FINAL ROAD CONSTRUCTION PLAN
HAY MEADOW OVERLOOK
LOTS 1-7 & BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCEL B
HOWARD COUNTY, MARYLAND

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARD AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/ BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
4. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
5. STREET LIGHT IS NOT REQUIRED FOR USE IN COMMON ACCESS DRIVE. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
6. THE TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY POTOMAC AERIAL SURVEYS, DATED JULY 2006.
7. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 02HA AND 02HB WERE USED FOR THIS PROJECT.
8. WATER AND SEWER FOR THIS PROJECT WILL BE PROVIDED UNDER PRIVATE SEPTIC AND PRIVATE WELL SYSTEM.
9. STORM WATER MANAGEMENT IS PROVIDED BY POCKET SANDFILTER AND GRASS SWALES TO PROVIDE WQv, REV FOR THE USE IN COMMON DRIVE AND LOTS DRAINING TO THE FACILITY. RAIN GARDENS ARE PROVIDED FOR THE LOTS THAT ARE NOT DRAINING TO THE POCKET SANDFILTER OR GRASS SWALES. THE POCKET SANDFILTER IS LOCATED ON PRESERVATION PARCEL 'B' AND IS TO BE PRIVATELY OWNED AND MAINTAINED BY THE HOA.
10. EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE.
11. THE 100-YR FLOODPLAIN DRAINAGE AND UTILITY EASEMENT SHOWN ON-SITE IS BASED ON A "OBVIOUSLY NOT CRITICAL FLOODPLAIN" STUDY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC. DATED JANUARY 11, 2008.
12. STREAMS AND WETLANDS SHOWN ONSITE ARE BASED ON A FIELD INVESTIGATION PERFORMED BY ECO-SCIENCE PROFESSIONAL , DATED DECEMBER 2007.
13. APFO TRAFFIC STUDY PREPARED BY THE TRAFFIC CONCEPT INC, DATED MARCH, 2007.
14. THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING INC., DATED APRIL 2007.
15. THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:

MISS UTILITY	1-800-257-7777
BELL ATLANTIC TELEPHONE CO:	410-954-6281
HOWARD COUNTY BUREAU OF UTILITIES:	410-313-2366
VERIZON CABLE LOCATION DIVISION:	410-393-3553
B.G.&E. CO. CONTRACTOR SERVICES:	410-850-4620
B.G.&E. CO. UNDERGROUND DAMAGE CONTROL:	410-787-4620
STATE HIGHWAY ADMINISTRATION:	410-531-5533

16. ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
17. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS, OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS. PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
18. DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
    A) WIDTH – 12 FEET (16 FEET IF SERVING MORE THAN ONE RESIDENCE)
    B) SURFACE – 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING
    C) GEOMETRY – MAXIMUM 14% GRADE, MAXIMUM 10% GRADE CHANGE, AND MINIMUM 45 FOOT TURNING RADIUS
    D) STRUCTURES (CULVERTS/ BRIDGES) – MUST SUPPORT 25 GROSS TON LOADING (H25 LOADING)
    E) DRAINAGE ELEMENTS – CAPABLE OF SAFELY PASSING 100 YEAR FLOOD EVENTS WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE
    F) STRUCTURE CLEARANCES – MINIMUM 12 FEET
    G) MAINTENANCE – SUFFICIENT TO INSURE ALL WEATHER USE
19. ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
20. DEED REFERENCE: L.5125/F.672 .
21. FOREST STAND DELINEATION PLAN PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. , DATED DECEMBER, 2007.
22. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16,1202 OF THE HOWARD COUNTY CODE; FOREST CONSERVATION ACT FOR THIS SUBDIVISION HAVE BEEN FULFILLED THROUGH THE CREATION OF A FOREST CONSERVATION RETENTION EASEMENT ON NON-BUILDABLE PRESERVATION PARCEL 'B' IN THE AMOUNT OF $117,612 TO BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT. THE DEVELOPER'S AGREEMENT WILL BE EXECUTED WITH THE FINAL PLAN.
23. TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL/ CEMETERY LOCATIONS ON SITE.
24. THE EXISTING HOUSE TRAILER LOCATED ON BUILDABLE PARCEL 'A' IS TO REMAIN AS A NON-LIVING SPACE AND/OR STORAGE.
25. A NOISE STUDY IS NOT REQUIRED FOR THIS DEVELOPMENT.
26. THE SUBJECT PROPERTY IS ZONED "RC-DEO" IN ACCORDANCE WITH THE 2/2/04 COMPREHENSIVE ZONING PLAN AND THE COMP. LITE ZONING REGULATIONS EFFECTIVE ON 7/28/06, AND IS SUBJECT TO THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/2/03 PER COUNCIL BILL 75-2003.
27. ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE RUBE SLEEVE (12 GUAGE-3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
28. DPZ REFERENCE: SP-08-011.
29. WATERVILLE ROAD IS A SCENIC ROAD.
30. REFUSE COLLECTION, SNOW REMOVAL, AND MAINTENANCE FOR LOT 1 & LOTS 3-7 WILL OCCUR AT THE INTERSECTION OF THE USE-IN-COMMON ACCESS EASEMENT AND THE RIGHT-OF-WAY FOR WATERSVILLE ROAD.
31. [hatched symbol] THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT OF 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE 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 VARIANCES FOR ENCROACHMENT INTO THE PRIVATE SEWAGE EASEMENT.
32. ALL EXISTING WELLS AND SEPTIC AREAS WITHIN 100' OF THE SITE HAVE BEEN SHOWN TO THE BEST OF OUR KNOWLEDGE.
33. ALL WELLS TO BE DRILLED PRIOR TO SUBMITTAL OF FINAL PLAT FOR SIGNATURE.
34. A GROUND WATER APPROPRIATION PERMIT MUST BE ISSUED PRIOR TO RECORD PLAT SUBMISSION AND/OR PRIOR TO DRILLING WELLS.
35. IT IS THE DEVELOPERS RESPONSIBILITY TO SCHEDULE THE WELL DRILLING PRIOR TO FINAL PLAT SUBMISSION. IT WILL NOT BE CONSIDERED 'GOVERNMENT DELAY' IF THE WELL DRILLING HOLDS-UP THE HEALTH DEPARTMENT SIGNATURE OF THE RECORD PLAT. IF A WELL SUCCESS RATE IS ACCOMPLISHED AT VARIOUS LOCATIONS WITHIN THE SITE, THE DEVELOPER SHALL HAVE THE OPTION TO REQUEST RELIEF FROM DRILLING THE REMAINING WELLS PRIOR TO PLAT RECORDATION.
36. THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
37. ANY CHANGES TO A PRIVATE SEWER EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
38. THE RAIN GARDENS SHOWN ON THESE PLANS TO MAINTAIN 25' DISTANCE FROM SEPTIC EASEMENT & 100' FROM WELL BOX.
39. NON BUILDABLE PRESERVATION PARCEL 'B' AND BUILDABLE PRESERVATION PARCEL 'A' TO BE PRIVATELY OWNED AND MAINTAINED WITH HOWARD COUNTY AND THE HOME OWNERS ASSOCIATION AS EASEMENT HOLDERS.
    PRESERVATION PARCEL 'B' TO BE ESTABLISHED MAINLY FOR ENVIRONMENTAL PROTECTION OF THE STREAM AND FLOODPLAIN, FOREST CONSERVATION AREAS AND TO ENCOMPASS STORMWATER MANAGEMENT FACILITIES. PRESERVATION PARCEL 'A' INCLUDES THE EXISTING HOUSE AND HORSE PASTURE TO ACCOMMODATE HORSES.
40. STREET TREES ARE REQUIRED FOR THIS SUBDIVISION ALONG WATERSVILLE ROAD IN ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL.
41. STREET TREES ARE NOT REQUIRED FOR THE USE-IN-COMMON DRIVE.
42. A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/ OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATES.

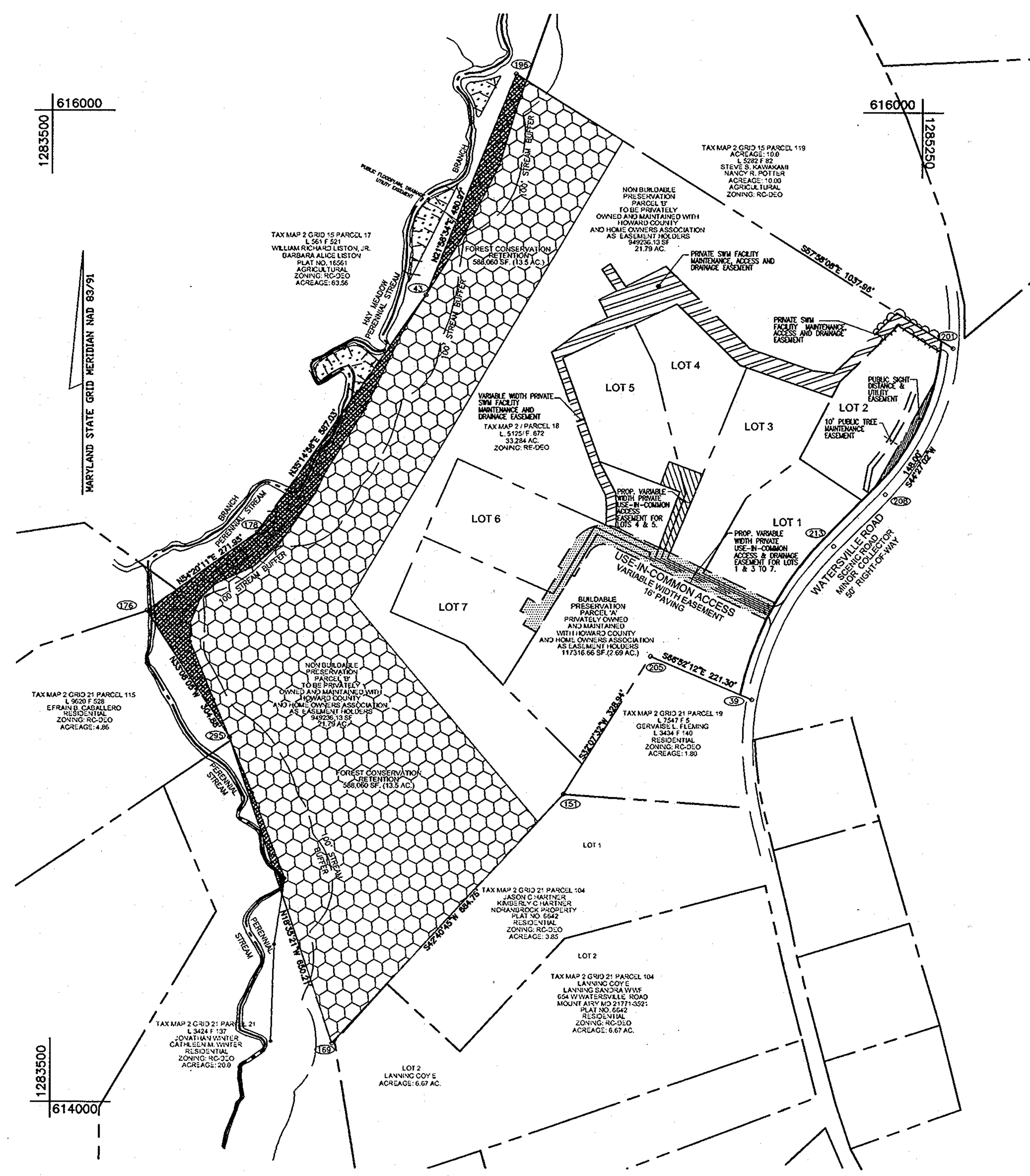
APPROVED: DEPARTMENT OF PUBLIC WORKS

[signature] 1-20-10
CHIEF, BUREAU OF HIGHWAYS — DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

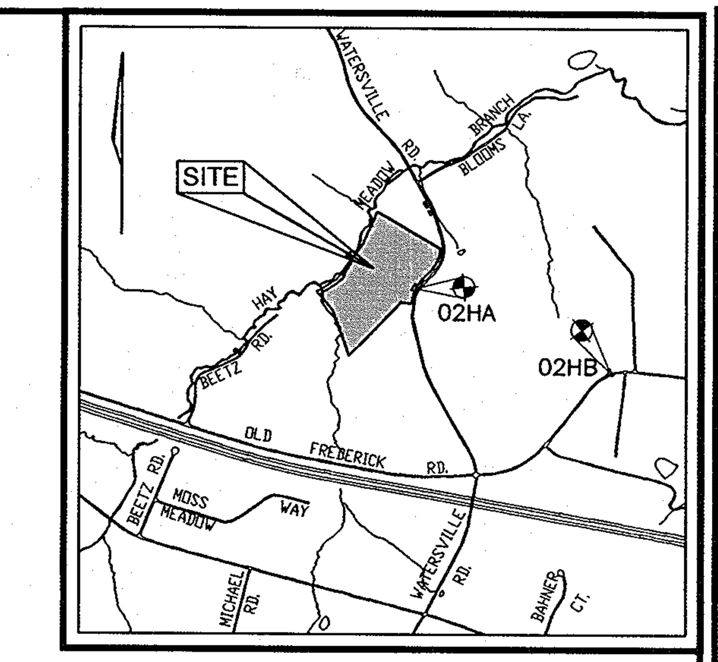
[signature] 2/03/10
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] 1/25/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE



LEGEND

- VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS & DRAINAGE EASEMENT FOR LOTS 1 & 3 TO 7
- VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 4 & 5
- CREDITED FOREST RETENTION AREA
- NON-CREDITED FOREST RETENTION AREA-1.17 AC.
- PUBLIC SITE DISTANCE EASEMENT
- 100 YR FLOOD PLAIN
- PROP. SWM EASEMENT
- EX. WETLAND



VICINITY MAP
SCALE:1"= 2000'
ADC COORDINATES 3 B6

BENCHMARKS				
NO.	NORTHING	EASTING	ELEVATION	TYPE
02HA	N 554251.6	E 772542.8	736.063	
02HB	N 553162.4	E 775155.2	737.120	

MINIMUM LOT SIZE CHART			
LOT NO.	GROSS AREA	MINIMUM LOT SIZE	PIPESTEM AREA
3	54,952 SQ. FT.	54,328.46 SQ. FT.	623.27 SQ. FT.
4	44,564 SQ. FT.	43,632.77 SQ. FT.	931.53 SQ. FT.
5	49,292 SQ. FT.	46,609.22 SQ. FT.	2,682.96 SQ. FT.
6	53,617 SQ. FT.	50,871.85 SQ. FT.	2,744.81 SQ. FT.
7	53,932 SQ. FT.	49,594.57 SQ. FT.	4,337.16 SQ. FT.

