-	-	0.86	-
8	49526	-	-	-	1.14
9	19483	-	-	0.45	-
10	83936	-	-	-	1.93
11	87549	-	-	-	2.01
TOTAL	448318	1.20	(2.71) 1.36	1.31	5.07

NOTE: OFFSITE REFERS TO THOSE EASEMENTS INDICATED WITHIN PRESERVATION PARCEL B.



APPROVED FOR PRIVATE WATER AND SEWERAGE SYSTEM
HOWARD COUNTY HEALTH DEPARTMENT

Robert J. Wahn 5/31/06
HOWARD COUNTY HEALTH OFFICER DATE

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Mark A. Leagle 5/31/06
PLANNING DIRECTOR DATE

PLANTING SCHEDULE

FCE # 7 - 0.86 acres
Planting units Required: 802
Planting units Provided: 602.5

Qty	Species	Size	Spacing	Total FCA Units
4	Acer rubrum - Red maple	1" cal.	15' o.c.	
4	Liriodendron tulipifera - Tulip poplar **	1" cal.	15' o.c.	
4	Platanus occidentalis - Sycamore	1" cal.	15' o.c.	
3	Quercus alba - White oak **	1" cal.	15' o.c.	
15	Total 1" caliper trees x 3.5 units/tree = FCA unit credit			52.5
50	Acer rubrum - Red maple	2-3' whip	11' o.c.	
10	Diospyros virginiana - Persimmon **	2-3' whip	11' o.c.	
70	Liriodendron tulipifera - Tulip poplar **	2-3' whip	11' o.c.	
40	Nyssa sylvatica - Black gum	2-3' whip	11' o.c.	
20	Platanus occidentalis - Sycamore	2-3' whip	11' o.c.	
30	Prunus serotina - Black cherry **	2-3' whip	11' o.c.	
20	Quercus alba - White oak	2-3' whip	11' o.c.	
10	Ulmus rubra - Slippery Elm	2-3' whip	11' o.c.	
25	Viburnum prunifolium - Blackhaw **	2-3' whip	11' o.c.	
275	Total whip plantings x 2 units/tree = FCA unit credit			550
	Total Unit Credit			602.5

FCE #8 - 1.14 acres
Planting units Required: 798
Planting units Provided: 799

Qty	Species	Size	Spacing	Total FCA Units
4	Acer rubrum - Red maple	1" cal.	15' o.c.	
8	Liriodendron tulipifera - Tulip poplar **	1" cal.	15' o.c.	
4	Platanus occidentalis - Sycamore	1" cal.	15' o.c.	
6	Quercus alba - White oak **	1" cal.	15' o.c.	
22	Total 1" caliper trees x 3.5 units/tree = FCA unit credit			77
70	Acer rubrum - Red maple	2-3' whip	11' o.c.	
13	Diospyros virginiana - Persimmon **	2-3' whip	11' o.c.	
85	Liriodendron tulipifera - Tulip poplar **	2-3' whip	11' o.c.	
35	Nyssa sylvatica - Black gum	2-3' whip	11' o.c.	
25	Platanus occidentalis - Sycamore	2-3' whip	11' o.c.	
45	Prunus serotina - Black cherry **	2-3' whip	11' o.c.	
30	Quercus alba - White oak	2-3' whip	11' o.c.	
18	Ulmus rubra - Slippery Elm	2-3' whip	11' o.c.	
40	Viburnum prunifolium - Blackhaw **	2-3' whip	11' o.c.	
361	Total whip plantings x 2 units/tree = FCA unit credit			722
	Total Unit Credit			799

FCE # 9 - 0.45 acres
Planting units Required: 315
Planting units Provided: 316

Qty	Species	Size	Spacing	Total FCA Units
5	Acer rubrum - Red maple	1" cal.	15' o.c.	
5	Liriodendron tulipifera - Tulip poplar **	1" cal.	15' o.c.	
5	Platanus occidentalis - Sycamore	1" cal.	15' o.c.	
5	Quercus alba - White oak **	1" cal.	15' o.c.	
20	Total 1" caliper trees x 3.5 units/tree = FCA unit credit			70
15	Acer rubrum - Red maple	2-3' whip	11' o.c.	
5	Diospyros virginiana - Persimmon **	2-3' whip	11' o.c.	
28	Liriodendron tulipifera - Tulip poplar **	2-3' whip	11' o.c.	
10	Nyssa sylvatica - Black gum	2-3' whip	11' o.c.	
15	Platanus occidentalis - Sycamore	2-3' whip	11' o.c.	
15	Prunus serotina - Black cherry **	2-3' whip	11' o.c.	
15	Quercus alba - White oak	2-3' whip	11' o.c.	
10	Ulmus rubra - Slippery Elm	2-3' whip	11' o.c.	
10	Viburnum prunifolium - Blackhaw **	2-3' whip	11' o.c.	
123	Total whip plantings x 2 units/tree = FCA unit credit			246
	Total Unit Credit			316