SHEET INDEX

DESCRIPTION	SHEET NO.
COVER SHEET	1 OF 9
ROAD CONSTRUCTION PLAN, ROAD PROFILES, MOT PLAN AND DETAILS	2 OF 9
GRADING, SEDIMENT AND EROSION CONTROL PLAN	3 OF 9
GRADING, SEDIMENT AND EROSION CONTROL PLAN	4 OF 9
SEDIMENT AND EROSION CONTROL DETAILS	5 OF 9
DRAINAGE AREA MAP	6 OF 9
STORMWATER MANAGEMENT DETAILS AND NOTES	7 OF 9
LANDSCAPE, FOREST CONSERVATION PLAN AND DETAILS	8 OF 9
LANDSCAPE, FOREST CONSERVATION PLAN AND DETAILS	9 OF 9

SITE DATA

LOCATION: TAX MAP 2, GRID 15, & 21, PARCEL 18
4TH ELECTION DISTRICT
EXISTING ZONING: RC-DEO, AS PER THE 02-02-04 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING REGULATION AMENDMENTS EFFECTIVE 07-28-06.
GROSS AREA OF PROJECT: 33.15 AC.
AREA OF 100-YEAR FLOODPLAIN DRAINAGE & UTILITY EASEMENT: 1.1 AC.
AREA OF STEEP SLOPES: 6.50 AC.
NET AREA OF PROJECT: 26.27 AC.
AREA OF PROPOSED BUILDABLE LOTS (LOT 1 TO 7 & BUILDABLE PARCEL 'A') = 8.188 AC.
AREA OF OPEN SPACE REQUIRED: 0 AC.
AREA OF PROPOSED NON-BUILDABLE PRESERVATION PARCEL 'A': 2.69 AC
AREA OF PROPOSED NON-BUILDABLE PRESERVATION PARCEL 'B': 21.80 AC
AREA OF PROPOSED RIGHT-OF-WAY DEDICATION : 0.48 AC.
NUMBER OF LOTS/ PARCELS PROPOSED: 9 BUILDABLE LOTS
(7 BUILDABLE LOTS, 1 BUILDABLE PRESERVATION PARCEL, 1 NON-BUILDABLE PRESERVATION PARCEL)

COORDINATE LIST		
POINT	NORTH	EAST
39	614815.05394	1284909.52883
43	615629.54957	1284252.71740
151	614623.41200	1284531.08990
169	614120.01000	1284066.90290
176	614991.59680	1283692.97860
178	615150.15180	1283913.92780
196	616075.57450	1284432.70710
201	615525.06197	1285312.65052
205	614901.98648	1284706.01324
208	615230.08773	1285177.06987
213	615124.43772	1285073.42721
295	614736.29305	1283859.62902

GENERAL NOTES CONTINUED:

46. THE ARTICLES OF INCORPORATION AND HOME OWNERS ASSOCIATION DOCUMENTS WILL BE RECORDED CONCURRENTLY WITH THE RECORDING OF THE FINAL PLAT.
47. FINANCIAL SURETY FOR THE REQUIRED PERIMETER LANDSCAPING (25 SHADE TREES) IN THE AMOUNT OF $7,500.00 HAS BEEN POSTED UNDER THE DEVELOPERS AGREEMENT.
48. FINANCIAL SURETY FOR THE REQUIRED STREET TREES (28 SHADE TREES) IN THE AMOUNT OF $8,400.00 HAS BEEN POSTED AS PART OF THE DEVELOPERS AGREEMENT.
49. STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF $8,400.00 TO BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THE REQUIRED 28 PUBLIC STREET TREES.
50. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING PROVIDED PER THE LANDSCAPE MANUAL TO BE POSTED WITH THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $7,500.00 FOR THE REQUIRED 25 SHADE TREES.
51. THE MAINTENANCE AGREEMENT FOR THE PRIVATE USE IN COMMON ACCESS EASEMENTS AND THE PRIVATE USE-IN-COMMON ACCESS AND DRAINAGE EASEMENT SHALL BE RECORDED CONCURRENT WITH THIS PLAT IN THE LAND RECORDS OF HOWARD COUNTY, MARYLAND.

DENSITY EXCHANGE CHART	
TOTAL GROSS AREA OF SUBDIVISION	33.15 ACRES
AREA OF 100 YEAR FLOODPLAIN	1.1 ACRES
AREA OF 25% SLOPES (OUTSIDE FLOODPLAIN)	5.78 ACRES
NET TRACT AREA	26.27 ACRES
NUMBER OF RESIDENTIAL UNITS ALLOWED BY RIGHT	33.15/4.25 GROSS ACRES=7
NUMBER OF RESIDENTIAL UNITS PROPOSED	8
NUMBER OF CEO UNITS REQUIRED	1
SENDING PARCEL INFORMATION	CAREY PROPERTY TAX MAP 14 & 21, GRID 19, 20 & 1, 2, PARCEL 246 ZONING: RC-DEO

NO.	REVISION	DATE

OWNER/DEVELOPER
DORSEY BUILDERS, INC
MR. PHILLIP H. DORSEY, PRESIDENT
13090 OLD FREDERICK ROAD
SYKESVILLE, MARYLAND 21784
410-442-8200

FINAL ROAD CONSTRUCTION PLAN
COVER SHEET
HAY MEADOW OVERLOOK
LOTS 1-7 & BUILDABLE PRESERVATION PARCEL A
& NON-BUILDABLE PRESERVATION PARCEL B
TAX MAP 2 GRID 15, 21 — PARCEL 18
4TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

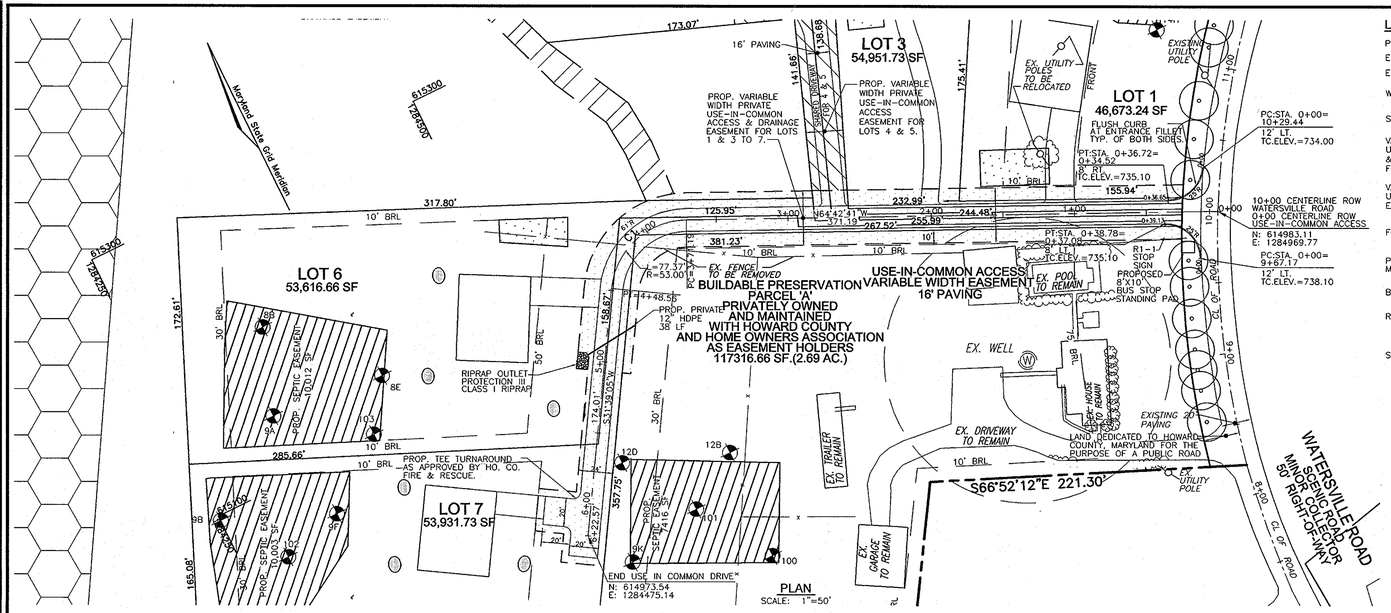
ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

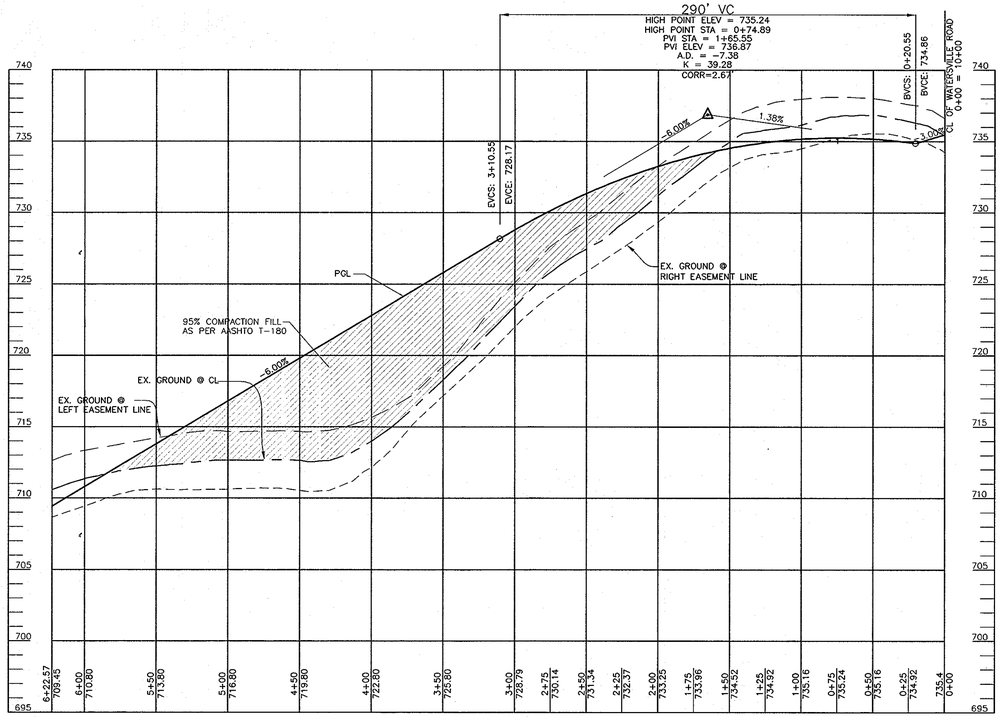
STATE OF MARYLAND — ROBERT HARRIS VOGEL — No. 16193 — PROFESSIONAL ENGINEER — 12/30/09
ROBERT H. VOGEL, PE No.16193

DESIGN BY: RHV/JCO
DRAWN BY: KG
CHECKED BY: RHV
DATE: DECEMBER 2009
SCALE: 1"=200'
W.O. NO.: 03-117

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2010

F 09-110

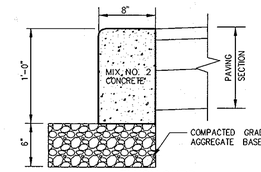




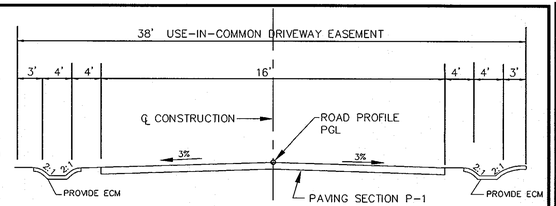
PRIVATE USE IN COMMON DRIVEWAY PROFILE
SCALE : HORIZONTAL – 1"=50'
VERTICAL – 1"=5'

LEGEND

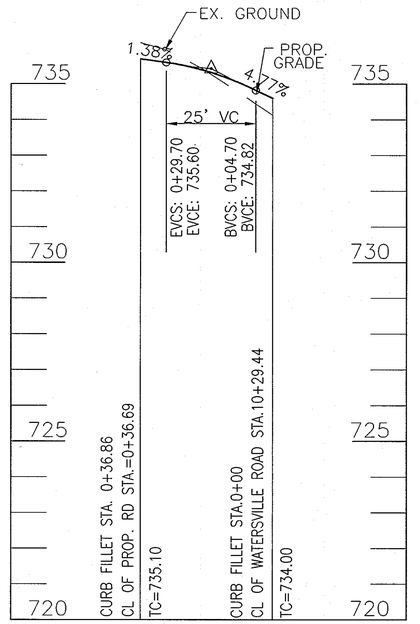
- PROPERTY LINE
- EX. FENCE
- EX. UTILITY POLE
- WELL AREA
- SEPTIC AREA
- VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS & DRAINAGE EASEMENT FOR LOTS 1 & 3 TO 7
- VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 4 & 5
- FOREST RETENTION AREA
- PROP. STORMWATER WATER MANAGEMENT EASEMENT
- BORING
- RAIN GARDEN
- STREET TREES



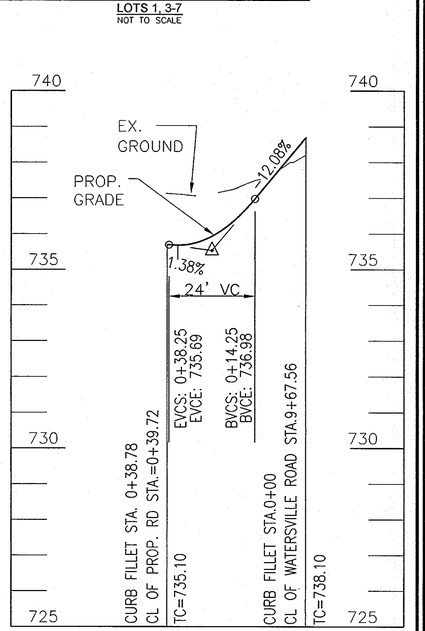
FLUSH CURB
STD DETAIL R-3.07



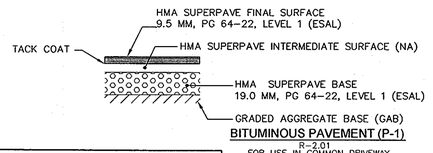
TYPICAL SECTION
CLASSIFICATION :PRIVATE USE IN COMMON DRIVEWAY
LOTS 1, 3-7
NOT TO SCALE



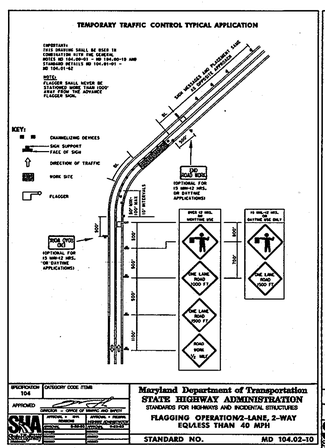
NORTH FILLET PROFILE
SCALE : HORIZONTAL – 1"=20'
VERTICAL – 1"=2'

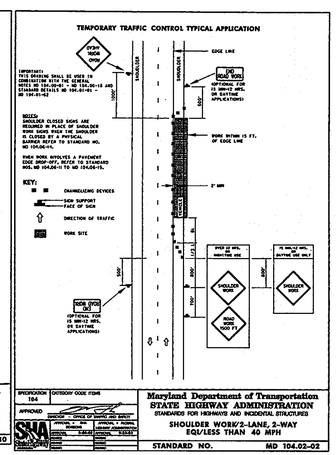


SOUTH FILLET PROFILE
SCALE : HORIZONTAL – 1"=20'
VERTICAL – 1"=2'



BITUMINOUS PAVEMENT (P-1)
R-2.01
FOR USE IN COMMON DRIVEWAY





CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	CHORD LENGTH
C1	77.37	53.00	83°38'14"	47.42	S73°28'12"W	70.68

SIGNAGE LOCATION CHART			
STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE
USE IN COMMON ACCESS	0+36.62	13' LEFT	R1-1 STOP SIGN

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 1-20-10

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2/03/10

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 1/25/10

OWNER/DEVELOPER
DORSEY BUILDERS, INC
MR. PHILLIP H. DORSEY, PRESIDENT
13090 OLD FREDERICK ROAD
SYKESVILLE, MARYLAND 21784
410-442-8200

NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN
ROAD CONSTRUCTION PLAN, PROFILES, M.O.T. PLAN AND DETAILS
HAY MEADOW OVERLOOK

LOTS 1-7 & BUILDABLE PRESERVATION PARCEL A
& NON-BUILDABLE PRESERVATION PARCEL B

TAX MAP 2 GRID 15, 21 — PARCEL 18
4TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

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

STATE OF MARYLAND — ROBERT HARRIS VOGEL — No.16193 — PROFESSIONAL ENGINEER
ROBERT H. VOGEL, PE No.16193

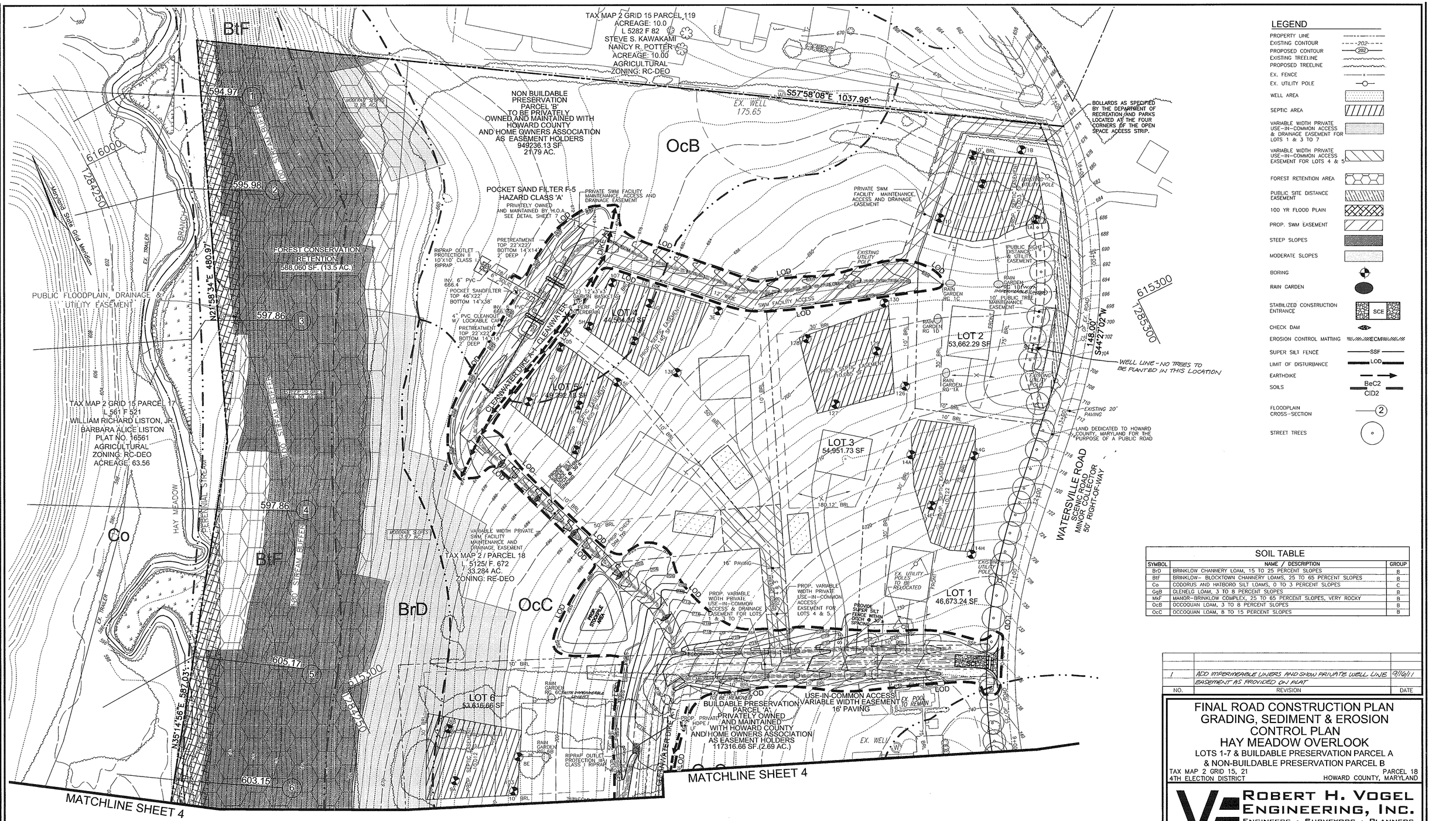
PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2010

DESIGN BY:	RHV/JCO
DRAWN BY:	KG
CHECKED BY:	RHV
DATE:	DECEMBER 2009
SCALE:	AS SHOWN
W.O. NO.:	03-117

SHEET 2 OF 9

F 09-110


TAX MAP 2 GRID 15 PARCEL 119
ACREAGE: 10.0
L 5282 F 82
STEVE S. KAWAKAMI
NANCY R. POTTER
ACREAGE: 10.00
AGRICULTURAL
ZONING: RC-DEO
NON BUILDABLE PRESERVATION PARCEL 'B' TO BE PRIVATELY OWNED AND MAINTAINED WITH HOWARD COUNTY AND HOME OWNERS ASSOCIATION AS EASEMENT HOLDERS 949236.13 SF. 21.79 AC.
EX. WELL 175.65
S57°58'08"E 1037.96'
BOLLARDS AS SPECIFIED BY THE DEPARTMENT OF RECREATION AND PARKS LOCATED AT THE FOUR CORNERS OF THE OPEN SPACE ACCESS STRIP.
BtF
OcB
Co
BrD
OcC
BtF
FOREST CONSERVATION RETENTION 588,060 SF. (13.5 AC.)
POCKET SAND FILTER F-5 HAZARD CLASS 'A'
PRIVATE SWM FACILITY MAINTENANCE, ACCESS AND DRAINAGE EASEMENT
PRIVATELY OWNED AND MAINTAINED BY H.O.A SEE DETAIL SHEET 7
PRIVATE SWM FACILITY MAINTENANCE, ACCESS AND DRAINAGE EASEMENT
PUBLIC FLOODPLAIN, DRAINAGE & UTILITY EASEMENT
N21°58'34"E 480.97'
594.97
595.98
597.86
597.86
605.17
603.15
616000
1284250
615300
1285300
Maryland State Grid Meridian
100' STREAM BUFFER
EX. TRAILER
HAY MEADOW OVERLOOK
TAX MAP 2 GRID 15 PARCEL 17
L 561 F 521
WILLIAM RICHARD LISTON, JR.
BARBARA ALICE LISTON
PLAT NO. 16561
AGRICULTURAL
ZONING: RC-DEO
ACREAGE: 63.56
TAX MAP 2 / PARCEL 18
L 5125/ F. 672
33.284 AC.
ZONING: RE-DEO
LOT 1 46,673.24 SF.
LOT 2 53,662.29 SF
LOT 3 54,951.73 SF
LOT 4 44,564.40 SF
LOT 5 49,392.18 SF
LOT 6 53,616.66 SF
POCKET SANDFILTER 46'X22' BOTTOM 14'X38'
PRETREATMENT TOP 22'X22' BOTTOM 14'X14' 2' DEEP
RIPRAP OUTLET PROTECTION II 10'X10' CLASS RIPRAP
PRETREATMENT TOP 22'X27' BOTTOM 14'X14' 2' DEEP
RIPRAP OUTLET PROTECTION III CLASS I RIPRAP
(2) 12'x3'x3' GABION BASES
6" PERF. PVC UNDERDRAIN
4" PVC CLEANOUT W/ LOCKABLE CAP
INV. 6" PVC 686.4
INV. 6" PVC 686.38
CLEANWATER DIKE #1
CLEANWATER DIKE #2
DIKE #1
DIKE #2
LOD
PROP. SEPTIC EASEMENT 10,095 SF
PROP. SEPTIC EASEMENT 10,022 SF
PROP. SEPTIC EASEMENT 10,000 SF
EX. SEPTIC EASEMENT
PROP. SEPTIC EASEMENT
EX. UTILITY POLE
PROP. UTILITY POLE
EX. UTILITY POLES TO BE RELOCATED
PROVIDE SUPER SILT FENCE WITHIN 6' OF 3' SPACING
PUBLIC SIGHT DISTANCE & UTILITY EASEMENT
10' PUBLIC TREE MAINTENANCE EASEMENT
RAIN GARDEN RG 1A
RAIN GARDEN RG 1B
RAIN GARDEN RG 1C
RAIN GARDEN RG 1D
RAIN GARDEN RG 6B WITH IMPERMEABLE LINERS
RAIN GARDEN RG 6C WITH IMPERMEABLE LINERS
RAIN GARDEN RG 8B
RAIN GARDEN RG 8C
RAIN GARDEN RG 8D
RAIN GARDEN RG 8E
RAIN GARDEN RG 8F
RAIN GARDEN RG 8G
RAIN GARDEN RG 8H
RAIN GARDEN RG 8I
RAIN GARDEN RG 8J
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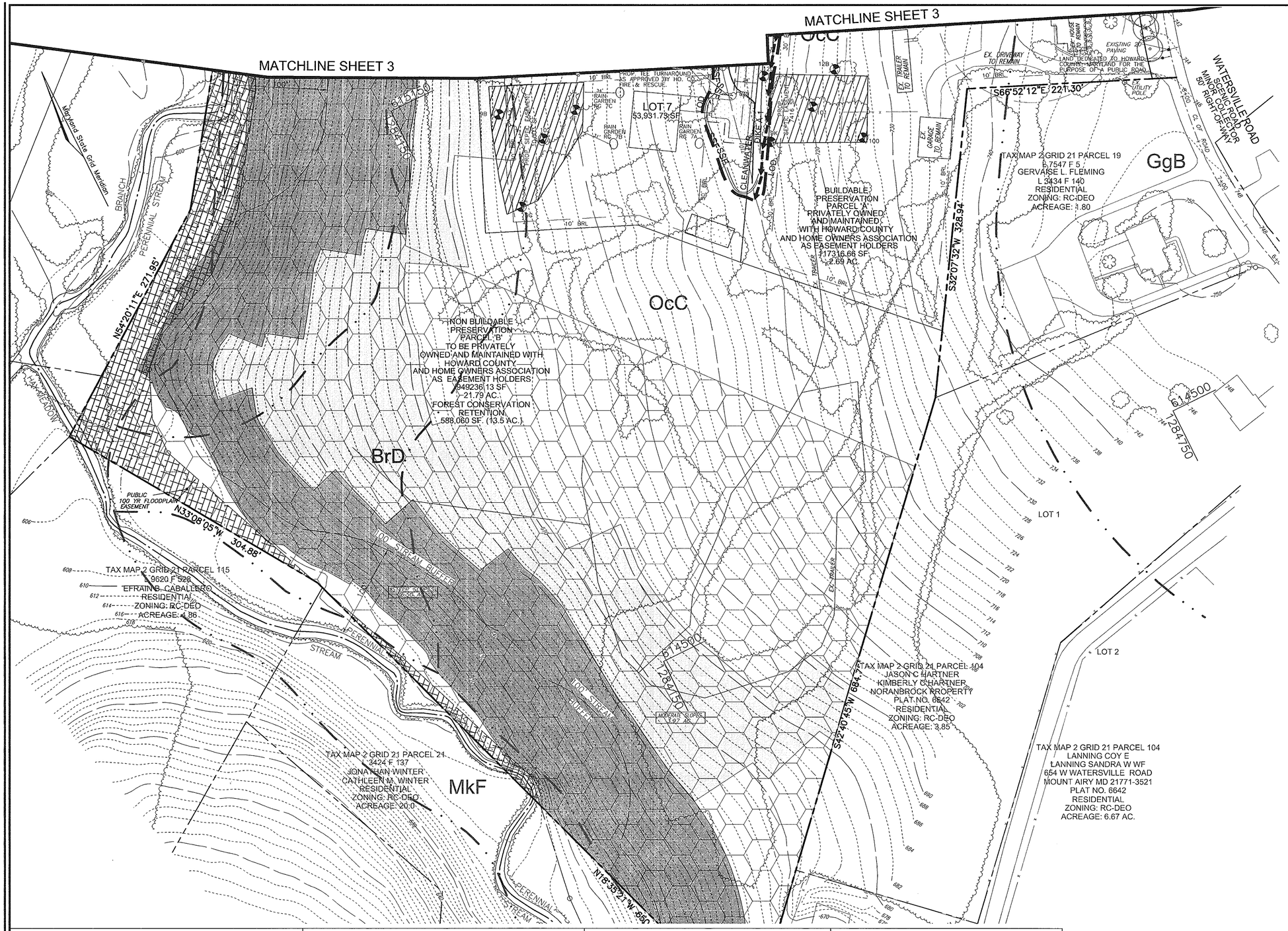


LEGEND

PROPERTY LINE		BORING	
EXISTING CONTOUR	202	RAIN GARDEN	
PROPOSED CONTOUR	202	STABILIZED CONSTRUCTION ENTRANCE	SCE
EXISTING TREELINE		CHECK DAM	CD
PROPOSED TREELINE		EROSION CONTROL MATTING	ECM
EX. FENCE		SUPER SILT FENCE	SSF
EX. UTILITY POLE		LIMIT OF DISTURBANCE	LOD
WELL AREA		EARTHDIKE	
SEPTIC AREA		SOILS	BeC2, CID2
VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS & DRAINAGE EASEMENT FOR LOTS 1 & 3 TO 7		FLOODPLAIN CROSS-SECTION	2
VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 4 & 5		STREET TREES	
FOREST RETENTION AREA			
100 YR FLOOD PLAIN			
STEEP SLOPES			
MODERATE SLOPES			