FCE # 10 - 1.93 acres
Planting units Required: 1351
Planting units Provided: 1153.5

Qty	Species	Size	Spacing	Total FCA Units
15	Acer rubrum - Red maple	1" cal.	15' o.c.	
15	Liriodendron tulipifera - Tulip poplar **	1" cal.	15' o.c.	
20	Platanus occidentalis - Sycamore	1" cal.	15' o.c.	
15	Quercus alba - White oak **	1" cal.	15' o.c.	
65	Total 1" caliper trees x 3.5 units/tree = FCA unit credit			227.5
100	Acer rubrum - Red maple	2-3' whip	11' o.c.	
23	Diospyros virginiana - Persimmon **	2-3' whip	11' o.c.	
175	Liriodendron tulipifera - Tulip poplar **	2-3' whip	11' o.c.	
45	Nyssa sylvatica - Black gum	2-3' whip	11' o.c.	
50	Platanus occidentalis - Sycamore	2-3' whip	11' o.c.	
75	Prunus serotina - Black cherry **	2-3' whip	11' o.c.	
25	Quercus alba - White oak	2-3' whip	11' o.c.	
25	Ulmus rubra - Slippery Elm	2-3' whip	11' o.c.	
45	Viburnum prunifolium - Blackhaw **	2-3' whip	11' o.c.	
563	Total whip plantings x 2 units/tree = FCA unit credit			1126
	Total Unit Credit			1353.5

FCE # 11 - 2.01 acres
Planting units Required: 1407
Planting units Provided: 1408

Qty	Species	Size	Spacing	Total FCA Units
12	Acer rubrum - Red maple	1" cal.	15' o.c.	
12	Liriodendron tulipifera - Tulip poplar **	1" cal.	15' o.c.	
12	Platanus occidentalis - Sycamore	1" cal.	15' o.c.	
12	Quercus alba - White oak **	1" cal.	15' o.c.	
48	Total 1" caliper trees x 3.5 units/tree = FCA unit credit			168
115	Acer rubrum - Red maple	2-3' whip	11' o.c.	
35	Diospyros virginiana - Persimmon **	2-3' whip	11' o.c.	
135	Liriodendron tulipifera - Tulip poplar **	2-3' whip	11' o.c.	
75	Nyssa sylvatica - Black gum	2-3' whip	11' o.c.	
50	Platanus occidentalis - Sycamore	2-3' whip	11' o.c.	
60	Prunus serotina - Black cherry **	2-3' whip	11' o.c.	
60	Quercus alba - White oak	2-3' whip	11' o.c.	
40	Ulmus rubra - Slippery Elm	2-3' whip	11' o.c.	
50	Viburnum prunifolium - Blackhaw **	2-3' whip	11' o.c.	
620	Total whip plantings x 2 units/tree = FCA unit credit			1240
	Total Unit Credit			1408

**FOREST CONSERVATION WORKSHEET
CLOVERFIELD SECTION II**

NET TRACT AREA: 5-Aug-02

A. Total tract area ...	61.03
B. Land dedication acres (parks, county facility, etc.) ...	0.00
C. Land dedication for roads or utilities (not being constructed by this plan) ...	0.00
D. Area to remain in commercial agricultural production/use ...	35.91
E. Other deductions (specify) Floodplain	0.11
F. Net Tract Area	25.01

LAND USE CATEGORY: (from *Trees Technical Manual*)
Input the number "1" under the appropriate land use, limit to only one entry.