SOIL TABLE

SYMBOL	NAME / DESCRIPTION	GROUP
BrD	BRINKLOW CHANNERY LOAM, 15 TO 25 PERCENT SLOPES	B
BtF	BRINKLOW– BLOCKTOWN CHANNERY LOAMS, 25 TO 65 PERCENT SLOPES	B
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B
MkF	MANOR–BRINKLOW COMPLEX, 25 TO 65 PERCENT SLOPES, VERY ROCKY	B
OcB	OCCOQUAN LOAM, 3 TO 8 PERCENT SLOPES	B
OcC	OCCOQUAN LOAM, 8 TO 15 PERCENT SLOPES	B

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 1-20-10

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2/03/10

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 1/25/10

DEVELOPER'S CERTIFICATE

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

Barbara A. Carr
SIGNATURE OF DEVELOPER

ENGINEER'S CERTIFICATE

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

SIGNATURE OF ENGINEER — DATE 12/30/09

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

HOWARD SCD — DATE 1/12/10

OWNER/DEVELOPER

DORSEY BUILDERS, INC
MR. PHILLIP H. DORSEY, PRESIDENT
13090 OLD FREDERICK ROAD
SYKESVILLE, MARYLAND 21784
410-442-8200

NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN GRADING, SEDIMENT & EROSION CONTROL PLAN HAY MEADOW OVERLOOK

LOTS 1-7 & BUILDABLE PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCEL B

TAX MAP 2 GRID 15, 21 PARCEL 18
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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

STATE OF MARYLAND — ROBERT HARRIS VOGEL — No. 16193 — PROFESSIONAL ENGINEER — 12/30/09
ROBERT H. VOGEL, PE No.16193

DESIGN BY:	RHV/JCO
DRAWN BY:	KG
CHECKED BY:	RHV
DATE:	DECEMBER 2009
SCALE:	1"=50'
W.O. NO.:	03-117

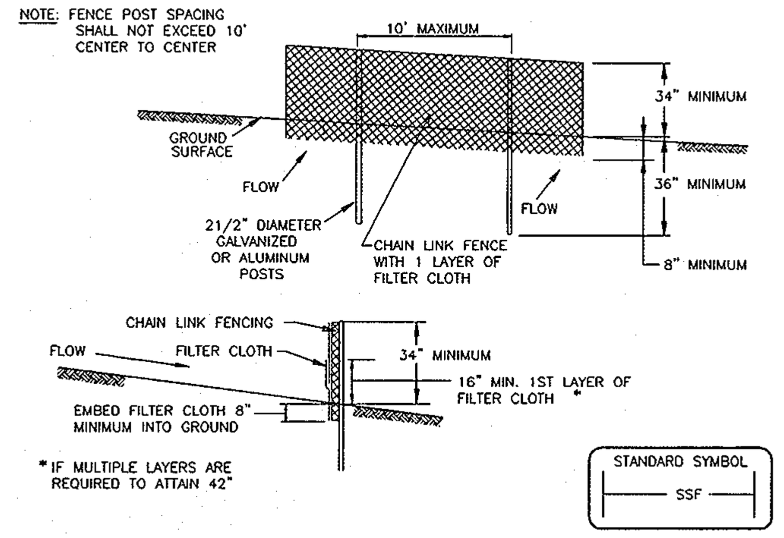
PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2010

SHEET 4 OF 9

F 09-110

DETAIL 33 - SUPER SILT FENCE



CONSTRUCTION SPECIFICATIONS

1. FENCING SHALL BE 42" IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY DETAILS FOR CHAIN LINK FENCING. THE SPECIFICATION FOR A 6' FENCE SHALL BE USED, SUBSTITUTING 42" FABRIC AND 6' LENGTH POSTS.

2. CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE.

3. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.

4. FILTER CLOTH SHALL BE EMBEDDED A MINIMUM OF 8" INTO THE GROUND.

5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.

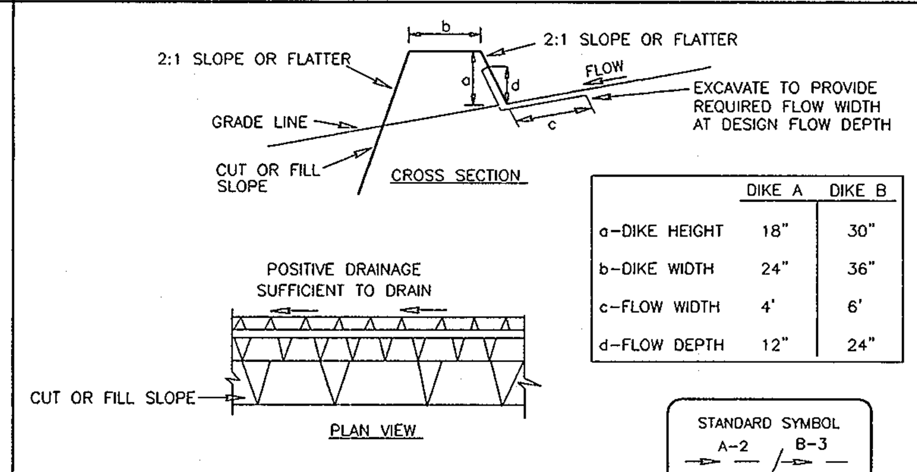
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT BUILDUPS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES 50% OF FENCE HEIGHT

7. FILTER CLOTH SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:

TENSILE STRENGTH	50 LBS/IN (MIN.)	TEST: MSMT 509
TENSILE MODULUS	20 LBS/IN (MIN.)	TEST: MSMT 509
FLOW RATE	0.3 GAL/FT /MINUTE (MAX.)	TEST: MSMT 322
FILTERING EFFICIENCY	75% (MIN.)	TEST: MSMT 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 26 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 1 - EARTH DIKE



	DIKE A	DIKE B
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	12"	24"

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

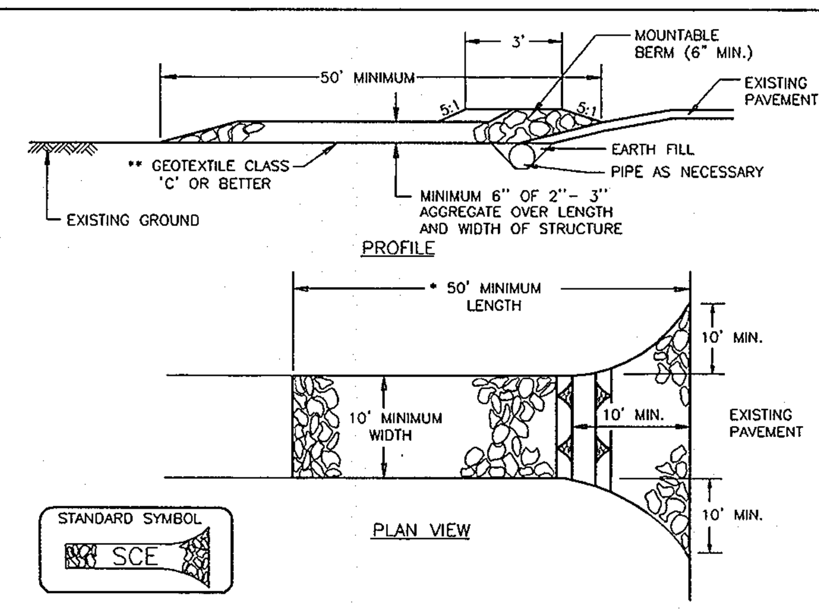
1. SEED AND COVER WITH STRAW MULCH.
2. SEED AND COVER WITH EROSION CONTROL MATTING OR LINE WITH SOD.
3. 4" – 7" STONE OR RECYCLED CONCRETE EQUIVALENT PRESSED INTO THE SOIL 7" MINIMUM

CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY EARTH DIKES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET. SPOT ELEVATIONS MAY BE NECESSARY FOR GRADES LESS THAN 1%.
2. RUNOFF DIVERTED FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. RUNOFF DIVERTED FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED, STABILIZED AREA AT A NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONAL MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE DIKE.
5. THE DIKE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILL SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE DIKE.
8. INSPECTION AND MAINTENANCE MUST BE PROVIDED PERIODICALLY AND AFTER EACH RAIN EVENT.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A - 1 - 6	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

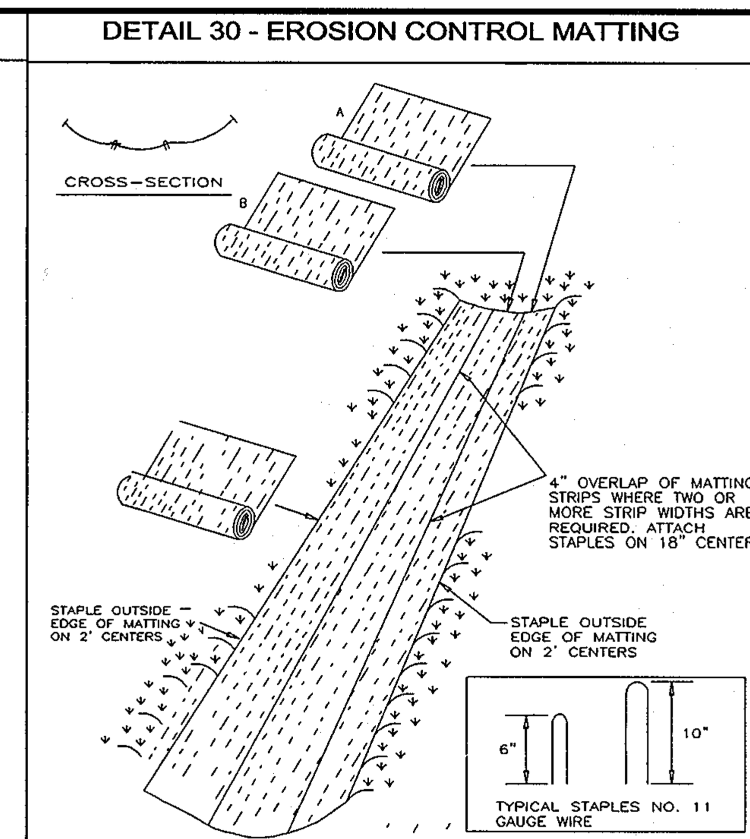


CONSTRUCTION SPECIFICATION

1. LENGTH – MINIMUM OF 50' (* 30' FOR A SINGLE RESIDENCE LOT).
2. WIDTH – 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
3. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE. ** THE PLAN APPROVAL AUTHORITY MAY NOT REQUIRE SINGLE FAMILY RESIDENCES TO USE GEOTEXTILE.
4. STONE – CRUSHED AGGREGATE (2" TO 3") OR RECLAIMED OR RECYCLED CONCRETE THE ENTRANCE.
5. SURFACE WATER – ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 6" OF STONE OVER THE PIPE. PIPE HAS TO BE SIZED ACCORDING TO THE DRAINAGE. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE WILL NOT BE NECESSARY. PIPE SHOULD BE SIZED ACCORDING TO THE AMOUNT OF RUNOFF TO BE CONVEYED. A 6" MINIMUM WILL BE REQUIRED.
6. LOCATION – A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 17 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 30 - EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 22 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

EROSION CONTROL MATTING

CONSTRUCTION SPECIFICATIONS

1. KEY-IN THE MATTING BY PLACING THE TOP ENDS OF THE MATTING IN A NARROW TRENCH, 6" IN DEPTH. BACKFILL THE TRENCH AND TAMP FIRMLY TO CONFORM TO THE CHANNEL CROSS-SECTION. SECURE WITH A ROW OF STAPLES ABOUT 4" DOWN SLOPE FROM THE TRENCH. SPACING BETWEEN STAPLES IS 6".
2. STAPLE THE 4" OVERLAP IN THE CHANNEL CENTER USING AN 18" SPACING BETWEEN STAPLES.
3. BEFORE STAPLING THE OUTER EDGES OF THE MATTING, MAKE SURE THE MATTING IS SMOOTH AND IN FIRM CONTACT WITH THE SOIL.
4. STAPLES SHALL BE PLACED 2' APART WITH 4 ROWS FOR EACH STRIP, 2 OUTER ROWS, AND 2 ALTERNATING ROWS DOWN THE CENTER.
5. WHERE ONE ROLL OF MATTING ENDS AND ANOTHER BEGINS, THE END OF THE TOP STRIP SHALL OVERLAP THE UPPER END OF THE LOWER STRIP BY 4", SHIPLAP FASHION. REINFORCE THE OVERLAP WITH A DOUBLE ROW OF STAPLES SPACED 6" APART IN A STAGGERED PATTERN ON EITHER SIDE.
6. THE DISCHARGE END OF THE MATTING LINER SHOULD BE SIMILARLY SECURED WITH 2 DOUBLE ROWS OF STAPLES.

NOTE: IF FLOW WILL ENTER FROM THE EDGE OF THE MATTING THEN THE AREA EFFECTED BY THE FLOW MUST BE KEYED-IN.

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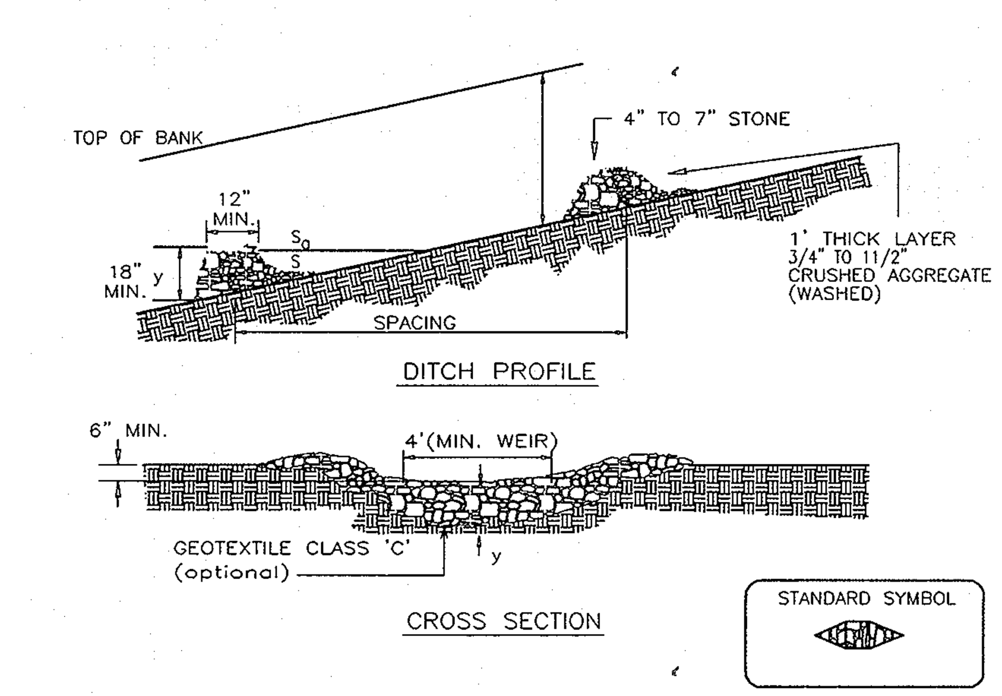
OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORMWATER FILTRATION SYSTEMS (F-1, F-4, AND F-5)

1. THE STORMWATER WETLAND FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
2. THE TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF ONCE PER YEAR, WHEN VEGETATION REACHES 18" IN HEIGHT OR AS NEEDED.
3. FILTERS THAT HAVE GRASS COVER SHALL BE MOWED A MINIMUM OF THREE (3) TIMES PER GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 12 INCHES
4. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
5. VISIBLE SIGNS OF EROSION IN THE FACILITY SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
6. REMOVE SILT WHEN IT EXCEEDS FOUR (4") INCHES DEEP IN FOREBAY.
7. WHEN WATER PONDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS, THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REPLACED WITH FRESH MATERIAL. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
8. A LOGBOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
9. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
10. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

DETAIL 7 – STONE CHECK DAM



STANDARD STONE CHECK DAM DESIGN

SLOPE	SPACING
2% or less	80'
2.1% to 4%	40'
4.1% to 7%	25'
7.1% to 10%	15'
over 10%	use lined waterway design

Construction Specifications

1. Swales and ditches shall be prepared in accordance with the construction specifications described in Section A-2, Standards and Specifications for Temporary Swale.

2. The check dam shall be constructed of 4"–7" stone. The stone shall be placed so that it completely covers the width of the channel and keyed into the channel banks.

3. The top of the check dam shall be constructed so the the center is approximately 6" lower than the outer edges, forming a weir that water can flow across.

4. The maximum height of the check dam at the center shall not exceed 2".

5. The upstream side of the check dam shall be lined with approximately 1" of 3/4" to 11/2" crushed aggregate.

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SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPT. OF INSPECTION, LICENSE AND PERMITS SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
2. ALL VEGETATION AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3:1, (B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. G). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS :

TOTAL AREA	33.15 AC.
AREA DISTURBED	2.25 AC.
AREA TO BE ROOFED OR PAVED	1.09 AC.
AREA TO BE VEGETATIVELY STABILIZED	1.16 AC.
TOTAL CUT	6800 CY
TOTAL FILL	6800 CY
OFFSITE WASTE/BORROW AREA LOCATION	*

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

* TO BE DETERMINED BY CONTRACTOR, WITH PRE-APPROVAL OF THE SEDIMENT CONTROL INSPECTOR WITH AN APPROVED AND ACTIVE GRADING PERMIT

CONSTRUCTION AND MATERIAL SPECIFICATIONS

I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

II. TOPSOIL SPECIFICATIONS – SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

I. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR A SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAT 1 AND 1/2" IN DIAMETER.

II. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

III. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

II. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

I. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION – SECTION I – VEGETATIVE STABILIZATION METHODS AND MATERIALS.

DEFINITION

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETABLE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.

B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.

C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

II. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

SEQUENCE OF CONSTRUCTION

SEQUENCE OF CONSTRUCTION	DURATION
1. OBTAIN GRADING PERMIT.	
2. NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (313-1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK.	
3. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE.	1 DAY
4. INSTALL PERIMETER SILT FENCE, SUPER SILT FENCE, AND CLEANWATER EARTHDIKE.	1 DAY
5. CONSTRUCT STORMWATER MANAGEMENT FACILITY (POCKET SAND FILTER)	2 DAYS
6. WITH SWM FACILITY COMPLETE STABILIZE DISTURBED AREA IMMEDIATELY.	2 DAYS
7. AFTER OBTAINING PERMISSION FROM SEDIMENT CONTROL INSPECTOR TO PROCEED, ROUGH GRADE REMAINING SITE TO LOD AND CONSTRUCT CONVEYANCE CHANNEL. MAINTAIN CLEAN WATER DIKE UPHILL OF FACILITY UNTIL AREA IS STABILIZED.	1 WEEK
8. GRADE COMMON DRIVE TO SUB-BASE.	5 DAYS
9. WITH DRIVE GRADED TO SUB-BASE INSTALL ENTRANCE CURB, AND PAVE DRIVE.	3 WEEK
10. FINALIZE SITE GRADING IN CONFORMANCE WITH THIS PLAN.	2 DAYS
11. WITH INSPECTOR APPROVAL AND COMMON DRIVE PAVING COMPLETE STABILIZE ANY REMAINING DISTURBED AREAS.	3 DAYS
12. INSTALL STREET TREES AND ALL LANDSCAPING.	1 WEEK

NOTES

DURING GRADING AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL MEASURES SHOWN HEREON.

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLIED WITH:

A. 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, SWALES, DITCH PERIMETER SLOPES SLOPES AND ALL SLOPES GREATER THAN 3:1.

B. 14 CALENDAR DAYS FOR ALL OTHER DISTURBED AREAS.

21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

III. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:

I. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:

A. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
B. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
C. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
D. NO SOD OR SEED SHALL BE PLACED ON SOIL SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

II. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION–SECTION I–VEGETATIVE STABILIZATION METHODS AND MATERIALS.

V. TOPSOIL APPLICATION

I. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.

II. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" – 8" HIGHER IN ELEVATION.

III. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" – 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

IV. TOPSOIL SHALL NOT BE PLACE WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

SOIL PROTECTION ZONE NOTES

1. THE SOIL PROTECTION ZONE INCLUDE ALL AREAS CONTAINED INSIDE THE LIMIT OF DISTURBANCE.
2. WHERE POSSIBLE, THE SOIL PROTECTION ZONE SHALL EXTEND TO THE DRIP LINE OF SPECIMEN TREES. FOR OTHER GROUPS OF TREES, THE ZONE SHALL BE THE DRIP LINE OF 40% OF THE HEIGHT OF THE TREE, WHICHEVER IS GREATER.
3. NO CONSTRUCTION ACTIVITY IS PERMITTED WITHIN THE SOIL PROTECTION ZONE.
4. IF SOIL HAS BEEN COMPACTED OR GRADING HAS TAKEN PLACE IN THE VICINITY OF THE SOIL PROTECTION ZONE, ROOT PRUNING SHALL BE IMPLEMENTED PER ROOT PRUNING DETAIL, SHOWN ON THIS PLAN.
5. ROOT PRUNING SHALL OCCUR PRIOR TO THE BEGINNING OF CONSTRUCTION.
6. WHERE THE SOIL PROTECTION ZONE MUST ENCROACH INSIDE THE CRITICAL ROOT ZONE OF A TREE, SOIL DISTURBANCE SHALL BE MITIGATED WITH VERTICAL MULCHING, OR RADIAL TRENCHING.
7. PRIOR TO CONSTRUCTION, THE LIMITS OF DISTURBANCE SHALL BE MARKED AND THE DETERMINE WHICH TREES WILL NEED PREVENTATIVE TREATMENT OF REMOVAL.
8. TREE MAINTENANCE AND REMOVAL SHALL BE UNDERTAKEN BY A QUALIFIED MD TREE EXPERT TO ENSURE DAMAGE TO SURROUNDING TREES IS MINIMIZED.
9. BRUSH AND LIMBS REMOVED FOR CONSTRUCTION SHALL BE CHIPPED AND SPREAD AT THE EDGE OF THE SOIL PROTECTION ZONE TO A DEPTH OF 6 INCHES. THIS SHALL OCCUR OUTSIDE THE SOIL PROTECTION ZONE WHERE COMPACTION COULD IMPACT OTHERWISE UNPROTECTED CRITICAL ROOT ZONE.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

1) PREFERRED–APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/ 100 SQ.FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS./ 1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT THE TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ.FT.)
2) ACCEPTABLE–APPLY 2 TONS PER ACRE DOLOMATIC LIMESTONE (92 LBS/ 1000 SQ.FT.) AND APPLY 1000 LBS. PER ACRE 10-10-10- FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS/1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (.05 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT).

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 1 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT

APPROVED: DEPARTMENT OF PUBLIC WORKS

[signature] 1-20-10
CHIEF, BUREAU OF HIGHWAYS HS — DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[signature] 2/03/10
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] 1/25/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

DEVELOPER'S CERTIFICATE

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

Barbara A. Carr
SIGNATURE OF DEVELOPER

ENGINEER'S CERTIFICATE

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

[signature] 12/30/09
SIGNATURE OF ENGINEER — DATE

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

John R Robertson 1/12/10
HOWARD SCD — DATE

OWNER/DEVELOPER

DORSEY BUILDERS, INC
MR. PHILLIP H. DORSEY, PRESIDENT
13090 OLD FREDERICK ROAD
SYKESVILLE, MARYLAND 21784
410-442-8200

NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN
SEDIMENT AND EROSION CONTROL DETAILS
HAY MEADOW OVERLOOK

LOTS 1-7 & BUILDABLE PRESERVATION PARCEL A
& NON-BUILDABLE PRESERVATION PARCEL B

TAX MAP 2 GRID 15, 21 — PARCEL 18
4TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

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

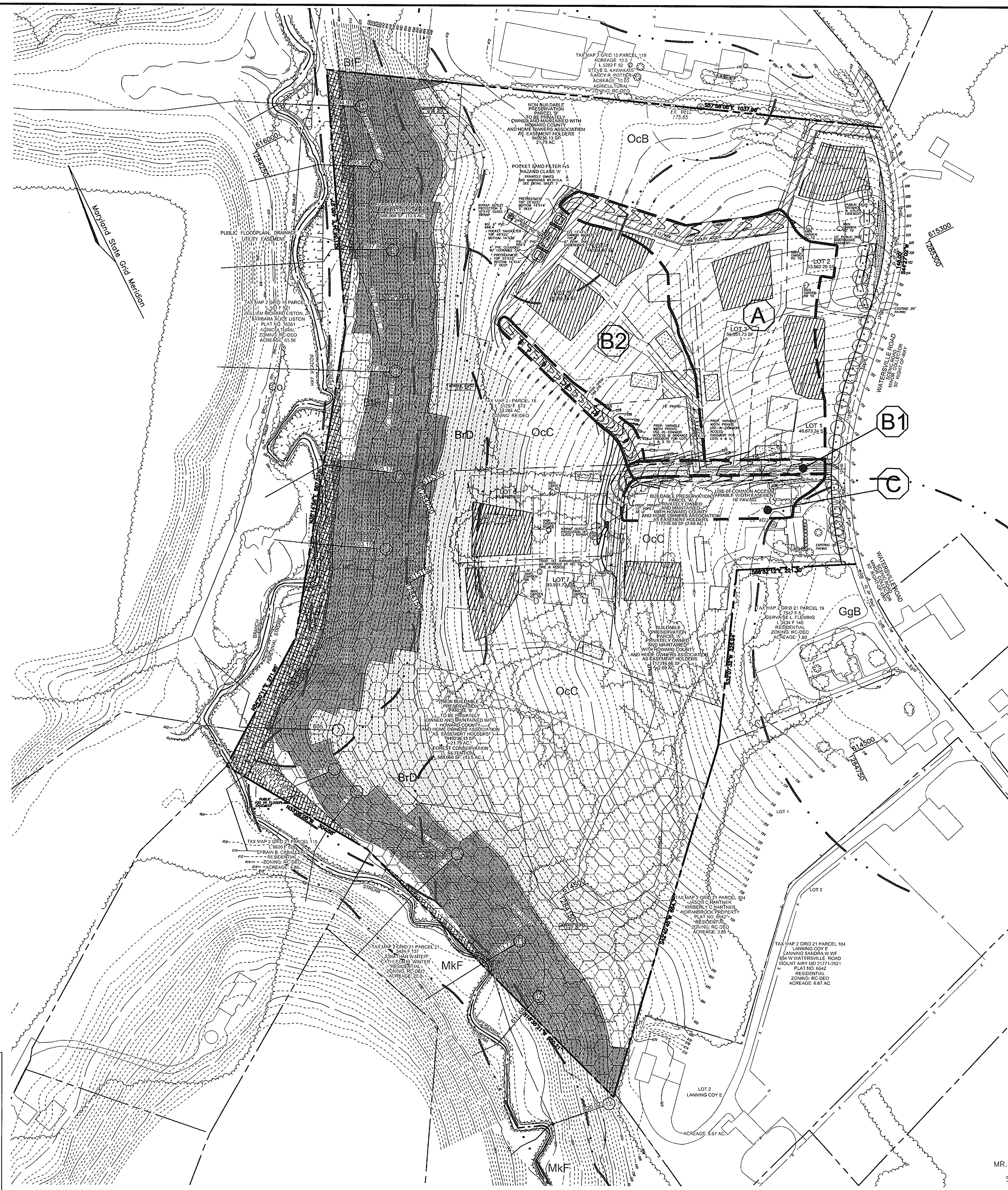
STATE OF MARYLAND — ROBERT HARRIS VOGEL — No.16193 — PROFESSIONAL ENGINEER — 12/30/09
ROBERT H. VOGEL, PE No.16193

DESIGN BY:	RHV/JCO
DRAWN BY:	KG
CHECKED BY:	RHV
DATE:	DECEMBER 2009
SCALE:	AS SHOWN
W.O. NO.:	03-117

PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2010

F 09-110



LEGEND

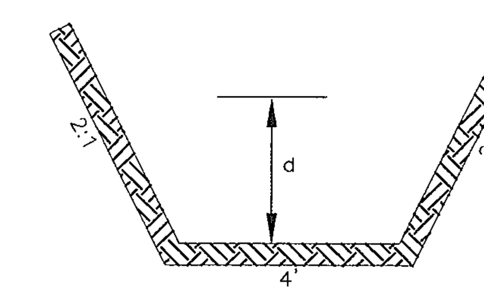
RAIN GARDEN		PROPERTY LINE	
SOILS	BeC2 / CID2	EXISTING CONTOUR	202
FLOODPLAIN CROSS-SECTION	2	PROPOSED CONTOUR	202
DRAINAGE DIVIDE		EXISTING TREELINE	
PUBLIC SITE DISTANCE EASEMENT		PROPOSED TREELINE	
100 YR FLOOD PLAIN		EX. FENCE	
STEEP SLOPES		EX. UTILITY POLE	
MODERATE SLOPES		WELL AREA	
STREET TREES		SEPTIC AREA	
CHECK DAM		VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS & DRAINAGE EASEMENT FOR LOTS 1 & 3 TO 7	
		VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 4 & 5	
		FOREST RETENTION AREA	
		PROP. SWM EASEMENT	