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

G. Afforestation Threshold ...	20%	x F =	5.00
H. Conservation Threshold ...	25%	x F =	6.25

EXISTING FOREST COVER:

I. Existing forest cover	5.06
J. Area of forest above afforestation threshold	0.06
K. Area of forest above conservation threshold	0.00

BREAK EVEN POINT:

L. Forest retention above threshold with no mitigation	0.00
M. Clearing permitted without mitigation	0.00

PROPOSED FOREST CLEARING:

N. Total area of forest to be cleared	3.87
O. Total area of forest to be retained	1.19

PLANTING REQUIREMENTS:

P. Reforestation for clearing above conservation threshold	0.00
Q. Reforestation for clearing below conservation threshold	7.74
R. Credit for retention above conservation threshold	0.00
S. Total reforestation required	7.74
T. Total afforestation required	0.00
U. Credit for landscaping (may not exceed 20% of "S")	0.00
V. Total reforestation and afforestation required	7.74

NO.	DATE	REVISION
 8480 BALTIMORE NATIONAL PIKE • SUITE 418 • ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-6105 FAX: 410-465-6644 www.bei-civilengineering.com		
OWNER:	PROJECT: CLOVERFIELD SECTION II	
THOMAS AND SHARON SMITH 14120 ROVER MILL ROAD WEST FRIENDSHIP, MD 21794	LOCATION: TAX MAP-15 GRID-7 PARCEL-119 3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
DEVELOPER:	TITLE: PRELIMINARY EQUIVALENT SKETCH PLAN FOREST CONSERVATION NOTES AND DETAILS	
SPRING MILL, LLC P.O. BOX 417 ELLICOTT CITY, MD 21041	DATE: JULY 2005 JANUARY, 2006 PROJECT NO. 1649	
Design: DAM	Draft: MAN	SCALE: AS SHOWN DRAWING 8 OF 9

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS

MD DNR Qualified Professional
USACE Wetland Delimitator
Certification # WDCFP93MD61004431

P.O. Box 5006 Glen Arm, MD 21057 (410) 592-4752

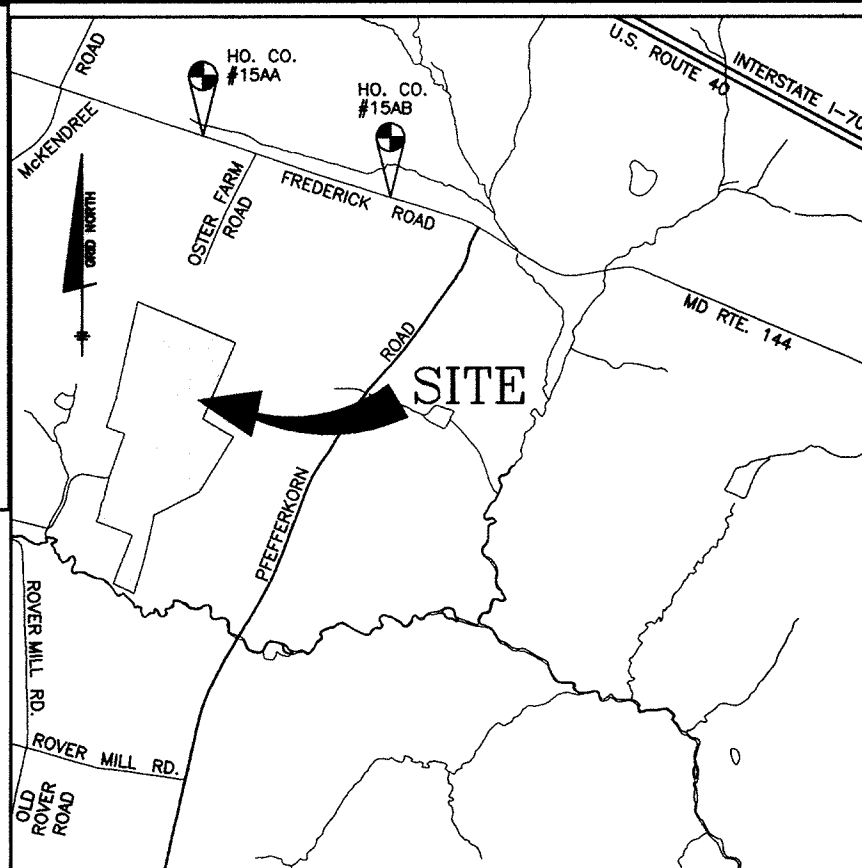
John P. Calvert



BENCH MARKS (NAD'83)