SOIL TABLE

SYMBOL	NAME / DESCRIPTION	GROUP
BrD	BRINKLOW CHANNERY LOAM, 15 TO 25 PERCENT SLOPES	B
BtF	BRINKLOW- BLOCKTOWN CHANNERY LOAMS, 25 TO 65 PERCENT SLOPES	B
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B
MkF	MANOR-BRINKLOW COMPLEX, 25 TO 65 PERCENT SLOPES, VERY ROCKY	B
OcB	OCCOQUAN LOAM, 3 TO 8 PERCENT SLOPES	B
OcC	OCCOQUAN LOAM, 8 TO 15 PERCENT SLOPES	B

DRAINAGE AREA TABULATION

NO.	AREA	RN	% IMP.	SOIL	ZONE
A	2.60 AC	68	20%	B	RR-DED
B-1	0.21 AC	84	62%	B	RR-DED
B-2	0.61 AC	73	34%	B	RR-DED
C	1.19 AC	65	11%	B	RR-DED



SECTION

SWALE	A	B-1	B-2	C
Q1(CFS)	0.97	0.39	0.52	0.39
V1(FPS)	2.3	1.7	2.4	1.7
d	0.10	0.06	0.05	0.06
S(%)	5	6	11.7	6.0
n	0.030	0.030	0.030	0.030
Q10	5.44	1.11	2.11	2.60
V10	4.3	2.6	4.0	3.50
d	0.28	0.10	0.12	0.17

TYPICAL GRASS SWALE DETAIL
NTS

APPROVED: DEPARTMENT OF PUBLIC WORKS

[signature] 1-20-10
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[signature] 2/03/10
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FINAL ROAD CONSTRUCTION PLAN
DRAINAGE AREA MAP
HAY MEADOW OVERLOOK
LOTS 1-7 & BUILDABLE PRESERVATION PARCEL A
& NON-BUILDABLE PRESERVATION PARCEL B

TAX MAP 2 GRID 15, 21 PARCEL 18
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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STATE OF MARYLAND ROBERT HARRIS VOGEL No. 16193 PROFESSIONAL ENGINEER
ROBERT H. VOGEL, PE No.16193

DESIGN BY: RHV/JCO
DRAWN BY: KG
CHECKED BY: RHV
DATE: DECEMBER 2009
SCALE: 1"=100'
W.O. NO.: 03-117

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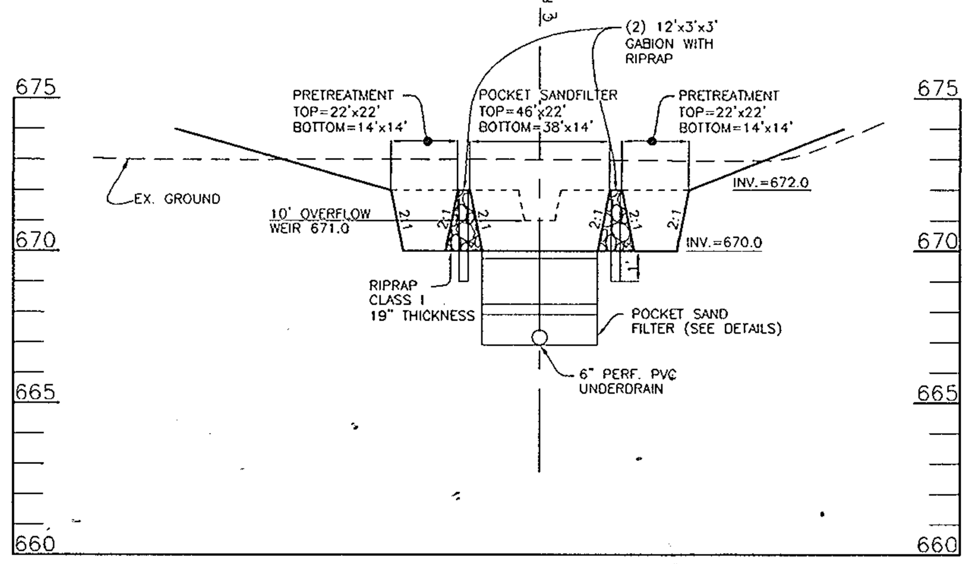
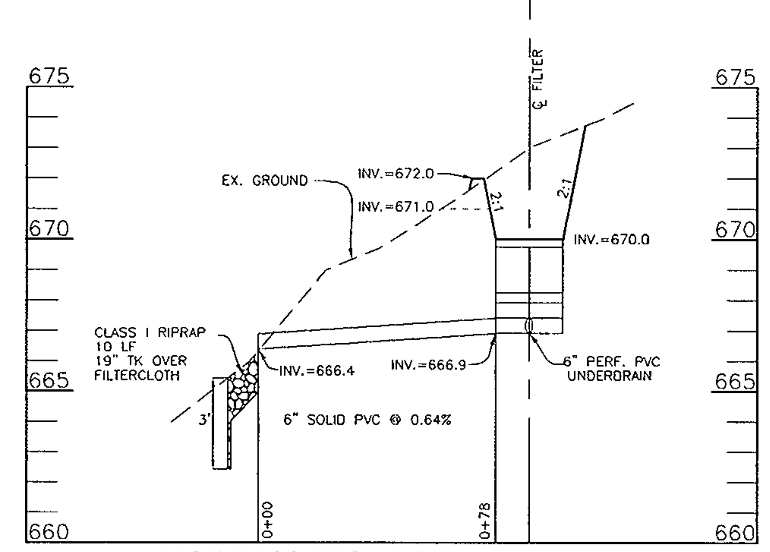
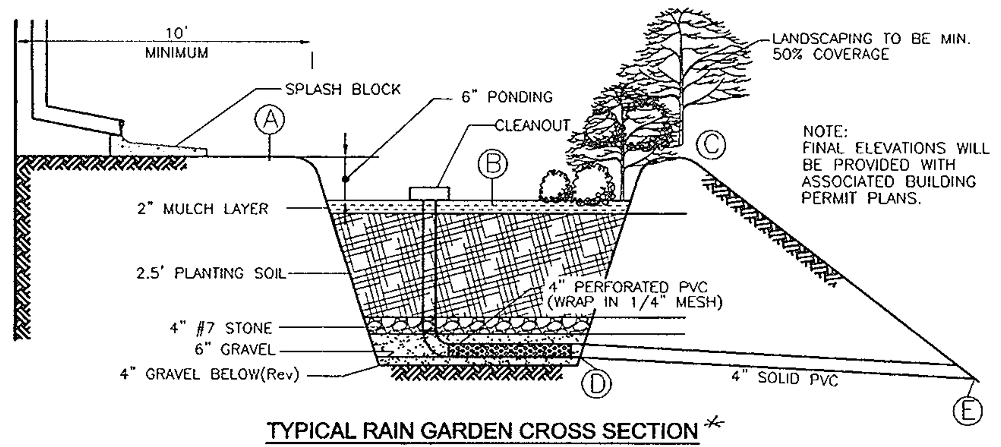


SECTION A-A THROUGH POCKET SAND FILTER
SCALE : HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

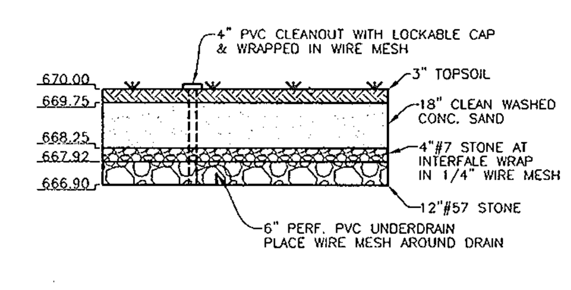


PROFILE POCKET SAND FILTER SECTION B-B
SCALE : HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

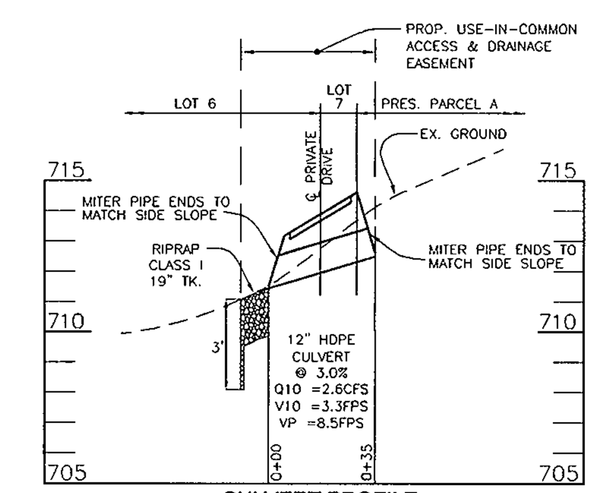


TYPICAL RAIN GARDEN CROSS SECTION *
NOT TO SCALE

*NOTE: RAIN GARDENS WITHIN 100' OF WELL BOXES ON LOTS 2 AND 4 MUST HAVE AN IMPERMEABLE LINER AND UNDERDRAIN LEADING INTO A SOLID PIPE.



POCKET SAND FILTER DETAIL
SCALE: 1" = 5'

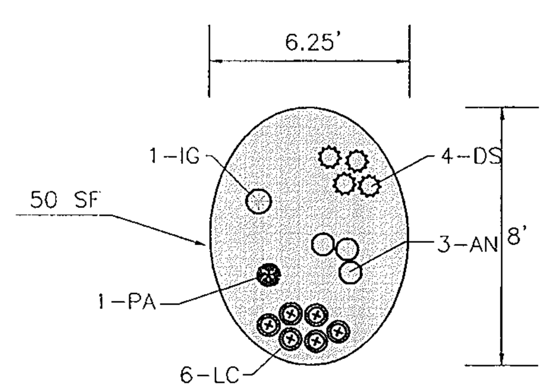


CULVERT PROFILE
SCALE : HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

RAIN GARDEN PLANT LIST			
QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
1	PLATANUS X ACERIFOLIA	LONDON PLANE TREE	2 1/2"-3" Cal.
1	ILEX GLABRA	INK BERRY	2 '-3' HT.
6	LOBELEA CARDINALIS	CARDINAL FLOWER LOBELIA	1 GAL. CONTAINER
4	DRYOPTERIS SP.	WOOD FERN	1 GAL. CONTAINER
3	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	1 GAL. CONTAINER

RAIN GARDEN ELEVATIONS						
RAIN GARDEN	LOCATION	* ELEVATIONS				
		A	B	C	D	E
1A	LOT 2	708.0	707.5	708.0	704.5	704.3
1B	LOT 2	695.5	695.0	695.5	692.0	691.8
1C	LOT 2	696.0	695.5	696.0	692.5	692.3
1D	LOT 2	701.0	700.5	701.0	697.5	697.3
6A	LOT 6	715.5	715.0	715.5	712.0	711.8
6B	LOT 6	702.5	702.0	702.5	699.0	698.8
6C	LOT 6	703.0	702.5	703.0	699.5	699.3
7A	LOT 7	707.0	706.5	707.0	703.5	703.3
7B	LOT 7	702.0	701.5	702.0	698.5	698.3
7C	LOT 7	704.0	703.5	704.0	700.5	700.3

* FINAL ELEVATIONS WILL BE PROVIDED WITH ASSOCIATED BUILDING PERMIT PLANS.
FINANCIAL SURETY FOR THE REQUIRED RAIN GARDENS IN THE AMOUNT OF $6,500 EACH WILL BE POSTED AS A PART OF THE DEVELOPER'S AGREEMENT.



RAIN GARDEN PLANTING DETAIL
N.T.S.

OPERATION AND MAINTENANCE SCHEDULE FOR RAIN GARDEN AREAS

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DEFICIENT STAKES AND WIRES.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

FOREST PROTECTION NOTES

PRE-CONSTRUCTION ACTIVITIES

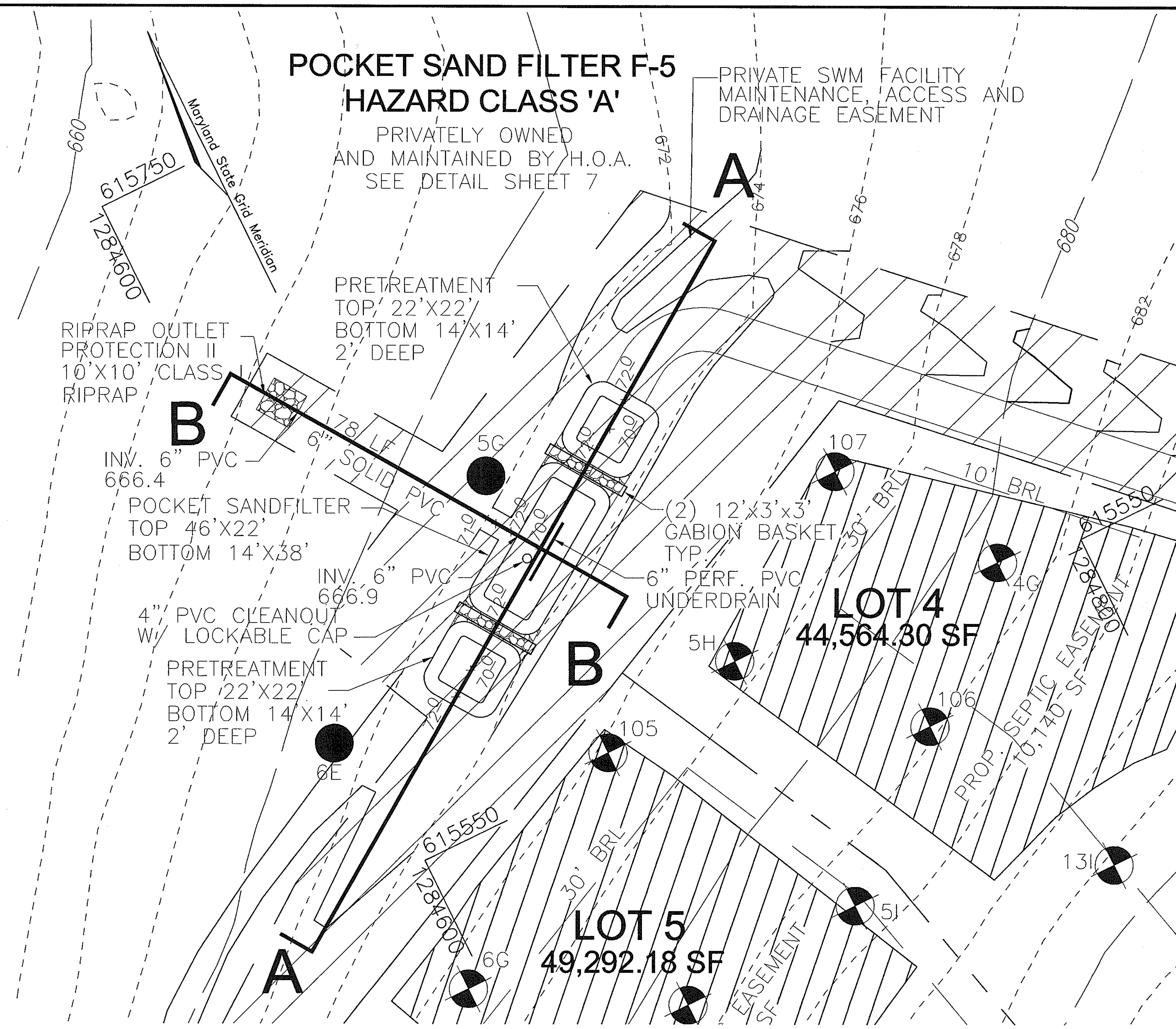
1. FOR RETENTION AREAS, INSTALL BLAZE ORANGE FENCE AND RETENTION SIGNS BEFORE CONSTRUCTION BEGINS.
2. FENCING SHALL BE MAINTAINED IN GOOD CONDITION AND PROMPTLY REPAIRED OR RESTORED AS THE SITUATION WARRANTS.
3. A QUALIFIED TREE CARE EXPERT SHALL DETERMINE IF ROOT PRUNING IS REQUIRED ALONG THE LIMIT OF DISTURBANCE. ROOT PRUNE TREES AS REQUIRED. WATER ANY ROOT-PRUNED TREES IMMEDIATELY AFTER ROOT-PRUNING AND MONITOR FOR SIGNS OF STRESS DURING CONSTRUCTION.

CONSTRUCTION PHASE

1. NO DISTURBANCE OR DUMPING IS ALLOWED INSIDE THE TREE RETENTION AREA.
2. NO EQUIPMENT SHALL BE OPERATED INSIDE THE TREE RETENTION AREA INCLUDING TREE CANOPIES.
3. IN THE EVENT OF DROUGHT, THE PROTECTED TREES SHALL BE MONITORED FOR SIGNS OF STRESS AND WATERED AS NEEDED.

POST-CONSTRUCTION ACTIVITIES

1. AT THE DIRECTION OF A QUALIFIED TREE CARE EXPERT, DAMAGES TO RETAINED TREES SHALL BE REPAIRED BY THE CONTRACTOR.
2. FENCE REMOVAL AND STABILIZATION SHALL BE AS PER THE SEDIMENT AND EROSION CONTROL PLAN.
3. DO NOT REMOVE SIGNS.



POCKET SAND FILTER
SCALE: 1"=20'

STORM WATER MANAGEMENT BORING DATA

STORMWATER MANAGEMENT PRACTICE	PERCOLATION TEST #	
RAIN GARDEN RG 7A	9J	10' DEEP, HARD BOTTOM
RAIN GARDEN RG 7B	9H	11' DEEP, HARD BOTTOM
RAIN GARDEN RG 7C	9F	11' DEEP, NO ROCK OR GROUND WATER
RAIN GARDEN RG 6A	12E	11' DEEP, NO ROCK OR GROUND WATER
RAIN GARDEN RG 6B	103	10' DEEP, NO ROCK OR GROUND WATER
RAIN GARDEN RG 6C	8E	5' DEEP, NO ROCK OR GROUND WATER
SAND FILTER	6E	7' DEEP, NO ROCK OR GROUND WATER
SAND FILTER	5G	8' DEEP, HARD BOTTOM
SAND FILTER	105	0.5' DEEP, NO ROCK OR GROUNDWATER
SAND FILTER	107	11' DEEP, NO ROCK OR GROUNDWATER
SAND FILTER	5H	13' DEEP, NO ROCK OR GROUNDWATER
RAIN GARDEN RG 1A	141	18' DEEP, HARD BOTTOM
RAIN GARDEN RG 1B	1F	14' DEEP, NO ROCK OR GROUND WATER

THE TYPICAL DEPTH OF THE PROPOSED POCKET SAND FILTER IS 2.5' INCLUDING THE UNDER DRAIN. THERE WERE FIVE HOLES IN THE VICINITY OF THE SAND FILTER; 6E, 5G, 105, 107, AND 5H. ONE OF THESE TEST HOLES REVEALED A 'HARD BOTTOM' AT 8' WHICH RESULTS IN A 5.5' BUFFER. THIS HARD BOTTOM WILL NOT AFFECT THE CONSTRUCTION OR FUNCTION OF THE SAND FILTER.
BASED ON A TYPICAL RAIN GARDEN DETAIL, THE DEPTH OF THE SYSTEM IS 4'. THEREFORE IT IS DESIRABLE TO CHECK TO A DEPTH OF 8' FOR ROCK AND/OR GROUNDWATER. THE SHALLOWEST 'HARD BOTTOM' IS TEST 9J WHICH REVEALED A 'HARD BOTTOM' AT 10'. THIS IS SUFFICIENTLY BELOW THE 4' BUFFER BETWEEN ROCK AND/OR GROUNDWATER AND THE BOTTOM OF THE RAIN GARDEN.
IN CONSIDERATION OF THESE TEST RESULTS IT IS OUR PROFESSIONAL OPINION THAT THE RAIN GARDEN AND SAND FILTER WILL FUNCTION EFFECTIVELY AS DESIGNED.

APPROVED: DEPARTMENT OF PUBLIC WORKS

William J. Malik — DATE 1-20-10
CHIEF, BUREAU OF HIGHWAYS HS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Kent Sheubrooke — DATE 2/03/10
CHIEF, DIVISION OF LAND DEVELOPMENT

[signature] — DATE 1/25/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION AW

Appendix B.3. Construction Specifications for Sand Filters, Bioretention and Open Channels

B.3.A Sand Filter Specifications

1. Material Specifications for Sand Filters

The allowable materials for sand filter construction are detailed in Table B.3.1.

2. Sand Filter Testing Specifications

Underground sand filters, facilities within sensitive groundwater aquifers, and filters designed to serve urban hot spots are to be tested for water tightness prior to placement of filter media. Entrances and exits should be plugged and the system completely filled with water to demonstrate water tightness. Water tightness means no leakage for a period of 8 hours.

All overflow weirs, multiple orifices and flow distribution slots are to be field-tested to verify adequate distribution of flows.

3. Sand Filter Construction Specifications

Provide sufficient maintenance access (i.e., 12-foot-wide road with legally recorded easement). Vegetated access slopes are to be a maximum of 10%; gravel slopes to 15%; paved slopes to 25%.

Absolutely no runoff is to enter the filter until all contributing drainage areas have been stabilized.

Surface of filter bed is to be level.

All underground sand filters should be clearly delineated with signs so that they may be located when maintenance is due.

Surface sand filters may be planted with appropriate grasses; see Appendix A.

"Pocket" sand filters (and residential bioretention facilities treating areas larger than an acre) shall be sized with a stone "window" that covers approximately 10% of the filter area. This "window" shall be filled pea gravel (3/4 inch stone).

Appendix B.3. Construction Specifications for Sand Filters, Bioretention and Open Channels

4. Specifications Pertaining to Underground Sand Filters (F-2)

Provide manhole and/or grates to all underground and below grade structures. Manholes shall be in compliance with standard specifications for each county but diameters should be 30" minimum (to comply with OSHA confined space requirements). Aluminum and steel louvered doors are also acceptable. Ten inch wide (minimum) manhole steps (12" o.c.) shall be cast in place or drilled and mortared into the wall below each manhole. A 5' minimum height clearance (from the top of the sand layer to the bottom of the upper/surface slab) is required for all permanent underground structures. Lift rings are to be supplied to remove/replace top slabs on pre-fabricated structures. Manhole covers should allow for proper ventilation.

Underground sand filters should be constructed with a gate valve located just above the top of the filter bed for dewatering in the event that clogging occurs.

Underground sand beds shall be protected from trash accumulation by a wide mesh geotextile screen to be placed on the surface of the sand bed; screen is to be rolled up, removed, cleaned and re-installed during maintenance operations.

Table B.3.1 Material Specifications for Sand Filters

Material	Specification/Test Method	Size	Notes
sand	clean AASHTO-M-6 or ASTM-C-33 concrete sand	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.
peat	ash content: < 15% pH range: 5.2 to 4.9 loose bulk density 0.12 to 0.15 g/cc	n/a	The material must be reed-sedge hemic peat, shredded, uncompacted, uniform, and clean.
leaf compost		n/a	
underdrain gravel	AASHTO-M-43	0.375" to 0.75"	
geotextile fabric (if required)	ASTM-D-4833 (puncture strength - 125 lb.) ASTM-D-4632 (Tensile Strength - 300 lb.)	0.08" thick equivalent opening size of #80 sieve	Must maintain 125 gpm per sq. ft. flow rate. Note: a 4" pea gravel layer may be substituted for geotextiles meant to "separate" sand filter layers.
impermeable liner (if required)	ASTM-D-4833 (thickness) ASTM-D-412 (tensile strength 1,100 lb., elongation 200%) ASTM-D-624 (Tear resistance - 150 lb./in) ASTM-D-471 (water adsorption: +8 to -2% mass)	30 mil thickness	Liner to be ultraviolet resistant. A geotextile fabric should be used to protect the liner from puncture.
underdrain piping	F 758, Type PS 28 or AASHTO-M-278	4" - 6" rigid schedule 40 PVC or SDR35	3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes
concrete (cast-in-place)	MSHA Standards and Specs. Section 902, Mix No. 3, f'_c = 3500 psi, normal weight, air-entrained; re-inforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) *not using previously approved State or local standards* requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland
concrete (pre-cast)	per pre-cast manufacturer	n/a	SEE ABOVE NOTE
non-rebar steel	ASTM A-36	n/a	structural steel to be hot-dipped galvanized ASTM-A-123

Appendix B.3. ....Construction Specifications for Sand Filters, Bioretention and Open Channels

OWNER/DEVELOPER
DORSEY BUILDERS, INC
MR. PHILLIP H. DORSEY, PRESIDENT
13090 OLD FREDERICK ROAD
SYKESVILLE, MARYLAND 21784
410-442-8200

NO.	REVISION	DATE
1	ADD IMPERMEABLE LINERS AND SHOW PRIVATE WELL LINE EASEMENT AS PROVIDED ON PLAT	9/16/11

FINAL ROAD CONSTRUCTION PLAN
STORMWATER MANAGEMENT DETAILS AND NOTES
HAY MEADOW OVERLOOK
LOTS 1-7 & BUILDABLE PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCEL B
TAX MAP 2 GRID 15, 21 — PARCEL 18
4TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

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

STATE OF MARYLAND — ROBERT HARRIS VOGEL — No. 16193 — PROFESSIONAL ENGINEER
ROBERT H. VOGEL, PE No.16193

DESIGN BY: RHV/JCO
DRAWN BY: KG
CHECKED BY: RHV
DATE: DECEMBER 2009
SCALE: 1"=50'
W.O. NO.: 03-117

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2010

F 09-110

ACREAGE: 10.0
L 5282 F 82
STEVE S. KAWAKAMI
NANCY R. POTTER
ACREAGE: 10.00
AGRICULTURAL
ZONING: RC-DEO

NON BUILDABLE PRESERVATION PARCEL 'B' TO BE PRIVATELY OWNED AND MAINTAINED WITH HOWARD COUNTY AND HOME OWNERS ASSOCIATION AS EASEMENT HOLDERS
949236.13 SF
21.79 AC.

S57°58'08"E 1037.96'

EX. WELL
175.65

BOLLARDS AS SPECIFIED BY THE DEPARTMENT OF RECREATION AND PARKS LOCATED AT THE FOUR CORNERS OF THE OPEN SPACE ACCESS STRIP.

BtF
OcB
BrD
OcC
BtF
Co
BtF

PERIMETER 3
PERIMETER 2

594.97
595.98
597.86
597.86
605.17
603.15

616000
1284250
615300
1285300

N21°58'34"E 480.97'
N35°14'56"E 603.03'

FOREST CONSERVATION RETENTION
588,060 SF. (13.5 AC.)

100' STREAM BUFFER

WETLAND STUDY 0.78 AC.±

MARYLAND STATE GRID MERIDIAN

EX. TRAILER

BRANCH

PUBLIC FLOODPLAIN, DRAINAGE & UTILITY EASEMENT

HAY MEADOW

PERENNIAL STREAM

MODERATE SLOPES 13.97 AC.±

PRIVATE SWM FACILITY MAINTENANCE, ACCESS AND DRAINAGE EASEMENT

PRIVATE SWM FACILITY - MAINTENANCE, ACCESS AND DRAINAGE EASEMENT

PROP. SEPTIC EASEMENT 10,085 SF.

PUBLIC SIGHT DISTANCE & UTILITY EASEMENT

10' PUBLIC TREE MAINTENANCE EASEMENT

PROP. SEPTIC EASEMENT 10,122 SF.

PROP. SEPTIC EASEMENT 10,145 SF.

PROP. SEPTIC EASEMENT 10,012 SF.

PROP. SEPTIC EASEMENT 10,145 SF.

LOT 1
46,673.24 SF

LOT 2
53,662.29 SF

LOT 3
54,951.73 SF

LOT 4
14,564.80 SF

LOT 5
16,286.13 SF

LOT 6
53,616.66 SF

VARIABLE WIDTH PRIVATE SWM FACILITY MAINTENANCE AND DRAINAGE EASEMENT

TAX MAP 2 / PARCEL 18
L. 5125/F. 672
33.284 AC.
ZONING: RE-DEO

PROP. VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS & DRAINAGE EASEMENT FOR LOTS 4 & 5

PROP. VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 4 & 5

USE-IN-COMMON ACCESS VARIABLE WIDTH EASEMENT 16' PAVING

EX. POOL TO REMAIN

EX. WELL

BUILDABLE PRESERVATION PARCEL 'A' PRIVATELY OWNED AND MAINTAINED WITH HOWARD COUNTY AND HOME OWNERS ASSOCIATION AS EASEMENT HOLDERS
117816.66 SF.(2.69 AC.)

LOD

448.00'
S44°27'02"W

WELL LINE-NO TREES TO BE PLANTED IN THIS LOCATION.