HO. CO. No.15AA ELEV. 548.605
 STAMPED BRASS DISK SET ON TOP OF
 CONCRETE (3' DEEP) COLUMN
 8.4' NE OF THE NORTH EDGE OF PAVING
 OF MD ROUTE 144; 100' NW OF BG&E
 POLE #91943
 N 598,605.293 E 1,314,773.416

HO. CO. No.15AB ELEV. 536.524
 STAMPED BRASS DISK SET ON TOP OF
 CONCRETE (3' DEEP) COLUMN
 6.3' SW OF THE SOUTH EDGE OF PAVING
 OF MD ROUTE 144; 7.2' NW OF C&P POLE
 #913
 N 598,858.933 E 1,316,925.181



- NOTES**
- THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS FOR ENCROACHMENT INTO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAN SHALL NOT BE NECESSARY.
 - TOPOGRAPHY SHOWN HEREON IS BASED ON HOWARD COUNTY 200' SCALE TOPO. MAPS.
 - EXISTING WELLS AND/OR SEWERAGE EASEMENTS WITHIN 100 FEET OF THE PROPOSED LOT HAVE SHOWN FROM THE BEST AVAILABLE INFORMATION.
 - THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
 - GROUNDWATER APPROPRIATION PERMIT SHALL BE OBTAINED PRIOR TO THE SUBMITTAL OF THE RECORD PLAN FOR SIGNATURE.
 - WELLS SHALL BE DRILLED PRIOR TO RECORDATION OF THE SUBDIVISION PLAN. IT IS THE DEVELOPERS RESPONSIBILITY TO DRILL THE WELLS. IT WILL NOT BE CONSIDERED TO BE GOVERNMENTAL DELAY IF THE WELLS ARE NOT COMPLETED PRIOR TO THE SUBMISSION'S MILESTONE DATE.

SOILS LEGEND

MAP SYMBOL	SOIL GROUP	SOIL TYPE
B	D	CHESTER SILT LOAM, 0 TO 3 PERCENT SLOPES
ChA	B	CHESTER SILT LOAM, 0 TO 3 PERCENT SLOPES
ChB2	B	CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
ChC2	B	CHESTER SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
ChD2	B	CHESTER SILT LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
Ca	B	COMUS SILT LOAM
CiB2	B	GLENELG LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
GiC2	B	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
GhB2	C	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
MiB2	B	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
MiC2	B	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
MiD2	B	MANOR LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
MgB2	B	MANOR GRAVELLY LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED

* INDICATES HYDRIC SOILS
 TAKEN FROM SOILS SURVEY, ISSUED JULY 1968, MAP NO. 7

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.

Donald Mason 5/24/06
 DONALD MASON P.E. NO. 21443
 PLAN PREPARER

APPROVED FOR PRIVATE WATER AND SEWERAGE SYSTEM
 HOWARD COUNTY HEALTH DEPARTMENT

Robert J. Walker 5/31/06
 ROBERT J. WALKER
 HOWARD COUNTY HEALTH OFFICER

PLAN VIEW
 SCALE: 1" = 100'

LEGEND

CHB2	EXISTING STRUCTURE	○ P-10
—	PROPOSED STRUCTURE	● P-10
—	EXISTING WELLS	○
—	PROPOSED WELL	●
—	LIMIT OF WETLANDS	□
—	EXISTING WOODS LINE	□
—	PROPOSED WOODS LINE	□
—	PASSED PERCOLATION TEST	○
—	FAILED PERCOLATION TEST	○
—	1500 S.F. WELL ZONE	□

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

Mark A. Gault 5/19/06
 MARK A. GAULT
 PLANNING DIRECTOR

NO.	DATE	REVISION

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.bc-engineering.com

RJM 5/24/06

OWNER: THOMAS AND SHARON SMITH
 14120 ROVER MILL ROAD
 WEST FRIENDSHIP, MD 21794

DEVELOPER: SPRING MILL, LLC
 P.O. BOX 417
 ELLICOTT CITY, MD 21041

PROJECT: CLOVERFIELD SECTION II
 LOCATION: TAX MAP-15 GRID-7 PARCEL-119
 3rd ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: PERCOLATION CERTIFICATION PLAN

DATE: DECEMBER 2004
 MAY, 2006 PROJECT NO. 1649

SCALE: 1" = 100' DRAWING 9 OF 9

Design: DAM Draft: EDD