EX. ROAD

EX. 20' PAVING

LAND DEDICATED TO HOWARD COUNTY, MARYLAND FOR THE PURPOSE OF A PUBLIC ROAD

WATERSVILLE ROAD
MINOR COLLECTOR
50' RIGHT-OF-WAY

MATCHLINE SHEET 9

MATCHLINE SHEET 9

TAX MAP 2 GRID 15 PARCEL 17
L. 561 F. 521
WILLIAM RICHARD LISTON, JR.
BARBARA ALICE LISTON
PLAT NO. 16561
AGRICULTURAL
ZONING: RC-DEO
ACREAGE: 63.56

LEGEND

- PROPERTY LINE
- EXISTING CONTOUR — 202 —
- PROPOSED CONTOUR — (202) —
- EXISTING TREELINE
- PROPOSED TREELINE
- EX. FENCE
- EX. UTILITY POLE
- WELL AREA
- SEPTIC AREA
- VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS & DRAINAGE EASEMENT FOR LOTS 1 & 3 TO 7
- VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 4 & 5
- FOREST RETENTION AREA
- NON-CREDITED FOREST RETENTION AREA-1.17 AC.
- PUBLIC SITE DISTANCE EASEMENT
- 100 YR FLOOD PLAIN
- PROP. SWM EASEMENT
- STEEP SLOPES
- MODERATE SLOPES
- RAIN GARDEN
- SOILS — BeC2 CID2
- FLOODPLAIN CROSS-SECTION — (2)
- FOREST CONSERVATION SIGN
- PROPOSED SHADE TREE PER SP-08-011
- STREET TREES PER SP-08-011

HIGHLY VISABLE FLAGGING

ANCHOR POSTS SHOULD BE MINIMUM 2" STEEL "U" CHANNEL OR 2" X 2" TIMBER, 6' IN LENGTH.

MAXIMUM 8 FEET

USE 2" X 4" LUMBER FOR CROSS BEARING

USE 8' WIRE "U" TO SECURE FENCE BOTTOM.

ANCHOR POSTS MUST BE INSTALLED TO A DEPTH OF NO LESS THAN 1/3 OF THE TOTAL HEIGHT OF THE POST.

NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOF DAMAGE SHOULD BE AVOIDED.
5. PROTECTION SIGNAGE SHOULD BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

BLAZE ORANGE PLASTIC MESH
TYPICAL TREE PROTECTION FENCE DETAIL

DNR QUALIFIED PROFESSIONAL
J. CHRIS OGLE

NOTES:
1. SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" FOR ALL MATERIAL, PRODUCT, AND PROCEDURE SPECIFICATIONS.
2. SEE "LANDSCAPE GUIDELINES" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER.
3. PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
4. KEEP MULCH 1" FROM TRUNK
5. SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
6. TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWAGE EASEMENT.

LEADER MUST REMAIN INTACT
PRUNE APPROXIMATELY 30% OF CROWN- SEE "LANDSCAPE GUIDELINES". DO NOT PRUNE EVERGREEN TREES.
2 STRANDS OF GALVANIZED WIRE TWISTED FOR SUPPORT
UPRIGHT STAKES- SET IN GROUND TO FIRM BEARING
RUBBER HOSE
CUT BURLAP & ROPE FROM TOP OF BALL
3" DEPTH MULCH
2" EARTH SAUCER
FINISH GRADE
1/8 DEPTH OF BALL
PLANTING MIX- SEE PLANTING NOTES
LOOSENED SUBSOIL
2'-6"

TREE PLANTING AND STAKING
DECIDUOUS TREES UP TO 2-1/2" CALIPER — NOT TO SCALE

OWNER/DEVELOPER
DORSEY BUILDERS, INC
MR. PHILLIP H. DORSEY, PRESIDENT
13090 OLD FREDERICK ROAD
SYKESVILLE, MARYLAND 21784
410-442-8200

NO.	REVISION	DATE
1	ADD IMPERMEABLE LINERS TO RAIN GARDENS AND SHOW PRIVATE WELL LINE EASEMENT AS PROVIDED ON PLAT	9/16/11

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 1-28-10

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2/03/10

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 1/25/10

DEVELOPER'S/BUILDER'S CERTIFICATE

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

Barbara A. Carr — 12/30/09
SIGNATURE OF DEVELOPER — DATE

FINAL ROAD CONSTRUCTION PLAN LANDSCAPE, FOREST CONSERVATION PLAN AND DETAILS
HAY MEADOW OVERLOOK
LOTS 1-7 & BUILDABLE PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCEL B

TAX MAP 2 GRID 15, 21 — PARCEL 18
4TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

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

STATE OF MARYLAND — ROBERT HARRIS VOGEL — No. 16193 — PROFESSIONAL ENGINEER
ROBERT H. VOGEL, PE No.16193

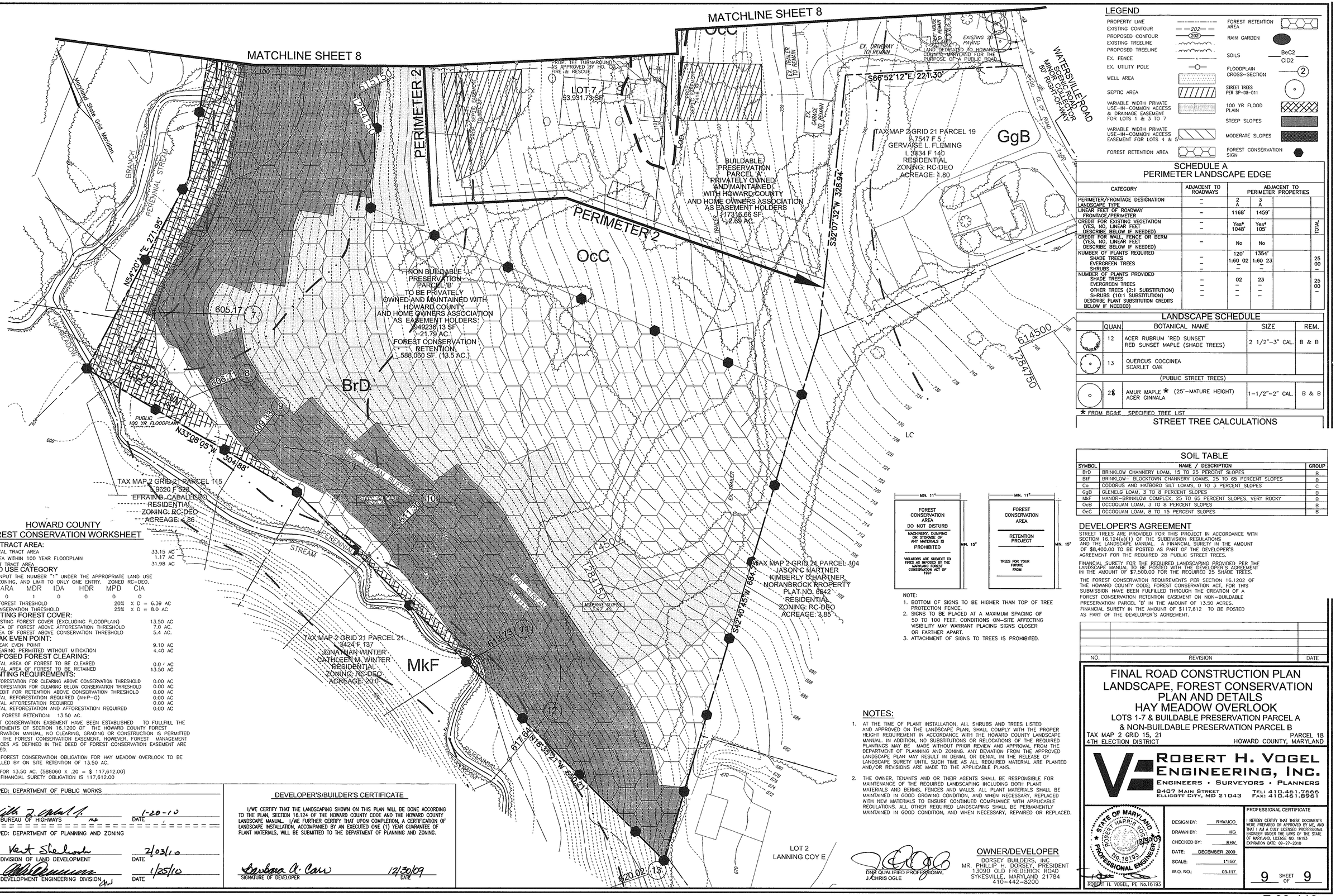
DESIGN BY:	RHV/JCO
DRAWN BY:	KG
CHECKED BY:	RHV
DATE:	DECEMBER 2009
SCALE:	1"=50'
W.O. NO.:	03-117

PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2010

SHEET 8 OF 9

F 09-110



LEGEND

- PROPERTY LINE
- EXISTING CONTOUR — 202 —
- PROPOSED CONTOUR — 202 —
- EXISTING TREELINE
- PROPOSED TREELINE
- EX. FENCE
- EX. UTILITY POLE
- WELL AREA
- SEPTIC AREA
- VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS & DRAINAGE EASEMENT FOR LOTS 1 & 3 TO 7
- VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 4 & 5
- FOREST RETENTION AREA
- FOREST RETENTION AREA
- RAIN GARDEN
- SOILS — BeC2 / CID2
- FLOODPLAIN CROSS-SECTION — 2
- STREET TREES PER SP-08-011
- 100 YR FLOOD PLAIN
- STEEP SLOPES
- MODERATE SLOPES
- FOREST CONSERVATION SIGN

SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES				
PERIMETER/FRONTAGE DESIGNATION	–	2	3			
LANDSCAPE TYPE	–	A	A			
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	–	1168'	1459'			
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	– –	Yes* 1048'	Yes* 105'			TOTAL
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	–	No	No			
NUMBER OF PLANTS REQUIRED						
SHADE TREES	–	120'	1354'			25
EVERGREEN TREES	–	1:60 02	1:60 23			00
SHRUBS	–	–	–			–
NUMBER OF PLANTS PROVIDED						
SHADE TREES	–	02	23			25
EVERGREEN TREES	–	–	–			00
OTHER TREES (2:1 SUBSTITUTION)	–	–	–			–
SHRUBS (10:1 SUBSTITUTION)	–	–	–			
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)						

LANDSCAPE SCHEDULE

	QUAN	BOTANICAL NAME	SIZE	REM.
	12	ACER RUBRUM 'RED SUNSET' RED SUNSET MAPLE (SHADE TREES)	2 1/2"–3" CAL.	B & B
	13	QUERCUS COCCINEA SCARLET OAK		
		(PUBLIC STREET TREES)		
	28	AMUR MAPLE * (25'–MATURE HEIGHT) ACER GINNALA	1–1/2"–2" CAL.	B & B

* FROM BG&E SPECIFIED TREE LIST

STREET TREE CALCULATIONS

SOIL TABLE

SYMBOL	NAME / DESCRIPTION	GROUP
BrD	BRINKLOW CHANNERY LOAM, 15 TO 25 PERCENT SLOPES	B
BtF	BRINKLOW– BLOCKTOWN CHANNERY LOAMS, 25 TO 65 PERCENT SLOPES	B
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B
MkF	MANOR–BRINKLOW COMPLEX, 25 TO 65 PERCENT SLOPES, VERY ROCKY	B
OcB	OCCOQUAN LOAM, 3 TO 8 PERCENT SLOPES	B
OcC	OCCOQUAN LOAM, 8 TO 15 PERCENT SLOPES	B

HOWARD COUNTY
FOREST CONSERVATION WORKSHEET

NET TRACT AREA:

A. TOTAL TRACT AREA	33.15 AC
B. AREA WITHIN 100 YEAR FLOODPLAIN	1.17 AC
C. NET TRACT AREA	31.98 AC

LAND USE CATEGORY

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

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

E. AFFOREST THRESHOLD	20%	X D = 6.39 AC
F. CONSERVATION THRESHOLD	25%	X D = 8.0 AC

EXISTING FOREST COVER:

G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)	13.50 AC
H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD	7.0 AC.
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD	5.4 AC.

BREAK EVEN POINT:

J. BREAK EVEN POINT	9.10 AC
K. CLEARING PERMITTED WITHOUT MITIGATION	4.40 AC

PROPOSED FOREST CLEARING:

L. TOTAL AREA OF FOREST TO BE CLEARED	0.0 AC
M. TOTAL AREA OF FOREST TO BE RETAINED	13.50 AC

PLANTING REQUIREMENTS:

N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD	0.00 AC
P. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD	0.00 AC
Q. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD	0.00 AC
R. TOTAL REFORESTATION REQUIRED (N+P–Q)	0.00 AC
S. TOTAL AFFORESTATION REQUIRED	0.00 AC
T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED	0.00 AC

TOTAL FOREST RETENTION: 13.50 AC.

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

TOTAL FOREST CONSERVATION OBLIGATION FOR HAY MEADOW OVERLOOK TO BE FULLFILLED BY ON SITE RETENTION OF 13.50 AC.

BOND FOR 13.50 AC. (588060 X .20 = $ 117,612.00)
TOTAL FINANCIAL SURETY OBLIGATION IS 117,612.00

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 1-20-10

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2/03/10

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 1/25/10

DEVELOPER'S/BUILDER'S CERTIFICATE

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

Barbara A. Carr — SIGNATURE OF DEVELOPER — 12/30/09 DATE

NOTE:
1. BOTTOM OF SIGNS TO BE HIGHER THAN TOP OF TREE PROTECTION FENCE.
2. SIGNS TO BE PLACED AT A MAXIMUM SPACING OF 50 TO 100 FEET. CONDITIONS ON–SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART.
3. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.

NOTES:

1. AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DENIAL IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIAL ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.
2. THE OWNER, TENANTS AND OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

DNR QUALIFIED PROFESSIONAL
J. CHRIS OGLE

OWNER/DEVELOPER

DORSEY BUILDERS, INC
MR. PHILLIP H. DORSEY, PRESIDENT
13090 OLD FREDERICK ROAD
SYKESVILLE, MARYLAND 21784
410–442–8200

DEVELOPER'S AGREEMENT

STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF $8,400.00 TO BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THE REQUIRED 28 PUBLIC STREET TREES.

FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING PROVIDED PER THE LANDSCAPE MANUAL TO BE POSTED WITH THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $7,500.00 FOR THE REQUIRED 25 SHADE TREES.

THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202 OF THE HOWARD COUNTY CODE; FOREST CONSERVATION ACT, FOR THIS SUBMISSION HAVE BEEN FULFILLED THROUGH THE CREATION OF A FOREST CONSERVATION RETENTION EASEMENT ON NON–BUILDABLE PRESERVATION PARCEL 'B' IN THE AMOUNT OF 13.50 ACRES. FINANCIAL SURETY IN THE AMOUNT OF $117,612 TO BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT.

NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN
LANDSCAPE, FOREST CONSERVATION PLAN AND DETAILS
HAY MEADOW OVERLOOK

LOTS 1-7 & BUILDABLE PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCEL B

TAX MAP 2 GRID 15, 21 — PARCEL 18
4TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

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

STATE OF MARYLAND — ROBERT HARRIS VOGEL — No. 16193 — PROFESSIONAL ENGINEER — 2/3/10
ROBERT H. VOGEL, PE No.16193

DESIGN BY:	RHV/JCO
DRAWN BY:	KG
CHECKED BY:	RHV
DATE:	DECEMBER 2009
SCALE:	1"=50'
W.O. NO.:	03-117

PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2010

SHEET 9 OF 9

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